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9370R, 9420R, 9470R, 9520R, 9570R and 9620R Tractors (Serial No. 015000-) European Edition H5

OPERATOR'S MANUAL

**9370R, 9420R, 9470R, 9520R, 9570R and
9620R Tractors (Serial No. 015000-)
European Edition**

OMRE578662 ISSUE H5 (ENGLISH)

John Deere Waterloo Works

European Edition

PRINTED IN U.S.A.

Introduction

Foreword

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your machine may also be available in other languages (see your John Deere™ dealer to order).

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing the direction of forward travel.

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I.N.) in the Specification or Identification Numbers section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

SETTING FUEL DELIVERY BEYOND PUBLISHED factory specifications or otherwise overpowering will result in loss of warranty protection for this machine.

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection. After operating for an agreed upon period, schedule an after-sale inspection with your John Deere™ dealer to ensure best performance.

THIS TRACTOR IS DESIGNED SOLELY for use in customary agricultural or similar operations ("INTENDED

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USE"). Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

THIS TRACTOR SHOULD BE OPERATED, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times. Any arbitrary modifications carried out on this tractor will relieve the manufacturer of all liability for any resulting damage or injury.

REGISTER USED PRODUCTS. If you purchased used John Deere™ products from an authorized John Deere™ dealer, the warranty registration information was updated by the dealer and requires no further information on your part.

If you purchased any used John Deere™ product from an auction, through a trader or from a farmer, please register it now. John Deere™ and John Deere™ dealers value their customer's safety and satisfaction. Your local John Deere™ dealer is best equipped and anxious to provide you superior levels of support for your machine. Please enter your product details and your address online, using the John Deere™ website corresponding to your country. Then select the dealer of your choice.

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Look For Supplemental Information

Occasionally new or revised information will become available after manuals are printed. To get this up-to-date information into your hands, publication supplements are prepared and supplied to the field in the machine literature package.

Supplements can be supplied in the following forms and are usually identified with one of these titles:

- Direction(s) Sheet
- Installation Instructions
- Publications Supplement

Before your initial review of the Operator's Manual, look through the machine literature package to see if any

supplemental information has been provided. If supplied, review this information to determine which operating procedures are impacted or modified by the revised instructions. Pay close attention to "CAUTION" and "IMPORTANT" statements as they address your safety, the safety of others, and safe operation of the machine.

When Operator's Manuals are revised, the supplemental information is incorporated directly into the manual, thereby eliminating the supplement.

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TLS™	Trademark of Deere and Company
TLS™ Plus	Trademark of Deere and Company
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Tractor-Implement Automation™	Trademark of Deere and Company
Vari-Cool™	Trademark of Deere and Company
Weather Pack™	Trademark of Packard Electric
YAZAKI™	Trademark of Yazaki Corporation

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Quick Reference Specifications

See *Specifications Section for Additional Specifications*

9370R-9420R-9470R-9520R-9570R-9620R Tractors

CAPACITIES (Approximate):

Fuel Tank

.. 9370R-9420R-9470R	1173 L (310 gal)
.. 9520R-9570R-9620R	1514 L (400 gal)

DEF Tank

Final Tier 4/EU Stage IV Engines	83.0 L (22.0 gal)
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Cooling System:^a

Final Tier 4/EU Stage IV PowerTech™ PSS^b

.. 9370R	50 L (13.2 gal)
.. 9420R-9470R-9520R	56.5 L (14.9 gal)

Final Tier 4/EU Stage IV QSX15 Cummins®

.. 9570R-9620R	62.0 L (16.3 gal)
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Crankcase with Filter:

Final Tier 4/EU Stage IV PowerTech™ PSS^b

.. 9370R	34 L (9.0 gal)
.. 9420R-9470R-9520R-9570R	48.0 L (12.7 gal)

Final Tier 4/EU Stage IV QSX15 Cummins®

.. 9570R-9620R	43.5 L (11.5 gal)
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Transmission/Hydraulic/Axle System: (Reference for topping off the system.)

Hydraulic Reservoir Volume Reference Marks:^c

.. Full Cold Mark	92.7 L (24.5 gal)
.. Min Cold Mark	81.4 L (21.5 gal)
.. High Volume Takeout Oil Mark	140.0 L (37.0 gal)
.. Oil Volume Between "Min Cold" and "Full Cold" Marks	11.4 L (3 gal)

Transmission Prefill Volume:

.. e18™ Powershift Transmission	37.9 L (10.0 gal)
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Transmission/Hydraulic Reservoir/Axle Volume^d:

.. 9370R-9420R-9470R Tractors	
.. e18™ Powershift Transmission, SR Axles ^e	276.0 L (73.0 gal)
.. e18™ Powershift Transmission, SR Axles ^f	284.0 L (75.0 gal)
.. 9520R-9570R-9620R Tractors	
.. e18™ Powershift Transmission, DR Axles ^e	220.0 L (58.0 gal)
.. e18™ Powershift Transmission, DR Axles ^f	227.0 L (60.0 gal)

^aIncludes de-aeration tank capacity

^bEngines are identified by letter "U" in the engine serial number. An example is RG6090UXXXXXX or RG6135UXXXXXX

^cFull system volume including reservoir

^dSystem volume based on axle and hydraulic configuration.

^eWithout 3-point rear hitch and PTO

^fWith 3-point rear hitch and PTO

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A John Deere ILLUSTRATION™ Manual

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Safety

Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



DX,ALERT -19-29SEP98-1/1

T81389 —UN—28JUN13

Understand Signal Words

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

 **DANGER**

 **WARNING**

 **CAUTION**

DX,SIGNAL -19-03MAR93-1/1

TS187 —19—30SEP88

Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.



If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

DX,READ -19-16JUN09-1/1

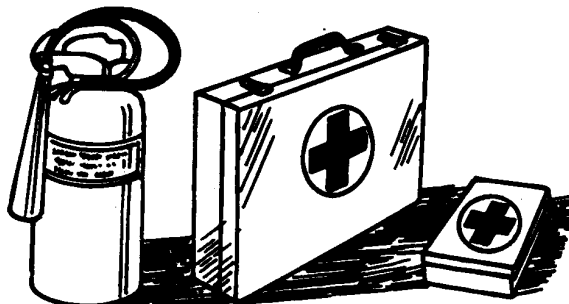
TS201 —UN—15APR13

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



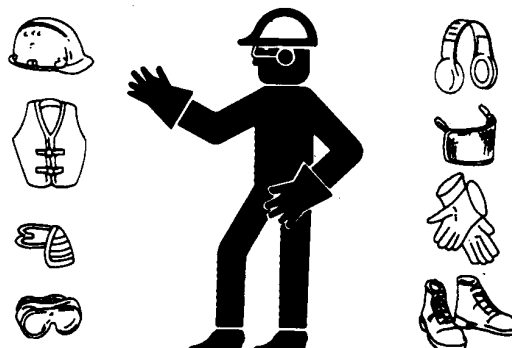
TS291 —UN—15APR13

DX,FIRE2 -19-03MAR93-1/1

Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



TS206 —UN—15APR13

DX,WEAR2 -19-03MAR93-1/1

Protect Against Noise

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.



TS207 —UN—23AUG88

DX,NOISE -19-03MAR93-1/1

Handle Fuel Safely—Avoid Fires

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

Use only an approved fuel container for transporting flammable liquids.

Never fill fuel container in pickup truck with plastic bed liner. Always place fuel container on ground before refueling. Touch fuel container with fuel dispenser nozzle before removing can lid. Keep fuel dispenser nozzle in contact with fuel container inlet when filling.



Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.

DX,FIRE1 -19-12OCT11-1/1

TSS202 —UN—23AUG88

Fire Prevention

To reduce the risk of fire, your tractor should be regularly inspected and cleaned.

- Birds and other animals may build nests or bring other flammable materials into the engine compartment or onto the exhaust system. The tractor should be inspected and cleaned prior to the first use each day.
- A build up of grass, crop material and other debris may occur during normal operation. This is especially true when operating in very dry conditions or conditions where airborne crop material or crop dust is present. Any such build up must be removed to ensure proper machine function and to reduce the risk of fire. The tractor must be inspected and cleaned periodically throughout the day.
- Regular and thorough cleaning of the tractor combined with other routine maintenance procedures listed in the

Operator's Manual greatly reduce the risk of fire and the chance of costly downtime.

- Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.
- Check fuel lines, tank, cap, and fittings frequently for damage, cracks or leaks. Replace if necessary.

Follow all operational and safety procedures posted on the machine and the Operator's Manual. Be careful of hot engine and exhaust components during inspection and cleaning. Before carrying out any inspection or cleaning, always shut OFF the engine, place the transmission in PARK or set parking brake, and remove the key. Removal of the key will prevent others from starting the tractor during inspection and cleaning.

DX,WW,TRACTOR,FIRE,PREVENTION -19-12OCT11-1/1

In Case of Fire

CAUTION: Avoid personal injury.

Stop machine immediately at the first sign of fire. Fire may be identified by the smell of smoke or sight of flames. Because fire grows and spreads rapidly, get off the machine immediately and move safely away from the fire. Do not return to the machine! The number one priority is safety.

Call the fire department. A portable fire extinguisher can put out a small fire or contain it until the fire department arrives; but portable extinguishers have limitations. Always put the safety of the operator and bystanders first. If attempting to extinguish a fire, keep your back to the wind with an unobstructed escape path so you can move away quickly if the fire cannot be extinguished.

Read the fire extinguisher instructions and become familiar with their location, parts, and operation before a fire starts. Local fire departments or fire equipment distributors may offer fire extinguisher training and recommendations.

If your extinguisher does not have instructions, follow these general guidelines:



1. Pull the pin. Hold the extinguisher with the nozzle pointing away from you, and release the locking mechanism.
2. Aim low. Point the extinguisher at the base of the fire.
3. Squeeze the lever slowly and evenly.
4. Sweep the nozzle from side-to-side.

DX,FIRE4 -19-22AUG13-1/1

TS227 —UN—15APR13

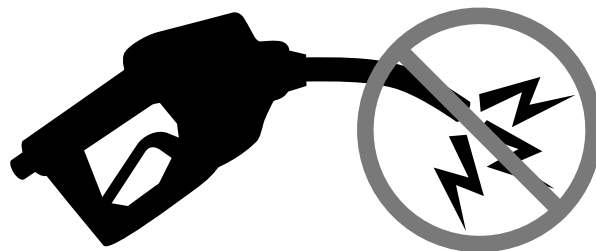
Avoid Static Electricity Risk When Refueling

The removal of sulfur and other compounds in Ultra-Low Sulfur Diesel (ULSD) fuel decreases its conductivity and increases its ability to store a static charge.

Refineries may have treated the fuel with a static dissipating additive. However, there are many factors that can reduce the effectiveness of the additive over time.

Static charges can build up in ULSD fuel while it is flowing through fuel delivery systems. Static electricity discharge when combustible vapors are present could result in a fire or explosion.

Therefore, it is important to ensure that the entire system used to refuel your machine (fuel supply tank, transfer pump, transfer hose, nozzle, and others) is properly grounded and bonded. Consult with your fuel or fuel system supplier to ensure that the delivery system is in compliance with fueling standards for proper grounding and bonding practices.



DX,FUEL,STATIC,ELEC -19-12JUL13-1/1

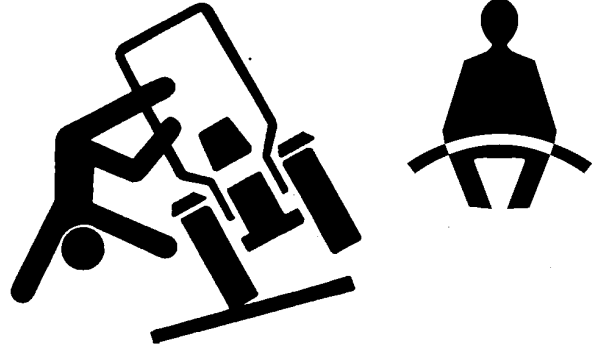
RG22142 —UN—17MAR14

RG21992 —UN—21AUG13

Use Foldable ROPS and Seat Belt Properly

Avoid crushing injury or death during rollover.

- If this machine is equipped with a foldable rollover protective structure (ROPS), keep the ROPS in the fully extended and locked position. USE a seat belt when you operate with a ROPS in the fully extended position.
 - Hold the latch and pull the seat belt across the body.
 - Insert the latch into the buckle. Listen for a click.
 - Tug on the seat belt to make sure that the belt is securely fastened.
 - Snug the seat belt across the hips.
- If this machine is operated with the ROPS folded (for example, to enter a low building), drive with extreme caution. DO NOT USE a seat belt with the ROPS folded.
- Return the ROPS to the raised, fully extended position as soon as the machine is operated under normal conditions.



TS1729 —UN—24MAY13

DX,FOLDROPS -19-22AUG13-1/1

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

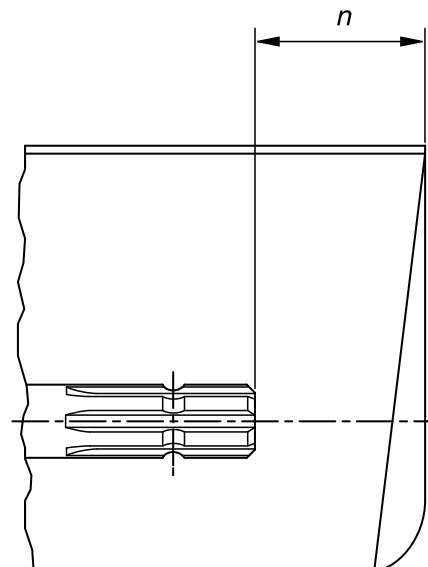
Do not install any adapter device between the tractor and the primary implement PTO drive shaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft and the added adaptor device as outlined in the table.

PTO Type	Diameter	Splines	$n \pm 5 \text{ mm (0.20 in.)}$
1	35 mm (1.378 in.)	6	85 mm (3.35 in.)
2	35 mm (1.378 in.)	21	85 mm (3.35 in.)
3	45 mm (1.772 in.)	20	100 mm (4.00 in.)



TS1644 —UN—22AUG95



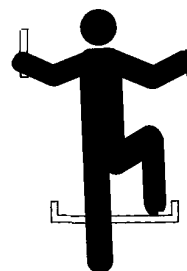
H96219 —UN—29APR10

DX,PTO -19-30JUN10-1/1

Use Steps and Handholds Correctly

Prevent falls by facing the machine when getting on and off. Maintain 3-point contact with steps, handholds, and handrails.

Use extra care when mud, snow, or moisture present slippery conditions. Keep steps clean and free of grease or oil. Never jump when exiting machine. Never mount or dismount a moving machine.



T133468 —UN—15APR13

DX,WW,MOUNT -19-12OCT11-1/1

Read Operator's Manuals for ISOBUS Controllers

In addition to GreenStar™ Applications, this display can be used as a display device for any ISOBUS Controller that meets ISO 11783 standard. This includes capability to control ISOBUS implements. When used in this manner, information and control functions placed on the display are provided by the ISOBUS Controller and are the responsibility of the ISOBUS Controller manufacturer.

GreenStar is a trademark of Deere & Company

Some of these functions could pose a hazard to either the operator or a bystander. Read the Operator's Manual provided by the ISOBUS Controller manufacturer and observe all safety messages in manual and on ISOBUS Controller product prior to use.

NOTE: ISOBUS refers to the ISO Standard 11783

DX,WW,ISOBUS -19-15JUL15-1/1

Use Seat Belt Properly

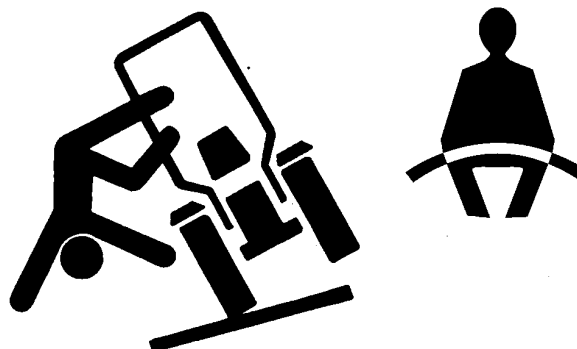
Avoid crushing injury or death during rollover.

This machine is equipped with a rollover protective structure (ROPS). USE a seat belt when you operate with a ROPS.

- Hold the latch and pull the seat belt across the body.
- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure that the belt is securely fastened.
- Snug the seat belt across the hips.

Replace entire seat belt if mounting hardware, buckle, belt, or retractor show signs of damage.

Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear,



TS1729 —UN—24MAY13

discoloration, or abrasion. Replace only with replacement parts approved for your machine. See your John Deere dealer.

DX,ROPS1 -19-22AUG13-1/1

Vibration

All operator's seats approved by John Deere are component type-approved in accordance with 78/764/EEC, being allocated an average of the vibration acceleration actually measured at the seat (a_{ws}), equivalent to $\leq 1.25 \text{ m/s}^2$.

This value must NOT be used to calculate vibration stress as per 2002/44/EC! Local John Deere dealers can provide assistance in assessing vibration stress.

Measures to reduce vibration may include:

- Appropriate style of driving, e.g. not too fast
- Suspended front axle
- Suspended cab
- Correctly adjusted operator's seat
- Correct tire pressure

DX,VIBRATION,EU -19-19AUG09-1/1

Operating the Tractor Safely

You can reduce the risk of accidents by following these simple precautions:

- Use your tractor only for jobs it was designed to perform, for example, pushing, pulling, towing, actuating, and carrying a variety of interchangeable equipment designed to conduct agricultural work.
- This tractor is not intended to be used as a recreational vehicle.
- Read this operator's manual before operating the tractor and follow operating and safety instructions in the manual and on the tractor.
- Follow operation and ballasting instructions found in the operator's manual for your implements/attachments, such as front loaders
- Make sure that everyone is clear of machine, attached equipment, and work area before starting engine or operation.
- Keep hands, feet, and clothing away from power-driven parts

Driving Concerns

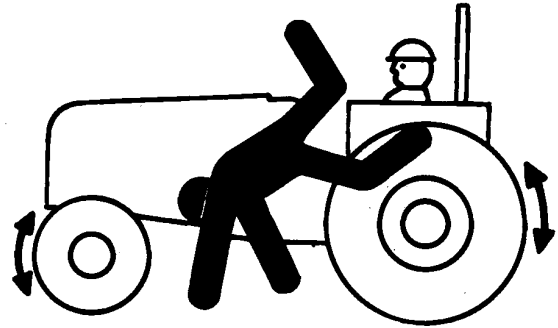
- Never get on or off a moving tractor.
- Keep all children and nonessential personnel off tractors and all equipment.
- Never ride on a tractor unless seated on a John Deere approved seat with seat belt.
- Keep all shields/guards in place.
- Use appropriate visual and audible signals when operating on public roads.
- Move to side of road before stopping.
- Reduce speed when turning, applying individual brakes, or operating around hazards on rough ground or steep slopes.
- Couple brake pedals together for road travel.
- Pump brakes when stopping on slippery surfaces.

Towing Loads

- Be careful when towing and stopping heavy loads. Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control.
- Consider the total weight of the equipment and its load.
- Hitch towed loads only to approved couplings to avoid rearward upset.

Parking and Leaving the Tractor

- Before dismounting, shut off SCVs, disengage PTO, stop engine, lower implements/attachments to ground



and securely engage park mechanism, including the park pawl and park brake. In addition, if tractor is left unattended, remove key.

- Leaving transmission in gear with engine off will NOT prevent the tractor from moving.
- Never go near an operating PTO or an operating implement.
- Wait for all movement to stop before servicing machinery.

Common Accidents

Unsafe operation or misuse of the tractor can result in accidents. Be alert to hazards of tractor operation.

The most common accidents involving tractors:

- Tractor rollover
- Collisions with motor vehicles
- Improper starting procedures
- Entanglement in PTO shafts
- Falling from tractor
- Crushing and pinching during hitching

DX,WW,TRACTOR -19-21AUG09-1/1

TS290 —UN—23AUG88

TS276 —UN—23AUG88

Avoid Backover Accidents

Before moving machine, be sure that all persons are clear of machine path. Turn around and look directly for best visibility. Use a signal person when backing if view is obstructed or when in close quarters.

Do not rely on a camera to determine if personnel or obstacles are behind the machine. The system can be limited by many factors including maintenance practices, environmental conditions, and operating range.



PC10857XW —UN—15APR13

DX,AVOID,BACKOVER,ACCIDENTS -19-30AUG10-1/1

Limited Use in Forestry Operation

The intended use of John Deere tractors when used in forestry operations is limited to tractor-specific applications like transport, stationary work such as log splitting, propulsion, or operating implements with PTO, hydraulic, or electrical systems.

These are applications where normal operation does not present a risk of falling or penetrating objects. Any forestry

applications beyond these applications, such as forwarding and loading, requires fitment of application-specific components including Falling Object Protective Structure (FOPS) and/or Operative Protective Structures (OPS). Contact John Deere dealer for special components.

DX,WW,FORESTRY -19-12OCT11-1/1

Operating the Loader Tractor Safely

When operating a machine with a loader application, reduce speed as required to ensure good tractor and loader stability.

To avoid tractor rollover and damage to front tires and tractor, do not carry load with your loader at a speed over 10 km/h (6 mph).

To avoid tractor damage do not use a front loader or a sprayer tank if the tractor is equipped with a 3 Meter Front Axle.

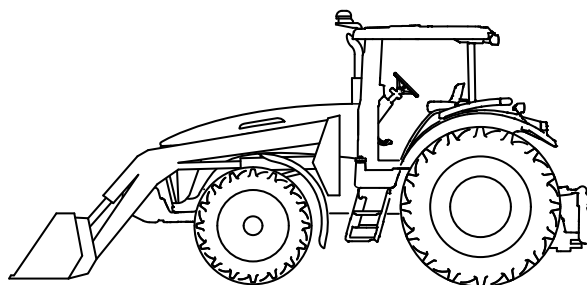
Never allow anyone to walk or work under a raised loader.

Do not use loader as a work platform.

Do not lift or carry anyone on loader, in bucket, or on implement or attachment.

Lower loader to ground before leaving operators station.

The Rollover Protective Structure (ROPS) or cab roof, if equipped, may not provide sufficient protection from load



TS1692 —UN—09NOV09

falling onto the operators station. To prevent loads from falling onto the operators station, always use appropriate implements for specific applications (that is, manure forks, round bale forks, round bale grippers, and clammers).

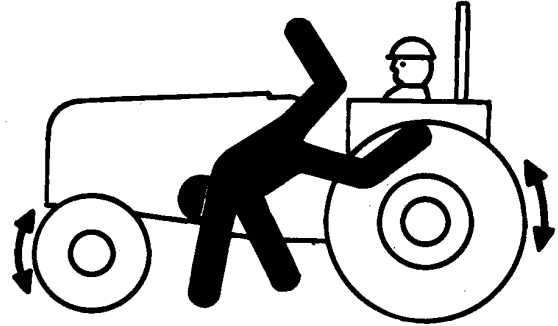
Ballast tractor in accordance to Ballast Recommendations in PREPARE TRACTOR section.

DX,WW,LOADER -19-18SEP12-1/1

Keep Riders Off Machine

Only allow the operator on the machine. Keep riders off.

Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.



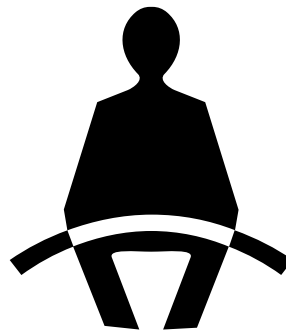
TS290 —UN—23AUG88

DX,RIDER -19-03MAR93-1/1

Passenger Seat

The passenger seat is intended only for transport of a passenger in on-road operations (that is, transport from farm to field).

If it is necessary to transport a passenger, the passenger seat is the only means of transport of a passenger condoned by John Deere.



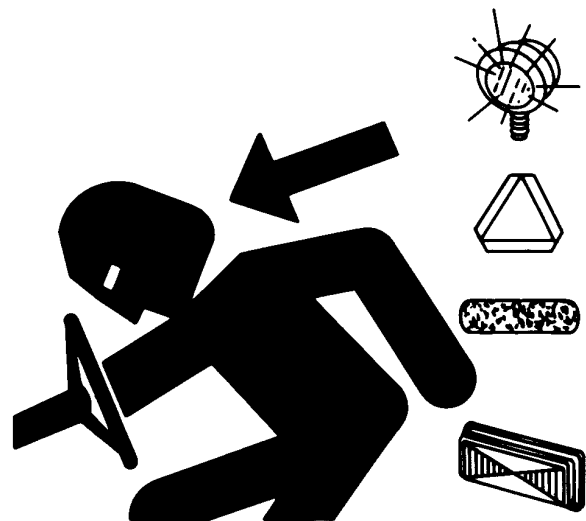
TS1730 —UN—24MAY13

DX,SEAT,EU -19-22AUG13-1/1

Use Safety Lights and Devices

Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere dealer.

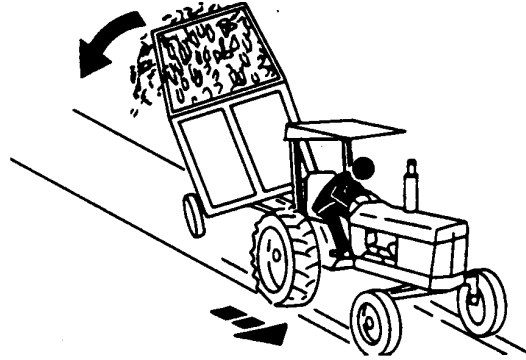


TS951 —UN—12APR90

DX,FLASH -19-07JUL99-1/1

Towing Trailers/Implements Safely (Mass)

Stopping distance increases with speed and mass of trailer/implement, and when transporting on slopes. Towed mass with or without brakes that is too heavy for the tractor or is towed too fast can cause loss of control. Consider the total weight of the equipment and its load.



TS216 —UN—23AUG88

Trailer/implement brake system

	Top speed
- unbraked.....	25 km/h (15.5 mph)
- independent.....	25 km/h (15.5 mph)
- overrun brake.....	25 km/h (15.5 mph)
- hydraulic brake.....	25 km/h (15.5 mph)
- single-line air brake.....	25 km/h (15.5 mph)
- dual-line air brake.....	Maximum design speed

There may be legal limits in force that restrict travel speeds to figures lower than those quoted here.

Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.

DX,TOW3,EU -19-19AUG09-1/1

Use Caution On Slopes and Uneven Terrain

Avoid holes, ditches, and obstructions which cause the tractor to tip, especially on slopes. Avoid sharp uphill turns.

Driving forward out of a ditch, mired condition, or up a steep slope could cause tractor to tip over rearward. Back out of these situations if possible.

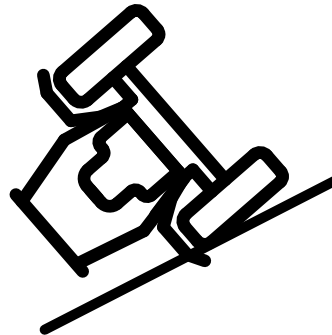
Danger of overturn increases greatly with narrow tread setting, at high speed.

Not all conditions that can cause a tractor to overturn are listed. Be alert for any situation in which stability may be compromised.

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution

Never drive near the edge of a gully, drop-off, ditch, steep embankment, or a body of water. The machine could suddenly roll over if a wheel goes over the edge or the ground caves in

Choose a low ground speed so you will not have to stop or shift while on a slope.



RXA0103437 —UN—01JUL09

Avoid starting, stopping or turning on a slope. If the tires lose traction, disengage the PTO and proceed slowly, straight down the slope.

Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.

DX,WW,SLOPE -19-12OCT11-1/1

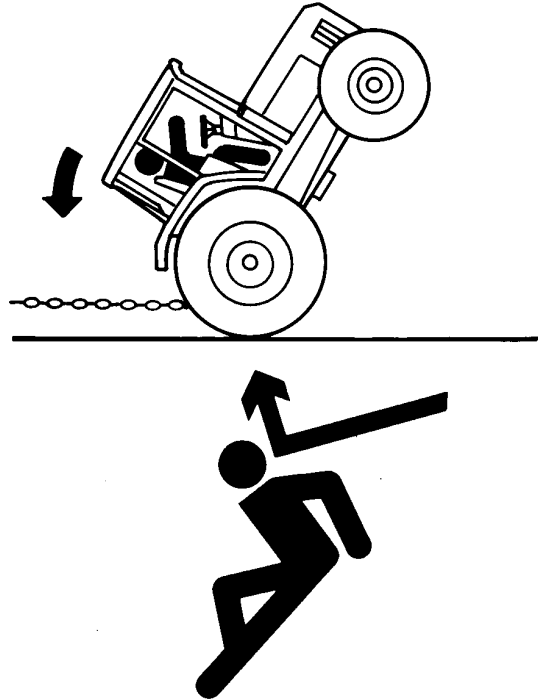
Freeing a Mired Machine

Attempting to free a mired machine can involve safety hazards such as the mired tractor tipping rearward, the towing tractor overturning, and the tow chain or tow bar (a cable is not recommended) failing and recoiling from its stretched condition.

Back your tractor out if it gets mired down in mud. Unhitch any towed implements. Dig mud from behind the rear wheels. Place boards behind the wheels to provide a solid base and try to back out slowly. If necessary, dig mud from the front of all wheels and drive slowly ahead.

If necessary to tow with another unit, use a tow bar or a long chain (a cable is not recommended). Inspect the chain for flaws. Make sure all parts of towing devices are of adequate size and strong enough to handle the load.

Always hitch to the drawbar of the towing unit. Do not hitch to the front pushbar attachment point. Before moving, clear the area of people. Apply power smoothly to take up the slack: a sudden pull could snap any towing device causing it to whip or recoil dangerously.



DX,MIRE -19-07JUL99-1/1

TS1645 —UN—15SEP95

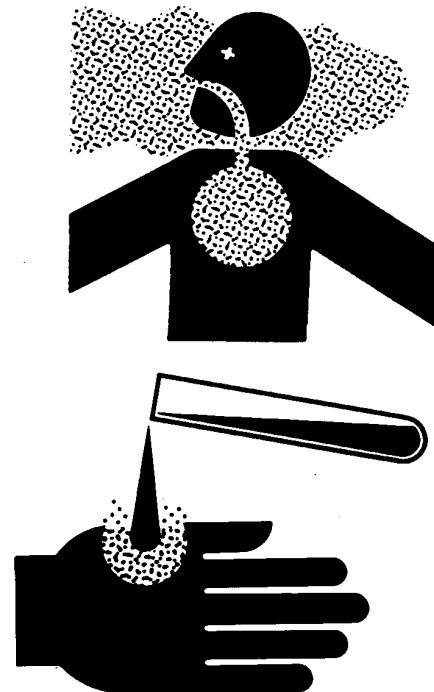
TS263 —UN—23AUG88

Avoid Contact with Agricultural Chemicals

This enclosed cab does not protect against inhaling vapor, aerosol or dust. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.

Before leaving the cab, wear personal protective equipment as required by the pesticide use instructions. When re-entering the cab, remove protective equipment and store either outside the cab in a closed box or some other type of sealable container or inside the cab in a pesticide resistant container, such as a plastic bag.

Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.



DX,CABS -19-25MAR09-1/1

TS220 —UN—15APR13

TS272 —UN—23AUG88

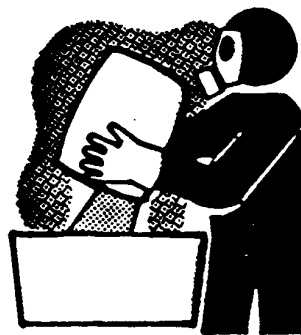
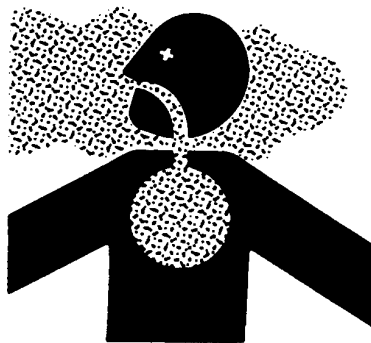
Handle Agricultural Chemicals Safely

Chemicals used in agricultural applications such as fungicides, herbicides, insecticides, pesticides, rodenticides, and fertilizers can be harmful to your health or the environment if not used carefully.

Always follow all label directions for effective, safe, and legal use of agricultural chemicals.

Reduce risk of exposure and injury:

- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
 - Chemicals labeled '**Danger**': Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
 - Chemicals labeled '**Warning**': Less toxic. Generally require use of goggles, gloves, and skin protections.
 - Chemicals labeled '**Caution**': Least toxic. Generally require use of gloves and skin protection.
- Avoid inhaling vapor, aerosol or dust.
- Always have soap, water, and towel available when working with chemicals. If chemical contacts skin, hands, or face, wash immediately with soap and water. If chemical gets into eyes, flush immediately with water.
- Wash hands and face after using chemicals and before eating, drinking, smoking, or urination.
- Do not smoke or eat while applying chemicals.
- After handling chemicals, always bathe or shower and change clothes. Wash clothing before wearing again.
- Seek medical attention immediately if illness occurs during or shortly after use of chemicals.
- Keep chemicals in original containers. Do not transfer chemicals to unmarked containers or to containers used for food or drink.



A34471

- Store chemicals in a secure, locked area away from human or livestock food. Keep children away.
- Always dispose of containers properly. Triple rinse empty containers and puncture or crush containers and dispose of properly.

TS220 —UN—15APR13

A34471 —UN—11OCT88

DX,WW,CHEM01 -19-24AUG10-1/1

Handling Batteries Safely

Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace grounded clamp last.

Sulfuric acid in battery electrolyte is poisonous and strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid hazards by:

- Filling batteries in a well-ventilated area
- Wearing eye protection and rubber gloves
- Avoiding use of air pressure to clean batteries
- Avoiding breathing fumes when electrolyte is added
- Avoiding spilling or dripping electrolyte
- Using correct battery booster or charger procedure.

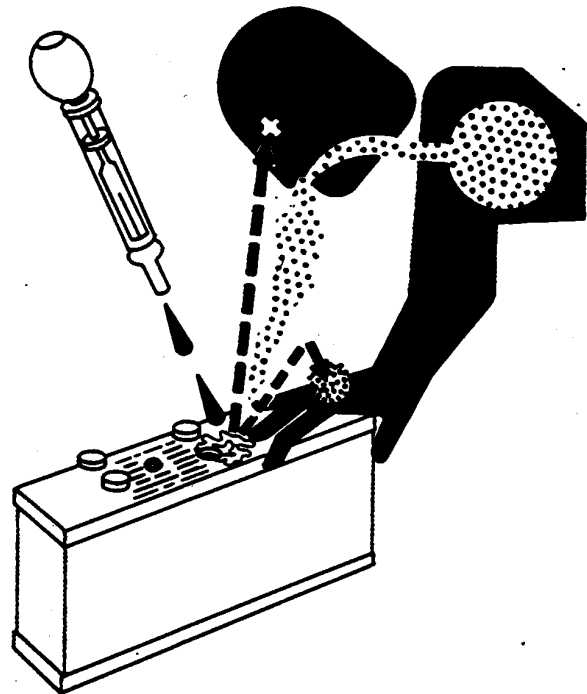
If acid is spilled on skin or in eyes:

1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 qt.).
3. Get medical attention immediately.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**



TS204 —UN—15APR13

TS203 —UN—23AUG88

DX,WW,BATTERIES -19-02DEC10-1/1

Avoid Heating Near Pressurized Fluid Lines

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.



DX,TORCH -19-10DEC04-1/1

TS953 —UN—15MAY90

Remove Paint Before Welding or Heating

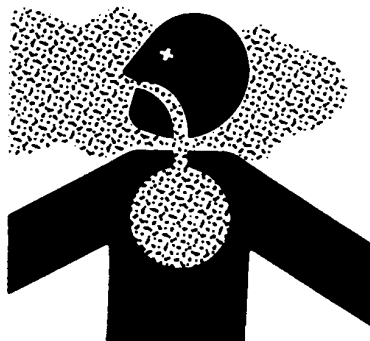
Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.



Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.

DX,PAINT -19-24JUL02-1/1

TS220 —UN—15APR13

Handle Electronic Components and Brackets Safely

Falling while installing or removing electronic components mounted on equipment can cause serious injury. Use a ladder or platform to easily reach each mounting location. Use sturdy and secure footholds and handholds. Do not install or remove components in wet or icy conditions.

If installing or servicing a RTK base station on a tower or other tall structure, use a certified climber.

If installing or servicing a global positioning receiver mast used on an implement, use proper lifting techniques and wear proper protective equipment. The mast is heavy and can be awkward to handle. Two people are required when mounting locations are not accessible from the ground or from a service platform.



DX,WW,RECEIVER -19-24AUG10-1/1

TS249 —UN—23AUG88

Practice Safe Maintenance

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.



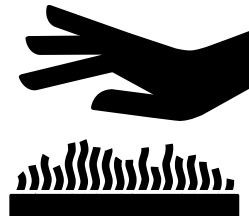
TS218 —UN—23AUG88

DX,SERV -19-17FEB99-1/1

Avoid Hot Exhaust

Servicing machine or attachments with engine running can result in serious personal injury. Avoid exposure and skin contact with hot exhaust gases and components.

Exhaust parts and streams become very hot during operation. Exhaust gases and components reach temperatures hot enough to burn people, ignite, or melt common materials.



RG17488 —UN—21AUG09

DX,EXHAUST -19-20AUG09-1/1

Clean Exhaust Filter Safely

During exhaust filter cleaning operations, the engine may run at elevated idle and hot temperatures for an extended period of time. Exhaust gases and exhaust filter components reach temperatures hot enough to burn people, or ignite or melt common materials.

Keep machine away from people, animals, or structures which may be susceptible to harm or damage from hot exhaust gases or components. Avoid potential fire or explosion hazards from flammable materials and vapors near the exhaust. Keep exhaust outlet away from people and anything that can melt, burn, or explode.

Closely monitor machine and surrounding area for smoldering debris during and after exhaust filter cleaning.

Adding fuel while an engine is running can create a fire or explosion hazard. Always stop engine before refueling machine and clean up any spilled fuel.

Always make sure that engine is stopped while hauling machine on a truck or trailer.

Contact with exhaust components while still hot can result in serious personal injury.

Avoid contact with these components until cooled to safe temperatures.

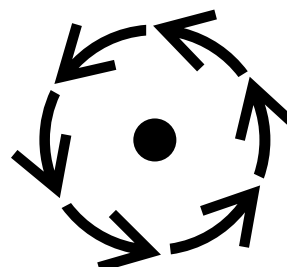
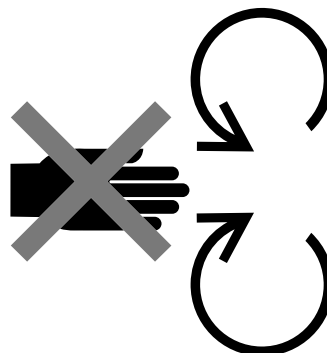
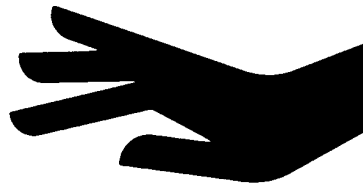
If service procedure requires engine to be running:

- Only engage power-driven parts required by service procedure
- Ensure that other people are clear of operator station and machine

Keep hands, feet, and clothing away from power-driven parts.

Always disable movement (neutral), set the parking brake or mechanism and disconnect power to attachments or tools before leaving the operator's station.

Shut off engine and remove key (if equipped) before leaving the machine unattended.



STOP

TS227 —UN—15APR13

TS271 —UN—23AUG88

TS1683 —UN—09DEC09

TS1685 —UN—07DEC09

DX,EXHAUST,FILTER -19-12JAN11-1/1

Work In Ventilated Area

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.



DX,AIR -19-17FEB99-1/1

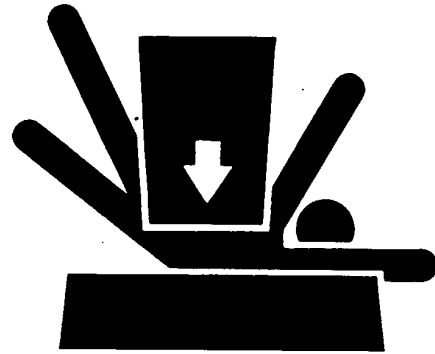
TS220 —UN—15APR13

Support Machine Properly

Always lower the attachment or implement to the ground before you work on the machine. If the work requires that the machine or attachment be lifted, provide secure support for them. If left in a raised position, hydraulically supported devices can settle or leak down.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

When implements or attachments are used with a machine, always follow safety precautions listed in the implement or attachment operator's manual.



DX,LOWER -19-24FEB00-1/1

TS229 —UN—23AUG88

Prevent Machine Runaway

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.



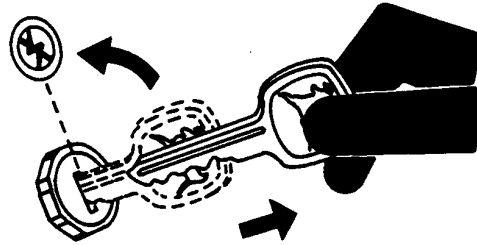
DX,BYPAS1 -19-29SEP98-1/1

TS177 —UN—11JAN89

Park Machine Safely

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.



TS230 —UN—24MAY89

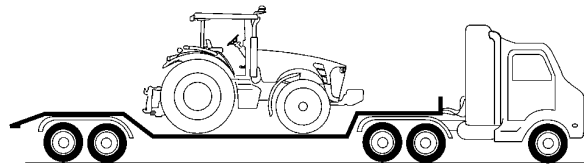
DX,PARK -19-04JUN90-1/1

Transport Tractor Safely

A disabled tractor is best transported on a flatbed carrier. Use chains to secure the tractor to the carrier. The axles and tractor frame are suitable attachment points.

Before transporting the tractor on a low-loader truck or flatbed rail wagon, make sure that the hood is secured over the tractor engine and that doors, roof hatch (if equipped) and windows are properly closed.

Never tow a tractor at a speed greater than 10 km/h (6 mph). An operator must steer and brake the tractor under tow.



RXA0103709 —UN—01JUL09

DX,WW,TRANSPORT -19-19AUG09-1/1

Service Cooling System Safely

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.



TS281 —UN—15APR13

DX,WW,COOLING -19-19AUG09-1/1

Service Accumulator Systems Safely

Escaping fluid or gas from systems with pressurized accumulators that are used in air conditioning, hydraulic, and air brake systems can cause serious injury. Extreme heat can cause the accumulator to burst, and pressurized lines can be accidentally cut. Do not weld or use a torch near a pressurized accumulator or pressurized line.

Relieve pressure from the pressurized system before removing accumulator.

Relieve pressure from the hydraulic system before removing accumulator. Never attempt to relieve hydraulic system or accumulator pressure by loosening a fitting.

Accumulators cannot be repaired.



T5281 —UN—15APR13

DX,WW,ACCLA2 -19-22AUG03-1/1

Service Tires Safely

Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims, or missing lug bolts and nuts.

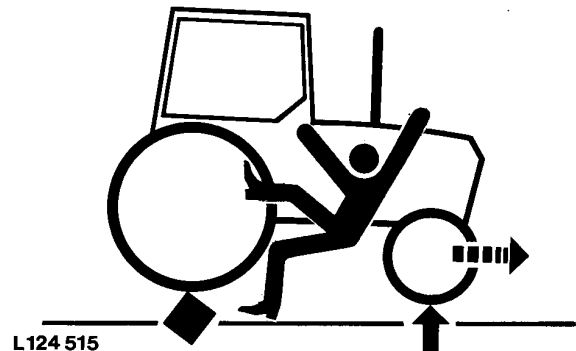


RXA0103438 —UN—11JUN09

DX,WW,RIMS -19-19AUG09-1/1

Service Front-Wheel Drive Tractor Safely

When servicing front-wheel drive tractor with the rear wheels supported off the ground and rotating wheels by engine power, always support front wheels in a similar manner. Loss of electrical power or transmission hydraulic system pressure will engage the front driving wheels, pulling the rear wheels off the support if front wheels are not raised. Under these conditions, front drive wheels can engage even with switch in disengaged position.

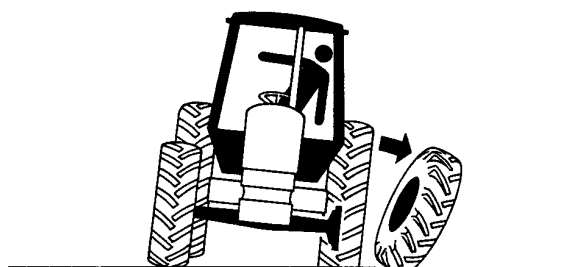


L124515 —UN—06AUG04

DX,WW,MFWD -19-19AUG09-1/1

Tightening Wheel Retaining Bolts/Nuts

Torque wheel retaining bolts/nuts at the intervals specified in section Break-In Period and Service.



L124 516

L124516 —UN—03JAN95

DX,WW,WHEEL -19-12OCT11-1/1

Avoid High-Pressure Fluids

Inspect hydraulic hoses periodically – at least once per year – for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

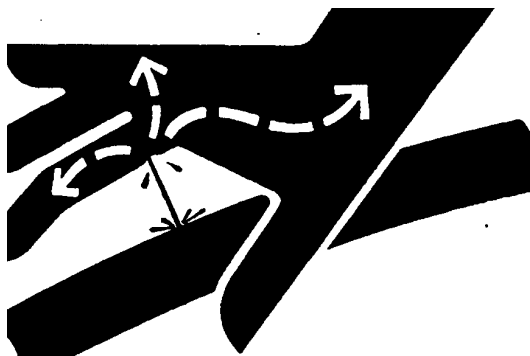
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar



with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

X9811 —UN—23AUG88

DX,FLUID -19-12OCT11-1/1

Do Not Open High-Pressure Fuel System

High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt repair of fuel lines, sensors, or any other components between the high-pressure fuel pump and nozzles on engines with High Pressure Common Rail (HPCR) fuel system.

Only technicians familiar with this type of system can perform repairs. (See your John Deere dealer.)



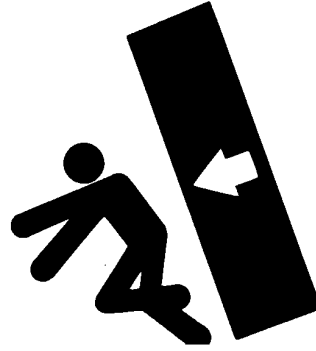
TS1343 —UN—18MAR92

DX,WW,HPCR1 -19-07JAN03-1/1

Store Attachments Safely

Stored attachments such as dual wheels, cage wheels, and loaders can fall and cause serious injury or death.

Securely store attachments and implements to prevent falling. Keep playing children and bystanders away from storage area.



DX,STORE -19-03MAR93-1/1

TS219 —UN—23AUG88

Dispose of Waste Properly

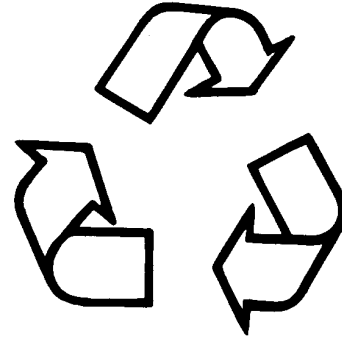
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.

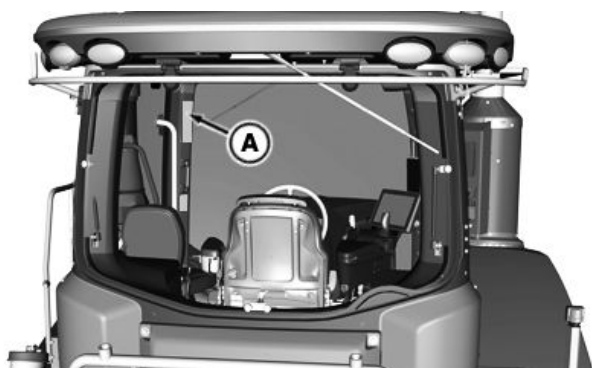


DX,DRAIN -19-03MAR93-1/1

TS1133 —UN—15APR13

Safety Signs

Operator's Manual



RXA0139185 —UN—24JUL14



RXA0146616 —UN—13DEC14

A— Operator's Manual Label

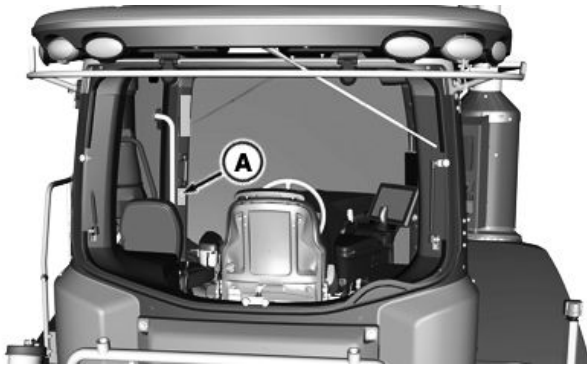
CAUTION: Avoid the risk of injury.

This Operator's Manual contains important information necessary for safe machine operation and explanation of

safety signs. Carefully observe all safety rules to avoid accidents.

RD47322,0000375 -19-21FEB14-1/1

Seat Belt



RXA0139175 —UN—24JUL14



RXA0146617 —UN—22JAN15

A— Seat Belt Label

Use Seat Belt Properly.

⚠ CAUTION: Avoid crushing injury or death during rollover.

This machine is equipped with a roll-over protective structure (ROPS).

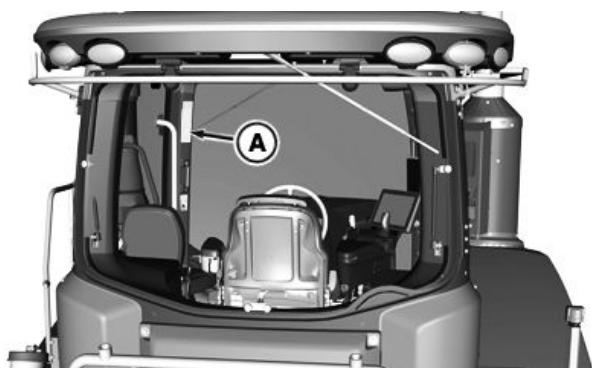
USE a seat belt when you operate with a ROPS.

- Hold the latch and pull the seat belt across the body.

- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure the belt is securely fastened.
- Snug the seat belt across the hips.

RD47322,0000376 -19-21FEB14-1/1

Passenger Seat



RXA0139181 —UN—30SEP14



RXA0146614 —UN—13DEC14

A— Passenger Seat Label

CAUTION: Avoid crushing during rollover.

The passenger seat must NOT be used while in field operation. Riders are permitted only on a properly installed

passenger seat that has been approved by John Deere™. When using the passenger seat, always use the seat belt.

RD47322,0000377 -19-22AUG14-1/1

Hinge Area



RXA0139174 —UN—30MAY14



RXA0113903 —UN—20JUN11

A— Hinge Area Labels (Left-Hand and Right-Hand)

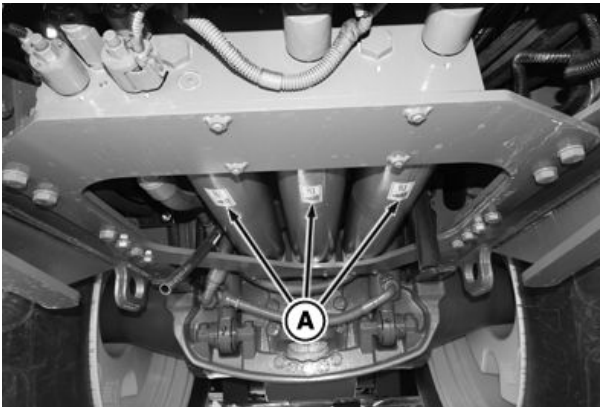
CAUTION: Avoid crushing and pinching.

Crushing injury may result in hinge area if machine is turned. Make sure people are clear of machine before

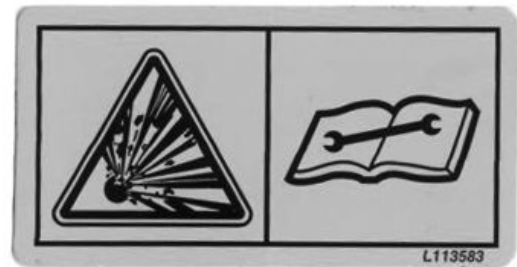
starting engine or moving steering wheel. Attach steering lockouts before performing service near center of machine or transporting on a truck.

RD47322,0000379 -19-14FEB14-1/1

HydraCushion™ Suspension Accumulators (If Equipped)



RXA0139260 —UN—09JUN14



RXA0146611 —UN—13DEC14

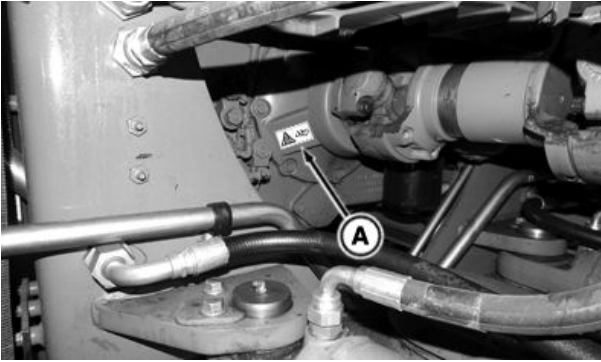
A— HydraCushion™ Suspension Label

CAUTION: Avoid crushing and fluid injection.

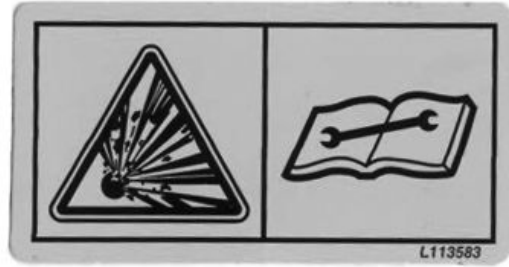
Releasing pressure may cause machine movement and exposure to fluid under pressure. See dealer for instruction on relieving pressure before servicing system.

RD47322,000037A -19-24AUG15-1/1

Park Brake (Stored energy)



RXA0139186 —UN—07FEB14



RXA0146611 —UN—13DEC14

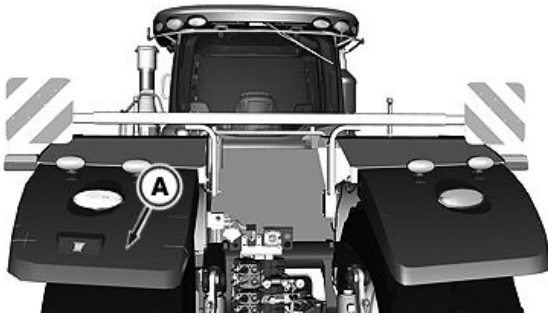
A—Park Brake Label

CAUTION: Avoid injury from sudden release of stored energy.

Park brake contains spring under load. Remove park brake cover cap screws evenly.

RD47322,000037D -19-31JUL14-1/1

Rear Hitch Remote Switch (If Equipped)



RXA0139173 —UN—24JUN14



RXA0146615 —UN—15DEC14

A— Left-Hand Label

CAUTION: Avoid crushing.

When attaching or detaching an implement, there is a risk of crushing in the area between the tractor and implement.

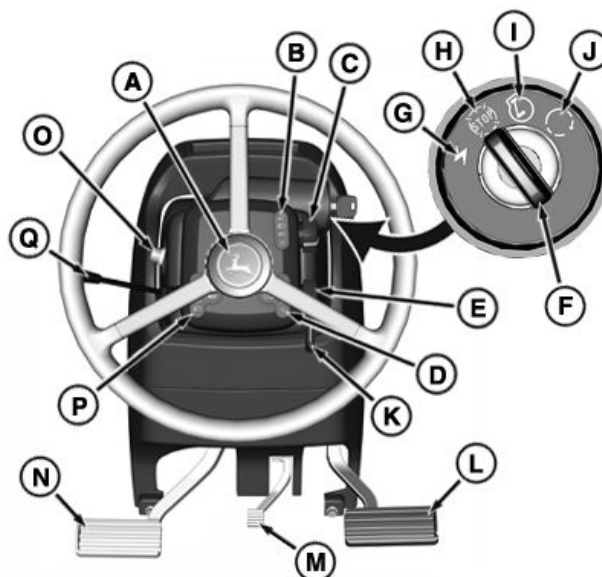
When attaching to the hitch, stay clear of the area where the three-point hitch rises and do not permit anyone to be in the area.

RD47322,000037E -19-21FEB14-1/1

Controls and Instruments

Front Console

- | | |
|------------------------------------|---|
| A—Steering Wheel Telescope Release | J—Start |
| B—Light Selection Cluster | K—Steering Column Tilt Release Lever |
| C—Light Selector Knob | L—Brake Pedal |
| D—Windshield Wiper Cluster | M—Steering Wheel Tilt Release |
| E—Windshield Wiper Control Knob | N—Clutch Pedal |
| F—Key Switch | O—Starting Aid Switch (If Equipped) |
| G—Accessories | P—Turn Signal Icon, Road/Field Light Icon and Horn Icon |
| H—OFF (Stop) | Q—Turn Signal Lever/Horn |
| I—Run | |



Front Console

TO84419,0000043 -19-17JUL14-1/1

RXA0130652 —UN—24JAN13

Information Indicators

STOP, Service Alert and Information Indicators are accompanied by informative message, diagnostic trouble code, and/or fault description shown on CommandCenter™. For description of indicators and codes, see STOP, Service Alert and Information Indicators in Diagnostic Trouble Codes section of this Operator's Manual.

STOP Indicator (A): Light flashes and alarm sounds continuously.

Service Alert Indicator (B): Light flashes and alarm sounds five times indicating performance or operational problem is detected that needs to be resolved as soon as possible.

Information Indicator (C): Light illuminates continuously and alarm sounds for two seconds, indicating possible fault condition.

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RXA0109847 —UN—20AUG10



Information Indicators on Corner Post Display

A—STOP Indicator
B—Service Alert Indicator

C—Information Indicator

RD47322,0000152 -19-29JUN15-1/1

Aftertreatment Indicators Overview

The Diesel Exhaust Fluid (DEF) indicator illuminates when the DEF is low. Fill DEF tank.

When the DEF indicator is combined with the warning indicator or stop engine indicator engine performance is reduced by the Engine Control Unit (ECU) because the DEF is below a measurable level. Fill DEF tank.

When engine emissions temperature indicator illuminates exhaust gas temperature is high, elevated idle is active, or exhaust filter cleaning is in process. The machine can be operated as normal unless the operator determines the machine is not in a safe location for high exhaust temperatures and disables auto cleaning.

When engine emissions temperature indicator is combined with the warning indicator or stop engine indicator engine performance is reduced by the ECU because the exhaust gas temperature is higher than expected. Follow Diagnostic Trouble Code (DTC) procedure or see your authorized servicing dealer.

When the exhaust filter indicator illuminates the exhaust filter cleaning is in process, aftertreatment system has a fault, or the exhaust filter is in need of cleaning and the operator has disabled auto exhaust filter cleaning. If conditions are safe, the operator should enable the auto exhaust filter clean setting or perform manual service regeneration or follow DTC procedure.

When the exhaust filter indicator is combined with the warning indicator engine performance is reduced by the ECU because there is an aftertreatment system fault or the soot level of the exhaust filter is moderately high. If conditions are safe, the operator should enable the auto exhaust filter clean function. If conditions are not safe, the operator should move the machine to a safe location and engage the auto exhaust filter cleaning mode. Perform manual service regeneration or follow DTC procedure.

When the exhaust filter indicator is combined with the stop engine indicator engine performance is further reduced by the ECU because there is an aftertreatment system fault or the soot level of the exhaust filter is extremely high. If this combination is present, see your authorized servicing dealer.

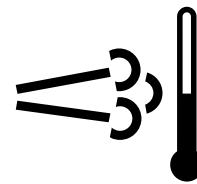
The auto cleaning disabled indicator illuminates when the operator has engaged the request to disable the auto exhaust filter cleaning function. This icon remains illuminated until the operator reengages automatic exhaust filter cleaning from the diagnostic gauge. Disabling auto mode is not recommended for any situation unless it is safety related or if the fuel tank lacks the required fuel to complete the cleaning process.

RG22487 —UN—21AUG13



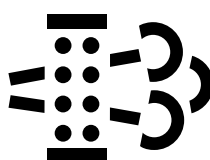
Diesel Exhaust Fluid Indicator

RG22488 —UN—21AUG13



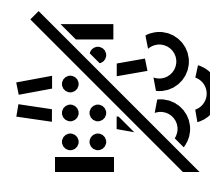
Engine Emissions Temperature Indicator

RG22489 —UN—21AUG13



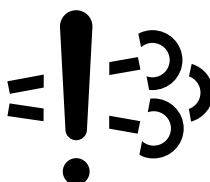
Exhaust Filter Indicator

RG22490 —UN—21AUG13



Auto Cleaning Disabled Indicator

RG22491 —UN—21AUG13



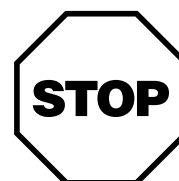
Engine Emissions System Malfunction Indicator

RG22492 —UN—21AUG13



Warning Indicator

RG22493 —UN—21AUG13



Stop Engine Indicator

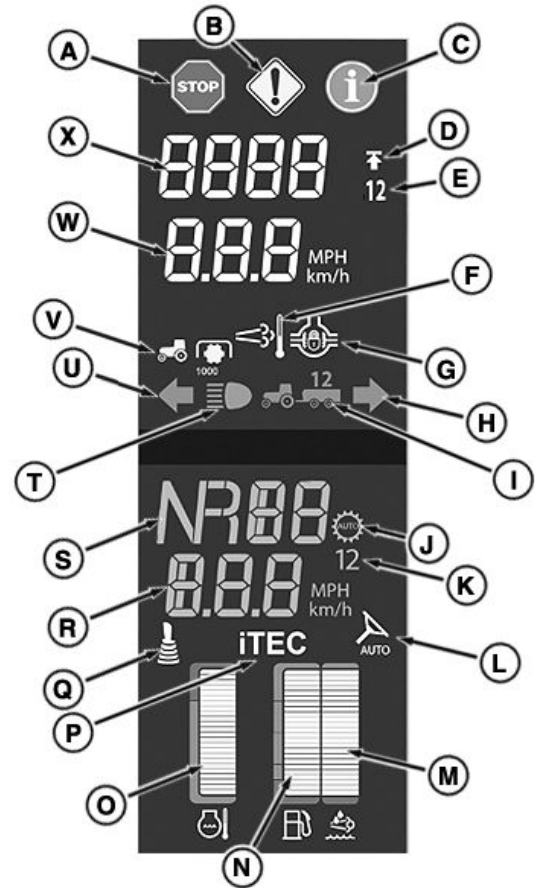
The engine emissions system malfunction indicator illuminates when engine emissions are outside of normal operating range or engine emissions system fault. Follow DTC procedure or see your authorized servicing dealer

When the engine emissions system malfunction indicator is combined with the warning indicator engine performance is reduced by the ECU because the engine emissions are outside of normal operating range or engine emissions system fault. Follow DTC procedure or see your authorized servicing dealer

DX,AFTRTREAT,INDCATRS -19-12JUL13-1/1

Corner Post Display

- | | |
|--|--|
| A—Stop Indicator | M—Diesel Exhaust Fluid (DEF) Gauge (FT4/Stage IV Engines Only) |
| B—Service Alert Indicator | N—Fuel Gauge |
| C—Information Indicator | O—Coolant Temperature Gauge |
| D—FieldCruise™ Indicator | P—iTEC™ Indicator |
| E—FieldCruise™ Selection (1 or 2) | Q—ISOBUS Auxillary Mode Indicator |
| F—Exhaust Filter Cleaning Indicator | R—Set Speed |
| G—Differential Lock Indicator | S—Current Gear/Range |
| H—Right Turn Indicator | T—High Beam Indicator |
| I—Trailer Indicator (If Equipped) | U—Left Turn Indicator |
| J—Efficiency Manager Indicator | V—PTO Indicator (If Equipped) |
| K—Efficiency Manager Set Speed Indicator | W—Vehicle Ground Speed |
| L—AutoTrac™ Indicator | X—Tachometer |



Corner Post Display

FieldCruise is a trademark of Deere & Company
 AutoTrac is a trademark of Deere & Company
 iTEC is a trademark of Deere & Company

RXA0142560—UN—13JUN14

TO84419.0000044 -19-16JUN14-1/1

Digital Indicators—Tachometer, Ground Speed and Transmission

A—Tachometer: Displays engine speed in multiples of 10. If "—" is displayed, no speed signal is being received.

B—Ground Speed Indicator: Displays ground speed in either miles-per-hour or kilometers-per-hour, depending on operator selected units (U.S. or Metric).

If "—" is displayed, no speed signal is being received.

C—Transmission Information: Shows if transmission is in Neutral—N, Forward—F, Reverse—R or Park—P.

If "—" is displayed, no gear signal is being received.

Efficiency Manager™: Shows set speeds 1 or 2.

PST Only: Shows gear selected.

A—Tachometer

B—Ground Speed Indicator

C—Transmission Information



RXA0140656—UN—25MAR14

Efficiency Manager is a trademark of Deere & Company

TO84419,0000046 -19-25JUL14-1/1

Gauges—Coolant Temperature, Diesel Exhaust Fluid (DEF) Level and Fuel Level

A—Coolant Temperature Gauge: Shows engine coolant temperature between 40—120 °C (104—248 °F). All segments are off when coolant temperature is below 40 °C (104 °F). All segments are lit when temperature is 120 °C (248 °F) and above.

B—Fuel Level Gauge: Displays fuel level in tank. Each lighted segment represents 4% of fuel tank total capacity. When fuel tank is full, all segments are lit. When only bottom segment is lit, tank is nearly empty with approximately 39 L (10 gal) remaining.

NOTE: Diesel Exhaust Fluid (DEF) is only available on FT4/ Stage IV engine equipped tractors. DEF gauge will not show up if not equipped with those engines.

C—Diesel Exhaust Fluid (DEF) Gauge (If Equipped): Displays diesel exhaust fluid level. Each lighted segment represents 4% of DEF fluid tank total capacity. When DEF fluid tank is full, all segments are lit. When only bottom segment is lit, tank is nearly empty. DEF fluid tank should be filled whenever fuel tank is filled.

A—Coolant Temperature Gauge
B—Fuel Level Gauge

C—Diesel Exhaust Fluid (DEF) Gauge

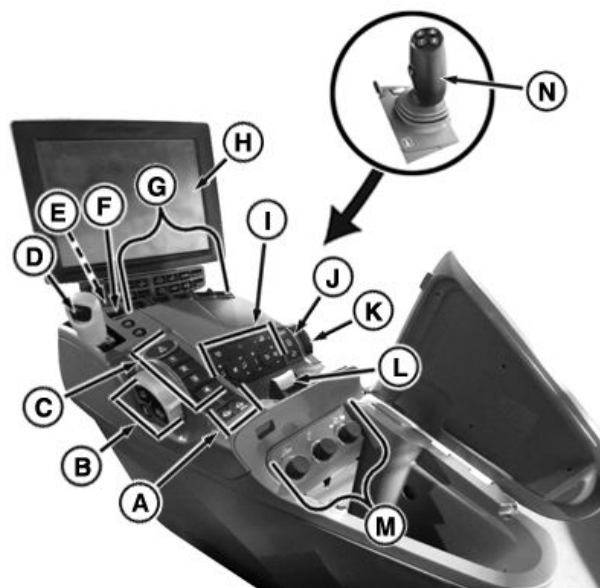


RXA0135829—UN—08OCT13

SV81855,0000105 -19-20NOV14-1/1

CommandARM™ with Generation 4 CommandCenter™ Display

- | | |
|--|--|
| A—Differential Lock | H—Generation 4 CommandCenter™ Display |
| B—Hand Throttle Control | I—Climate, Radio and Lighting Controls |
| C—iTEC™ & AutoTrac™ Resume | J—Set/Lock/Resume Buttons |
| D—Speed Control Lever/Shift Lever | K—Depth Adjust Hitch Dial |
| E—SCV Control Lever Lock/ISB Lock Button | L—PTO Lever |
| F—Hitch Lever | M—Load Depth/ Upper Limit/ Drop Rate Hitch Dials |
| G—SCV Control Levers | N—Joystick (If Equipped) |



CommandARM™

RXA0138558 —UN—23JAN14

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 iTEC is a trademark of Deere & Company
 AutoTrac is a trademark of Deere & Company
 CommandCenter is a trademark of Deere & Company

SV81855,00000B0 -19-12JUN14-1/1

CommandARM™ Joystick (If Equipped)

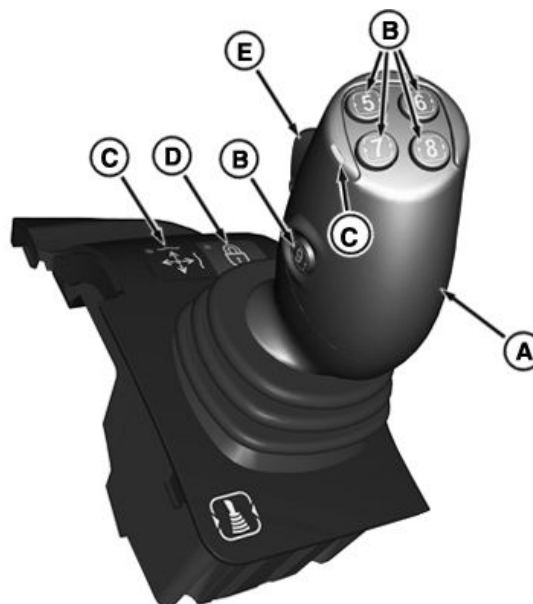
NOTE: Joystick buttons 5-9 (B) cannot be reconfigured at this time. Function may become available for future use.

Joystick is compatible on tractors with up to 6 SCVs.

Joystick Operation:

- Control Setup Icon appears around Controls that may be setup to control other functions. Review Controls Setup page to verify the function of each control.
- Axes of the joystick (A) operates combinations of programmed SCV(s) functions.
- Select transmission gear upshifts and downshifts using joystick buttons (B) 5 and 7 located on top of lever.
- Joystick activation indicator light (C) is ON when joystick is active.
- Joystick lock (D) locks out control by joystick only
- Rocker switch (E) operates combinations of programmed SCV(s) functions.
- Push joystick all the way forward and engage in detent to activate float position. Joystick lever remains in detent until pulled back.

- | | |
|---------------------------------------|--------------------------|
| A—Joystick (If Equipped) | D—Joystick Lock |
| B—Joystick Buttons | E—Joystick Rocker Switch |
| C—Joystick Activation Indicator Light | |



CommandARM™ Joystick

RXA0133735 —UN—17JUL13

RXA0133820 —UN—11NOV13



Controls Setup Icon

KT81203,000014A -19-17JUN14-1/1

CommandARM™ Secondary Brake Lever (If Equipped)

A—Secondary Brake Lever



Secondary Brake Lever

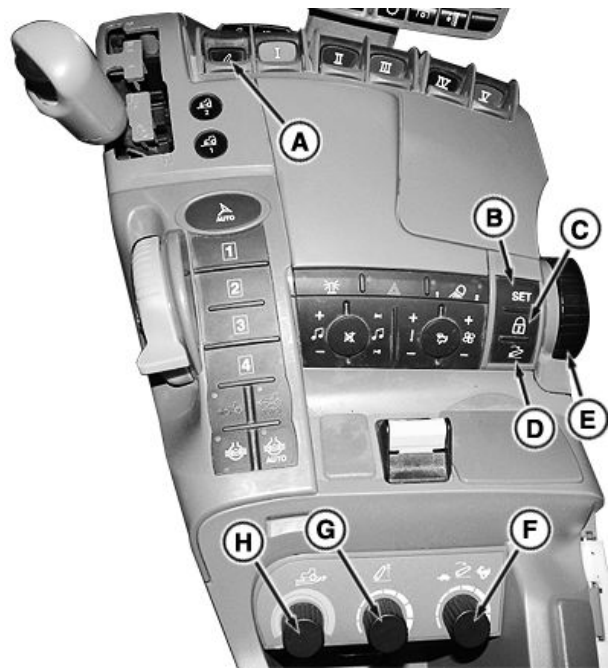
KT81203,0000161 -19-16JUN14-1/1

RXA0142566 —UN—13JUN14

CommandARM™ Hitch Controls

A—Hitch Control Lever (If Equipped)
B—Set Point Button
C—Hitch Control Lever Lock
D—Return to Lower Set Point

E—Depth Adjust Hitch Dial
F—Drop Rate Hitch Dial
G—Upper Limit Hitch Dial
H—Load Depth Hitch Dial



Hitch Controls

KT81203,000013B -19-04DEC14-1/1

RXA0138559 —UN—12FEB14

CommandARM™ SCV Control Levers

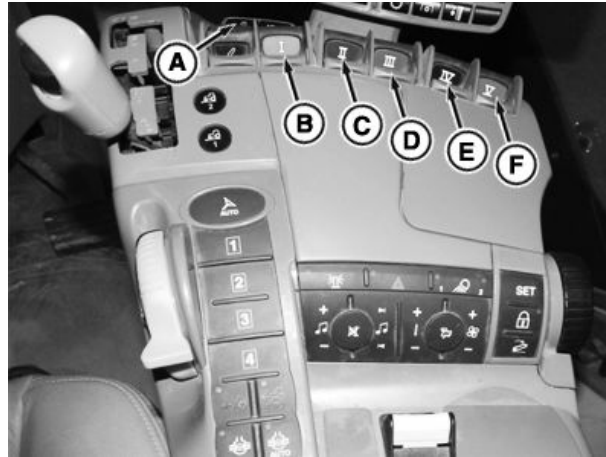
NOTE: Tractors equipped with hitch may have up to 6 SCVs installed. Tractors without hitch may have up to 8 SCVs installed.

NOTE: Reconfigurable SCV Controls allows operator to match device with various implement functions. This process is called “**Assignment**” input to function. See Controls Setup in CommandCenter™ section of this Operator’s Manual for more information.

SCV control lever lock (A) locks out control of SCVs by SCV control levers only.

Controls Setup icon appears on SCV control levers that are reconfigurable.

- | | |
|--------------------------|-----------------------|
| A—SCV Control Lever Lock | D—SCV 3 Control Lever |
| B—SCV 1 Control Lever | E—SCV 4 Control Lever |
| C—SCV 2 Control Lever | F—SCV 5 Control Lever |



SCV Control Levers

RXA0133735 —UN—17JUL13



Controls Setup Icon

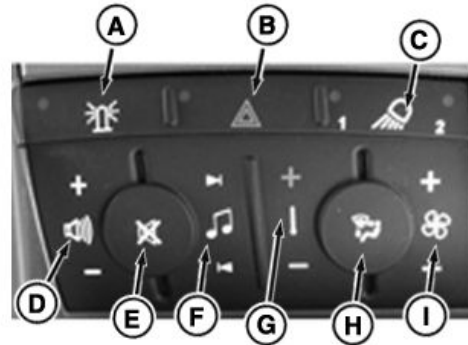
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SV81855,00000B3 -19-20NOV14-1/1

RXA0138560 —UN—24FEB14

CommandARM™ Climate, Radio and Lighting Controls

- | | |
|--------------------------------------|--|
| A—Rotary Beacon Lights Button | F—Next/Previous Station, Preset or Track |
| B—Hazard Lights Button | G—Temperature Control |
| C—Field Lights 1 and 2 Toggle Button | H—Air Flow Control |
| D—Radio Volume | I— Fan Control |
| E—Radio Mute Button | |



Climate, Radio and Lighting Controls

RD47322,000015B -19-04JUN14-1/1

RXA0141845 —UN—04JUN14

CommandARM™ PTO Control Lever (If Equipped)

- A—PTO Control Lever



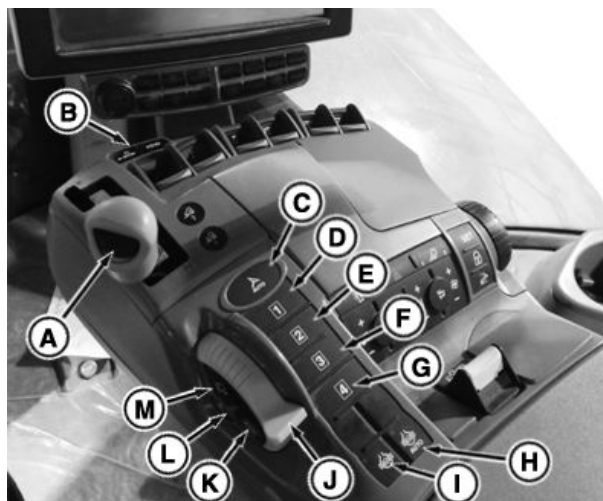
PTO Control Lever

SV81855,00000B5 -19-09JUN14-1/1

RXA0142354 —UN—09JUN14

CommandARM™ Left-Hand Side Controls

- | | |
|-------------------------------------|------------------------------------|
| A—Transmission Shift Lever | H—Auto Differential Lock Button |
| B—SCV Control Lever Lock/ISB Button | I—Differential Lock Button |
| C—AutoTrac™ Resume Button | J—Hand Throttle Control |
| D—iTEC™ 1 Button | K—ECO ON/OFF Button |
| E—iTEC™ 2 Button | L—Foot Throttle Lock/Unlock Button |
| F—iTEC™ 3 Button | M—FieldCruise™ ON/OFF Button |
| G—iTEC™ 4 Button | |



CommandARM™ Controls — Center Left

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 iTEC is a trademark of Deere & Company
 FieldCruise is a trademark of Deere & Company

SV81855,00000B6 -19-12AUG14-1/1

RXA0139178 —UN—12FEB14

CommandARM™ ISOBUS Shortcut Button (ISB)

In an ISOBUS-system operator can activate function of implement over ISOBUS via Implement's Operator Interface on display. Read ISOBUS controller's operator's manual for more information.

After activation, operator can change screen of display in order to operate another implement or interact with other applications.

Deactivation of functions on first implement is not possible unless operator manually switches back to the according screen of first implement. ISB shall provide a direct method to inform all ISOBUS participants about operators desire to deactivate functions that were activated by an ISOBUS control.

CAUTION: Read appropriate operator's manual. ISB button function is proprietary to implement manufacturer. Verify button function in a safe and open area that is clear of bystanders.

ISB/ISOBUS Button (A): Pressing the ISB button sends a "Stop All Implement Operations" signal out on the

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 Tractor Implement Automation is a trademark of Deere & Company



CommandARM™ ISB Shortcut Button

A—ISB/ISOBUS Button

ISOBUS when button is pressed. The reaction on ISB is proprietary to the receiving control unit.

Example: Implement currently using ISOBUS Class 3 automation (see Tractor Implement Automation™ section of Operator's Manual) is going to its safe state.

KT81203,00000ED -19-16JUN14-1/1

RXA0136449 —UN—06NOV13

Hitch External Switches (If Equipped)

Rear hitch external raise/lower switches are located on left rear fender.

NOTE: Hitch moves at slower speed when using external raise/lower switches.

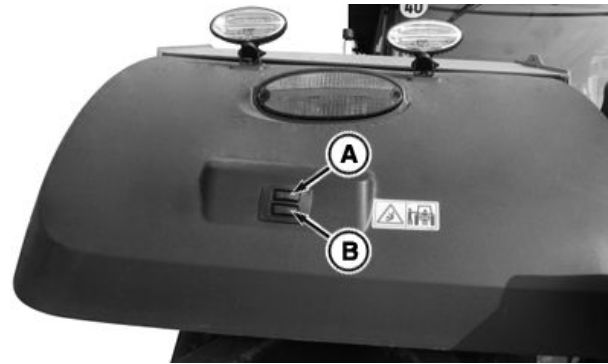
CommandARM™ hitch control lever (C) cannot be used simultaneously with external raise/lower switches.

Push on top external switch (A) to raise hitch.

Push on bottom external switch (B) to lower hitch.

A— Hitch Raise Switch
B— Hitch Lower Switch

C— CommandArm™ Hitch Control Lever



Rear Hitch External Raise/Lower Switches



CommandArm™ Hitch Switch

CommandARM is a trademark of Deere & Company

RXA0141911 —UN—04JUN14

RXA0139501 —UN—24FEB14

KT81203,0000151 -19-20NOV14-1/1

Foot Decelerator

Use foot decelerator, to slow down engine rpm, when turning at end of field.

For more information on foot decelerator use, see Use Foot Decelerator in Tractor Operator section of this Operator's Manual.

A—Foot Decelerator



RXA0142572 —UN—13JUN14

KT81203,0000160 -19-29MAY15-1/1

Onscreen Help

PC15300 —UN—19MAR13

Generation 4 CommandCenter™ displays are equipped with detailed help information in the software. Onscreen help is available in Help Center or by pressing Information (i) buttons at the top of most pages. Information buttons link directly to help information for that page. Reading both the operator's manual and onscreen help information is recommended.



Help Center Application & Information Button

Navigate to Help Center

1. Select Menu.
2. Select System tab.

3. Select Help Center application.

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HC94949,00002A6 -19-11DEC13-1/1

Generation 4 CommandCenter™

The John Deere Generation 4 CommandCenter™ is designed for maximum ease of use and productivity. One software system provides commonality while hardware options provide a range of price and functionality. The CommandCenter™ display is attached to the CommandARM™. There are 7 and 10 inch display options available.

NOTE: Software in Generation 4 CommandCenter™ is on processor, not display.

4100 CommandCenter™ (7 Inch)

- Run Page Modules same as 10 inch display
- Shortcut Softkeys must be expanded to view.

4600 CommandCenter™ (10 Inch)

- Title Bar displays currently viewed Run Page
- Large Status Center provides more information
- Shortcut Softkeys are always visible.



4100 CommandCenter™



4600 CommandCenter™

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CommandARM is a trademark of Deere & Company

HC94949,00003A3 -19-15DEC14-1/1

PC17356—UN—03DEC13

PC17355—UN—03DEC13

Generation 4 CommandCenter™ Processor

Generation 4 CommandCenter™ software runs on a processor separate from the display. There are two processor options available.

NOTE: Maximum capabilities for each processor are listed. Depending on machine configuration, some functions may not be available.

4600 Processor

- 4 Video Camera Inputs
- 4 USB Inputs
- 2 Display Outputs
- Upgradable for future applications

4600 Processor Wi-Fi Capabilities

The CommandCenter™ 4600 processor contains a non-enabled wireless (Wi-Fi) transmitter. Hardware is present to enable future functionality.

Federal Communications Commission Part 15.21 Statement:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CommandCenter is a trademark of Deere & Company



A



B

4600 and 4100 Processors

A—4600 Processor

B—4100 Processor

4100 Processor

- 1 Video Camera Input
- 1 USB Input
- 1 Display Output

PC17396—UN—15JUL14

HC94949,00002A8 -19-15JUL14-1/1

Run Page Structure

Menu (A) lists all applications installed on display and machine.

Shortcut softkeys (B) provide quick access to frequently used applications and functions. On 7 in. display, select expand button to display shortcut softkeys.

Next and Previous Run Page buttons (C) cycle through multiple run pages.

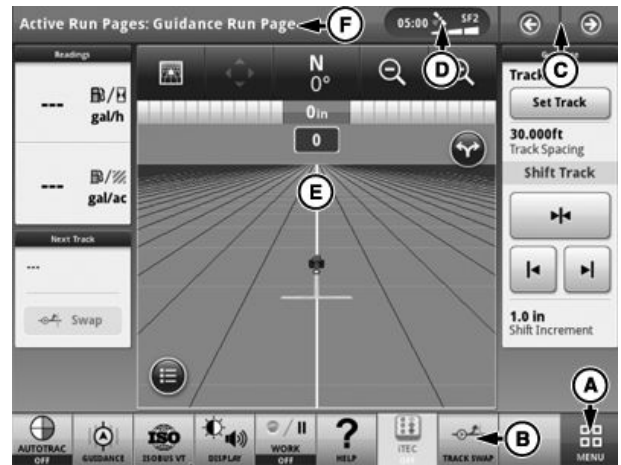
Select the area indicated (D) to display **Status Center**. Important information for display functions is highlighted, such as GPS signal strength and available data storage.

Run page (E) is configured using Layout Manager application.

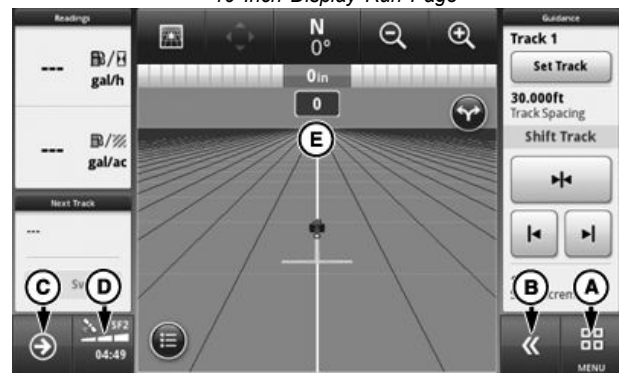
Only on 10 in. display, press **title bar (F)** to display **Run Page Selection** page. Choose desired run page from list of available pages.

(Refer to Layout Manager application for information about customizing the run page.)

- | | |
|-------------------------------------|--------------------------------|
| A—Menu | D—Status Center |
| B—Shortcut Softkeys | E—Run Page |
| C—Next or Previous Run Page Buttons | F—Title Bar/Run Page Selection |



10 Inch Display Run Page



7 Inch Display Run Page

CZ76372,0000649 -19-22OCT14-1/1

PC17353 —UN—03DEC13

PC17354 —UN—03DEC13

Menu

PC17269 —UN—15JUL13

Selecting Menu button lists all applications installed on display and machine. Select left-hand tabs to view different groups of applications.

NOTE: Available applications vary depending on machine configuration.



Menu Button

CZ76372,0000648 -19-11DEC13-1/1

Machine Settings Overview

RXA0147924 —UN—13APR15

Machine Settings tab allows selection of application main pages. Available applications vary depending on tractor configuration.

Machine Settings

Continued on next page

KT81203,0000058 -19-24JUL15-1/13

Audio

RXA0134978 —UN—07AUG13

- Use Audio application to adjust audio settings.
- For more information, see Radio Operation section of this Operator's Manual.



Audio

KT81203,0000058 -19-24JUL15-2/13

Engine

RXA0134955 —UN—07AUG13

- Use engine application to adjust exhaust filter system settings, FieldCruise™ settings, or engine rpm.
- For more information, see Engine Operation and Tractor Operation sections of this Operator's Manual.



Engine

FieldCruise is a trademark of Deere & Company

KT81203,0000058 -19-24JUL15-3/13

HVAC

RXA0134979 —UN—07AUG13

- Use HVAC application to adjust heating, ventilation, and air conditioning settings.
- For more information, see Controls and Instruments section of this Operator's Manual.



HVAC

KT81203,0000058 -19-24JUL15-4/13

iTEC™

RXA0134980 —UN—07AUG13

- Use iTEC™ application to program and repeat common tasks.
- For more information, see iTEC™ section of this Operator's Manual.



iTEC™

iTEC is a trademark of Deere & Company

KT81203,0000058 -19-24JUL15-5/13

Lights

RXA0134956 —UN—07AUG13

- Use Lights application to adjust lights settings.
- For more information, see Lights section of this Operator's Manual.



Lights

Continued on next page

KT81203,0000058 -19-24JUL15-6/13

Maintenance and Calibrations

RXA0134981 —UN—07AUG13

- Use Maintenance and Calibrations application to add/edit service intervals and perform ground radar and wheel slip calibrations.



Maintenance and Calibrations

KT81203,0000058 -19-24JUL15-7/13

Phone

RXA0134982 —UN—07AUG13

- Use Phone application to make/receive calls through CommandCenter™.
- For more information, see Radio Operation section of this Operator's Manual.



Phone

CommandCenter is a trademark of Deere & Company

KT81203,0000058 -19-24JUL15-8/13

PTO

RXA0134957 —UN—07AUG13

- Use PTO application to adjust PTO settings.
- For more information, see Drawbar and PTO section of this Operator's Manual.



PTO

KT81203,0000058 -19-24JUL15-9/13

Rear Hitch

RXA0134958 —UN—07AUG13

- Use Rear Hitch application to adjust rear hitch settings.
- For more information, see Hitch section of this Operator's Manual.



Rear Hitch

KT81203,0000058 -19-24JUL15-10/13

SCV

RXA0134983 —UN—07AUG13

- Use SCV application to adjust SCV settings.
- For more information, see Hydraulics and Selective Control Valves section of this Operator's Manual.



SCV

Continued on next page

KT81203,0000058 -19-24JUL15-11/13

Suspension

RXA0134976 —UN—07AUG13

- Use Suspension application to adjust suspension settings.
- For more information, see Tractor Operation section of this Operator's Manual.



Suspension

KT81203,0000058 -19-24JUL15-12/13

Transmission

RXA0134984 —UN—07AUG13

- Use Transmission application to adjust transmission settings.
- For more information, see appropriate transmission section of this Operator's Manual.



Transmission

KT81203,0000058 -19-24JUL15-13/13

Operating System Applications Overview

PC15302 —UN—19MAR13

Operating System applications package is installed at the factory, and is updated with periodic software updates from John Deere. These applications are used for basic functions of display.



HC94949,00003A4 -19-22MAY15-1/20

Date and Time

PC16674 —UN—18MAR13

- Information from Date and Time application is used for several important functions on system. These include error logging, activations, and data recording.
- Date and time are set automatically if a GPS receiver is connected and receiving valid signal. In this case, only set time zone.
- It is found on System tab of the display menu.



Date and Time

HC94949,00003A4 -19-22MAY15-2/20

Diagnostics Center

PC17272 —UN—17JUL13

- Diagnostics Center is the one place to find diagnostics for the entire system.
- It is found on System tab of the display menu.



Diagnostics Center

HC94949,00003A4 -19-22MAY15-3/20

Display and Sound

PC16685 —UN—18MAR13

- Along with display brightness and volume, Display and Sound is used to calibrate display and configure multiple displays.
- It is found on System tab of the display menu.



Display and Sound

Continued on next page

HC94949,00003A4 -19-22MAY15-4/20

File Manager

PC16671 —UN—18MAR13

- Data and setup information can be transferred between displays or compatible desktop software.
- Perform a Factory Data Reset to clear display of user data.
- It is found on System tab of the display menu.

*File Manager*

HC94949,00003A4 -19-22MAY15-5/20

Language and Units

PC16677 —UN—18MAR13

- Use Language and Units application to change Language, Number Format, and Units of Measurement.
- It is found on System tab of the display menu.

*Language and Units*

HC94949,00003A4 -19-22MAY15-6/20

Software Manager

PC15346 —UN—11JUL13

- Use Software Manager to update software, activate features, and install onscreen help packages.
- It is found on System tab of the display menu.

*Software Manager*

HC94949,00003A4 -19-22MAY15-7/20

Users & Access

PC17262 —UN—12JUL13

- Users & Access manages user profiles and locks users out of certain settings.
- It is found on System tab of the display menu.

*Users & Access*

HC94949,00003A4 -19-22MAY15-8/20

Controls Setup

PC15326 —UN—08JUL13

- Configures an ISOBUS or tractor joystick to control tractor or implement functions.
- It is found on Applications tab of the display menu.

*Controls Setup*

Continued on next page

HC94949,00003A4 -19-22MAY15-9/20

Equipment Manager

PC20410 —UN—22MAY15

- The Machine Profile allows operator to configure GPS offsets and machine dimensions.
- The Implement Profile allows operator to configure Implement Connection Type, Working Width, Dimensions, and Recording Triggers.
- It is found on Applications tab of the display menu.



Equipment Manager

HC94949,00003A4 -19-22MAY15-10/20

Fields

PC17260 —UN—11JUL13

- Field names are used to organize information so it is easier to find and use data, such as guidance lines.
- Use Fields application to set up clients, farms, and fields.
- Select client, farm, and field to set current location.
- It is found on Applications tab of the display menu.



Fields

HC94949,00003A4 -19-22MAY15-11/20

Help Center

PC16684 —UN—18MAR13

- Onscreen Help about each application and more is available in Help Center.
- Not all Help languages are installed at the factory. Update display software to install Help for all supported languages.
- It is found on Applications tab of the display menu.



Help Center

HC94949,00003A4 -19-22MAY15-12/20

ISOBUS VT

PC16682 —UN—18MAR13

- Monitor and control ISOBUS 11783 compatible controllers and implements.
- It is found on Applications tab of the display menu.

NOTE: Only one ISOBUS controller can be viewed at a time. If more than one controller is connected, select Menu button within ISOBUS VT to view a list of controllers to choose from.



ISOBUS VT

PC15293 —UN—18MAR13



ISOBUS VT Menu

HC94949,00003A4 -19-22MAY15-13/20

Layout Manager

PC16678 —UN—18MAR13

- Use Layout Manager to create and modify run pages and shortcut bar so important information and functions can be accessed from the main page.
- It is found on Applications tab of the display menu.



Layout Manager

Continued on next page

HC94949,00003A4 -19-22MAY15-14/20

Machine Monitor

PC15318 —UN—16MAY13

- Machine Monitor displays machine-specific performance values.
- It is found on Applications tab of the display menu.



Machine Monitor

HC94949,00003A4 -19-22MAY15-15/20

Mapping

PC20413 —UN—11MAY15

- Mapping application is used to view spatial features, such as guidance, coverage, work data, and map based prescriptions. (Prescriptions require a CommandCenter™ Premium or Documentation activation.)
- It is found on Applications tab of the display menu.



Mapping

CommandCenter is a trademark of Deere & Company

HC94949,00003A4 -19-22MAY15-16/20

Remote Display Access

PC17363 —UN—16DEC13

- Remote Display Access (RDA) allows someone from a remote location to view an operating display.
- It is found on Applications tab of the display menu.



Remote Display Access

HC94949,00003A4 -19-22MAY15-17/20

StarFire™

PC17388 —UN—15MAY14

- The StarFire™ application is used to view StarFire™ Receivers. If more than one receiver is connected, select the desired receiver using the application.
- It is found on Applications tab of the display menu.



StarFire

StarFire is a trademark of Deere & Company

HC94949,00003A4 -19-22MAY15-18/20

Work Monitor

PC15317 —UN—16MAY13

- Work Monitor displays averaged and totaled machine and operation-specific values.
- It is found on Applications tab of the display menu.



Work Monitor

Continued on next page

HC94949,00003A4 -19-22MAY15-19/20

Work Setup

PC20415 —UN—11MAY15

- Use Work Setup application when changing implements, fields, applying a different product, or selecting a prescription.
- Work Setup application requires a 4600 processor with a CommandCenter™ Premium or Documentation activation.
- It is found on Applications tab of the display menu.



Work Setup

HC94949,00003A4 -19-22MAY15-20/20

AMS Applications Overview

PC15301 —UN—19MAR13

AMS Applications package is installed at factory, but requires an activation to enable functionality. These applications are installed and updated in packages separate from the Generation 4 Operating System.



AMS Applications Package

HC94949,000038C -19-22MAY15-1/3

Guidance

PC16676 —UN—18MAR13

- The Guidance application is used for steering machines through the field along guidance tracks. Steering can be done manually or automatically using AutoTrac™.
- It is found on Applications tab of the display menu.



Guidance

AutoTrac is a trademark of Deere & Company

HC94949,000038C -19-22MAY15-3/3

Section Control

PC20399 —UN—16FEB15

- Section Control turns work point sections on and off automatically to reduce overlap and improve input management.
- Section Control application requires a 4600 processor with a CommandCenter™ Premium or Section Control activation.
- It is found on Applications tab of the display menu.



Section Control

CommandCenter is a trademark of Deere & Company

HC94949,000038C -19-22MAY15-3/3

CommandCenter™ Premium Activation

A CommandCenter™ Premium activation is required to operate certain features, such as documenting work data, and utilizing Section Control. It is also required to enable certain functions within applications, such as exporting work data in the File Manager application.

Individual activations that are included within the CommandCenter™ Premium activation are listed in

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Software Manager application. CommandCenter™ Premium is not listed on Activations tab. Select Menu button > System tab > Software Manager application > Activations tab.

Contact your John Deere dealer to purchase a CommandCenter™ Premium activation.

CZ76372,000074C -19-22MAY15-1/1

Demo Activations

In Software Manager application, demo activations are available to try out features on the display. A blue light next to a feature indicates that demo is turned on.

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Demo is available from the factory for 15 hr. of use. For example, AutoTrac™ demo only counts down when it is activated.

CZ76372,000073A -19-15DEC14-1/1

Automation Status Overview

RXA0135012 —UN—12AUG13

- Use Automation Status application to see which tractor functions are being controlled and their current status.
- It can be found on Applications tab of the display menu.



KT81203,00000A1 -19-15AUG13-1/1

Navigate Generation 4 CommandCenter™

NOTE: Images are reference and may differ by tractor configuration or operator settings. As operator pages through CommandCenter™, more in-depth information is presented, allowing operator to fine tune tractor functions.

Navigating CommandCenter™ Pages

Use Touch Screen CommandCenter™ buttons or icons to make selection. For input boxes use either key pad, or select input box and scroll adjustment dial (C) to desired value. Yellow highlight box appears around selected input box and indicates adjustment dial is active.

A—CommandCenter™: attached to CommandARM™ (B), allows operator to view selected pages required to operate tractor. Display is Touch Screen, allowing operator to touch options on screen to move through pages and access tractor functions.

B—CommandARM™: made up of buttons, joystick (if equipped), switches, and shortcuts allowing operator to manage tractor or implement functions.

C—Adjustment Dial/Close Window Button: allows operator to change values in input boxes. Rotating adjustment dial clockwise raises input box values. Rotating adjustment dial counterclockwise lowers input box values. Push button one time to close window. Push and hold to close all open windows.

D—Shortcut Keys/Buttons: allow operator to access specific functions without going through CommandCenter™ menu.

E—Run Page Modules: allow quick access to functions.

F—Title Bar: select on any run page for drop-down bar to change run page.

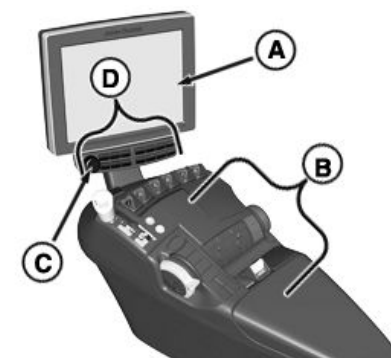
G—Menu: lists all applications installed on display and machine. Select left-hand tabs to view different groups of applications.

H—Help/Advanced Settings Buttons: press title bar, while in application, to view help or change settings for current page when available.

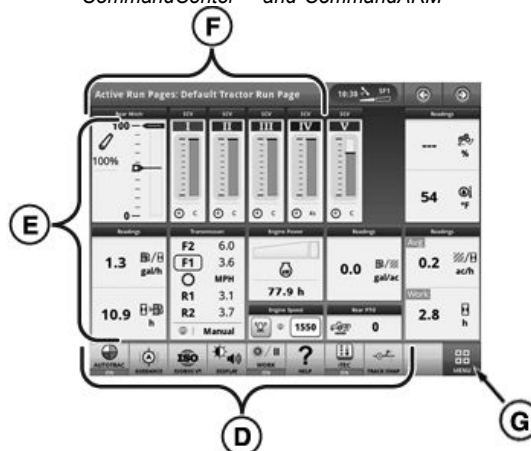
I—Close Button: press to close current page.

J—Increase/Decrease Value Buttons: use to change value within input boxes. Use ++ and -- buttons to make larger incremental changes when adjusting value, rather than touching + or - buttons. For areas that require tighter adjustments, only + and - buttons are available.

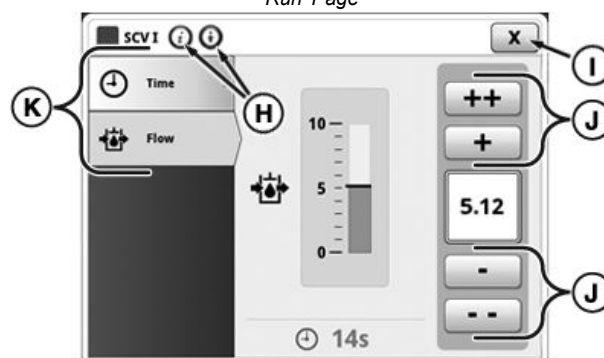
CommandCenter is a trademark of Deere & Company
CommandARM is a trademark of Deere & Company



CommandCenter™ and CommandARM™



Run Page



Module Functions

K—Tabs: allow operator to change to different section topic.

RXA0139176 —UN—12FEB14

RXA0137128 —UN—19NOV13

RXA0137084 —UN—13DEC13

KT81203,0000146 -19-10JUN14-1/1

Power Display On and Off

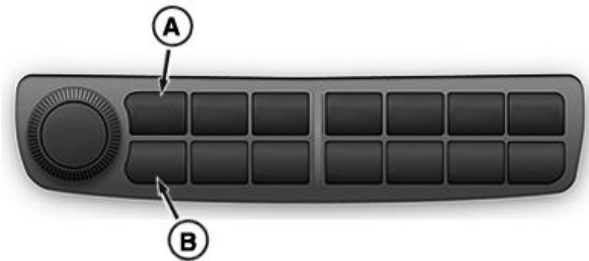
Generation 4 CommandCenter™ display turns on and off with tractor key switch.

- **Warm boot** occurs when CommandCenter™ display has been run within last 24 hours. Display rests in hibernation state for that time. Display powers up quickly (approximately 10 seconds).
- **Cold boot** occurs if display is not operated for 24 hours or more, or if unswitched power has been disconnected. During this period, display shuts down completely to conserve battery power. Next power-up will take approximately 60 seconds.

NOTE: After turning off engine, avoid turning key switch back on until display screen has gone black.

- **Hard reset** is required when display is unresponsive for more than a few minutes under normal operating conditions. Perform hard reset by pressing left-most upper and lower buttons (A and B), of navigation bar, simultaneously for 5 seconds. If display does not reset, pull fuse 9 located in load center fuse panel and replace after 5 seconds.

*CommandCenter is a trademark of Deere & Company
John Deere is a trademark of Deere & Company*



Navigation Bar

A—Upper Button

B—Lower Button

For more information on load center fuse panel, see Load Center Fuses in Electrical System Service section of this Operator's Manual. If problem persists, see your John Deere™ dealer.

KT81203,0000057 -19-25JUN15-1/1

Clean CommandCenter™ Display

IMPORTANT: Always clean display screen with power off. Cleaning screen while operating could result in unintended button selections.

To clean display, power down and wipe screen with a soft cloth sprayed with a non-ammonia based cleaner, such as John Deere glass or multipurpose cleaner.

CZ76372,0000720 -19-27JUN14-1/1

Navigate Run Pages on Main Page

If more than one run page is in Active Set, there are multiple ways to choose which run page is displayed on main page.

Title Bar (A)

Select title bar at top of main page to display a list of all run pages that are in Active Set. Choose a run page to return to main page.

Next and Previous Run Page Buttons (B)

Select either right or left arrows to cycle through run pages.

Finger Swipe (C)

Swipe finger across display, left and right, to cycle through run pages.

Navigation Bar Shortcut Button (D)

Select right arrow below display in CommandCenter™ Navigation Bar.

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PC17357 —UN—03DEC13



PC17358 —UN—03DEC13



PC17359 —UN—03DEC13



A—Title Bar

B—Next and Previous Run Page Buttons

C—Finger Swipe

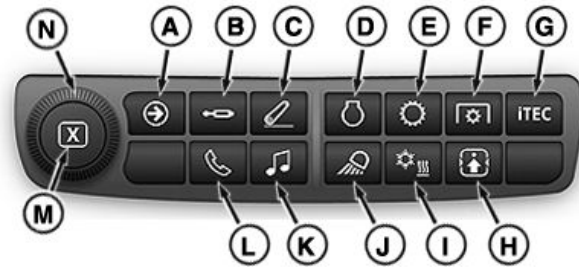
D—Navigation Bar Shortcut Button

CZ76372,000063D -19-03DEC13-1/1

Shortcut Buttons

Generation 4 CommandCenter™ navigation bar shortcut buttons allow operator direct access to specific applications.

A—Next Run Page	H—Controls Setup
B—SCV	I— HVAC
C—Hitch	J— Lights
D—Engine	K—Audio
E—Transmission	L—Phone
F—PTO	M—Close Button
G—iTEC™	N—Adjustment Dial



Generation 4 CommandCenter™ Navigation Bar

KT81203,0000148 -19-26JUN15-1/1

RXA0132501 —UN—15MAY13

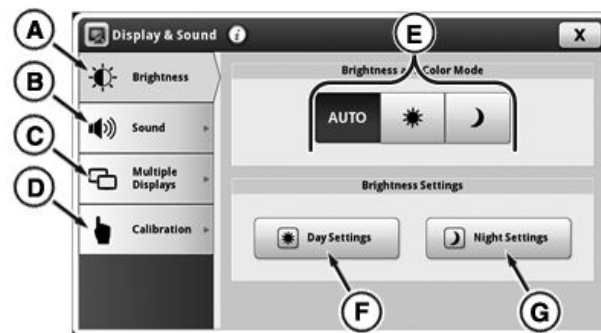
Navigate to Display & Sound

1. Select **Menu**.
2. Select **System** tab.
3. Select **Display & Sound** icon.

A—Brightness Tab	E—Auto/Day/Night Mode Toggle Bar
B—Sound Tab	F—Day Settings
C—Multiple Displays Tab	G—Night Settings
D—Display Calibration Tab	



Menu → System Tab → Display & Sound Icon



Display & Sound Page

KT81203,0000061 -19-14MAR14-1/1

RXA0137085 —UN—19NOV13

Display & Sound

Display & Sound application adjusts display brightness and volume level.

If multiple displays are connected, use this application to configure which functions appear on each display.

If screen touches do not register in correct location, use Touchscreen Calibration to realign screen.

Navigate to Display & Sound

1. Select **Menu**.

2. Select **System** tab.
3. Select **Display & Sound** application.



CZ76372,0000622 -19-02OCT13-1/1

Brightness

PC15319 —UN—20MAY13

Brightness and Color Mode

- **Auto Mode**

Auto Mode is recommended setting. This synchronizes display brightness with cab light switch. If cab lights are off, display is in Day Mode. If cab lights are on, display is in Night Mode.

- **Day and Night Modes**

Select either mode to prevent display brightness from synchronizing with cab light switch.

NOTE: The mode selected does not adjust brightness of a second display. Adjust brightness of that display through its settings.



A—Day Mode



B—Night Mode

CZ76372,0000621 -19-02OCT13-1/2

Brightness Settings

PC15320 —UN—20MAY13

Select either settings button to display a popup page for corresponding brightness mode.

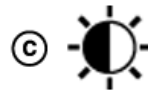
Depending on mode selected with settings button, adjust display and cab brightness by using plus (+) and minus (-) buttons.

A—Day Settings
B—Night Settings

C—Display Brightness
D—Cab Brightness



PC15321 —UN—20MAY13



CZ76372,0000621 -19-02OCT13-2/2

Sound

PC15322 —UN—20MAY13

Change display volume by selecting increase (+) or decrease (-) buttons.



Display Volume

CZ76372,0000623 -19-02OCT13-1/1

Multiple Displays

Generation 4 CommandCenter™ may be configured to run with the following John Deere displays connected at corner post.



Multiple Displays

- Original GreenStar™ Display (without Mobile Processor)
- GreenStar™ 2 1800 Display
- GreenStar™ 2 2600 Display
- GreenStar™ 3 2630 Display

Some applications, such as AutoTrac™, cannot run on both displays at the same time.

Activations do not transfer between displays. Second display must have its own activations to run AMS applications.

*CommandCenter is a trademark of Deere & Company
GreenStar is a trademark of Deere & Company
AutoTrac is a trademark of Deere & Company*

Continued on next page

CZ76372.0000624 -19-22MAY15-1/3

Installing a GS2 or GS3 Display

1. Ensure that key switch and CommandCenter™ are off.
2. Attach display harness to corner post connector and 26-pin display connector to back of display.
3. Turn key switch on.
4. CommandCenter™ display searches for second display on implement CAN bus for approximately 60 seconds. If CommandCenter™ was previously in Single Display Mode, it displays a message stating, "Multiple Displays Detected".
5. Select a configuration preset:

Single Display

- Do NOT use this option in this scenario. This mode is only used if second display is not installed.

Multiple – Compatibility Mode

- ISOBUS implements only appear on second display, not on CommandCenter™. Use this option if connected to an ISOBUS implement and desire second display to run Auxiliary Reconfigurable Controls.

Multiple – Implement Viewer

- ISOBUS implements appear on CommandCenter™ or second display depending on the "Next VT display" setting of implement.

NOTE: If ISOBUS implement does not have "Next VT display" function, implement appears on display that starts up first.

Custom Setup

- Manually set configurations.

6. Cycle key switch off and on to save settings.

Removing a GS2 or GS3 Display

1. Ensure that key switch and CommandCenter™ are off.
2. Detach display harness from 26-pin display connector at back of display.
3. Turn key switch on.
4. CommandCenter™ display searches for second display on Implement CAN Bus for approximately 2—3 minutes. If CommandCenter™ was previously in one of the Multiple Display Modes, it displays a message stating, "Second Display Not Found".



GS3 2630 Display

PC20416 —UN—12MAY15

5. Cycle key switch off and on to save settings.

Operating AutoTrac™ on CommandCenter™

NOTE: Generation 4 OS software versions prior to 8.12.2500-17 are required to operate Precision Agricultural applications (For example, AutoTrac™ or Section Control.) on the CommandCenter™ when a GS2 or GS3 display is also connected. Current Generation 4 OS software is not compatible with this functionality.

After installing a GS3 2630 Display, AutoTrac™ defaults to that display. Follow these instructions to run AutoTrac™ on CommandCenter™.

NOTE: After procedure, GS3 2630 Display will not run any GreenStar™ applications, including Section Control.

1. Ensure CommandCenter™ is in Single Display Mode and GS3 2630 Display is unplugged. Turn key switch off.
2. Plug in GS3 2630 Display and turn key switch on.
3. When CommandCenter™ boots up, select Multiple – Compatibility Mode. Reboot display.
4. On GS3 2630 Display, select Menu button > Display button > Diagnostics softkey > Multiple Displays tab. Turn GreenStar™ application off. Depending on configuration, display may reboot.
5. On CommandCenter™, select Display and Sound application > Multiple Displays tab. Turn Precision Ag Applications on. Reboot display.

Continued on next page

CZ76372.0000624 -19-22MAY15-2/3

Installing an Original GreenStar™ Display

Original GreenStar™ display can be used for non-guidance functions, such as monitoring a SeedStar™ 1 planter.

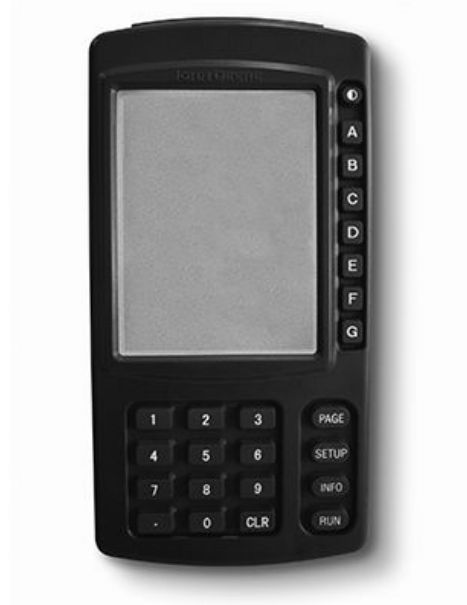
NOTE: Mobile Processor is not compatible. Do not connect to CommandCenter™.

1. Ensure that key switch and CommandCenter™ are off.
2. Attach display harness to corner post connector and display connector.
3. Turn key switch on.
4. Ensure that Tracking is off on Original Display. See Original Display manual for instructions.

IMPORTANT: Ensure that tracking has not been turned on since last reprogram or reset of display memory.

To clear display memory, press and hold E, 2, and Clear buttons and reboot. This procedure clears all data stored on display.

SeedStar is a trademark of Deere & Company



Original GreenStar™ Display

PC20417 —UN—12MAY15

CZ76372,0000624 -19-22MAY15-3/3

Display Calibration

Touch Screen Calibration may be required if screen does not register a touch in a desired location. Touch screen is factory calibrated and should not need to be calibrated under normal service. If calibration does not resolve issue, contact a John Deere dealer.

1. Select Begin Calibration

2. A large "X" and instructions are provided to lead operators through calibration process.
3. Each time "X" is pressed, instructions change and "X" moves to another area of screen.

NOTE: If touch screen malfunctions, a USB mouse may be used. Connect mouse to display's USB port.

CZ76372,0000625 -19-02OCT13-1/1

Navigate to Date & Time

1. Select **Menu**.
2. Select **System** tab.
3. Select **Date & Time** Icon.

RXA0126215 —UN—11JUN12

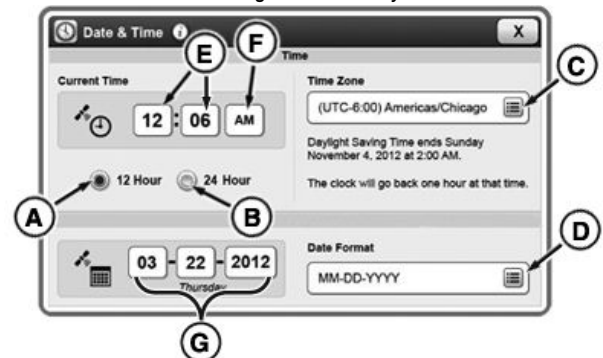


Menu → System Tab → Date & Time Icon

- | | |
|------------------------------------|--------------------|
| A—12 Hour Time Format Radio Button | E—Time Input Boxes |
| B—24 Hour Time Format Radio Button | F—AM/PM Input Box |
| C—Time Zone Input Field | G—Date Input Boxes |
| D—Date Format Input Field | |



Date & Time Page with GPS Sync Enabled



Date & Time Page with GPS Sync Disabled

KT81203,000008B -19-18NOV13-1/1

RXA0131038 —UN—25FEB13

RXA0131113 —UN—01MAR13

Date & Time Application

PC15314 —UN—15MAY13

Information from Date and Time application is used for several important functions on system. These include error logging, activations, and data recording.

Date and time are set automatically if a GPS receiver is connected and receiving valid signal. In this case, only set time zone.

Current date and time can be found at any time by selecting Status Center at top of main run page.

NOTE: *Date and Time setting affects how Guidance and Documentation data are filtered on display and desktop software.*



Navigate to Date & Time

1. Select **Menu**.
2. Select **System** tab.
3. Select **Date & Time** application.

CZ76372,0000619 -19-02OCT13-1/1

Change Current Date

PC15315 —UN—15MAY13

Date can only be changed if GPS is not connected or GPS signal is not available. Otherwise, GPS signal determines date.

Date Format does not depend on GPS signal, and can be changed at any time.

1. Select day, month, or year.
2. Use keypad to enter correct value.
3. Select Done to apply changes or Cancel to return to previous page without applying changes.

Date Format

1. Select Date Format box.



A

A—Date Set by User



B

B—Date Determined by GPS

2. Select desired date format from list.
3. Select Done to apply changes or Cancel to return to the previous page without applying changes.

CZ76372,000061A -19-14MAY14-1/1

Change Current Time

PC15316 —UN—15MAY13

Current Time can only be changed if GPS is not connected or GPS signal is not available. Otherwise, GPS signal determines time.

Time Zone and Time Format do not depend on GPS signal, and can be changed at any time.

1. Select hour or minute.
2. Use keypad to enter correct value.
3. Select Done to apply changes or Cancel to return to previous page without applying changes.

Time Zone

1. Select a continent or ocean and select Next.
2. Select a country and select Next.



A

A—Time Set by User



B

B—Time Determined by GPS

3. Select a time zone and select Next.
4. Confirm selected time zone and select OK.

Time Format

Use radio button to select 12 Hour or 24 Hour time format.

CZ76372,000061B -19-02OCT13-1/1

Navigate to Language & Units

1. Select **Menu**.
2. Select **System** tab.
3. Select **Language & Units** icon.

A—Language button
B—Numeric Format button
C—Units of Measurement button

D—Cancel button
E—Save button

RXA0126213 —UN—17MAY12



Menu → System Tab → Language & Units Icon



Language & Units Page

KT81203,0000066 -19-26SEP13-1/1

RXA0132009 —UN—23APR13

Language & Units

Language & Units is used to change Language, Number Format, and Units of Measurement.

Different settings can be created for both the display and for controllers that are displayed in ISOBUS VT. Select either tab to change settings.

Navigate to Language & Units

1. Select Menu.
2. Select System tab.

PC16677 —UN—18MAR13



3. Select Language & Units application.

CZ76372,0000627 -19-02OCT13-1/1

Language & Units Settings

Display

Select Language, Number Format, and Units of Measurement from list boxes.

ISOBUS VT

It is possible for controllers that display in ISOBUS VT to have different units of measure than rest of display. Remove check from *Use Same Units of Measure as Display* to enable list boxes for:

- Number Format

- Distance
- Area
- Volume
- Mass
- Temperature
- Pressure
- Force

Saving Settings

After new settings are selected, select Save button. Display must reboot to apply changes.

CZ76372,0000628 -19-02OCT13-1/1

Change Pages and Values

Various methods are provided to allow selection and modification of CommandCenter™ pages and values.

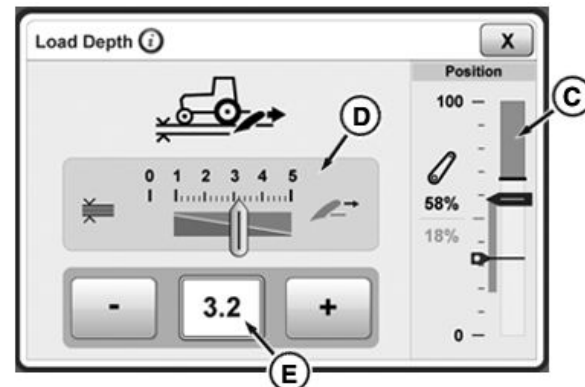
- **A—Section Tab:** To change to different section topic, click desired section tab.
- **B—Icons:** Select to open application.
- **C—Bar Graph:** To change value, use increase (+) or decrease (-) buttons.
- **D—Slider Bar:** To change value, select slider bar module and use increase (+) or decrease (-) button.
- **E—Input Box:** Use increase (+) or decrease (-) buttons to adjust value. To enter new values or text, select desired input box.

NOTE: When changing values using adjustment dial, increasing speed of adjustment dial rotation increases speed of value changes.

If a large range of values is available a numeric keypad appears, allowing direct input of desired value.



Input Fields



Menu

CommandCenter is a trademark of Deere & Company

KT81203,000005B -19-17JAN14-1/1

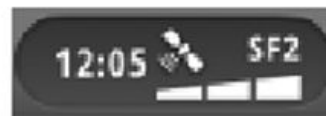
Status Center

Status Center highlights important information for display functions, such as GPS signal strength and notifications. It is located in title bar on 10 inch displays, and in lower left corner on 7 inch displays.

Select Status Center to display additional information in a drop down window. The expanded Status Center provides quick access to notifications and settings.

NOTE: Date and Time and Data Storage are always displayed in Status Center.

Additional information is displayed depending on machine configuration and notifications.



A

A—10 inch Display Status Center



B

B—7 inch Display Status Center

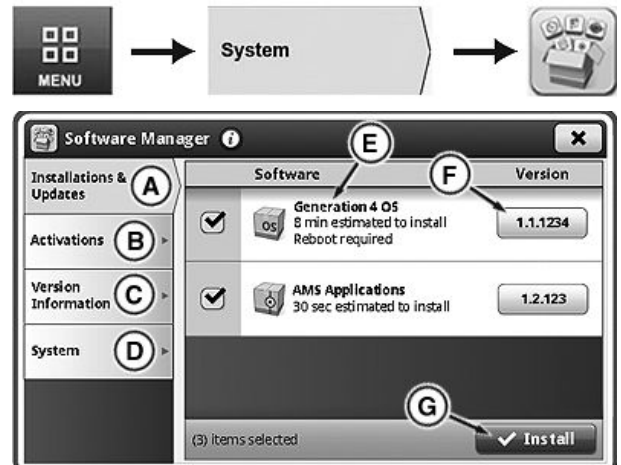
CZ76372,000064C -19-02OCT13-1/1

Navigate to Software Manager

1. Select **Menu**.
2. Select **System** tab.
3. Select **Software Manager** icon.

A—Installations & Updates Tab
 B—Activations Tab
 C—Version Information Tab
 D—System Information Tab
 E—Software Type
 F—Software Version
 G—Install Button

RXA0136061 —UN—11OCT13



RXA0136059 —UN—11OCT13

KT81203,00000B4 -19-20APR15-1/1

Software Manager

Use Software Manager to update software, activate features, and find software version details.

Navigate to Software Manager

1. Select **Menu**.
2. Select **System** tab.

PC15346 —UN—11JUL13



Software Manager

3. Select **Software Manager** application.

CZ76372,000063E -19-28MAY14-1/2

Software Packages

Generation 4 display software and help files are organized into packages. Each package is listed individually on Installations and Updates tab and Version Information tab.

Generation 4 Operating System

- Contains display operating system and basic applications.

Generation 4 Operating System Help

- Contains help files for display applications.

Tractor Applications

- Contains tractor software. A John Deere dealer with Service ADVISOR™ is required to install package.

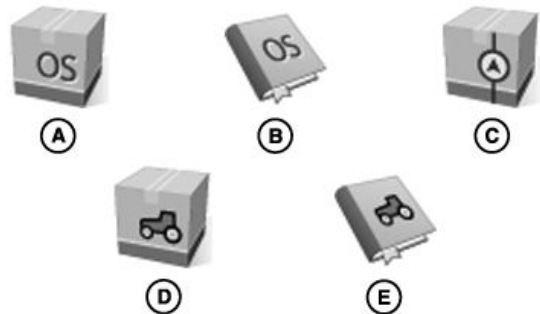
Tractor Applications Help

- Contains help files for tractor applications. Package may be installed without Service ADVISOR™.

AMS Applications

- Contains display software.

Service ADVISOR is a trademark of Deere & Company
 StarFire is a trademark of Deere & Company



A—Generation 4 OS
 B—Generation 4 OS Help
 C—AMS Applications
 D—Tractor Applications
 E—Tractor Applications Help

NOTE: Currently, Generation 4 display does not update connected controllers, such as StarFire™ receivers.

Onscreen Help packages include each language that the display supports.

PC17392 —UN—28MAY14

CZ76372,000063E -19-28MAY14-2/2

Factory and Service ADVISOR™ Installed Onscreen Help

Tractor Application Help Package is installed at factory and with Service ADVISOR™ or Service ADVISOR™ Remote for eight languages listed below:

- Chinese
- English
- French
- German
- Italian
- Portuguese
- Russian
- Spanish

Service ADVISOR is a trademark of Deere & Company

Generation 4 Operating System Help Package is installed for all languages at factory.

For instructions on how to install and update onscreen help packages, see Update Display Software in this section of this Operator's Manual.

KT81203,00000A7 -19-11NOV13-1/1

Update Display Software

PC15348 —UN—11JUL13

Determine Software Versions on Display

Version numbers for all installed software packages are available in Version Information tab in Software Manager.

Download Software Updates

Software updates are available for download from:

<https://my.deere.com/software-downloads/software-manager/>

The following items are available:

- Software release notes
- Software Manager utility used to download software to USB drive



USB Drive

- Instructions for using Software Manager utility

Once USB drive has latest software, take it to machine to install update.

Continued on next page

CZ76372,000063F -19-31OCT14-1/2

PC15349 —UN—11JUL13

Install Software Updates

1. Insert USB drive in to upper USB port next to accessory outlet.
2. When "USB Drive Options" page is displayed, select Install Software. Installations & Updates tab of Software Manager is displayed.
3. Only software packages that are newer than what is currently installed are displayed. All packages are selected by default.
4. Select Install button. If an update does not start, follow the onscreen messages to resolve conflicts.



A



B



C

A—Install Button
B—Progress Indicator

C—Install Successful

CAUTION: During software installation:

All applications will be shut down.

No system messages will be displayed.

To prevent injury, ensure the machine is in Park and maintain electrical power throughout the installation process.

Do not remove USB drive.

5. Progress indicators display status of each installation step.
6. Message displays when software update is finished. Some software packages require a reboot to finish installation. Select Reboot button to restart display.
7. Remove USB drive and take back to computer. Run Software Manager Utility to upload return files.

NOTE: Return files contain software version information and are used to assist dealers with supporting display and machine.

Troubleshooting

When a software package fails to install, system rolls back all software to version before update started.

Record error message if software update fails. Remove files from USB drive, and reload software update to USB drive. Repeat software installation process.

If software update continues to fail, contact a John Deere dealer.

System Rollback

System rollback reverts all installations and updates that have occurred since selected date.

NOTE: Backup data before performing system rollback. Data recorded after selected software installation date and time is lost.

1. Select System Information tab.
2. Select System Rollback button.
3. Select Recent Updates input box.
4. Select desired software installation date and time. Select OK button.

NOTE: Dealer update identifies software related to a machine controller update. Cannot roll back to a version previous to a dealer update.

5. Select Rollback button to start System Rollback.

CAUTION: During system rollback:

All applications will be shut down.

No system messages will be displayed.

To prevent injury, ensure the machine is in Park and maintain electrical power throughout the system rollback process.

Do not remove USB drive.

6. If Rollback was successful, a message is displayed.
7. Select Reboot button or display automatically reboots after 30 seconds.

CZ76372.000063F -19-31OCT14-2/2

Activations

PC15350 —UN—11JUL13

Use this tab to manage activations on the display.

StellarSupport.com requires display serial number, challenge code, and may require a confirmation code in order to generate a code. Select Details button to find this information.

A single code may include multiple features, but it can perform only one type of action (activation or deactivation). For example, one code may activate three features, while a separate code would be needed to deactivate two features.

Enter Activation or Deactivation Code

1. Select Enter Code button.



A



B

A—Details Button

B—Enter Code Button

- Using keyboard, enter activation or deactivation code. Select OK button.
- Record confirmation code, and enter code at StellarSupport.com.

CZ76372,000064D -19-02OCT13-1/1

Service ADVISOR™ Remote

PC16682 —UN—18MAR13

Service ADVISOR™ Remote is available in the ISOBUS VT application. Select Menu button within ISOBUS VT and select Remote Software Updates.

Theory of Operation

Service ADVISOR™ is a diagnostic tool used by John Deere dealers to perform diagnostics as well as updates to machine settings and software. Dealers can access diagnostic trouble codes and diagnostic addresses, create readings and recordings, and program controllers. This technology consists of both software and hardware. Technicians attend a minimum of 8 hours of training to become certified in utilizing this tool.

Service ADVISOR™ Remote (SAR) is a function of Service ADVISOR™ that allows the dealer technician to connect to a SAR enabled machine via the JDLink™ network to remotely access diagnostic trouble code information and record diagnostic data, as well as to remotely program controllers on SAR-enabled machines.

Similar to software (payload) updates in the computer industry, SAR enables John Deere to remotely deliver updated software via the JDLink™ hardware onboard. Remote programming gives John Deere the ability to update software to enhance the performance of the machine. This capability can be used to reprogram most machine controllers. The user actively participates with the dealer in this process by both downloading the software update and installing the software update.

NOTE: Some vehicle controllers may not be compatible for SAR reprogramming.

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JDLink is a trademark of Deere & Company



ISOBUS VT

PC15293 —UN—18MAR13



ISOBUS VT Menu

PC17281 —UN—10SEP13



Remote Software Updates

Vehicle Compatibility

NOTE: If equipped, Users & Access application provides capability to unlock, partially lock, or lock operator access to specific components. This includes the ability to download and install software updates. Please refer to Users & Access for more details.

For a current list of approved vehicles, please contact a John Deere dealer or visit www.StellarSupport.com.

CZ76372,000064D -19-02OCT13-1/1

Vehicle Reprogramming

With SAR, dealers have the ability to send new software to a vehicle to update controllers. Once the dealer sends the software, a message will appear on the display stating that there is new software available. Pressing Accept will take the user to the software updates page.

If the message is cancelled, access the page by selecting Remote Software Updates from ISOBUS VT menu.



Software Update Available

HC94949,00003D7 -19-02OCT13-1/6

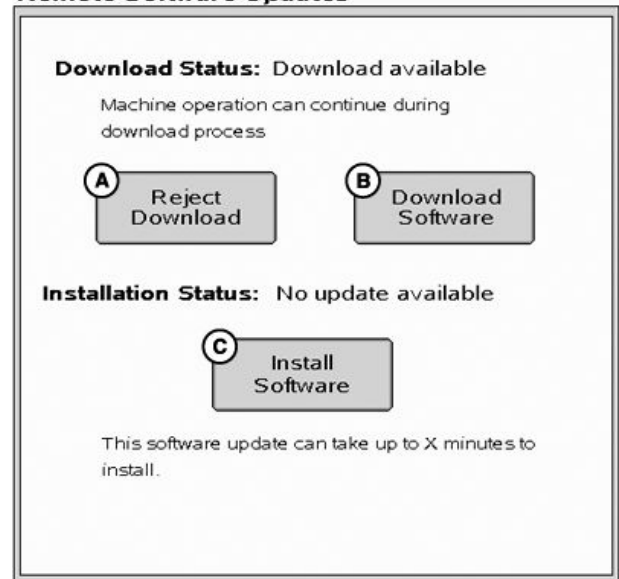
PC12691 —UN—27JUL10

Download Updates

On the Remote Software Updates page, the operator can either reject (A) or download (B) the new software. Pressing the Download Software (B) button will start the download process. This process will continue in the background and normal machine operation can continue.

A—Reject Download Button C—Install Software Button
B—Download Software Button

Remote Software Updates



Remote Software Updates

Continued on next page

HC94949,00003D7 -19-02OCT13-2/6

PC17279 —UN—10SEP13

Install Updates

Once the software has been downloaded and it is ready for installation, a message will appear on the display. Press the accept button to go to the Remote Software Updates page.

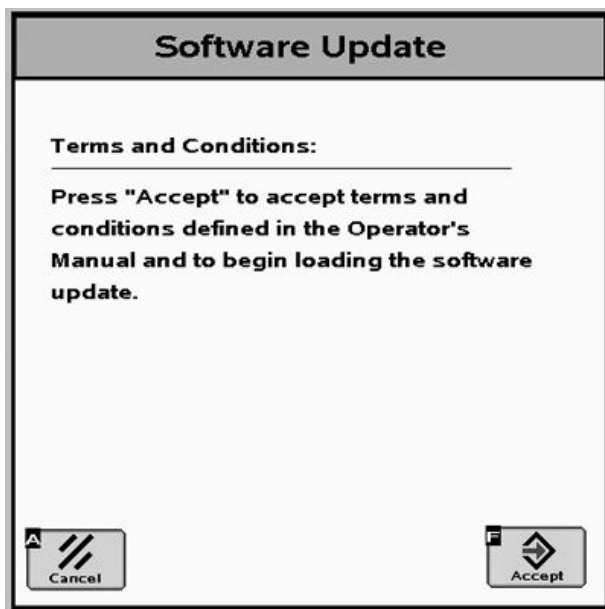
Software installation can take up to 40 minutes. Pressing the cancel button enables you to update the software at a later time if desired.



Update Ready for Install

HC94949,00003D7 -19-02OCT13-3/6

PC12692 —UN—27JUL10



PC12656 —UN—07SEP10



PC12672 —UN—28JUN10

On the Remote Software Updates page, press the Install Software button to begin the installation process.

Once prompted, accept the terms and conditions and then follow the onscreen instructions.

CAUTION: Some vehicle functions, including lights, may become inoperable during

reprogramming. To avoid injury, ensure the vehicle is in a safe location and configuration before reprogramming. Do not reprogram near public roadways or in active work sites.

Continued on next page

HC94949,00003D7 -19-02OCT13-4/6

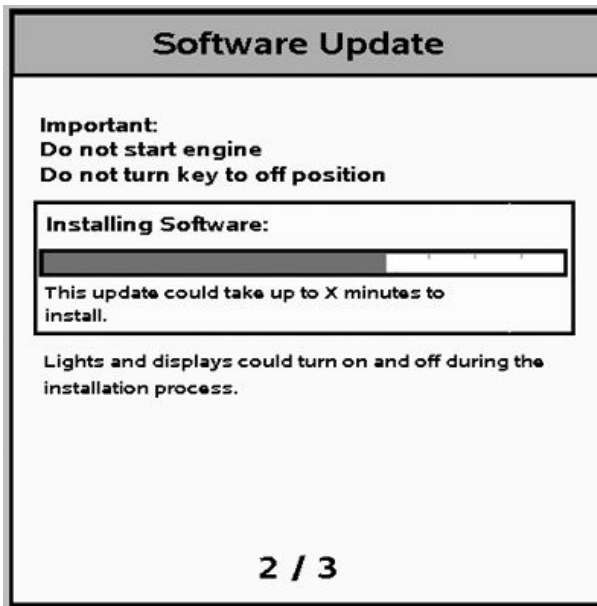
If a Generation 4 display update is included with software download, the display updates first. When complete, a message appears stating "Software successfully installed" and the display will reboot.

Once display is updated, controller update will begin.



PC17630 —UN—10SEP13

HC94949,00003D7 -19-02OCT13-5/6



PC12857 —UN—07SEP10



PC13582 —UN—09MAY11

If there is a problem during the install process, the system will try a second install. If the second attempt fails, please contact your John Deere dealer.

HC94949,00003D7 -19-02OCT13-6/6

Troubleshooting - Reprogramming

Symptom	Problem	Solution
Accessory Power Lost	Engine Started or key turned off	Do not start engine or remove power while software updates are being installed. Turn key off and return to ON position.
Voltage Low	The system voltage is too low to proceed with the software installation.	Turn off or remove accessories that are unnecessary. Check battery voltage and recharge battery if necessary.
Communication Fault	The software installation cannot be completed because of a communications fault	Turn key off and then back to on. Then retry software installation. Contact a John Deere Dealer if communication cannot be established.
Remote Software Updates icon not on display	Cannot access Remote Software Updates page on the display	Check harness and connections to MTG.

NOTE: Remote Software Icon shall be available at all times, whether there is a payload or not.

JS56696,0000A25 -19-24SEP13-1/1

System Recovery

SYSTEM RECOVERY - 1.1

ENGLISH - Your system has entered System Recovery. Please contact your John Deere Dealer to attempt data recovery and software reinstallation.

ESPAÑOL - Su sistema ha entrado en modo de Recuperación. Por favor comuníquese con el concesionario John Deere para intentar la recuperación de datos y la reinstalación del software.

FRANÇAIS - Votre système a démarré une récupération du système. Veuillez contacter votre concessionnaire John Deere pour tenter une récupération de données et une réinstallation du logiciel.

DEUTSCH - Ihr System befindet sich im Systemwiederherstellungsmodus. Bitte wenden Sie sich an Ihren John Deere-Händler, um eine Datenwiederherstellung und Neuinstallation der Software zu versuchen.

PORTUGUÊS - Seu sistema iniciou a Recuperação do Sistema. Entre em contato com o seu distribuidor John Deere para tentar efetuar a recuperação dos dados e a reinstalação do software.

ITALIANO - Il sistema in uso è entrato in fase Recupero sistema. Rivolgersi al concessionario John Deere di zona per procedere al recupero dei dati ed alla reinstallazione del software.

PC20404—UN—08MAY15

Follow instructions if system recovery message is displayed.

Your system has entered System Recovery. Please contact your John Deere Dealer to attempt data recovery and software reinstallation.

CZ76372,0000747 -19-08MAY15-1/1

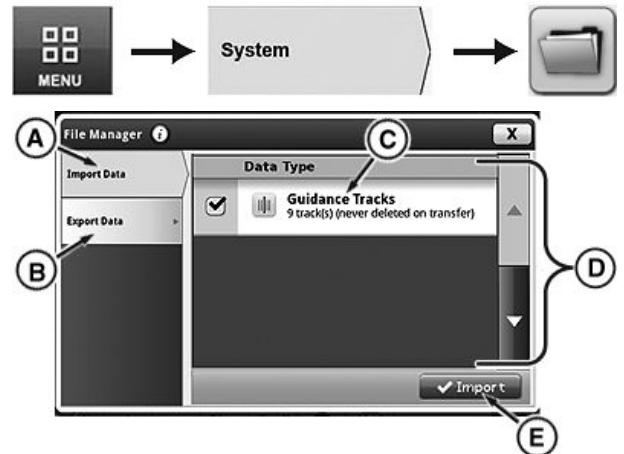
Navigate to File Manager

1. Select **Menu**.
2. Select **System** tab.
3. Select **File Manager** icon.

A—Import Data Tab
B—Export Data Tab
C—Data Type

D—Scroll Bar
E—Import Button

RXA0136064 —UN—11OCT13



RXA0136062 —UN—11OCT13

KT81203,00000B5 -19-11OCT13-1/1

File Manager

PC16671 —UN—18MAR13

Data and setup information can be transferred between displays or compatible desktop software using a USB drive. It is also important to backup data to a USB drive periodically.

Display internal memory is intended to have enough capacity to store all data from a machine per season. A message appears when 95% of memory is used. Data should be exported and deleted before memory used exceeds 95%.

Navigate to File Manager

1. Select **Menu**.
2. Select **System** tab.
3. Select **File Manager** Application.



File Manager

CZ76372,0000646 -19-06JUL15-1/6

Factory Data Reset

PC17398 —UN—22OCT14

Select settings at the top of File Manager application to open Factory Data Reset.

Process removes all user data from display and cannot be undone. User data includes setup and documentation data, guidance information, totals, and custom run page layouts. Language and regional settings and activations are not reset. A reboot is required after reset.

Factory Data Reset should be performed prior to selling machine.



Settings

Continued on next page

CZ76372,0000646 -19-06JUL15-2/6

Data Types

- Guidance tracks include guidance lines and associated client, farm, and field names.
- Custom run pages can be transferred between Generation 4 Displays that are the same size. Run pages can be shared between 7 inch displays, or between 10 inch displays.

NOTE: Imported run pages are available on the All Run Pages tab in Layout Manager.

Some run page modules reset to default settings when imported.

Run page modules created for ISOBUS VT implement controllers appear as unavailable if controller is not connected to machine.

- Work data includes mapping and totals data. It can be uploaded to MyJohnDeere.com, or unloaded into compatible desktop software. Work data cannot be imported.

NOTE: Exporting work data requires a 4600 processor with a Documentation activation. Documentation is available with a CommandCenter™ Premium activation.

- Prescriptions are configured using Work Setup application.

NOTE: Importing prescriptions requires a 4600 processor with a Documentation

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PC20408 —UN—22MAY15



(A)



(B)



(C)

PC20409 —UN—01MAY15



(D)



(E)



(F)

A—Guidance Tracks
B—Custom Run Pages
C—Work Data

D—Prescriptions
E—Screenshots
F—Error Logs

activation. Documentation is available with a CommandCenter™ Premium activation.

- Screenshots copy the image displayed on the screen. (Refer to Capture Screenshots for instructions.)
- Error Logs are automatically generated by the display and can be used by John Deere to troubleshoot issues.

Continued on next page

CZ76372.0000646 -19-06JUL15-3/6

Import Data

PC20405 —UN—30APR15

1. Select Import From USB Drive.
2. Select folders with desired data.
3. Select desired data types to import.



Import Data

Compatibility

Data can be transferred from another Generation 4 Display, GreenStar™ 3 2630 Display, or compatible desktop software.

NOTE: Update Apex™ or third-party desktop application if there are issues with transferring data.

Choose GS3 2630 card format when exporting from Apex™. To use guidance lines from other GreenStar™ displays, unload guidance lines into Apex™ and then export in GS3 2630 card format.

Data Conflicts

When necessary, imported client, farm, and field names are changed. For example, "Field1" is renamed "Field1(1)".

*GreenStar is a trademark of Deere & Company
Apex is a trademark of Deere & Company*

If guidance lines are in the same field and created with the same tracking method, the display handles the following conflicts.

Different Name, Same Line

- If lines are the same, name of guidance line on display is replaced by name on USB drive.

Same Name, Different Line

- If there are two different lines with the same name, line on USB drive is renamed when imported. For example, "Track1" is renamed "Track1(1)".

NOTE: A file may fail to import for multiple reasons. To determine which file is causing problems, remove individual files from USB drive and attempt to import remaining files.

CZ76372.0000646 -19-06JUL15-4/6

Export Data

PC20406 —UN—30APR15

Select export method to transfer desired data types.

- Select Custom Export to transfer run pages and field-specific work data and guidance lines.
- Select Export All Data to quickly transfer all work data, guidance lines, and run pages using default settings.
- Select Diagnostic Data to transfer screenshots and error log files.



Export Data

CZ76372.0000646 -19-06JUL15-5/6

Delete Data

PC20407 —UN—30APR15

Delete data removes selected data types from the display.

- Select Custom Delete to remove work data, guidance lines, and run pages.
- Select Clear Diagnostic Data to remove screenshots and error log files.



Delete Data

CZ76372.0000646 -19-06JUL15-6/6

USB Drive

USB Drive Requirements for John Deere Displays

- Format - Windows FAT or FAT32. This display does not recognize NTFS format.
- Capacity - There is no maximum limit to the memory capacity of the drive.
- Connectivity - USB 2.0
- Maximum Dimensions - 9.2 mm (0.36 in.) thick by 21.7 mm (0.85 in.) wide

- After inserting USB drive, wait 10 seconds. Large USB drives may take time to be recognized.
- Use a USB drive that is 4 GB or larger, so multiple backups can be stored.
- Clean all files off the USB drive that are not associated with John Deere displays.

Check Readings tab in Diagnostics Center application to determine if display recognizes USB drive.

Best Practices

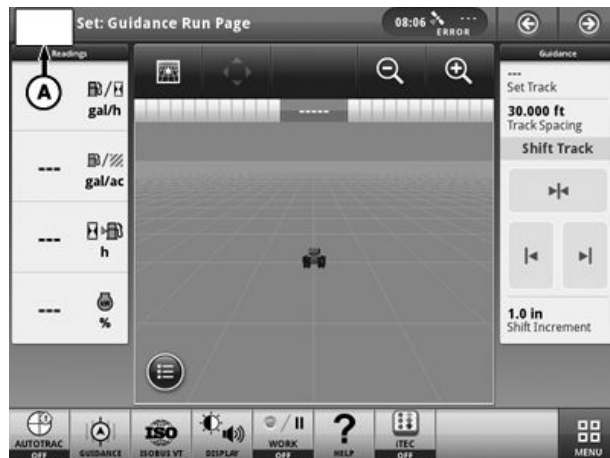
CZ76372,000064E -19-08JUL15-1/1

Capture Screen Shots

Select area highlighted in top left corner of screen. Press and hold until screen flashes and display makes camera shutter sound.

Insert USB drive and select Export Data to transfer screen shots to drive.

A—Screen Shot Area



PC17263 —UN—15JUL13

CZ76372,0000645 -19-02OCT13-1/1

Navigate to Diagnostics Center

1. Select **Menu**.
2. Select **System** tab.
3. Select **Diagnostics Center** icon.

A—Application Diagnostics
B—Controller Diagnostics
C—Diagnostic Trouble Codes
D—Display
E—CAN Bus Info

RXA0127110 —UN—11JUL12



Menu → System Tab → Diagnostics Center Icon



Diagnostics Center

RXA0130617 —UN—31JAN13

KT81203,0000062 -19-23AUG13-1/1

Diagnostics Center

PC17272 —UN—17JUL13

Diagnostics Center is the one place to find diagnostics for the entire system. Select one of the tabs for more information.



Controller Diagnostics

- Access diagnostic addresses, diagnostic trouble codes, and information specific to each device connected on CAN Bus.

Diagnostic Trouble Codes

- View all active or stored diagnostic trouble codes.

Readings

- View diagnostic readings for processor, monitor, and display.

CAN Bus Info

- View diagnostic information for each CAN Bus.

Network

- View MTG diagnostic readings.

Navigate to Diagnostics Center

1. Select Menu.
2. Select System tab.
3. Select Diagnostics Center application.

CZ76372,000061D -19-02DEC13-1/1

Controller Diagnostics

Controller Diagnostics displays the following information for controllers connected on CAN Bus.

Device

- Each device in list is identified by Device ID, CAN Address, and CAN Network location.

Codes

- Indicates if device has diagnostic trouble codes.

Message Count

- Number of CAN messages display has received from controller. Use zero button at bottom of page to reset message count for all devices.

Viewing and Sorting

Select button next to **View by** to change way controllers are displayed. Available views are:

All Devices

- All controllers connected to display are shown.

Implement Bus Devices

- Only controllers on Implement CAN Bus are displayed.

Vehicle Bus Devices

- Only controllers on Vehicle CAN Bus are displayed.

Select button next to **Sort by** to arrange list according to these filters.

Device

- List sorted by device ID.

Has Codes

- List sorted by if device has diagnostic trouble codes.

CZ76372,0000632 -19-02OCT13-1/1

Diagnostic Information

Select a controller from Controller Diagnostics list for more detailed information.

NOTE: Display is set to Diagnostic Mode when a controller is selected. Diagnostic Mode is removed when controller page is closed.

Diagnostic Addresses

IMPORTANT: Changing settings in Diagnostic Addresses may damage machine or implement controllers. Follow instructions, and use caution when changing address values.

Controllers have addresses that store values for different settings. Each Address is identified by an Address

Number and Type. Data addresses can only be viewed (for example, software version information) while Input addresses can be edited (for example, calibration settings).

Diagnostic Trouble Codes

Current and stored codes for the selected controller are displayed. Select a code from list to view code details.

Controller Information

Controller Information displays detailed specifications and identification information from controller. This information is useful for ISOBUS diagnostics.

CZ76372,0000633 -19-02OCT13-1/1

Hide Diagnostic Center

PC15331 —UN—08JUL13

Display is set to Diagnostic Mode once a controller is selected. Select Hide Diagnostic Center to minimize application and return to main page.

Hide button is useful for accessing another part of display during a calibration procedure. To return to the same diagnostic page, select Diagnostic Center application from menu.

NOTE: Leaving display in Diagnostic Mode is not recommended, because it can negatively affect performance.



Hide Diagnostics Center

Remove Diagnostic Mode by closing controller page.

CZ76372,0000634 -19-02OCT13-1/1

Diagnostic Trouble Codes

PC15332 —UN—08JUL13

Diagnostic Trouble Codes tab displays all current and stored codes that have occurred on the system.

Select Refresh button to clear, and then retrieve all codes.

Select Clear Codes button to remove all codes from display.



A—Refresh button



B—Clear Codes button

Continued on next page

CZ76372,0000635 -19-02OCT13-1/3

Viewing and Sorting

Select button next to **View by** to change the way codes are displayed. Available views are:

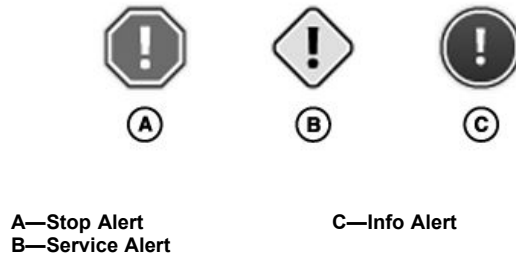
Code

- View by “Code” lists all codes on display. Code Type, Details, Status, and Count are all displayed. Select a code from list to view Code Details.

Device

- View by “Device” lists all controllers on CAN Bus. Device ID, CAN Network, and if device has codes are all displayed. Select a controller in list to view Device Codes.

PC15333 —UN—09JUL13

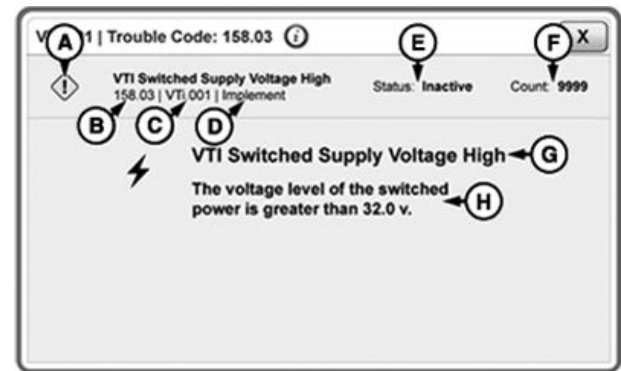


CZ76372.0000635 -19-02OCT13-2/3

Code Details

Select a diagnostic trouble code to view code details.

- | | |
|----------------------------------|---------------------------------------|
| A—Diagnostic Trouble Code Type | E—Code Status |
| B—Diagnostic Trouble Code Number | F—Count |
| C—Device ID | G—Diagnostic Trouble Code Description |
| D—CAN Bus Network | H—Diagnostic Trouble Code Description |



Code Details

PC15334 —UN—09JUL13

CZ76372.0000635 -19-02OCT13-3/3

Readings

The following information is available in Readings:

Hardware

- Displays and Processor
 - Part Numbers
 - Serial Numbers
 - Operational Hours
- USB Presence

Electrical

- Unswitched Voltage
- Switched Voltage

- Implement and Vehicle CAN
 - CAN High
 - CAN Low

NOTE: Instantaneous CAN Bus voltage averaged each second.

Other

NOTE: Machine must be equipped to receive certain information.

- Radar Input Status
- Radar Frequency
- Implement Switch Status

CZ76372.0000636 -19-02OCT13-1/1

CAN Bus Information

PC15335 —UN—09JUL13

CAN Bus Information tab displays status of communication between the controllers on CAN Bus. Vehicle CAN Bus connects controllers such as engine, hydraulics, and transmission. Implement CAN Bus connects controllers such as StarFire™ receiver, second ISOBUS display, and ISOBUS implements.

Some values display a green dot or a yellow dot with an exclamation point. A green dot means value is within normal range, while a yellow dot means value is out of normal range. Depending on machine and implement configuration, yellow might be expected.

StarFire is a trademark of Deere & Company



A—Green Indicator, Normal Range



B—Yellow Indicator, Out of Range

CZ76372,0000637 -19-02OCT13-1/1

CAN Bus Values

Network Status

Active

- System is working as expected. In addition to display, at least one controller is connected and communicating on CAN Bus.

Inactive

- Display is not communicating with any other controllers on CAN Bus. If display is only controller on CAN Bus, Total Message Count increases, but Network Status is inactive.

Total Message Count

Total message count is number of messages sent over CAN Bus. When machine is running, this value counts up continuously since there are always messages sent on CAN Bus.

CAN High and CAN Low Voltage

Peak voltage is highest average voltage that has occurred since last cold boot. Voltage measurements are averaged for each second. Peak CAN High and Peak CAN Low voltages normally range between 1.8 and 3.3 Volts.

NOTE: A cold boot occurs after display has been off for 24 hours or after unswitched power has been disconnected from display.

Bus Utilization

Information on CAN Bus is sent in messages between controllers. The John Deere implement CAN Bus is running at a baud rate of 250 kbd, meaning it can switch power up to 256 000 times per second to transmit messages. This is a Bus utilization of 100 percent.

If a controller, such as an implement, is not running as expected, a Bus utilization of 45 percent or higher could be a reason for the issue. Some devices cannot send and receive all necessary messages due to high Bus load.

NOTE: Some ISOBUS implements do not work with Bus loads higher than 25 percent.

A working StarFire™ GPS receiver causes a Bus load of about 5-7 percent.

Unplugging implements or GPS receivers can reduce Bus utilization.

Baud Rate

Baud Rate indicates how fast the Bus is working. ISOBUS and John Deere implement Bus are running at a rate of 250 kbd. Any controller connected to this system must work at 250 kbd, otherwise it will not function properly.

CAN Bus State and Error Counts

Four CAN Bus states are possible:

- Active – CAN Bus is running without any problems.
- Passive – Passive errors have occurred.
- Warn – Bus Warn errors have occurred.
- Off – Bus Off errors have occurred.

If one of these errors occurs, display records number of times it happens.

Passive Error Count

- If value counts up higher than zero, a controller on CAN Bus did not receive all messages. Important information might have been lost. This is most likely due to high CAN Bus Utilization.

BUS Warn Count

- If value counts up higher than zero, a controller on CAN Bus has issues.

BUS Off Count

- If value counts up higher than zero, a controller on CAN Bus has issues. It missed a certain number of messages and does not receive messages anymore. Important information has been lost. It most likely occurs in combination with high CAN Bus Utilization.

Overrun Error Count

- Overrun Error Count indicates that applications or controllers on CAN Bus receive messages faster than they can process them. This results in missing messages and malfunction of the system. It most likely occurs in combination with high CAN Bus Utilization.

CZ76372,0000638 -19-02OCT13-1/1

Network

Network tab displays diagnostic readings from Modular Telematics Gateway (MTG). MTG is one of the main components that enable John Deere telematics solutions, such as JDLink™, Service ADVISOR™ Remote, and John Deere Remote Display Access (RDA).

MTG contains firmware, a cellular modem, and SIM device. It sends and receives data and messages over cellular networks.

RDA requires an uninterrupted cellular connection to function. JDLink™ does not require an uninterrupted cellular connection because the MTG can store up to 1000 hours of data.

CZ76372,0000678 -19-16JUN14-1/1

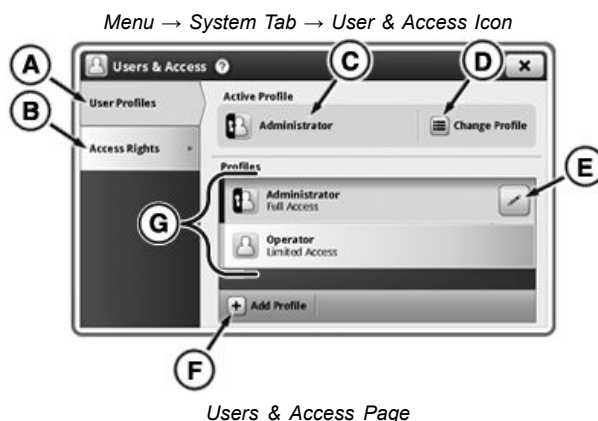
Navigate to Users & Access

RXA0129658 —UN—16NOV12

1. Select **Menu**.
2. Select **System** tab.
3. Select **Users & Access** icon.



- | | |
|-------------------------|----------------------|
| A—User Profiles Tab | E—Edit Button |
| B—Access Rights Tab | F—Add Profile Button |
| C—Active Profile | G—Profiles List |
| D—Change Profile Button | |



Users & Access Page

KT81203,0000072 -19-19JUN14-1/1

RXA0142766 —UN—19JUN14

Users & Access

PC17262 —UN—12JUL13

Users & Access manages user profile settings to lock users out of certain features.

User Profiles tab

- Change display profile and set PIN for administrator access.

Access Groups tab

- Store display features that are locked.

Navigate to Users & Access

1. Select Menu.
2. Select System tab.
3. Select Users & Access application.



Users & Access

CZ76372,0000643 -19-02OCT13-1/1

User Profiles

PC17265 —UN—15JUL13

Display can be set to one of two profiles, Administrator or Operator. The active profile is displayed above profile list.

Administrator Profile

Administrator profile always set to Full Access Group. It allows unlimited access of all features, and ability to lock and unlock features in Operator Profile. A PIN can be set to lock users out of the Administrator Profile.

Operator Profile

Operator profile always set to Limited Access Group. It is restricted to only features it is given access to. Operator



A

A—Administrator Profile



B

B—Operator Profile

Profile must be active profile and Administrator Profile must have a PIN for features to be locked.

Continued on next page

CZ76372,0000644 -19-02OCT13-1/2

Change Active Profile

PC17266 —UN—15JUL13

Select Change Profile button and select profile from list.

NOTE: If a PIN has been created for the administrator profile, it must be entered when switching from Operator Profile to Administrator Profile.



A



B



C

A—Change Profile Button
B—Edit Button

C—View Button

Add/Change PIN

Select Edit button for Administrator Profile. Select Add/Change PIN button.

CZ76372,0000644 -19-02OCT13-2/2

Access Groups

PC17267 —UN—15JUL13

Access Groups store display features users have access to. Full Access group is able to use all features on display, while Limited Access group can be restricted to only certain features.

NOTE: Full Access Group can not be edited.

Limited Access groups can only be edited if Administrator Profile is Active Profile.



A



B

A—View Button

B—Edit Group Button

Select View button to display Access Group Summary. Select Edit Group button to make changes to Access Group.

CZ76372,0000647 -19-02OCT13-1/2

Edit Access Group

PC17268 —UN—15JUL13

For each application listed, "None Locked" is displayed if no features are locked. When features are locked, they are listed under the application name and icon changes to locked.

Select an application to highlight it and select Edit button.

Edit Access Rights page displays a list of features that can be locked or unlocked by toggling lock/unlock switch. Save changes by closing page.



A



B

A—Unlock Icon

B—Lock Icon

CZ76372,0000647 -19-02OCT13-2/2

Navigate to Layout Manager

RXA0126688 —UN—07JUN12

NOTE: Layout Manager opens in last used run page.

1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Layout Manager** icon.

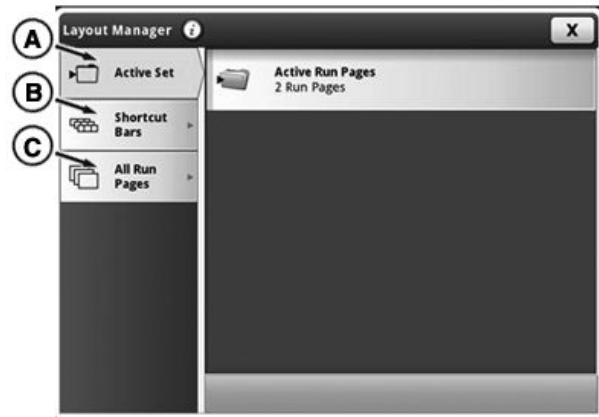
A—Active Set Tab

B—Shortcut Bars Tab

C—All Run Pages Tab



Menu → Applications Tab → Layout Manager Icon



Layout Manager Page

RXA0143562 —UN—10JUL14

KT81203,000006A -19-24APR15-1/1

Layout Manager

PC16678 —UN—18MAR13

Use Layout Manager to create and modify run pages and shortcut bar so important information and functions can be accessed from the main page.

Run pages are made of "modules" or blocks that contain information and buttons. Modules can be added, removed, and rearranged on a run page.

Unlimited run pages can be created and saved. Only one Run Page Set with up to ten run pages can be created.

Navigate to Layout Manager

1. Select Menu.

2. Select Applications tab.
3. Select Layout Manager application.



Layout Manager

CZ76372,0000639 -19-29OCT14-1/1

Active Set

PC15336 —UN—10JUL13

Active Set is a collection of up to ten run pages that are grouped together for an operation (i.e. planting or tillage). Only pages in Active Set appear when cycling through run pages on main page.

Select Active Set to display Edit Run Page Set page.



Active Set

Continued on next page

CZ76372,000063A -19-29OCT14-1/3

Add Run Page to Active Set

PC15341 —UN—10JUL13

Select Add Run Page button to display a list of run pages that can be added to the set. Choose one of the run pages and select OK.



Add Run Page Button

CZ76372,000063A -19-29OCT14-2/3

Edit Run Pages in Active Set

PC15338 —UN—10JUL13

Select one of the run pages to show a row of buttons for editing that run page.

Select Edit button to change the modules on run page.

Select Duplicate button to create a new run page with same modules.

Select Up and Down buttons to change order of run pages. Run page order is used when cycling through pages on main page.

Select Remove button to delete run page from Active Set. Run page is still in All Run Pages list, just no longer in Active Set.



A



B



C



D



E

A—Edit Button
B—Duplicate Button
C—Up Button

D—Down Button
E—Remove Button

NOTE: Remove button is not shown if only one run page is in Active Set.

CZ76372,000063A -19-29OCT14-3/3

Shortcut Bar

PC17276 —UN—13AUG13

Shortcut bar is a collection of shortcut softkeys that display status information and provide quick access to application functions.

Select Default Shortcut Bar to Edit the Shortcut Bar.



A—Shortcut Softkeys

CZ76372,000071C -19-16JUN14-1/2

Edit Shortcut Bar

PC17386 —UN—15MAY14

Shortcuts can be added, removed, and rearranged on the shortcut bar.

NOTE: The same shortcut can only be placed on the shortcut bar once.

Select Add Shortcut button and choose application with appropriate content. Applications without available shortcuts are grayed out. From list, find shortcut that performs desired function and select Add button.

Once added to shortcut bar, select shortcut to highlight it. Press and slide shortcut to move it to an open area.

To remove a shortcut, select shortcut to highlight it and select Remove button.



A



B

C



A—Add Button
B—Move Shortcut Icon

C—Remove Shortcut Button

CZ76372,000071C -19-16JUN14-2/2

All Run Pages

PC15340 —UN—10JUL13

All Run Pages tab displays every run page that has been created on display. These include current run pages that are in Active Set, as well as run pages that will be used in future operations.



All Run Pages

CZ76372,000063B -19-02OCT13-1/3

Edit Run Page

PC15339 —UN—10JUL13

Select one of the run pages to show a row of buttons for editing that run page.

Select Edit button to change the modules on run page.

Select Duplicate button to create a new run page with same modules.

Select Remove button to delete run page from display. This permanently removes run page from display and Active Set.

NOTE: Remove button is not shown if factory default run page is selected.



A



B



C

A—Edit Button
B—Duplicate Button

C—Remove Button

CZ76372,000063B -19-02OCT13-3/3

Create Run Page

PC15341 —UN—10JUL13

Select Add New button to create a new Run Page.



Add New Button

CZ76372,000063B -19-02OCT13-3/3

Add, Edit, or Duplicate Run Pages

PC15337 —UN—10JUL13

The same interface is displayed when adding, editing, or duplicating a run page. A new run page starts out blank, while duplicate or edited run pages have existing modules.

Run Page Name

Every run page must have a unique name. Select Edit button to either name or rename run page.

Add Module

Select Add Module button and choose application with appropriate content. From list, find module with desired information and select Add button.

NOTE: The same module can only be placed on a run page once.



A



B

A—Edit Button

B—Add Module Button

NOTE: Start with larger modules before adding smaller modules to fill in space.

Use grid to determine amount of space required for a module.

Continued on next page

CZ76372,000063C -19-02OCT13-1/3

Rearrange Modules

PC15342 —UN—10JUL13

Once added to run page, select module to highlight it.
Press and slide module to move it to an open area.



Move Module

CZ76372,000063C -19-02OCT13-2/3

Remove Module

PC15343 —UN—10JUL13

Select module to highlight it, and select Remove button.



Remove Module Button

CZ76372,000063C -19-02OCT13-3/3

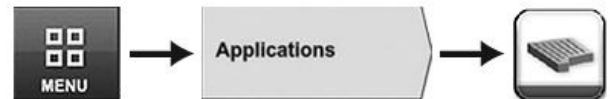
Navigate to Fields

RXA0142762 —UN—19JUN14

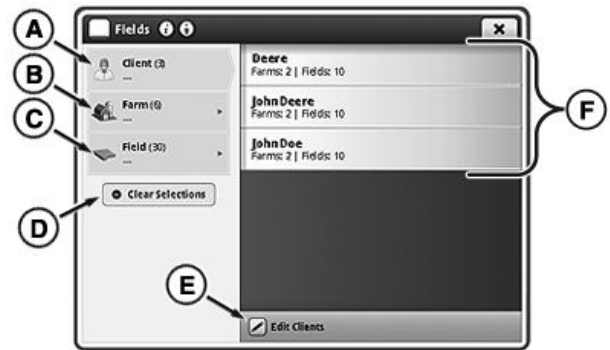
1. Select **Menu**.
2. Select **Application tab**.
3. Select **Fields icon**.

A—Client Tab
B—Farm Tab
C—Field Tab

D—Clear Selections Button
E—Edit Clients Button
F— Client/Farm/Field List



Menu → Application Tab → Fields Icon



Fields Page

RXA0142620 —UN—19JUN14

KT81203,0000168 -19-19JUN14-1/1

Fields

Field names organize information so it is easier to find and use data, such as guidance lines. Using field names is optional, and a "----" appears for undefined names.

Use Fields application to:

- Select field location name used for all other applications.
- Create a client, farm, or field name.
- Change the name of a client, farm, or field.
- Associate a field to a different farm or client.
- Delete a client, farm, or field.

Select inside Set Current Location box to enter current client, farm, and field.

Integration with Guidance

- A field can be associated to a guidance track when the track is created, or by editing the track.
- Guidance track list can be filtered by field name.

Run Page Module

A Location module for the Fields application is available in Layout Manager application. It is available on the default Guidance Run Page, and it can be added to any run page.



Fields Application

Select a field in Location module to:

- Filter guidance track list.
- Associate new tracks to the field when they are created.
- Begin new or continue previous work data.

Navigate to Fields

1. Select Menu
2. Select Applications tab.
3. Select Fields application.

PC17389 —UN—15MAY14

Manage Clients, Farms, and Fields

Field Organization

Use the following hierarchy to help organize data:

- Clients are the highest level of organization.
- Farms are the middle level of organization. A farm can be associated with a client.
- Fields are the basic level of organization. A field can be associated with a farm and a client.

A strict hierarchy is not necessary, though it is possible to use only field names, and leave farm and client names blank. It is even possible not to use field names at all.

These decisions depend on amount of data being kept. More data requires structure to find fields.

NOTE: In previous John Deere displays, maps and guidance lines were saved based on field names. In the Generation 4 display, data is saved as latitude and longitude points. The field name is only needed as a way to filter data.

Select and Filter Names

In the Client, Farm, and Field hierarchy, select clients and farms to find fields.

1. Select Client tab.
2. From list, select client. Client name is displayed on Client tab.
3. Farm tab is automatically displayed. Only farms associated with the client are listed.
4. From list, select farm. Farm name is displayed on Farm tab.
5. Field tab is automatically displayed. Only fields associated with the client and farm are listed. Select field.

Remove Filter

Remove filter by selecting Clear Selections button.

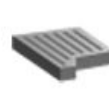
Create and Edit Names



A



B



C

A—Client
B—Farm

C—Field

NOTE: Clients, farms, or fields should not be renamed after data is recorded. If renamed, change name in other locations, such as MyJohnDeere Operations Center.

Client, Farm, and Field names cannot be duplicated. Names associated with different clients and farms must be unique.

Client and Farm Tabs

When Client or Farm tabs are selected, select Edit button at bottom of page to display Edit Client or Edit Farm list.

On either list, select one of the client or farm names to edit it, or select New button at bottom of page to create a name.

Field Tab

When Field tab is selected, highlight field name and select edit button to edit a field. Select New button at bottom of the page to create a name.

Delete Names

To delete a name, edit the client, farm, or field, and select the delete button on the edit page.

- Deleting a client also deletes all farms, fields, and guidance tracks associated with client.
- Deleting a farm also deletes all fields and guidance tracks associated with farm.
- Deleting a field also deletes all guidance tracks associated with field.

CZ76372,0000642 -19-08JUL15-1/1

AutoTrac™ Guidance

PC16676 —UN—18MAR13



Use Guidance application for steering machines through field along guidance tracks. Guidance can be done manually, or automatically using AutoTrac™.

Manual Guidance (included feature)

Manual Guidance, also known as Parallel Tracking™, enables operator to steer manually along guidance tracks using onscreen light bar, map, and audible tones. A StarFire™ receiver is required to operate Manual Guidance. Parallel Tracking™ shows the machine's position in a field relative to a track determined during the first pass through the field. Parallel Tracking™ has modes to follow a straight or curve track. Use the machine icon, lightbar, and line on the display to know which way to steer to stay on the path parallel with the last. Audible alerts allow the operator to focus on the field.

AutoTrac™ Guidance (activation required)

AutoTrac™ is an assisted steering system that automatically steers the machine through the field.

*AutoTrac is a trademark of Deere & Company
Parallel Tracking is a trademark of Deere & Company
StarFire is a trademark of Deere & Company*

AutoTrac™ requires a StarFire™ receiver and an integrated steering system on the machine to operate. After operator enters a reference path (Track 0) in AutoTrac™, machine will steer itself parallel to that track if all conditions are met.

The AutoTrac™ Guidance application provides the tools to:

- Set up a guidance track.
- Change track width.
- Adjust settings to improve guidance performance.
- Engage AutoTrac™.
- View exit codes.

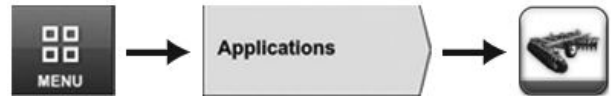
CZ76372,000062F -19-02OCT13-1/1

RXA0135344 —UN—30AUG13

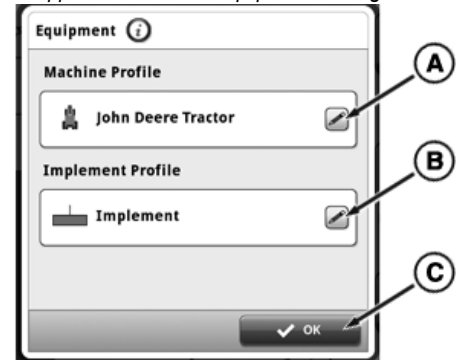
Navigate to Equipment Manager

1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Equipment Manager** icon.
4. Press Machine Profile (A) or Implement Profile (B) Selection button.

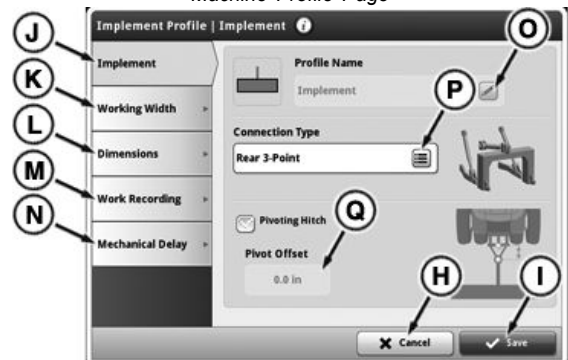
- | | |
|--------------------------------------|--------------------------------------|
| A—Machine Profile Selection Button | J—Implement Tab |
| B—Implement Profile Selection Button | K—Working Width Tab |
| C—OK Button | L—Dimensions Tab |
| D—General Tab | M—Work Recording Tab |
| E—GPS Offsets Tab | N—Mechanical Delay Tab |
| F—Connection Offsets Tab | O—Implement Profile Name Input Field |
| G—Machine Profile Name Input Field | P—Connection Type List |
| H—Cancel Button | Q—Pivot Offset Input Field |
| I—Save Button | |



Menu → Applications Tab → Equipment Manager Icon



Machine Profile Page



Implement Profile Page

KT81203,000006C -19-25JUN15-1/1

RXA0148518 —UN—25JUN15

RXA0148519 —UN—25JUN15

RXA0148517 —UN—25JUN15

Equipment Manager

PC20410 —UN—22MAY15

Select Equipment Manager application to enter Machine and Implement Profile settings. Profile settings are important for accurate performance of John Deere Precision Agricultural applications, such as AutoTrac™, Section Control, and work data maps.



Navigate to Equipment Manager

1. Select Menu.
2. Select Applications tab.

3. Select Equipment Manager application.

AutoTrac is a trademark of Deere & Company

CZ76372,0000749 -19-22MAY15-1/1

Machine Profile

General Settings

If display detects machine, some information is automatically set by machine controllers. Otherwise, select list box to choose machine type.

Settings specific to certain machine types only appear on page when applicable.

- **Articulated Tractor Articulation Point**

Front Axle

- Distance from articulation point to center of front axle. Articulation point is pivoting point of machine when making a turn.

Rear Axle

- Distance from articulation point to center of rear axle. Articulation point is pivoting point of machine when making a turn.

- **Track Tractor Center of Rotation**

Center of Rotation

- Distance from pivot point of machine to rear axle.

GPS Offsets

- **GPS Lateral Offset**

- Lateral distance (left or right) from center line of machine to center of GPS receiver. This value is usually set to 0.0 unless GPS receiver is offset left or

right of machine center line. Guidance and Mapping applications require GPS Lateral Offset settings.

- **GPS Inline Offset**

- Inline distance from center of non-steering axle on machine to center of GPS receiver. Mapping application requires GPS Inline Offset settings.

- **GPS Height**

- Vertical distance from GPS receiver to ground.

Connection Offsets

- Inline distance from center of rear axle to connection point. Connection point is location where implement connects to machine. Mapping application requires Connection Offset settings.

Restore Profile to Factory Defaults

Default tractor profile settings are stored in tractor controllers. Changes to these settings are stored in the display. To reset profile to factory defaults, select settings at the top of Machine Profile page. Then, select Reset Profile button.

Use Help Center onscreen help for more information about Equipment Manager and the Machine Profile.

HC94949,0000387 -19-22MAY15-1/1

Implement Profile

Saving Profile Settings

Select Save button to store settings from all tabs and close Implement Profile page. Selecting Save is not required when switching between tabs.

Implement Profile settings are saved in the display according to the following factors:

- Profile Name
- ISO name of detected implement controller

NOTE: Configure pre-operation settings in implement controller, such as drive configuration, prior to configuring Implement Profile settings. ISO name changes when some implement controller settings change. This includes changing controller setup between fertilizer and seeding.

Automatic Detection of Profile Settings

NOTE: Section Control must be OFF to detect SeedStar™ 2 or SeedStar™ XP planters when first connected to tractor. After first connection, planter is detected whether Section Control is ON or OFF.

If a SeedStar™ 2 or SeedStar™ XP planter is connected, some Implement Profile settings are automatically set by the planter controller. This only happens the first time planter is connected. An alert appears stating "Implement Profile Created", and alert will continue to appear if "Setup Later" is selected.

NOTE: Verify all required settings prior to operation. Work point is not set automatically.

When planter is reconnected in the future, it is identified by its ISO Name and Implement Profile settings saved in the display are loaded. To view currently detected ISO Name, select Diagnostics Center > Controller Diagnostics tab > choose implement controller > Controller Info tab.

Connection Types

- Describes how implement is attached to machine and controls how display determines implement movement behind machine. Connection Type should reflect the connection type of the current implement. Mapping application requires Connection Type setting.
- **Pivoting Hitch**
 - Some implements have a pivoting hitch that connects to machine's rear 3-point hitch. The offset for this

SeedStar is a trademark of Deere & Company

pivoting location is required for display to determine implement movement behind machine. Option is available when rear 3-point is selected as connection type.

Working Width

- Working Width is the width of the area tilled, planted, sprayed, or harvested on each pass through the field. It is used to create work data maps and calculate area worked. Guidance, Mapping, and Area Totals applications require Working Width.

Dimensions

- **Lateral Offset**
 - Lateral distance from center point of machine to center point of working width of implement. Guidance and Mapping applications require Lateral Offset setting.
- **Center of Rotation**
 - Inline distance from connection point to implement's center of rotation while in working position. Usually, this is where load bearing parts of implement make contact with ground. Mapping application requires Center of Rotation setting.
- **Work Point**
 - Inline distance from connection point to point where the operation occurs. For example, where seed or product is dropped, a crop is harvested, or ground is tilled. Mapping application requires Work Point setting.

Work Recording

- Recording Triggers determine when map recording and Work Monitor totals are turned ON and OFF. Not all recording triggers are available for all machines types.

NOTE: In Manual mode, operator must push Record or Pause button to turn work data map recording ON or OFF.

Mechanical Delay

- Mechanical delay is the average time for product to reach the ground after an ON or OFF command. It may need to change with each machine, implement, and display combination. Mapping application requires Mechanical Delay settings. Settings are critical for Section Control performance.

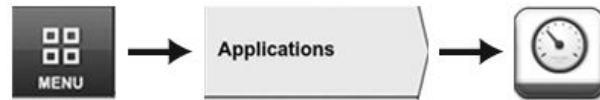
Use Help Center onscreen help for more information about Equipment Manager and the Implement Profile.

HC94949,0000388 -19-22MAY15-1/1

Navigate to Machine Monitor

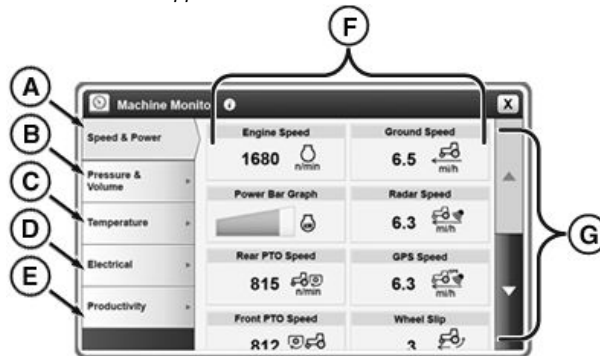
RXA0126813 —UN—12JUN12

1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Machine Monitor** icon.



Menu → Applications Tab → Machine Monitor Icon

- A**—Speed & Power Tab
B—Pressure & Volume Tab
C—Temperature Tab
D—Electrical Tab
E—Productivity Tab
F—Machine Monitor Measurement Display
G—Scroll Bar



Machine Monitor Page

RXA0126814 —UN—12JUN12

KT81203,000006B -19-20APR15-1/1

Machine Monitor

PC15318 —UN—16MAY13

Machine Monitor displays machine-specific performance values. Groupings of values include:

- Speed and Power
- Fuel and Pressure
- Temperature
- Electrical
- Hours

NOTE: Values available in each group depend on machine model.

Select tabs on left-hand side of the page to switch between groups. Select a value to view a popup of just that value.

If a value is not available, dashes will be shown.



Machine Monitor

Navigate to Machine Monitor

1. Select Menu.
2. Select Applications tab.
3. Select Machine Monitor application.

CZ76372,0000620 -19-02OCT13-1/1

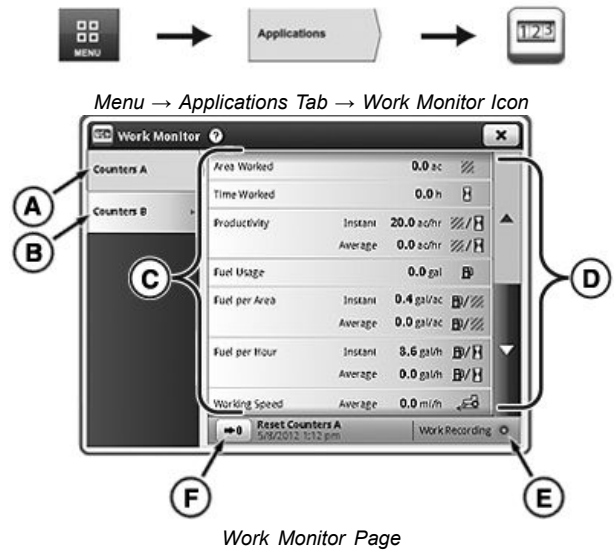
Navigate to Work Monitor

RXA0135359 —UN—03SEP13

1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Work Monitor** icon.

A—Counters A Tab
B—Counters B Tab
C—Work Monitor List

D—Scroll Bar
E—Work Recording Light
F—Reset Counters Button



RXA0142764 —UN—19JUN14

KT81203,0000071 -19-20APR15-1/1

Work Monitor

PC15317 —UN—16MAY13

Work Monitor displays averaged and totaled machine and operation-specific values. Select a value on the page to view a popup window of just that value.

Use the reset button at the bottom of the page to clear all values, except instant values. Date and time of the last reset will be indicated next to the button.

To be calculated correctly, some values require implement working width. Use the Edit Width button on a popup window to change working width. This button opens the Implement Profiles application. For more information, see Implement Profiles section.



Work Monitor

Navigate to Work Monitor

1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Work Monitor** application.

CZ76372,000061E -19-02OCT13-1/1

Work Recording

When Work Recording is ON, map recording and counters that require a recording trigger accumulate. Counters requiring Work Recording include:

- Area Worked
- Time Worked
- Productivity
- Average Fuel Per Area
- Average Working Speed

Select Work Recording in the bottom right hand corner to view a popup window with recording settings.

Recording status is based on the current recording trigger selected in Implement Profiles. If the recording trigger does not fit the current operations, press Edit button to change the selected recording trigger. For more information, see Implement Profiles section.

NOTE: If recording trigger is set to manual, work recording can be switched on or off by pressing the recording button.

CZ76372,000061F -19-02OCT13-1/1

Navigate to Maintenance & Calibrations

RXA0147925 —UN—13APR15

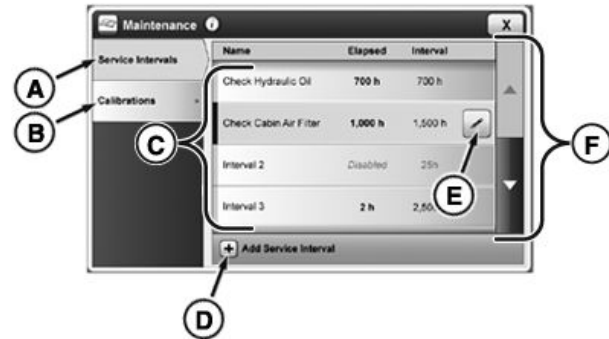
1. Select **Menu**.
2. Select **Machine Settings** tab
3. Select **Maintenance & Calibrations** icon.

A—Service Intervals Tab
B—Calibrations Tab
C—Service Intervals List

D—Add Service Interval Button
E—Edit Service Interval Button
F—Scroll Bar



Menu → Machine Settings Tab → Maintenance & Calibrations Icon



Maintenance & Calibrations Page

RXA0135274 —UN—26AUG13

KT81203,00000A5 -19-14APR15-1/1

Maintenance & Calibrations

PC15324 —UN—21MAY13

Maintenance & Calibrations application allows the operator to set up service intervals, check on machine functions, and perform calibrations on machine components.

Navigate to Maintenance & Calibrations

1. Select Menu.
2. Select Tractor Settings tab.
3. Select Maintenance & Calibrations application.



CZ76372,000062B -19-14MAY14-1/1

Calibrations

PC15325 —UN—01JUL13

Use this application to perform wheel slip calibration and radar calibration. For a tractor, perform wheel slip calibration and radar calibration within this application.

Radar Calibration

A radar device needs to be calibrated when it is first installed on the machine or there is a difference between radar speed and actual ground speed. Currently, the system supports John Deere dual beam radars.

NOTE: In windy conditions, moving parts such as leaves, dust, or gravel can cause inaccurate radar speed.

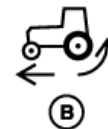
Wheel Slip Calibration

Calibrate wheel slip if there is a mismatch between radar speed and wheel speed. For more information, see Machine Monitor .

Perform calibration while driving with an unloaded machine on a hard, dry, clean, and level surface.



A—Radar Calibration



B—Wheel Slip Calibration

NOTE: Wheel slip calibration is only available on a connected and calibrated radar device.

Make sure radar speed is accurate before performing wheel slip calibration.

CZ76372,000062C -19-02OCT13-1/1

Radar Calibration

CAUTION: Avoid injury. Perform calibration in safe and open area that is clear of objects and bystanders.

Perform radar calibration if:

- Radar speed and wheel speed are not equal when wheel slip is not present.
- Radar device was installed/replaced.
- Tire size was changed.
- Ballast of tractor was changed.

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **Maintenance & Calibrations** icon.
4. Select **Calibrations** tab.
5. Select **Radar Calibration** icon.
6. Drive unloaded tractor, on hard, dry and level surface, at approximately 3.2 km/h (2.0 mph).
7. Select Start button (A) to begin radar calibration process.

NOTE: Radar calibration can be canceled by selecting cancel button (B).

8. Select OK button (C) to complete radar calibration.

If radar calibration is unsuccessful after three attempts, see your John Deere™ dealer.

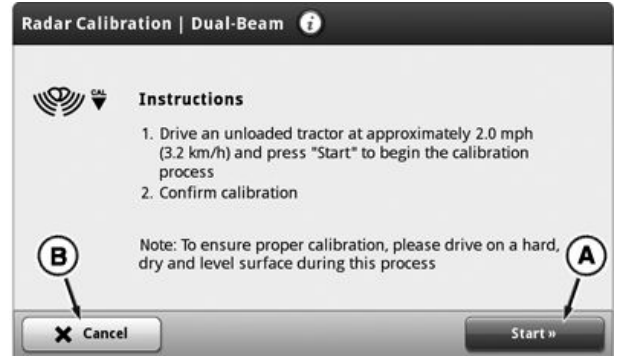
A—Start Button
B—Cancel Button

C—OK Button

RXA0147926 —UN—13APR15



Menu → Machine Settings Tab → Maintenance & Calibrations Icon
→ Calibrations Tab → Radar Calibration Icon



RXA0147580 —UN—10MAR15

RXA0147581 —UN—10MAR15

KT81203,0000205 -19-14APR15-1/1

Wheel Slip Calibration

CAUTION: Avoid injury. Perform calibration in safe and open area that is clear of objects and bystanders.

Perform wheel slip calibration if:

- After radar calibration has been performed.
- Wheel slip is displayed when wheel slip should not be present.
- Tire size was changed.
- Ballast of tractor was changed.

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **Maintenance & Calibrations** icon.
4. Select **Calibrations** tab.

NOTE: Tractor must be in motion for wheel slip calibration icon to appear.

5. Select **Wheel Slip Calibration** icon.

NOTE: Wheel slip calibration can be canceled by selecting cancel button (B).

6. Select Start button (A) to begin wheel slip calibration process.
7. Drive unloaded tractor, on hard, dry and level surface, at least 8 km/h (5 mph).
8. Select Calibrate button (C).
9. Select OK button (D) to complete wheel slip calibration.

If wheel slip calibration is unsuccessful after three attempts, see your John Deere™ dealer.

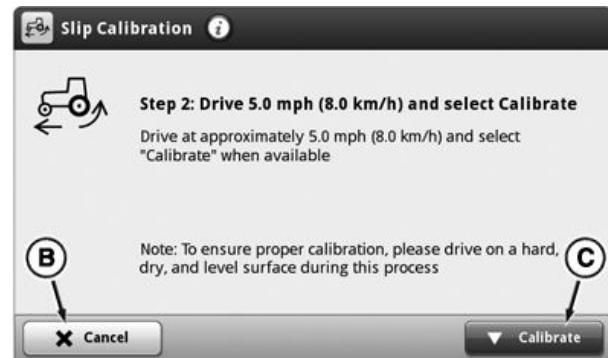
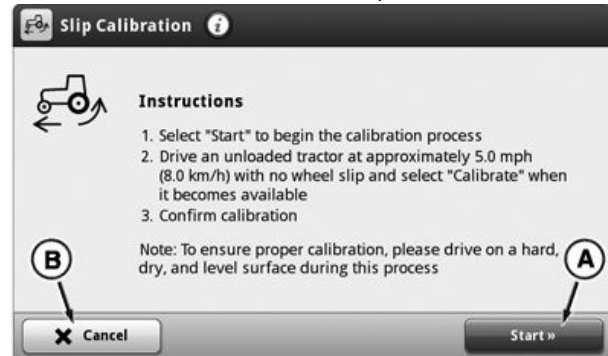
A—Start Button
B—Cancel Button

C—Calibrate Button
D—OK Button

RXA0147928 —UN—13APR15



Menu → Machine Settings Tab → Maintenance & Calibrations Icon
→ Calibrations Tab → Wheel Slip Calibration Icon



RXA0147582 —UN—10MAR15

RXA0147583 —UN—10MAR15

RXA0147584 —UN—10MAR15

KT81203,0000206 -19-14APR15-1/1

Service Intervals

Service Intervals are reminders of when regular maintenance needs to be performed on a machine.

Select Add Service Interval button to create a new service interval. An unlimited number of service intervals can be added.

Once a service interval is created, it is added to the list and displayed with the name, elapsed time, and interval amount.

- The operator selects the name to identify the specific service interval.
- Elapsed indicates the number of hours since the service interval was reset.

- Interval is the number of hours between each service.

The intervals are sorted from least amount of time due to the most amount of time due. They are then sorted by name, in alpha-numerical order, with priority given to numbers.

Twenty hours before the service interval is due, the system will inform the operator that the machine will need to be serviced soon. Once the message has been acknowledged, the system will inform the operator about the upcoming service at every startup until service interval is reset.

CZ76372,000062D -19-31OCT14-1/1

Navigate to Controls Setup

Controls Setup page allows user to assign device (D) with various tractor and implement functions (G). Once completed, function may be performed by activating assigned device.

NOTE: Some ISOBUS joysticks may not be able to be assigned to tractor and implements functions.

CAUTION: ISOBUS Controller detected
Improper operation can cause unintended machine movement.

To avoid death or serious injury to bystander, understand how this display operates the functions of each machine

Read the ISOBUS controller's operator's manual.

CAUTION: Improper operation can cause unintended implement movement.

To avoid the risk of death or serious injury to a bystander, ensure:

- Users know which function is mapped to each control.
- Controls are properly labeled.

Message above occurs when ISOBUS control unit or ISO Aux is enabled. If necessary, review or change ISOBUS joystick assignments. Immediately after message, operator can decline or accept by pressing appropriate buttons. If "Cancel" is selected, all ISOBUS joysticks are disabled. If "Accept" is selected, all ISOBUS joysticks are enabled.

Example—Two switch ISOBUS compliant joystick is used to control drawn sprayer equipped with ISOBUS control unit. Sprayer has two controlled functions: pump on/off and boom on/off. Using Controls Setup feature, each function may be assigned to one of ISOBUS joystick switches.

Controls Setup Page

Use Controls Setup Shortcut Button on Navigation Bar or follow alternative path:

RXA0133715 —UN—16JUL13

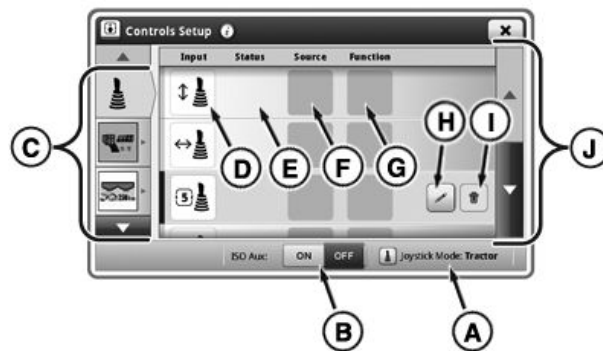


Controls Setup Shortcut Button on Navigation Bar

RXA0130061 —UN—01AUG13



Menu → Applications Tab → Controls Setup Icon



Controls Setup Page

- | | |
|-------------------------|---------------------------------|
| A—Joystick Mode Icon | F—Source |
| B—ISO Aux On/Off Toggle | G—Function |
| C—Device List | H—Add or Edit Assignment Button |
| D—Input Device | I—Delete Assignment Button |
| E—Status | J—Scroll Bar |

1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Controls Setup** icon.

RXA0137961 —UN—18DEC13

KT81203,00000AD -19-02JAN14-1/1

Controls Setup

PC15326 —UN—08JUL13

Controls Setup configures an integrated tractor joystick (optional) or ISOBUS joystick to control tractor or implement functions.



Integrated Tractor Joystick

The integrated tractor joystick can control tractor functions, such as a front hitch or SCVs for a loader.

ISOBUS Joystick

An ISOBUS joystick can control functions of a compatible ISOBUS implement. The implement functions are also called ISO Auxiliary Control functions (ISO Aux).

NOTE: The ISOBUS implement and ISOBUS joystick are required to be Auxiliary Control New (AUX-N) capable.

The following messages are displayed when AUX-N requirements are NOT met:

For ISOBUS implement:

- The connected Source does not meet the input device requirements.

For ISOBUS joystick:

- The connected Auxiliary Input Device does not meet the implement function requirements.

Navigate to Controls Setup

1. Select Menu.
2. Select Applications tab.
3. Select Controls Setup Application.

CZ76372,0000630 -19-22OCT14-1/1

Controls

PC15329 —UN—08JUL13

From the left-hand side of the Controls Setup page, select one of the following controls:

- Tractor joystick
- ISOBUS joystick
- Tractor functions
- ISOBUS implement

Assignments

NOTE: Certain functions are assigned automatically by implement to specific joystick buttons and cannot be modified by operator.

Depending on the selected control, the following combinations (assignments) are possible:

Tractor joystick



Enable or Disable Controls

- Input + Source + Function

ISOBUS joystick

- Input + Implement + Function

Tractor functions

- Functions + Device + Input

ISOBUS implement

- Function + Device + Input

KT81203,0000166 -19-25JUN15-1/4

Setup and manage the assignments

PC17393 —UN—28MAY14

To add or edit any assignment, select the desired control, select Input or Function, and press either Edit or tap anywhere in the selectable area. Once assignment is completed, a status icon is shown.



A—Remove assignment



B—Add or edit assignment

Continued on next page

KT81203,0000166 -19-25JUN15-2/4

ISO Aux

PC17280 —UN—10SEP13

ISO Aux determines if the tractor joystick or ISOBUS joystick messages are sent to the implement.

Set ISO Aux to OFF to deactivate implement functions.
Set to ON to activate implement functions and store them in implement.

These functions are stored until operator edits corresponding assignment.

NOTE: If Joystick Mode is set to tractor, the tractor joystick operates tractor functions only.



On / Off Toggle

KT81203,0000166 -19-25JUN15-3/4

Joystick Mode

PC15328 —UN—08JUL13

Set up tractor joystick for operating either tractor functions or ISOBUS implement functions. Depending on the tractor model and its configuration, the operator can select:

OFF

- Tractor joystick is disabled.

Tractor Functions

- Operate SCV functions.

ISOBUS (If Equipped)

- Operate ISOBUS implement functions only.



Joystick Mode

NOTE: SCVs with a default control lever assignment, that are also assigned to a Joystick axis, require Joystick Mode set to either "OFF" or "ISOBUS" to be controlled by control levers.

For more information, refer to Hydraulics and Selective Control Valves section of this Operator's Manual.

KT81203,0000166 -19-25JUN15-4/4

Automation Status

RXA0135014 —UN—12AUG13

Automation Status allows control of various tractor functions. Automation Status displays which tractor functions are being controlled and their current status.

SCV Function Example: SCV status set to AUTO. Implement actively controls SCV 1. Implement requests SCV flow to be set at 32% in extend direction.

1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Automation Status** icon.

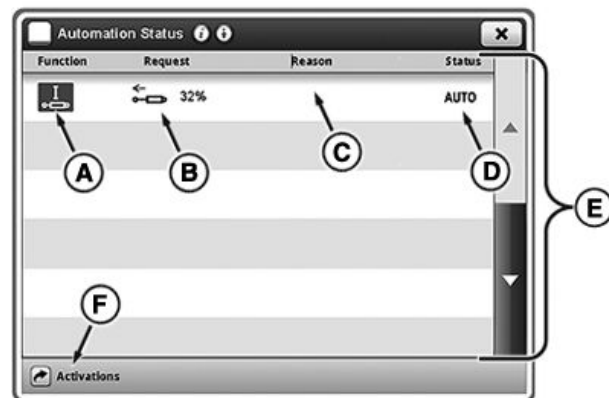
Press Activations button (F) to navigate to Software Manager application.

A—Function
B—Request
C—Reason

D—Status
E—Scroll Bar
F—Activations button



Menu → Applications Tab → Automation Status Icon



Automation Status Page

RXA0135016 —UN—12AUG13

KT81203,00000A2 -19-20MAR14-1/1

Read ISOBUS Controller's Operator's Manual



CAUTION: ISOBUS Controller detected

Improper operation can cause unintended machine movement.

To avoid death or serious injury to a bystander, understand how this display operates the functions of the machine.

Read the ISOBUS controller's operator's manual.

Message shown above displays when system detects ISOBUS control unit. For more information, read the ISOBUS controller's operator's manual.

CommandCenter is a trademark of Deere & Company

Generation 4 CommandCenter™ display can be used as display device for any control unit meeting ISO 11783 (ISOBUS) standard. This includes capability to control ISOBUS control units. When used in this manner, information and control unit functions placed on the display are provided by control unit and are responsibility of control unit manufacturer. Some of these control unit functions could provide hazard either to operator or bystander. Read operator manual provided by control unit manufacturer and observe all safety messages in manual and on control unit prior to use.

KT81203,00000AE -19-24APR15-1/1

ISOBUS VT

PC16682 —UN—18MAR13

This John Deere display supports ISOBUS 11783 compatible controllers. These controllers can be viewed and operated within the ISOBUS Virtual Terminal (VT).

When an ISOBUS controller is connected, graphic files for the user interface are loaded into ISOBUS VT. Then ISOBUS VT provides a means for the operator to navigate through and operate all available functions of ISOBUS controller.

Navigate to ISOBUS VT

1. Select Menu.

2. Select Applications tab.
3. Select ISOBUS VT application.



CZ76372,0000629 -19-26JAN15-1/2

Connected ISOBUS Implements and Controllers

PC15293 —UN—18MAR13

The Generation 4 display loads and communicates with different ISOBUS controllers at the same time. A list of all connected ISOBUS controllers is displayed after selecting menu button.

Select desired ISOBUS controller and press OK button to view the user interface.

Troubleshooting

If ISOBUS VT page is no longer operable, but display still is, issue is most likely related to ISOBUS controller. Turn key switch off and restart machine, or unplug ISOBUS controller connector and reconnect.

Run Page Module



Menu Button

ISOBUS VT modules can be added to a run page using the Layout Manager application.

Modules are loaded from implement controller and are only available while controller is connected. The types of modules available are dependent on controller manufacturer. This display is capable of displaying ISOBUS VT version 3.

CZ76372,0000629 -19-26JAN15-2/2

StarFire™ GPS Receiver

PC17388 —UN—15MAY14

The StarFire™ GPS receiver acquires global positioning and differential correction signal through a single receiver.

A Terrain Compensation Module (TCM) is integrated into the receiver and corrects for machine dynamics, such as roll and pitch on side-slopes, rough terrain, or varying soil conditions. An accurate TCM calibration is necessary for proper operation.

See the StarFire™ Receiver operator's manual for setup and calibration instructions.

Navigate to StarFire™ GPS Receiver

StarFire is a trademark of Deere & Company



1. Select Menu.
2. Select Applications tab.
3. Select StarFire™ application.

HC94949,0000389 -19-15MAY14-1/1

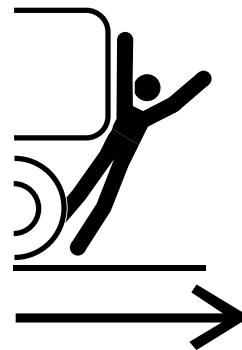
Use Video Display Capability Properly

Avoid Backover Accidents

CAUTION: Before moving machine, be sure that all persons are clear of machine path. Give audible warning by sounding horn. Turn around and look directly for best visibility. Use mirrors to assist in checking all around machine. Keep windows and mirrors clean, adjusted, and in good condition. Use a signal person when backing if view is obstructed or when in close quarters.

Do not rely on a camera to determine if personnel or obstacles are behind the machine. The system can be limited by many factors including maintenance practices, environmental conditions, and operating range.

CAUTION: Do not rely on a camera for collision avoidance or bystander detection. To avoid possible injury or death to operator or others, always remain alert and aware of surroundings when operating the machine. Read and understand **AVOID BACKOVER ACCIDENTS** in this section.



Avoid Backover Accidents

IMPORTANT: Avoid damage to equipment. Correctly understand whether the camera is "mirrored" and whether the video application is mirrored.

- Mount camera in a sturdy and secure location.
- Understand camera's field of view.
- Keep camera properly serviced.
- Keep camera lens clean.

RXA0109491 —UN—05AUG10

TO84419,000007F -19-27NOV12-1/1

Install Video Display Camera

IMPORTANT: Avoid damaging camera by mounting camera securely to equipment and in location where camera will not be pinched, crushed, kicked, or knocked off.

NOTE: Camera placement is limited to video camera cable length. Consider camera field of view when selecting location.

Tractors equipped with 4100 processor will have one camera input connector and 4600 processor will have four camera input connectors.

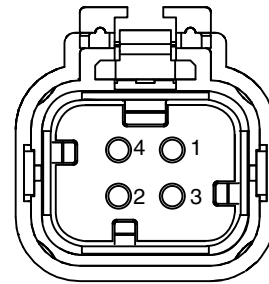
1. Tractors are equipped with one or four, 4-pin video connector(s) to attach camera(s). Remove rear cab panel cap screws (A). Remove cab rear panel (B) to access each marked video camera connector(s) (C, D, E or F). Chart shows connector pin/function information.

Pin Number	Function
1	Power
2	Ground
3	Signal
4	Signal—Ground

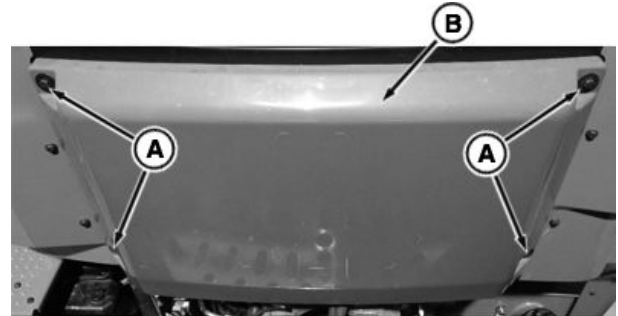
2. Connect camera cable into 4-pin connectors, route cable and mount camera at desired location.
3. Install rear panel on cab and tighten screws.
4. Proceed to Video Triggers in this section of this Operator's Manual to select camera settings.

A—Cap Screws
B—Rear Panel
C—Video 3 Connector

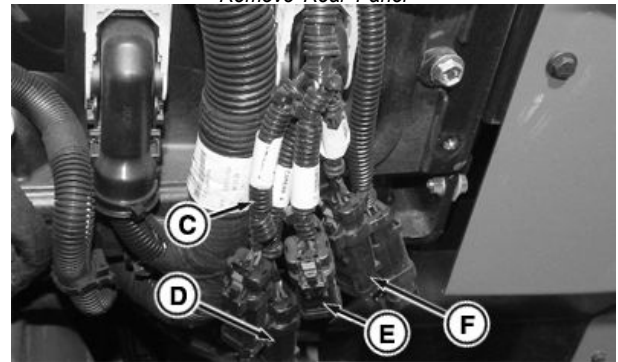
D—Video 4 Connector
E—Video 2 Connector
F—Video 1 Connector



Video Connector Pin Identification



Remove Rear Panel



Video Connectors Location (Equipped with 4600 Processor)

KT81203,0000156 -19-20NOV14-1/1

RXA0107925 —UN—28MAY10

RXA0142293 —UN—09JUN14

RXA0142294 —UN—10JUN14

Three-Camera Video Connectors with Ethernet Cable (If Equipped)

GreenStar™ (GS3) 2630 Display can support three video inputs for additional visibility when operating tractor.

NOTE: These video inputs are in addition to the Generation 4 CommandCenter™ Display. Display harnesses are available from your John Deere™ dealer.

Attach a second monitor display to connector (B). This connector is only available with the 4600 Server.

The back of 2630 Display can be also connected to GreenStar™ connector (D) and Ethernet connector (A).

Ethernet cable (A) with GS3 2630 Display allows remote access for dealer, with customer approval, to view operator GS3 2630 Display.

ISO 11786 connector (C) is used to connect to third-party control unit.

- | | |
|---|--|
| A —Ethernet Connector | C —ISO 11786 Standard Connector |
| B —Monitor Display Connector (Available with 4600 processor) | D —GreenStar™ Connector |



Integrated Video Harness with Ethernet Cable

RXA0134950 —UN—07AUG13

GreenStar is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

KT81203,0000075 -19-01JUL14-1/1

Navigate to Video Application

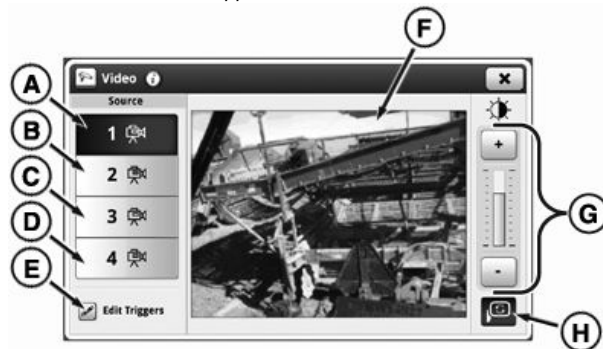
RXA0144375 —UN—06AUG14

1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Video** icon.



Menu → Applications Tab → Video Icon

- | | |
|--------------------------|-------------------------------------|
| A —Input 1 button | E —Edit Triggers Button |
| B —Input 2 button | F —Video Display Screen |
| C —Input 3 button | G —Brightness Adjustment Bar |
| D —Input 4 button | H —Mirror Image Button |



Video Applications Settings Page

RXA0131114 —UN—03SEP13

KT81203,0000076 -19-06AUG14-1/1

Video Application

PC15312 —UN—15MAY13

CAUTION: Do not rely on a camera for collision avoidance or bystander detection. To avoid possible injury or death to operator or others, always remain alert and aware of surroundings when operating the machine. Read and understand **AVOID BACKOVER ACCIDENTS** in the safety section.



The Video application is used to observe areas around the machine that are difficult to see from the operator's station. Only one video can be viewed at a time.

4600 processor can support up to four camera inputs, while 4100 processor can support only one camera input.

For more information about the different types of displays, see Display Introduction section.

Navigate to Video

1. Select Menu.
2. Select Applications tab.
3. Select Video application.

CZ76372,0000615 -19-22MAY14-1/2

Switching Cameras

PC15313 —UN—16MAY13

If more than one camera is connected, choose between video inputs by selecting different camera numbers.

Contrast

Adjust video contrast using plus (+) and minus (-) buttons. Brighten video by selecting the plus button, and darken video by selecting minus button.

Mirror Video

Select Mirror Video button to simulate a rear view mirror. This swaps left and right sides of video image.

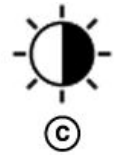
IMPORTANT: Determine if camera image or video application is mirrored before using Video application.



A



B



C

A—Camera Icon
B—Mirror Icon

C—Contrast Icon

CZ76372,0000615 -19-22MAY14-2/2

Video Triggers

Video can be displayed when certain machine functions are performed (For example: Reversing, PTO engage).

1. Select Edit Triggers to configure settings.
2. Select a trigger.
3. Select camera input for the current trigger. This camera is displayed when trigger is activated.

NOTE: To prevent video from displaying for a trigger, select **No Camera**.

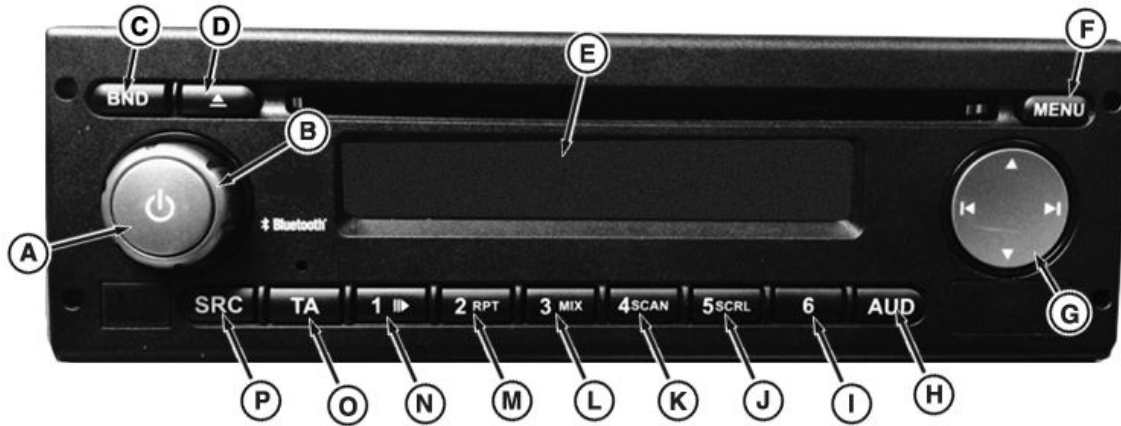
4. Enter video Timeout length. This is the amount of time video is shown after the trigger becomes inactive.

CZ76372,0000616 -19-23JUN15-1/1

Radio Operation

Use Premium Radio

Radio faceplate is made up of different buttons, knobs, and switches that perform various audio functions.



Radio with CD Player

A—Power Button: Press and hold for 2 seconds to turn radio on or off. Press briefly during operation to mute radio.

B—Volume Control Knob: Turn clockwise to increase and counterclockwise to decrease volume.

C—BND Button: Press briefly to select memory level or wave band. Press to accept phone call when call is coming in.

D—CD Eject Button: Press to eject CD.

E—Display: Shows current audio activity/information.

F—Menu Button: Access menu for basic settings. When phone is in use, press to end call

G—Multi-Function Rocker Switch: Use to navigate within display and switch functions. Press left or right to seek up or down to next available station. Press up or down to manually tune frequency and browse folders when using MP3, CD, or USB

H—AUD Button: Press briefly to access audio menu to adjust treble, middle, bass, balance and fade. Press and hold to restore treble, bass and middle back to factory sound setting for currently used audio source. Press and hold to restore balance and fade back to factory sound setting for all audio sources.

Station Buttons 1-6 can be saved as presets. Press and hold to save current station (beep will sound). Press again to bring radio back to saved station. Each station button also has specialized functions as described below.

I—Station Button 6: When CD, MP3, or USB is in use, press to switch between display of elapsed and remaining playing time of current track.

J—Station Button 5/SCRL: When CD, MP3, or USB is in use, press to turn scrolling track information on display on or off.

K—Station Button 4/SCAN: When CD, MP3, or USB is in use, press to play all tracks for approximately 10 seconds each until pressed again.

L—Station Button 3/MIX: When CD is in use, press to play songs at random until pressed again. When MP3 or USB is in use, press to play songs in current playlist at random. Press again to play all songs at random. Press a third time to turn off.

M—Station Button 2/RPT: When CD is in use, press to repeat current track until pressed again. When MP3 or USB is in use, press to repeat track. Press again to repeat all tracks in current playlist. Press a third time to turn off.

N—Station Button 1/Play or Pause Button: When CD, MP3, or USB is in use, press to pause current track. Press again to play.

O—TA Button: Press to switch from user/audio menus to current source, exit radio scan functions, turn priority for traffic announcements on or off, and cancel traffic announcement while in process (Europe only). When USB in use, press and hold to activate playlist mode.

P—SRC Button: Source selection between radio and AUX (also CD, USB and Bluetooth® depending on model) provided medium is inserted or device is connected and turned on.

NOTE: Playlist must be created on computer and saved as *.m3u or *.pls.

Bluetooth is a trademark of Bluetooth SIG

RXA0140976—UN—14APR14

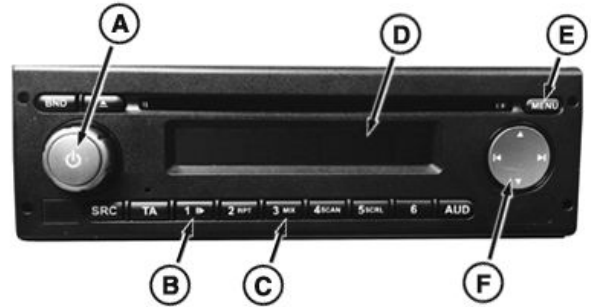
KT81203.00000AA -19-07APR15-1/1

Select Radio Receiver Wave Band

Radio stations cannot be received if correct country-specific wave band is not selected for radio receiver. Select correct wave band:

1. Move key switch into ACC position.
2. Turn OFF radio with ON/OFF button (A).
3. Press and hold ON/OFF button, station button 1 (B) and station button 3 (C) until SETUP appears on display (D).
4. Press menu button (E) until current wave band (e.g. EUROPE, NAFTA, etc) is shown on display. Countries and their associated wave bands are shown in chart.
5. If wave band shown on display is not correct, press multi-function rocker switch (F) left or right until correct wave band is shown.

NOTE: If radio will not store selected wave band, radio may be CommandCenter™ controlled. See your John Deere™ dealer.



Radio Faceplate

A—ON/OFF Button
B—Station Button 1
C—Station Button 3

D—Display
E—Menu Button
F—Multi-Function Rocker Switch

6. Without changing selected wave band, turn radio OFF.

Wave Band	Country		
EUROPE	Austria Belgium Bulgaria Croatia Dutch Denmark England Estonia Finland	France Hungary Italian Lithuania Luxemburg Latvia Netherlands Poland Portugal	Romanian Serbia Slovakia Spain Sweden Switzerland Turkey Ukraine
NAFTA	Canada Dominican Republic	Mexico United States (USA)	
SOTHAMRCA	Argentina Bolivia	Brazil Nicaragua	Uruguay Venezuela
MESTAFRC	Armenia Ethiopian Israel	Guyana Kazakhstan Oman	Russia South Africa Zambia
APAC	China	Japan	Korea
AUSTRNLN	Australian	New Zealand	
TAIWAN	Taiwan		
PHILIPIN	Philippines		

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John Deere is a trademark of Deere & Company

KT81203,0000149 -19-20MAY14-1/1

Turn Confirmation Beep On/Off (BEEP)

After certain actions (e.g. pressing and holding button) confirmation beep sounds. Confirmation beep can be turned on or off.

1. Press MENU button, on radio faceplate, until BEEP and current setting ON or OFF are displayed.

2. Turn volume control knob counterclockwise or clockwise to change from ON to OFF or vice versa.
3. Press MENU button several times to exit menu.

KT81203,00000FE -19-07APR15-1/1

Adjust Maximum Volume at Power-On (ONVOL)

Maximum volume when turning radio system on can be adjusted in ONVOL menu. Previously selected volume is used at power-on unless it is above setting for maximum volume at power-on. In this case, maximum volume setting is used.

1. Press MENU button, on radio faceplate, until ONVOL and current setting are displayed.
2. Turn volume control knob counterclockwise or clockwise to adjust maximum volume at power-on from 5 to 25.
3. Press MENU button several times to exit menu.

KT81203,00000FF -19-07APR15-1/1

Program Type (PTY)

Besides station name, some FM stations also transmit information on program type. Program types examples include:

- CULTURE
- TRAVEL
- WEATHER
- JAZZ MUSIC
- NEWS
- POP MUSIC

With this function only stations of specific program type can be selected.

When PTY is turned on and PTY scan has been started, the radio automatically changes from current station or from another mode to station of selected program type.

Turn PTY On/Off

1. Select radio mode.
2. Press MENU button, on radio faceplate, until PTY ON or PTY OFF is displayed.
3. Turn volume control knob counterclockwise or clockwise to turn PTY on or off.

4. Press MENU button several times to exit menu.

Select program type

NOTE: PTY must be turned on.

1. Select radio mode.
2. Press MENU button, on radio faceplate, several times until **PTYTYPE** is displayed.
3. Turn volume control knob counterclockwise or clockwise to select program type.
4. Press MENU button several times to exit menu.

Start PTY scan

NOTE: PTY scan is only available if PTY is turned on and AUTOSEEK or BANDSCAN is selected for ◀ and ▶ keys in KEY PRG menu (see Set Key Function (KEY PRG) in this section of this Operator's Manual).

1. Press ◀ or ▶ button, on radio faceplate, to start scanning.
2. If station of currently selected program type is found, it will be tuned to station.
3. If no station of this program type is found, previously selected station remains on.

KT81203,0000100 -19-07APR15-1/1

Treble Reduction During Interference (HCUT)

HCUT function improves sound when radio reception is poor. If interference with reception is present, level of interference noise is automatically reduced.

1. Select radio mode.

2. Press MENU button, on radio faceplate, until HCUT and current setting OFF, 1 or 2 are displayed.
3. Turn volume control knob counterclockwise or clockwise to adjust or turn off HCUT.
4. Press MENU button several times to exit menu.

KT81203,0000101 -19-07APR15-1/1

Set Key Function (KEY PRG)

Functions can be assigned to ◀ and ▶ buttons.

Possible key functions	Description
AUTOSEEK	Automatic search for next receivable station
MANSEEK	Manual frequency change in increments
PRSTSCAN	Scanning of stations stored on currently selected memory level
BANDSCAN	Scanning of stations receivable in currently selected wave band

Set key function

1. Select radio mode.
2. Press MENU button, on radio faceplate, until KEY PRG is displayed.
3. Turn volume control knob counterclockwise or clockwise to change between different settings (see table).
4. Press MENU button several times to exit menu.

KT81203,0000102 -19-07APR15-1/1

Traffic Information

NOTE: Traffic information functions are not available in NAFTA countries.

This function is not available on Premium Radio for North America.

This function is available in CD and AUX modes, only if the FM wave band is selected in radio mode.

Turn traffic information priority ON/OFF

Press TA button to turn traffic information priority on or off for all modes.

Traffic information priority is activated if TA or TP is displayed. When traffic announcement is received, CD and other outputs are interrupted and radio system switches to traffic announcement. TRAFFIC is displayed for duration of announcement.

- Alarm sounds regardless of playback source when leaving transmission range of station broadcasting traffic information and automatic scan does not find alternative station with traffic information.
- Alarm also sounds when changing from station with traffic information to station without traffic information.

In both cases, either turn traffic information priority off or tune into station that broadcasts traffic announcements.

Set volume increase for traffic announcements

Based on currently selected volume, volume for traffic announcements can be increased.

1. Press MENU button, on radio faceplate, several times until TA DIFF and current setting are displayed.
2. Turn volume control knob counterclockwise or clockwise to adjust value from DIFF 0 to DIFF 10. The numbers represent volume increase in relation to selected volume.
3. Press MENU key several times to exit menu.

NOTE: While traffic announcement is broadcasting, volume can be adjusted for duration of announcement using volume control.

Cancel traffic announcements

Press TA button to cancel ongoing traffic announcement and return to previous output source. Traffic information priority will remain on.

KT81203,0000107 -19-07APR15-1/1

External Sources (Premium Radio)

External audio sources can be connected using convenience port located on right-hand console/storage tray. Sources can also be connected using Bluetooth® functions. Use ports to charge certain external audio sources. Examples of external audio sources include portable CD player, MiniDisc player, or MP3 player.

NOTE: Charging some external audio sources, such as smart phones and tablets, via audio USB port is not supported. Attempting to charge device that is not supported may shut off USB port. Device must be removed and cycle radio power to recover.



Auxiliary and USB Input

RXA0143013—UN—03JUL14

Activate AUX Input

NOTE: External audio source can only be selected if audio device is connected to external AUX input.

Connect external audio source using Auxiliary Input (A) and press SRC button several times until AUX is displayed on radio.

Activate USB Input

NOTE: USB audio source can only be selected if USB device is connected to external USB input.

Connect USB audio source using USB Input (B) and press SRC button several times until USB is displayed on radio.

Adjust AUX Input Volume

Volume for connected external audio source can be adjusted using radio volume knob after input is selected as audio source using SRC button.

1. Press SRC button several times until installed audio source is displayed.
2. Press MENU button. GAIN and current setting is displayed.
3. Turn volume control knob counterclockwise or clockwise to adjust value from -9 to +9.
4. Press the MENU button several times to exit the menu.

Set Up Bluetooth®

Following steps must be performed before Bluetooth® can be used:

NOTE: Bluetooth® connection only relevant to devices/external audio sources which are Bluetooth® enabled.

*Bluetooth is a trademark of Bluetooth SIG
CommandCenter is a trademark of Deere & Company*

A—Auxiliary Input

B—USB Input

NOTE: While pairing Bluetooth® device to radio, pairing process cancels if changes are made to radio (ex: changing source or frequency).

1. Enable Bluetooth® on device.
2. Press MENU button, on radio faceplate until BT MODE displays.
3. Wait 2 seconds until BT ON or BT OFF. Turn volume control knob clockwise or counterclockwise to turn Bluetooth® on or off. Display window may take up to 5 seconds to change.
4. Press MENU button until display shows CON-TYPE. Select connection type phone/audio (default).
5. To pair device, press MENU button until BT Pair displays.
6. Enter pin provided into device.

Pairing process may take up to 5 minutes to complete. Bluetooth® symbol flashes while pairing takes place. When device/external audio source is successfully paired, phone calls and audio streaming can be received and placed via radio system. Device information (contact information, call history, music, etc) does not transfer to CommandCenter™.

For further instructions on how to pair device/external audio source, select source for connection, and transfer data, see Pairing Bluetooth® Device—On Generation 4 CommandCenter™ on the CommandCenter™ page in this section of this Operator's Manual.

TO84419,0000085 -19-13APR15-1/1

Select Radio Source with Generation 4 CommandCenter™

Use radio source tabs on Generation 4 CommandCenter™ to select radio source.

When radio is on, radio page navigates to home page of current source selected. When radio is off, content blocker displays.

NOTE: Selecting radio source will not turn radio on. Turn radio on by pressing ON/OFF button on radio faceplate.

To access audio main page, use Audio Shortcut Button on Navigation Bar or follow alternative path:

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **Audio icon**.
4. Select desired radio source.

A—FM, MW, and LW Tab
B—CD/MP3 Tab (Premium Radio Only)
C—USB Tab (Premium Radio Only)

D—Bluetooth® Audio Tab (Premium Radio Only)
E—AUX Tab

RXA0133718 —UN—16JUL13

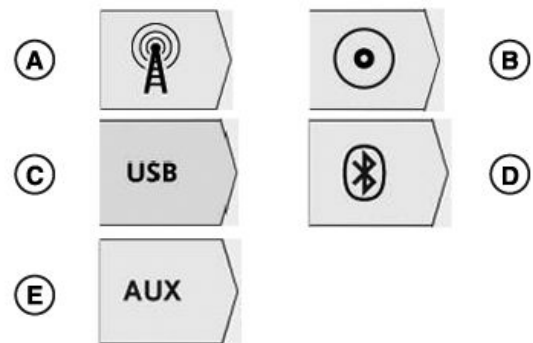


Audio Shortcut Button on Navigation Bar

RXA0147929 —UN—13APR15



Menu → Machine Settings Tab → Radio Icon



Source Select Tabs

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Bluetooth is a trademark of Bluetooth SIG

RXA0132527 —UN—17MAY13

KT81203,0000038 -19-14APR15-1/1

FM, MW, LW Home Page

NOTE: Refer to Select Radio Source with Generation 4 CommandCenter™ in this section of this Operator's Manual, to learn how to navigate to FM/MW/LW home page.

A—Display Area: Displays current radio activity/information.

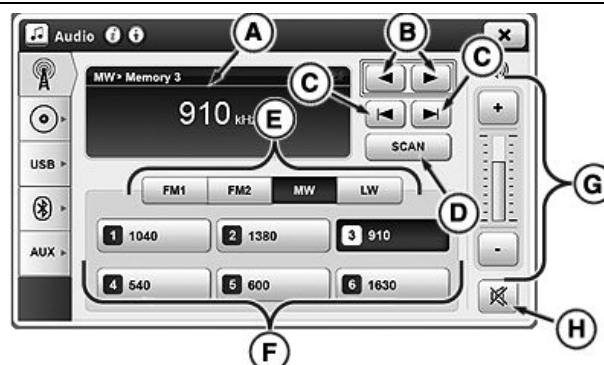
B—Manually Seek Forward/Back: Select to manually seek to next available station. Each time button is pressed, radio frequency increases or decreases by standard increment.

C—Next/Previous Station: Select to seek next available station before or after current station.

D—Scan Button: Select to cycle through available stations. Each station broadcasts for 5 seconds before moving to next station. Cycle will end if returns to original station or by selecting button again.

E—FM/ LW/MW Button Bar: Cycle through channel presets using toggle bar (FM1, FM2, MW, LW).

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FM, MW, LW Home Page

F—Presets: Six presets can be programmed to FM1, FM2, MW and LW banks. To change FM1, FM2, MW and LW presets, press preset for 3 seconds, while on desired station, until "beep" sounds. Press again to tune radio to saved station.

G—Volume Adjustment: Adjust volume.

H—Mute: Silence sound.

KT81203,0000039 -19-10JUL14-1/1

Premium Radio CD Home Page (If Equipped)

NOTE: Refer to Select Radio Source with Generation 4 CommandCenter™ page, in this section of this Operator's Manual, to learn how to navigate to CD home page.

A—Display Area: Displays current CD activity/information.

B—Next/Previous Track: Select to skip back to beginning of current track or ahead to beginning of next track. Press previous button twice to skip to previous track.

C—Play/Pause: Play or pause track.

D—Volume Control: Adjust volume.

E—Mute: Silence sound.

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CD Home Page

KT81203,000003A -19-10JUL14-1/1

Premium Radio USB Home Page (If Equipped)

NOTE: Refer to *Select Radio Source with Generation 4 CommandCenter™* in this section of this Operator's Manual, to learn how to navigate to USB home page.

Connect USB using USB input, located on right-hand console/storage tray, to play stored music. For more information, refer to External Sources—Using Premium Radio page in the section of this Operator's Manual.

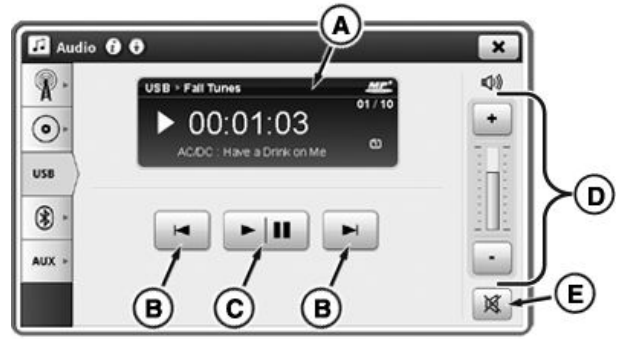
A—Display Area: Displays current USB activity/information.

B—Next/Previous Track: Skip back to beginning of current track or ahead to beginning of next track. Press previous button twice to skip to previous track.

C—Play/Pause: Play or pause track.

D—Volume Controls: Adjust volume.

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USB Home Page

E—Mute: Silence sound.

RXA0132530 —UN—28JUN13

KT81203,000003C -19-10JUL14-1/1

Premium Radio Bluetooth® Home Page (If Equipped)

NOTE: Refer to *Select Radio Source with Generation 4 CommandCenter™* page, in this section of this Operator's Manual, to learn how to navigate to Bluetooth® home page.

Connect Bluetooth® enabled device to play stored music.

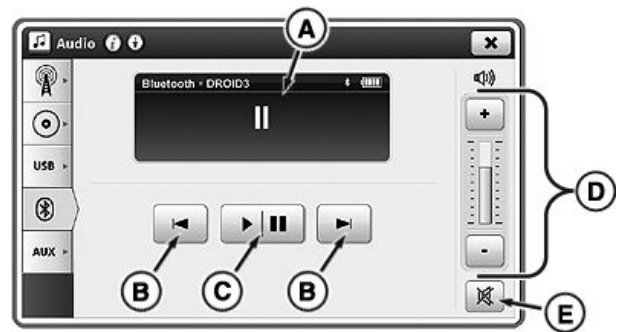
Radio system is equipped with Bluetooth®, which allows data transfer between radio system and paired close-range Bluetooth® device such as cell phone. Music stored on device does not transfer to CommandCenter™

A—Display Area: Displays current Bluetooth® activity/information.

B—Next/Previous Track: Skip back to beginning or ahead to beginning of next track. Press previous button twice to skip to previous track.

C—Play/Pause: Play or pause track.

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Bluetooth is a trademark of Bluetooth SIG



Bluetooth® Home Page

NOTE: Not all devices support pause function. Devices may mute sound, but not pause play.

D—Volume Adjustment: Adjust volume.

E—Mute: Silence sound.

RXA0132549 —UN—28JUN13

KT81203,000003D -19-10JUL14-1/1

Auxiliary Home Page

NOTE: Refer to *Select Radio Source with Generation 4 CommandCenter™* page, in this section of this Operator's Manual, to learn how to navigate to Auxiliary home page.

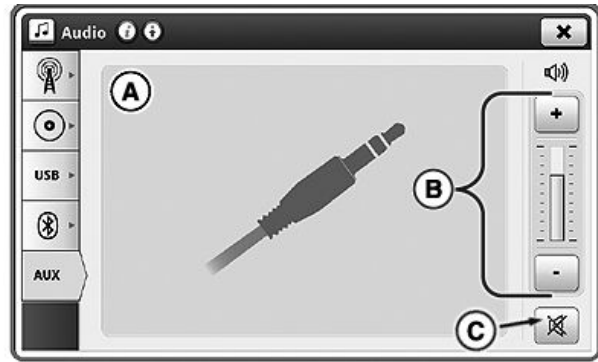
Connect USB using USB input, located on right-hand console/storage tray, to play stored music. For more information, refer to External Sources (Premium Radio) page in the section of this Operator's Manual.

A—Display Area: Displays image shown. Activity/information displays on external device only, not on CommandCenter™ display.

B—Volume Adjustment: Adjust volume.

C—Mute: Silence sound.

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Auxiliary Home Page

RXA0132550—UN—28JUN13

KT81203,000003E -19-10JUL14-1/1

Pair Bluetooth® Device to Generation 4 CommandCenter™

Radio system is equipped with integrated Bluetooth®, which allows data transfer between radio system and paired close-range Bluetooth® device such as cell phone.

NOTE: Enable Bluetooth® mode on device before trying to pair device to radio. Not ALL devices are able to use Bluetooth® feature on radio.

NOTE: Once Bluetooth® pairing process has been initiated, changes to radio (ex: changing source or frequency) causes pairing to cancel.

To access phone main page, use Phone Shortcut Button on Navigation Bar or follow alternative path:

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **Phone icon**.
4. Enable Bluetooth® mode on device.
5. Select Pair Device button (A) to start pairing process.
6. Enter pairing code displayed in Pairing Code box (B) into device. Pairing process begins immediately.

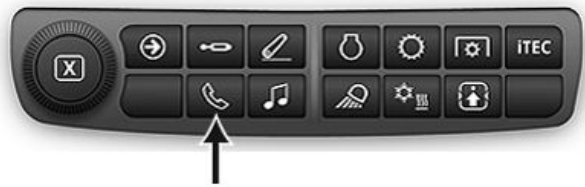
Once device is connected successfully, “**Pairing Complete**” is displayed. Up to five device pairings can be stored in radio's Bluetooth® feature. To learn about managing stored devices, see Manage Bluetooth® Devices in this section of this Operator's Manual.

Phone book does not appear on CommandCenter™ display.

A—Pair Device Button

B—Pairing Code Box

RXA0133719 —UN—16JUL13



Phone Shortcut Button on Navigation Bar

RXA0147930 —UN—13APR15



Menu → Machine Settings Tab → Phone Icon



Pair Device Page



Pairing Code Page

RXA0132157 —UN—28JUN13

RXA0137741 —UN—13DEC13

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TO84419,0000090 -19-14APR15-1/1

Manage Paired Bluetooth® Devices (If Equipped)

Use phone advanced settings to connect devices paired to radio or add new devices to paired list.

1. Select **Phone Shortcut button on Navigation Bar**.
2. Select **Advanced Settings icon**.
3. Select **Settings tab**.
4. Select **Manage Devices button (A)**.
5. Choose desired device from list of paired devices and select **Connect Device button (B)**.
6. Select **Add New Device button (C)** to pair new Bluetooth® device.

Up to 5 device pairings can be stored in radio's Bluetooth® feature. To learn more about pairing devices, see *Pair Bluetooth® Device to Generation 4 CommandCenter™* in this section of this Operator's Manual.

A—Manage Devices Button
B—Connect Device Button

C—Add New Device Button

RXA0133719 —UN—16JUL13

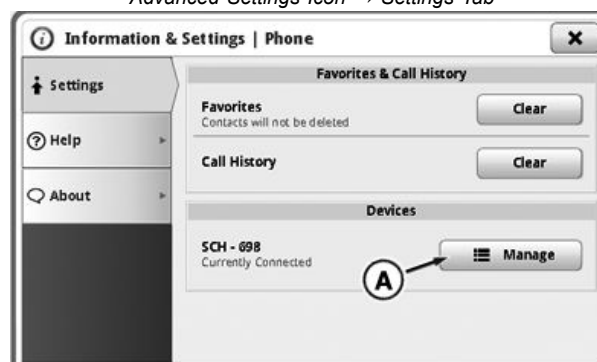


Phone Shortcut Button on Navigation Bar

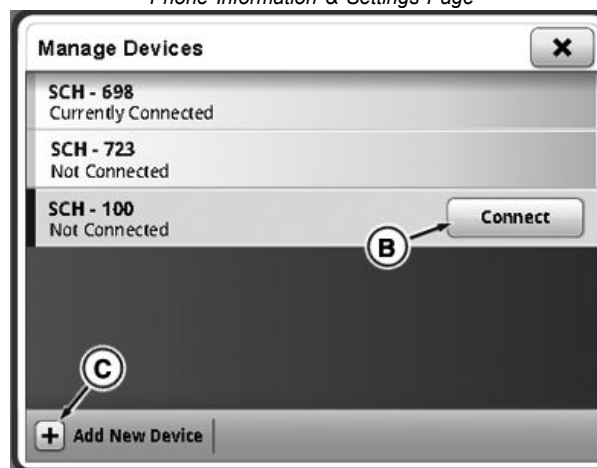
RXA0147944 —UN—13APR15



Advanced Settings Icon → Settings Tab



Phone Information & Settings Page



Manage Devices Page

RXA0147734 —UN—30MAR15

RXA0147733 —UN—30MAR15

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KT81203,0000215 -19-23APR15-1/1

Phone Operation

Use Bluetooth® capability to make or receive phone calls from paired Bluetooth® enabled cell phone. For more information on how to pair Bluetooth® enabled device see Pair Bluetooth® Device—Generation 4 CommandCenter™ in this section of this Operator's Manual.

Press Phone Shortcut button on Navigation Bar or follow alternative path:

1. Select **Menu**.
2. Select **Machine Settings tab**.
3. Select **Phone icon**.

NOTE: Phone options A, B, C and E are not available during call. Use cell phone if another number is needed.

Phone controls on this page are disabled while device is syncing with radio.

A—Input Box: Displays typed digits.

B—Backspace Button: Cancel typed digit. Press and hold to cancel multiple digits.

C—Dial Pad: Enter phone number using number buttons.

D—Dial Pad Tab: Press to display dial pad during phone call.

NOTE: Favorites are stored permanently and can be viewed by any operator. Clear favorites before leaving tractor, if necessary. For more information, see Clear Favorites and Call History in this section of this Operator's Manual.

E—Favorites Button: View/edit favorites contacts.

F—Recent Button: Review previous missed calls, incoming calls or outgoing calls.

G—Volume Control: Adjust volume.

H—Mute Button: Mutes microphone.

I—Battery Icon: Displays battery life.

J—Signal Icon: Displays current phone signal strength.

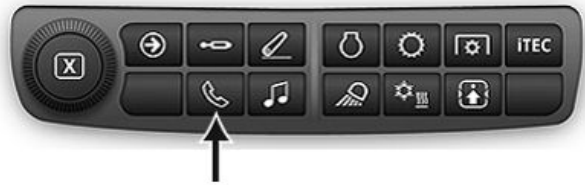
K—Bluetooth® Icon: If blue, Bluetooth® device is connected. If grayed out, Bluetooth® device is not connected.

L—Call Button: After dialing or selecting number, press to begin call.

M—Privacy Mode Button: Transfers phone audio from cab speakers to phone speakers during call.

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RXA0133719 —UN—16JUL13



Phone Shortcut Button on Navigation Bar

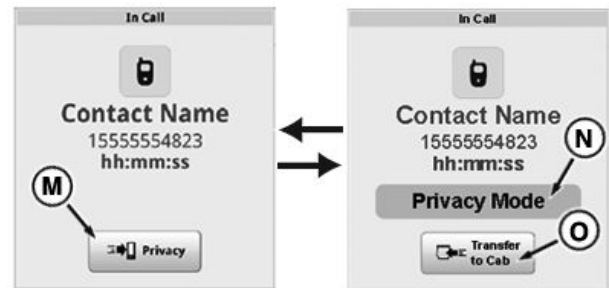
RXA0147930 —UN—13APR15



Menu → Machine Settings Tab → Phone Icon



Phone Home Page



Privacy Mode

N—Privacy Mode Message: Displays when call has entered privacy mode.

O—Transfer to Cab Button: Exits privacy mode and transfers phone audio from phone speakers to cab speakers

RXA0137742 —UN—11DEC13

RXA0147774 —UN—30MAR15

TO84419,000008D -19-14APR15-1/1

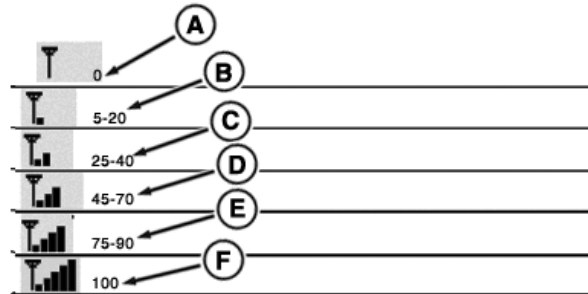
Phone Signal Strength and Battery Charge

Cell phone signal strength is represented by phone signal strength bars (A-F). Signal strength ranges from no signal (A) to 100 percent signal strength (F).

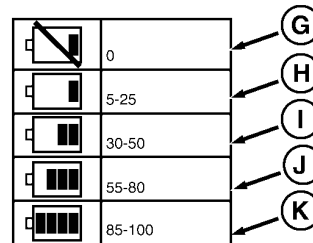
Cell phone battery charge is represented by phone battery charge bars (G-K). Battery charge ranges from no battery charge (G) to 85-100 percent battery charge (K)

- A—No Signal
- B—5-20 Percent Signal Strength
- C—25-40 Percent Signal Strength
- D—45-70 Percent Signal Strength
- E—75-90 Percent Signal Strength
- F—100 Percent Signal Strength

- G—No Battery Charge
- H—5-25 Percent Battery Charge
- I—30-50 Percent Battery Charge
- J—55-80 Percent Battery Charge
- K—85-100 Percent Battery Charge



Signal Strength Display



Battery Charge Displays

RXA0121552 —UN—31OCT11

RXA0121554 —UN—31OCT11

KT81203,0000213 -19-08APR15-1/1

Contact List

1. Select **Menu**.
2. Select **Machine Settings tab**.
3. Select **Phone icon**.
4. Select **Favorites button**.

NOTE: Device's phone book synchronizes with radio, not CommandCenter™. Contacts must be added and edited manually on display.

Maximum number of phone numbers that can be stored in CommandCenter™ is 25. Maximum number of characters in phone number is 21.

NOTE: Favorites are stored permanently and can be viewed by any operator. Clear favorites before leaving tractor, if necessary. For more information, see *Clear Favorites and Call History* in this section of this Operator's Manual.

A—Favorite List: List of available contacts.

B—Add Favorite Button: Select to add contact manually

C—Edit Favorite Button: Select to edit current contact.

D—Delete Button: Select to delete contact from favorites.

E—Call Button: Select to call currently selected contact.

F—Scroll Bar: Select to scroll up or down.

G—Edit Favorite First Name: Select to edit first name.

H—Edit Favorite Last Name: Select to edit last name.

I—Edit Favorite Phone Number: Select to edit phone number.

J—Mobile Phone Button: Select to list contact information under mobile phone.

K—Home Phone Button: Select to list contact information under home phone.

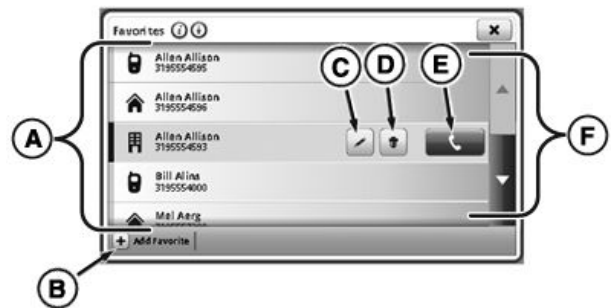
L—Work Phone Button: Select to list contact information under work phone.

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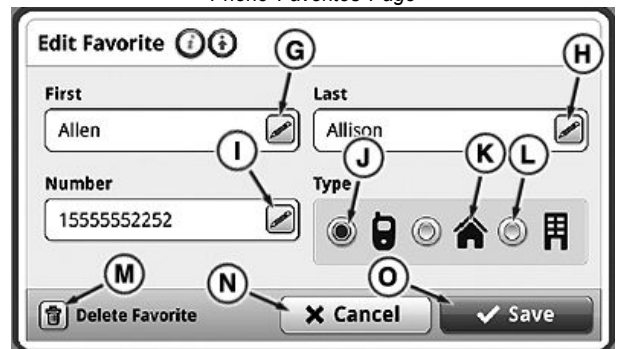
RXA0147931 —UN—13APR15



Menu → Machine Settings Tab → Phone Icon → Favorites Button



Phone Favorites Page



Edit Favorite Page

M—Delete Favorite Button: Select to delete contact.

N—Cancel Button: Select to cancel edits.

O—Save Button: Select to save edits.

RXA0132498 —UN—28JUN13

RXA0132499 —UN—28JUN13

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Recent Calls

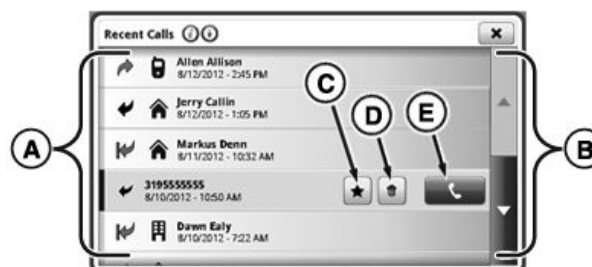
RXA0147933 —UN—13APR15

Review previous missed, incoming or outgoing calls placed or received through CommandCenter™.

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **Phone icon**.
4. Select **Recent** button.



Menu → Machine Settings Tab → Phone Icon → Recent Button



Recent Calls Page

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TO84419,000008F -19-14APR15-1/1

RXA0132556 —UN—28JUN13

Clear Favorites and Call History

Use phone advanced settings to clear favorites and call history. Contacts will be cleared on CommandCenter™ display only, not on phone.

1. Select **Phone Shortcut** button on **Navigation Bar**.
2. Select **Advanced Settings** icon.
3. Select **Settings** tab.
4. Press clear favorites button (A) to erase favorites. Phone contacts will not be deleted.
5. Press clear call history button (B) to erase call history.

A—Clear Favorites Button

B—Clear Call History Button

RXA0133719 —UN—16JUL13

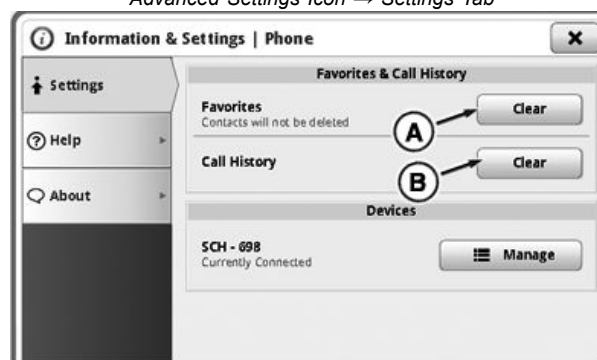


Phone Shortcut Button on Navigation Bar

RXA0147944 —UN—13APR15



Advanced Settings Icon → Settings Tab



Phone Information & Settings Page

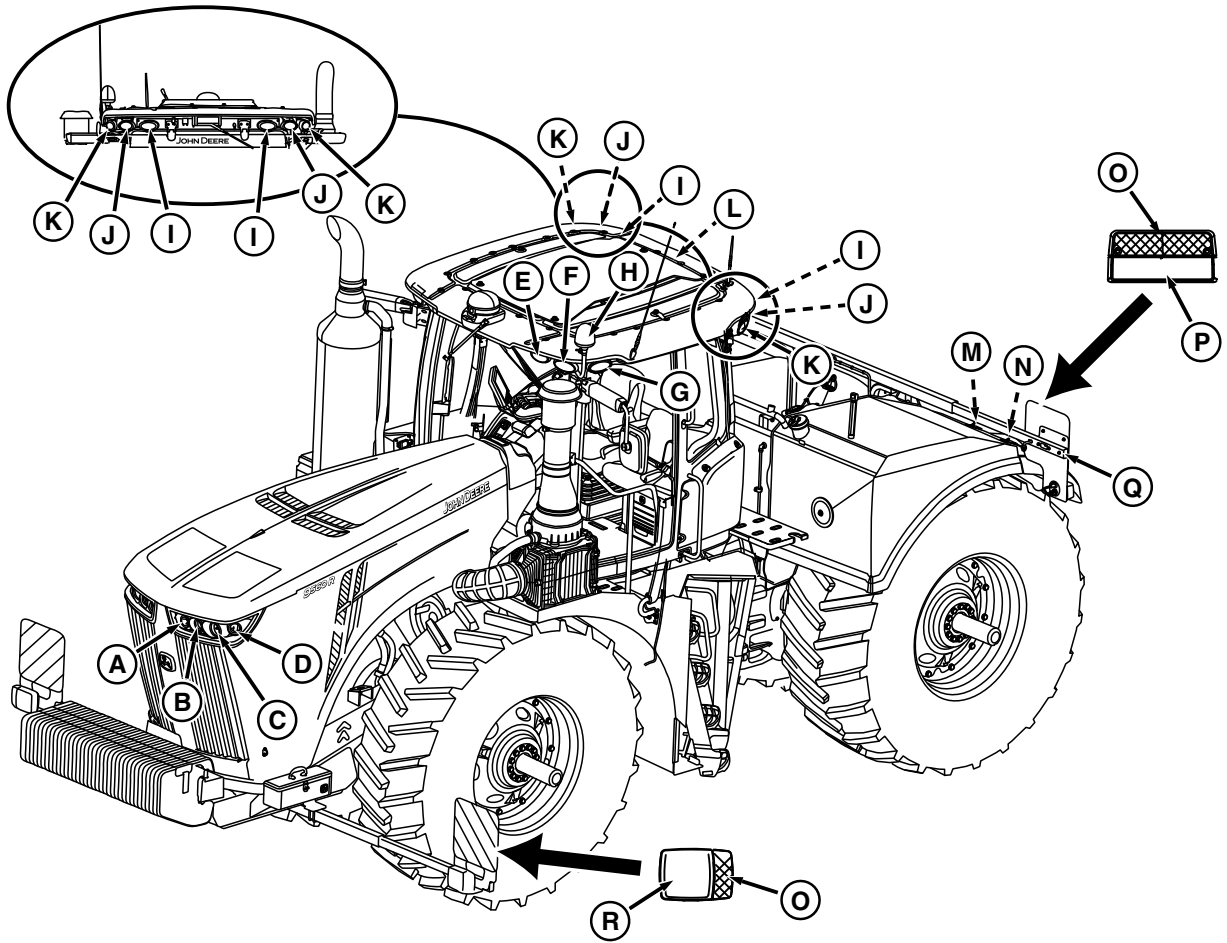
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RXA0147732 —UN—30MAR15

Lights

Light Identification



A—Inner Hood Lights
 B—Low Beam Hood Lights
 (Usable only as Work Lights)
 C—High Beam Hood Lights
 (Usable only as Work Lights)
 D—Outer Hood Lights

E—Front Inner Roof Lights
 F—Front Outer Roof Lights
 G—Front Side Roof Lights
 H—Rotary Beacon Lights (If
 Equipped)
 I—Rear Inner Roof Lights

J—Rear Outer Roof Lights
 K—Rear Side Roof Lights
 L—License Plate Lights
 M—Rear Inner Fender Lights
 N—Rear Outer Fender Lights

O—Amber Lens
 P—Red Lens
 Q—Red Tail/Brake Lights
 R—Road (Low and High
 Beam)/Clearance Lights

All lights are same on both sides of tractor, except rotary beacon (H) in Deluxe and Premium lighting packages and grill mounted center work lights (A) in Premium lighting

package. In Premium lighting package, right grill mounted center work light is Halogen or LED (depending on option).

SV81855,00000CE -19-15,JUL14-1/1

091515
 RXA0141735 —UN—17 JUL 15

Configurable Lights

CAUTION: Avoid injury or death caused by accidental collision with another vehicle. Always comply with traffic regulations when driving tractor on a road. Dim Road Lights to low-beam for oncoming vehicles. Avoid using Field Light position which could blind or confuse other drivers.

Promptly replace or repair damaged or lost lighting devices. See your John Deere™ dealer.

To access lights page, use Lights Shortcut Button on Navigation Bar or follow alternative path:

1. Select **Menu**
2. Select **Machine Settings** tab.
3. Select **Lights** icon.

When Lights page is displayed, operator can select left side tabs (A-F).

NOTE: Lights page will temporarily show when selector knob transitions from OFF position to the road lights or field lights position.

- A—Field 1 Low Beam**
- B—Field 1 High Beam**
- C—Field 2 Low Beam**
- D—Field 2 High Beam**
- E—Exit Lighting**
- F—Hood/Beltline Light (If Equipped)**

Following buttons can be used by operator to configure lights.

G—Linked Lights: Lights linked or paired together that can be unlinked.

H—Unlinked Lights: Unlinked light pair that can be linked.

I—Paired Lights: Light pair that is always linked.

J—Exit Light Timeout: Allows operator to select how long selected lights remain ON after light selector knob is turned to OFF position.

K—Link/Unlink: Press toggle to link and unlink lights on all pages.

L—Hood/Loader Road Light Toggle: Press to toggle road lights between hood and loader lights position. Feature is only available when light knob is in road mode and tractor is equipped with hood/beltline lights.

M—Implement Lights: Press to activate implement lights. Implement light button only available if there are no fender

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CommandCenter is a trademark of Deere & Company*

RXA0133717 —UN—16JUL13

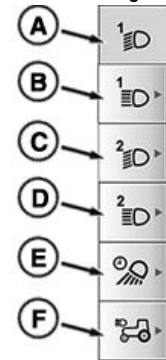


Lights Shortcut Button on Navigation Bar

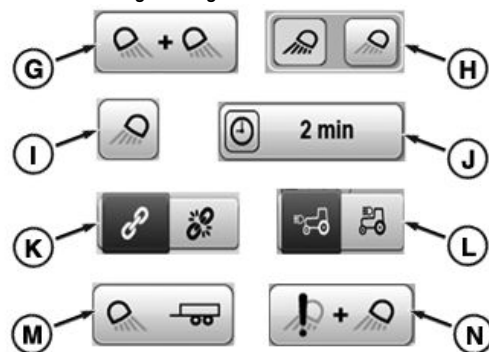
RXA0147934 —UN—13APR15



Menu → Machine Settings Tab → Lights Icon



Lights Page Selection Tabs



CommandCenter™ Light Controls

work lights. If there are fender work lights, implement lights will be controlled by fender work lights button.

N—Light with Fault: Exclamation point indicates light is in error. (i.e. light bulb is burnt out.)

RXA0137115 —UN—05DEC13

RXA0137114 —UN—05DEC13

TO84419,0000093 -19-15APR15-1/1

Steering Column Light Controls

CAUTION: Avoid injury or death caused by accidental collision with another vehicle. Always comply with traffic regulations when driving tractor on a road. Dim Road Lights to low-beam for oncoming vehicles. Avoid using Field Light position which could blind or confuse other drivers.

Promptly replace or repair damaged or lost lighting devices. See your John Deere™ dealer.

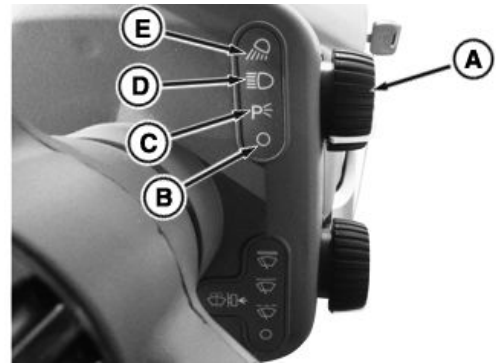
Control lights by using Selector Knob (A) on the steering column. Display indicates lighting mode selected (B-E).

A—Selector Knob: Turn knob to OFF, parking lights, road lights, or field lights position.

B—OFF Position: Use selector knob to turn lights OFF.

C—Parking Lights Position: Use selector knob to turn ON parking lights.

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Steering Column Light Switch

D—Road Lights Position: Use selector knob to turn road lights ON.

E—Field Lights Position: Use selector knob to turn field lights ON.

RXA0142298 — UN—09JUN14

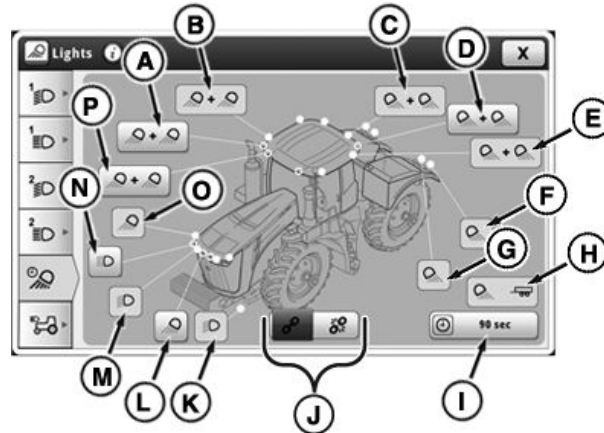
SV81855,00000EA -19-10JUN14-1/1

Exit Lights

RXA0147935 —UN—13APR15



Menu → Machine Settings Tab → Lights Icon → Exit Lighting Tab



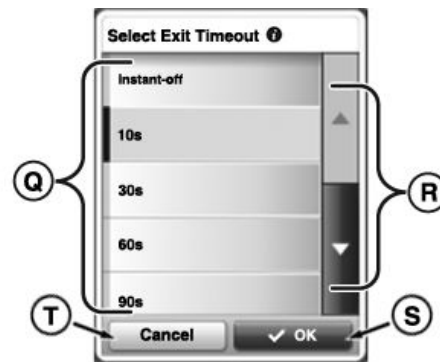
Exit Lights Page

Programming delay lighting allows operator to select which lights will remain on and for how long they will remain on after light selector knob is turned to OFF position.

Field exit lighting is all lights chosen on exit lighting page and will be activated for time selected for Exit Timeout. Field exit lighting will be enabled when light switch has been in “Field” position for at least 10 seconds during the current key switch cycle. Field exit lighting will then be activated when light switch and key switch are turned off. The order which the light switch and key switch are turned off do not matter.

Road exit lighting is all lights chosen on exit lighting page and will be activated for time selected for Exit Timeout. Road exit lighting will be enabled when light switch has been in “Road” position for at least 10 seconds during the current key switch cycle. Road exit lighting will then be activated when light switch and key switch are turned off. The order which the light switch and key switch are turned off do not matter.

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **Lighting** icon.
4. Select **Exit Lighting** tab
5. Select desired lights and deselect unwanted lights. Use Link/UnlinkToggle (J) if operator wishes to select a set (link) or only select the right or left light in a set (unlink) where applicable. Lights F-G and K-O are always linked and will always select both the left and right lights.
6. Select Exit Light Timeout button (I).
7. When options appear, select desired time intervals (Q) before lights automatically turn OFF and select OK button (S).



Exit Timeout Selection

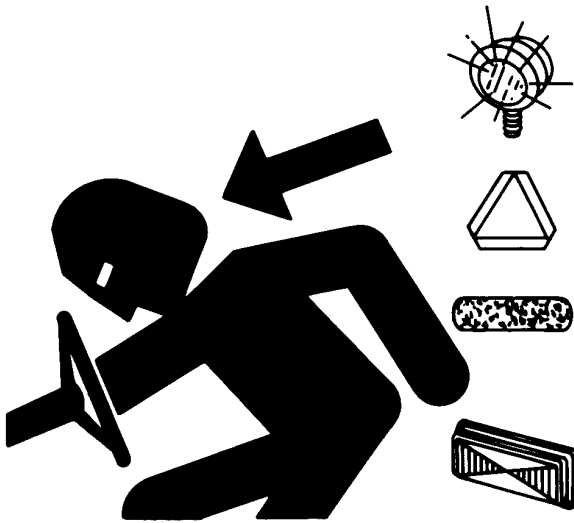
- | | |
|-------------------------------------|---|
| A—Front Outer Roof Lights Button | K—Road (Low and High Beam)/Clearance Lights Button (European tractors only) |
| B—Front Side Roof Lights Button | L—Inner Hood Lights Button |
| C—Rear Inner Roof Lights Button | M—Low Beam Hood Lights Button |
| D—Rear Outer Roof Lights Button | N—High Beam Hood Lights Button |
| E—Rear Side Roof Lights Button | O—Outer Hood Lights Button |
| F—Rear Outside Fender Lights Button | P—Front Inner Roof Lights Button |
| G—Rear Inner Fender Lights Button | Q—Time Selection Interval List |
| H—Implement Lights Button | R—Scroll Bar |
| I—Exit Light Timeout Button | S—OK Button |
| J—Link/Unlink Toggle | T—Cancel Button |

SV81855,00000DB -19-23APR15-1/1

RXA0142960 —UN—08JUL14

RXA0142961 —UN—25JUN14

Operate Turn Signals and High/Low Beam



A—Turn Signal Lever

CAUTION: Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from rear, especially in turns, and use turn signal lights.

Use headlights and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere™ dealer.

NOTE: When turn signal is activated, a short audible chirping sound will be heard.

Turn Signals:

Push turn signal lever (A) up for right turn, or pull down for left turn. Return lever to center position after completing turn.

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Self Canceling Turn Signals:

NOTE: Self canceling turn signals are only available depending on region and installed equipment.

Push turn signal lever (A) up or pull down for less than one second. Return lever to center position. Selected turn signal will continue to flash until timed out or the same turn signal is activated again.

Tractors without trailers	Tractor with one trailer	Tractor with two trailers
50 m (164 ft)	70 m (230 ft)	90 m (295 ft)

High/Low Beam:

Push lever (A) forward to activate high beam headlights; high beam indicator comes on. Pull lever into center position to operate low beam. Pull lever toward you and release to momentarily activate high beams.

Dim road lights to low beam for oncoming vehicles.

RXA0135756 —UN—01OCT13

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Safety Lights and Devices

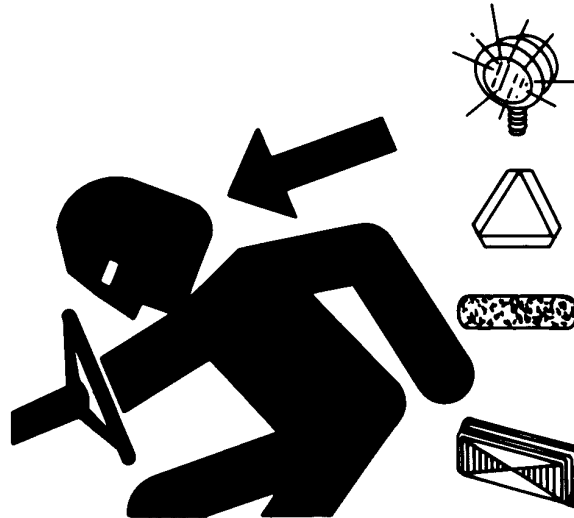
CAUTION: Avoid injury or death caused by collision with another vehicle, always operate flashing lights when traveling on highway or public roads, except where prohibited by law.

Always use road lights and transport warning lights when operating tractor on road or highway at night OR during the day. Extremity Transport Lights alert other vehicles of your extended width. Use flashing warning lights and turn signals day and night. Follow local laws and regulations for equipment lighting and marking.

While operating tractor on public roadways or highways, day or night:

- Turn on flashing warning lights, except where prohibited by law.
- Turn on headlights by selecting Road Lights position of light selector knob.
- Dim headlights for oncoming vehicles.
- Frequently check for traffic approaching from rear.
- Always use turn signals when turning.
- DO NOT use Field Light position of light selector knob.
- Make sure Slow Moving Vehicle (SMV) emblem is installed and visible.

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- Make sure all lighting and marking devices are functional and clean.
- Comply with all traffic regulations.
- Promptly replace or repair damaged or lost lighting devices. Implement lighting kit is available from your John Deere™ dealer.

TS951—UN—12APR90

LT63082,0000143 -19-08MAY14-1/1

CommandARM™ Light Buttons

NOTE: Field Lights must be adjusted using Generation 4 CommandCenter™ display.

Operator can control beacon (A), hazard (B), and field lights (C) from the CommandARM™ rather than from display screens. When lights are on, an LED light will be lit up. When off, the LED light will be dark. Field Lights button (C) has two LED lights one for Field Lights 1 and one for Field Lights 2. Appropriate LED light will illuminate when selected.

A—Beacon Lights
B—Hazard Lights

C—Field Lights 1 and 2 Toggle Button



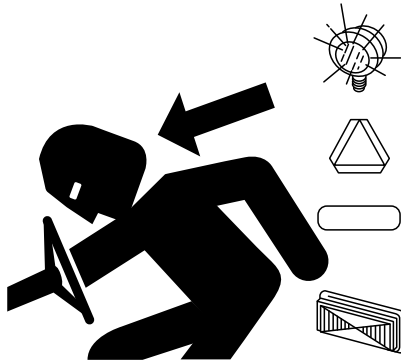
CommandARM™ Buttons

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CommandCenter is a trademark of Deere & Company

RXA0142355—UN—10JUN14

KT81203,000000B -19-10JUN14-1/1

Hazard Lights and Extremity Warning Lights



Use Safety Lights and Devices

CAUTION: To prevent possible personal injury, always operate flashing lights when traveling on highway or public roads, except where prohibited by law.

Extremity Warning lights (F) are needed when tractor width exceeds 3.7 m (12 ft). Always use road lights and transport warning lights when operating tractor on road or highway at night OR during the day. Extremity Warning Lights alert other vehicles of your extended width. Use flashing warning lights and turn signals day and night. Follow local laws and regulations for equipment lighting and marking.

Push Hazard Light button (A) to activate flashing amber hazard lights (B, C, D, E, F and G).

NOTE: Depending on region and installed equipment lights (B, C, D, E, F and G) may not all be available as indicator lights when Hazard Switch is activated.

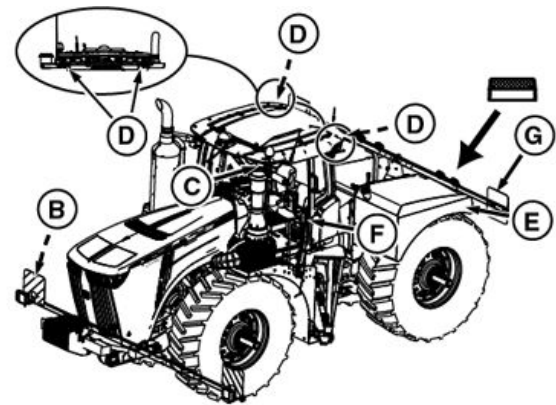
IMPORTANT: To avoid damage, Extremity Warning lights may be retracted when parking tractor in storage building.

Extremity Warning lights operate with Hazard Light button "ON".

Adjust Extremity Warning lights no more than 400 mm (16 in.) from widest point of tractor.



Hazard Light Button



Cab Amber Lights

- A—Hazard Light Button
- B—Road (Low and High Beam/Indicator/Clearance (equipped with Amber Lens) Lights.
- C—Front Outer Roof Indicator Lights
- D—Rear Outer Roof Indicator Lights
- E—Rear Fender Indicator Lights
- F—Extremity Warning Lights
- G—Red Tail/Brake Light

Rotary Beacon Light (If Equipped)

NOTE: If Rotary Beacon light is not installed and Rotary Beacon switch is activated, a Rotary Beacon Diagnostic Trouble Code (DTC) will be generated.

Push Rotary Beacon switch (A) to activate Rotary Beacon light (B).

To protect Rotary Beacon light when not to be used for extended periods of time:

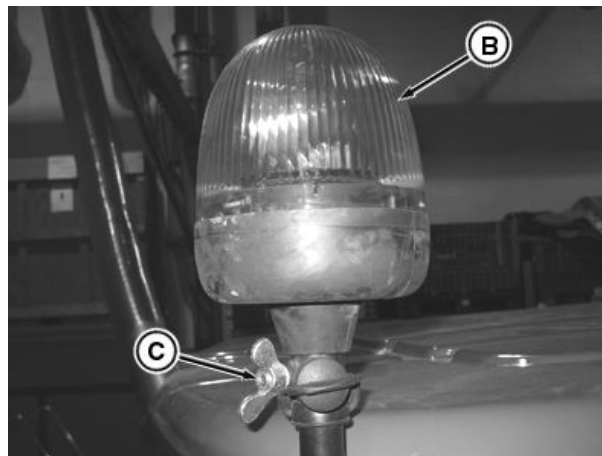
- Loosen nut (C) and remove light assembly.
- Install rubber protective cap (D) on connector.

A—Rotary Beacon Switch
B—Rotary Beacon Light

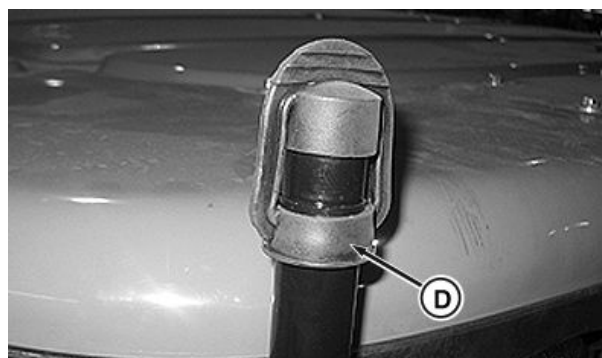
C—Nut
D—Protective Cap



RXA0142357 —UN—10JUN14



RXA0109218 —UN—29JUL10



RXA0100494 —UN—11FEB09

LT63082,0000145 -19-10JUN14-1/1

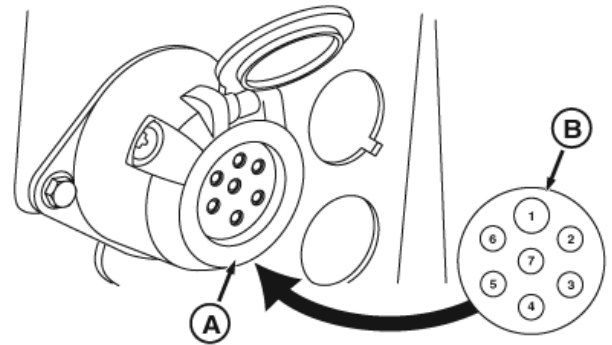
7-Pin Outlet

Rear mounted 7-pin outlet (A) is used to connect lights, turn signals and other remote trailer or implement electrical equipment to tractor electrical system. Always use auxiliary light on towed implement when tractor rear signals and other lights are obscured.

Contact your John Deere™ dealer for information on methods to connect tractor light switch with 7-pin connector accessory wires.

NOTE: Matching 7-pin plug is available through your John Deere™ dealer.

NOTE: Accessory fuse F11 is removed. Some trailers use this connection for fog lights. This can be enabled by inserting a 30 A fuse into F11.



A—7-Pin Outlet

B—Outlet Numbers

Outlet Numbers (B)	Function-Rear Connection	Function-Front Connection
1	Left Turn Lights ^a	Left Turn Lights ^a
2	Accessory	Accessory
3	Ground	Ground
4	Right Turn Lights ^b	Right Turn Lights ^b
5	Right Tail Lights ^c	Right Tail Lights ^c
6	Brake Lights	Not Used
7	Left Tail Lights ^d	Left Tail Lights ^d

^aIncludes left extremity light.

^bIncludes right extremity light.

^cIncludes right front clearance and right extremity clearance lights.

^dIncludes license plate, left front clearance, and left extremity clearance lights.

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SV81855,000007D -19-08MAY14-1/1

RXA0132684 —UN—28MAY13

Operator Station

Cab Classification According to EN 15695-1 (for Application of Crop Protection Chemicals and Liquid Fertilizer) (2010-52-EU)

Cab classification according to EN 15695-1 provides information on effectiveness of protection against harmful substances offered by cab.

Categories 1 to 4 are used for classification and specified on label inside cab.

Replace label if missing or damaged. See your John Deere™ dealer.

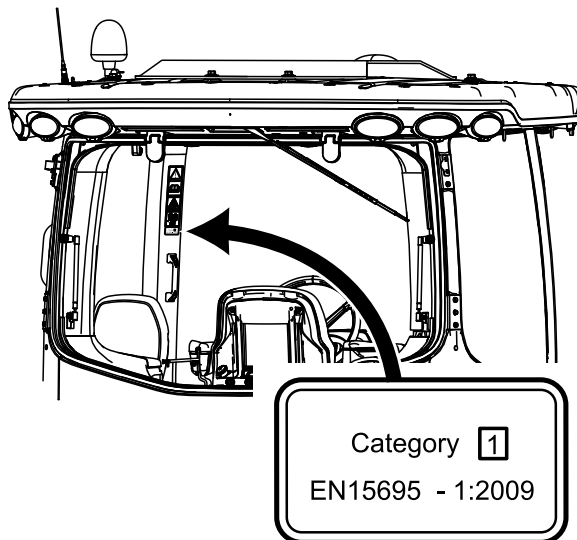
- A** — Category 1 - Cab does not offer any protection against substances which are harmful to health.
- B** — Category 2 - Cab offers protection against solid airborne particles such as dust, but not against aerosols and vapors.
- C** — Category 3 - Cab offers protection against dust and aerosols (liquid airborne substances such as spray), but not against vapors.
- D** — Category 4 - Cab offers protection against dust, aerosols and vapors.

CAUTION: Before working in environment containing hazardous substances, i.e. when using pesticides, check whether cab offers sufficient protection. Refer to product data sheets of spraying liquid manufacturer specifying category required for cab.

CAUTION: In case of category 3 and 4 cabs, find out whether installed filters have been checked according to EN 15695-2:2009 and whether they are suitable for chemical being used (refer to manufacturer's information) before working in an environment containing hazardous substances.

CAUTION: The cab fresh air and recirculation air filters must be serviced as specified.

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RXA0125686 —UN—04APR12

Label Shown for Illustration Purposes Only (May Not Indicate Category of Cab Installed)

See As Indicated or As Required Service, 1000 Hour Service and Annual Service in this Operator's Manual.

CAUTION: Refer to product data sheets and product identification of crop protection chemicals. These contain important information on how to avoid hazards.

The following requirements must be met to offer best protection:

1. All seals (on door, windows and roof) in good condition
2. Doors, windows and roof closed
3. Grommets for cables in cab sealed properly
4. Fan ON
5. Cab air filters in good condition

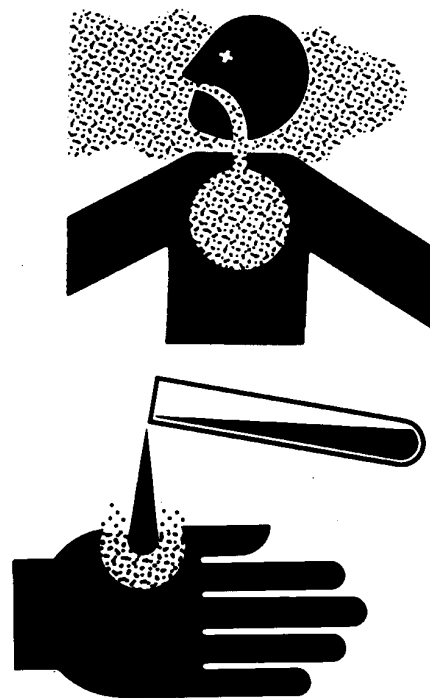
GH15097,00007EF -19-08MAY14-1/1

Avoid Contact with Agricultural Chemicals

This enclosed cab does not protect against inhaling vapor, aerosol or dust. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.

Before leaving the cab, wear personal protective equipment as required by the pesticide use instructions. When re-entering the cab, remove protective equipment and store either outside the cab in a closed box or some other type of sealable container or inside the cab in a pesticide resistant container, such as a plastic bag.

Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.



DX,CABS -19-25MAR09-1/1

TS220 —UN—15APR13

TS272 —UN—23AUG88

Adjust Steering Wheel and Column

Steering wheel can be adjusted in or out, up or down to provide comfortable driving position. For improved entry or egress, entire steering column can be pivoted up, then returned to previously set position with single control.

Telescope: Rotate steering wheel telescope release knob (A) counterclockwise. Extend or retract steering wheel to desired position. Rotate knob clockwise to lock.

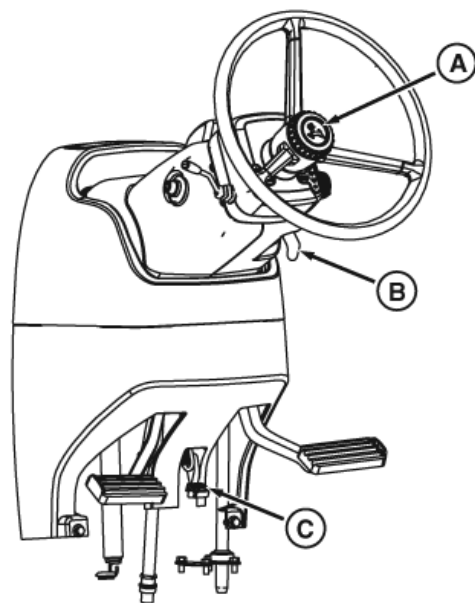
Memory: Push down on steering column tilt release lever (C). Fully raise steering column. Release lever to latch column at top of travel.

Push down on steering column tilt release lever, latch releases. Lower steering column to previous tilt setting.

Tilt: Pull up on steering wheel tilt release lever (B) and move steering wheel to desired position. Release lever to lock.

A—Steering Wheel Telescope
Release Knob
B—Steering Wheel Tilt Release
Lever

C—Steering Column Tilt
Release Lever



Adjusting Steering Wheel and Column

T084419,0000098 -19-05JUN15-1/1

RXA0133289 —UN—25JUN13

Adjust ComfortCommand™ Seat

A—Backrest Tilt Handle - Allows seat back to tilt.

B—Flip Up Armrest - Can be flipped up out of the way.

C—Height Adjustment Switch - Turn key to “ON”. Press lower portion of switch to lower seat or press upper portion of switch to raise seat.

D—Armrest Tilt Adjustment Knob - Turn knob to adjust armrest angle.

E—Fore/Aft Seat Adjustment Handle - Lift up on handle, move seat forward or backward, press handle back down to lock into place.

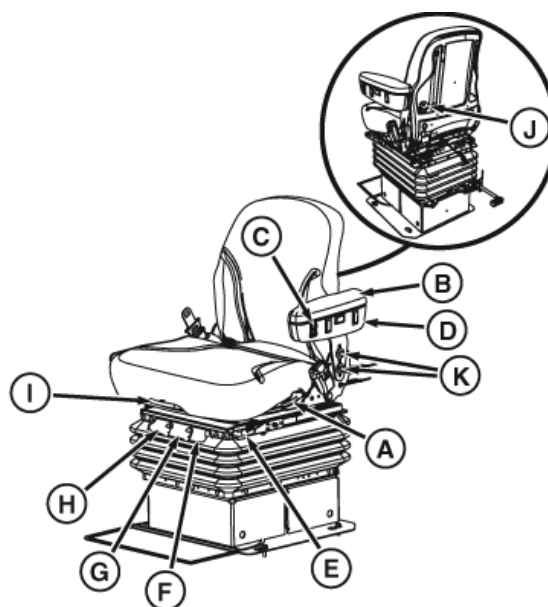
F—Fore/Aft Isolation Handle - Push lever back, lock into place with locking bar. Seat will absorb shock impacts while tractor is in motion. Seat won't move farther than 25 mm (1 inch) in any direction.

G—Lateral Isolation Handle - Push down on handle to unlock lateral seat suspension. Pull up on handle to lock seat in position.

H—Adjustment Damper Handle - Air Suspension seat only. Controls amount of bounce operator feels while driving. Can be adjusted to reduce bounce in seat.

I—Seat Swivel Handle - Lift on handle to allow seat to swivel. Push down on handle to lock seat in position.

J—Lumbar Adjustment Knob - Turn knob clockwise to add support to lower back. Turn counterclockwise to lessen resistance to lower back.



K—Arm Rest Adjustment Cap Screws - Loosen cap screws to slide arm rest up or down. Retighten cap screws.

RXA0131460 —UN—19APR13

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Adjust Heated Leather Seat (If Equipped)

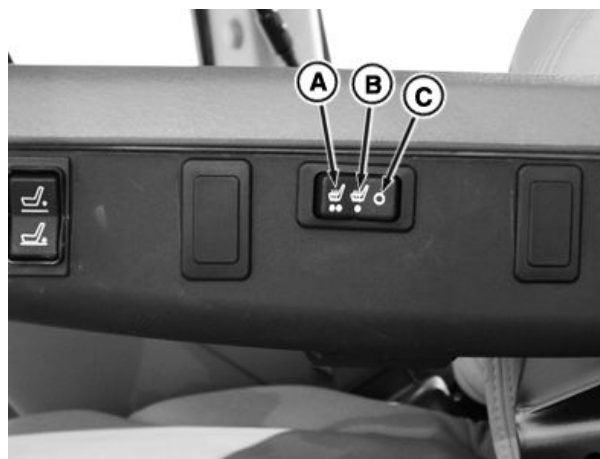
Heated seat provides increased comfort during cold days. Heat is controlled by left armrest switch. Three settings are available. When tractor is shut off, seat also turns off, or after one hour of use heater automatically turns off.

To control system:

A—High Setting - Press switch forward.

B—Low Setting - Press switch to middle position.

C—OFF - Press switch rearward.



Heated Leather Switch Left-Hand Armrest

RXA0136445 —UN—30OCT13

TO84419,000009C -19-16FEB15-1/1

Adjust ActiveSeat™ (If Equipped)

ActiveSeat™ has ride zone protection (RZP), a built-in buffer at high and low end of vertical seat travel, resulting in a much smoother ride. To receive maximum benefit from ActiveSeat™ RZP system, adjust seat to operator's height and weight prior to operating tractor. After adjustment, seat automatically moves into protected zone when operator adjusts seat height position to a level at or near vertical seat travel limits.

A—Back Tilt Handle - Allows seat back to tilt.

B—Flip Up Armrest - Can be flipped up out of the way.

C—Height Adjustment Switch - Turn key to "ON". Press lower portion of switch to lower seat or press upper portion of switch to raise seat.

D—Armrest Tilt Adjustment Knob - Turn knob to adjust armrest angle.

E—Fore/Aft Seat Adjustment Handle - Lift up handle, move seat forward or backward, press handle back down to lock into place.

F—Fore/Aft Isolation Handle - Adjust lever to back setting, lock into place with locking lever. Seat will absorb shock impacts while tractor is in motion. Seat won't move farther than 25 mm in any direction.

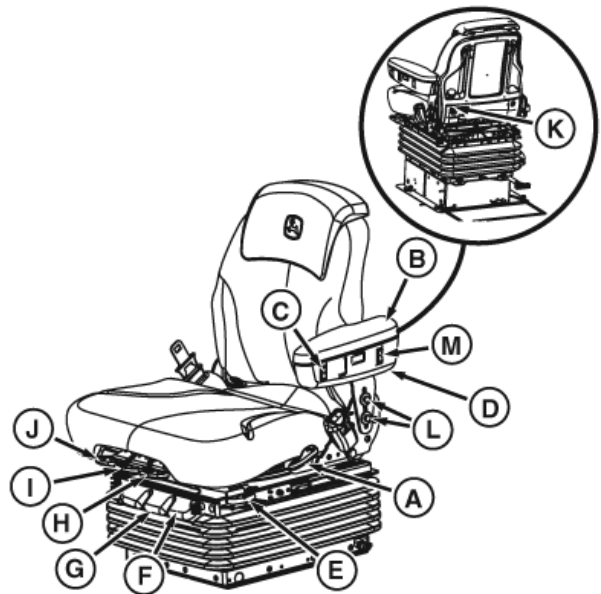
G—Lateral Isolation Handle - Push down on handle to unlock lateral seat suspension. Pull up on handle to lock seat in position.

H—Cushion Height Adjustment - Pull to adjust height of cushion up or down.

I—Seat Swivel Handle - Lift on handle to allow seat to swivel. Push down on handle to lock seat in position.

J—Fore/Aft Cushion Adjustment - Pull to adjust cushion forwards or backwards.

ActiveSeat is a trademark of Deere & Company



K—Lumbar Adjustment Knob - Turn clockwise to add support to lower back. Turn counterclockwise to lessen resistance to lower back.

L—Armrest Adjustment Cap Screws - Loosen cap screws to slide arm rest up or down. Retighten cap screws.

M—Firmness Adjustment - Provides three different levels of seat suspension performance. Press upper portion "+" of switch for the firmest ride or lower portion "-" for the softest ride.

RXA0144154 —UN—31JUL14

KT81203,0000184 -19-12MAY15-1/1

Use Passenger Seat

⚠ CAUTION: Passenger seat is provided only for training operators or diagnosing machine problems. Keep all other riders off tractor and equipment. Always wear seat belt (A).

Passenger seat back tilts forward to be used as writing surface (B). Seat flips up (C) to allow easier entrance and egress.

A—Seat Belt
B—Writing Surface

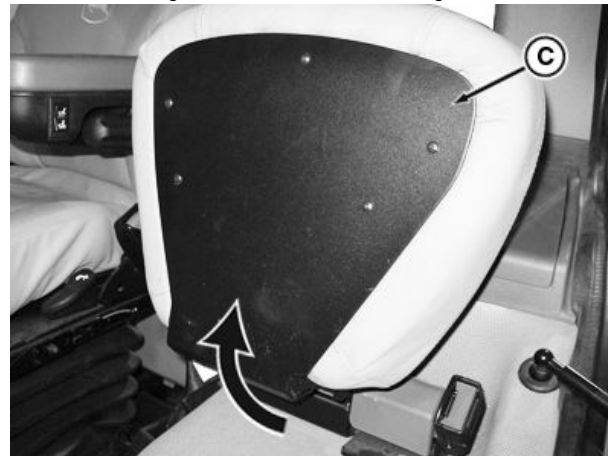
C—Flip Up Seat



Passenger Seat



Passenger Seat Converted To Writing Surface



Passenger Seat Folded Up For Easier Egress

RXA0107055 —UN—01APR10

RXA0107057 —UN—03JUN10

RXA0107061 —UN—01APR10

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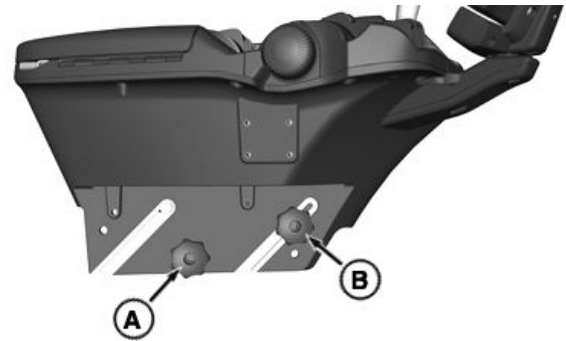
Adjust CommandARM™ Position

1. Turn CommandARM™ Height Adjustment Knob (A) and CommandArm™ Tilt and Height Adjustment Knob (B).

NOTE: Both CommandARM™ Adjustment Knobs (A and B) must be loosened to adjust height of CommandARM™.

2. By turning both knobs, CommandARM™ can slide at an angle to desired position.
3. Once proper position is maintained, turn CommandARM™ Height Adjustment Knob to original position to lock.
4. Turn CommandARM™ Tilt Adjustment Knob (B) to adjust the angle of CommandARM™.
5. Once proper angle is maintained, turn CommandARM™ Tilt Adjustment Knob to original position to lock.

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CommandARM™ Adjustment Knobs

A—CommandARM™ Height Adjustment Knob

B—CommandARM™ Tilt and Height Adjustment Knob

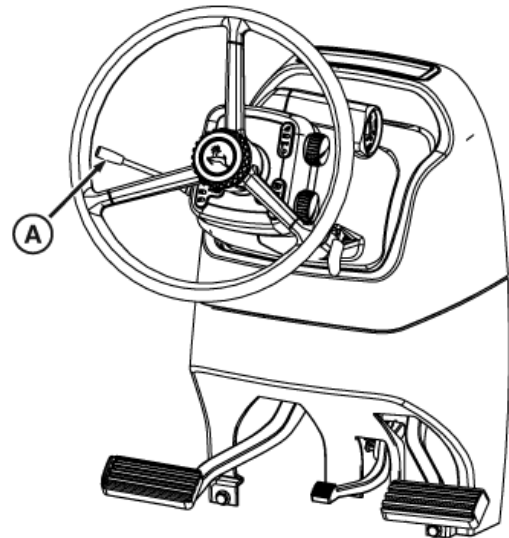
RXA0137805 —UN—08JAN14

TO84419,00000A1 -19-19AUG14-1/1

Operate Horn

Push in on end of turn signal lever (A) to sound horn.

A—Turn Signal Lever/Horn



RXA0134346 —UN—29JUL13

TO84419,0000099 -19-20NOV14-1/1

HVAC Settings—Generation 4 CommandCenter™

To access the main page, use HVAC Shortcut Button on Navigation Bar or follow alternative path:

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **HVAC (Heating, Ventilation, and Air Conditioning)** icon.

A—Set Temperature Module: Select to access Set Temperature page (L).

B—Auto Air Flow Toggle: Select for air flow to be automatically adjusted.

C—Defrost Toggle: Select to activate defrost.

D—Defrost and Floor Toggle: Select to activate defrost and floor vents.

E—Defrost, Floor and Cab Toggle: Select to activate defrost, floor, and cab vents.

F—Cab and Floor Toggle: Select to activate floor and cab vents.

G—Fan OFF: Move slide bar to OFF position to turn fan off.

H—Fan AUTO: Adjust slide bar to AUTO position to have fan speed automatically adjust to maintain set temperature.

I—Fan Increment Bar: Use to adjust fan speed. As slide moves right, fan speed increases. As slide moves left, fan speed decreases.

IMPORTANT: If system is not cooling properly, turn air conditioning switch off to avoid possible compressor damage.

J—A/C Toggle: Use to turn A/C ON or OFF.

K—Outside Temperature Module: Displays the temperature outside of the cab.

L—Set Temperature Page: Page used to adjust cab temperature.

M—Increase Button: Select to increase temperature in cab.

N—Display Temperature Box: Displays the temperature setting.

O—Decrease Button: Select to decrease temperature in cab.

RXA0133716 —UN—16JUL13

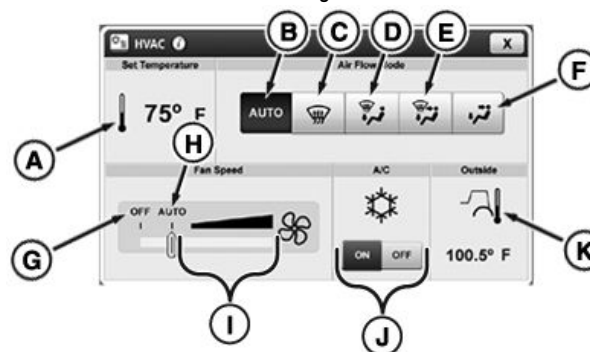


HVAC Shortcut Button on Navigation Bar

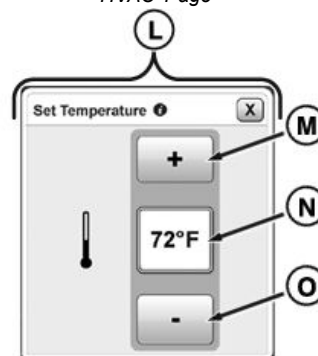
RXA0147936 —UN—13APR15



Menu → Machine Settings Tab → HVAC Icon



HVAC Page



Set Temperature Page

RXA0133683 —UN—19JUL13

RXA0133684 —UN—19JUL13

TO84419,00000A4 -19-15APR15-1/1

Operate Front Windshield Wiper and Washer

Wiper/washer knob (A) has four positions:

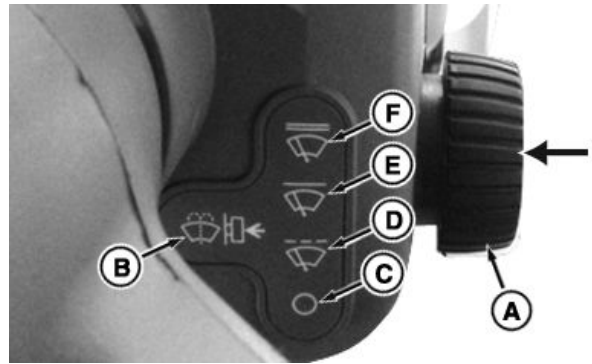
- OFF
- Intermittent Operation
- Slow Speed
- Fast Speed

Push knob in to operate front windshield washer.

Windshield washer reservoir (G) is on left-hand side of the gudgeon, above the hydraulic filters.

Fill reservoir with non-freezing windshield washer fluid.

- | | |
|---------------------------------------|--------------------------------------|
| A—Windshield Wiper/Washer Knob | E—Slow Speed |
| B—Washer Icon | F—Fast Speed |
| C—Off | G—Windshield Washer Reservoir |
| D—Intermittent Speed | |



Windshield Washer Reservoir

TO84419,000009A -19-20NOV14-1/1

RXA0142299 —UN—09JUN14

RXA0142303 —UN—09JUN14

Operate Rear Wiper and Washer (If Equipped)

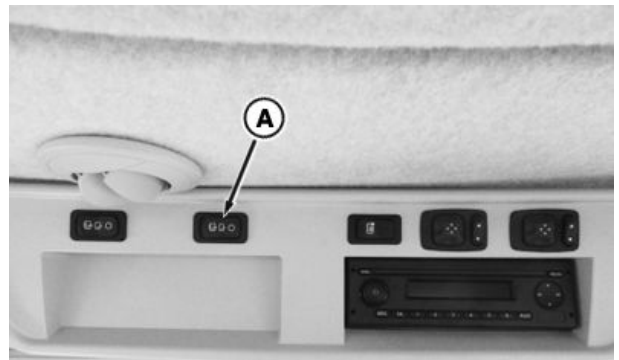
Switch (A) has three positions:

Right—OFF position.

Center—ON position. Rear wiper is activated.

Left—Rear window washer ON when switch is held.
Release switch to turn OFF rear window washer.

- A—Rear Wiper/Washer Switch**



TO84419,00002C9 -19-20NOV14-1/1

RXA0142297 —UN—09JUN14

Operate Right-Hand Wiper and Washer (If Equipped)

Switch (A) has three positions:

Right—OFF position.

Center—ON position. Right-hand wiper is activated.

Left—Right-hand window washer ON when switch is held.
Release switch to turn OFF right-hand window washer.

- A—Right-Hand Wiper/Washer Switch**



TO84419,00002CA -19-13APR15-1/1

RXA0142353 —UN—09JUN14

Install Business Band or CB Radio and Antenna

CAUTION: DO NOT mount business band radio antenna to rear of cab. DO NOT route antenna cable (B) near harness for electrical system controllers or operator controls. Failure to follow these precautions could expose operator to radio frequency energy levels higher than recommended by American National Standards Institute (ANSI) and/or could cause undesirable performance of electronically controlled systems.

CAUTION: Prevent possible personal injury. Disconnect battery ground cable before any electrical repair.

IMPORTANT: (Final Tier 4 and Stage IV Engines only. To determine tractor engine type, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.) Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If equipped with a battery disconnect system, a light next to the disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

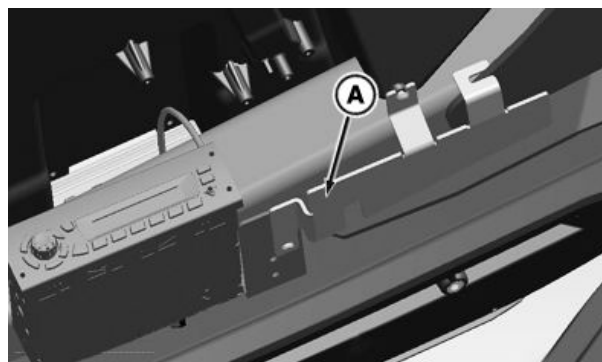
If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

NOTE: Only tractors equipped with Business Band Radio Mounting and Wiring Option from factory have business band bracket (A) behind headliner and antenna cables behind right rear corner post cover. See your John Deere™ dealer for Business Band Radio and Antenna Installation Instructions.

Custom Installation

Custom CB or Business Band radio installation requires special tools and skills to tune antenna for lowest possible VSWR (Voltage Standing Wave Ratio). Qualified professional should be employed or consulted before

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Business Band Radio Bracket — Headliner Removed To Show Location



Antenna Coaxial Cable And Business Band Radio Power/Ground plug Coiled Behind Right Rear Corner Post Cover

A—Bracket
B—Antenna Coaxial Cable

C—Business Band Radio Power/Ground Cable

attempting installation. Contact your John Deere™ dealer for recommendations. The following specifications will be useful to installer.

Specifications for Factory Installed Radio Installation Kit:

- Roof Antenna Mount: NMO type.
- Cable Specifications: Cable length is 3.6 m (11.8 ft.) from antenna mount to PL-259 radio connector. RG-58/U cable has 50 ohms intrinsic impedance.
- Roof Ground Plane: Grounded large antenna counterpoise foil under green cab roof allows installation of either ¼ or ½ wave antenna.
- CB Antenna: Normal CB antenna can be attached to factory-installed NMO antenna mount through use of an appropriate adapter. Special CB antenna already equipped with NMO base may alternatively be used.

TO84419,000009C -19-20NOV14-1/1

Auxiliary Power Strip and Electrical Outlet Use (If Equipped)

Auxiliary Power Strip

IMPORTANT: Power strip is not surge suppressor. Electrical equipment with program memory requires protection from damage of electrical surges and spikes.

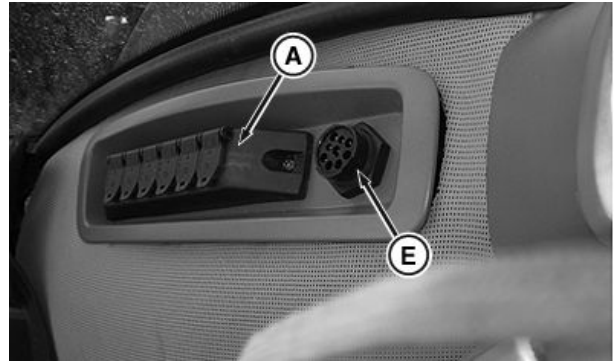
Power strip (A) provides six outlets of 12 volt power with grounds for use when connecting auxiliary equipment. This power is 30 amp switched and 30 amp unswitched.

Adapters plug directly into power strip. To change to switched power on adapter, remove small tab at end of slot on plug and rotate plug 180°.

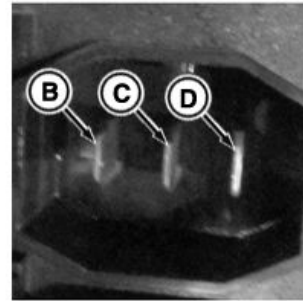
Adapters are available from your John Deere™ dealer for following: Accessory outlet adapters, three-way convenience adapters, and standard adapters.

A—Auxiliary Power Strip
B—Battery (Unswitched)
C—Ground

D—Battery (Switched)
E—Diagnostic Connector
(DEALER USE ONLY)



Auxiliary Power Strip



Auxiliary Power Strip Convenience Outlet

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Continued on next page

SV81855,00000D4 -19-13APR15-1/2

RXA009078 —UN—25FEB09

RXA0131988 —UN—06MAY13

Accessory Electrical Outlets

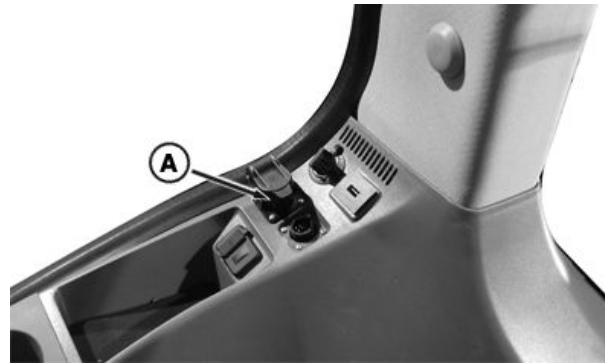
NOTE: Outlets are protected by a 30 amp fuse.

12 volt accessory outlets (A) located on right-hand console or outlet (B) in storage box are used when connecting auxiliary equipment.

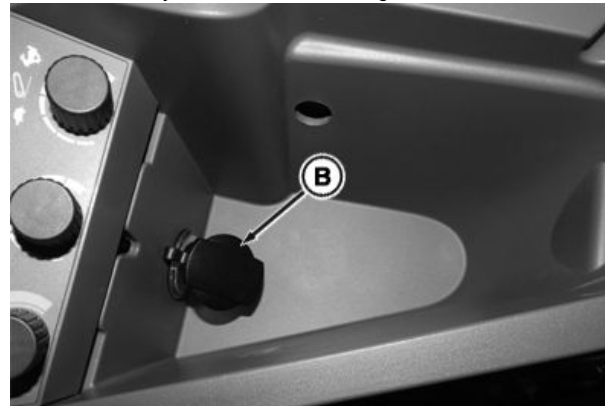
Pin (C) provides battery power (hot), pin (D) provides (key) switched power and pin (E) provides ground. For additional information on connections, see appropriate auxiliary equipment installation instructions or your John Deere™ dealer.

- A—Accessory Outlet (Right-Hand Console)
- B—Accessory Outlet (In Storage Box)
- C—Battery (Unswitched)

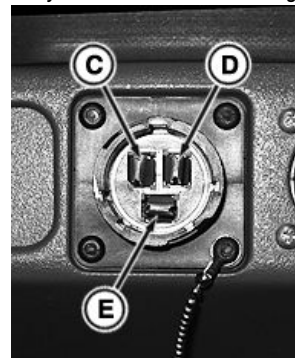
- D—Switched Circuit
- E—Ground



Accessory Electrical Outlet on Right-Hand Console



Accessory Electrical Outlet in Storage Box



Accessory Electrical Outlet Pins

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SV81855,00000D4 -19-13APR15-2/2

RXA0142570 —UN—17JUN14

RXA0141390 —UN—02MAY14

RXA0141391 —UN—02MAY14

Connect Compatible Electronic Equipment

Tractor is ISOBUS ready and offer connections for implements conforming to both ISO 11786 and 11783 standards. ISO 11786 connector (B) provides radar or GPS speed signal. See Configuring Tractor for GPS/Radar in this section of this Operator's Manual.

GreenStar™ corner post connector (A) allows any GreenStar™ display connection. See your John Deere™ dealer for compatible adapter harnesses.

IMPORTANT: Use ISO 11783 connector (F) with only ISO 11783 compliant components. Other uses could damage tractor electronic components.

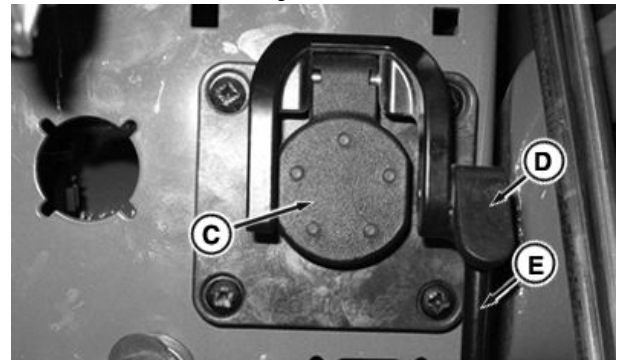
ISOBUS ready preparation includes ISO 11783 connector, on right-hand console, and implement connector (C), on tractor rear, facilitating tractor/implement communications.

Lift the release (D) when disconnecting implement harness from connector on rear of tractor.

- | | |
|---|------------------------------|
| A—GreenStar™ Connector
(Corner Post Left) | D—Release |
| B—ISO 11786 Standard
Connector (Corner Post | E—Handle |
| Right) | F—ISO 11783 Standard |
| C—Implement Connector
(Tractor Rear) | Connector (Right-Hand |
| | Console) |



Front Right Corner Post



Implement Connector on Tractor Rear



ISO 11783 Connector on Right-Hand Console

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SV81855,00000D5 -19-10MAR15-1/1

RXA0142571 —UN—13JUN14

RXA0134921 —UN—07MAR14

RXA0142616 —UN—16JUN14

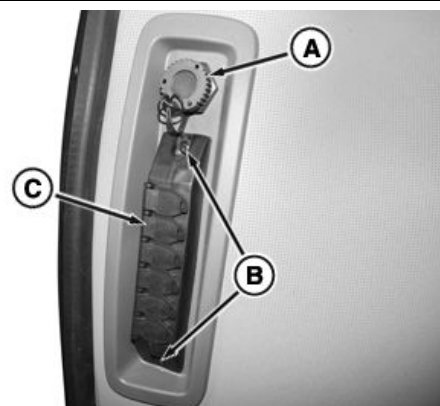
Configure Tractor for GPS/Radar

Tractor comes from factory configured to use radar as ground speed input. To reconfigure tractor to use GPS as the true ground speed input:

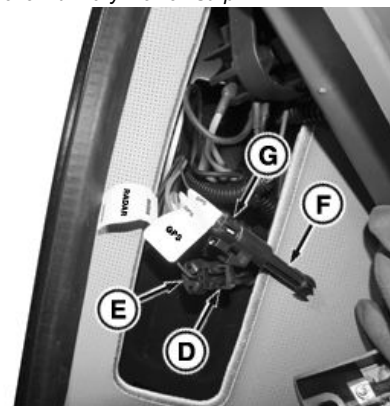
1. Remove diagnostic connector cap (A) and retaining nut.
2. Remove retaining screws (B) and remove auxiliary power strip (C) (if equipped) with cover plate.
3. Inside right-hand console locate one wire lead marked **Radar** and one marked **GPS**.
4. On tractors equipped with radar, disconnect tractor harness connector (D) from radar connector (E). Then, proceed to step 6.
5. On tractors not equipped with radar, locate wire lead marked **GPS** and proceed to step 6.
6. Remove dust cap (F) from GPS connector (G).
7. Attach GPS connector to tractor harness connector.
8. Install (or leave installed) dust cap on radar connector
9. Reinstall auxiliary power strip with cover plate.
10. Reinstall diagnostic connector through cover, install cap tether and tighten nut.
11. Reinstall power strip cover retaining screws and attach diagnostic connector cap.

To connect from GPS to radar input, disconnect GPS connector and reconnect radar connector. For information on how to perform radar calibration, refer to Maintenance & Calibrations in CommandCenter™ section of this Operator's Manual.

- | | |
|------------------------------------|-------------------|
| A—Diagnostic Connector Cap and Nut | E—Radar Connector |
| B—Screws | F—Dust Cap |
| C—Auxiliary Power Strip | G—GPS Connector |
| D—Tractor Harness Connector | |



Remove Auxiliary Power Strip



Radar and GPS Connectors



Connectors For Radar and GPS

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TO84419,000009F -19-20NOV14-1/1

RXA0140811 —UN—31MAR14

RXA0140812 —UN—31MAR14

RXA0140813 —UN—31MAR14

Machine Sync (If Equipped)

Machine Sync controls synchronized movements between tractor and combine. It guides tractor and grain cart to preset position for unloading relative to specific combine.

Machine Sync utilizes AutoTrac™ and its advanced settings to control tractor. Machine Sync system maintains in line and lateral offset between the combine and tractor using information via the machine and StarFire™ 3000 receiver that is transmitted between machines using the Machine Communication Radio.

Machine Sync system contains three important entities:

- **Operational zone:** area that allows for automation to take over.
- **Calibration zone:** area that allows for calibration of home point.

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GreenStar is a trademark of Deere & Company
StarFire is a trademark of Deere & Company
John Deere is a trademark of Deere & Company*

- **Home point:** in line and lateral offset location relative to combine that tractor will return to every time it syncs with specific combine.

Machine Sync, when engaged, guides tractor and grain cart to home point position set in relation to each specific combine. Tractor and grain cart will maintain that position during operation.

Machine Sync is compatible with:

- GreenStar™ 3 2630 Display
- Machine Communication Radio (MCR)
- StarFire™ 3000 with Shared Signal (update receiver software to latest version)

Refer to John Deere™ Machine Sync operator's manual for more information.

KT81203,00000F8 -19-17FEB15-1/1

Mount StarFire™ Receiver

CAUTION: Handle global positioning receivers and brackets safely. Falling while installing or removing a global positioning receiver can cause serious injury. Use a ladder or platform to easily reach a mounting location.

Use sturdy and secure footholds and hand holds. Do not install or remove the receiver in wet or icy conditions.

Mount StarFire™ receiver (A) on StarFire™ receiver bracket (B).

NOTE: Refer to your John Deere™ dealer or to StarFire™ receiver installations instructions for compatibility.

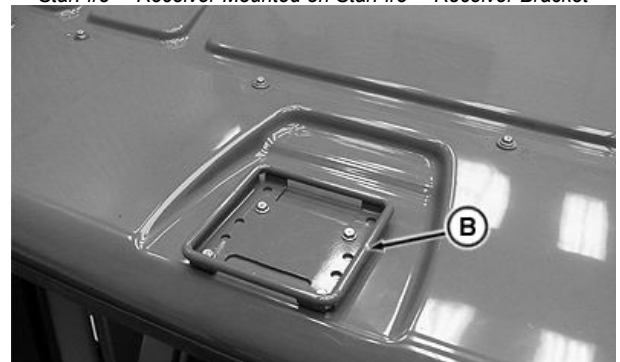
See your John Deere™ dealer for compatible adapter harnesses.

A—StarFire™ Receiver

B—StarFire™ Receiver Bracket



StarFire™ Receiver Mounted on StarFire™ Receiver Bracket



StarFire™ Receiver Bracket

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TO84419,00000A0 -19-20NOV14-1/1

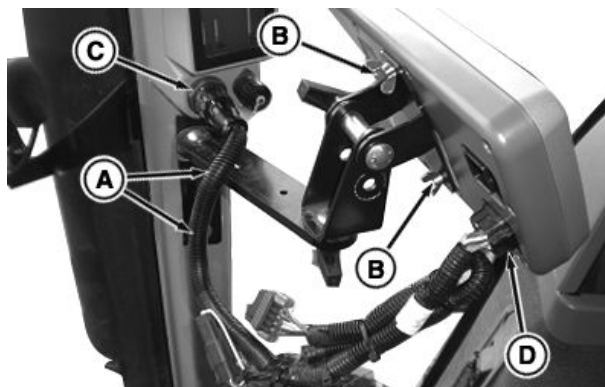
Install GreenStar™ System Components

IMPORTANT: This vehicle employs one or more CAN bus networks. Connecting unapproved devices to vehicle network (s) may cause machine to degrade in performance or fail to perform properly. Further, unapproved devices that attempt control of tractor functions should not be connected to implement network (ISOBUS).

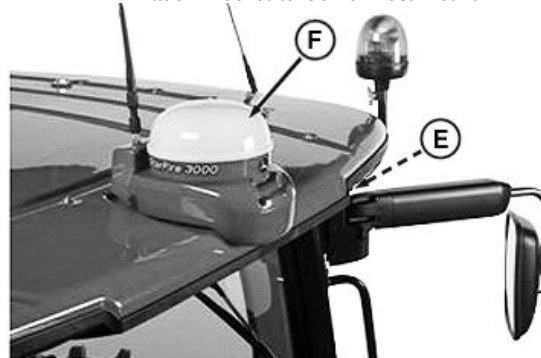
1. Attach bracket to corner post mounts (A).
2. Attach display to bracket using wing nuts (B) (provided with display).
3. Attach harness to corner post connector (C) and lower GreenStar™ display connector (D) on back of display.
4. Position display so it is comfortable to reach and does not obstruct operator view.
5. Connect StarFire™ receiver connector (E) to StarFire™ receiver (F).

NOTE: See your John Deere™ dealer for compatible adapter harnesses.

A—Corner Post Mounts	D—GreenStar™ Display Connector
B—Wing Nuts (2 Used)	E—StarFire™ Receiver Connector
C—GreenStar™ Corner Post Connector	F—StarFire™ Receiver



Attach Bracket to Corner Post Mount



Connect StarFire™ Receiver

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 GreenStar is a trademark of Deere & Company
 John Deere is a trademark of Deere & Company

RXA0104665 —JUN—10SEP09

RXA0109999 —JUN—20AUG10

TO84419,00002CD -19-20NOV14-1/1

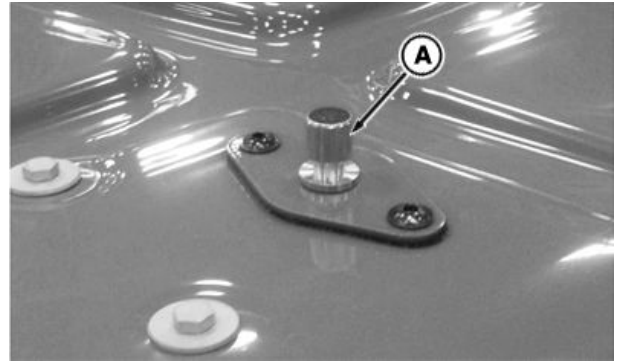
Install Machine Communications Radio (MCR) Antenna (If Equipped)

NOTE: This antenna is only available for machines that have a factory installed Machine Communications Radio. Refer to John Deere™ Machine Communications Radio operator's manual for more information.

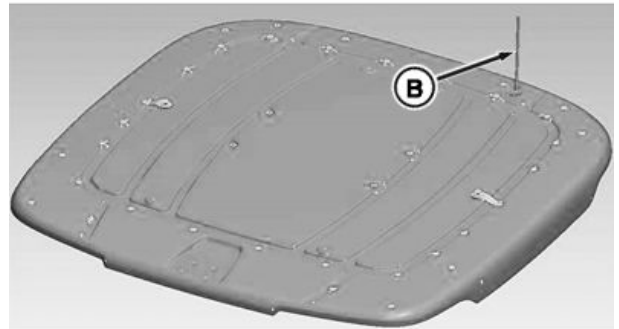
1. Remove antenna from storage under passenger seat.
2. Remove cap from MCR antenna post (A) from rear left roof.
3. Screw MCR antenna (B) onto MCR antenna post.

A—MCR Antenna Post

B—MCR Antenna



MCR Antenna Post



Connect MCR Antenna

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SV81855,0000078 -19-17FEB15-1/1

RXA0131714 —UN—15APR13

RXA0131715 —UN—15APR13

Connect AutoTrac™ Assisted Steering System (If Equipped)

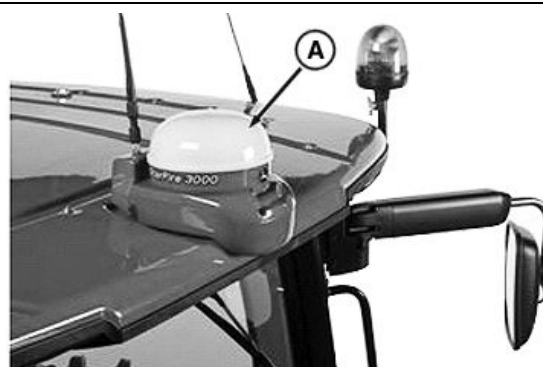
Refer to Generation 4 Applications Operator's Manual for detailed instructions.

- AutoTrac™ system utilizes StarFire™ position receiver (A) and Generation 4 CommandCenter™ Display (B) to assist operator in steering tractor. Other displays are used as well. See Multiple displays in CommandCenter™ section of this Operator's Manual.
- Operator must take manual control at end of each pass and when field obstacles are encountered. Regain steering control is by turning steering wheel. After turn is made, press AutoTrac™ Resume button (C) to engage AutoTrac™.

NOTE: See your John Deere™ dealer for compatible adapter harnesses.

A—StarFire™ Position Receiver
B—Generation 4 CommandCenter™ Display

C—AutoTrac™ Resume Button



StarFire™ Receiver



Generation 4 CommandCenter™ Display

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CommandCenter is a trademark of Deere & Company
John Deere is a trademark of Deere & Company
AutoTrac is a trademark of Deere & Company

RXA0109998 —UN—20AUG10

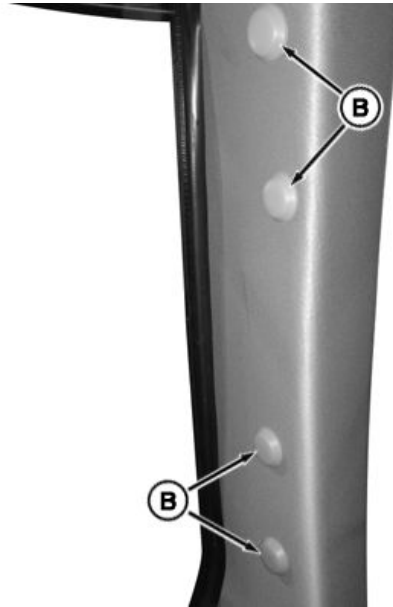
RXA0133300 —UN—08JUL13

KT81203,0000118 -19-17JAN14-1/1

Monitor Bracket Mounts



Front Corner Post Mounting Points



Rear Corner Post Mounting Points

A—Front Corner Post Mounting Points **B—Rear Corner Post Mounting Points**

Front corner post mounting points (A) and rear corner post mounting points (B) are used to connect implement monitors to cab using M10 cap screws. See your John

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Deere™ dealer for brackets that utilize these mounting points.

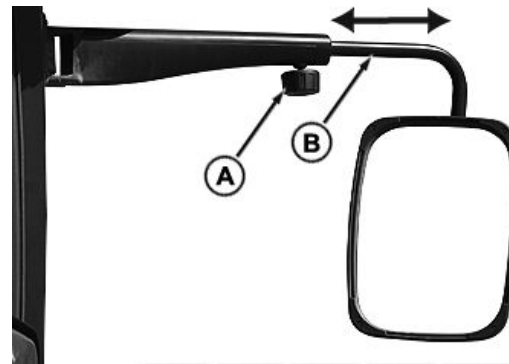
TO84419,00002D6 -19-11MAR15-1/1

Use Manual Mirror (If Equipped)

Loosen mirror arm locking knob (A) and slide mirror arm to desired position. Securely tighten locking knob when adjustment is complete. Push on mirror to move surface into desired position.

Using a soft cloth after mirror is adjusted, wipe any smudges off face of mirror.

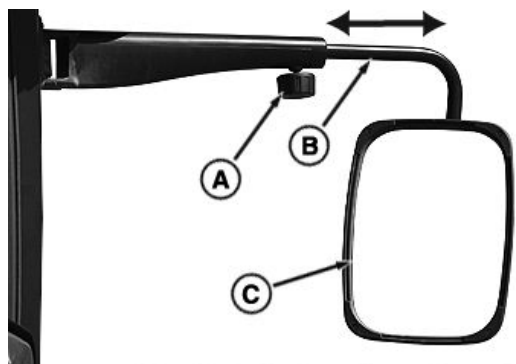
A—Mirror Arm Adjustment Knob **B—Mirror Arm**



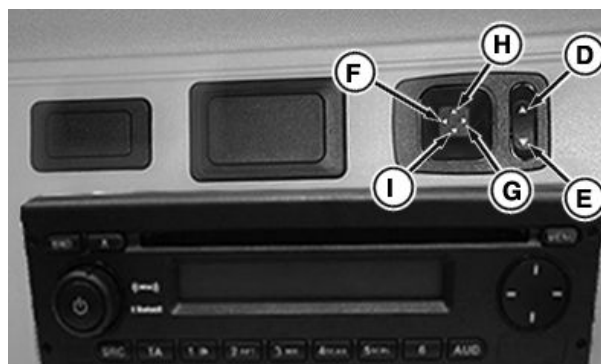
Manual Mirror

TO84419,00000B0 -19-25JUN14-1/1

Use Electric Mirror (If Equipped)



Electric Rear-View Mirror (Right-Hand Side Shown)



Electric Rear-View Mirror Switches

A—Mirror Arm Adjustment Knob
B—Mirror Arm
C—Electric Rear-View Mirror

D—Selection Switch—Right Mirror

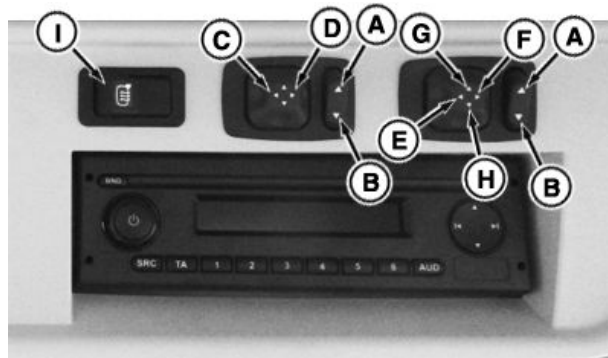
E—Selection Switch—Left Mirror

F—Angle Left
G—Angle Right
H—Tilt Up
I—Tilt Down

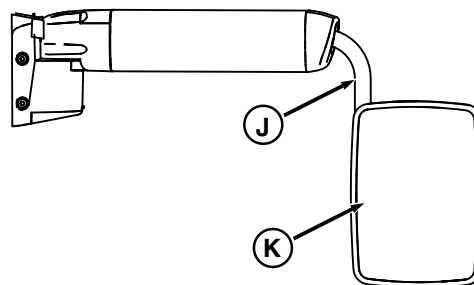
1. Loosen mirror arm adjustment knob (A).
2. Slide mirror arm (B) to desired position.
3. Tighten mirror arm adjustment knob.
4. Select right (D) or left (E) mirror.
5. Push adjustment switch to angle mirror (C) left (F) or right (G).
6. Push adjustment switch to tilt mirror up (H) or down (I).

TO84419,00002D7 -19-09JUL14-1/1

Use Telescoping Heated Electric Mirror (If Equipped)



Telescoping Electric Rear-View Mirror Switch Switches



Telescoping Electric Rear-View Mirror (Right-Hand Side Shown)

A—Selection Switch—Right Mirror
B—Selection Switch—Left Mirror
C—Extend
D—Retract
E—Angle Left
F—Angle Right

G—Tilt Up
H—Tilt Down
I—Heating Switch
J—Telescoping Mirror Arm

K—Mirror

1. Select right (A) or left (B) mirror.
2. Push adjustment switch (C) to extend mirrors or (D) to retract mirror arm (J).
3. Push adjustment switch to tilt mirror (K) up (G) or down (H).
4. Push adjustment switch to angle mirror left (E) or right (F).

Press heating switch (I) to turn mirror heating on or off. When heat is on, switch is illuminated. Heating will continue until it is switched off or key switch is turned OFF. If heating switch is not manually turned off, mirror heating will restart when key switch is turned to accessory or ON position.

TO84419,00002D8 -19-18FEB15-1/1

Pull-Down Sunshade (If Equipped)

Pull-Down Sunshade (A) reduces glare when operating in bright sunlight. The pull-down sunshade allows operator flexibility in amount of window coverage.

A—Pull-Down Sunshade



RXA0133298 —UN—25JUN13

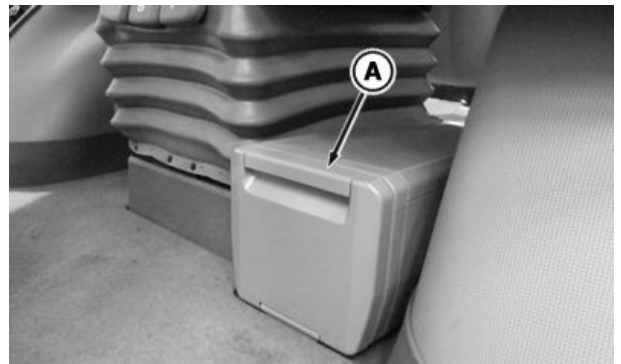
TO84419,00000A6 -19-11JUL13-1/1

Refrigerator (If Equipped) or Storage Space

NOTE: Refrigerator only works when key switch is in RUN or accessory positions.

Use refrigerator controls to adjust temperature inside of refrigerator. Levels are from off to 5, with 5 being coldest temperature possible.

A—Refrigerator/Storage Space B—Refrigerator Control



RXA0134926 —UN—15AUG13



RXA0134923 —UN—14AUG13

TO84419,00000B3 -19-11NOV14-1/1

Implement Connector Use

Push release lever (A), open connector and insert implement connector (C). Connector latch (B) will be in raised position.

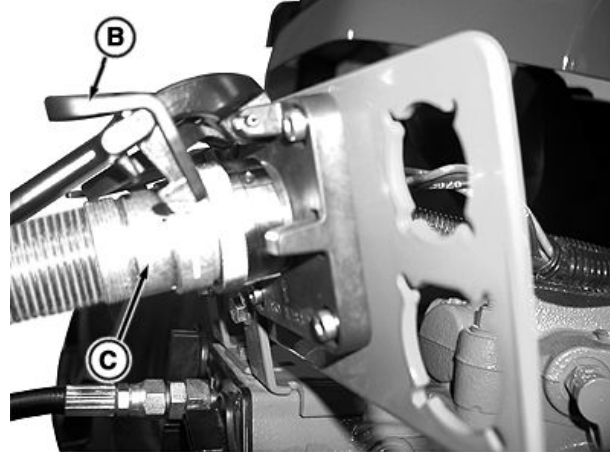
Lower latch until lever (D) is in latched position. This will prevent implement harness from being pulled out of connector.

A—Lever
B—Latch

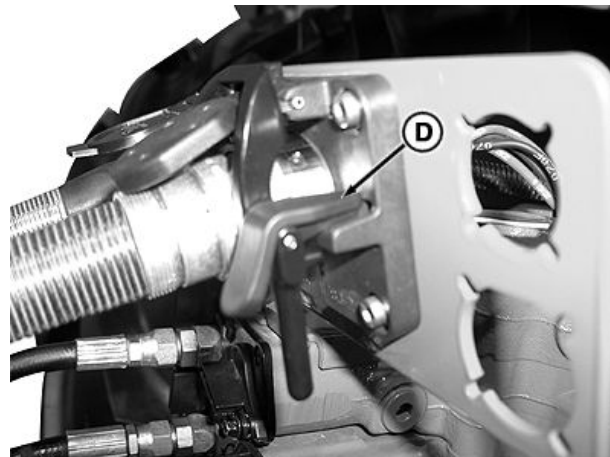
C—Implement Connector
D—Lever



RXA0073943 —UN—12MAR04



RXA0073947 —UN—12MAR04



RXA0073945 —UN—12MAR04

TO84419,00000A7 -19-20NOV14-1/1

Engine Operation

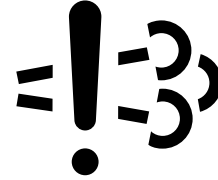
Required Machine Stop Warning

Machine Stop Mandate Occurs

RG22491 —UN—21AUG13

IMPORTANT: In some situations, machine engine power may be reduced as described. On notification, immediately place the machine in a safe state and or move it to a safe location. A mandated machine stop can only be removed by a service technician.

Engine Emissions System Malfunction Indicator illuminates when an emission-related fault occurs.



DX,MACHSTOPWARN,AG -19-11JUN15-1/6

Warning Indicator illuminates when a condition exists which requires operator action.

RG22492 —UN—21AUG13



DX,MACHSTOPWARN,AG -19-11JUN15-2/6

Stop Indicator illuminates when a condition exists which requires immediate operator action and service.

RG22493 —UN—21AUG13



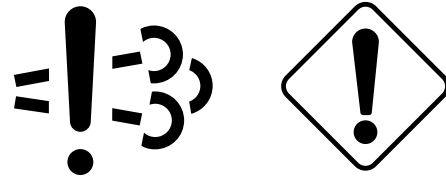
DX,MACHSTOPWARN,AG -19-11JUN15-3/6

Emission System Fault Has Occurred

RG26361 —UN—04SEP14

30 minutes remaining, Emissions System Malfunction, and Warning Indicator are illuminated and alarm sounds to warn operator of emissions-related fault. "Less than 30 minutes to Power Restriction" displayed on machines with display.

- Engine power is normal.
- Machine operation is normal.
- Place machine in a safe state.



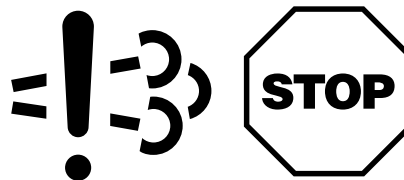
- Contact service provider.

Continued on next page

DX,MACHSTOPWARN,AG -19-11JUN15-4/6

20 minutes remaining, Emissions System Malfunction, and Stop Indicator are illuminated and alarm sounds to warn operator of emissions-related fault. "Less than 20 minutes to Power Restriction" displayed on machines with displays.

RG26972 —UN—26MAR15

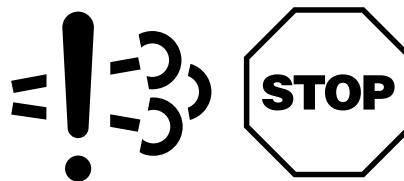


- Engine power and torque are reduced.
- Key Off - Key On will temporarily provide full power.
- Place machine in a safe state.
- Contact service provider.

DX,MACHSTOPWARN,AG -19-11JUN15-5/6

2 minutes or less remaining, Emissions System Malfunction and Stop Indicator are illuminated and alarm sounds to warn operator of emissions-related fault which has not been corrected. "Power Restriction" displayed on machines with displays.

RG26972 —UN—26MAR15



- Engine power is idle only.
- Place machine in a safe state.
- Contact service provider.

DX,MACHSTOPWARN,AG -19-11JUN15-6/6

Exhaust Filter System Overview—Final Tier 4 and Stage IV Engines

Machine is equipped with emission compliant engine which cleans and filters exhaust gas. Under normal machine operation and with system in AUTO mode, system requires minimal operator interaction.

To avoid buildup of diesel particulates or soot in exhaust filter system:

- Utilize AUTO Exhaust Filter Cleaning mode.
- Avoid unnecessary idling.
- Use proper engine oil (see Diesel Engine Oil in Fuels, Lubricants, and Coolants Section of this Operator's Manual).
- Use only ultra low sulfur fuel (see Diesel Engine Oil in Fuels, Lubricants, and Coolants Section of this Operator's Manual).

Exhaust Filter System Cleaning

IMPORTANT: Use disabled mode (D) when temporarily connected to an indoor ducted exhaust system for diagnostic and repair activities.

Exhaust Filter Cleaning will automatically reset back to AUTO mode after every key cycle.

There are two exhaust filter system modes: AUTO (C) and Disabled (D).

Parked Exhaust Filter Cleaning mode (A) may be active or inactive (grayed out) depending on exhaust filter restriction level (see Parked Exhaust Filter Cleaning later in this section of this Operator's Manual).

To access engine main page, use Engine Shortcut Button on Navigation Bar or follow alternative path:

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **Engine** icon.
4. Select **AUTO Exhaust Cleaning Mode (B)**.
5. Select **Exhaust Filter Cleaning AUTO Mode toggle (C)** to allow exhaust filter system to perform cleaning as required

IMPORTANT: Avoid Disabled mode unless absolutely necessary. Repeated disabling or ignoring prompts to perform manual / parked cleaning procedure will cause additional engine power limitation and can eventually lead to required dealer service.

6. Select **Exhaust Filter Cleaning Disabled Mode toggle (D)** to disable exhaust filter system.

RXA0133711 —UN—16JUL13

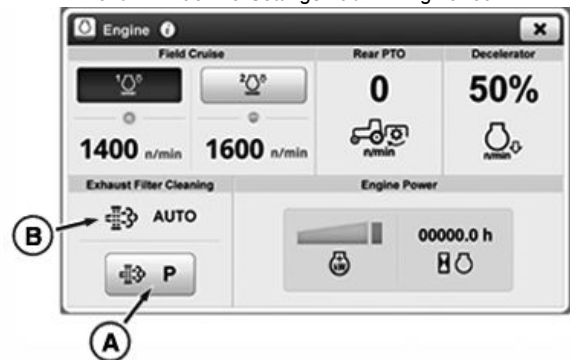


Engine Shortcut Button on Navigation Bar

RXA0147937 —UN—13APR15



Menu → Machine Settings Tab → Engine Icon



Engine Page



Exhaust Filter Cleaning

A—Parked Exhaust Filter Cleaning Mode
B—AUTO Exhaust Cleaning Mode

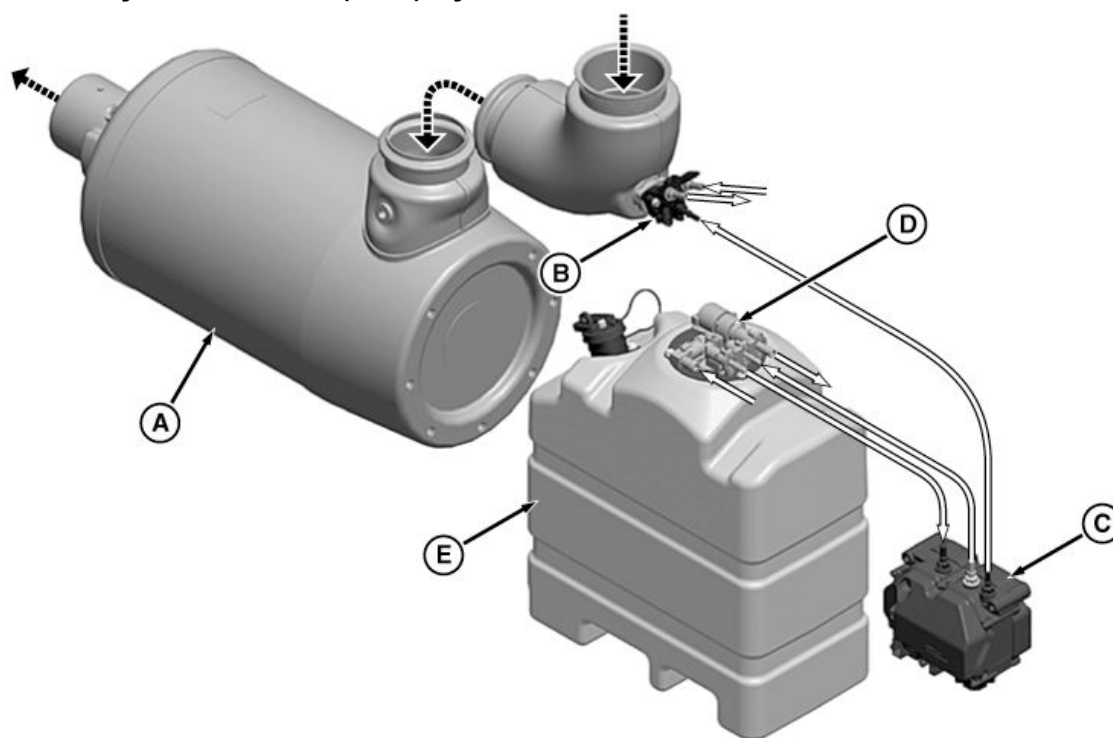
C—Exhaust Filter Cleaning AUTO Mode Toggle
D—Exhaust Filter Cleaning Disabled Mode Toggle

RXA0130119 —UN—02JAN13

RXA0129965 —UN—07DEC12

KT81203,00000C1 -19-15APR15-1/1

Selective Catalytic Reduction (SCR) System Overview



SCR System

A—SCR Catalyst
B—DEF Dosing Injector

C—DEF Dosing Unit
D—DEF Tank Header Assembly

E—DEF Tank

IMPORTANT: Do not remove battery leads for at least 4 minutes after engine stops. The SCR system automatically purges itself of Diesel Exhaust Fluid (DEF) immediately after the engine is stopped. If adequate time is not allowed for lines to be purged, residual DEF can freeze and possibly damage components of the SCR system during cold-weather exposure.

In order to comply with national and local emission requirements, this engine series contains a Selective Catalytic Reduction (SCR) system. The main components of the SCR system include the SCR catalyst (A), DEF dosing injector (B), DEF dosing unit (C), DEF tank header assembly (D), and DEF tank (E). The SCR system is effective at reducing the nitrogen oxides (NOx) emissions. NOx is a major component of smog and acid rain.

During combustion, NOx molecules are formed in the exhaust. DEF is injected into the exhaust stream before the SCR catalyst. Through a chemical reaction in the SCR, NOx is converted into nitrogen and water.

Water vapor is a normal by-product of combustion. During cold-weather operation at low exhaust temperatures, this water vapor can condense and resemble white smoke from the exhaust. This will dissipate as operating temperature increases and the water is further vaporized. This situation is considered normal.

A DEF solution begins to crystallize and freeze at -11 °C (12 °F). With climate temperatures that can range much colder than this, DEF is expected to freeze in the DEF tank. For this reason, the DEF tank contains a heating element that provides rapid thawing of DEF upon start-up. The heating element cycles to maintain fluidity during operation as needed. DEF is not dosed upon initial start-up, therefore it is not necessary to have liquid DEF at cold start-up.

If DEF quality deteriorates and it is no longer within specifications, the engine can derate. DEF should be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint, or has a profound ammonia smell, it is likely not within specification.

DX,SCR,OVERVIEW -19-05SEP14-1/1

RG22427 —UN—14FEB13

Restored Operation Option

NOTE: This is a European Union (EU) only option. Engine must have an EU only emission label. Option is not available for engine with EPA and EU emission label.

IMPORTANT: Operating the engine without emissions related derates could damage the aftertreatment system.

The Restored Operation Option enables a SCR equipped application to operate without emissions related derates

for a specified time. After a final emission-related derate, the operator can activate the Restored Operation Option through the operator interface. Once activated, the engine can operate free of emissions-related derates for 30 minutes. The option can be activated three times, for a total of 90 minutes. To reset the Restored Operation Option for future use, the derate condition must be corrected.

DX,SCR,RESTORE,EU -19-07OCT14-1/1

Auto Exhaust Filter Cleaning Mode—Final Tier 4 and Stage IV Engines

Auto Exhaust Filter Cleaning Mode allows Exhaust Filter System to perform exhaust filter cleaning as required. Corner Post Display Indicators and CommandCenter™ prompts provide operator information related to exhaust filter system activity.

Exhaust Filter Cleaning Indicator (A) illuminates when exhaust filter system is performing exhaust filter cleaning.

IMPORTANT: During exhaust filter cleaning operation, there may be higher exhaust gas temperatures and engine may operate at elevated idle.

Exhaust Filter Restricted—Depending on operating conditions, Exhaust Filter System may request a change in operation. CommandCenter™ prompts recommend operational changes.

A—Exhaust Filter Cleaning Indicator

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RXA0139510 —UN—24FEB14

TO84419,0000396 -19-10FEB15-1/1

Parked Exhaust Filter Cleaning—Final Tier 4 and Stage IV Engines

RXA0133711 —UN—16JUL13

Parked exhaust filter cleaning is automated to allow system to clean exhaust filter when required. During process engine speed is controlled by system and machine must remain parked to complete procedure. Time required for parked exhaust filter cleaning procedure is dependent upon level of exhaust filter restriction, ambient temperatures, and current exhaust gas temperature. CommandCenter™ prompts provide estimated time for completion.

NOTE: Tractors equipped with 15 L engines will automatically perform an initial exhaust filter cleaning after a few hours of operation. This procedure may have occurred prior to tractor delivery. If procedure begins, allow full completion of process.

Follow path to perform Parked Exhaust Filter Cleaning:

1. Press **Engine Shortcut Button on Navigation Bar**.
2. Select **Parked Exhaust Filter Cleaning button (A)**.
3. **Conditions for Parked Exhaust Filter Cleaning to occur are as follows:**
 - Stop tractor motion
 - Set engine speed to low idle
 - Turn off PTO
 - Engage PARK

If any of these conditions are not met, procedure will not occur.

4. Select Next button (B) once conditions are met.

NOTE: During parked exhaust filter cleaning operation, engine may operate at elevated idle.

Engine speed will be controlled by machine during filter cleaning.

NOTE: At any time during parked procedure, process can be canceled by advancing throttle, engaging transmission, selecting cancel button or stopping engine.

5. Status page appears when procedure starts. Parked exhaust filter cleaning has two steps: preparation and cleaning. During preparation, parked exhaust filter system controls engine speed to increase exhaust temperature. During cleaning, diesel particulates or soot are cleaned from exhaust filter

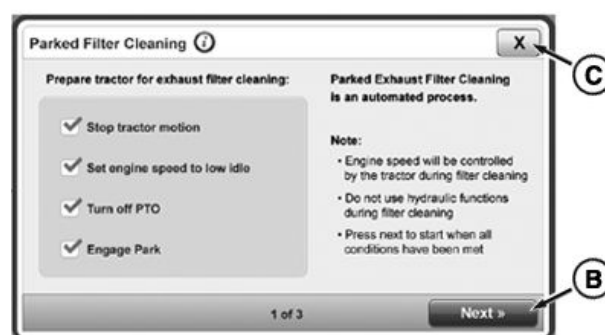
CommandCenter is a trademark of Deere & Company



Engine Shortcut Button on Navigation Bar



Engine Page



Parked Exhaust Filter Cleaning Conditions

A— Parked Exhaust Filter Cleaning Button

C— Close Window Button

B— Next Button

6. Once parked exhaust filter cleaning is complete, select close window button (C) to return to previously opened screen.

RXA0130120 —UN—02JAN13

RXA0141402 —UN—02MAY14

TO84419,00002DA -19-18FEB15-1/1

Selective Catalytic Reduction (SCR) System - Final Tier 4 and Stage IV Engines

IMPORTANT: To determine tractor engine type, see Record Engine Serial Number in Identification Numbers Section of this Operator's Manual.

IMPORTANT: It is unlawful to tamper with or remove any component of the aftertreatment system. It is also unlawful to use Diesel Exhaust Fluid (DEF) that does not meet the specifications provided or to operate the vehicle with no DEF.

IMPORTANT: Using incorrect or unapproved aftertreatment components can cause damage to vehicle's aftertreatment system and reduce ability of aftertreatment system to function correctly. Never interchange aftertreatment components between Interim Tier 4/Stage III B and Final Tier 4/Stage IV equipped vehicles.

NOTE: SCR system monitors quality of DEF flowing through it. If a fluid other than DEF at correct urea concentration is detected, system will display a diagnostic trouble code and a four hour internal counter starts. After four hours, engine power and speed are derated.

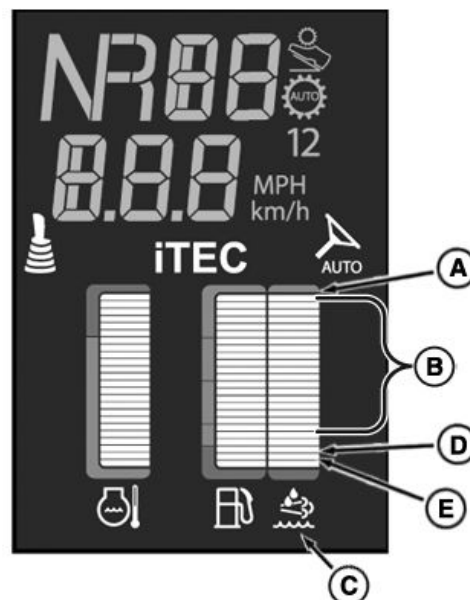
SCR system supplies Diesel Exhaust Fluid (DEF) to engine aftertreatment system. DEF works in conjunction with tractor aftertreatment components to reduce emissions. See Fuel, Lubricants and Coolant section of this Operator's Manual for specifications and information about DEF.

Tractor electronic systems monitor DEF level to assure proper performance. Corner Post Display shows current DEF level (A). When quantity of DEF reaches reduced levels, systems change tractor operation. Refilling DEF tank will cause system to return tractor to normal operation. Refilling DEF tank every time tractor is refueled is recommended. See Filling DEF Tank in Fuel, Lubricants and Coolant section of this Operator's Manual.

DEF level and operation changes:

Normal Operation—When DEF level is within this range (B), DEF symbol is on and tractor operates normally. Always maintain fill within this level for uninterrupted performance.

Low DEF Level 1—When DEF level drops to first red bar (D), DEF indicator light (C) flashes and a diagnostic



A—DEF Level Gauge
B—Normal Operation Range
C—DEF Indicator Light

D—Low DEF Level 1
E—Low DEF Level 2

trouble code is displayed and alarm sounds. Tractor operates normally, but refill of DEF tank is recommended.

NOTE: DEF indicator light continues to flash at Low DEF Level 2 on tractors equipped with 15 L engines.

Low DEF Level 2—When DEF level falls below this point (E), DEF indicator light stops flashing and constantly illuminates. A diagnostic trouble code is displayed and alarm sounds; engine power and speed are derated. Refill DEF tank and restart tractor to resume normal operation.

DEF freezes at -11°C (12°F) and will not flow to the SCR system. Tractor systems sense low temperature and allow engine to start, even with no DEF flow. Engine coolant is used to thaw fluid in DEF tank when engine is running. If system senses that DEF has thawed and SCR system is operating normally within forty minutes, tractor is allowed to continue operation. If DEF flow is not sensed within forty minutes, a diagnostic trouble code is displayed and a four hour internal counter starts. After four hours, engine power and speed are derated. Freezing and thawing of DEF does not degrade it.

RXA0137439 —UN—04DEC13

TO84419,0000398 -19-24SEP14-1/1

Engine Fuel System and Power Rating

Fuel System

IMPORTANT: Modification or alteration of injection system or emission control devices will terminate warranty to purchaser.

Do not attempt to service injection system. Special training and special tools are required. See your John Deere™ dealer.

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Engine Certification/Power Rating

kW (hp) rating on engine emissions certification label specifies gross engine kW (hp), which is flywheel power without fan.

TO84419,0000399 -19-06NOV12-1/1

Battery Disconnect Switch (If Equipped)

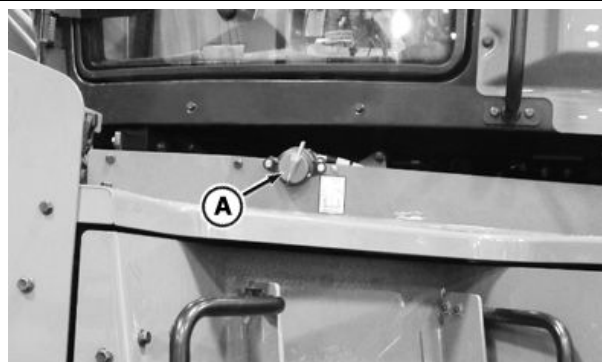
CAUTION: Never turn power off on the battery disconnect switch while the engine is running. This could result in serious damage to the tractor's electrical components.

IMPORTANT: During a long storage period, always turn battery disconnect switch to OFF position. The battery could lose power if the battery disconnect switch is left ON.

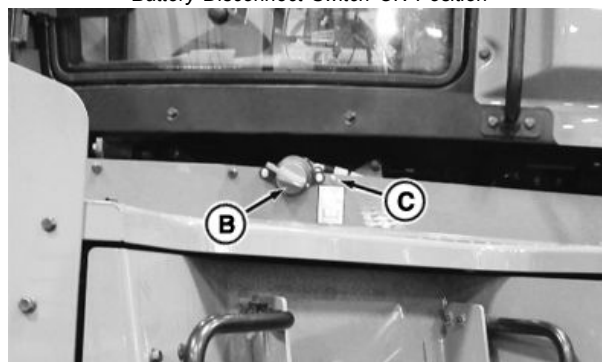
(Final Tier 4 and Stage IV Engines only.) To determine tractor engine type, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If equipped with a battery disconnect system, a light (C) next to disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

IMPORTANT: Final Tier 4/Stage IV tractor battery disconnect system is equipped with a warning light. Do not move battery disconnect switch to OFF position until the light goes out. Illuminated light indicates SCR system is in process of draining DEF. Full DEF drain process can take up to 4 minutes.



Battery Disconnect Switch ON Position



Battery Disconnect Switch OFF Position

A—Battery Disconnect Switch ON Position
B—Battery Disconnect Switch OFF Position
C—DEF Indicator Light (Final Tier 4/Stage IV Engine)

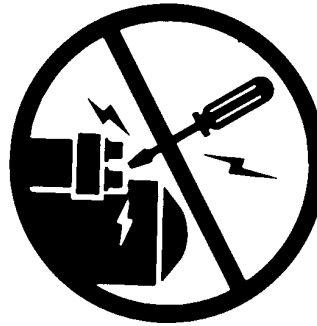
When battery disconnect switch is in OFF position (B), batteries are electrically disconnected from tractor electrical and electronic systems. Moving switch to ON position (A) reconnects batteries into system.

RW29387,0000643 -19-22JUN15-1/1

Start the Engine

⚠ CAUTION: Avoid possibility of personal injury or death. Engine starting with shift lever in gear indicates malfunction of starting circuit. Repair immediately. See your John Deere™ dealer.

Do not start engine by shorting across starter terminals. Tractor will start in gear if normal circuitry is bypassed. Start engine **ONLY** from operator seat.



Before Starting Tractor

1. Move SCV levers to NEUTRAL position.
2. Disengage PTO.
3. Move hand throttle to slow idle position.
4. Move transmission shift lever to PARK position.

⚠ CAUTION: Avoid possibility of serious injury or death. Be sure tractor and attached equipment are clear of people and other objects.

5. Depress clutch and brake pedals.
6. Sound horn.
7. Turn key switch (A) to engage starter. Release key when engine starts.

IMPORTANT: Avoid starter damage. Do not operate starter more than 30 seconds. Wait at least two minutes before trying again.

If Engine Fails To Start:

Check quantity and quality of fuel.

Check electrical system.

In cold weather (at or below -6 °C (21 °F)), follow steps listed in appropriate Cold Weather Starting topic in this section of this Operator's Manual.

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A—Key Switch

Engine speed is limited to 1500 rpm at temperatures below -18 °C (0 °F).

If engine fails to start after three attempts, see your John Deere™ dealer.

TS177 —UN—11JAN89

RXA0129144 —UN—30OCT12

TO84419,000039A -19-19FEB15-1/1

Theft Deterrent Systems (If Equipped)

Immobilizer Keys

Immobilizer is a system that must have a programmed key for that tractor. If the key does not have the specific electronic device, the engine starts, but only runs briefly before shutting off. Continued attempts with key not programmed for tractor will result in tractor engine turning over, but will not start.

NOTE: Immobilizer keys (A) can be identified because they are slightly thicker than a normal ignition key (B). Immobilizer keys are programmed for a specific tractor. There is only a limited number of keys available for any given tractor.

Immobilizer equipped tractors are delivered with two keys to the dealer. Up to three additional keys can be ordered through your John Deere™ dealer.

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Immobilizer Key Compared To Standard John Deere Key

A—Immobilizer Key

B—Normal Ignition Key

RXA0108294 —UN—24JUN10

KT81203,00000AB -19-21AUG14-1/2

CESAR Datatag

This theft deterrent system helps reduce tractor theft and also helps with recovery of stolen tractors.

Tractors equipped with the CESAR Datatag will have 2 large and 2 small waterproof, triangle shaped, identification plates located around the machine. These tags contain small Radio Frequency Identification (RFID) chips that can be read by a Datatag scanner to identify a machine if the serial numbers have been removed. Other secure items are used to identify tractors and/or tractor components if the machine is stolen.



CESAR Datatag

RXA0117725 —UN—09JUN11

KT81203,00000AB -19-21AUG14-2/2

Run the Engine

IMPORTANT: Do not start engine with throttle pushed completely forward.

Avoid excessive engine idling (more than 5 minutes). Prolonged idling may cause engine coolant temperature to fall below normal range. Prolonged idling causes crankcase oil dilution, due to incomplete fuel combustion, and permits formation of gummy deposits on valves, pistons, and piston rings. It promotes rapid accumulation of engine sludge and unburned fuel in exhaust system.

Operate engine between 1500—2100 rpm. Do not operate engine constantly below 1500 rpm during heavy draft usage or when tractor is under full PTO load.

For maximum tractor performance:

- Ensure that tractor is correctly ballasted (see Performance Ballasting section of this Operator's Manual).

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- For transmission information, see Operate the e18™ Powershift Transmission section of this Operator's Manual.

If engine stalls, start immediately to provide lubrication to critical engine parts.

Allow engine to idle for 20 seconds before turning key switch to OFF position.

Contact your John Deere™ dealer if any symptoms that may be early signs of engine problems are detected:

- Sudden drop in oil pressure
- Abnormal coolant temperatures
- Unusual noise or vibration
- Sudden loss of power
- Excessive fuel consumption
- Excessive oil consumption
- Fluid leaks

KT81203,00000C9 -19-19FEB15-1/1

Stop the Engine

IMPORTANT: Before stopping an engine that has been operating at working load, idle engine at least 2 minutes at 1000—1200 rpm to cool hot engine parts. If an Exhaust Filter Cleaning has just been performed, increase engine idle time to 4 minutes. If service work is going to be performed on exhaust filter, increase engine idle time to 10 minutes.

IMPORTANT: Final Tier 4 and Stage IV Engines only: To determine tractor engine type, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If equipped with a battery disconnect system, a light next to disconnect system is illuminated while

auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

1. Stop tractor and pull throttle back to slow idle position.
2. Depress clutch and brake pedals.
3. Put transmission in PARK position.
4. Lower all equipment to the ground.
5. Make sure SCV levers are in NEUTRAL position.
6. Pull rear PTO (if equipped) switch rearward to disengage PTO.

⚠ CAUTION: Remove ignition switch key to prevent accidents.

7. Turn key switch to OFF position and remove key.

RX32825,000068D -19-20FEB15-1/1

Cold Weather Starting—With Starting Aid (If Equipped)

CAUTION: Avoid personal injury and damage to engine. Inject fluid only while engine is turning. Follow safety information on the container. Do not carry starting fluid cans inside cab.

Starting fluid is highly flammable. While using this product do not smoke and make sure to extinguish all flames. Turn off all pilot lights, stoves, heaters, electrical motors, and other sources of ignition while using this product and/ or if vapors are still present. Avoid contact or aerosol with battery terminals, solenoid, or other electrical/electronic components. Do not overuse this product. Keep cap on container and store in cool location when not in use.

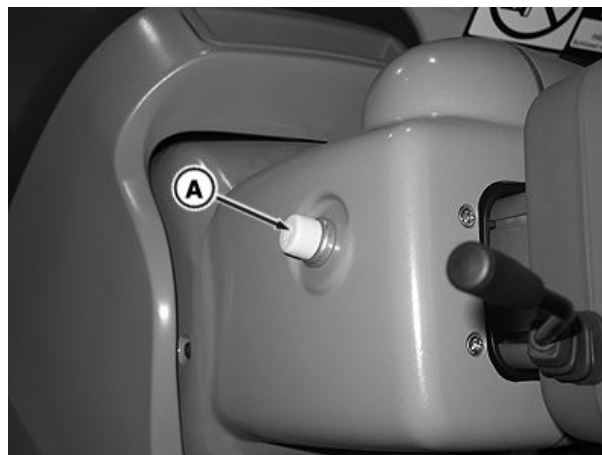
NOTE: Use of cold weather starting option is recommended when starting tractor at or below -6 °C (21 °F).

1. Start tractor as described in Starting the Engine in this section of this Operator's Manual.

IMPORTANT: Avoid starter damage. Do not operate starter more than 30 seconds. Wait at least two minutes before trying again.

When applying starter fluid, if pre-ignition knocking is detected, stop using starter fluid immediately.

2. Following are recommendations to follow if engine refuses to start. Make sure to turn ignition key and complete following steps while engine is cranking:
 - Apply starter fluid in series of quick taps rather than stream.



A—Starting Fluid Switch

- After series of taps (no more than three) on starter fluid button (A) release starter fluid button for three seconds.
- If engine attempts to start but falters, use tapping motion on starter fluid button sparingly and only until engine runs on its own.

IMPORTANT: Idle engine at approximately 1000 rpm with no load for one to two minutes to assure adequate lubrication. Do not operate under full load until engine has reached normal operating temperature.

RXA0129150 —UN—05NOV12

TO84419,00003AA -19-10DEC14-1/1

Cold Weather Starting And Operation—Internal Starting Aid

Internal starting aid alters fuel injection timing to enhance starting. Operating time of starting aid is dependent upon coolant temperature and hand throttle position.

Use following procedure:

1. Put hand throttle (A) in slow idle (900 rpm) position.
2. Start engine.
3. Leave hand throttle in slow idle position.

Operating Characteristics After Start of Engine:

- Operating cycle time varies from 3—30 seconds depending on temperature after engine is started.
- Moving hand throttle from the slow idle position will cancel starting aid cycle.
- Engine may run rougher and have increased diesel knock after end of starting aid cycle. This is normal.
- Engine will run smoother as engine temperature increases.

e18™ Powershift Transmission Cold Weather Operating Characteristics:

- When temperature is -10 °C (14°F) or lower it may take one minute to get parking brake released with operator in seat and transmission in gear. Several shifts between PARK and NEUTRAL may be required.
- When temperature is -10 °C (14°F) or above it may take 3 seconds to get parking brake released with operator in seat.

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Hand Throttle

A—Hand Throttle

- When shift lever is moved to NEUTRAL, corner post display will show “N” for three seconds. If park brake does not release “N” will change back to “P”. Move shift lever back to PARK then back to NEUTRAL until “N” displays more than three seconds.
- During cold weather starting, transmission will not shift into 14F through 18F speeds until normal operating temperature has been reached. Delayed shifting, slow hydraulic operation, hard steering, and limited engine rpm may also be noticeable until operating temperature is obtained.

RXA0138501 — UN—21JAN14

TO84419,00000B2 -19-21NOV14-1/1

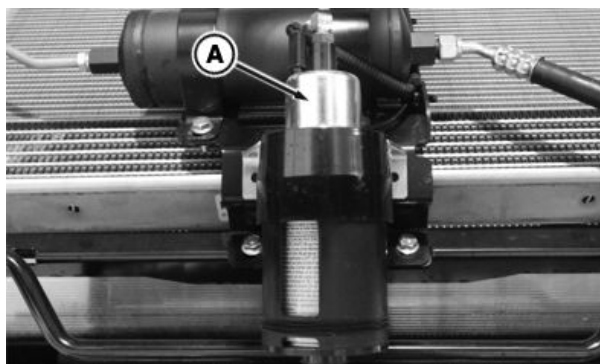
Change Starting Fluid Canister (If Equipped)

CAUTION: Do not use starting fluid near fire, sparks or flames. Read caution information on container. Protect container against damage. Do not carry starting fluid cans inside cab.

1. Raise hood to access canister (A).
2. Remove safety cap and plastic spray nozzle from new can.
3. Loosen canister and remove old can.

IMPORTANT: To avoid drawing dust into engine, always keep starting fluid can in position or clean bottom of canister and install bottom side up.

4. Install new can and tighten canister.



A—Starting Fluid Canister

RXA0141914 —UN—05JUN14

TO84419,000039B -19-24FEB15-1/1

Low Fuel or Low Diesel Exhaust Fluid (DEF) Warning

NOTE: It is recommended that DEF tank be filled at each fuel tank fill.

Fuel indicator light (A) will flash and alarm will sound when approximately 39 L (10 gal) of fuel remains.

DEF light (B) will flash and alarm will sound when fluid level is low.

A—Fuel Indicator Light

B—Diesel Exhaust Fluid (DEF) Light



Corner Post Display

RXA0139518 —UN—24FEB14

KT81203,00000CA -19-24FEB15-1/1

Restart Engine That Has Run Out of Fuel

1. Fill fuel tank.
2. Turn key switch to RUN position to start electric fuel pump and bleed air from fuel system.
3. Allow pump to run for 30 seconds to 1 minute before attempting to restart engine.

Fuel pump will turn off after 1 minute. Key switch must be turned to OFF and back to RUN to turn pump back on.

NOTE: Steps two and three may need to be repeated as necessary if fuel tanks have been removed or drained.

KT81203,00000CB -19-21NOV14-1/1

Reduce Fuel Consumption

Fuel consumption reduction guidelines:

- Replace air cleaner elements and fuel, engine oil, and transmission/hydraulic filter elements at specified service intervals (see Maintenance and Service Intervals section of this Operator's Manual or when indicated by CommandCenter™ display messages).
- Use recommended oils and lubricants only (see Fuel, Lubricants, and Coolant section of this Operator's Manual).
- Adjust hitch function for most efficient operation (see TouchSet Depth Control Section of this Operator's Manual).
- Check tire for correct pressure weekly (see Wheels, Tires, and Treads Section of this Operator's Manual).

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FieldCruise is a trademark of Deere & Company*

- Ballast tractor for conditions (see Performance Ballasting Section of this Operator's Manual).
- Select correct gear. Always drive in highest possible gear with reduced engine speed. Choose a gear so engine speed drops 150-250 rpm when tractor is operating and engine is under load (see Operate the e18™ section of this Operator's Manual).

NOTE: For light work, reduce engine speed below 2000 rpm. Select a gear so that engine speed drops 200—300 rpm when operating.

Using FieldCruise™ may improve fuel economy (see Activate and Set FieldCruise™ and Use FieldCruise™ with Different Transmission Modes in Operate the Tractor section of this Operator's Manual).

TO84419,00000B0 -19-20FEB15-1/1

Engine Coolant Heater Use—9.0 L Engine (If Equipped)

CAUTION: To avoid electrical shock or fire. Use a three-wire, 14 AWG (14 gauge), heavy-duty electrical cord with 15-amp rating, suitable for outdoor use. Always plug electrical cord into 220 volt outlet protected by GFI (Ground Fault Interrupter).

Before connecting heater to power source, be sure that element is immersed in coolant. NEVER energize heater in air. Doing so can cause element sheath to burst causing personal injury.

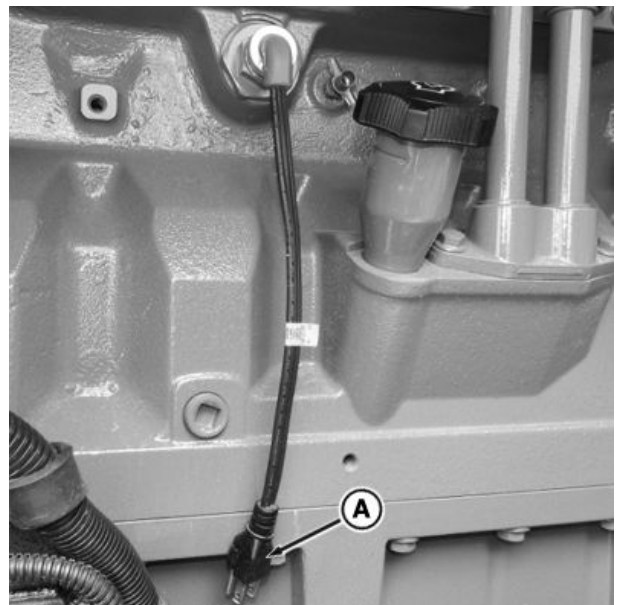
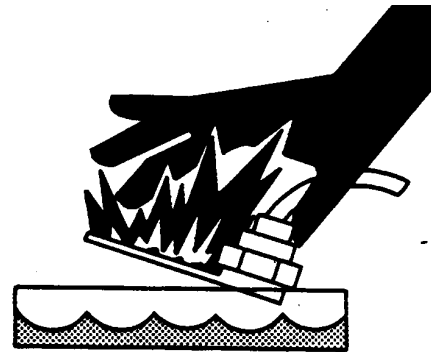
IMPORTANT: Ground fault interrupter on tractor protects tractor only, not electrical wiring supplying power to tractor. Test ground fault interrupter before each use.

NOTE: Extremely cold weather may require 1—2 hours to heat engine.

Connect heater plug (A) located on, left-hand side of engine, to a ground fault protected 220 volt electrical outlet.

A 1000 W engine coolant heater is available from your John Deere™ dealer.

A—Engine Coolant Heater Plug



Left-Hand Side of Engine

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KT81203,0000173 -19-24AUG15-1/1

TS210—UN—23AUG88

RXA0142165—UN—05JUN14

Engine Coolant Heater Use—13.5 L Engine (If Equipped)

CAUTION: To avoid electrical shock or fire, use 3-wire, 14 AWG (14 gauge), heavy-duty electrical cord with 15-amp rating, suitable for outdoor use. Always plug electrical cord into 220 volt outlet protected by GFI (Ground Fault Interrupter).

Before connecting heater to power source, be sure that element is immersed in coolant. **NEVER** energize heater in air. Doing so can cause element sheath to burst causing personal injury.

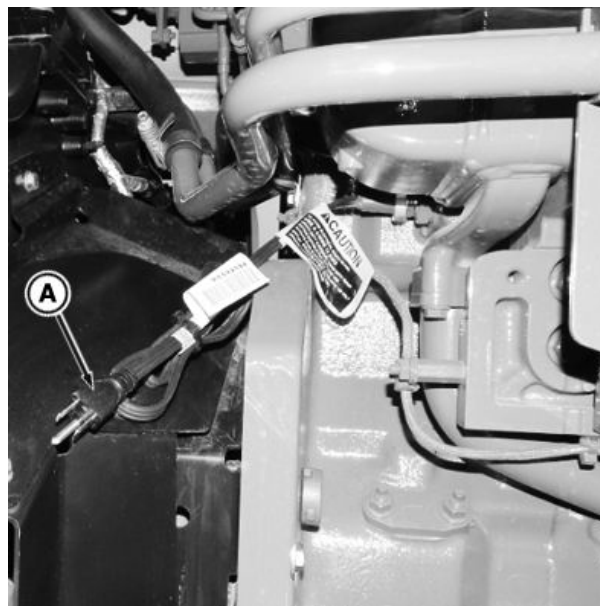
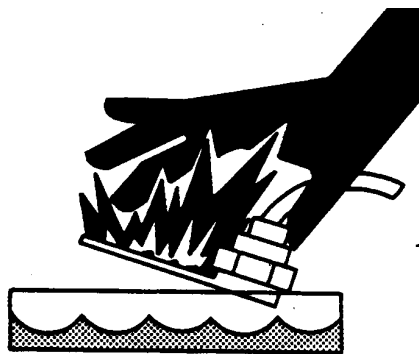
IMPORTANT: Ground fault interrupter on tractor protects tractor only, not electrical wiring supplying power to tractor. Test ground fault interrupter before each use.

NOTE: Extremely cold weather may require 1—2 hours to heat engine.

Connect heater plug (A), located on right-hand side of engine, to a ground fault protected 220 volt electrical outlet.

A 1000 W engine coolant heater is available from your John Deere™ dealer.

A—Engine Coolant Heater Plug



Right-Hand Side of Engine

John Deere is a trademark of Deere & Company

TS210 —UN—23AUG88

RXA0142164 —UN—05JUN14

KT81203,0000174 -19-24AUG15-1/1

Engine Coolant Heater Use—15 L Engine (If Equipped)

CAUTION: To avoid electrical shock or fire, use 3-wire, 14 AWG (14 gauge), heavy-duty electrical cord with 15-amp rating, suitable for outdoor use. Always plug electrical cord into 220 volt outlet protected by GFI (Ground Fault Interrupter).

Before connecting heater to power source, be sure that element is immersed in coolant. **NEVER** energize heater in air. Doing so can cause element sheath to burst causing personal injury.

IMPORTANT: Ground fault interrupter on tractor protects tractor only, not electrical wiring supplying power to tractor. Test ground fault interrupter before each use.

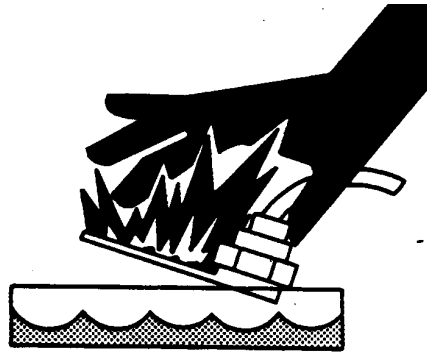
NOTE: Extremely cold weather may require 1—2 hours to heat engine.

Connect heater plug (A), located on right-hand side of engine, to a ground fault protected 220 volt electrical outlet.

A 1000 W engine coolant heater is available from your John Deere™ dealer.

A—Engine Coolant Heater Plug

John Deere is a trademark of Deere & Company



Right-Hand Side of Engine

TSS210—UN—23AUG88

RXA0141916—UN—05JUN14

KT81203,0000175 -19-24AUG15-1/1

Use Battery Booster or Charger

CAUTION: Gas given off by batteries is explosive. Keep sparks and flames away from batteries. Make last connection and first disconnection at point away from booster batteries.

CAUTION: Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.

IMPORTANT: Be sure polarity is correct before making connections. Reversed polarity will damage electrical system or possibly cause battery to explode.

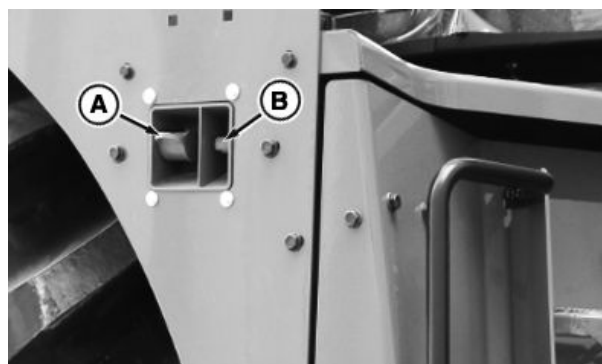
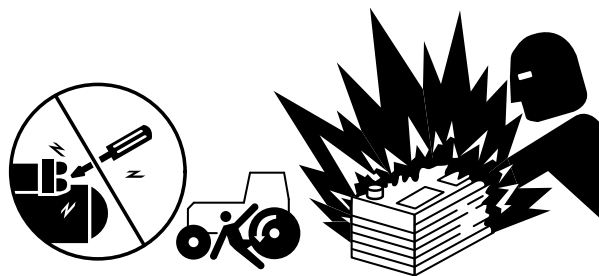
If two or more booster batteries are used, they must be connected in parallel ensuring booster batteries are producing 12 volt charge.

Final Tier 4 and Stage IV Engines only: To determine tractor engine type, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual. Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If equipped with a battery disconnect system, a light next to disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

Booster Battery

1. Remove cap and attach red cable to remote positive terminal (A) of starter and positive terminal of booster battery.



A—Positive Terminal

B—Ground

2. Attach black cable to negative terminal of booster battery. Attach other end to ground (B).
3. Remove ground cable first when disconnecting.

Battery Charger

IMPORTANT: Set battery charger at nominal 12 volt and no more than 16 volt maximum.

1. Remove cap and attach positive charger lead to positive remote terminal with charger in OFF position. Attach negative charger lead to ground at tractor frame, away from batteries.
2. Switch charger to ON and charge battery according to charger manufacturers instructions.
3. Switch charger to OFF. Remove negative charger lead first, then positive lead.

RXA0086722 —UN—10FEB06

RXA0146523 —UN—05DEC14

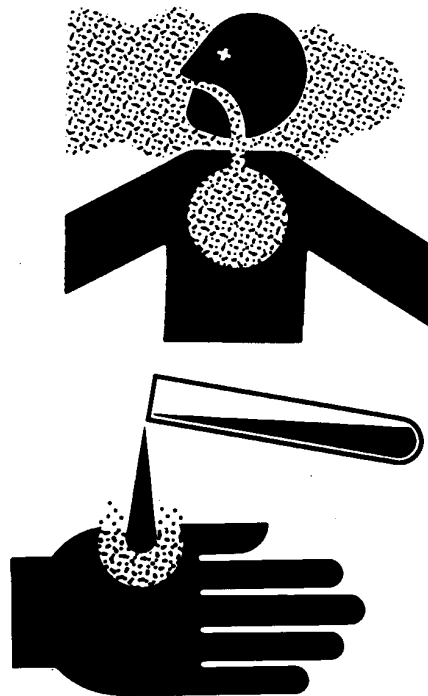
KT81203,0000153 -19-05DEC14-1/1

Tractor Operation

Avoid Contact with Agricultural Chemicals

CAUTION: This enclosed cab does not protect against inhaling vapor, aerosol or dust.

1. When operating in an environment where pesticides are present, wear a long-sleeved shirt, long-legged pants, shoes, and socks.
2. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.
3. Wear personal protective equipment as required by the pesticide use instructions when leaving the enclosed cab:
 - into a treated area
 - to work with contaminated application equipment such as nozzles which must be cleaned, changed or redirected
 - to become involved with mixing and loading activities
4. Before re-entering the cab, remove protective equipment and store either outside the cab in a closed box or some other type of sealable container or inside the cab in a pesticide resistant container, such as a plastic bag.
5. Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.



DX,CABS1 -19-25MAR09-1/1

TS220 —UN—15APR13

TS272 —UN—23AUG88

Clean Vehicle of Hazardous Pesticides

CAUTION: During application of hazardous pesticides, pesticide residue can build up on the inside or outside of the vehicle. Clean vehicle according to use instructions of hazardous pesticides.

When exposed to hazardous pesticides, clean exterior and interior of vehicle daily to keep free of the accumulation of visible dirt and contamination.

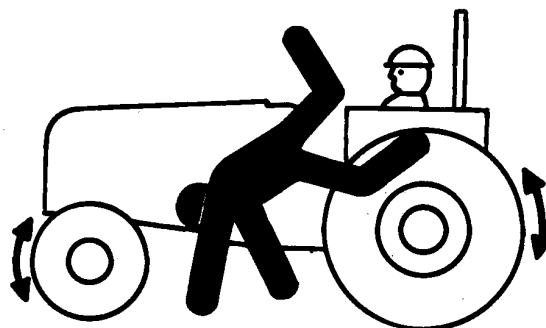
1. Sweep or vacuum the floor of cab.
2. Clean headliners and inside cowlings of cab.
3. Wash entire exterior of vehicle.
4. Dispose of any wash water with hazardous concentrations of active or non-active ingredients according to published regulations or directives.

DX,CABS2 -19-24JUL01-1/1

Keep Riders Off Machine

Only allow the operator on the machine. Keep riders off.

Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.



DX,RIDER -19-03MAR93-1/1

TS290 —UN—23AUG88

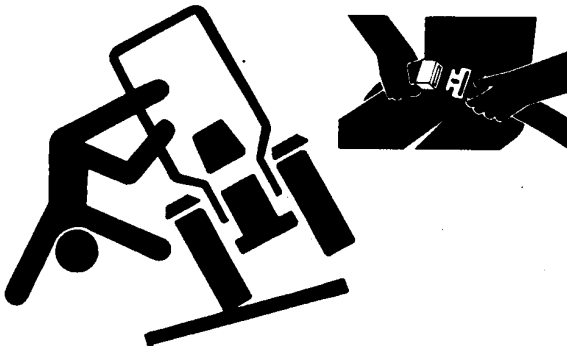
Keep Operator Station Window and Door Closed

CAUTION: Avoid undue exposure to noise and debris. Keep window and door closed during machine operation.

Properly close and latch door and rear window to prevent noise and debris from entering operator station.

RW29387,000004F -19-24FEB15-1/1

Use Seat Belts



TSS205—UN—23AUG88



RXA0129149—UN—30OCT12

Optional Passenger Seat Shown

A—Seat Belts

CAUTION: Minimize chance of possible injury from accident. Use seat belts (A) when operating tractor.

Instructional seat is provided only for training operators or diagnosing machine problems.

Keep all other riders off tractor and equipment. Always wear your seat belt.

Inspect seat belts and mounting hardware annually (see Annual Service section of this Operator's Manual).

KT81203,000020C -19-24FEB15-1/1

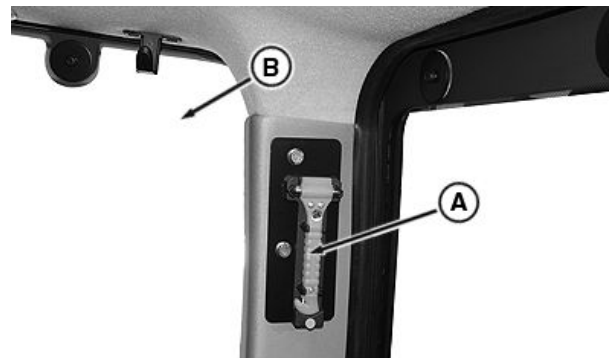
Use Emergency Exit

CAUTION: Use emergency exit only when cab door is blocked. Before using hammer, cover eyes, face and uncovered skin to avoid injury from broken glass.

In case of an emergency and doors are blocked, open rear window (B) to exit. If rear window is also blocked, use hammer (A) in cab to break window and exit.

A—Hammer

B—Rear Window



Emergency Exit

RXA0141894—UN—02JUN14

KT81203,0000110 -19-04JUN14-1/1

Disconnect Battery—Final Tier 4 and Stage IV Engines

IMPORTANT: To determine tractor engine type, see Record Engine Serial Number in Identification Numbers Section of this Operator's Manual.

IMPORTANT: Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF

remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If equipped with a battery disconnect system, a light next to disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

RX32825,000074F -19-16JAN15-1/1

Change Tire Size

IMPORTANT: Before changing size of tire, see Using Correct Tire Combinations in Wheels, Tires, and Treads section of this Operator's Manual.

Perform wheel slip calibration (see Calibrations in CommandCenter™ section of this Operator's Manual).

See your John Deere™ dealer to recalibrate for tire size.

*John Deere is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company*

RW29387,0000629 -19-11NOV14-1/1

Warm-Up Transmission-Hydraulic System

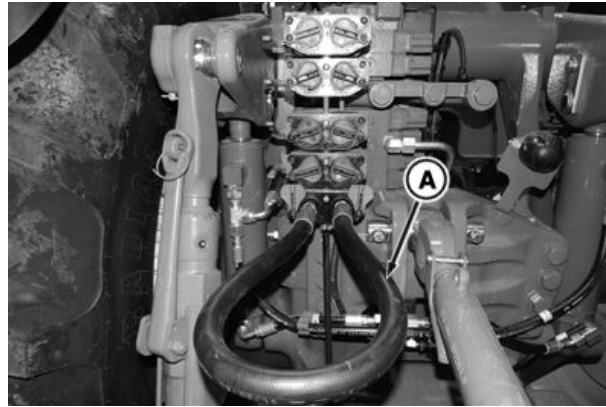
Set Detent Time

IMPORTANT: Avoid operating tractor under load until transmission-hydraulic system has warmed up. Tractor-hydraulic warm-up procedure is recommended at temperatures at or below -5 °C (23 °F).

1. Install jumper hose (A) into SCV I couplers.
2. Place transmission lever in PARK position before starting tractor.
3. Turn key switch to START position.
4. Press SCV Shortcut Button on Navigation Bar.
5. Select SCV I module.
6. Select SCV I Time tab (C).
7. Select increase (+) button (D) to extend flow time to C (continuous) in input box (E). Adjustment dial (G) can also be used to increase or decrease desired detent time setting.
8. Set SCV II to C using steps 5 through 7.

A—Jumper Hose
B—Detent Flow Tab
C—Detent Time Tab
D—Increase Time Button

E—Input Box
F—Decrease Time Button
G—Adjustment Dial

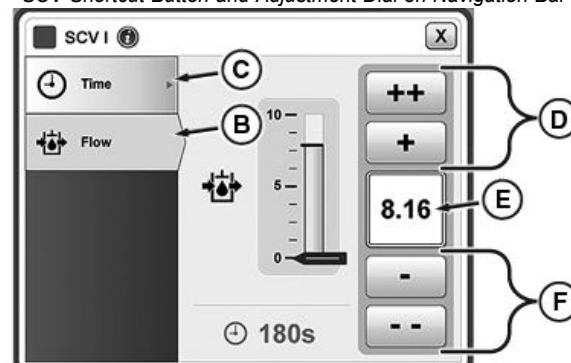


Install Jumper Hose Into SCV Coupler

RXA0141641 —UN—22MAY14



SCV Shortcut Button and Adjustment Dial on Navigation Bar



SCV Detent Time

Continued on next page

KT81203,0000158 -19-09JUL14-1/3

RXA0142308 —UN—09JUN14

RXA0127834 —UN—24AUG12

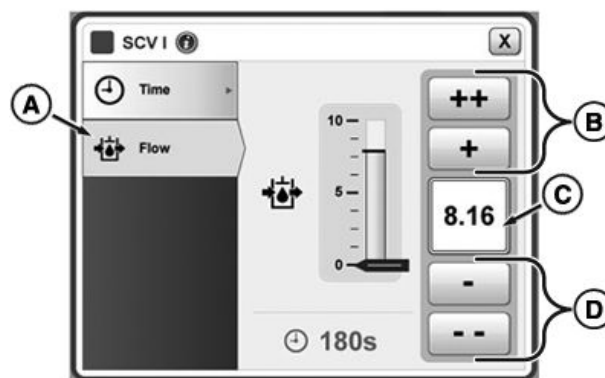
Set Detent Flow

NOTE: Flow is displayed in increments of 0.04 beginning at 0.04 through 10 located in input box (C). Pushing (+) increases flow by 0.04, pushing (++) increases flow by 1.00, and by pushing (-) and (- -) decreases flow setting by same increments.

1. Select SCV I flow tab (A).
2. Set SCV I flow to 8.00 or above (C) by pressing buttons (B) to increase flow or buttons (D) to decrease flow setting. Adjustment dial (G) can be used to increase or decrease desired detent flow setting.
3. Pull SCV I (E) and SCV II (F) levers to extend detent.
4. Operate engine at 1400 rpm.

A—SCV 1 Flow Tab
B—Increase Flow buttons
C—Flow Input Box
D—Decrease Flow buttons

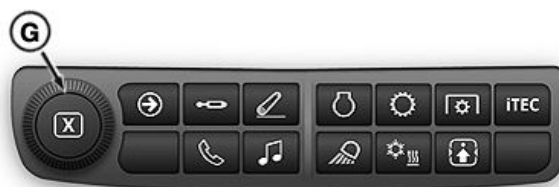
E—SCV I Lever
F—SCV II Lever
G—Adjustment Dial



SCV Detent Flow



CommandArm™



Adjustment Dial on Navigation Bar

Continued on next page

KT81203,0000158 -19-09JUL14-2/3

RXA0131683 —UN—28MAR13

RXA0142612 —UN—16JUN14

RXA0131233 —UN—09MAY13

Monitoring Hydraulic Oil Temperature

RXA0126813 —UN—12JUN12

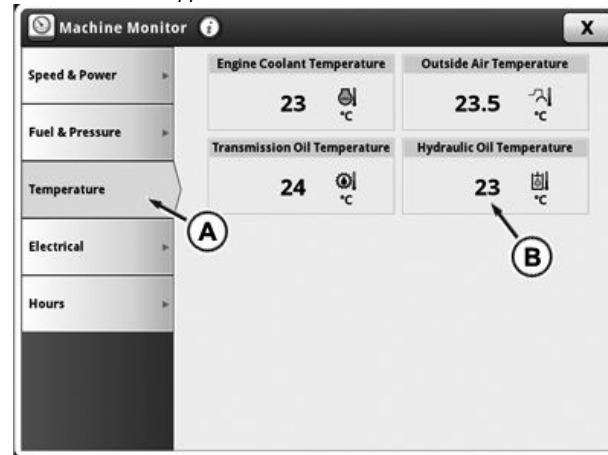
1. Select **Menu**.
2. Select **Applications** tab.
3. Select **Machine Monitor** icon.
4. Select Temperature tab (A).
5. Select hydraulic oil temperature reading (B) and monitor until temperature reaches 38 °C (100 °F).
6. Return SCV I and SCV II lever to neutral position.
7. Disconnect jumper hose and return to normal operation.

A—Temperature Tab

B—Hydraulic Oil Temperature Reading



Menu → Applications Tab → Machine Monitor Icon.



Temperature Display on Machine Monitor Page

RXA0142555 —UN—12JUN14

KT81203,0000158 -19-09JUL14-3/3

Activate and Set FieldCruise™

Limiting engine speed in light load situations may improve fuel economy. FieldCruise™ utilizes a constant speed governor curve, providing instant response to varying loads. Two different FieldCruise™ speeds can be set, enabling operator to toggle quickly from one to the other.

RXA0133711 —UN—16JUL13

Activate FieldCruise™

Engine must be running for FieldCruise™ adjustment to operate.

1. Select Engine Shortcut Button on Navigation Bar
2. When engine page appears, select FieldCruise™ Speed 1 (A) or 2 (B) On/Off toggle button.

NOTE: FieldCruise™ can also be activated using FieldCruise™ ON/OFF button (E) on CommandARM™. When CommandARM™ FieldCruise™ ON/OFF button is pressed, last FieldCruise™ mode selected with CommandCenter™ will be activated.

Adjust FieldCruise™ Set Speed

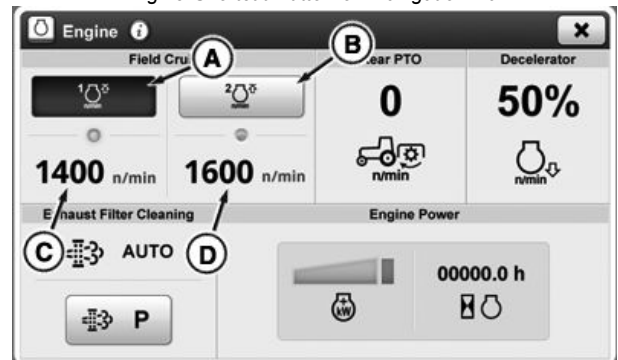
FieldCruise™ is an upper limit to engine speed. Engine speed limit can be adjusted from 1100 to 2150 RPM. Changes to FieldCruise™ take place immediately.

1. Select FieldCruise™ Set Speed 1 (C) or 2 (D) input module.
2. When FieldCruise™ Set Speed 1 or 2 page appears, select desired speed by using FieldCruise™ Set Speed increase (F) or decrease (H) button. “++” and “-” buttons increase or decrease values at higher rate than “+” and “-” buttons. FieldCruise™ Set Speed value appears in FieldCruise™ Set Speed input box (G).

- | | |
|---|--|
| A —FieldCruise™ Speed 1 On/Off Toggle Button | E —FieldCruise™ ON/OFF Button |
| B —FieldCruise™ Speed 2 On/Off Toggle Button | F —FieldCruise™ Set Speed Increase Button |
| C —FieldCruise™ Set Speed 1 Input Module | G —FieldCruise™ Set Speed Input Box |
| D —FieldCruise™ Set Speed 2 Input Module | H —FieldCruise™ Set Speed Decrease Button |



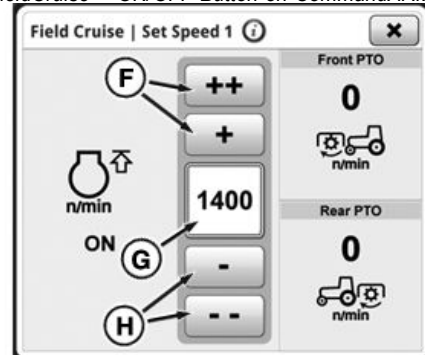
Engine Shortcut Button on Navigation Bar



Engine Page



FieldCruise™ ON/OFF Button on CommandARM™



FieldCruise™ Set Speed 1 Page

FieldCruise is a trademark of Deere & Company
CommandARM is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

TO84419,00002DC -19-17JUN15-1/1

RXA0131031 —UN—18FEB13

RXA0139472 —UN—24FEB14

RXA0141564 —UN—13MAY14

Use FieldCruise™ with Different Transmission Modes

Change transmission mode by using Transmission Page on CommandCenter™ display. Following is how FieldCruise™ works with different transmission modes:

Full Auto: At full throttle, minimum engine speed is 1500 RPM with PTO off. Transmission downshifts and engine speeds up to FieldCruise™ set speed, to compensate for increasing workloads. Available engine speed range is 1500 RPM to FieldCruise™ set speed.

CommandCenter is a trademark of Deere & Company

Custom: Minimum engine speed depends on ECO engine speed setting on transmission page. Transmission downshifts and engine speeds up to FieldCruise™ set speed, to compensate for increasing workloads. Available engine speed range is ECO engine speed setting to FieldCruise™ set speed.

Manual: Operator sets engine speed using hand throttle. Engine speed stays constant, but limited by FieldCruise™ set speed.

KT81203,0000109 -19-29JAN15-1/1

Operate HydraCushion™ Front Axle Suspension (If Equipped)

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **Suspension icon**.
4. Select desired front axle and cab suspension setting.

RXA0147938 —UN—13APR15

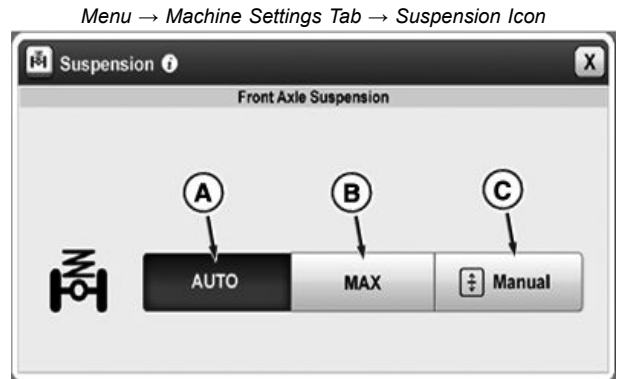


HydraCushion™ Front Axle Suspension

HydraCushion™ Front Axle Suspension can be set to two different firmness levels and a manual position option: “AUTO” (A), “MAX” (B), and “Manual” (C).

Suspended front axle engages whenever tractor travel speed exceeds 0.5 km/h (0.3 mph). Control after tractor begins moving is delayed. Suspension is active anytime tractor is not in park.

- If “AUTO” (A) is selected, suspension reacts in response to surrounding conditions and events. Provides best possible comfort by looking at inputs such as travel speed, surface characteristics, implement weight, implement usage, and braking activity.
- If “MAX” (B) is selected, suspension is set to maximum hardness (e.g. for operation with a front mounted dozer blade). When travel speed exceeds 30 km/h (18 mph), “MAX” setting is deactivated. When travel speed drops below 20 km/h (12 mph), “MAX” setting is reactivated.
- If “Manual” (C) is selected, operator is able to adjust chassis height by pressing raise button (D) or lower button (E). Manual setting is overridden when travel speed exceeds 5 km/h (3 mph). When overridden, system returns to previously active mode.



RXA0143564 —UN—10JUL14

Start Up Mode

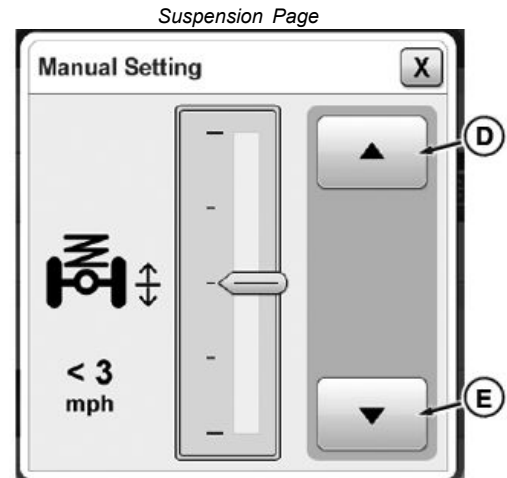
- HydraCushion™ Suspension does not move until placed into either forward or reverse gear.
- HydraCushion™ suspension flexes when transmission shift lever is placed in NEUTRAL or any forward or reverse gear.
- If tractor has settled, HydraCushion™ Suspension may rise about 25 mm (1 in.) seeking to center.
- Leveling is completed when tractor wheel speed is above 0.5 km/h (0.3 mph).

HydraCushion™ Suspension in Locked Conditions (Restricted Mode)

- Operator activates hitch raise/lower switch
- Transmission shift lever placed in PARK
- Wheel speed less than 0.5 km/h (0.3 mph)
- Correcting for unlevel condition
- Operator applies both brake pedals

Hitch

- Control units limit suspension response when hitch is raised or lowered with load sense front weight changes
- Depressing clutch and moving transmission shift lever into gear for four seconds and then back to NEUTRAL adjusts suspension toward mid-point. This can be repeated until tractor levels when attaching and detaching implements.



Manual Settings Page

- A—Front Axle Suspension
AUTO Setting Button
B—Front Axle Suspension
MAX Setting Button
C—Manual Positioning Setting
Button

- D—Raise Button
E—Lower Button

RXA0139522 —UN—25FEB14

Parking Tractor

IMPORTANT: Prevent possible damage. Do not park tractor with equipment or items under front end of tractor.

- Front end can settle when tractor is parked. Keep front end of tractor away from equipment or other items.

Continued on next page

KT81203.0000177 -19-15APR15-1/2

HydraCushion is a trademark of Deere & Company

KT81203,0000177 -19-15APR15-2/2

Differential Lock

IMPORTANT: Engage differential lock before entering situation where wheel slippage may occur or when all wheels appear to be turning at same speed. If engaged after wheels begin to spin, damage to differential could result.

NOTE: Differential lock for front and rear axles engage at the same time.

Differential Lock latches wheel axles together to provide best traction possible for slippery field conditions.

When one wheel begins to slip, differential lock can be engaged by selecting either of the two operating positions:

Auto Lock — Enter Auto mode by pressing Auto Lock switch (A) on armrest. When in auto mode, LED in Auto lock switch illuminates. Differential lock indicator (C) illuminates when differential lock is engaged. Auto Lock:

- Disengages when wheel speed is more than 23 km/h (14 mph), brake pedal is depressed or steering angle greater than selected value. For more information on how to change differential lock steering angle see Adjust Steering Angle to Disengage Differential Lock in this section of this Operator's Manual.
- Engages when wheel speed falls below 19 km/h (12 mph), steering angle less than selected value and brake is released.

NOTE: When Auto lock switch is pressed, button is always lit until pressed again. Differential lock remains in Auto mode until operator selects Manual Lock (B), Differential Lock floor switch (D) or press Auto Lock switch again. Differential Lock indicator turns on and off depending on the state of differential lock.

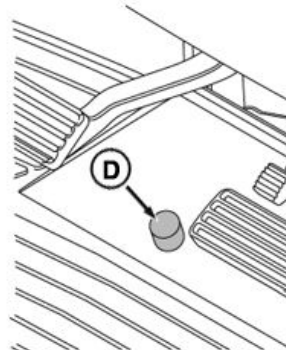
Manual Lock — Enter Manual mode by pressing either Manual Lock switch on armrest or Differential Lock floor switch. When in Manual mode, LED in Manual Lock switch and Differential lock indicator illuminates. Press Manual Lock switch a second time or depress brake pedal to disengage Manual mode.



CommandARM™ Differential Lock Controls



Corner Post Display



Differential Lock Floor Switch

A—Auto Lock Switch
B—Differential Lock Switch

C—Differential Lock Indicator
D—Differential Lock Floor Switch

CommandARM is a trademark of Deere & Company

KT81203,0000141 -19-13JUN14-1/1

RXA0141547 —UN—12MAY14

RXA0141544 —UN—12MAY14

RXA0141548 —UN—12MAY14

Change Differential Lock Disengagement Steering Angle

Higher disengage steering angles require operator to turn steering wheel further before differential lock disengages. Use in high slip field conditions that require large steering corrections to maintain desired path. Differential lock remains engaged while making steering corrections across field, but automatically disengages on headland turns.

Lower disengage steering angles allow differential lock to disengage sooner (less movement of the steering wheel), which is useful in high traction (e.g. concrete) conditions. Differential lock remains engaged during straight-line work, while minimizing tractor jerk when disengaged or reengaged.

Use Transmission Advanced Settings to adjust steering angle to disengage differential lock.

1. Select **Transmission Shortcut Button on Navigation Bar**.
2. Select **Advanced Settings icon**.
3. Select **Settings tab**.
4. Select desired steering angle to disengage differential lock using Steering Angle Toggle Bar (A).

A—Steering Angle Toggle Bar

RXA0133712 —UN—16JUL13



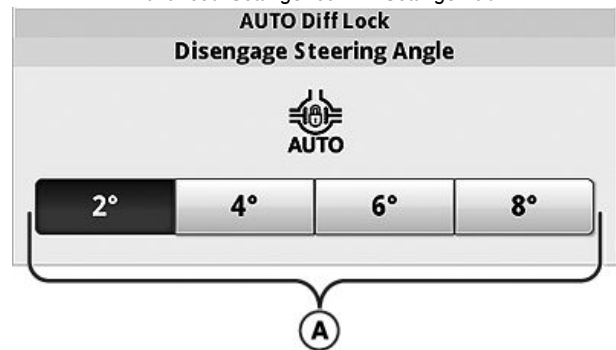
Transmission Shortcut Button on Navigation Bar

RXA0130326 —UN—11JAN13



Settings

Advanced Settings Icon → Settings Tab



Differential Lock Steering Angle

KT81203,0000127 -19-21NOV14-1/1

RXA0138557 —UN—12FEB14

Use Foot Decelerator

NOTE: Engine must be running to operate foot decelerator.

RXA0133711 —UN—16JUL13

Use foot decelerator, to slow down engine rpm, when turning at end of field.

NOTE: When using Efficiency Manager™ and depressing foot decelerator, transmission downshifts to startup gear may occur in order to reduce wheel speed. To reduce number of shifts (see Setting Startup Gears in Operate the e18™ Powershift Transmission section of this Operator's Manual).

Adjust Engine RPM Decelerator Percentage:

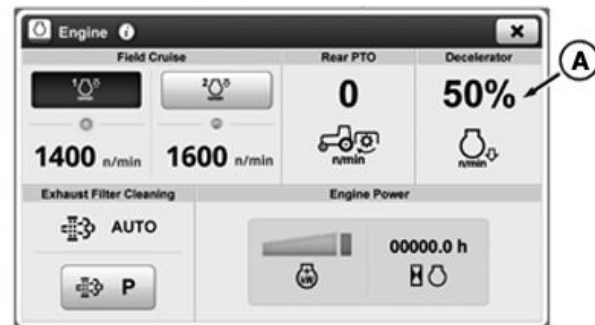
1. Press **Engine Shortcut Button on Navigation Bar**.
2. Select decelerator percentage module (A) to adjust maximum engine (throttle) rpm. Decelerator percentage can be adjusted from 50 to 95 percent.
3. Push foot decelerator (B) to lower engine rpm. Speed resumes when foot decelerator is released.

A—Decelerator Percentage Module

B—Foot Decelerator



Engine Shortcut Button on Navigation Bar



Engine Page



Foot Decelerator

RXA0130615 —UN—31JAN13

RXA0119445 —UN—04AUG11

e18 is a trademark of Deere & Company

TO84419,00000C0 -19-01JUN15-1/1

Drivetrain Protection—9470R, 9520R, 9570R and 9620R

NOTE: When tractor is operated under heavy load and low engine rpm, Powershift transmission may default to NEUTRAL. PARK will engage once wheel speed drops below 1.75 km/h (1.0 mph) for vehicle protection.

To engage transmission, move Powershift transmission lever to PARK, reduce load, and then shift back into desired operating gear.

A TIP Diagnostic code will be stored and displayed when default to PARK condition occurs.

Drivetrain protection system is gear-sensitive and will not be apparent in most situations. It does not affect load starting and only affects operations in gears with maximum operating speeds below 7 km/h (4.4 mph). Full engine

horsepower, plus 10 percent power bulge is available in all other gears. With proper ballast, 4WD tractor is traction limited not power limited, at slow ground speeds.

Electronic engine controls provide protection from drivetrain overloading. Engine horsepower is automatically reduced to protect drivetrain components when:

- Air Filter Restriction Warning is activated (CCU 000107.00) the engine performance will be reduced. Service engine air filter immediately.
- Fuel filter(s) become plugged resulting in a loss of power due to a reduction in delivered fuel. Service engine fuel filter immediately.
- See your John Deere™ Dealer for more details.

Gear	9470R Power	9520R Power	9570R Power	9620R Power
6	470 hp (346 kW)	520 hp (382 kW)	570 hp (419 kW)	620 hp (456 kW)
5	445 hp (327 kW)	520 hp (382 kW)	570 hp (419 kW)	594 hp (437 kW)
4	420 hp (309 kW)	520 hp (382 kW)	570 hp (419 kW)	570 hp (419 kW)
3	397 hp (292 kW)	520 hp (382 kW)	544 hp (400 kW)	544 hp (400 kW)
2	397 hp (292 kW)	520 hp (382 kW)	518 hp (381 kW)	518 hp (381 kW)
1	397 hp (292 kW)	520 hp (382 kW)	518 hp (381 kW)	518 hp (381 kW)

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TO84419,00000C1 -19-17JUN14-1/1

Brake Use

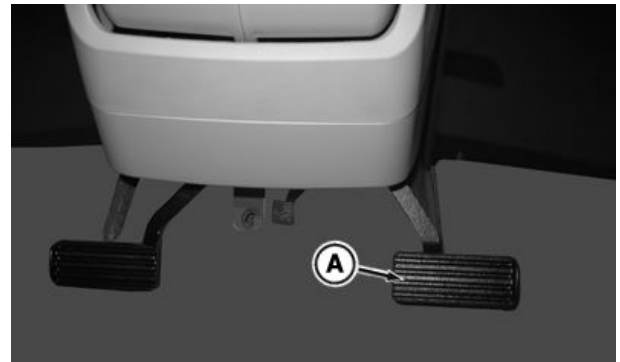
CAUTION: Avoid possible personal injury. Reduce speed if towed load weighs more than tractor or transporting loads under adverse conditions. Avoid hard braking applications (see implement manual and Transport Section).

IMPORTANT: Avoid unnecessary wear on brakes. DO NOT rest foot on brake pedal during tractor operation.

NOTE: Brake life can be extended when stopping large loads by using a combination of engine motoring and service brake torque to slow the vehicle. This can be achieved by downshifting and then using service brakes to further slow vehicle and bring engine speed to idle.

Test brakes with engine stopped to be sure manual brake system is functioning (see Maintenance and Service Intervals section of this Operator's Manual).

Press brake pedal (A) to stop tractor while disengaging clutch.



A—Brake Pedal

Maintain at least 1800 engine rpm during aggressive braking events to ensure adequate cooling oil flow is directed to vehicle brakes. Do not over speed engine as it may cause damage to engine or transmission components.

RXA0135769 —UN—26SEP13

TO84419,00000C9 -19-17JUN15-1/1

Engine Brake (15 L Engine)

IMPORTANT: Engine braking system assists vehicle's service brakes in slowing down vehicle. **Never** use only engine brakes to stop vehicle.

Do not exceed governed engine speed when operating engine brakes. Engine damage can occur.

Tractors with 15 L engines are equipped with an engine braking system. Engine brakes reduce tractor speed, during transport, by the use of engine compression, allowing for less wear on service brakes.

1. Select **Engine Shortcut** button on **Navigation Bar**.
2. Select **Advanced Setting** icon.
3. Select **Settings** tab.
4. Turn engine brake ON using ON/OFF toggle (A)

Use engine brake when traveling, under load, on level surfaces. Three user selectable braking power level settings can be used depending on load weight, speed and road conditions:

- Low (B): 33-percent engine braking power. Use when transporting light loads.
- Medium (C): 67-percent engine braking power. Use when transporting light/medium loads
- High (D): 100-percent engine braking power. Use when transporting heavy loads.

A—ON/OFF Toggle
B—Low

C—Medium
D—High

RXA0133711 —UN—16JUL13

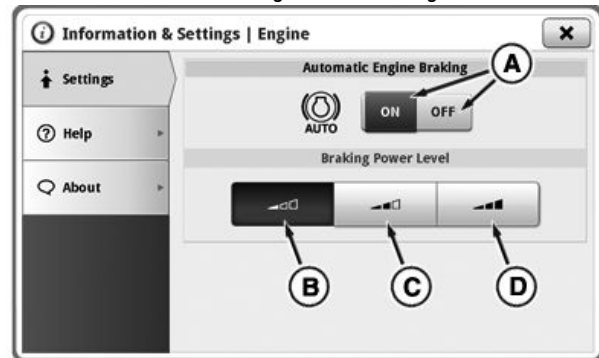


Engine Shortcut Button on Navigation Bar

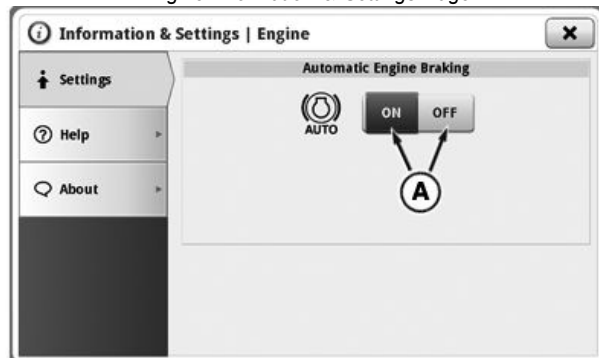
RXA0147944 —UN—13APR15



Advanced Settings Icon → Settings Tab



Engine Information & Settings Page



Engine Information & Settings Page (If Equipped)

KT81203,0000253 -19-28AUG15-1/1

RXA0148264 —UN—27MAY15

RXA0149830 —UN—28AUG15

Use Secondary Brake Lever (If Equipped)

NOTE: Secondary brake lever will apply brakes only to rear axle.

NOTE: Lever is spring loaded to off position, so must be held back to engage brake.

Pull lever (A) back to engage secondary brake. Brake indicator will light when engaged. To release secondary brake, release lever.

A—Secondary Brake Lever



Secondary Brake Lever

KT81203,0000164 -19-16JUN14-1/1

RXA0142615—UN—16JUN14

Hydraulic Trailer Brakes (If Equipped)

CAUTION: Avoid possible injury from losing control of tractor when operating on downhill slopes. Tractor wheels may lock and skid on steep or slippery downhill slopes.

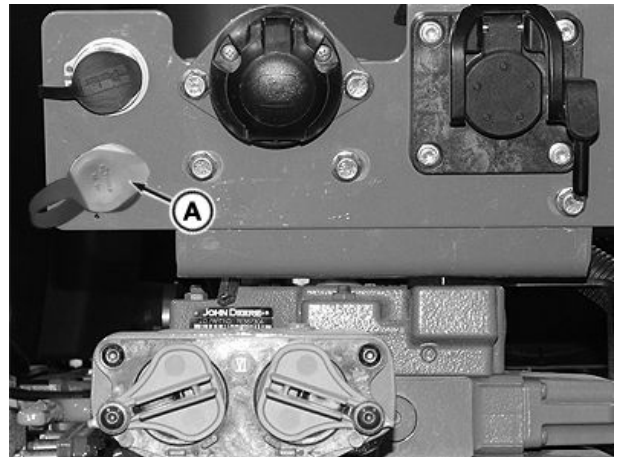
IMPORTANT: Operating tractor with three scrapers requires tractor and all scraper pans be equipped with hydraulic trailer brakes. Reference Towing Loads and Transporting with Ballast in Transport section of this Operator's Manual.

Remove cap from trailer brake coupler (A). Ensure the hose coupler is clean before connecting to trailer brake coupler.

Depress brake pedal to operate hydraulic trailer brake. Braking effect depends on pressure applied to brake pedal.

IMPORTANT: Recommendations to reduce brake wear:

- Make sure pressure hose is connected.
- Select same gear for both downhill and uphill driving.
- Check hydraulic trailer brake regularly for proper operation.



A— Hydraulic Trailer Brake Coupler

TO84419,00000CA -19-13JUN14-1/1

RXA0142658—UN—12JUN14

Backup Alarm (If Equipped)

CAUTION: Backup alarm emits an audible sound to alert anyone near by. Tractor will be traveling in a reverse direction.

NOTE: Backup alarm (B) is located on rear cross member.

Backup alarm will sound when key switch is **ON** and transmission shift lever (A) is in reverse gear.

Alarm can be set at three different volume levels:

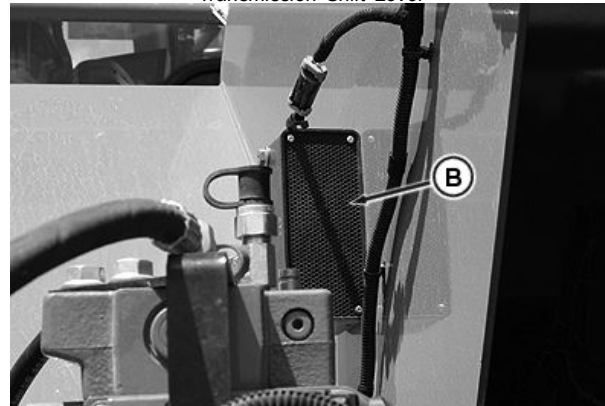
- High
- Low
- Medium

Turn volume control knob (C), on back of alarm, to desired setting.

A—Transmission Shift Lever C—Volume Control Knob
B—Backup Alarm



Transmission Shift Lever



Backup Alarm



Volume Control (Rear View)

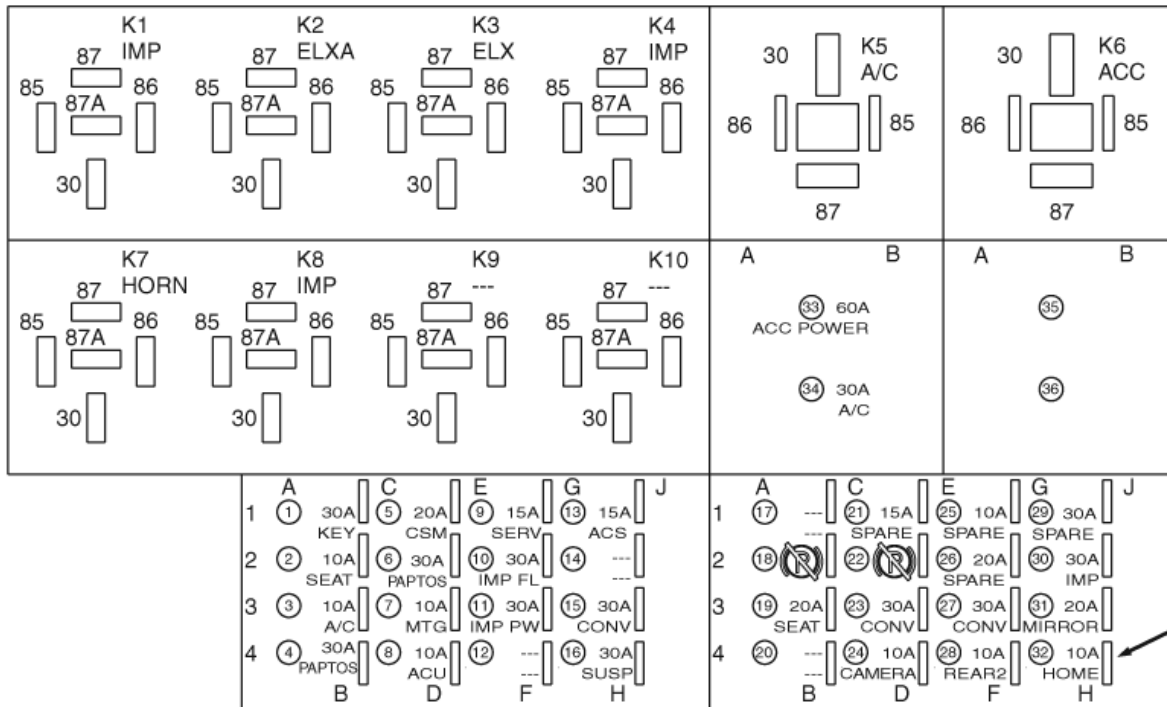
RXA0142551 —UN—13JUN14

RXA0141854 —UN—02JUN14

RXA0141855 —UN—02JUN14

TO84419,00000CC -19-16JUN14-1/1

Come-Home Mode



A—Fuse #32

CAUTION: When driving tractor in come-home mode, do not exceed tractor limited capability.

Come-home mode may be used if tractor becomes inoperable due to failures and must be moved. While in come-home mode, engine speed is limited to 1500 rpm and first gear in any range.

1. Remove fuse #32 (A) and retain.
2. Turn key switch to START position.
3. Enable backup steering. Go to diagnostic addresses. See Diagnostic Center in CommandCenter™ section of this Operator's Manual.
4. Select correct controller:
 - XSB – tractor equipped with ACS™ (ActiveCommand Steering).

CommandCenter is a trademark of Deere & Company
 ACS is a trademark of Deere & Company
 AutoTrac is a trademark of Deere & Company

- XSC – tractor equipped with AutoTrac™.
5. Go to address 025 and select Back Up Mode On.
 6. Press Accept.
 7. Step on brake pedal momentarily.

CAUTION: Before operating tractor verify correct operation of steering and brakes. In some situations braking may require additional force due to lower hydraulic pressure.

8. Depress clutch pedal.
9. Select Forward or Reverse direction.
10. Release clutch pedal to put tractor in motion.
11. When destination is reached, cycle key switch ON and OFF to return to Back Up Mode Off setting.
12. Replace fuse #32.

KT81203,000010A -19-05AUG14-1/1

RXA0129610—UN—25/JAN13

Operate the e18™ Powershift Transmission

Operate the e18™ Powershift Transmission

CAUTION: Avoid personal injury or damage to tractor. If engine starts with shift lever in gear, there is a malfunction of starting circuit. Repair should be made immediately by your John Deere™ Dealer.

IMPORTANT: Prevent transmission or clutch damage:

- Never depress clutch pedal while tractor is rolling downhill or coasting since serious transmission damage can result.
- Never attempt to start tractor by towing or pushing.
- Operator can always move shift lever to PARK position; however park brake will not engage until ground speed is below 1.75 km/h (1.0 mph).
- Avoid excessive ballast.
- Avoid continuous operation under full throttle and full load conditions below 1800 rpm.
- Fully depress clutch pedal to completely disengage clutch.

NOTE: The seat assembly contains an operator presence safety device to prevent initiation of movement of tractor without operator sitting in the seat.

NOTE: When tractor is loaded to a very low engine speed, powershift transmission can default to NEUTRAL, then PARK engages once wheel speed drops below 1.75 km/h (1.0 mph) for drivetrain protection.

To re-engage transmission, move lever to PARK, reduce load, and then shift into desired operating gear.

A diagnostic trouble code is stored and displayed when this condition occurs.

Transmission is shifted using lever (A) on CommandARM™.

Transmission can be shifted, without use of clutch pedal, either into a forward or reverse direction.

Clutch pedal allows operator maximum manual control of modulation for ease of connecting to implements, operating in confined areas, or slow movement of tractor during precise maneuvers. Depress clutch pedal to preselect a forward or reverse command gear.

When shift lever is moved to NEUTRAL position, parking brake release and corner post display (B) shows pre-selected forward or reverse gear and letter N for NEUTRAL. When lever is in forward or reverse, display shows an F or an R along with commanded gear.

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CommandARM is a trademark of Deere & Company*



A— Transmission Shift Lever B— Corner Post Display

Engine only starts with shift lever (A) in PARK or NEUTRAL position. Shifts are made one at a time by bumping lever. Pushing and holding lever or pulling and holding lever results in continuous up or down shifts.

RXA0130275 —JUN—19AUG13

RXA0143038 —JUN—25JUN14

RD47322,0000517 -19-05MAY15-1/1

Shift e18™ Transmission

Shift Lever Positions

PARK — Rear slot (A) — Park brake applied when lever is fully forward in slot.

NEUTRAL — Right slot (B) — Park brake is released when lever is moved to right slot.

Reverse — Center slot (C) — Tractor begins moving rearward when lever enters this slot. Push lever forward for downshifts and pull rearward for upshifts.

Forward — Front slot (D) — Tractor begins moving forward when lever enters this slot. Push lever forward for upshifts and pull rearward for downshifts.

NOTE: Transmission is in **NEUTRAL** position whenever shift lever is not in **PARK**, forward or reverse positions.

Command Gears

NOTE: Optimum engine speed is 1800 — 2200 rpm in full load conditions. Use a higher gear and lower engine speed for light load operation save fuel and reduces wear. Under full load conditions, use full throttle engine speed.

Transmission starts out in command gears. Default command gears are F7 and R2. Start default command gears can be changed to different forward (F1-F13) or reverse (R1-R3) gear (see Setting Start Gear in this section of this Operator's Manual).

Each time transmission enters forward or reverse section of shift pattern, transmission starts in command gear, shown on corner post display.

Once placed in forward or reverse, command gear changes to last gear of operation before shifting to **NEUTRAL**.

Initial command gear can also be changed prior to initiating motion to match operation.

Forward gear between F1 and F13 can be preselected by depressing clutch pedal and pushing or pulling shift lever until desired command gear is displayed.

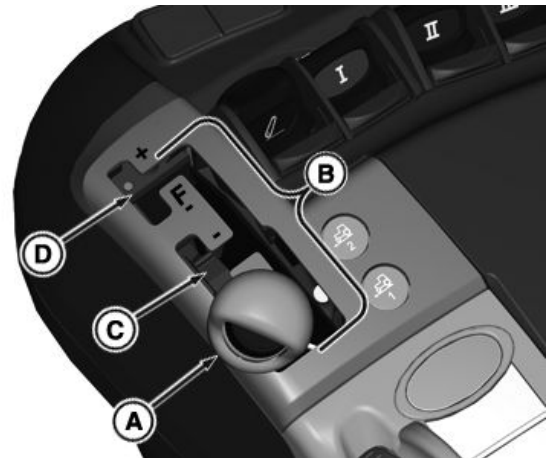
Reverse gear between R1 and R6 can be preselected by depressing clutch pedal and pulling or pushing shift lever until desired command gear is displayed.

Transmission starts out in preselected forward or reverse gear when clutch pedal is released.

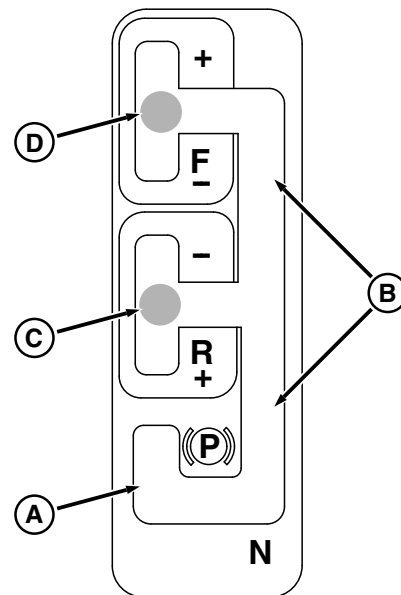
Cold Weather

NOTE: Delayed shifting, slow hydraulic operation, hard steering, and limited engine rpm can also be noticeable until operating temperature is obtained.

When temperature is -10°C (14°F) or lower it can take several minutes to get park brake released with operator



RXA0130278 —UN—07JAN13



Lever Diagram

A — **PARK**
B — **NEUTRAL**

C — **Reverse Gears**
D — **Forward Gears**

in seat and transmission in gear. Several shifts between **PARK** and **NEUTRAL** can be required.

When temperature is -10°C (14°F) or above it can take three seconds to get park brake released with operator in seat.

When shift lever is moved to **NEUTRAL**, corner post display shows N for three seconds. If park brake does not release, N changes back to P. Move shift lever back to **PARK** then back to **NEUTRAL** until N displays more than three seconds.

During cold weather starting, transmission will not shift above F13 until normal operating temperature has been reached.

Continued on next page

RD47322.0000518 -19-05MAY15-1/2

Shifting From Reverse

Highest forward gear transmission will automatically shift to the last gear selected, when shifting from reverse. For example, if transmission is in F11 and is shifted to reverse, and then back to forward, transmission would shift to a gear in forward that is the minimum of F11 or previously selected gear in forward, while in forward when shifting from reverse.

However, if transmission is in F13 or higher and tractor is stopped by using the clutch or shifting to NEUTRAL and not shifted through reverse, transmission is in F13 when shifted to forward again.

Shifting—Without Using Clutch Pedal

Gear-to-Gear — Push (or pull) lever forward or backward into slot to shift up or down to selected gear. Transmission shifts one gear at a time until lever is released.

Rapid Gear-to-Gear — Bump lever to quickly shift up or down to selected gear. Transmission can skip gears, if lever is moved faster than transmission can shift.

Shifting—Using Clutch Pedal

IMPORTANT: Clutch pedal must be fully depressed to completely disengage clutch for correct operation. Shifting while clutch is partially engaged may damage clutch.

Gear-to-Gear — Hold or bump lever to shift up or down until desired gear is displayed. Transmission goes into commanded gear when clutch pedal is released.

Rapid Shift

When tractor is in a light load condition, such as transport, transmission can be shifted very fast by rapidly bumping shift lever.

To reach transport speed quickly, depress clutch pedal and rapidly bump shift lever to F13. Transmission shifts directly to F13 when clutch is released. Once tractor is underway in F13, bump shift lever to F18.

Press and Hold Shifting

Holding the shift control lever in the up or down position, the transmission shifts through the gears one gear at a time.

Double Shift

With tractor under load, transmission can be made to shift two gears at a time when operating in gears F5 — F12 by double bumping shift lever to slow down or speed up when making headland turns. A double bump down shift is also useful in field operation when hitting a tough spot.

Shuttle Shifting (Direction Change)

IMPORTANT: Shuttle shifting is not recommended when connecting tractor to implements.

Moving shift lever between forward and reverse slots causes transmission to modulate directly to opposite direction of travel without clutching or braking.

Shuttle shift occurs between last commanded forward and reverse gears. Shuttle shifting can be performed between gears F11 and R3 .

IMPORTANT: This method is not recommended when connecting tractor to implements.

Ground Speed Matching

CAUTION: Avoid possible accident and injury from loss of vehicle control. Never coast down hill.

NOTE: When Efficiency Manager™ is engaged, F13 is replaced by the Forward Start Gear.

When tractor is moving at speeds above F13 and clutch pedal is depressed, tractor slows. Transmission matches current ground speed when clutch pedal is released.

Transmission will not match ground speeds as clutch is released after tractor slows when clutch pedal is depressed at speeds below F13. Transmission remains in F13 even if tractor comes to complete stop.

In manual mode transmission will not up shift to match ground speed as clutch is released, if tractor speeds up while clutch pedal is depressed.

RD47322.0000518 -19-05MAY15-2/2

Set Start Gears

RXA0133712 —UN—16JUL13

NOTE: Operators have the option of setting up to two forward start gears and one reverse gear with e18™ the transmission.

Press **Transmission Shortcut Button** on **Navigation Bar**.



Transmission Shortcut Button on Navigation Bar

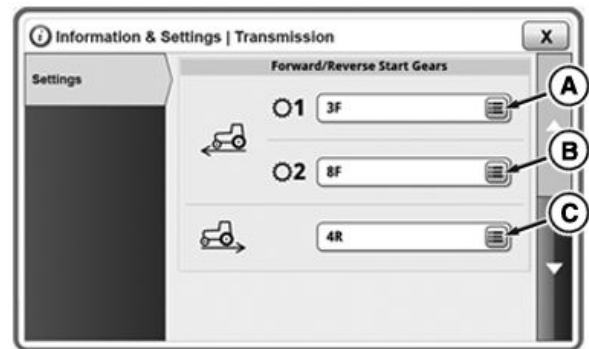
RXA0130326 —UN—11JAN13

1. Press **Advanced Settings icon**.
2. Press **Settings tab**.
3. Press Forward Start Gear 1 button (A). List of forward gears appears.
4. Scroll through list of gears (D).
5. Select desired gear (E) and press OK button (F) to finish selection or (G) to cancel.



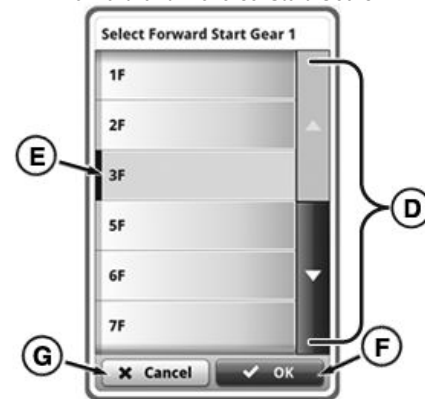
Settings

Advanced Settings Icon → Settings Tab



Forward and Reverse Start Gears

- | | |
|---|------------------|
| A— Forward Start Gear 1 button | E— Desired Gear |
| B— Forward Start Gear 2 button | F— OK button |
| C— Reverse Start Gear button | G— Cancel button |
| D— Forward Start Gear 1 Drop Down Overlay | |



Forward Start Gear 1 Drop Down Overlay

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RD47322.0000519 -19-04MAY15-1/3

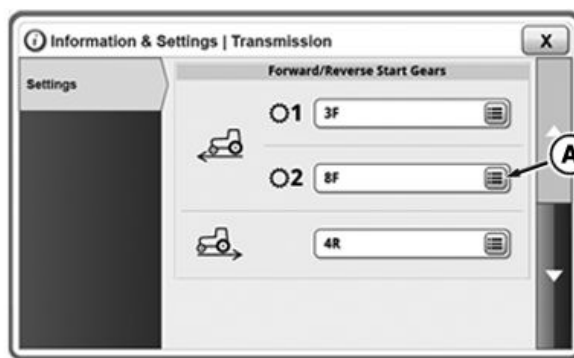
RXA0143042 —UN—01JUL14

RXA0143039 —UN—01JUL14

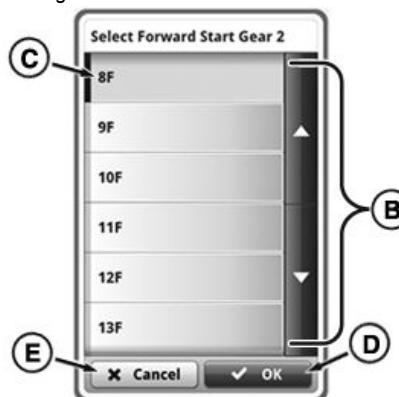
Select Forward Start Gear 2

1. Press Forward Start Gear 2 button (A). List of forward gears appears.
2. Scroll through list of gears (B).
3. Select desired gear (C) and press OK button (D) to finish selection or (E) to cancel.

A— Forward Start Gear 2 button
 B— Forward Start Gear 2 Drop Down Overlay
 C— Desired Gear
 D— OK button
 E— Cancel button



Setting Forward and Reverse Start Gears



Forward Start Gear 2 Drop Down Overlay

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RD47322,0000519 -19-04MAY15-2/3

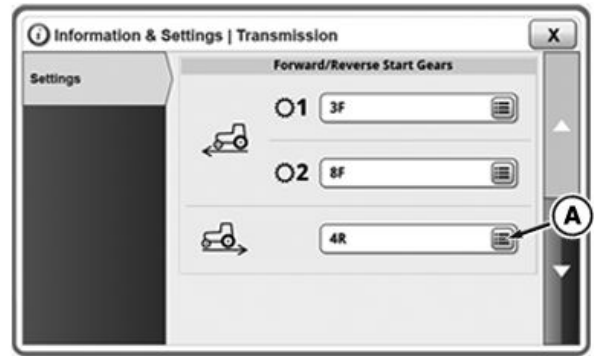
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RXA0143040—UN—01JUL14

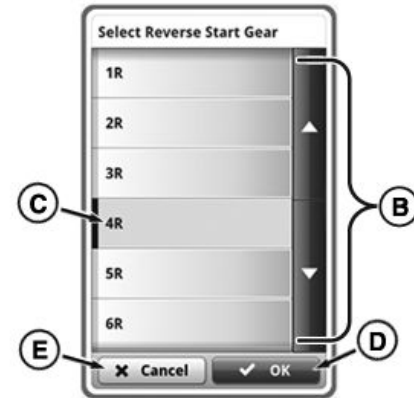
Select Reverse Start Gear

1. Press Reverse Start Gear 2 button (A). List of forward gears appears.
2. Scroll through list of gears (B).
3. Select desired gear (C) and press OK button (D) to finish selection or (E) to cancel.

A— Reverse Start Gear button D— OK button
 B— Reverse Start Gear 2 Drop
 Down Overlay E— Cancel button
 C— Desired Gear



Selecting Forward and Reverse Start Gears



Reverse Start Drop Down Overlay

RD47322,0000519 -19-04MAY15-3/3

RXA0143044 —UN—01JUL14

RXA0143041 —UN—01JUL14

CommandCenter™ Transmission Main Page

RXA0133712 —UN—16JUL13

Three individual transmission operating modes are available to optimize fuel efficiency and load control from tractor.

- **Full Auto Mode (A)** — Automatically adjusts Fuel Economy Minimum Engine Speed, allowing tractor to use most fuel efficient engine speed under light load. This mode automatically responds to loads created by use of hitch or SCVs (load anticipation). During PTO use, top engine speed is automatically limited to provide appropriate PTO speed.
- **Custom Mode (B)** — Operator can choose Engine Speed Droop, Minimum Engine Speed, or Load Anticipation reactions.
- **Manual Mode (C)** — Operator can choose Engine Speed Droop, Minimum Engine Speed, or Load Anticipation reactions.

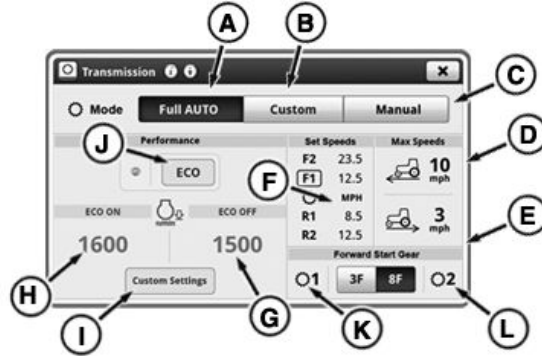
Press **Transmission Shortcut Button on Navigation Bar**.

Forward maximum speed (D) or reverse maximum speed (E) displays maximum forward or reverse speed limits. To change maximum speed, select appropriate maximum speed module. Max Speed Forward or Max Speed Reverse page appears.

Use increase (+) or decrease (-) Buttons to set maximum speed. If maximum forward or reverse speed is reset below current set speed, current set speed decreases to maximum speed and vehicle decreases.



Transmission Shortcut Button on Navigation Bar



Transmission Main Page

- | | |
|---------------------------------|--------------------------------|
| A— Full AUTO Mode | G— ECO Engine Speed Off Module |
| B— Custom Mode | H— ECO Engine Speed On Module |
| C— Manual Mode | I— Custom Settings Button |
| D— Maximum Forward Speed Module | J— ECO Level Button |
| E— Maximum Reverse Speed Module | K— Forward Start Gear 1 |
| F— Set Speeds Module | L— Forward Start Gear 2 |

RXA0143051 —UN—26JUN14

RD47322,000051A -19-05MAY15-1/1

Efficiency Manager™ on the e18™ Transmission

IMPORTANT: Do not use Efficiency Manager™ during scraper loading.

RXA0133712 —UN—16JUL13

Efficiency Manager™ shifts transmission to maintain set speed. Three shift modes are available: Full Auto, Custom, and Manual.

Enabling Efficiency Manager™

- Efficiency Manager™, is automatically enabled in **Full Auto Mode** and **Custom Mode**.
- To enable Efficiency Manager™ in **Manual Mode**, select Efficiency Manager™ button 1 or 2 (B) on CommandARM™.

When using Efficiency Manager™

CAUTION: When disabling Efficiency Manager™ tractor rpm changes when to match throttle position, possibly resulting in tractor acceleration.

- Efficiency Manager™ indicator lights on the corner post display (A).
- Set throttle to full engine rpm. Tractor reaches set speed only if engine throttle is set to full rpm.
- Efficiency Manager™ commands up or down shifts and engine rpm to maintain wheel speed.
- When in **Full Auto Mode** and **Custom Mode**, shifting with bump lever automatically changes set speed to next closest available standard set speed.
- Shift decision is based on load conditions, throttle command, and operator settings.
- Target speed is adjusted using set speed adjuster (C) on shift lever.
- If engine speed falls too low levels, transmission shifts into neutral to prevent engine stall.
- Depressing clutch pedal suspends Efficiency Manager™ but not Efficiency Manager™ function. Efficiency Manager™ resumes in Start gear or lower, when clutch pedal is released. To adjust Start gear see Setting Start Gear in this section.

Disabling Efficiency Manager™

Efficiency Manager™ can be disabled only in **Manual Mode**, and is engaged when an Efficiency Manager™ button (B) is selected again.

NOTE: Efficiency Manager™ set speeds can be programmed into iTEC™, but not Efficiency Manager™ on and off.

Efficiency Manager is a trademark of Deere & Company
iTEC is a trademark of Deere & Company



Transmission Shortcut Button on Navigation Bar



Efficiency Manager™ Icon on Corner Post Display



Efficiency Manager™ 1 and 2 Switch

A— Efficiency Manager™ Icon C— Efficiency Manager™
B— Set Speed Adjusting Wheel Buttons

RXA0144669 —UN—25AUG14

RXA0144668 —UN—25AUG14

RD47322,000051B -19-05MAY15-1/1

Efficiency Manager™ Custom Transmission Settings

NOTE: All settings pertaining to this page are only applicable when Efficiency Manager™ Efficiency Manager™ is not in Full Auto Mode.

RXA0133712 —UN—16JUL13



Transmission Shortcut Button on Navigation Bar



Transmission Home Page

Auto Shift Engine Speed Droop sets amount of engine speed drop (under full load) allowed before Custom mode. A lower percentage results in less rpm drop being allowed before downshift.

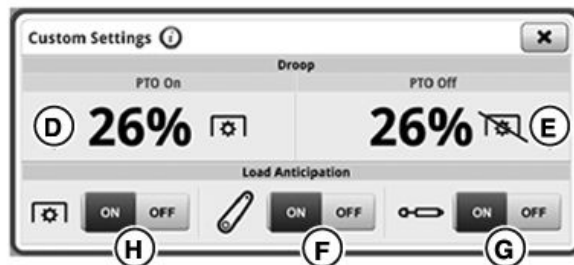
Under light loads, fuel can be saved by shifting up and throttling back. In Custom mode Efficiency Manager™ shifts up and throttle back to minimum engine speed selected. Minimum engine speed selection can be toggled between 2 adjustable values (B or C) by toggling between ECO ON/OFF.

Load anticipation allows Efficiency Manager™ to adjust transmission gear and engine speed with activation of hitch, SCV, or PTO. If necessary, transmission downshifts and raises engine speed above desired minimum rpm.

If hitch is lowered or raised, system downshifts if engine speed drops below 1500 rpm.

If SCV is set to extend or retract above 25% flow rate, transmission downshifts automatically if predicted engine rpm is below desired minimum. If SCV is set to continuous flow transmission downshifts automatically if predicted rpm is below desired minimum.

Load Anticipation is enabled in Full Auto mode by default. Anticipation features are only active in manual mode when using Efficiency Manager™ via command buttons 1 and 2 (I). In custom or Manual mode load anticipation is enabled when hitch (F), SCV (G), or PTO (H) toggle is turned on.



Custom Settings Page



A— Custom Settings Button
B— ECO Engine Speed ON Module
C— ECO Engine Speed OFF Module
D— Engine Droop PTO ON Module
E— Engine Droop PTO OFF Module

F— Hitch Load Anticipation Toggle
G— SCV Load Anticipation Toggle
H— PTO Load Anticipation Toggle
I— Efficiency Manager™ Buttons

Efficiency Manager is a trademark of Deere & Company

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RD47322,000051C -19-05MAY15-1/2

RXA0143050 —UN—07 OCT14

RXA0130327 —UN—07 OCT14

RXA0142302 —UN—07 OCT14

1. Press **Menu Button**.

RXA0133712 —UN—16JUL13

2. On Mode bar, select **Custom or Manual Mode**.

Set Engine Speed Droop PTO ON

NOTE: Auto Shift Engine Speed Droop PTO ON can be set from 6% —26 %.

- From Transmission page, select Custom Settings button (A).
- Select Droop PTO ON module (D). Value adjustment page appears.
- Adjust percentage value to desired value by using increase (+) and decrease (-) buttons.

Set Engine Speed Droop PTO OFF

NOTE: Auto Shift Engine Speed Droop PTO OFF can be set from 14% — 26 %.

- From Transmission page, select Custom Settings button (A).
- Select Droop PTO OFF module (E). Value adjustment page appears.
- Adjust percentage value to desired value by using increase (+) and decrease (-) buttons.

Turn Load Anticipation ON

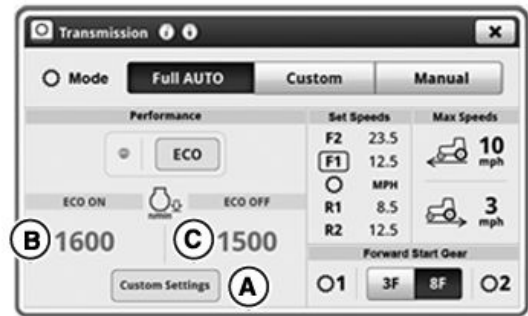
- From Transmission page, select Custom Settings button (A).
- Activate appropriate toggle to turn Hitch (F), SCV (G), or PTO Load Anticipation ON or OFF.

A— Custom Settings Button
B— ECO Engine Speed ON Module
C— ECO Engine Speed OFF Module
D— Engine Droop PTO ON Module

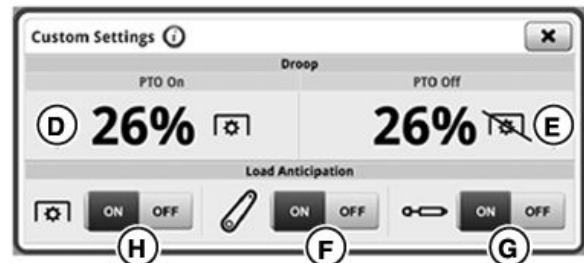
E— Engine Droop PTO OFF Module
F— Hitch Load Anticipation Toggle
G— SCV Load Anticipation Toggle
H— PTO Load Anticipation Toggle



Transmission Shortcut Button on Navigation Bar



Transmission Home Page



Custom Settings Page

RD47322,000051C -19-05MAY15-2/2

RXA0143050 —UN—07OCT14

RXA0130327 —UN—07OCT14

Intelligent Total Equipment Control (iTEC™)

CommandARM™ Control Functions

Intelligent Total Equipment Control, (iTEC™), allows multiple reoccurring tasks to be performed with touch of one button.

For example, one sequence made up of series of functions, operations, and distances used at start of field and second sequence used at water way in center of field. Each sequence can include up to 20 functions. Sequences remain in memory until deleted or overwritten, even if electrical current is switched off.

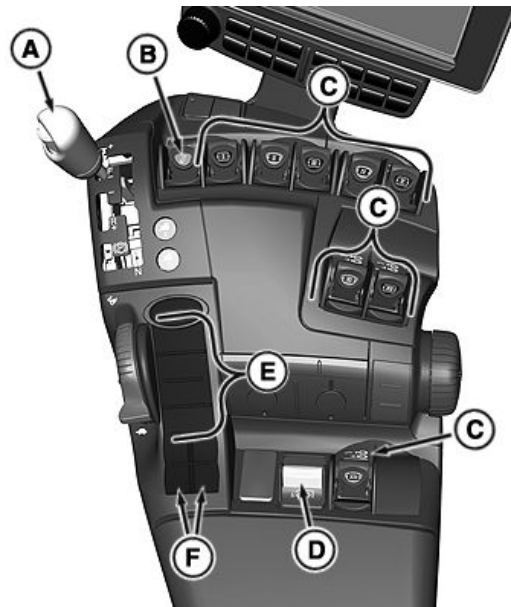
A sequence is a course of events from start of first function to completion of last function that the operator can start by pressing an iTEC™ button.

iTEC™ Functionality		
	Item	Function(s)
A	Transmission	Upshift or downshift in Forward Gear
B	Rear Hitch (If Equipped)	Raise Detent and Lower Detent, and Fast Lower
C	SCVs (CommandARM™)	Extend, Retract, Float, and Cancel
D	Rear PTO (If Equipped)	On/Off
E	iTEC™ Buttons	1/2/3/4
F	Differential Lock	On/Off/Auto

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CommandCenter is a trademark of Deere & Company



CommandARM™ Controls

iTEC™ pages are accessed through CommandCenter™ .

RXA0142346 —JUN—17JUN14

SV81855,00002A0 -19-27APR15-1/1

iTEC™ Station Description (2010-52-EU)

CAUTION: Do not operate front loaders in conjunction with Intelligent Total Equipment Control (iTEC™) to avoid sudden movements and possible accidents.

iTEC™ has two factory installed sequences in which learned functions are stored. A sequence is defined

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as the start of the first recorded function to completion of last recorded function. Example of two sequences would be, one sequence made up of a series of functions, operations and distances used at start of field and a second sequence used at a water way in the center of the field. Each program can include up to 20 functions. The programs remain in the memory until they are deleted or overwritten, even if the electrical current is switched off.

RD47322,000020D -19-16JAN15-1/1

CommandCenter™ Pages Descriptions And Functions

iTEC™ Main Page

RXA0133714 —UN—16JUL13

Use shortcut buttons or follow alternative path:

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **iTEC™ Icon**.

- **A — iTEC™ Master Toggle:** Toggle iTEC™ ON/OFF.
- **B — Active Assignment Set Button:** Select or create an assignment set.
- **C — Assignments List:** List of sequences assigned to iTEC™ buttons.
- **D — Manage Sequences Button:** Edit sequence and assign buttons.
- **E — Scroll Bar:** Scroll up or down.
- **F — Status List:** Shows status of each iTEC™ sequence step as sequence progresses.
- **G — Title Bar:** Press Title Bar to access application title, help button, and advanced settings (if applicable).

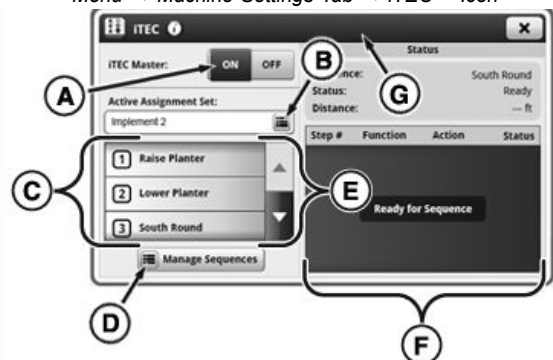


iTEC™ Shortcut Button on Navigation Bar

RXA0145566 —UN—01OCT14



Menu → Machine Settings Tab → iTEC™ Icon



iTEC™ Main Page

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RXA0131995 —UN—23APR13

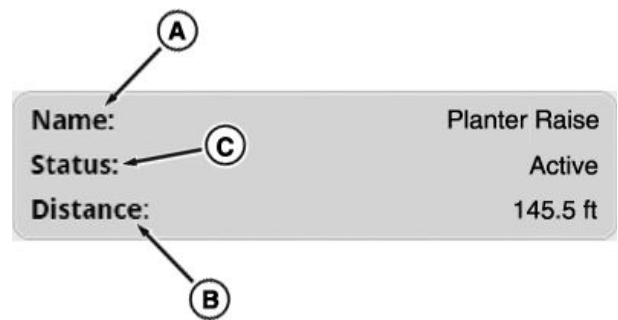
Status Area

Status Area

- **A—Name:** Name of sequence that is currently running.
- **B—Distance:** Displays accumulated distance while iTEC™ sequence is running.
- **C—Status:** Indicator of current iTEC™ status.
 - **Off** - No sequence execution possible.
 - **Ready** - Waiting for iTEC™ button to which a sequence is assigned to be pressed.
 - **Active** - iTEC™ sequence execution active.
 - **RPM Limit** - Engine speed is out of range¹
 - **Park** - Transmission indicates that park lock is engaged¹
 - **Operator Presence** - No operator presence, no iTEC™ execution allowed. Operator returns to seat¹
 - **Wheel Speed Low** - Wheel speed < 0.5 km/h (0.3 MPH), execution is paused.
 - **Complete** - Sequence successfully completed.

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¹Sequences pauses or cannot start if this condition exists.
Correct condition to resume sequence.



Status Area on Main Page

- **Aborted** - Sequence execution aborted by operator or active abort condition.
- **Error** - One or more sequence steps did not execute.

Continued on next page

SV81855,0000030 -19-23SEP13-1/2

RXA0131243 —UN—08MAR13

Manage Sequence Page

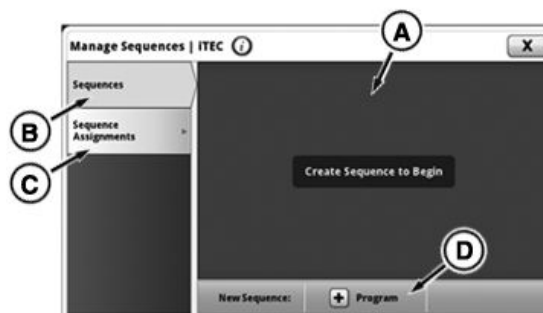
RXA0129723 —UN—06MAR13

Select **Manage Sequences** button on iTEC™ main page.

- **A — iTEC™ Content Section:** Available sequences or sequence assignments are displayed.
- **B — Sequences Tab:** View available, delete saved, edit saved, or add new sequences.
- **C — Sequence Assignments Tab:** View assigned sequences or give sequence assignment.
- **D — Program Button:** Manually program new sequence.



Manage Sequences Button



iTEC™ Manage Sequences Page

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RXA0131143 —UN—26FEB13

SV81855,0000030 -19-23SEP13-2/2

RXA0130056 —UN—13DEC12

Set Up A Sequence

NOTE: For complete list of functions available, see Description and Display in this section of this Operators Manual.

From iTEC™ main page, follow guidelines listed below:

1. Select **Manage Sequences** button.
2. Select **Sequences** tab.
3. Select **Program Sequence** button.
4. Select **Add Step** button.

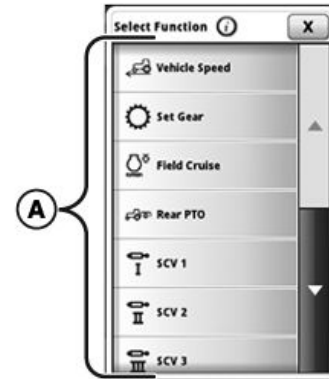
NOTE: Operator may select Cancel button (E) to exit editing process without saving changes.

5. Select Function page appears. Select a function from list (A).
6. Select Action page appears. Select an appropriate action.
7. Step Distance page appears. Use keypad to input distance from step to take place.
8. Select **OK button** to complete and access next page.
9. Repeat steps 4-8 until entire sequence is set up.
10. Press Next button to access next page.
11. Name Sequence page appears.
12. Select **Edit Sequence Name button (B)**. Keyboard appears to type name of sequence. Select **Save button** when complete.
13. Select **Edit Assignment button (C)**. List of available assignments appears. Select assignment and press **Save button** on sequence assignment page.
14. Select **Save button (D)** to complete process.

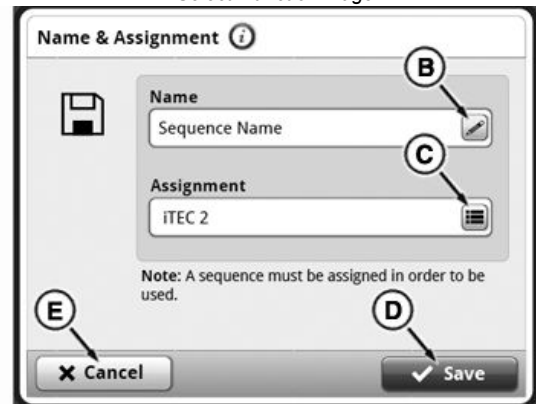
- | | |
|------------------------------------|------------------|
| A— Function List | D— Save Button |
| B— Edit Sequence Name Button | E— Cancel Button |
| C— Edit Sequence Assignment Button | |



Manage Sequences → Sequences Tab → Program Sequence Button → Add Step Button



Select Function Page



Name & Assignments Page

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RXA0142724 —UN—17JUN14

RXA0131165 —UN—28FEB13

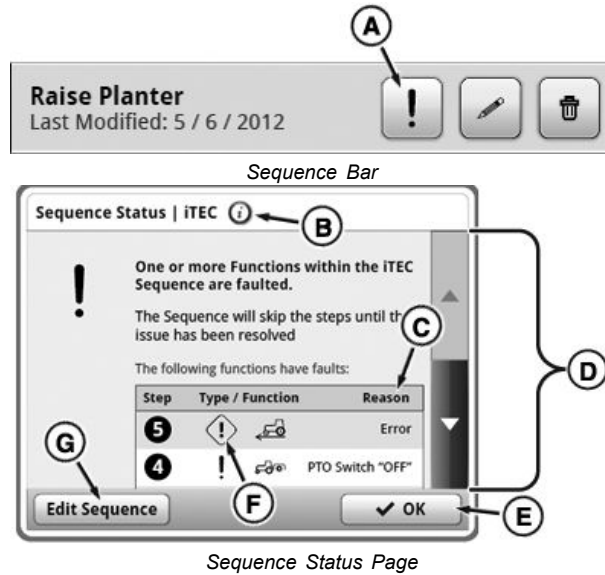
RXA0131170 —UN—05MAR13

Sequence Step Status

Whenever sequence execution is not possible or is interrupted, iTEC™ system informs operator about new issue by displaying Information Alert (A) or Fault Alert (F) next to sequence or sequence step. Press **Alert Symbol** next to a sequence (in assignment area or sequence assignment tab) to access the sequence status page to read the steps with errors. Use scroll bars (D) to scroll up and down list. Select edit sequence button (G) to edit selected sequence. Press **Alert Symbol** next to a sequence step (while in EDIT) for information about the issue dealing with specific step. Both views will show a short text description (C) for the issue.

NOTE: Press Information Button (B) on any iTEC™ page to access a general status page. General status page will list all functions that are part of the sequences of current selected implement (assignment set).

- | | |
|-----------------------|-------------------------|
| A— Information Alert | E— OK Button |
| B— Information Button | F— Fault Alert |
| C— Text Description | G— Edit Sequence Button |
| D— Scroll Bar | |



RXA0131609 —UN—25JUL13

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SV81855,0000100 -19-27APR15-1/5

Edit Page:

RXA0127531 —UN—15AUG12

From iTEC™ main page:

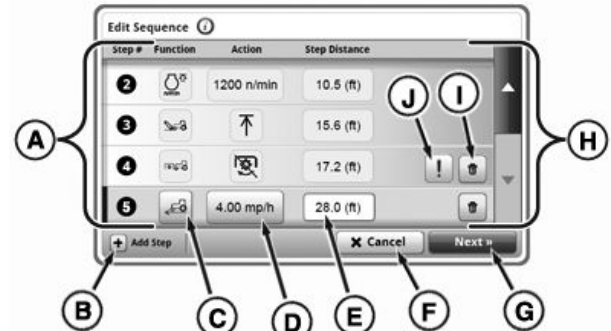
1. Select **Manage Sequences** button.
2. Select **Sequences** tab.
3. Select desired sequence.
4. Select **Edit** button.



Manage Sequences Button → Sequence Tab → Edit Button

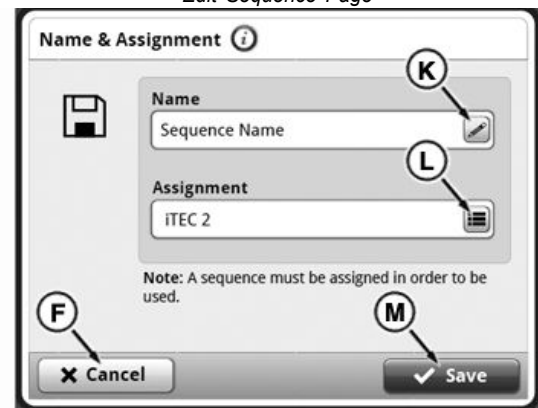
- **A — Sequence Step List:** List of steps in selected sequence.

NOTE: Insert new step by selecting step in sequence. Press 'Add Step' button to insert new step. Distance field will be auto-filled with previous distance. If distance changed, step will be sorted accordingly.

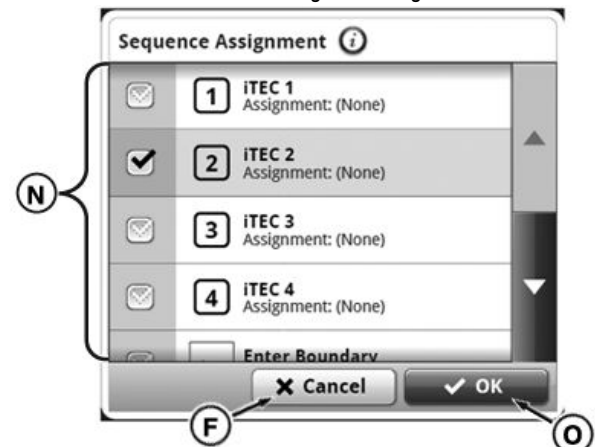


Edit Sequence Page

- **B— Add Step Button:** Add new step to sequence.
- **C— Step Function Input Box:** Change selected sequence step function.
- **D— Step Action Input Box:** Change selected sequence step action.
- **E— Step Distance Input Box:** Access number pad to adjust selected sequence step distance.
- **F— Cancel Button:** Discard changes without saving.
- **G— Next Button:** Access next page.
- **H — Scroll Bar:** Scroll up or down.
- **I— Delete Step Button:** Deletes currently selected step.
- **J— Notification Button:** View step issue.
- **K — Sequence Name Input Box:** Access keypad to rename sequence.
- **L — Assignment Button:** Assign sequence to an iTEC™ button.
- **M— Save Button:** Save changes.
- **N — Sequence Assignment List:** Select button to assign sequence to.
- **O — OK Button:** Accept changes.



Name & Assignment Page



Sequence Assignment Page

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RXA0131144 —UN—25JUL13

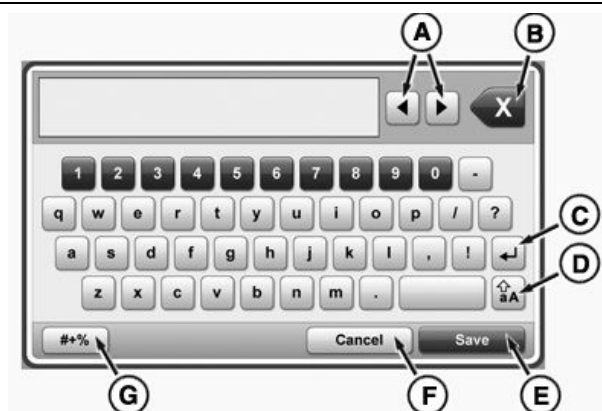
RXA0131281 —UN—25JUL13

RXA0131280 —UN—25JUL13

Keyboard

Keyboard display is provided for some editing functions. Example, when sequence name input box is selected, keyboard appears.

- **A — Left and Right Arrow Buttons:** Move cursor right or left in input box.
- **B — Delete Button:** Delete input box text.
- **C — Return Button:** Move cursor to next line.
- **D — Caps Lock Button:** Toggle between capital and lower case letters.
- **E — Save Button:** Save changes.
- **F — Cancel Button:** Discard changes without saving.
- **G — Symbol Button:** Toggle to symbol keyboard



Keyboard

RXA0131300 —UN—14MAR13

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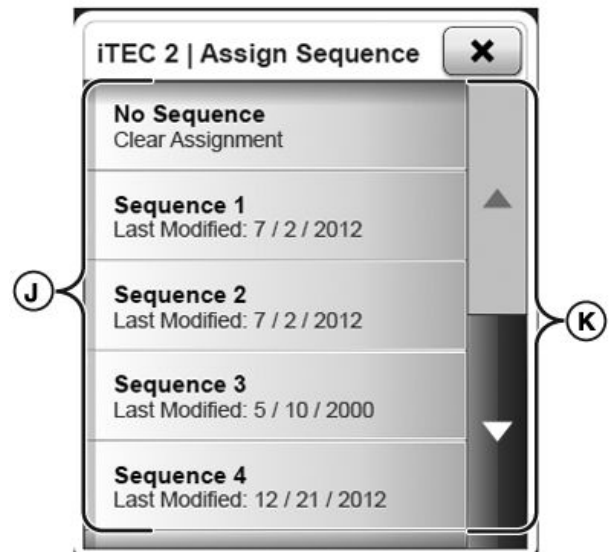
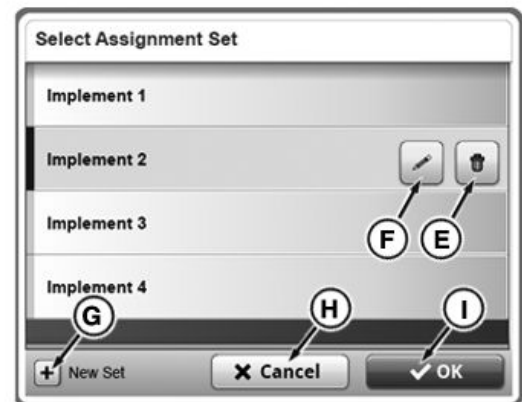
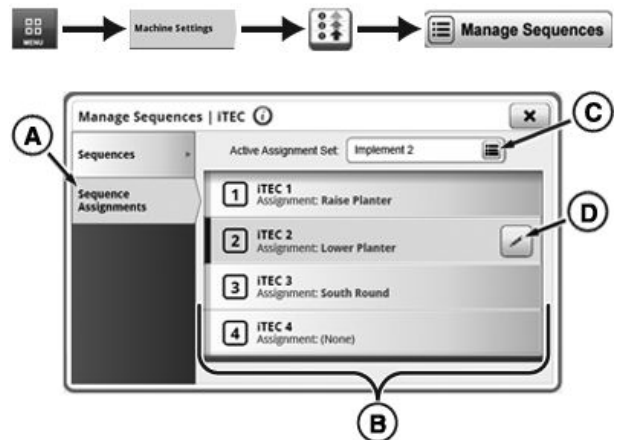
Sequence Assignments Page:

RXA0145567 —UN—01OCT14

Assignment Set: A set of sequences assigned to certain buttons for example for one implement. Having an assignment set for Planter and Plow will allow an easy switch between assigned sequences by selecting a particular button.

1. Select **Menu**.
2. Select **Machine Settings** tab.
3. Select **iTEC™** icon.
4. Select **Manage Sequences** button.
5. Select **Sequence Assignments** tab (A).

- **A — Sequence Assignment Tab:** View or change sequences assigned to buttons.
- **B — Sequence Assignment List:** List of assignments or openings for potential assignments to buttons.
- **C — Active Assignment Set Button:** Change selected assignment set.
- **D — Edit Button:** Change selected button assignment and assignment set.
- **E — Delete Assignment Set Button:** Delete assignment set.
- **F — Edit Assignment Button:** Change and set assignment name.
- **G — New Assignment Set Button:** Add a new assignment set.
- **H — Cancel Button:** Discard changes without saving.
- **I — OK Button:** Press after highlighting one assignment set to select it.
- **J — Available Sequence List:** Available sequences to assign.
- **K — Scroll Bar:** Scroll list up or down.



RXA0131606 —UN—26MAR13

RXA0131607 —UN—27MAR13

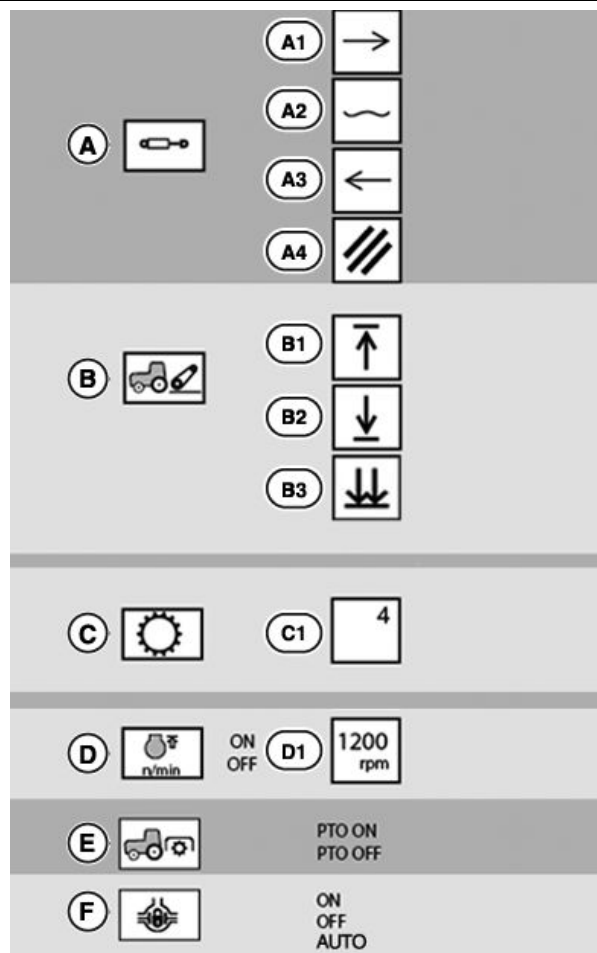
RXA0131283 —UN—07MAR13

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SV81855.0000100 -19-27APR15-4/5

Available Options:

- A—SCV's (I through VIII)
 - A-1 Extend
 - A-2 Float
 - A-3 Retract
 - A-4 Cancel
- B—Rear Hitch
 - B-1 Raise
 - B-2 Lower to set point
 - B-3 Fast Lower
- C—Transmission
 - C-1 Gear-Preselect gear. 18 gears available
- D—FieldCruise™ On/Off
 - D-1 set engine to maximum rpm
- E—Rear PTO On/Off
- F—Differential Lock On/Off/Auto



First Column: Function, Second Column: Action

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RXA0135379 —UN—25SEP13

SV81855,0000100 -19-27APR15-5/5

Execute Sequence

iTEC™ sequence execution requires certain tractor controls be operated in a particular way. Sequence will NOT execute with tractor in PARK position. Shift lever must be in forward position when executing set speeds, gears, or Automatic Gear Shift. Tractor ground speed must be at least 0.5 km/h (0.31 mph).

If a PTO function is included in sequence, PTO must be engaged manually, using PTO switch, for initial engagement. Before performing sequence using SCV functions, relevant SCV levers must be in neutral position.

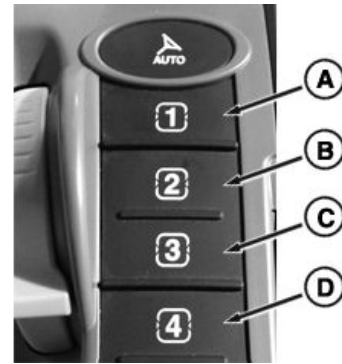
Abort current sequence at any time by again pressing same iTEC™ Sequence button (A-D) used for starting sequence. Currently active commanded functions will be canceled (for example, hitch motion or SCV flow will stop if previously initiated as part of sequence).

During sequence execution, a function can be actuated manually at any time without execution of sequence being interrupted. Functions that are actuated manually are ignored by iTEC™ for the rest of sequence. Relevant alert icon for this function appears in **Status Area (H)**.

1. Turn iTEC™ Master Toggle (F) to ON position.
2. Select iTEC™ Sequence button (A-D) on CommandARM™ for desired sequence.
3. Sequence steps appear in **Status Area (H)** and shows progression of steps.

A—Sequence Button 1
B—Sequence Button 2
C—Sequence Button 3
D—Sequence Button 4

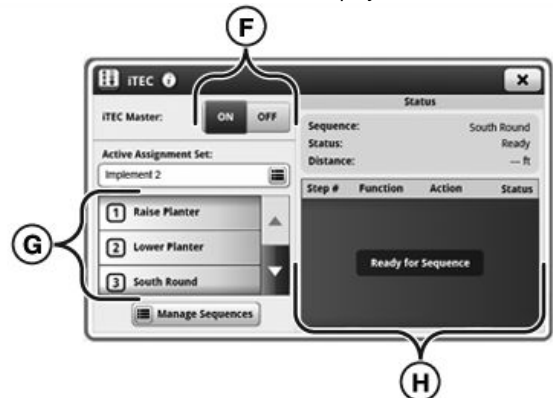
E—iTEC™ Indicator
F—Master Toggle
G—Assignment List
H—Status Area



CommandARM™ Sequence Buttons



Corner Post Display



iTEC™ Main Page

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CommandARM is a trademark of Deere & Company

RXA0137808 —UN—22JAN14

RXA0131148 —UN—02OCT13

RXA0131608 —UN—26MAR13

SV81855,0000104 -19-08JUN15-1/1

Delete Sequence

If no longer necessary, sequences can be completely deleted. When a sequence is deleted, all button assignments clear and sequence is no longer available for use.

From iTEC™ main page, follow guidelines listed below:

1. Select **Manage Sequences button**.
2. Select **Sequences tab (B)**.
3. Select sequence to be deleted.
4. Select **Delete button (E)**.
5. Delete Sequence page appears asking operators to confirm deleting sequence. Select delete to remove sequence.

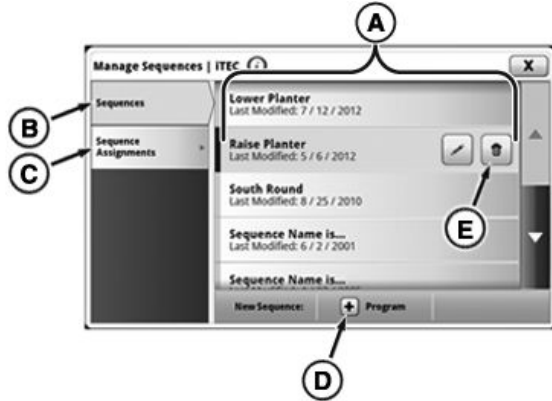
A—iTEC™ Content Section
B—Sequences Tab
C—Sequence Assignments
Tab

D—Program Button
E—Delete Button

RXA0129723 —UN—06MAR13



Manage Sequences Button



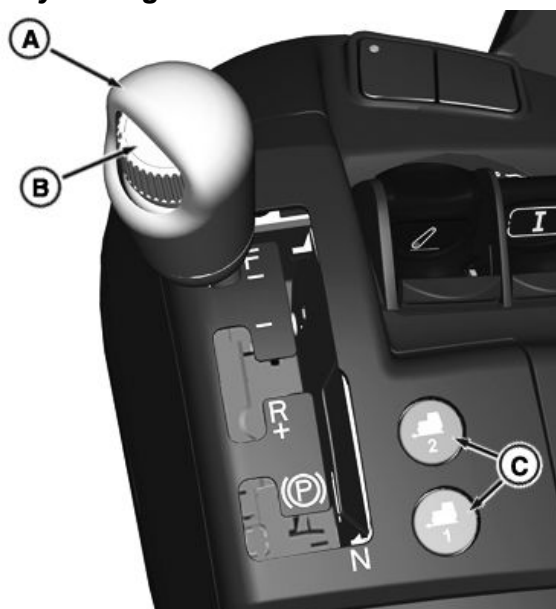
Manage Sequences Page

RXA0133539 —UN—15JUL13

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TO84419,00000FD -19-23SEP13-1/1

iTEC™ Functions—*Efficiency Manager™*



A—Shift Knob

B—Set Speed Adjusting Wheel

C—Efficiency Manager™ Buttons

Efficiency Manager™ Set Speed Buttons (C): The current forward set speed can be changed up or down with the set speed adjusting wheel (B). Transmission changes will be executed at the normal rate once the set speed has been changed.

The minimum set speed that can be saved is 0.8 km/h (0.5 mph). Changing the set speed or shifting during execution

of a sequence will not cause iTEC™ to abort, but set speed changes will not be executed for the remainder of the sequence.

When a set speed is changed by an iTEC™ sequence, transmission will react as if the operator changed set speed, shifting up or down as a result.

*Efficiency Manager is a trademark of Deere & Company
iTEC is a trademark of Deere & Company*

SV81855,00000D2 -19-22JUN15-1/1

RXA0139446 —UN—17MAR14

Tractor-Implement Automation™ (TIA™)

Tractor Implement Automation™ (TIA™)

⚠ CAUTION: Although phrases "transfer control" and "withdraw control" are terms commonly used with TIA™ equipment, at **NO** time is implement in total control of an operation. Operator **ALWAYS** has ability to override TIA™ implement. It is operator's responsibility to make sure implement operation does not damage equipment, or pose danger of injury or death to operator or others close by.

*TIA is a trademark of Deere & Company
Tractor Implement Automation a trademark of Deere & Company
John Deere is a trademark of Deere & Company*

Tractor Implement Automation™ must not be put in operation when driving on public roads or when other persons are close by.

For ISO-compliant tractors, TIA™-compatible implements have ability to control certain individual tractor functions. See your implement operator's manual or contact your John Deere™ dealer with any questions regarding TIA™ - compatible implements.

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Activate Tractor Implement Automation™ Equipment

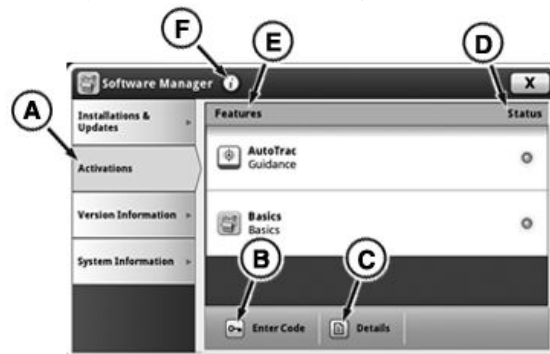
RXA0131994 —UN—22APR13

A—Activations Tab
B—Enter Code Button
C—Details Button

D—Status List
E—Feature List
F—Information Button



Menu → Systems Tab → Software Manager Icon → Activations Tab



Activations Page

RXA0143147 —UN—07JUL14

Response Codes, Text Descriptions, and Corrective Actions		
Common Response Codes	Text Displayed	Corrective Action
0	Code Accepted	None Required
4	Implement Not Available to Deactivate	Implement already deactivated
5	Implement Already Activated	None Required, implement should work as expected
6 and 11	Space Unavailable for Activation	Contact your dealer for assistance
17	Demonstration Activation Replaced With Permanent Activation	None Required

NOTE: To obtain tractor serial number, see *Record Product Identification Number in Identification Numbers* section of this Operator's Manual.

An activation code is required to allow TIA™ to function. Contact your John Deere™ dealer with tractor serial number and implement make, model, and serial number. Dealer obtains activation code through John Deere™ StellarSupport™.

1. Select **Menu**
2. Select **System Tab**
3. Select **Software Manager Icon**
4. Select **Activations Tab (A)**
5. When Activations page displays, press Enter Code button (B). Keyboard will appear.

NOTE: Some Tractor Automation Activation page keyboard characters are grayed out and are not used in activation codes. If provided activation code includes any characters that are grayed out

on Tractor Automation Activation page keyboard, request dealer reconfirm activation code.

6. Using keyboard, enter activation code, then select Save/Enter button.
7. If activation code is entered correctly, confirmation code appears in the enter activation overlay and message is displayed. Code Accepted indicates that activation is complete.
8. If message other than Code Accepted appears, see Response Codes, Text Descriptions, and Corrective Actions table. If message not listed appears, check and reenter code. If problem persists, contact your John Deere™ dealer.

Up to twenty implement names can be viewed on Tractor Automation Activation page at any given time. When a new entry shows up in Feature List (E), that entry is labeled "Unknown Implement". The text "Unknown Implement" should change to a real name after first time connecting the implement.

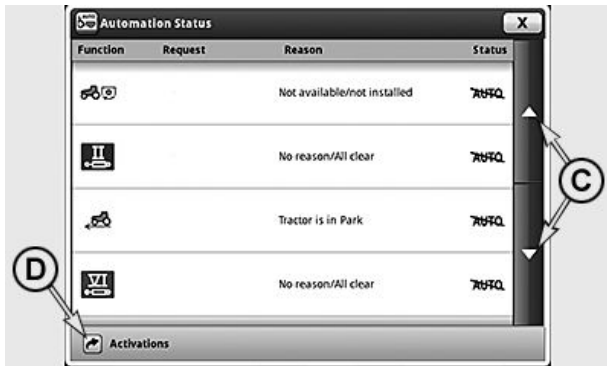
TIA is a trademark of Deere & Company
John Deere is a trademark of Deere & Company
StellarSupport is a trademark of Deere & Company

TO84419,0000100 -19-28APR15-1/1

TIA™ - Status Page



LX1057101 —UN—23JUL13



LX1057102 —UN—23JUL13

- A—Applications Tab
B—Automation Status Icon
C—Scrollbar
D—Activating Tractor Implement Automation™ Button

Access CommandCenter™ Menu and select tab (A).
Press Automation Status icon (B) and access automation status page.
On the status page, the status of all the functions available for TIA™ are displayed.
If no TIA™-capable implement is connected, only a text message appears on the display.

If there are too many functions to display on one status page, scrollbar (C) can be used to change to the next or previous pages respectively.

To activate the implements, press activating TIA™ button (D) and access the page for activating the implements. See also TIA™ - Activating the Implements on the following pages.

The status page has four columns:

Function	Auto/Command	Cause	Status
All functions available for TIA™ displayed	• Current command from implement appears on display if function is in auto mode and implement is commanding function.	• No Reason/All clear - function is fault-free and cab be automated by implement. • Brief text - function is not ready to perform commands from implement.	• AUTO -function is currently commanded and has no threshold. • AUTO -function is currently not controlled by implement or cannot be controlled by it. Operator has control, or must enable function. • !AUTO! -function currently has a fault. Cause is displayed in a brief text in second column. • AUTO↑ -function has an upper threshold. Command from implement is too high. • AUTO↓ -function has a lower threshold. Command from implement is too low.

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CommandCenter is a trademark of Deere & Company
TIA is a trademark of Deere & Company

SV81855,000016F -19-28APR15-1/1

Operate Tractor Implement Automation™

IMPORTANT: Various requirements must be met by tractor and implements to allow TIA™ to function correctly. See information in this section of this Operator's Manual and implement Operator's Manual.

1. Connect TIA™ equipment to tractor using ISO connection, see Connecting Compatible Equipment in Operator Station section of this Operator's Manual.
2. Select AutoTrac™ Resume Button (A) on CommandARM™.
3. Follow implement operator's manual instructions to operate implement.

A—AutoTrac™ Resume Button



AutoTrac™ Switch

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CommandARM is a trademark of Deere & Company
AutoTrac is a trademark of Deere & Company*

RXA0135370 —UN—25SEP13

TO84419,0000107 -19-29OCT14-1/1

PTO Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac™ resume switch as described in implement Operator's Manual.

Following guidelines must be met before transferring control to implement:

- Operator in seat.
- Functional PTO system.
- PTO remote control off.
- PTO engaged (PTO switch On).

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NOTE: Unless implement is authorized to engage PTO when tractor is stopped, tractor will prevent engagement of PTO when stopped. Implement is however, allowed to disengage PTO.

While operating and depending on PTO system capabilities, implement has ability to engage/disengage PTO, change PTO gear or adjust PTO speed.

To disengage control, turn PTO switch off.

TO84419,0000101 -19-23SEP13-1/1

SCV Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac™ resume switch as described in implement Operator's Manual.

Following guidelines must be met before transferring control to implement:

- Operator in seat.
- SCVs are functional.
- SCV control levers in neutral position.
- SCV levers are not locked.

NOTE: Set maximum SCV flow limit which cannot be exceeded by implement.

NOTE: Unless implement is authorized to adjust SCV flow when tractor is stopped, tractor will prevent

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SCV flow adjustments when at a stop. Implement is however allowed to stop oil flow.

While operating, implement has ability to:

- Control SCVs during operations.
- Change SCV flow rate up to set limit.

To disengage control:

- Actuate specific SCV lever or...
- Lock SCV lever or...
- Actuate remote control switch on fender.

TO84419,0000102 -19-31OCT13-1/1

Powershift Transmission Requirements

Before transferring control to the implement, perform all necessary steps to prepare the implement as indicated in implement operator's manual. Transfer control using AutoTrac™ resume switch or TIA™ resume button as presented in Operating Tractor Implement Automation section of this Operator's Manual.

- Implement can accelerate tractor up to set speed limit set by operator. Implement limit is determined by maximum speed setting and set speed adjusting wheel. This operator-set limit set cannot be exceeded by implement.

To transfer control to the implement, the following preconditions have to be met:

- Operator sitting on seat.
- No transmission malfunctions detected.
- Shift lever in Forward.

NOTE: When transferring control to the implement, Efficiency Manager™ mode will engage.

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TIA is a trademark of Deere & Company

Efficiency Manager is a trademark of Deere & Company

iTEC is a trademark of Deere & Company

To withdraw control using the shift lever:

- During driving: Shift up or down manually.
- Increasing the speed **will** end the Auto Mode. The implement has all information to inform the operator that this intervention will end the travel speed Auto Mode (see implement Operator's Manual).

NOTE: Reducing the speed is always allowed.

It is allowed to increase the limit set by the operator within 2 seconds after starting the travel speed Auto Mode.

The current travel speed can be limited by other processes (e.g. iTEC™). This limit will be observed, however, it will not be considered as an intervention by the operator.

TO84419,00000DC -19-16JAN15-1/1

AutoTrac™ Guidance Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac™ resume switch as presented in implement Operator's Manual.

Following guidelines must be met before transferring control to implement:

- Operator in seat.
- Steering system functional.

AutoTrac is a trademark of Deere & Company

- AutoTrac™ is **OFF**.
- Steering wheel stationary.
- Vehicle speed below maximum automated speed.
- Transmission not in Park.

While operating, implement has ability to automatically steer tractor.

To disengage control:

- Turn steering wheel.
- Place tractor in PARK.

TO84419,0000104 -19-23SEP13-1/1

Rear Hitch Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac™ resume switch as presented in implement Operator's Manual.

Implement can automatically control hitch depth.

Set raise limit using CommandCenter™.

IMPORTANT: Implement cannot exceed limit.

Following guidelines must be met before transferring control to implement:

- Operator in seat.

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CommandCenter is a trademark of Deere & Company

- Functional hitch system.
- Hitch control lever in neutral position.
- Hitch unlocked.

NOTE: Unless implement is authorized to adjust hitch depth when tractor is at a standstill, tractor will prevent hitch depth adjustments when at a standstill.

While operating, implement has ability to control hitch depth.

To disengage control:

- Move hitch control lever.
- Lock hitch.
- Activate fender mounted hitch switch (if equipped).

TO84419,0000105 -19-26JAN15-1/1

Drive Strategy Requirements

Before transferring control to implement, prepare implement as indicated in implement Operator's Manual. Transfer control using AutoTrac™ resume switch as presented in implement Operator's Manual.

Following guidelines must be met before transferring control to implement:

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- Operator sitting in seat.
- Transmission must be functional.
- Transmission not in Park.

To withdraw control:

- Manually select a drive strategy.
- Place transmission in PARK.

SV81855,00000AC -19-17SEP13-1/1

TouchSet™ Depth Control

Attaching Implement and Control System

IMPORTANT: Hydraulic Option Connector Reset Procedure:

1. With the Ignition key in the STOP (off) position, disconnect hydraulic option connector harness from tractor.
2. Start tractor, wait until display comes up, stop tractor.
3. Connect hydraulic option connector harness to tractor.
4. Start tractor, optional hydraulic function should now be available.

CAUTION: Escaping fluid under pressure can penetrate skin causing serious injury. Avoid hazard by relieving pressure before disconnecting hydraulic or other lines.

If an accident occurs, see a doctor immediately. Any fluid injected into skin must be surgically removed within a few hours or gangrene may result.

IMPORTANT: Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly.

Any dirt, dust, or other foreign material can damage hydraulic system. Thoroughly clean hydraulic hoses and SCVs before connecting implement to tractor.

IMPORTANT: Steam cleaning or using a high pressure washer in the area around the SCV connections and electronics may damage equipment. Any pressure washer exceeding 6895 kPa (69 bar) (1000 psi) should be kept a minimum of 200 mm (8 in.) away from connections.

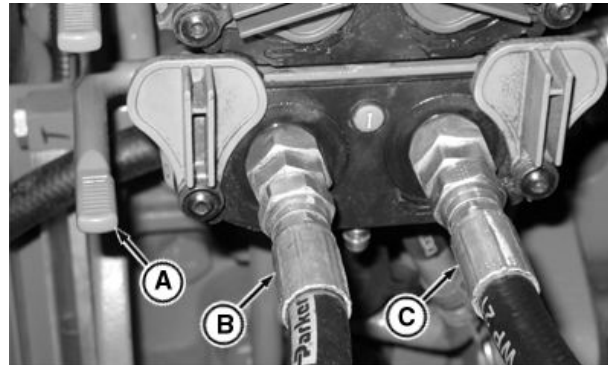
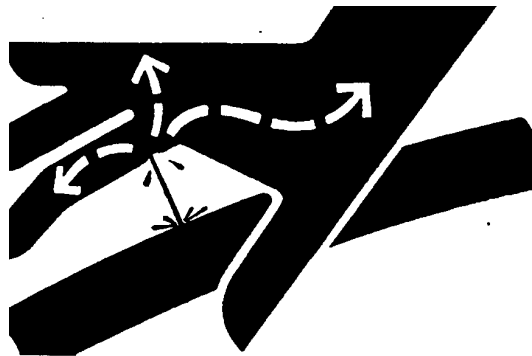
NOTE: Hose identification kits are available from your John Deere™ dealer.

1. Identify extend hose (B) and retract hose (C).
2. Back tractor into position and attach implement to drawbar. Be sure that hitch pin is locked into position.

CAUTION: Prevent possible personal injury. Shut off engine, move SCV lever to neutral position and lock out SCV controls before attaching implements to prevent implement movement.

IMPORTANT: Always shut engine off before connecting/disconnecting implement position

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A— SCV handle
B— Extend Hose

C— Retract Hose

sensor. Connect/disconnect with engine running will cause system faults. Shut engine off restart to restore correct function.

3. Shut off tractor engine.

IMPORTANT: Be sure to correctly connect remote hydraulic hoses to couplers. If hose connections are reversed, machine will not respond to system controls as expected.

Rear SCV
Extend=Left Port
Retract=Right Port

NOTE: SCV Handle (A) is only pushed down when couplers are disconnected.

Continued on next page

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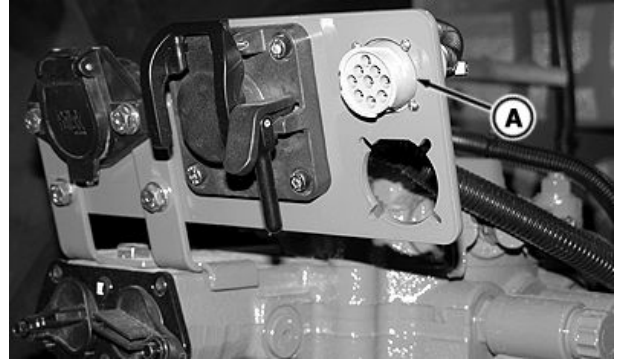
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Connect implement hydraulic hoses. For reference see Remote Hydraulic Connections Selective Control Valves in Section 63 in this Operator's Manual.

Install implement position sensor to tractor wiring harness connector (A).

A— Wiring Harness Connector



Wiring Harness Connector

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RD47322,0000320 -19-24JUN14-2/2

Using TouchSet™ Depth Controls

CAUTION: Avoid personal injury or death. Do not attempt to install depth control sensors on implements not intended for this system. See implement operator's manual.

Moving implement control unit, sensor, connectors, or linkages, when engine is running, may cause unexpected movement. Stay clear of implement when starting engine.

Tractor selective control valve (SCV I) is used to electronically control raising, lowering, and setting of implement depth, without leaving cab.

1. Connect implement to tractor.
2. Press **SCV shortcut button** on Navigation Bar or follow alternative path.
3. Select **Menu**.
4. Select **SCV Icon**.

NOTE: When using TouchSet™, SCV must be set for feature mode. See Hydraulics and Selective Control Valves Section 60.

Height setting is upper setpoint implement range (B). Lower limit (depth setting) is bottom portion of implement range. Actual implement position is depicted by indicator (C).

Moving SCV I lever (A) into extend or retract region and returning to center position with TouchSet™ in AUTO will command implements's position to established set point.

Rapidly moving SCV I lever into extend or retract region and returning to center position with TouchSet™ in AUTO will adjust implement's position up or down by a fixed amount. Repeated lever "flick" movements will be summed.

5. Using SCV I lever, lower implement to desired depth while watching implement and CommandCenter™ Implement Position (F).
6. When implement is at desired depth, press button (E).
7. Using SCV I lever, raise implement to desired height while watching implement and CommandCenter™ Implement Range (B).
8. When implement is at desired height, press button (D).



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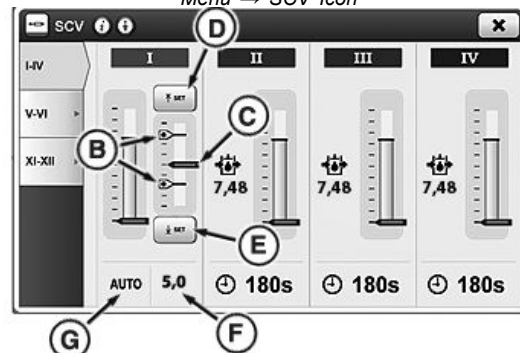


SCV Shortcut Button on Navigation Bar

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Menu → SCV Icon



SCV Main Page

A— SCV I Control Lever
B— Implement Range
C— Implement Position Indicator
D— Upper Setpoint Button

E— Lower Setpoint Button
F— Implement Position
G— Automation Mode Status

Continued on next page

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RXA0130050 —UN—26AUG13

RXA0136283 —UN—23OCT13

TouchSet™ Continued - Setting Flow

1. Touch bar graph (A) on main SCV Screen to bring up flow tab overlay. Increase flow by pushing button (B) or to decrease flow push buttons (C) to set desired flow.

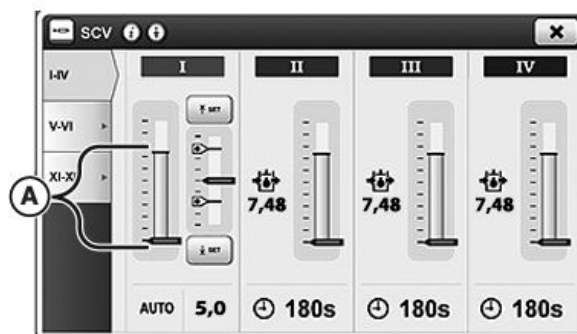
NOTE: Bar graph (A) depicts detent flow and amount of detent flow will be shown in box (D). Detent time drop down box (E) cannot be adjusted when Automation Mode (F) is enabled. See Configuring Selective Control Valves - Standard Mode in Hydraulics and Selective Control Valves Section 60.

NOTE: Flow is displayed in increments of 0.04 beginning at 0.04 through 10 located in input box (D). Pushing (+) will increase flow by 0.04, pushing (++) increases flow by 1.00, and by pushing (-) and (- -) will decrease flow setting by same increments.

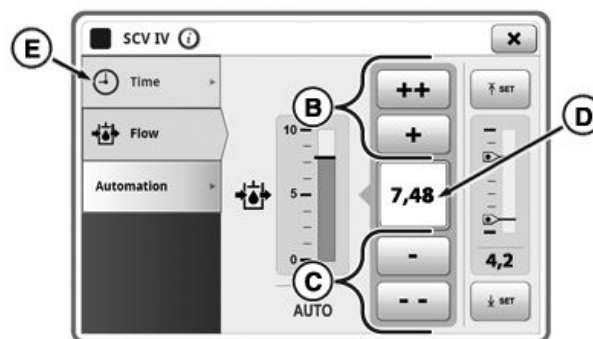
2. Press Automation tab (F) then ON or OFF toggle button (G), to activate the Automation feature.

A— Detent Flow Bar Graph
B— Increase Flow Buttons
C— Decrease Flow Buttons
D— Input Box

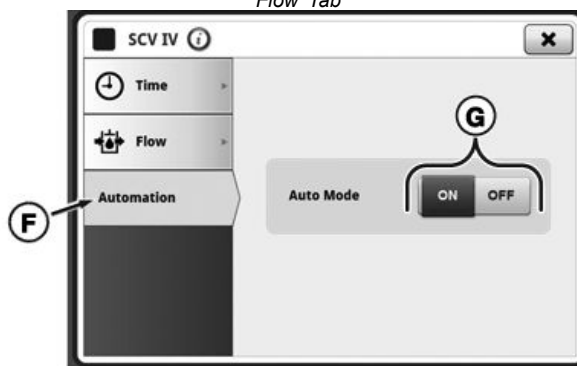
E— Detent Time Drop
F— Automation Tab
G— ON/OFF Toggle Button



SCV Main Page



Flow Tab



Automation

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RXA0136282 —UN—23OCT13

RXA0131882 —UN—26AUG13

Hydraulics and Selective Control Valves

Configuring Selective Control Valves - Access to Settings

NOTE: SCV Page at right has the Flow Indicators (F) appearing for reference only, the Flow Indicator will only appear if SCV is activated and hydraulic oil is flowing. Flow Display (G) will only appear in yellow when SCV is activated and hydraulic oil is flowing.

Feature Mode optional connector to be configured correctly.

Press **SCV shortcut button** on Navigation Bar or follow **alternative path**:

1. Select **Menu**.
2. Select **Tractor Settings** tab.
3. Select **SCV icon**.

Each SCV can be configured to three different modes: standard mode displayed in SCV I (A), independent mode displayed in SCV II (B), or feature mode displayed in SCV III (C).

Additionally when SCV is set to float as in SCV IV (D), float symbol (E) appears.

- | | |
|-------------------------|-------------------|
| A— SCV Standard Mode | E— Float Symbol |
| B— SCV Independent Mode | F— Flow Indicator |
| C— SCV Feature Mode | G— Flow Display |
| D— SCV Float Operation | |

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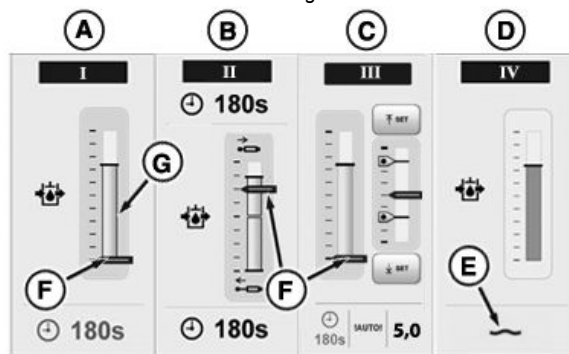


SCV Shortcut Button on Navigation Bar

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Menu → Tractor Settings Tab → SCV Icon



SCV Main Page

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Configuring Selective Control Valves - Standard Mode

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SCVs in standard mode each have one detent time setting and one detent flow setting which apply to both extend and retract.

Press SCV shortcut button on Navigation Bar or follow alternative path.

1. Select one of the individual SCVs (A) to access Standard Mode.
2. Select Time tab (B).

NOTE: Detent time displays amount of time in input box (E). Pressing (+) increases time in 1 second increments up to 10, then in increments of 2 seconds up to 20, then increases every 5 seconds to 30, then by 30 seconds up to C for continuous. Pressing (-) decreases time setting by the same increments.

3. To increase detent time press button (D) or to decrease detent press button (F). Also turning adjustment dial (G) can be used to increase or decrease detent time settings.
4. Select Flow tab (C).

NOTE: Flow is displayed in increments of 0,04 beginning at 0,04 through 10 located in input box (E). Pressing (+) increases flow by 0,04, pressing (++) increases flow by 1,00, and by pressing (-) and (- -) decreases flow setting by the same increments.

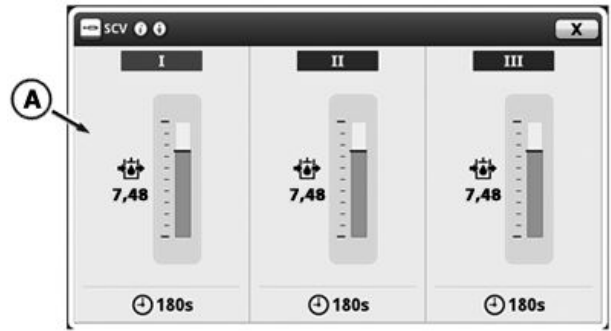
5. To increase flow press buttons (D) or to decrease press buttons (F). Also turning adjusting dial (G) can be used to increase or decrease flow settings.

A— SCV Main Page
B— Detent Time Tab
C— Detent Flow Tab
D— Increase Time/Flow buttons

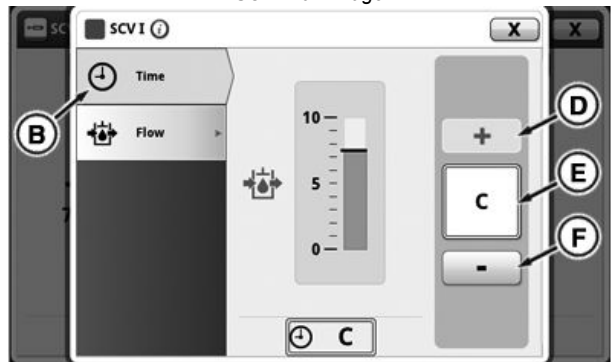
E— Input Box
F— Decrease Time/Flow buttons
G— Adjusting Dial



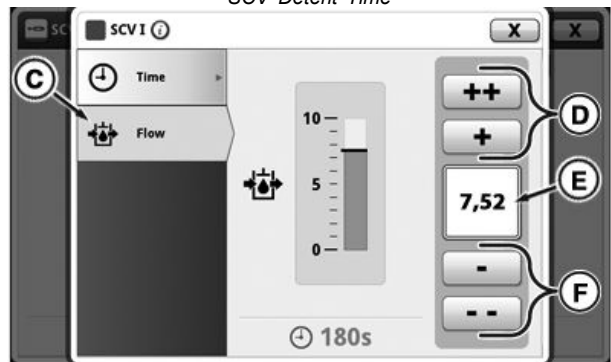
SCV Shortcut Button on Navigation Bar



SCV Main Page



SCV Detent Time



SCV Detent Flow

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Adjusting Dial on Navigation Bar

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RXA0131601 —UN—19AUG13

RXA0136279 —UN—20NOV13

Activating Independent Mode

SCVs in Independent Mode each have two detent flow setting and two detent time settings, on pair for extend and the other for retract.

Press SCV shortcut button in Navigation Bar.

1. Press **Advanced Settings Icon**.
2. Press **Settings tab**.

Use toggles (A) to switch Independent Mode ON or OFF for each SCV.

NOTE: If Independent Mode is off, the SCV is in Standard Mode.

A— SCV ON/OFF Toggles

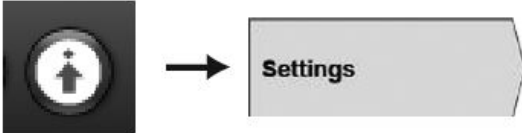
B— Scroll Bar

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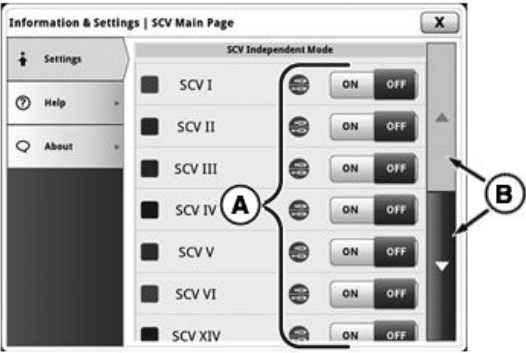


SCV Shortcut Button on Navigation Bar

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Advanced Settings Icon



Information and Settings Page

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Configuring Selective Control Valves - Independent Mode

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SCVs in Independent Mode each have two detent flow settings and two detent time settings, one pair for extend and the other for retract.

Press **SCV shortcut button on Navigation Bar**.

1. Select an SCV that is in Independent Mode.
2. Select Detent Time Retract tab (A) or Detent Time Extend tab (B).

NOTE: Detent time displays amount of time in input box (F). Pressing (+) will increase time in 1 second increments up to 10, then increments of every 2 seconds up to 20, then increases every 5 seconds to 30, then by 30 seconds up to C for continuous and by pressing (-) will decrease time setting by the same increments.

3. To increase detent time press buttons (E) or to decrease press buttons (G). Also adjusting dial (H) can be used to increase or decrease desired detent time setting.
4. Select Detent Flow Retract tab (C) or Detent Flow Extend tab (D).

NOTE: Flow is displayed in increments of 0,04 beginning at 0,04 through 10 located in input box (F). Pressing (+) will increase flow by 0,04, pressing (++) increases flow by 1,00, and by pressing (-) and (- -) will decrease flow setting by the same increments.

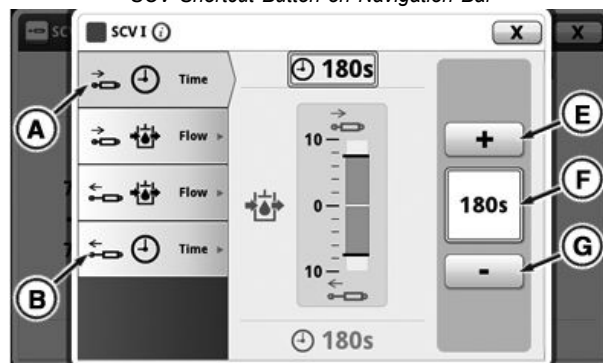
5. To increase flow press buttons (E) or to decrease press buttons (G). Also adjusting dial (H) can be used to increase or decrease flow setting.

A— Retract Detent Time Tab
B— Extend Detent Time Tab
C— Retract Detent Flow Tab
D— Extend Detent Flow Tab

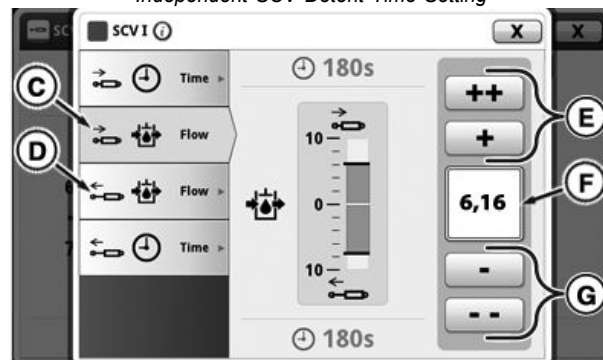
E— Increase Time/Flow Buttons
F— Input Box
G— Decrease Time/Flow Buttons
H— Adjusting Dial



SCV Shortcut Button on Navigation Bar



Independent SCV Detent Time Setting



Independent SCV Detent Flow Setting

RXA0131232 —UN—09MAY13



Adjusting Dial on Navigation Bar

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Configuring Selective Control Valves - Feature Mode

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NOTE: Feature mode requires an optional connector. To use feature mode, connect implement to tractor before the key switch has been turned on. When connected through ISO Bus or implement connector, SCV(s) automatically enter feature mode. SCV page with feature option is displayed for selected SCV(s). Tractor also has Class 3 capabilities.

Following are available feature modes:

- TouchSet™ depth control
- AccuDepth™ control
- ISOBUS control
- Laser Scraper
- Class 3 Capabilities

1. Connect tractor to implement.
2. Press **SCV Shortcut Button on Navigation Bar**
3. Select Feature SCV Module.
4. Select Detent Flow tab (A).
5. To increase flow press (+ or ++) button (D) or to decrease press (- or --) button (F). Also turning adjusting dial (G) can be used to set desired flow setting.

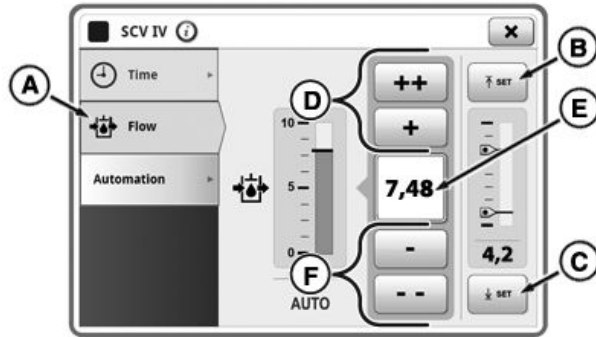
NOTE: Flow is displayed in increments of 0,04 beginning at 0,04 through 10 located in input box (E). Pressing (+) will increase flow by 0,04, pressing (++) increases flow by 1,00, and by pressing (-) and (- -) will decrease flow setting by the same increments.

NOTE: Only TouchSet™ depth control uses upper and lower setpoint buttons (B) and (C).

6. Select Upper Setpoint button (B) to set upper setpoint to current position.
7. Select Lower Setpoint button (C) to set lower setpoint to current position.



SCV Shortcut Button on Navigation Bar



Feature SCV Settings Page



Adjusting Dial on Navigation Bar

A— Detent Flow Tab
B— Upper Setpoint button
C— Lower Setpoint button
D— Increase Flow

E— Input Box
F— Decrease Flow
G— Adjusting Dial

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Total Rear SCV Flow

1. Check flow setting for each function independently (see implement operator's manual Specifications section to determine correct motor flow settings).

Following can cause pump to operate at high pressure:

- Down pressure systems (drills, air seeders, disks) can be considered to be zero flow demand after completion of raise or lower cycle (see Implement Connection Example 1, Pressure Control Valve Applications (Grain Drills or Air Seeders with Constant Down-Pressure System) in Hydraulic Connections section).
 - Auxiliary flow control valves (vacuum flow control)
 - Open implement flow control valve and adjust tractor flow rate to desired setting (see Implement Connection Example 4, Planter with Vacuum Motor and Return Line to SCV Using Motor Return Tip in Hydraulic Connections section).
 - Cylinder functions where line or orifice restrictions control flow - Adjust tractor flow control to point where function speed begins to decrease.
 - Auxiliary control valves (implement stack valves, row guidance) adjust tractor flow control to lowest setting resulting in correct operation.
2. Determine total flow demand by adding flow requirements for each SCV using settings determined in Step 1. Include hitch and power beyond flow requirements, if applicable (refer to chart for correct settings).
 3. Determine if flow demand exceeds available pump flow (refer to chart for available pump flow):
 - Flow demand is less than available pump flow but has performance concern (see your John Deere™ dealer).
 - Flow demand exceeds pump flow:
 - Increase engine RPM if possible.
 - Decrease flow setting on noncritical functions.
 - Convert implement open center valves to closed center operation, if equipped.

NOTE: Flow measurements made without steering or hitch being used.

SCV FLOW (Approximate)		
Engine rpm	Pump Flow (90 cc Pump) L/min (gpm).	Hi Flow Pump Flow (90 cc Pump L/min (gpm) + 85 cc Pump) Optional.
1000	106.4 (28)	207.3 (55)
1500	159.5 (42)	310.9 (82)
2000	212.7 (56)	414.6 (110)
2100	220 (58)	435 (115)

SCV FLOW OUTPUT (Approximate) ^a	
SCV Flow Settings	L/min (gpm)
0.1 ^b	—
1.0	1.9 (0.5) ^c
2.0	6.1 (1.6)
3.0	13.6 (3.6)
4.0	20.4 (5.4)
5.0	28.0 (7.4)
6.0	40.9 (10.8)
7.0	62.1 (16.4)
8.0	81.4 (21.5)
9.0	107.1 (28.3)
10.0	132 (35)

^aAt 2000 rpm and 454 kg (1000 lbs) of load at point of use.

^b0.1 = Minimum Flow Setting

^cObserved under no load.

SCV HIGH FLOW OUTPUT (Approximate)		
NOTE: This 3/4" coupler is only available for SCV I as a field installed kit or for a Scraper Tractor Configuration.		
SCV Flow Settings	Flow	
	L/min.	gpm
0.1 ^a	—	—
1.0	4.3	1.1
2.0	11.3	3.0
3.0	19.4	5.1
4.0	27.6	7.3
5.0	35.2	9.3
6.0	49.9	12.4
7.0	72.0	19.0
8.0	95.3	25.2
9.0	118.6	31.4
10.0	159	42

^a 0.1 = Minimum Flow Setting

Hitch Flow		
Hitch Cylinder	Flow	
Diameter (mm)	L/min	gpm
90/100	71	18.7
120/120	88	23.2

RD47322,00002C3 -19-05MAY15-1/1

Six Position SCV Control Levers

CAUTION: To avoid personal injury, ensure that hoses are not reversed. If hoses are reversed, cylinder extends when it should retract.

Prevent possible personal injury. Shut off engine, move SCV control levers to neutral position and press SCV control lever lock (J) before attaching implements to prevent unintentional implement movement.

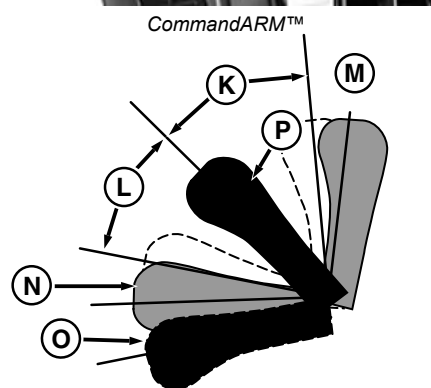
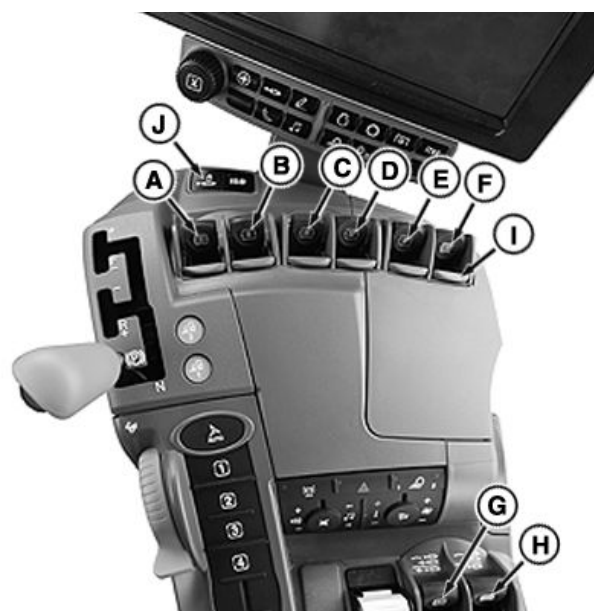
NOTE: CommandARM™ configuration can vary depending on options.

- **SCV Control Lever Lock (J):** Locks out control inputs (On SCV levers (A) through (H) only).
- **Neutral (P):** Lever returns to center position when released, except in float position.
- **Extend (K):** (Rearward between Neutral and Extend Detent positions) Variable flow to extend cylinder, proportional to lever movement and flow settings; flow stops when released.
- **Retract (L):** (Forward between Neutral and Retract Detent positions) Variable flow to retract cylinder, proportional to lever movement and flow settings; flow stops when released.
- **Extend Detent Position (M):** (Rearward to "click" position) Timed flow to extend cylinder, based on detent time setting and at a rate set by flow rate control (see Adjusting Timed Detent and Adjusting SCV Flow Rate in this section of this Operator's Manual). Returns to neutral when released.
- **Retract Detent Position (N):** (Forward to "click" position) Timed flow to retract cylinder, based on detent time setting and rate set by flow rate control (see Adjusting Timed Detent and Adjusting SCV Flow Rate in this section of this Operator's Manual). Returns to neutral when released.

NOTE: To relieve hydraulic pressure in implement, move SCV control lever to float position (O), while engine is running.

- Float can be used to allow hydraulic motors to coast when shutting down implement.
Float (O): (Down into locked position) Valves open to sump to allow cylinder to freely extend or retract. Allows implement to follow ground contour. Pull up and out of locked position to disengage.

Push SCV lever cover (I) forward when SCV is not in use.



Armrest Controls — Six Position SCV Levers

A— SCV I
 B— SCV II
 C— SCV III
 D— SCV IV
 E— SCV V
 F— SCV VI
 G— SCV VII
 H— SCV VIII

I— SCV Cover Lever
 J— SCV Control Lever Lock
 K— Extend Range
 L— Retract Range
 M— Extend Detent Position
 N— Retract Detent Position
 O— Float
 P— SCV Lever (Neutral Position)

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SCV Control Lever—Neutral Position

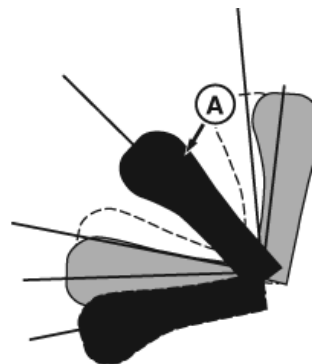
CAUTION: SCV control lever should be in neutral position at tractor startup.

Neutral position (A) allows flow to continue until timed detent expires. If no timed detent is commanded, then flow is turned off.

Levers in extend or retract positions automatically return to neutral when released. Float position remains detented.

Any position other than neutral is ignored until lever is cycled to neutral after engine startup.

A— Neutral Position



SCV Control Lever - (Neutral)

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SCV Control Lever—Extend and Extend Detent Position

Extend Position

Pull lever (A) rearward of neutral. Cylinder extends at a rate that varies with how far rearward the lever is pulled.

Pull lever slightly rearward to extend the remote cylinder slowly.

Pull lever rearward against the first detent notch to extend the remote cylinder at maximum rate. (See Adjusting SCV Flow Rate in this section) Lever returns to neutral and flow stops when released.

NOTE: Time Setting is ignored in the retract position.

Extend Detent Position

NOTE: Detent positions are ignored at start up until lever is cycled to NEUTRAL.

Pull lever (A) rearward to “click” detent position and release. Lever returns to neutral position, but flow continues at maximum rate. (See Adjusting SCV Flow Rate and Adjusting Timed Detent in this section.)

Flow timing begins when the lever returns to center after being in the detent position for less than 0.8 seconds.



SCV Control Lever Extend and Extend Detent

A— Extend Position (Pull Rearward)

SCV flow time should be adjusted so cylinder is fully extended when time has elapsed.

Detent can be canceled by moving SCV lever slightly forward or rearward from neutral after lever has returned to neutral or by holding lever in extend position for more than 0.8 seconds after lever has entered detent position.

RD47322,00004C2 -19-05MAY15-1/1

RXA0137720 —UN—14MAY14

SCV Control Lever—Retract and Retract Detent Position

Retract Position

NOTE: Time setting is ignored in retract position.

Push lever (A) forward of neutral. Cylinder retracts at a rate that varies with how far forward the lever is pushed.

Push the lever slightly forward to retract the remote cylinder slowly.

Push the lever forward against the first detent notch to retract the remote cylinder at maximum rate. (See Adjusting SCV Flow Rate in this section) Lever returns to neutral and flow stops when released.

Retract Detent Position

NOTE: Detent positions are ignored at start up until lever is cycled to NEUTRAL.

Push lever (A) forward to "click" detent position and release. Lever returns to neutral position, but flow continues at maximum rate if detent time setting is non-zero. (See Adjusting SCV Flow Rate and Adjusting Timed Detent in this section.)

Flow timing begins when the lever returns to center after being in the detent position for less than 0.8 seconds.



SCV Control Lever Retract and Retract Detent

A— Retract Position (Push Forward)

SCV flow time should be adjusted so cylinder is fully retracted when time has elapsed.

Detent can be canceled by moving SCV lever slightly forward or rearward from neutral after lever has returned to neutral or by holding lever in retract position for more than 0.8 seconds after lever entered detent position.

RXA0137721—UN—14MAY14

RD47322,00004C3 -19-05MAY15-1/1

SCV Control Lever—Float Position

Push SCV control lever (A) all the way forward to lock the lever in float position. Lever and SCV will remain in float position until lever is manually returned to neutral. Cylinder is free to extend or retract, letting implement follow ground contour.

NOTE: Time setting is ignored in Float position.

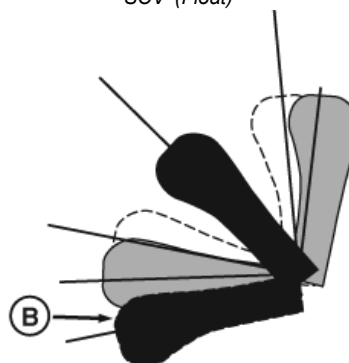
If lever is in float position (B) at engine start up, float function will be disabled (C) until lever is cycled to neutral.

Cycle cylinder fully in both directions after being used in the float position to insure cylinder is filled with oil.

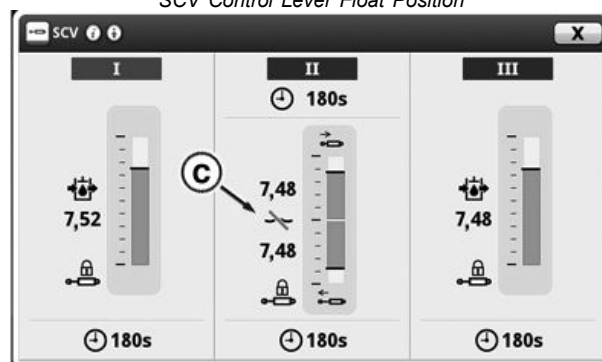
A— Float position (Push Down) C— Disabled Float Function and SCV Lockout
B— Float Position



SCV (Float)



SCV Control Lever Float Position



SCV Float and Lockout

RD47322,000042B -19-15MAY14-1/1

Operator Presence Sensor

CAUTION: SCV does not disengage when operator leaves seat.

An audible warning sounds if operator leaves the seat with transmission in PARK or NEUTRAL with SCV control in

“Continuous” or “Timed Detent” modes. After 5 seconds, the audible warning stops.

RD47322,00004C5 -19-05MAY15-1/1

CommandARM™ Joystick (If Equipped)

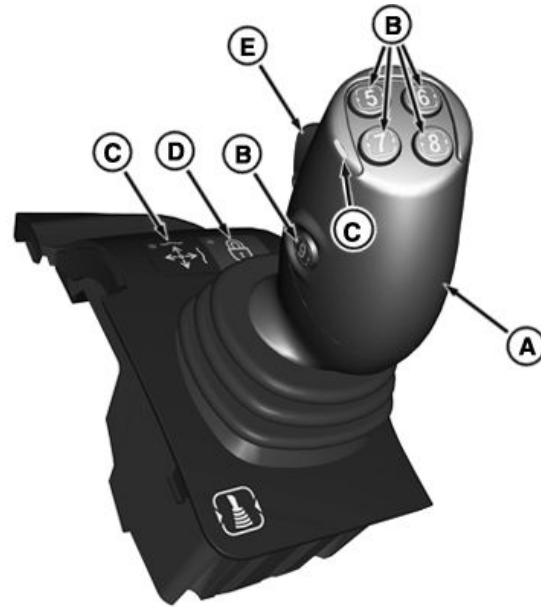
NOTE: Joystick is compatible with tractors equipped with only 6 or less SCVs.

Operating SCVs With Joystick

- The Control Setup Icon appears around Controls that can be setup to control other functions. See Controls Setup in CommandCenter™ of this Operator's Manual to verify the function of each control.
- Moving lever along axes of the joystick (A) operates combinations of programmed rear SCV(s) functions.
- Operator can select transmission gear upshifts using (button 5) (B) and downshifts (button 7) (B) on top of the lever.
- Joystick activation indicator light (C) is ON when joystick is active.
- Joystick lock (D) is used to lock out electro-hydraulic functions for SCV(s) assigned to joystick.
- Rocker switch (E) operates combinations of programmed SCV(s) functions.
- Push the joystick all the way forward and engage in detent to activate the float position. The joystick lever remains in the detent until it is pulled back.

A— Joystick (If Equipped)
B— Joystick Buttons
C— Joystick Activation
Indicator Light

D— Joystick Lock
E— Joystick Rocker Switch



CommandARM™ Joystick

RXA0133735 —UN—17JUL13



Controls Setup Icon

RXA0133920 —UN—11NOV13

Continued on next page

RD47322,00004CE -19-05MAY15-1/5

Joystick Controls Custom Setup

RXA0133709 —UN—16JUL13

Press **Controls Setup Shortcut Button on Navigation Bar**:

1. Press **Joystick Mode (A)**.

Select Tractor Mode (B), then confirm using OK button (C).

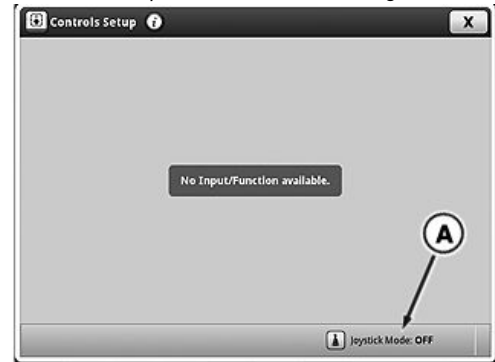
In Tractor Mode, only SCVs I to VI, that are assigned to the joystick axis can be activated using the joystick.

A— Joystick Mode
B— Tractor Mode

C— OK Button



Controls Setup Shortcut Button on Navigation Bar



Controls Setup Page



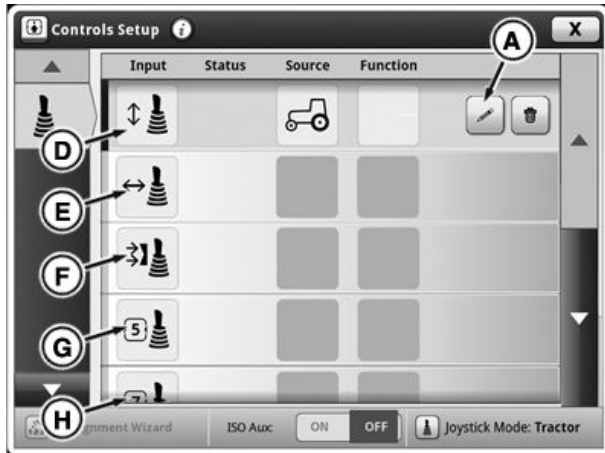
Joystick Mode Page

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RD47322,00004CE -19-05MAY15-2/5

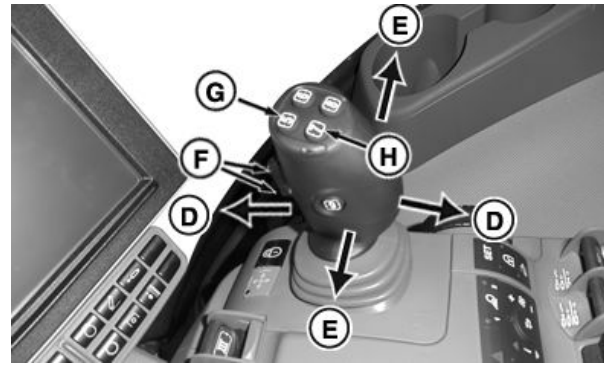
RXA0137972 —UN—04FEB14

RXA0138010 —UN—18DEC13



Controls Setup Page

RXA0133929 —UN—20JAN14



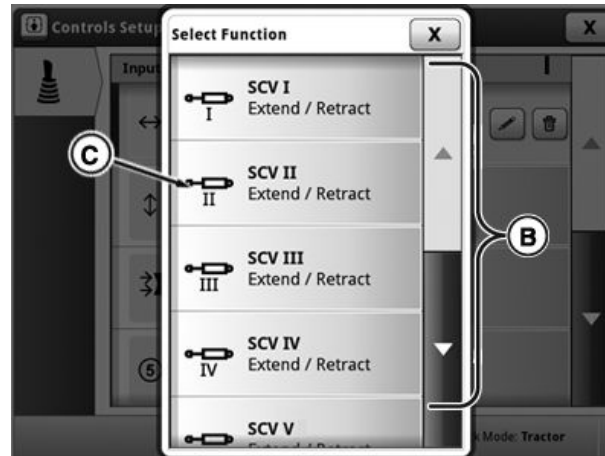
Joystick

RXA0133467 —UN—20JAN14

NOTE: Joystick buttons 5 (G) and 7 (H) are preassigned from the factory for up and downshifting transmission respectively. Joystick buttons 6 through 9 are not assignable currently, function can become available for future use.

1. Select desired Custom Assignments buttons (D through F) to change programmed function on joystick.
2. Press edit function button (A).
3. Select from list of functions (B) and press desired function to assign.
4. Press desired function (C) from list.

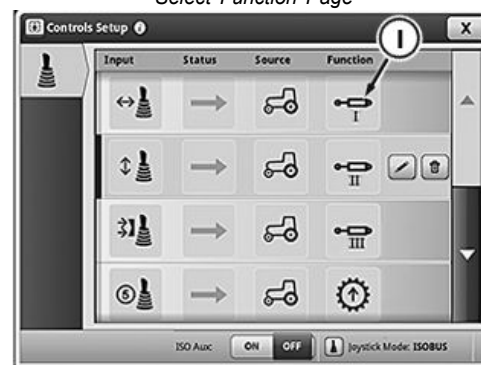
New programmed function (I) appears in function column across from custom assignment button.



Select Function Page

RXA0140234 —UN—16JUN14

- | | |
|-----------------------------|------------------------|
| A— Edit Function Button | F— Rocker Switch |
| B— Available Functions List | G— Button 5 |
| C— SCV II | H— Button 7 |
| D— Fore/Aft Axis | I— Programmed Function |
| E— Left/Right Axis | |



Controls Setup Page

RXA0138492 —UN—16JUN14

Continued on next page

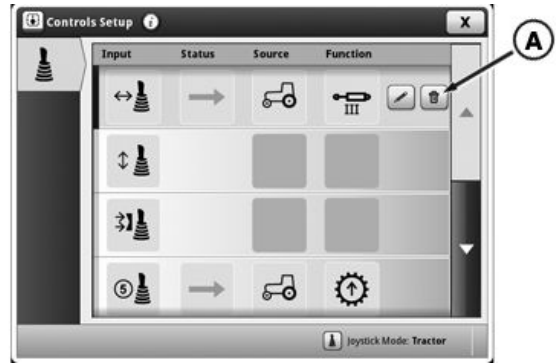
RD47322,00004CE -19-05MAY15-3/5

Removing Custom Assignments

To change or remove the SCV that is assigned, press joystick assignment delete button (A) and then press confirm assignment removal OK button (B).

**A— Joystick Assignment
Delete Button**

**B— Confirm Assignment
Removal OK Button**



Remove Current Joystick Assignment



Confirm Joystick Assignment Removal

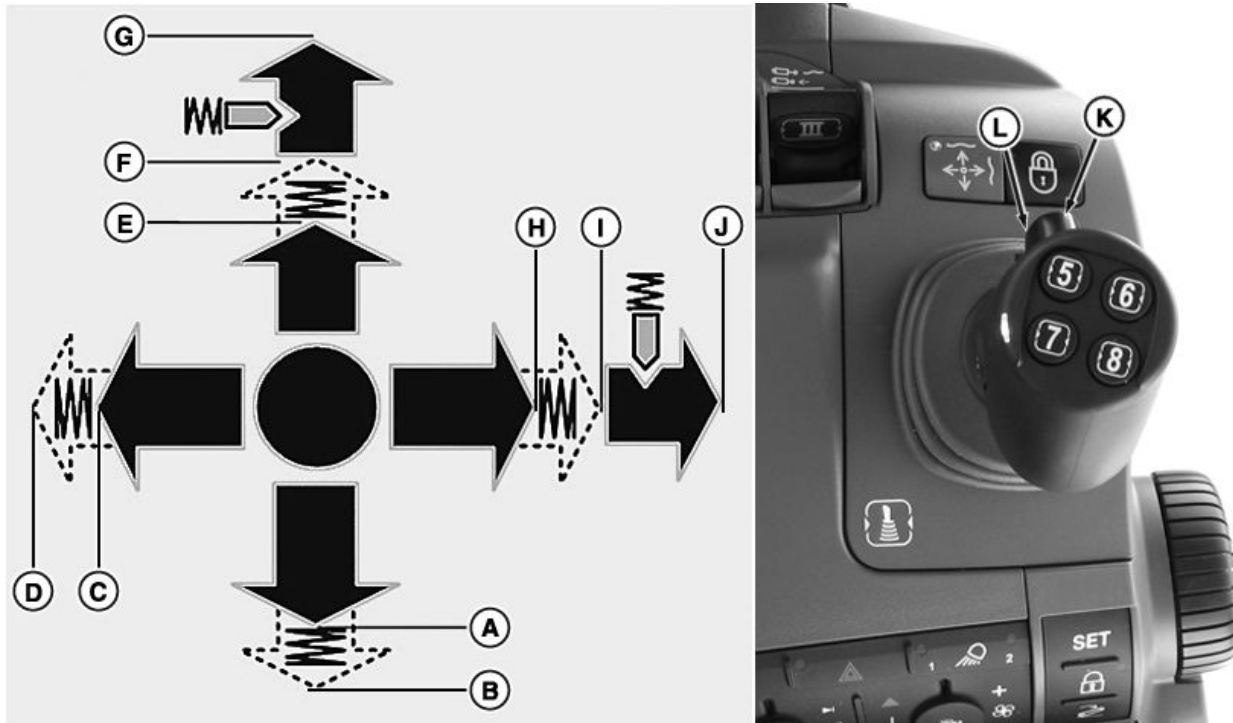
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RD47322.00004CE -19-05MAY15-4/5

RXA0138964 —UN—27MAY14

RXA0138963 —UN—27MAY14

Layout and Joystick Lever Functions



Joystick Movements

NOTE: The descriptions of the joystick movements are made with the assumption that the hoses are connected so that extend is pulling the joystick back,

retract is pushing the joystick forward. Moving the joystick to the left is extend, and retract is to the right.

- A Pull joystick back to extend.
- B Pull joystick back **beyond** the point of detectable resistance to extend detent.
- C Move joystick to the left to extend.
- D Move joystick to the left **beyond** the point of detectable resistance to extend detent.
- E Push joystick forward to retract.
- F Push joystick forward **beyond** the point of detectable resistance to retract detent.
- G Push joystick all the way forward and engage in detent to activate the float position.
- H Move joystick to the right to retract.
- I Move joystick to the right **beyond** the point of detectable resistance to retract detent.
- J Move joystick all the way to the right and engage in detent to activate the float position.
- K Move rocker switch up **beyond** the point of detectable resistance for extend detent.
- L Move rocker switch up **beyond** the point of detectable resistance for retract detent.

Operator can set any SCV on any axis or rocker switch of the joystick.

NOTE: Some functions shown cannot be available depending upon what options the tractor is equipped with.

RD47322,00004CE -19-05MAY15-5/5

RXA0138484 —UN—01JUL14

SCV and Joystick Flow Response Setting

SCV and Joystick response can be set to three different response curves: Linear, Progressive and Combination.

- **Linear** means that the flow rate of the SCV corresponds to the distance traveled by the SCV control lever / joystick lever.
- **Progressive** means that initially the flow rate of the SCV is less than that traveled by the SCV control lever / joystick lever (giving a more sensitive start to the movement).
- **Combination** is an intermediate stage between the two settings described above.

Using scroll bar (A), scroll down to flow adjustment sensitivity and press either SCV control lever (B) or joystick response (C) to adjust SCV response or joystick response.

Then choose either Linear (D), Combination (E) or Progressive (F), then confirm using the OK button (G).

- | | |
|--|--------------------------------|
| A— Scroll Bar | E— Combination Response button |
| B— SCV Control Lever Response Setting button | F— Progressive Response button |
| C— Joystick Response Setting button | G— OK button |
| D— Linear Response button | |

RXA0133715 —UN—16JUL13

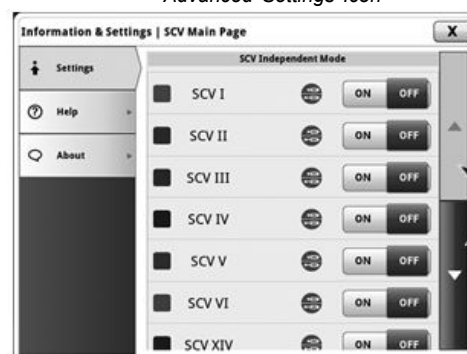


SCV Shortcut Button on Navigation Bar

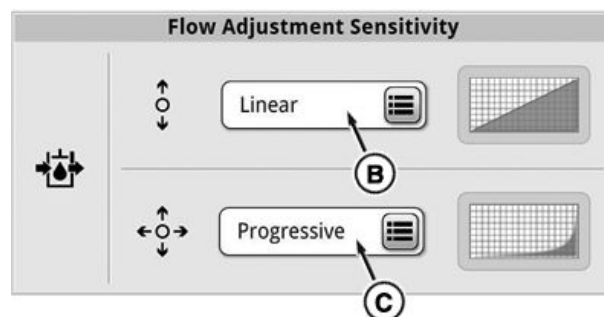
RXA0130326 —UN—11JAN13



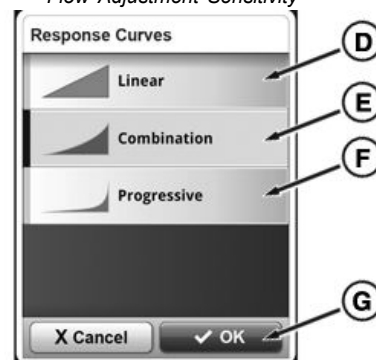
Advanced Settings Icon



Information and Settings Page



Flow Adjustment Sensitivity



Response Curves

RD47322,00004CD -19-17JUN14-1/1

RXA0137874 —UN—18DEC13

RXA0137875 —UN—18DEC13

RXA0137876 —UN—18DEC13

Remote Hydraulic Connections

Connecting Hydraulic Hoses—Rear of Tractor

CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

CAUTION: Engage joystick lock (A) (If Equipped) and SCV control lever lock (B) before attaching or detaching hydraulic hoses to prevent unintentional implement movement and possible personal injury.

IMPORTANT: Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly.

Any dirt, dust, or other foreign material can damage hydraulic system. Thoroughly clean hydraulic hoses and SCVs before connecting implement to tractor.

IMPORTANT: Steam cleaning or using a high pressure washer in the area around the SCV connections and electronics may damage equipment. Any pressure washer exceeding 6895 kPa (69 bar) (1000 psi) should be kept a minimum of 200 mm (8 in.) away from connections.

NOTE: See *Attaching Implement and Control System in TouchSet™ Depth Control Section of this Operator's Manual.*

1. Lock out SCV controls:

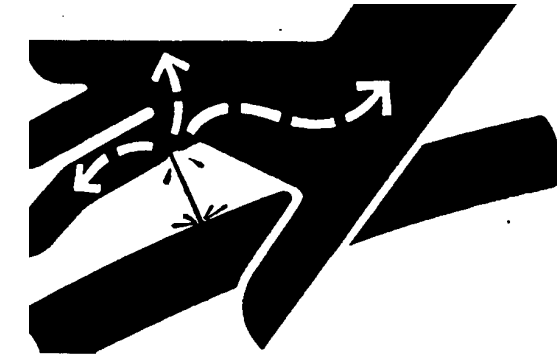
- Joystick—Press Joystick Lock (A).
- CommandARM™—Press SCV Control Lever Lock (B).

2. Clean dust covers. Rotate dust covers up to expose couplers.

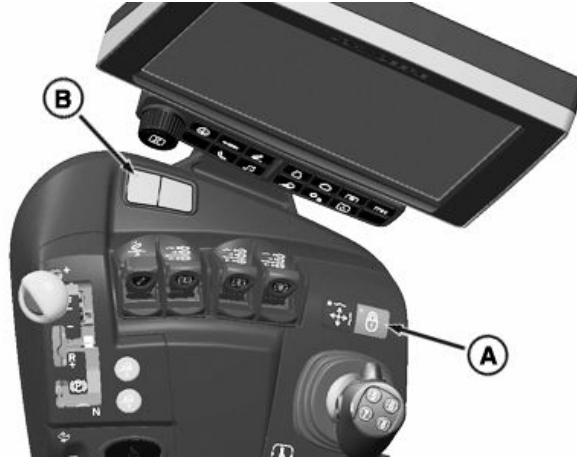
IMPORTANT: Correctly connect remote hydraulic hoses to couplers. If hose connections are reversed, machine implement will not respond to system controls as expected.

NOTE: Remote cylinder couplers are designated I through VIII (E) with I being the bottom coupler.

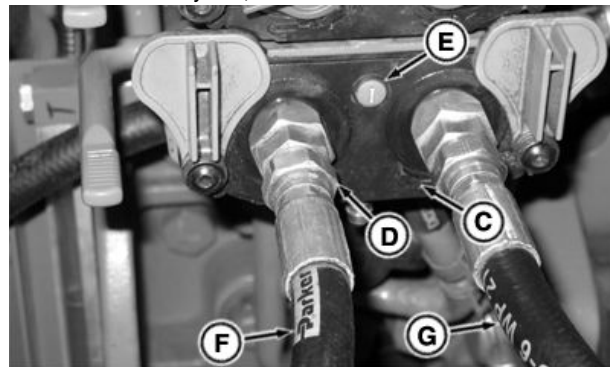
3. Check if symbols on coupler identification plate (C) or (D), indicating cylinder movement, match cylinder travel direction.



X9811 —UN—23AUG88



Joystick, SCV Control Lever Locks



Couplers with High Pressure Relief Levers

- | | |
|---------------------------|--------------------------|
| A— Joystick Lock | E— SCV Identifier Number |
| B— SCV Control Lever Lock | F— Extend Hose |
| C— Retract Icon | G— Retract Hose |
| D— Extend Icon | |

4. When using SCV with single-acting cylinders, plug hose into extend side of coupler (F). When connecting double-acting cylinders, extend side will be left side and retract is right side (G).

5. Push hose(s) firmly into coupler(s).

Continued on next page

RD47322,000068B -19-05MAY15-1/2

NOTE: SCVs are color coded for easier identification.
Hose identification kits are available from
your John Deere™ dealer.

SCV Numbers And Corresponding Colors	
SCV Number	Color
SCV I	Green
SCV II	Blue
SCV III	Brown
SCV IV	Black
SCV V	Violet
SCV VI	Gray
SCV VII	White
SCV VIII	Light Green

TouchSet is a trademark of Deere & Company
John Deere is a trademark of Deere & Company

RD47322,000068B -19-05MAY15-2/2

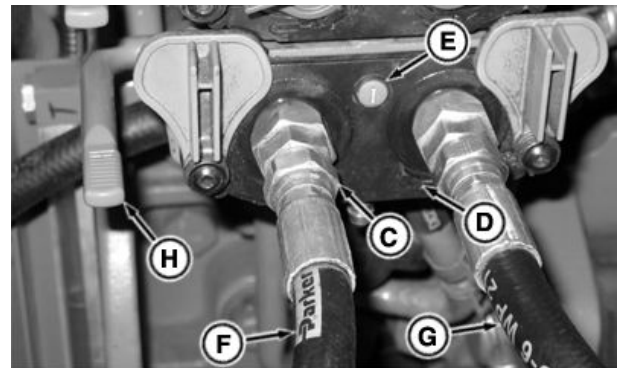
Disconnecting Hydraulic Hoses—Rear of Tractor

CAUTION: Prevent possible personal injury. Lock out SCV controls before detaching implements to prevent implement movement.

1. Lower implement to ground before disconnecting hydraulic hoses.
2. Relieve hydraulic pressure in hoses by moving SCV control lever or joystick (If Equipped) to float position for a few seconds while engine is running.
3. Lock out SCV controls:
 - Joystick — Press Joystick lock (A).
 - CommandARM™ SCV — Press SCV control lever lock (B).
4. Push SCV hose release lever (H) down slightly to relieve any pressure buildup of trapped oil before removing hoses.

IMPORTANT: Forcing or jerking SCV hoses when disconnecting can damage hose ends and SCV couplers. If hoses cannot be removed easily, relieve pressure in hydraulic system. Start tractor and move SCV lever to float position for a few seconds then handle (H) to extract hoses.

5. Pull hoses **straight** out from couplers.
6. Clean coupler area before closing dust cover.
7. Rotate dust covers down to cover couplers.



Couplers with High Pressure Relief Levers

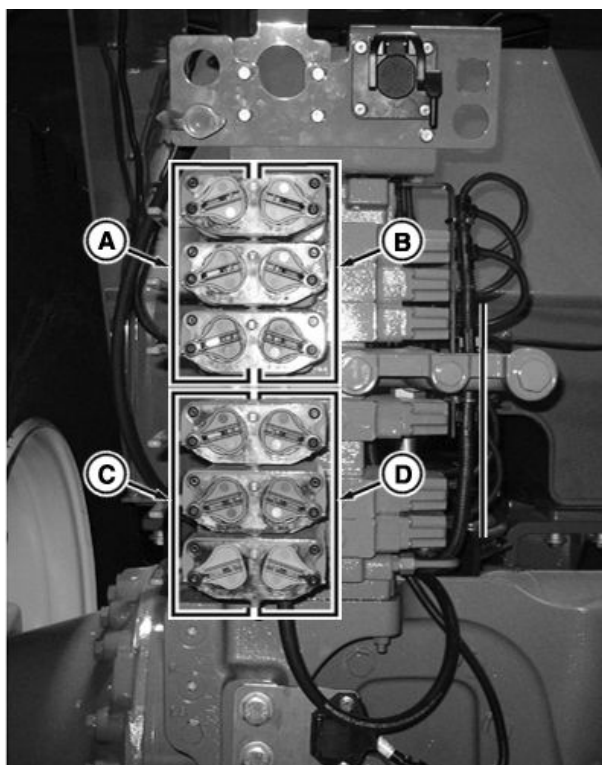
- | | |
|---|---------------------------|
| A— Joystick - Joystick lock | E— SCV Identifier Number |
| B— CommandARM™ - SCV control lever Lock | F— Extend Hose |
| C— Extend Icon | G— Retract Hose |
| D— Retract Icon | H— SCV Hose Release Lever |

RD47322,000068C -19-05MAY15-1/1

RXA0138808 —UN—28JAN14

RXA0131030 —UN—19FEB13

High Flow SCV Identification



High Flow SCV Couplers Shown

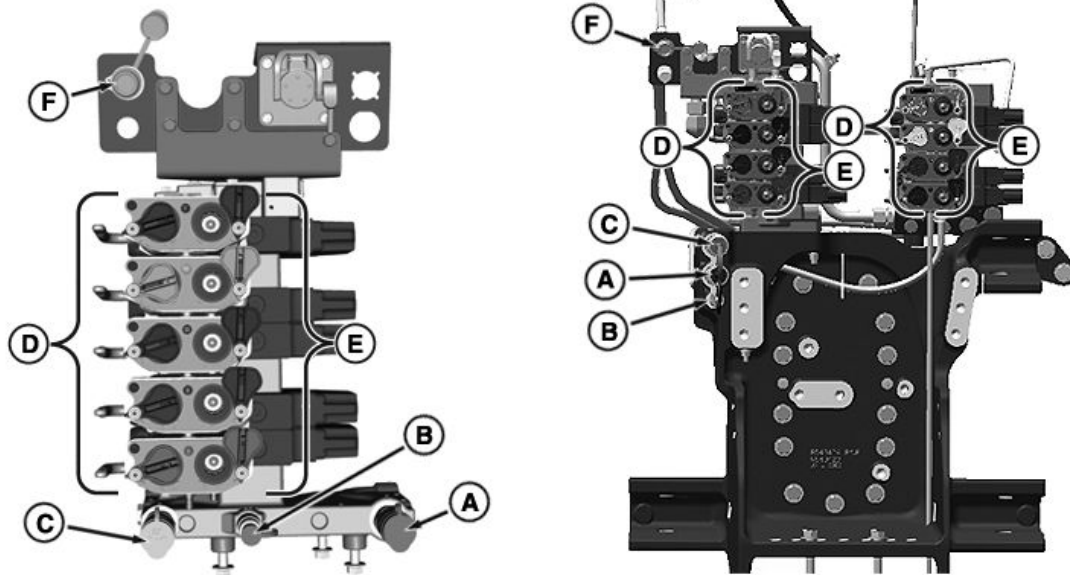
A— Extend Couplers 85cc Pump C— Extend Couplers 90cc Pump
B— Retract Couplers 85cc Pump D— Retract Couplers 90cc Pump

*NOTE: SCVs 1-3 are supplied by primary pump, SCVs
4-6 (If equipped) are supplied by secondary pump.
SCVs 4-6 are recommended for orbital motor use.*

RXA0138643 —UN—23JAN14

RD47322,000068D -19-05MAY15-1/1

Standard Hydraulic Component Identification



Standard Hydraulic Component Identification

A— Return Coupler (Motor Return)
B— Load Sense Coupler

C— Pressure Coupler
D— Extend Couplers

E— Retract Couplers
F— Sump Coupler (Motor Case Drain)

Standard hydraulic components - configuration on the left - 9370R, 9420R, 9470R models. The standard hydraulic components on the right 9520R, 9570R & 9620R models.

RD47322,000068E -19-05MAY15-1/1

RXA0143457 —UN—09JUL14

Using Load-Sensing Hydraulic System—Power-Beyond

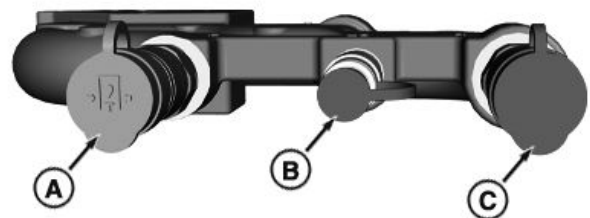
Power-beyond is used as a pressure/flow source for auxiliary functions equipped with independent flow control valves. Use power-beyond when:

- Tractor SCV control is not needed
- No other SCV outlet is available

Power-beyond functions require a load-sense signal to regulate pump pressure. Install load-sense hydraulic line to load-sense connection (B). Certain equipment can require modification. (See your John Deere™ Dealer.)

A— Pressure Coupler
B— Load Sense Coupler

C— Return Coupler (Motor Return)



Power-Beyond Coupler

John Deere is a trademark of Deere & Company

RD47322,000068F -19-05MAY15-1/1

RXA0138768 —UN—27JAN14

Load-Sense Hydraulic Connections - Examples

Example 1 —Control valves with a load-sense provide a load-sense signal to hydraulic system and can be operated manually or by solenoids.

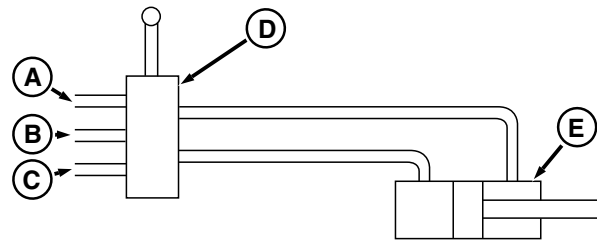
NOTE: Example 1 is the preferred practice.

Example 2 —Control valve directs oil into extend or retract circuits. Connect load-sense line to circuit requiring pressure. An example is a wagon lift cylinder with load supported by mechanical stops in full down position. Load-sense signals pump when increased pressure is needed. Pressure remains low when load is supported by mechanical stops.

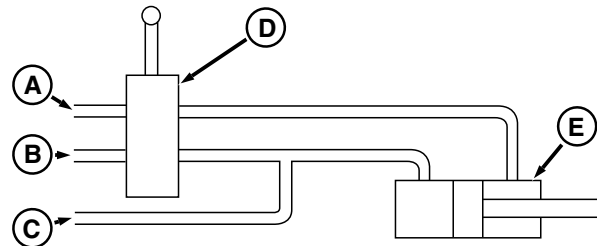
IMPORTANT: Circuit allows cylinder "leak-down" through load-sense line (C). If leakage is not acceptable for operation, use Example 3.

A— Return Line
B— Pressure Line
C— Load-Sense Line

D— Control Valve
E— Cylinder



Example 1



Example 2

RXA0138763 —UN—28JAN14

RXA0138762 —UN—28JAN14

RD47322,0000690 -19-05MAY15-1/2

Example 3—Control valve directs oil into extend or retract circuits, either requiring high pressure. Connect load-sense line to pressure line before control valve.

IMPORTANT: System maintains a maximum pressure of 20000 kPa (200 bar) (2900 psi) as long as power-beyond hoses are connected.

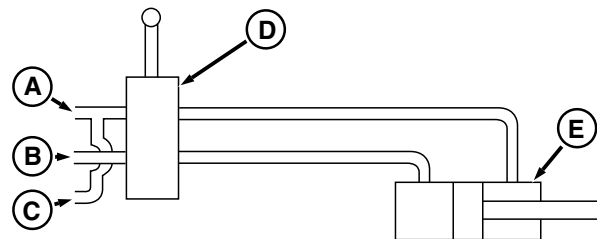
An example is a folding implement, where pressure is needed to extend or retract cylinders.

Example 4—Pressure-compensated flow control valve is used to regulate hydraulic motor speed. Connect load-sense line to pressure line after control valve.

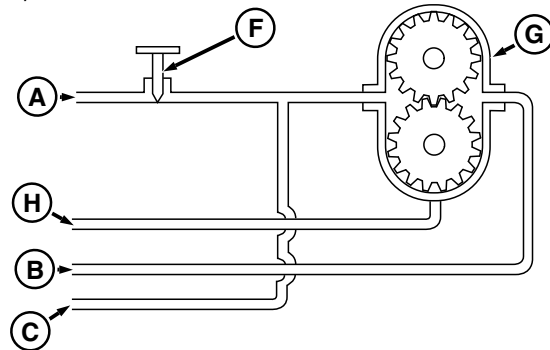
NOTE: Pressure compensated flow control valve regulates pump pressure to stabilize motor speed. Valve minimizes pump pressure fluctuations caused by activation of other hydraulic functions while motor is running. Connect load-sense line to pressure line after control valve.

A— Pressure Line
B— Return Line
C— Load-Sense Line
D— Control Valve

E— Cylinder
F— Pressure-Compensated Flow Valve
G— Hydraulic Motor
H— Motor Case Drain (Sump Line)



Example 3 - Control Valve Directs Oil into Extend or Retract Circuits.



Example 4 - Pressure Compensated Flow Control Valve.

RXA0138269 —UN—17JAN14

RXA0138270 —UN—17JAN14

RD47322,0000690 -19-05MAY15-2/2

Using Hydraulic Spray Pumps

NOTE: For Ag high flow, it is recommended that the hydraulic motor be connected to the top SCV's (85cc high flow pump).

Not recommended for high flow scraper hydraulics.

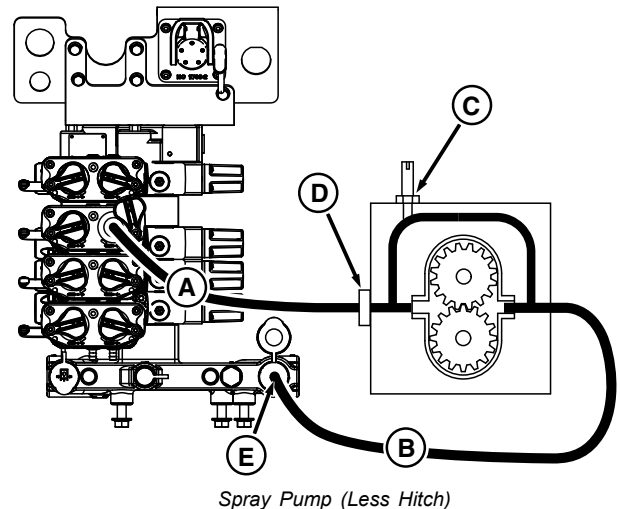
1. Follow spray pump manufacturers recommendations for pump model selection, setup and operation.

NOTE: Select the smallest displacement motor recommended for multiple hydraulic function operation. The smaller displacement will lower total hydraulic flow demand and improve overall system performance.

2. Connect motor pressure line (A) to retract coupler of SCV (right-hand side).

NOTE: Use of SCV 3, 4, or 5 for standard hydraulic system is suggested. Use SCV 4 or 5 for High Flow hydraulic system and no hitch. Use SCV 3 or 4 for High Flow hydraulic system and with hitch.

3. Connect return line (B) to return coupler (E).
4. Activate SCV by moving lever forward to retract detent position and adjust hydraulic flow rate per pump manufacturers guidelines.
5. Shut off spray pump by moving SCV control lever to float position (full forward and down). Stopping spray pump by moving SCV to neutral position will cause high pressure oil to be trapped between SCV and



- | | |
|--------------------------|--------------------------------|
| A— Pressure Line | D— Inlet Line Orifice (Remove) |
| B— Return Line | E— Pressure Coupler |
| C— Needle Valve (Closed) | |

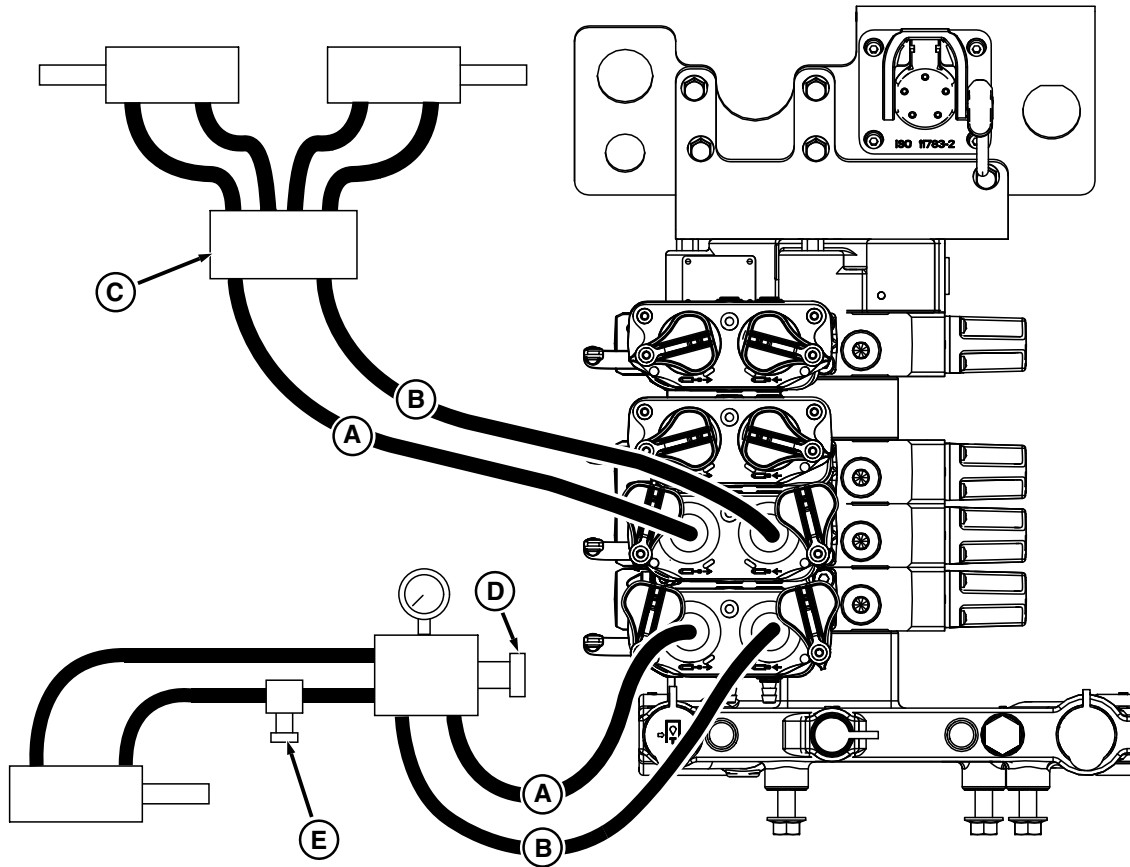
pump. This may cause damage to spray pump seals. This applies to motors using the SCV pressure and return couplers.

IMPORTANT: Some motors are not equipped with over-speed protection. Extended operation above recommended speed can cause failure.

RXA0111981 —UN—18NOV10

RD47322,0000691 -19-22OCT14-1/1

Implement Connection Example 1—Pressure Control Valve Applications (Grain Drills or Air Seeders with Constant Down-Pressure System)—Less Hitch—Standard Hydraulics



A—Extend Coupler Line
B—Retract Coupler Line

C—Selector Valve
D—Pressure Control Valve

E—Implement Transport Lock Valve

NOTE: For Ag high flow, it is recommended that the hydraulic motor be connected to the top SCV's (85cc high flow pump).

Not recommended for high flow scraper hydraulics.

For implements using active down force set flow control to continuous and move lever to detent position.

This causes hydraulic pump to operate at maximum pressure which can cause overheating of hydraulic oil if at the same time outside air temperature is high. To avoid this problem, try not to operate more than one hydraulic motor with tractor hydraulic system when active down force is being used.

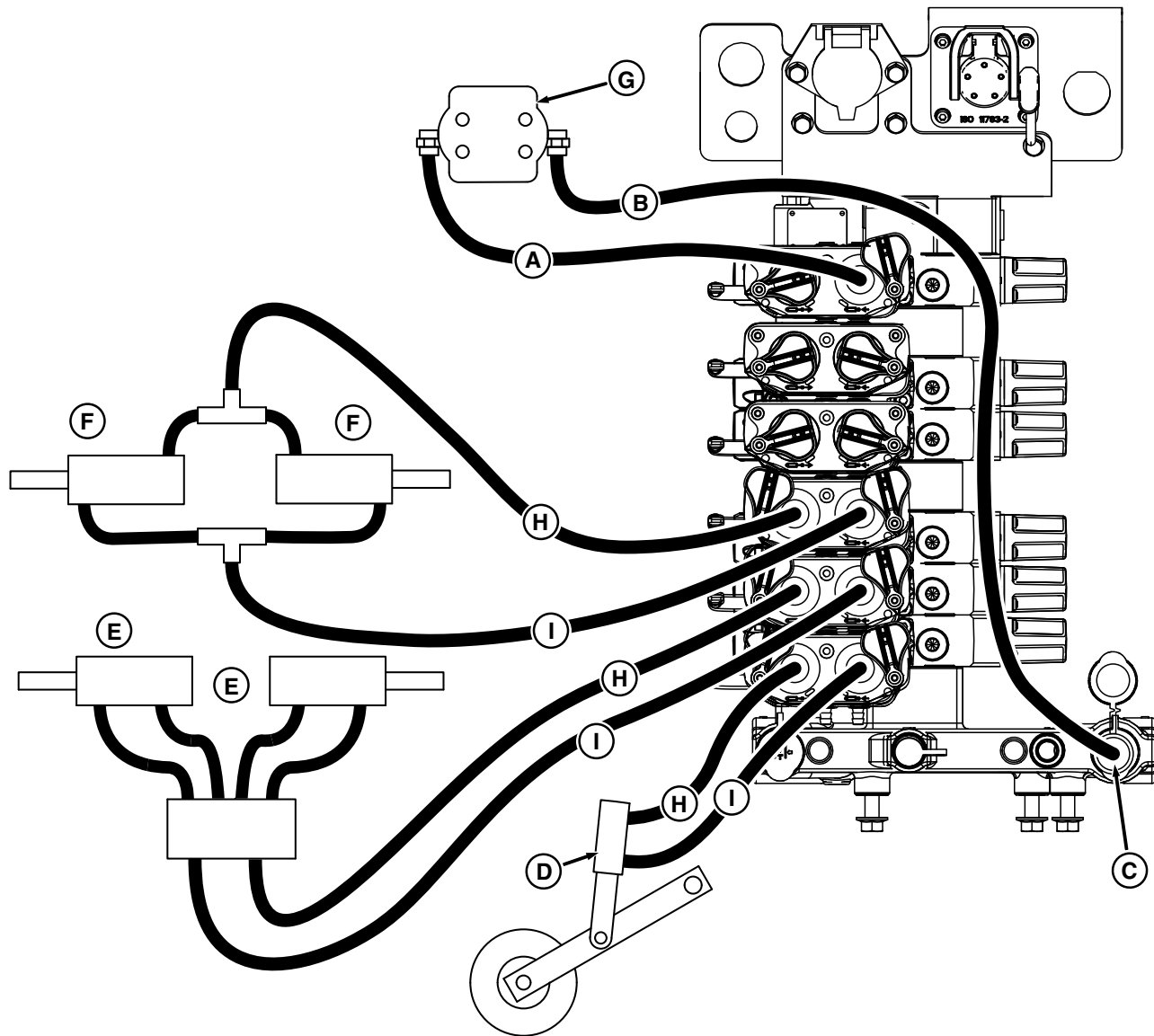
RD47322,0000692 -19-05MAY15-1/1

RXA0126556 —UN—29MAY12

A— Pressure Line	E— Vacuum Motor	H— Fan	M— Retract Coupler Line
B— Return Line	F— Raise/Lower Cylinder	I— Marker	N— Controlled Flow Line
C— Load Sense Line	G— Motor Case Drain (Sump Line)	J— Fold	O— Hose Tip
D— Control Valve		K— Load Sense Coupler	
		L— Extend Coupler Line	

on the SCV and return oil is routed to the extend port. When motor return oil is routed to an SCV, a special return hose tip (O) with check valve is required to prevent high pressure oil from moving back toward the motor and possibly damaging the seals. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

Implement Connection Example 3—Closed Center Valve, Pump at High Pressure—Less Hitch—Standard Hydraulics



RXA011994 —UN—18NOV10

- | | | |
|----------------------------------|-------------------------|-------------------------|
| A— Pressure Line | D— Raise/Lower cylinder | G— Hydraulic Motor |
| B— Return Line | E— Markers | H— Extend Coupler Line |
| C— Return coupler (Motor Return) | F— Fold | I— Retract Coupler Line |

NOTE: For Ag high flow, it is recommended that the hydraulic motor be connected to the top SCV's (85cc high flow pump).

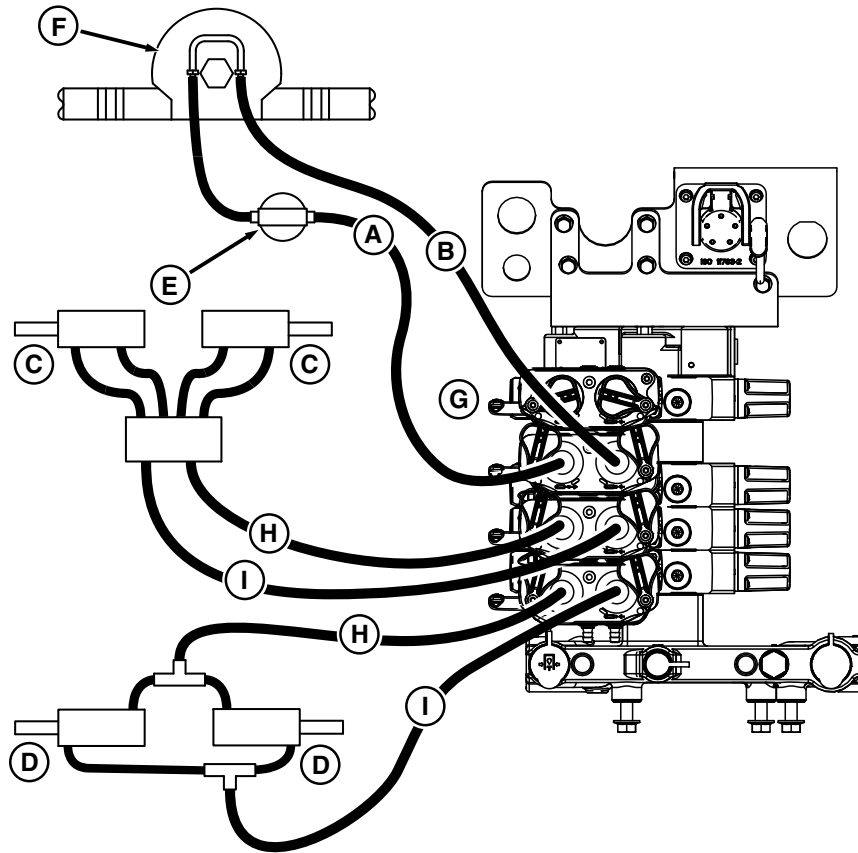
Not recommended for high flow scraper hydraulics.

In this application motor (G) receives pressure oil from the retract coupler on SCV. Return oil is routed to power

beyond return port. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral can cause motor to stop abruptly and may damage seals. Since return oil is routed to power beyond return port, no special hose tip is required.

RD47322,0000694 -19-22OCT14-1/1

Implement Connection Example 4—Planter with Vacuum Motor and Return Line to SCV Using Motor Return Tip—Less Hitch—Standard Hydraulics



A— Return Line
B— Pressure Line
C— Marker
D— Fold

E— Flow Control Valve (Wide Open)
F— Vacuum Motor

G— Special Hose Tip
H— Extend Coupler Line Motor return Tip

I— Retract Coupler Line

NOTE: For Ag high flow, it is recommended that the hydraulic motor be connected to the top SCV's (85cc high flow pump).

Not recommended for high flow scraper hydraulics.

In this application vacuum motor (F), similar to a planter blower, receives pressure oil from the retract coupler on SCV. Since return oil is routed to an SCV, a special return hose tip (G) with check valve is required to prevent high pressure oil from moving back toward the motor and

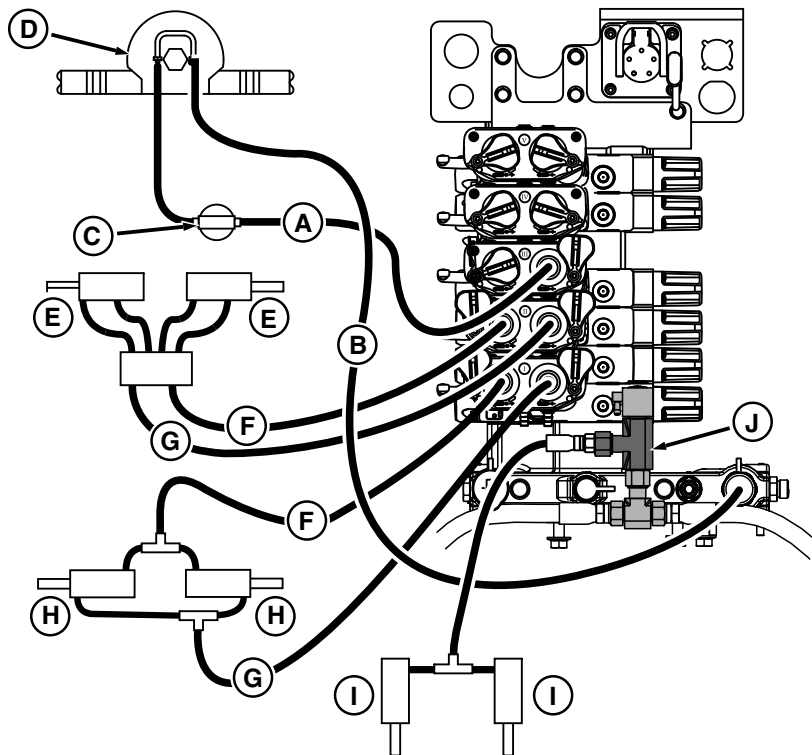
possibly damaging the seals. When motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

Flow control valve (E) should be wide open and flow controlled by SCV setup panel. If flow is controlled by flow control valve, it will cause hydraulic pump to operate at maximum pressure which may cause overheating of hydraulic oil if at the same time outside air temperature is high.

RD47322,0000695 -19-22OCT14-1/1

RXA0111995 —UN—18NOV10

Implement Connection Example 5—Planter with Vacuum Motor and Return Line to Motor Return—With Hitch—With Lift Assist—Standard Hydraulics



- | | |
|-----------------------------------|------------------------|
| A— Pressure Line | D— Vacuum Motor |
| B— Return Line | E— Planter Fold |
| C— Flow Control Valve (Wide Open) | F— Extend Coupler Line |

- | | |
|---------------------------|---------------------------------|
| G— Retractor Coupler Line | J— T-Fitting and Hydraulic Hose |
| H— Markers | |
| I— Lift Assist Cylinders | |

NOTE: For Ag high flow, it is recommended that the hydraulic motor be connected to the top SCV's (85cc high flow pump).

Not recommended for high flow scraper hydraulics.

In this application vacuum motor (D) receives pressure oil from the retract coupler of SCV. Return oil is routed to power beyond return port. If return hose is equipped with special return hose tip, it can be connected directly to left-hand side of coupler three. When the motor is shut off, the SCV lever is moved to float position to allow motor to

coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

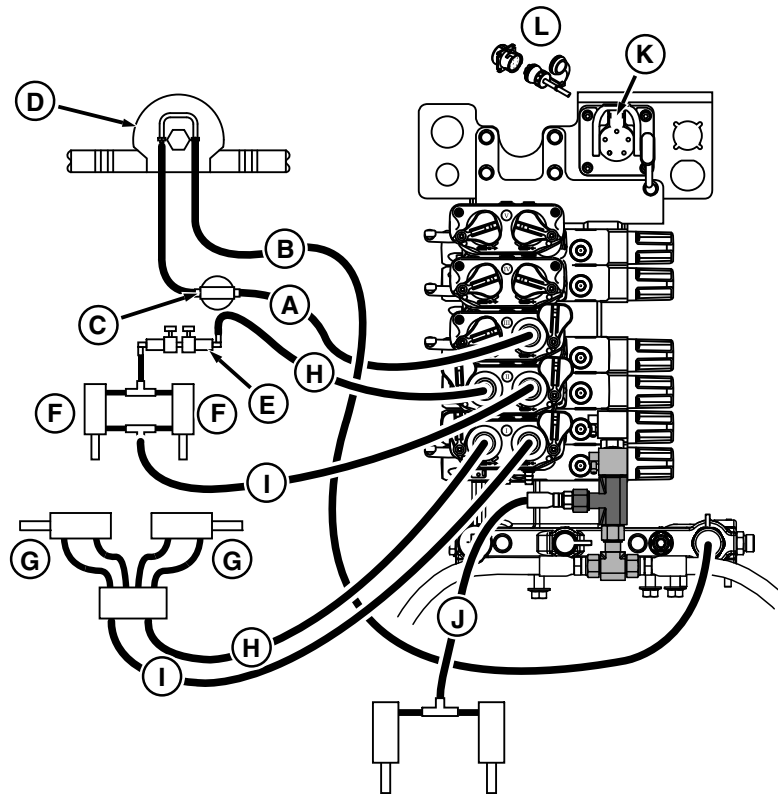
Control valve (C) is wide open and flow is controlled by tractor control panel. If valve is used to control oil flow, pump will operate at maximum pressure which may cause overheating of hydraulic oil if at the same time outside air temperature is high.

Connect lift assist cylinders (I) using T-fitting and hydraulic hose (J) to hitch lowering valve. The hitch lever controls the lift assist cylinders.

RXA0126116 —UN—15MAY12

RD47322,0000696 -19-22OCT14-1/1

Implement Connection Example 6—Planter with Vacuum Motor and Return Line to Motor Return—With Hitch—Implement Lift Assist—Standard Hydraulics



- | | |
|-----------------------------------|-------------------------|
| A— Pressure Line | E— Control Valve |
| B— Return Line | F— Lift Assist |
| C— Flow Control Valve (Wide Open) | G— Markers |
| D— Vacuum Motor | H— Extend Coupler Line |
| | I— Retract Coupler Line |

- | |
|--|
| J— Implement Lift Assist |
| K— 9-Pin Implement Connector |
| L— 9-Pin Connector for TouchSet™ Depth Control |

NOTE: For Ag high flow, it is recommended that the hydraulic motor is connected to top SCV's (85cc high flow pump).

Not recommended for high flow scraper hydraulics.

In this application vacuum motor (D) receives pressure oil from the retract coupler of SCV. Return oil is routed to power beyond return port. If return hose is equipped with special planter return hose tip, it can be connected directly to left-hand side of coupler three. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

Control valve (C) is wide open and flow is controlled by tractor control panel. If valve is used to control oil flow, pump will operate at maximum pressure which may cause overheating of hydraulic oil if at the same time outside air temperature is high.

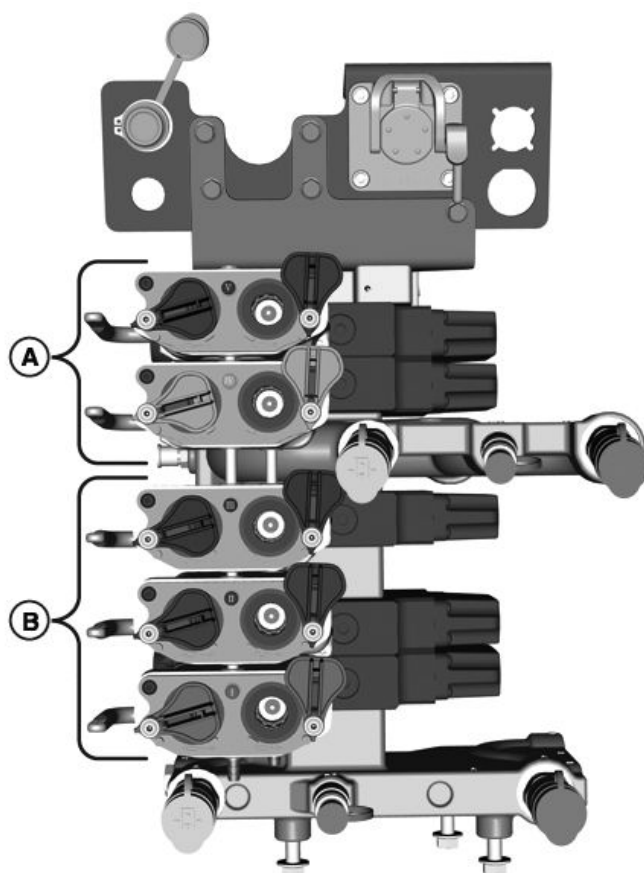
Implement lift assist (J) controlled by hitch lever when activating hitch valve.

SCV #1 is used to control both the hitch valve and lift assist. The 9-pin implement connector harness (K) contains a loop circuit that disables tractor hitch control unit when it is connected to 9-pin connector for TouchSet™ depth control (L) that is wired into tractor main electrical harness.

RD47322,0000697 -19-22OCT14-1/1

RXA0126182 —UN—15MAY12

Connecting Implements to High Flow Hydraulic SCV's



High Flow Hydraulic SCV Stack (5 SCVs with Hitch Valve)

A— 85cc Pump SCV Couplers B— 90cc Pump SCV Couplers

NOTE: For Ag high flow, it is recommended that the hydraulic motor be connected to the top SCV's (85cc high flow pump).

1. The high flow hydraulic system consists of one 90cc primary pump for bottom SCV's (B) and one 85cc secondary pump for top two SCV's (A).
2. The 85cc pump supplies oil to top two SCV's. It is recommended these SCV's be used for low pressure and high flow functions. Most hydraulic motors use 19 to 26.5 L/min (5 to 7 gpm) per motor and a pressure of around 100 bar (1450 psi) to operate.

Use top two SCVs to operate hydraulic motors such as air seeders, sprayers and vacuum planters. Using the secondary pump when operating hydraulic motors will improve fuel economy, reduce power loss and reduce heating of hydraulic oil. This reduces hydraulic system interactions with steering, brakes, raise, lower, active down force, etc.

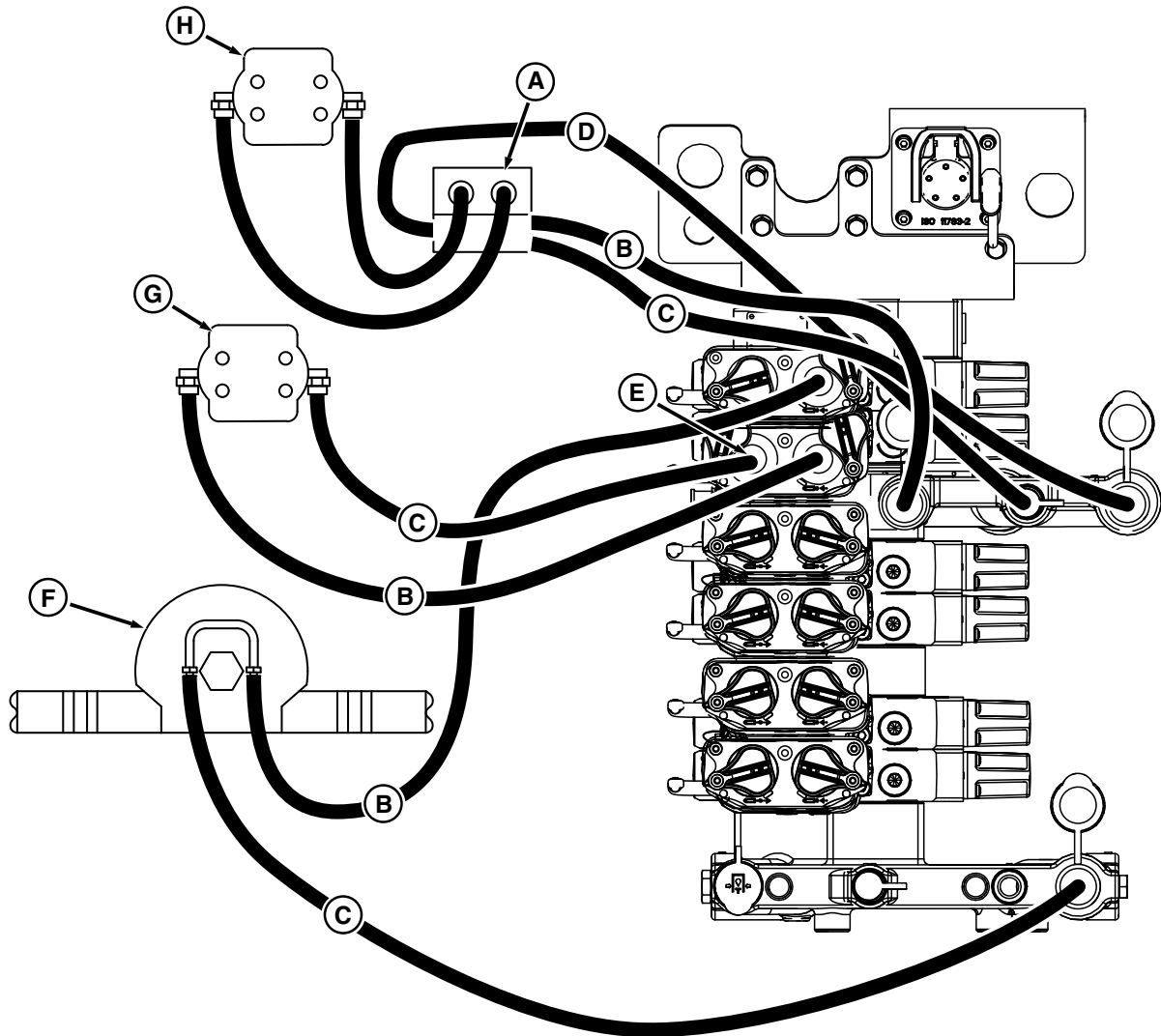
IMPORTANT: The secondary pump and top two couplers can provide high pressure to the same functions as the primary pump, however, the benefits of improved fuel economy and reduced power loss disappear. There is an increased chance of system interactions with hydraulic motors being on the same pump as other hydraulic functions which typically means increased vacuum level or blower motor speed fluctuations. Under some conditions, more heat can be generated which will place increased load on the cooling system.

3. The 90cc pump supplies oil to bottom SCV's. It is recommended these SCV's be used for high pressure and low flow functions, such as air seeders, large cylinders and active down force systems.

RXA0138822 —JUN—29JAN14

RD47322,0000698 -19-05MAY15-1/1

Implement Connection Example 1—Implement Control Valves—Less Hitch—High Flow Hydraulics



A— Variable Rate Drive
B— Pressure Line

C— Return Line
D— Load Sense Line
E— Return Hose Tip

F— Vacuum Motor
G— Hydraulic Motor
H— Hydraulic Motor

NOTE: For Ag high flow, it is recommended that the hydraulic motor be connected to the top SCV's (85cc high flow pump).

In this application vacuum motor (F) receives pressure oil from the retract port of SCV. Return oil is routed to the high flow power beyond return port. If return hose is equipped with special return hose tip, it can be connected directly to left-hand side of coupler. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

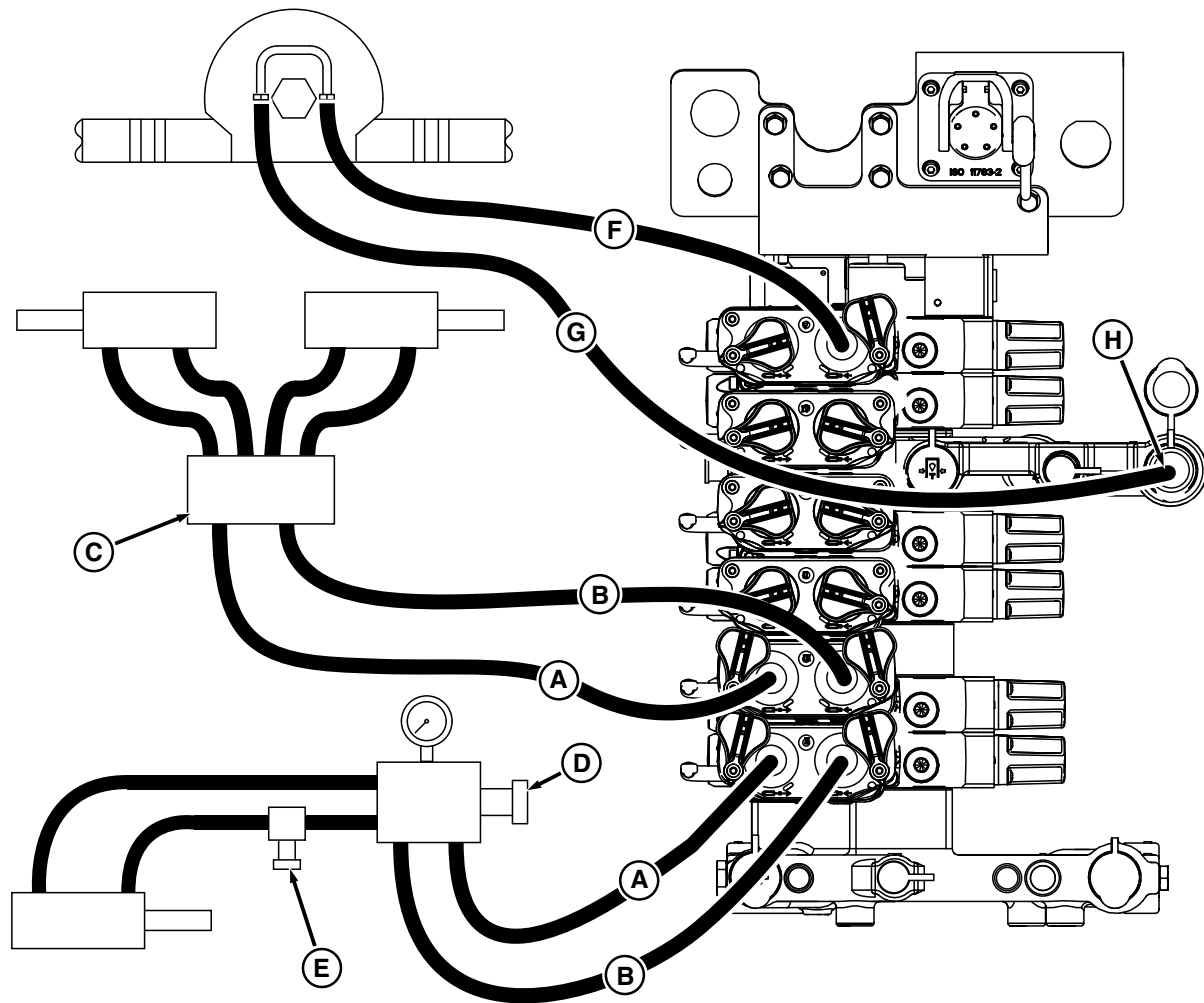
Hydraulic motor (G) receives pressure oil from the retract port of SCV. Since return oil is routed to extend port of an SCV, a special return hose tip with check valve is required to prevent high pressure oil from moving back toward the motor and possibly damaging the seals.

Hydraulic motor (H) receives pressure oil from power beyond port and return oil is routed to power beyond return port. In this application, both hydraulic motors and vacuum motor are being operated by the secondary hydraulic pump.

RD47322,0000699 -19-22OCT14-1/1

RXA011998 —UN—18NOV10

Implement Connection Example 2—Pressure Control Valve Applications (Grain Drills or Air Seeders with Constant Down-Pressure System)—Less Hitch—High Flow Hydraulics



A— Extend Coupler Line
B— Retract Coupler Line

C— Selector Valve
D— Pressure Control Valve
E— Implement Transport Lock Valve

F— Pressure Line
G— Return Line
H— Return Hose Tip

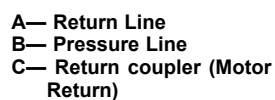
In this application vacuum motor receives pressure oil from the retract port of SCV. Since return oil is routed to extend port of SCV a special return hose tip (H) with check valve is required to prevent high pressure oil from moving back toward the motor and possibly damaging the seals. Another option would be to route return oil to power beyond return port which would not require a special return hose tip. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

For implements using active down force set flow control to continuous and move lever to detent position.

This will cause hydraulic pump to operate at maximum pressure which may cause overheating of hydraulic oil if at the same time outside air temperature is high. To avoid this problem, try not to operate more than one hydraulic motor with tractor hydraulic system when active down force is being used.

RXA0126557—UN—17JUN14

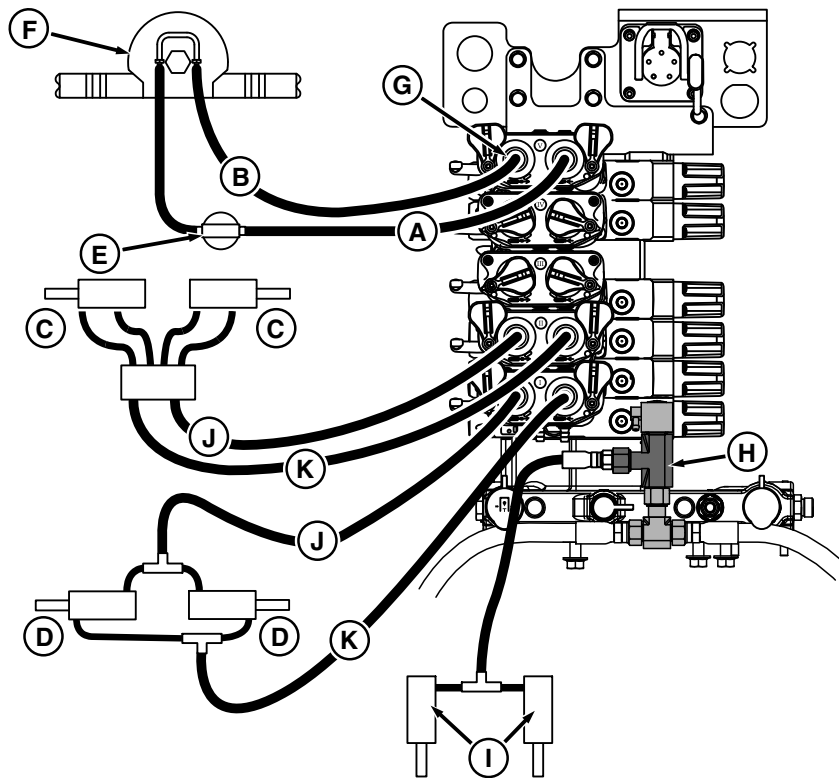
RD47322,000069A -19-22OCT14-1/1



D— Raise/Lower cylinder
E— Markers
F— Fold

to left-hand side of coupler. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and may damage seals.

Implement Connection Example 4—Planter with Vacuum Motor and Return Line to SCV Using Motor Return Tip—With Hitch—High Flow Hydraulics



- | | | |
|-----------------------------------|---------------------------------|--------------------------|
| A— Pressure Line | F— Vacuum Motor | I— Lift Assist Cylinders |
| B— Return Line | G— Motor Return Tip | J— Extend Coupler Line |
| C— Marker | H— T-fitting and Hydraulic Hose | K— Retract Coupler Line |
| D— Fold | | |
| E— Flow Control Valve (Wide Open) | | |

In this application vacuum motor (F) receives pressure oil from the retract port of SCV. Since return oil is routed to an SCV, a special return hose tip (G) with check valve is required to prevent high-pressure oil from moving back toward the motor and possibly damaging the seals. When the motor is shut off, the SCV lever is moved to float position to allow motor to coast to a stop. Moving lever to neutral will cause motor to stop abruptly and possible damage to seals.

Control valve (E) is wide open and flow is controlled by tractor control panel. If valve is used to control oil flow, pump will operate at maximum pressure which may cause overheating of hydraulic oil if at the same time outside air temperature is high.

Connect lift assist cylinders (I) with T-fitting and hydraulic hose (H) to hitch lowering valve. The hitch lever controls the lift assist cylinders.

RXA0126183 — UN—03MAY12

RD47322,000069C -19-22OCT14-1/1

When Implements Require Large Oil Volumes

⚠ CAUTION: Do not add hydraulic oil to reservoir with engine running. Hydraulic reservoir can overflow.

NOTE: Do not overfill the hydraulic reservoir.

Lower the implement to have maximum oil in the reservoir during the checking procedure.

Cycle all implement cylinders after starting tractor.

Check the hydraulic oil reservoir sight gauge level.
(See CHECK TRANSMISSION-HYDRAULIC-AXLE OIL

LEVEL in the Lubrication and Maintenance Section of the Operator's Manual).

Lower implement to ground to return maximum amount of oil to reservoir.

Recheck oil level when implement is removed. Add oil if necessary.

Drain any excess oil from hydraulic reservoir using reservoir drain plug.

RD47322,000069D -19-05MAY15-1/1

Hitch

Hitch (2010-52-EU)

Rear Hitch												
Lift capacities	Model 9370R		Model 9420R		Model 9470R		Model 9520R		Model 9570R		Model 9620R	
Sustained lift capacity, 610 mm behind the coupling points	9072 kg	9072 kg	9072 kg	9072 kg	6940 kg	Optional: 9072 kg	6940 kg	Optional: 9072 kg	6940 kg	Optional: 9072 kg	6940 kg	Optional: 9072 kg
Lift cylinder, diameter	2x 110mm	2x 110mm	2x 110mm	2x 110mm	2x 100mm	2x 110mm	2x 100mm	2x 110mm	2x 100mm	2x 110mm	2x 100mm	2x 110mm
Category	CAT 4N/4		CAT 4N/4		CAT 4N/4		CAT 4N/4		CAT 4N/4		CAT 4N/4	
IMPORTANT: In all applications, pay attention to axle load capacity and tire load capacity.												

GH15097,00007F1 -19-11JUL14-1/1

Rear Hitch

Controls:

Operator can perform hitch functions by using following controls:

- Rear Hitch Control Lever (A)
- Depth Adjust Hitch Dial (E)

Settings:

Rear hitch settings can be adjusted by using CommandCenter™ or following controls:

- Drop Rate Hitch Dial (F)
- Upper Limit Hitch Dial (G)
- Load Depth Hitch Dial (H)

Rear Hitch Settings Page can be accessed in two ways:

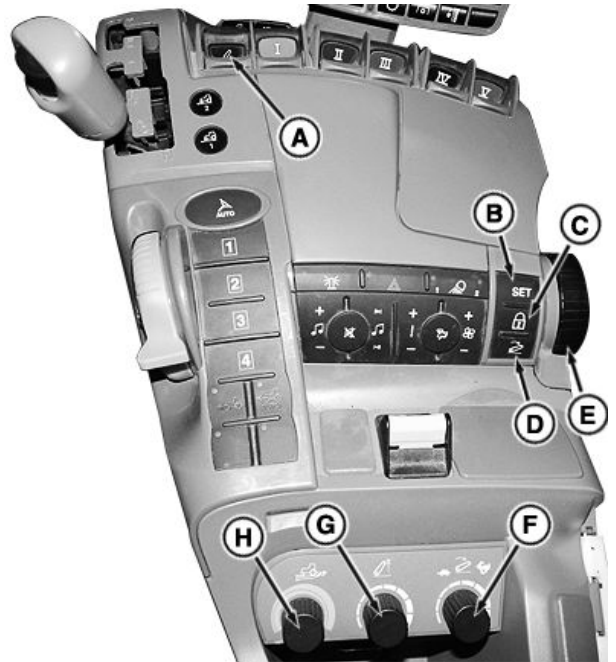
CommandCenter™:

1. Select **Menu**.
2. Select **Tractor Settings** tab.
3. Select **Rear Hitch** icon.

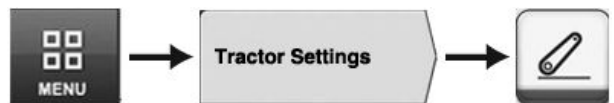
Navigation Bar:

Press Navigation Bar Rear Hitch Button.

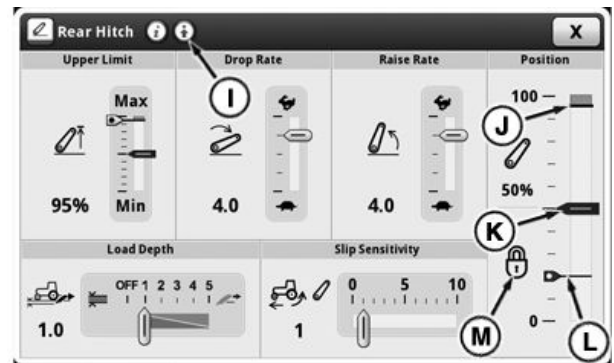
- | | |
|----------------------------|----------------------------|
| A—Rear Hitch Control Lever | H—Load Depth Hitch Dial |
| B—Set Point Button | I—Advanced Settings Button |
| C—Lock Button | J—Upper Limit Indicator |
| D—Resume Button | K—Hitch Position Indicator |
| E—Depth Adjust Hitch Dial | L—Set Point Indicator |
| F—Drop Rate Hitch Dial | M—Lock Icon |
| G—Upper Limit Hitch Dial | |



RXA0128919 —UN—09NOV12



RXA0133710 —UN—16JUL13



GH15097,0000876 -19-10JUL14-1/1

RXA0139474 —UN—24FEB14

RXA0143169 —UN—01JUL14

Hitch Control Lever

Proportional

Moving hitch control lever within proportional regions (C and D), changes raise or lower rate depending on how far lever is moved from center position.

Hitch control lever does not raise above upper limit, but can lower below set point.

Detents

When the hitch control lever is pulled into detent position, raise (E) and released, hitch raises to upper limit. When pushed into detent position, lower (B) and released, hitch moves to set point.

Float

Float position (A) allows for freedom of motion for hitch and is useful when detaching implement. See Float Operation in this section of this Operator's Manual for proper setup if implement requires hitch to float during field operation.

Hitch Depth Adjust Dial

Hitch depth adjust dial can also be used to adjust hitch position. Like hitch control lever, it will not raise hitch above upper limit, but can lower hitch below set point.

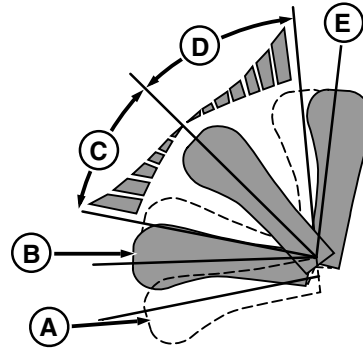
Setting Depth

Use hitch control lever or depth adjust dial to move hitch to desired position, press set point button (F) to store operating depth.

Return to Stored Operating Depth

Press resume button (H) or push control lever into detent position, lower (B) and release to return to set point.

If hitch is lower than set point, returning to set point is only allowed when tractor is moving.



CommandARM™ Controls



Hitch Control Lever

- | | |
|----------------------------|---------------------------|
| A—Float Position | E—Detent Position, Raise |
| B—Detent Position, Lower | F—Set Point Button |
| C—Hitch Proportional Lower | G—Depth Adjust Hitch Dial |
| D—Hitch Proportional Raise | H—Resume Button |

NOTE: Resume button (H) does not lower hitch if tractor is stationary with transmission in Park or Neutral.

GH15097,0000867 -19-07JUL14-1/1

RXA0143179 —UN—07JUL14

RXA0143180 —UN—27JAN15

Rear Hitch Lock

CAUTION: To prevent possible injury and equipment damage, lock hitch before transporting.

Hitch Lock

Before transport, or when hitch-mounted implement is not in use, engage rear hitch lock.

1. Raise hitch with hitch control lever or hitch depth adjust dial.
2. Press lock button (A).

When hitch lock indicator (C) is visible, hitch does not respond to hitch depth adjust dial, and hitch control lever cannot lower hitch.

Hitch control lever can raise hitch back up to locked position with lever held in detent position.

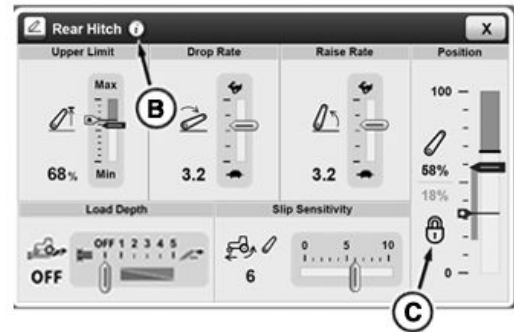
If hitch leaks down while tractor is stopped, hitch returns to locked height when tractor begins moving.

To unlock hitch, press lock button (A) again.

A—Lock Button

B—Advanced Settings Icon

C—Lock Indicator



RXA0143181 —UN—03JUL14

RXA0143182 —UN—03JUL14

GH15097,00008D8 -19-05AUG14-1/1

Adjust Load Depth Control (Draft Response)

RXA0133710 —UN—16JUL13

Load depth control adjustment changes draft responsiveness.

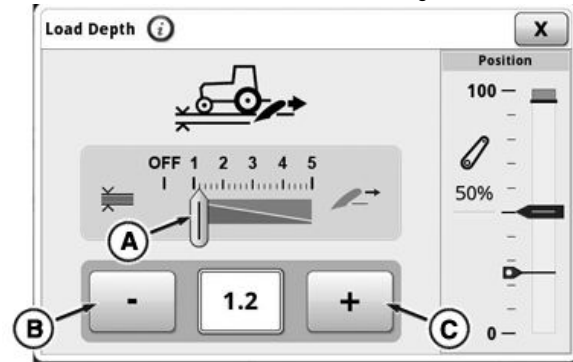
1. **Press Rear Hitch Shortcut button on Navigation Bar.**
2. Select load depth module.
3. Set load depth value (A) by using decrease value button (B), increase value button (C) or Load Depth Hitch Dial (D).
 - For position only control, turn load depth setting to OFF. See Using Position Control in this section of this Operator's Manual.
 - Higher settings are used for draft control. See Using Draft Control in this section of this Operator's Manual.

A—Load Depth Value
B—Decrease Value Button

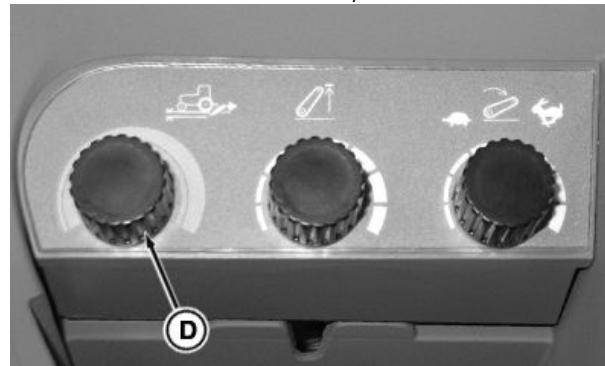
C—Increase Value Button
D—Load Depth Hitch Dial



Rear Hitch Shortcut Button on Navigation Bar



Rear Hitch Load Depth Module



Rear Hitch Dials

RXA0143172 —UN—01JUL14

RXA0140227 —UN—31MAR14

GH15097,0000869 -19-07AUG15-1/1

Using Position Control

Use position control to operate non-ground engaging implements and implements that fully rest on gauge wheels for depth control.



Hitch Held at Selected Position

RXA0128370 —UN—25SEP12

GH15097,000086A -19-19MAY14-1/1

Using Draft Control

Use draft control to help maintain operating depth of non floating tillage equipment in rolling terrain, or if tractor altitude/pitch and rear wheel sinkage force implement deeper than desired. If soil density/resistance varies, higher response setting causes more depth variation. Best setting depends on implement type and field conditions.

Higher values provide more/faster draft response. Lower values provide less/slower draft response.

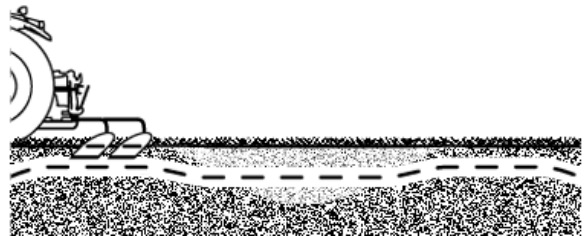
Suggested settings by implement type:

Integral Field Cultivator	4—5
Integral Moldboard Plow	3—5
Semi-Integral Moldboard Plow	2—4
Integral Chisel Plow	2—4
Integral Ripper/Subsoiler	1—3

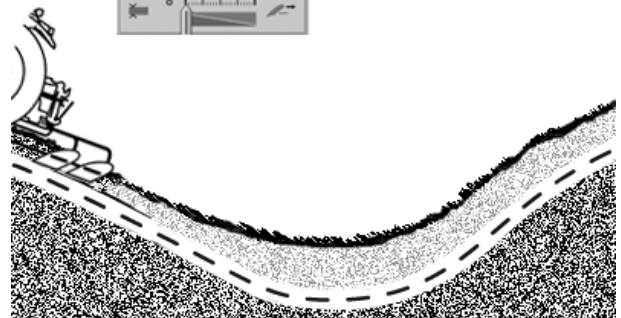
Use rear hitch control lever or load depth hitch dial to control/change operating depth. For more information, see Adjust Load Depth Control (Draft Response) in this section of this Operator's Manual.



High Response Causes More Depth Variation If Soil Varies



Middle Response Controls Depth Better If Soil Varies



Low Response Causes More Depth Variation In Rolling Terrain



Higher Response Causes Better Depth Control In Rolling Terrain

RXA0128369 —UN—25SEP12

RXA0128366 —UN—30APR13

RXA0143421 —UN—08JUL14

RXA0143422 —UN—08JUL14

GH15097,000086B -19-10AUG15-1/1

Adjust Rear Hitch Upper Limit

RXA0133710 —UN—16JUL13

1. Select rear hitch upper limit module.
2. To adjust rear hitch upper limit, use increase value button (B) or decrease value button (C).

NOTE: Changes to upper limit are immediate.

Rear hitch upper limit can be adjusted using rear hitch upper limit dial (D).

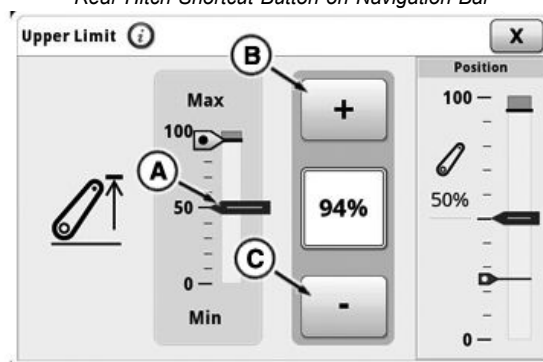
When the upper limit is the same as the hitch position, hitch follows upper limit.

A—Upper Limit Indicator
B—Increase Value Button

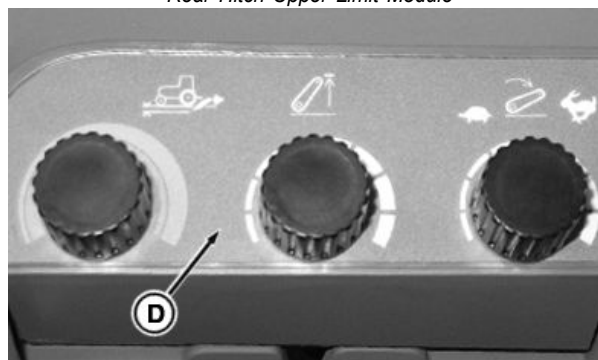
C—Decrease Value Button
D—Rear Hitch Upper Limit Dial



Rear Hitch Shortcut Button on Navigation Bar



Rear Hitch Upper Limit Module



Rear Hitch Upper Limit Dial

RXA0143173 —UN—01JUL14

RXA0143175 —UN—01JUL14

GH15097,000086C -19-05AUG14-1/1

Adjust Rear Hitch Drop Rate

RXA0133710 —UN—16JUL13

CAUTION: Excessive drop speed may cause injury or machine damage. Fully lowering implement should take at least 2 seconds.

1. Select rear hitch drop rate module.
2. To adjust rear hitch drop rate, use increase value button (B) or decrease value button (C).

NOTE: Changes to drop rate are immediate.

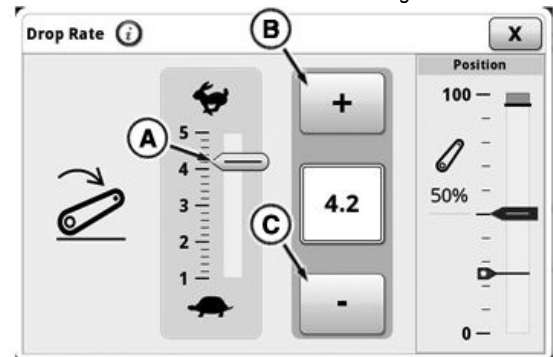
Rear hitch drop rate can also be adjusted with rear hitch drop rate dial (D).

A—Drop Rate Indicator
B—Increase Value Button

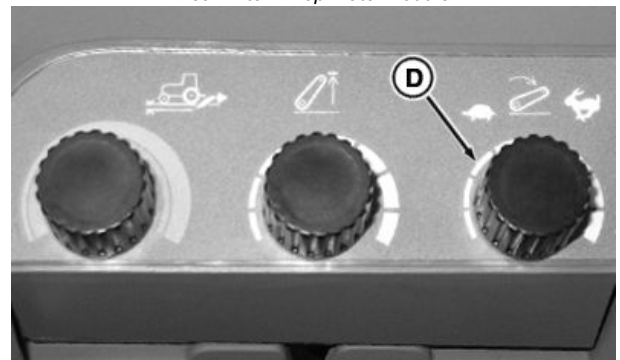
C—Decrease Value Button
D—Rear Hitch Drop Rate Dial



Rear Hitch Shortcut Button on Navigation Bar



Rear Hitch Drop Rate Module



Rear Hitch Drop Rate Dial

GH15097,000086D -19-05AUG14-1/1

RXA0143171 —UN—01JUL14

RXA0143174 —UN—01JUL14

Adjust Rear Hitch Raise Rate

RXA0133710 —UN—16JUL13

1. Select rear hitch raise rate module.
2. To adjust upper limit, use increase value button (B) or decrease value button (C).

NOTE: Changes to raise rate are immediate.

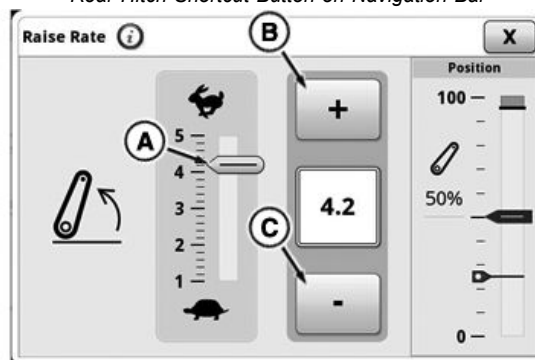
A—Rear Hitch Raise Rate Indicator

C—Decrease Value Button

B—Increase Value Button



Rear Hitch Shortcut Button on Navigation Bar



Rear Hitch Raise Rate Module

RXA0143170 —UN—01JUL14

GH15097,000086E -19-01JUL14-1/1

Rear Hitch Slip Sensitivity

RXA0133710 —UN—16JUL13

NOTE: Tractor must be equipped with **radar**, and load depth control must be in **draft control** mode for hitch slip to function (see *Using Draft Control* in this section of this Operator's Manual).

Hitch can be operated with draft sensing only, or with draft sensing and hitch slip. Hitch slip adjustment is independent from draft response.

Response Setting Guidelines ^a	
Chisel Plow	2—4
Subsoiler	5—7
Moldboard Plow	7—9
V-Ripper	8—10

^aAppropriate setting depends on implement type, soil conditions, and tractor setup

NOTE: Changing rear hitch slip response can affect operation when wheel slip is above 10%.

Rear hitch slip response automatically returns to zero during transport [speed above 20 km/h (12.4 mph)].

1. Select rear hitch slip sensitivity module.
2. To adjust slip sensitivity, use decrease value button (B) or increase value button (C).

Higher values provide more/quicker response to slip variation. Lower values provide less/slower response to slip variation.

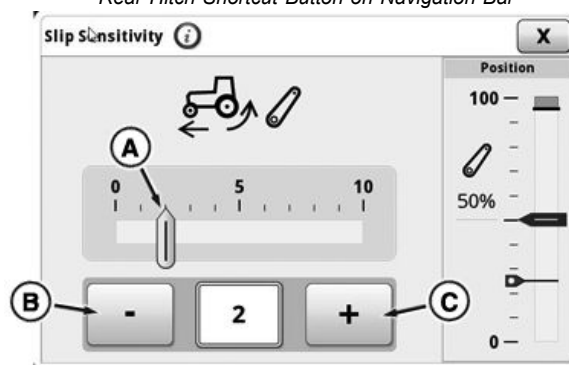
Changes to slip sensitivity are immediate.

NOTE: Changing rear hitch slip response can affect operation when wheel slip is above 10%.

Rear hitch slip response automatically returns to zero during transport [speed above 20 km/h (12.4 mph)].



Rear Hitch Shortcut Button on Navigation Bar



Rear Hitch Slip Sensitivity Module

A—Slip Sensitivity Indicator
B—Decrease Value Button

C—Increase Value Button

RXA0143178 —UN—03JUL14

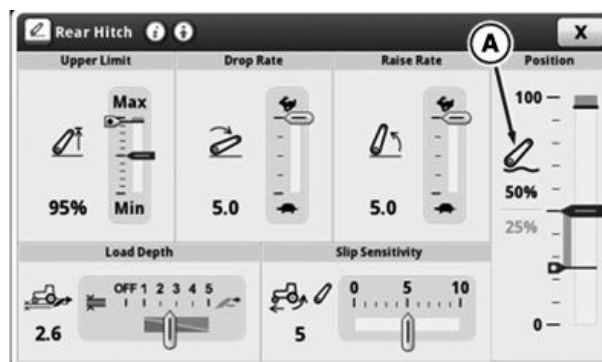
GH15097,000086F -19-13MAR15-1/1

Float Operation

Implements that fully rest on gauge wheels for depth control require hitch to float following ground contour.

Put hitch control lever in float position. Lift links can be adjusted for lateral float. See *Adjust Lateral Float* in this section of this Operator's Manual.

A—Float Icon



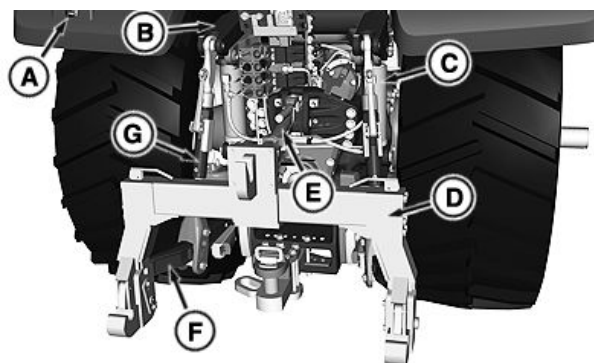
Rear Hitch Module in Float Position

GH15097,0000870 -19-07AUG15-1/1

RXA0142717 —UN—01JUL14

Hitch Components

- | | |
|-----------------------------|---------------|
| A—Remote Raise/Lower Switch | E—Center Link |
| B—Lift Arms | F—Draft Links |
| C—Lift Cylinders | G—Lift Links |
| D—Quick Coupler | |



Hitch Components

TO84419,0000118 -19-08JUL14-1/1

RXA0141370—UN—08MAY14

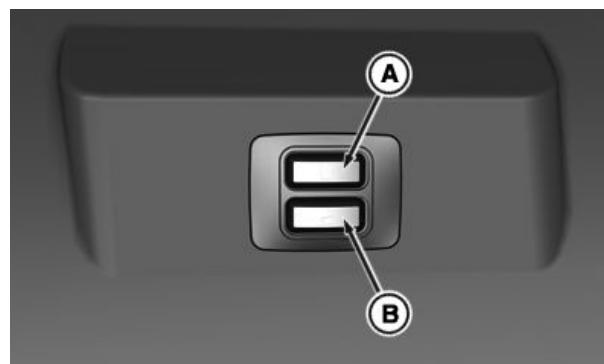
Hitch Remote Switches

CAUTION: To prevent injury or damage caused by tractor movement, be sure transmission is in **PARK** position before using remote raise/lower switches. Stay clear of interference points when using remote raise/lower switches.

NOTE: Hitch moves at slower speed when using remote raise/lower switches.

Rear hitch remote raise/lower switches (A, B) are located on left-hand side rear fender.

Use remote raise/lower switches (A, B) for hitch adjustments.



Hitch Remote Raise/Lower Switches on Rear Left Fender

A—Remote Hitch Raise Switch B—Remote Hitch Lower Switch

TO84419,0000116 -19-12JUN15-1/1

RXA0141371—UN—08MAY14

Hitch Manual Lowering

CAUTION: Avoid personal injury or death. Do not disconnect any hitch sensors, solenoids, or connectors from hitch control valve when engine is operating or key switch is ON. Unexpected hitch movement can occur. Stay clear of hitch area when starting engine or manually lowering hitch.

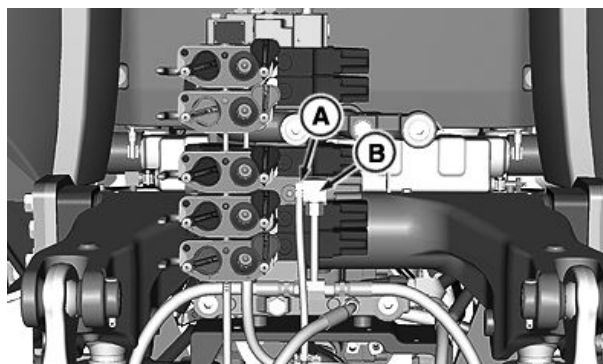
Hitch manual lowering is possible when hydraulic pressure and/or electrical power is not available.

Hitch manual lowering drain valve (A) is located on lower right-hand side lift cylinder.

Remove plastic plug (B) to access valve. Turn valve counterclockwise to lower hitch.

NOTE: *Hitch cannot be raised mechanically. Both hydraulic and electrical power are required to raise hitch.*

Turn valve clockwise and install plug after hitch has been lowered.



Manual Lowering Valve

A—Manual Lowering Drain Valve

B—Plastic Plug

RXA0142710 —UN—24JUN14

TO84419,0000117 -19-11JUL14-1/1

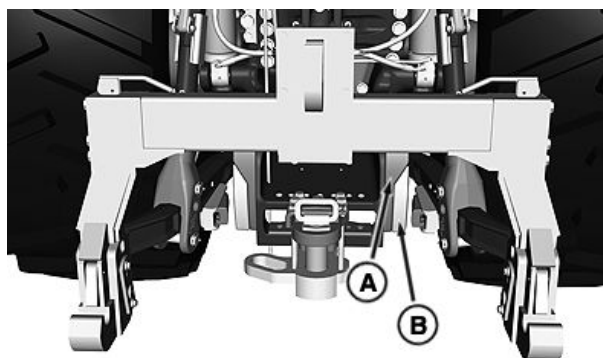
Sway Blocks

Install sway blocks (A) with thick end toward frame, to minimize hitch movement.

Tighten attaching bolts to 230 N·m (170 lb.-ft.).

IMPORTANT: Prevent interference of draft links with tires. Be sure that distance between tires is at least 1168 mm (46 in.) with equal distance from middle of tractor. If distance between tires must be less than 1168 mm (46 in.), sway is limited. (See observing tread width limitations in Wheels, Tires, and Treads Section of this Operator's Manual.)

Move each sway block to opposite side of tractor to allow sway when hitch is lowered. Install sway blocks with tapered sides (A) outward from frame.



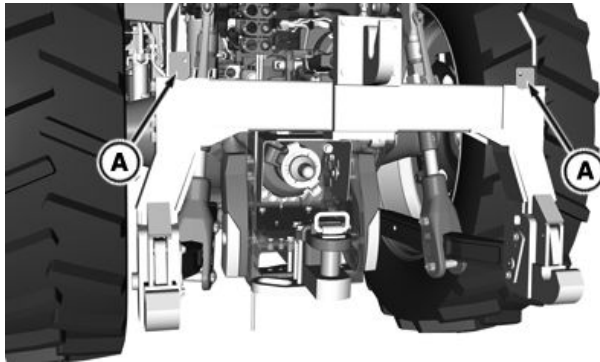
A—Tapered Side

B—Sway Blocks

RXA0141372 —UN—08MAY14

TO84419,0000119 -19-07MAY14-1/1

Attaching Implement to Quick Coupler



Coupler Latch Handles Up

RXA0129849 —UN—28JAN13



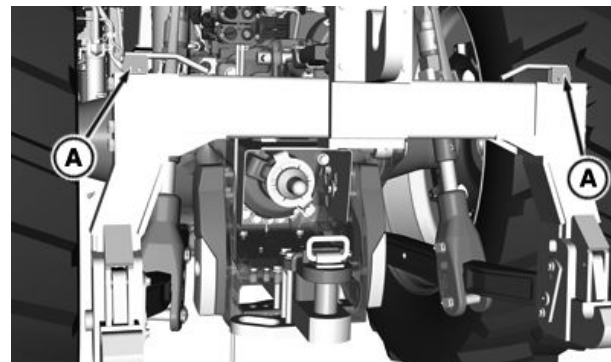
Hitch Control Lever

RXA0142590 —UN—16JUN14

CAUTION: To avoid bodily injury or machine damage:

- Put transmission in **PARK** position and check full range of hitch for interference, binding, or PTO separation whenever an implement is attached.
- Make sure implement is correctly attached. Incorrect attachment can allow implement to be pulled over tractor wheel and onto operator station.
- Do not stand between tractor and implement.

1. Pull up on coupler latch handles (A).
2. Lower hitch control lever (B) until quick coupler hooks are lower than implement hitch pins.
3. Back up tractor to implement.
4. Raise hitch enough to engage implement pins in hooks.
5. Push coupler latch handles (A) down to lock implement to quick coupler.



Coupler Latch Handles Down

RXA0129850 —UN—28JAN13

A—Coupler Latch Handles

B—Hitch Control Lever

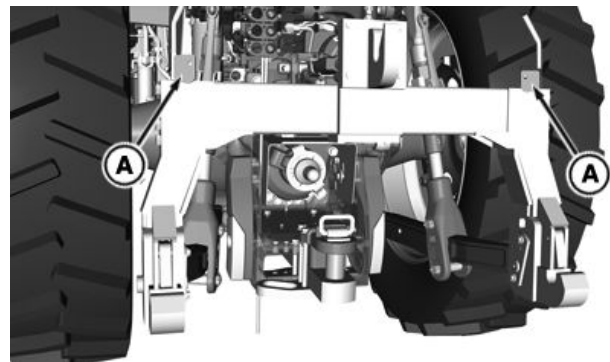
6. Connect hydraulic hoses and electrical connections.
7. Slowly pull hitch control lever to raise implement. Lower implement to ground and adjust upper height limit control if necessary.

TO84419,000011A -19-16JUN14-1/1

Detaching Implement From Quick Coupler

1. Raise both latch levers (A) with implement raised.
2. Disconnect hydraulic hoses and electrical connections.
3. Lower implement to ground. Continue lowering quick coupler until hook clears implement hitch pins.
4. Carefully drive tractor away from implement.

A—Coupler Latch Handle



RXA0129849 —UN—28JAN13

TO84419,000011B -19-25JAN13-1/1

Adjusting Implement Level

1. Adjust center link to level implement front-to-rear.
2. Remove lock ring (A). Disengage handle (B) and rotate center portion (C) to lengthen or shorten center link.

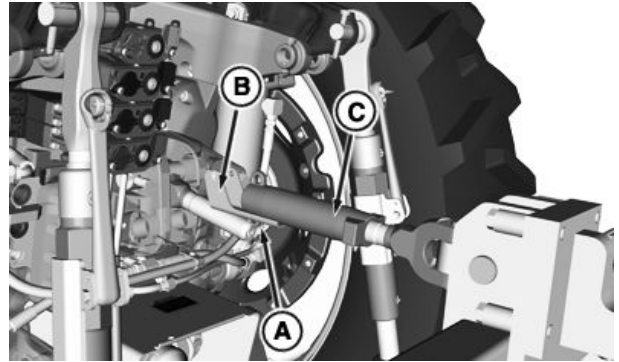
Center Link—Specification

Adjustment—Length..... 747—868 mm (29.5—34.3 in.)

3. Push handle down and install lock ring to hold center link in position. Measure between centers of attaching pins.

A—Lock Ring
B—Handle

C—Center Link Body



RXA0130672 —UN—28/JAN13

TO84419,000011C -19-10FEB14-1/2

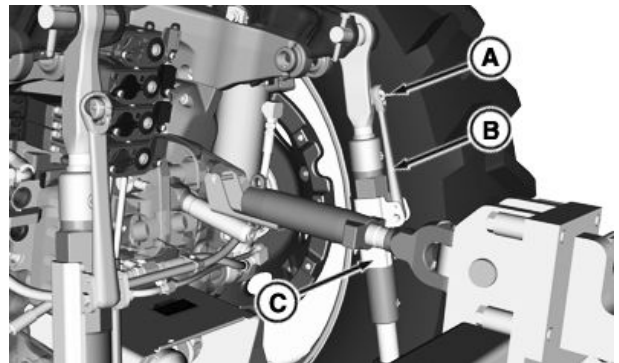
4. Adjust either lift link to level implement side-to-side. Remove lock ring (A) to release lift link sleeve handle (B). Position sleeve on lift link hex to rotate center portion (C) with handle.
5. Measure between centers of lift link attaching pins.

Lift Link—Specification

Adjustment—Length..... 1030—1150 mm (40.5—45.3 in.)

A—Sleeve
B—Lift Link Lock

C—Lift Link



RXA0130673 —UN—28/JAN13

TO84419,000011C -19-10FEB14-2/2

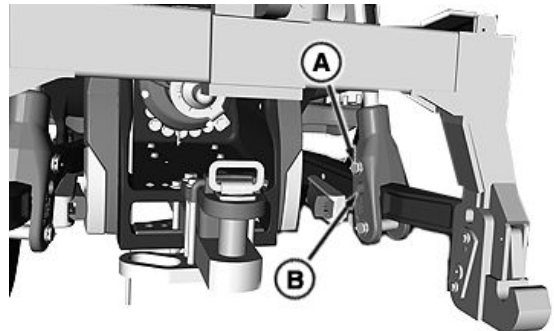
Lateral Float

Placing lateral float pins in upper holes (A) allows either draft link to raise slightly as implement follows ground surface.

Put lateral float pins in lower holes (B) to hold implement rigidly.

A—Upper Holes

B—Lower Holes



RXA0141373 —UN—16/JUN14

TO84419,000011D -19-10JUN14-1/1

Hitch Conversion—Category 4/4N Convertible Quick Coupler

Quick coupler is convertible to Category 4 or Category 4N. Use Category 4 whenever possible, especially for heavy loads. Greater width gives more strength.

NOTE: Your John Deere™ Dealer can supply parts to adapt Category 4/4N quick coupler to Category 3 implements.

Use following procedure to convert quick coupler:

CAUTION: Use proper lifting device when converting coupler. Failure to do so can result in personal injury.

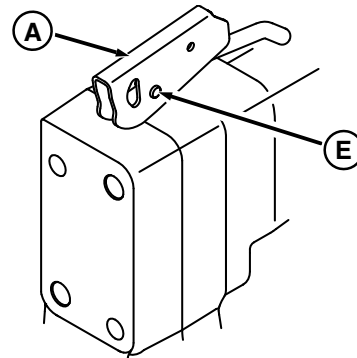
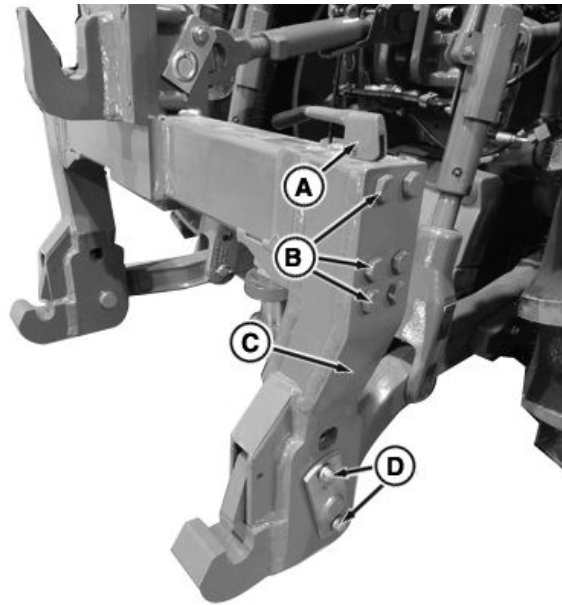
1. Support center of quick coupler.
2. Remove pin retaining bolts (D) and pins from draft link.
3. Remove side member cap screws (B).
4. Switch ends with quick coupler side members (C) (left-hand member to right-hand end and right-hand member to left-hand end). Tighten cap screws to specification.

Side Member-to-Crossbar Cap Screws—Specification

Cap Screws—Torque..... 425 N·m (315 lb.-ft.)

IMPORTANT: Lower coupler hook must be kept under pressure before removing roll pin, to hold lock rod in place.

5. Flip latch handle around by removing roll pin (E).
6. Turn coupler latch handle (A) inward and reinstall roll pin (E).
7. Flip handle down in lock position.



Coupler Latch Handle

A—Coupler Latch Handles
B—Cap Screws
C—Side Members

D—Retaining Bolts
E—Roll Pin

Continued on next page

TO84419,000011E -19-18JUN14-1/2

RXA0142588 —UN—16JUN14

RXA0142591 —UN—16JUN14

8. Loosen draft link bumper retaining cap screw (A).

NOTE: Position thick ends (B) forward on draft links for Category 4 or thin ends back for Category 4N.

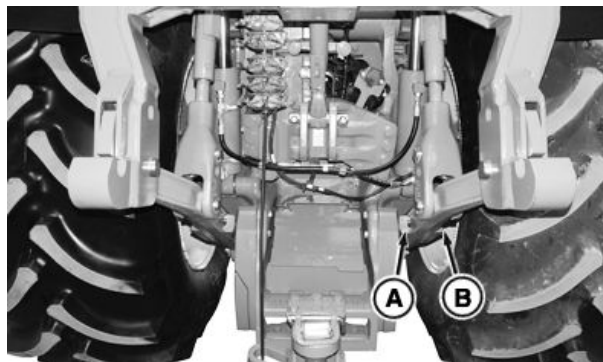
9. Adjust bumper by sliding on draft link on cap screw to desired clearance position.

10. Tighten cap screw securely.

Specification

Tighten Cap	
Screw—Torque.....	230 N·m 170 lb.-ft.

11. Perform same steps on opposite side for equal clearance between sway blocks and bumpers.
12. Cycle hitch to ensure that there is no hitch interference.



Draft Link Bumper

A—Retaining Cap Screw

B—Draft Link Bumper

TO84419,000011E -19-18JUN14-2/2

RXA0141815 —UN—30MAY14

Converting Category 4N/3 Convertible Quick Coupler Lower Hooks

CAUTION: Use proper lifting device when converting coupler. Failure to do so can result in personal injury.

NOTE: Use Category 4N whenever possible.

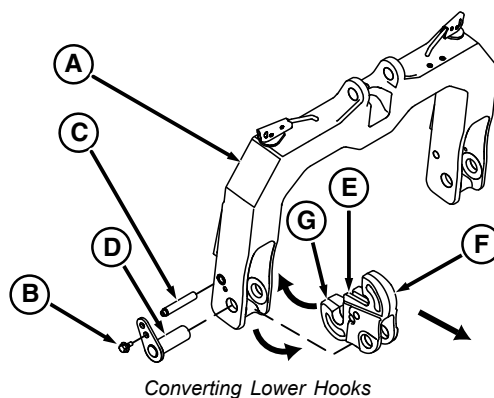
A second person is recommended to align components during conversion.

If category 4 lower hooks are used on category 3 implements, bushings are needed over category 3 pins; these bushings can be purchased through your John Deere™ dealer.

NOTE: Lower hooks are not marked for left-hand or right-hand side. Do not move lower hooks from one side to other.

1. Support quick coupler frame (A).
2. Remove cap screw (B).
3. Remove pin (D), then pin (C).

NOTE: Because lower hook (E) has category 3 hook (F) on one end and category 4N hook (G) on opposite end, it is used for both category 3 and 4N simply by turning it end for end.



Converting Lower Hooks

A—Quick Coupler Frame
B—Cap Screw
C—Pin
D—Pin

E—Lower Hook
F—Category 3 Hook
G—Category 4N Hook

4. Remove lower hook by rotating it down and to rear of coupler, then sliding it out at front of coupler.
5. Install lower hook, with desired end facing out. Using a reverse motion of removal, rotate it up and in.
6. Install pin, retainer, and cap screw.

TO84419,000011F -19-13JUN14-1/1

RXA0091394 —UN—07NOV06

Converting Category 4N/3 Convertible Quick Coupler Upper Hook

CAUTION: Use proper lifting device when converting coupler. Failure to do so can result in personal injury.

NOTE: A second person is recommended to align components during conversion.

It is recommended to use Category 4 upper hook if implement set up allows. The Category 3 upper hook may be overloaded with very high draft loads.

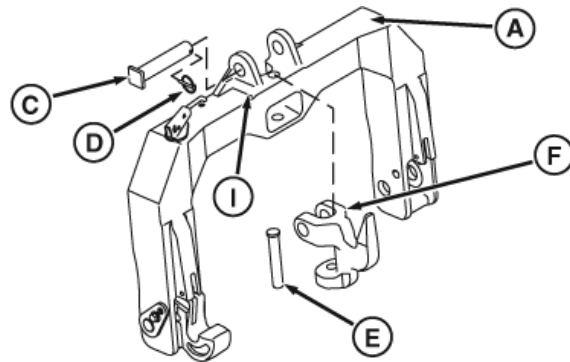
1. Support quick coupler frame (A).
2. Remove quick lock pin (D) and pin (C) to release center link (B).
3. Remove pin (E) and upper hook (F).
4. Remove pin (H) to remove stored upper hook (G) and replace with upper hook previously removed from quick coupler.

NOTE: Pin (C) must be installed left to right. Shoulder (I) will keep retaining pin (B) from being installed if pin (C) is installed incorrectly.

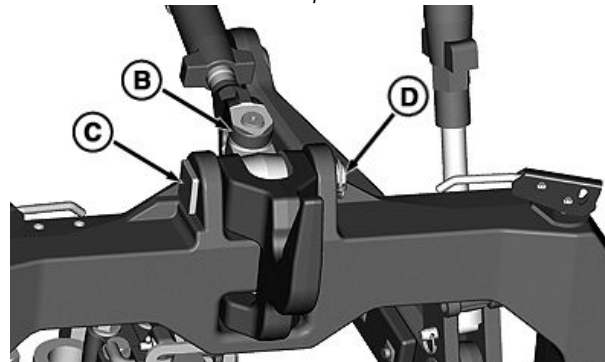
5. Use reverse sequence of steps to remove upper hook from quick coupler. Install previously stored upper hook into quick coupler.

A—Quick Coupler Frame
B—Center Link
C—Pin
D—Quick Lock Pin
E—Pin

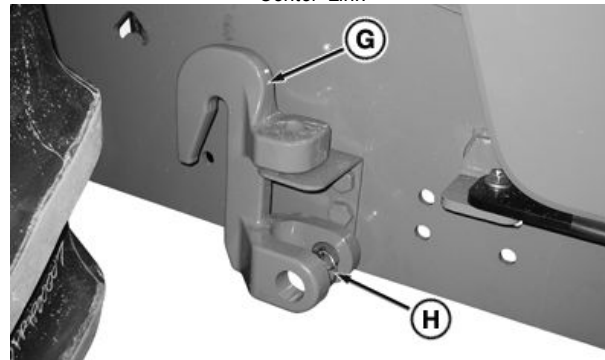
F—Upper Hook
G—Stored Upper Hook
H—Pin
I—Shoulder



Coupler



Center Link



Stored Upper Hook

RXA0142708 —UN—17JUN14

RXA0142706 —UN—17JUN14

RXA0142707 —UN—17JUN14

TO84419,0000120 -19-04MAY15-1/1

Drawbar and PTO

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

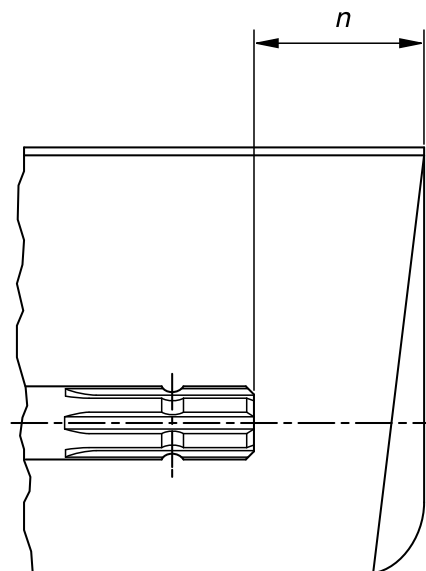
Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

Do not install any adapter device between the tractor and the primary implement PTO drive shaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft and the added adaptor device as outlined in the table.

PTO Type	Diameter	Splines	$n \pm 5 \text{ mm (0.20 in.)}$
1	35 mm (1.378 in.)	6	85 mm (3.35 in.)
2	35 mm (1.378 in.)	21	85 mm (3.35 in.)
3	45 mm (1.772 in.)	20	100 mm (4.00 in.)



T51644 —UN—22AUG95

H96219 —UN—29APR10

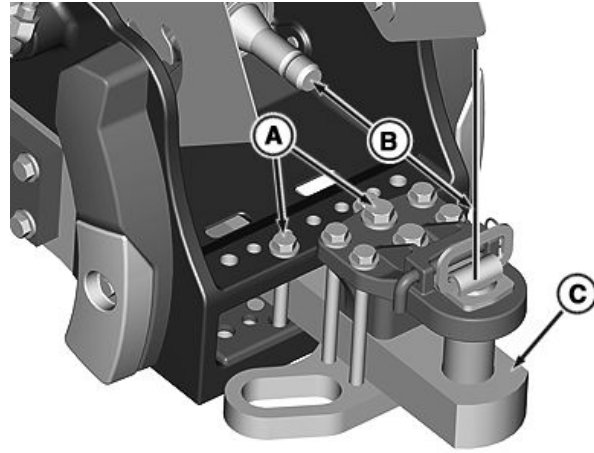
DX,PTO -19-30JUN10-1/1

Observing Drawbar Load Limitations

IMPORTANT: Certain heavy equipment can place excessive strain on drawbar (C). Strain greatly increased by speed and rough ground. Maximum static vertical load on drawbar must not be exceeded. See Drawbar Load Limits table.

Drive slowly when moving heavy draft loads.

Tighten drawbar locking bolts (A) with shims to 435 N·m (322 lb.-ft.) and drive slowly, if heavier loads are expected.



RXA0141867 —UN—30MAY14

A—Bolts
B—PTO Shaft to Drawbar Pin Hole

C—Drawbar

Drawbar Load Limits Based on Drawbar Position, and Length

Tractor Model and Drawbar Category	Drawbar Category and Support	End of PTO Shaft to Drawbar Pin Hole Distance (B)	Drawbar Position	Maximum Vertical Load
9370R and 9470R	Cat. 4 With Standard Drawbar Support	358 mm (14 in.)	Front Hole in Frame (Short Position)	2470 kg (5450 lb.)
9370R and 9470R	Optional Cat. 4 With HD Drawbar Support	508 mm (20 in.)	Rear Hole in Frame (Long Position)	2470 kg (5450 lb.)
9370R and 9470R	Cat. 4 Drawbar, HD Support, and Reinforcement Kit	358 mm (14 in.)	Front Hole in Frame (Short Position)	4900 kg (11,000 lb.)
9370R and 9470R	Optional Cat. 5 with HD Drawbar Support	358 mm (14 in.)	Front Hole in Frame (Short Position)	5440 kg (12,000 lb.)
9520R, 9570R, and 9620R	Cat. 5 with HD Drawbar Support	358 mm (14 in.)	Front Hole in Frame (Short Position)	5440 kg (12,000 lb.)
Category 4 = 51 mm (2 in.) Diameter Pin				
Category 5 = 70 mm (2.75 in.) Diameter Pin				

TO84419,00000FF -19-01SEP15-1/1

Category 4 Heavy Duty Drawbar Reinforcement Kit Load Limitations (If Equipped)

IMPORTANT: Heavy implements together with rough terrain and speed can place excessive strain on drawbar.

Do not exceed maximum static vertical load for given drawbar length/position.

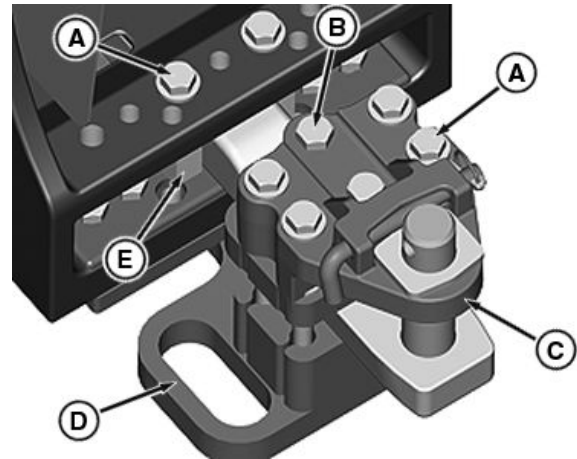
Heavy duty drawbar support must be used when maximum static vertical load exceeds 2043 kg (4500 lb.).

Special cap screws are used on drawbars. See your John Deere™ dealer if cap screws must be replaced.

IMPORTANT: Heavy Duty Drawbar Kit must be installed when maximum static vertical load on category 4 drawbar exceed 2470 kg (5450 lb.) in short position or 2268 kg (5000 lb.) in long position.

Kit is available from your John Deere™ dealer.

Attach drawbar brace (A), hammerstrap (B), and spacer block (C) using cap screws (D) and (E).



Heavy Duty Drawbar Support

A—Cap Screws, M20
B—Cap Screws, M22
C—Hammerstrap

D—Drawbar Brace
E—Spacer Blocks

RXA0141868 —UN—30MAY14

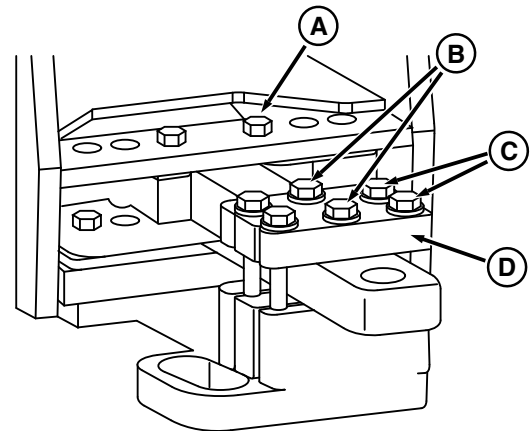
TO84419,0000100 -19-08JUL14-1/3

IMPORTANT: Clamp plate must be installed to retain category 4 drawbar brace when hammerstrap is not used.

Install clamp plate (D) using cap screws (A), (B), and (C).

A—Cap Screws, M20
B—Cap Screws, M22

C—Cap Screws, M20
D—Plate



Heavy Duty Hammerstrap

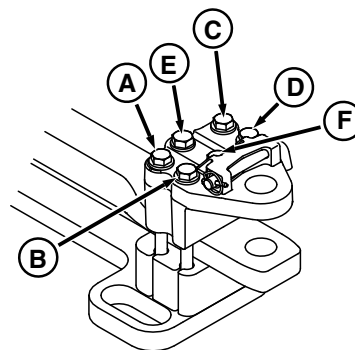
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TO84419,0000100 -19-08JUL14-2/3

RXA0141869 —UN—30MAY14

Torque cap screws in according to following sequence:

1. Torque (A).
2. Torque (D).
3. Torque (B).
4. Torque (C).
5. Torque (A).
6. Torque (D).
7. Torque (B).
8. Torque (C).
9. Torque (E).
10. Torque (F).
11. Torque (E).
12. Torque (F).



Torque Specifications—Specification

M20 Cap Screws (A), (B), (C), and (D)—Torque..... 610 N·m (450 lb.-ft.)
Cap Screws (E) and (F)—Torque..... 750 N·m (550 lb.-ft.)

TO84419,0000100 -19-08JUL14-3/3

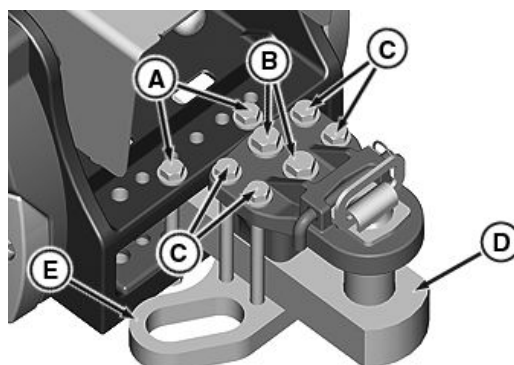
RXA0142452—UN—13JUN14

Category 5 Heavy Duty Drawbar Support Load Limitations (If Equipped)

IMPORTANT: Heavy duty drawbar support must be used when maximum static vertical load exceeds 2043 kg (4500 lb.).

Maximum Static Vertical Drawbar Load	
Short Drawbar Position	5440 kg (12,000 lb.)
Long Drawbar Position	4082 kg (9,000 lb.)

Attach drawbar brace (E) and hammerstrap to drawbar (D) using M22 cap screws (B) and M20 cap screws (A) and (C).



A—Cap Screws, M20
B—Cap Screws, M22
C—Cap Screws, M20

D—Drawbar
E—Drawbar Brace

Item	Measurement	Specification
Torque Specifications		
M20 Cap Screws	Torque	610 N·m (450 lb.-ft.)
M22 Cap Screws	Torque	750 N·m (553 lb.-ft.)

IMPORTANT: Drive slowly when moving heavy draft loads.

TO84419,0000101 -19-08JUL14-1/1

RXA0141870—UN—30MAY14

Selecting Drawbar Position

IMPORTANT: Drawbar must be positioned, as instructed in Attaching PTO Driven Implement in this section of this Operator's Manual.

Drawbar (A) length can be extended by following steps listed below:

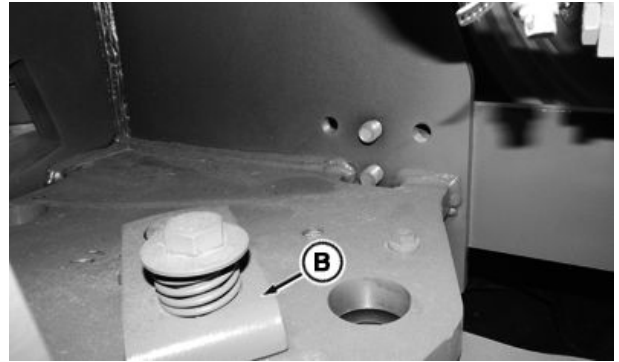
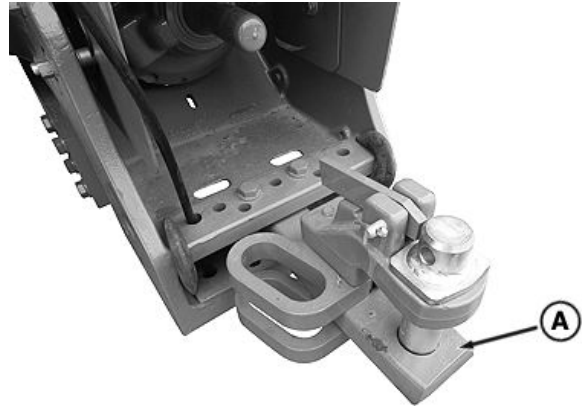
1. Loosen drawbar locking bolts.
2. Remove front drawbar pin (B).
3. Slide drawbar (A) to desired position.
4. Install front drawbar pin (B).
5. Tighten drawbar locking bolts to specification.

Drawbar Locking Bolts—Specification

Bolt—Torque..... 435 N·m (322 lb.-ft.)

A—Drawbar

B—Drawbar Pin



TO84419,0000102 -19-11JUL14-1/1

RXA0141864 —UN—13JUN14

RXA0142228 —UN—11JUN14

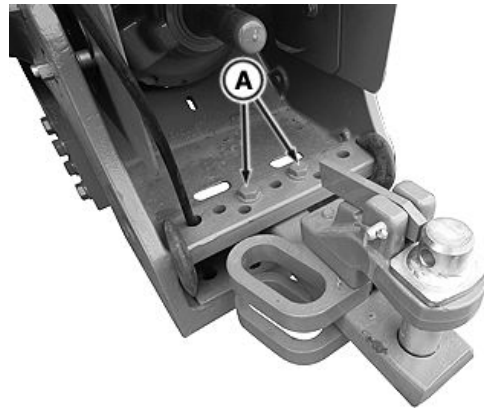
Adjusting Drawbar Side-to-Side Movement

1. Remove drawbar locking bolts (A).
2. Slide drawbar to desired position.
3. Install a locking bolt against each side of drawbar.

Drawbar Locking Bolts—Specification

Bolt—Torque..... 435 N·m (322 lb.-ft.)

A—Locking Bolts



TO84419,0000103 -19-11JUN14-1/1

RXA0141865 —UN—13JUN14

Installing Clevis Assembly (Category 4 Drawbar)

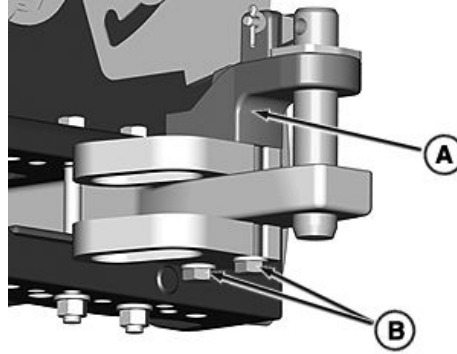
Clevis assembly (B) must be attached *only* to top of drawbar. Tighten two cap screws to specification (B).

Clevis Cap Screws—Specification

Cap Screw—Torque..... 750 N·m (553 lb.-ft.)

A—Clevis Assembly

B—Cap Screws



RXA0141898 —UN—05JUN14

TO84419,0000104 -19-12JUN14-1/1

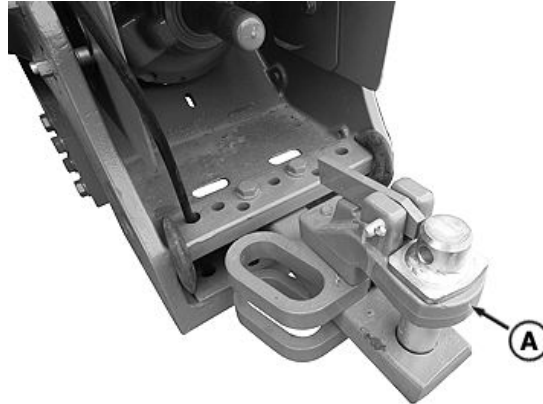
Using Clevis Assembly (Category 4 Drawbar)

IMPORTANT: When PTO shaft may cause interference, remove clevis assembly.

Clevis assembly (A) must be attached *only* to the top of the drawbar.

If towed implement also has a clevis assembly, insert pin only through tractor drawbar. DO NOT insert pin through all four members.

A—Clevis Assembly



RXA0141898 —UN—13JUN14

TO84419,0000105 -19-10JUN14-1/1

Installing Clevis Assembly (Category 5 Drawbar)

Clevis assembly (A) must be attached *only* to top of drawbar.

Tighten two center M24 cap screws (B) and four outer cap screws (C) to specification.

M24 Clevis Cap Screws (B)—Specification

Cap Screw—Torque..... 750 N·m (553 lb.-ft.)

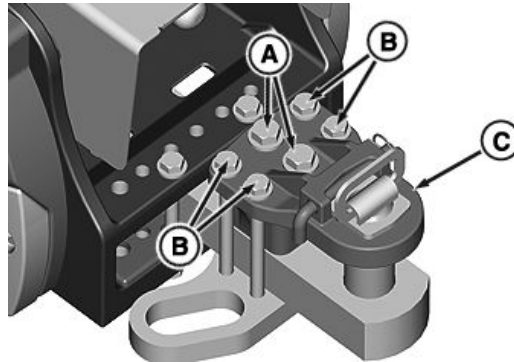
M20 Clevis Cap Screws (C)—Specification

Cap Screw—Torque..... 610 N·m (450 lb.-ft.)

A—Clevis Assembly

B—M24 Cap Screws

C—M20 Cap Screws



RXA0141899 —UN—05JUN14

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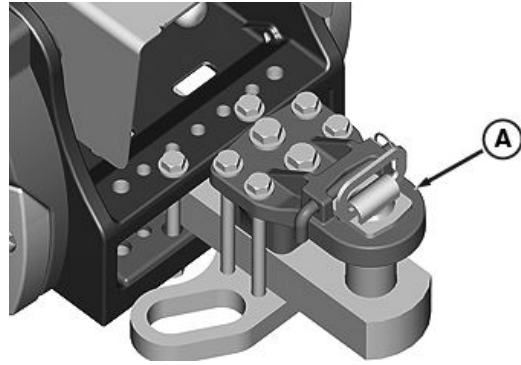
Using Clevis Assembly (Category 5 Drawbar)

IMPORTANT: Before using PTO shaft, or whenever it might cause interference, remove clevis assembly.

Clevis assembly (A) must be attached *only* to the top of the drawbar.

If towed implement also has a clevis assembly, insert pin only through tractor drawbar. DO NOT insert pin through all four members.

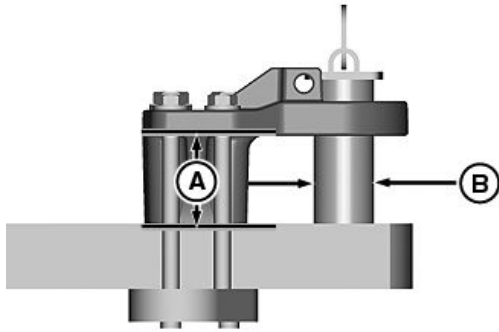
A—Clevis Assembly



RXA0111485—UN—27OCT10

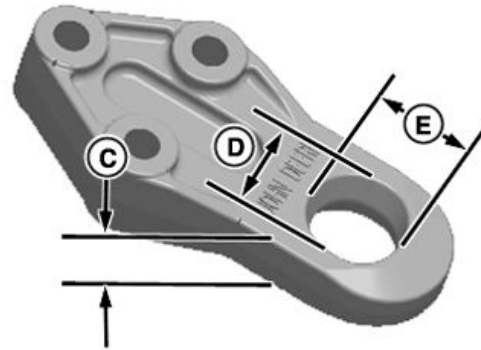
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Using Correct Drawbar Pin (Category 5 to 4)



Drawbar

RXA0141901—UN—05JUN14



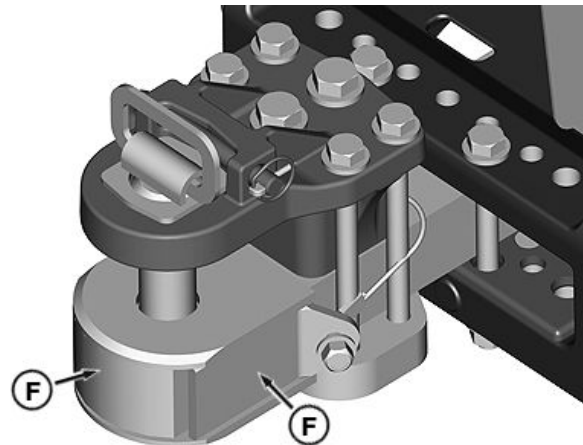
Hitch Link

RXA0141902—UN—05JUN14

See your John Deere™ dealer to purchase an Adapter Kit (F) for tractors equipped with a Category 5 drawbar when attaching to implements equipped with a Category 4 hitch link if approved by implement manufacturer.

Use Category 5 drawbar pin furnished with tractor to attach implements that have a Category 5 hitch link. See table for dimensions. Consult implement Operator's Manual or manufacturer to determine proper size of drawbar pin for implement attaching system. Operating tractor and implements with drawbar category combinations which are improperly sized for implement power requirements could result in premature wear or failure of hitch components.

IMPORTANT: Use Category 5 drawbar pin for implements that produce drawbar loads requiring more than 348 kW (467 HP) engine power level rating or 300kW (400 HP) PTO power level rating for proper operation. Contact implement manufacturer for information on how to properly convert implement to accept Category 5 drawbar pin.



Adapter Kit

RXA0141903—UN—05JUN14

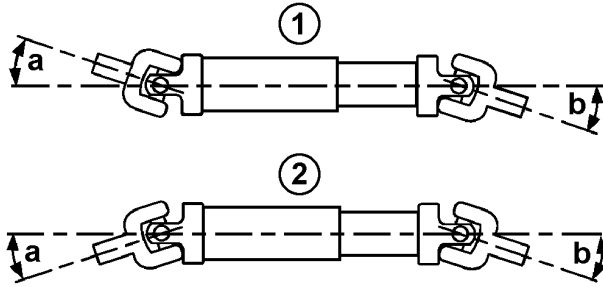
B—Hitch Pin Diameter
A—Drawbar Opening Height
E—Slot Length

D—Slot Width
C—Link Thickness
F—Cat 5 To 4 Adapter

Hitch Link Dimensions					
Category	Tractor Drawbar		Implement Hitch Link		
	Hitch Pin Diameter (B)	Drawbar Opening Height (A)	Slot Length (E)	Slot Width (min.) (D)	Link Thickness (C)
4	50 mm (1.97 in.)	90 mm (3.54 in.)	55 - 70 mm (2.17 - 2.75 in.)	55 mm (2.17 in.)	50 mm (1.97 in.)
5	70 mm (2.76 in.)	100 mm (3.94 in.)	73 - 85 mm (2.87 - 3.35 in.)	73 mm (2.87 in.)	60 mm (2.36 in.)

TO84419,0000108 -19-09SEP15-1/1

Operating Instructions (2010-52-EU)



LX1049749

Articulation on drive shaft

1—Z-shaped layout

2—W-shaped layout

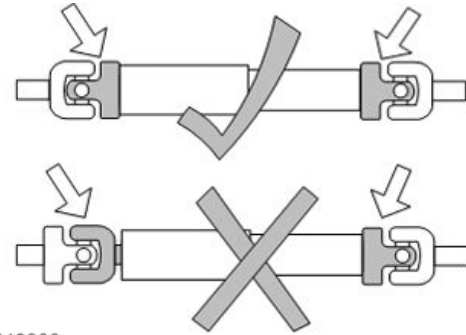
Angles (a) and (b) at universal joints should be equal at both ends of drive shaft.

In applications where this does not occur (e.g. sharp turns with PTO engaged), it is recommended to use a continuous-velocity drive shaft.

NOTE: Two schematic drawings do not show any guards on drive shaft. A guard is mandatory when using drive shafts.

IMPORTANT: Only operating conditions described in operator's manuals of various implements are permitted. This applies to maximum permissible angle of articulation, to use of freewheel clutches and overload clutches,

LX1049749 —UN—21MAY10



LX1049900

Align forks correctly

and to prescribed amount of overlap when shaped pipes are pushed together.

IMPORTANT: Before using a PTO-driven implement, take action to ensure that drive shaft is lubricated regularly. Comply with instructions in operator's manual provided by manufacturer.

IMPORTANT: On multi-component, telescopic drive shafts, yokes at each end must be aligned as shown. Yokes at each end must NOT be at 90° to one another (see arrows in illustration on right-hand side).

LX1049900 —UN—22FEB11

GH15097,00007F0 -19-13JUN14-1/1

Attaching PTO-Driven Implement (If Equipped)

⚠ CAUTION: Entanglement in rotating driveline can cause serious injury or death.

Keep PTO shield and driveline shields in place at all times. Make sure rotating shields turn freely.

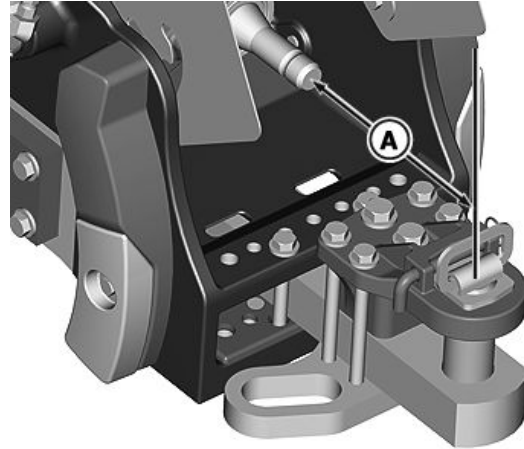
Wear close fitting clothing. Stop engine and be sure PTO driveline is stopped before making adjustments, connections, or cleaning PTO-driven equipment.

1. Lock drawbar in center position and remove clevis assembly if implement will be attached to drawbar. Drawbar hitch pin must be behind end of PTO shaft (A).

PTO Shaft	PTO Shaft End to Hitch Pin Hole (A)
1000 rpm - 20 Splines ^a	508 mm (20.0 in.)

^a45 mm (1-3/4 in.) Shaft Diameter

2. Attach implement to drawbar before connecting PTO driveline. If implement will be connected to quick-coupler, be sure drawbar will not interfere. Remove it if necessary.
3. Connect driveline to PTO shaft. Turn shaft slightly by hand, to line up splines. Be sure yoke is in correct position and firmly locked.
4. Lower master shield. Set shield in intermediate position if necessary for clearance.



A—PTO Shaft to Pin Hole Distance

TO84419,0000109 -19-16JUN14-1/1

TS1644—UN—22AUG95

RXA014225—UN—08JUN14

Using PTO Master Shield (If Equipped)

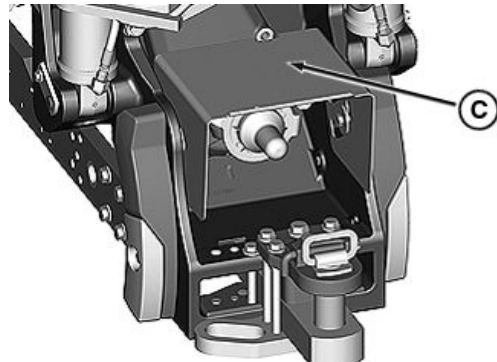
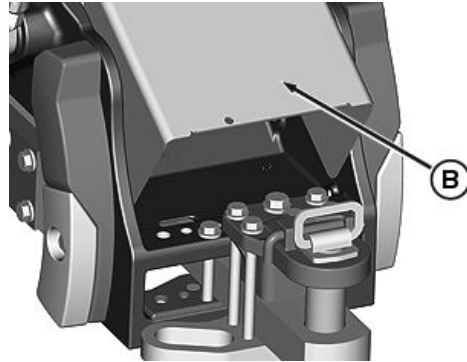
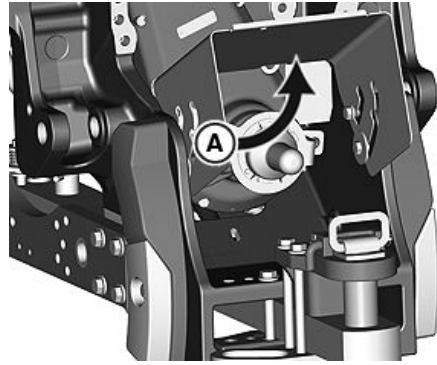
CAUTION: Avoid possible injury. Tractor master shield (A) should be in place at all times except for special applications as directed in the implement operator's manual. Do not use shield as a step.

Master shield can be tipped up in raised position (A) to provide clearance while connecting PTO shaft. **DO NOT** operate PTO with shield in raised position (A).

Master shield (B) can be lowered to improve drawbar visibility, when drawbar is being used without PTO.

A—Raised Position
B—Lowered Position

C—Standard Position



TO84419,000010A -19-16JUN14-1/1

RXA0142439 —UN—11JUN14

RXA0142440 —UN—11JUN14

RXA0142441 —UN—11JUN14

Using Correct Engine Speed

Correct engine speed is very important. Run engine at 1895 engine rpm for 1000 rpm PTO speed operation with 45 mm (1-3/4 in.) 20 spline shaft.

A—Tachometer

B—PTO Indicator



Corner Post Display

GH15097,00008D3 -19-18JUN14-1/1

RXA0142705 —UN—17JUN14

Operating PTO

CAUTION: Avoid personal injury. Stop engine and allow PTO driveline to stop before adjusting, connecting, or cleaning PTO-driven equipment.

Always disengage PTO when not in use.

PTO can be engaged or disengaged without operating clutch.

NOTE: Service Alert indicator light will flash, a message appears on CommandCenter™ display, and an audible warning sounds if operator leaves seat with PTO engaged. PTO does not disengage when operator is off seat.

Push PTO control lever down and forward (A) to engage PTO. PTO indicator on corner post monitor will light.

IMPORTANT: If PTO disengages during start up in cold weather operation, wait 5 minutes before reengaging PTO to avoid damage.

Tractor software will NOT allow operator to reengage PTO immediately if engine rpms drop excessively due to heavy load at PTO startup. There will be a 10-15 second delay before operator can reengage PTO. This delay allows clutch to cool before it is reengaged.

Pull PTO control lever to disengage clutch and PTO brake will engage automatically.

CommandCenter is a trademark of Deere & Company



PTO Control Lever

A—PTO Control Lever

NOTE: If engine is stopped and then restarted while PTO is running, PTO will not operate. Disengage PTO control switch and then engage PTO again.

GH15097,00008D2 -19-09SEP15-1/1

RXA0142709 —UN—17JUN14

PTO Engagement Rate

RXA0133713 —UN—16JUL13

Use navigation bar PTO button or follow alternative path:

1. Select **Menu button**.
2. Select **Tractor Settings tab**.
3. Select **PTO button**.
4. Select **Information and Settings icon**.
5. Select **Settings tab**.

Operator can select from three different PTO engagement rates: AUTO, Low, and High.

AUTO: Used for most implements, and is factory setting in CommandCenter™. This setting provides software logic to determine engagement rate for PTO clutch, based on PTO speed sensor feedback. If PTO does not turn fast enough during initial PTO clutch engagement, engagement rate is automatically increased to avoid clutch slip and PTO shutdown.

Low: Can be used where gradual PTO start-up is required, or if Auto engagement is too aggressive or inconsistent.

High: Can be used for applications where PTO clutch engagement must be aggressive.

IMPORTANT: If problems with PTO clutch engagement occur in Auto setting and Under Speed Diagnostic Trouble Code is displayed, change PTO engagement setting in CommandCenter™ from Auto to High Rate to prevent power train damage.

Operating PTO with excessive load could damage PTO clutch and other components. When excessive load is detected, PTO automatically disengages. Wait 15 seconds before attempting to reengage PTO. If problem occurs during engagement, PTO speed may need to be decreased.

A—PTO Engagement Rate Button
B—PTO Engagement Rate Settings

C—Cancel Button
D—OK Button

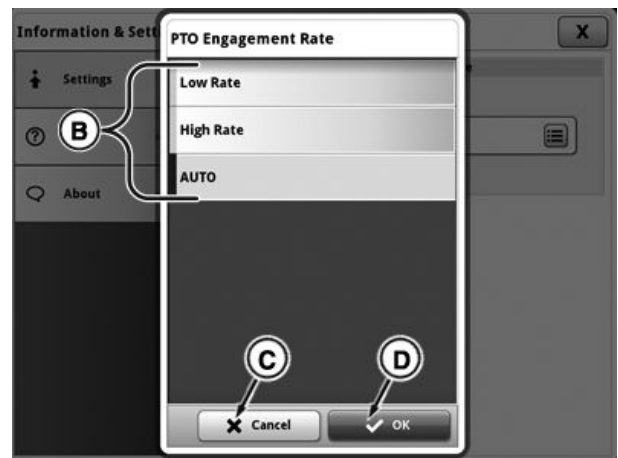
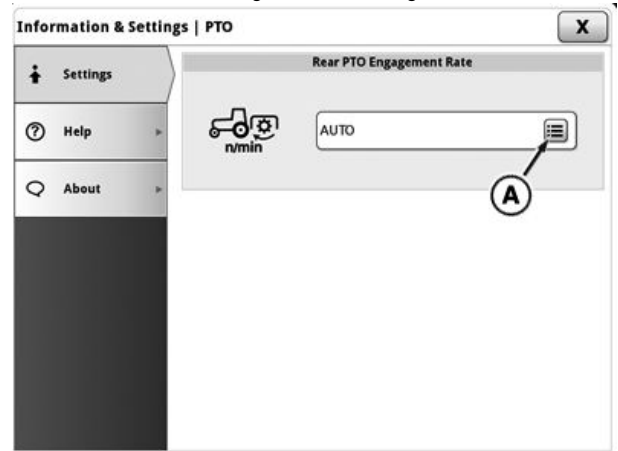


Navigation Bar PTO Shortcut Button

RXA0128917 —UN—15MAR13



Menu Button → Tractor Settings Tab → PTO Button → Information and Settings Icon → Settings Tab



RXA0142582 —UN—13JUN14

RXA0142583 —UN—13JUN14

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GH15097,00008D5 -19-01JUN15-1/1

Performance Ballasting

General Performance Guidelines

Attaining Optimum Performance

Before adding ballast to your tractor, consider these important factors to attain optimum performance:

- Total tractor weight and static weight split (percent of static weight on front and rear axles)
- Type of ballast used (cast weight or liquid)
- Tire inflation pressures

Recommended Weight Split

Weigh tractor to determine amount and type of ballast. Distribute weight depending on how tractor is equipped as well as operating conditions.

Recommended weight splits (percent):

	Front	Rear
Towed Implement	51—55	49—45
Hitch-Mounted Implement	55—60	45—40
High Load Transfer Implements	65—70	35—30

NOTE: Use 60—65 weight split on front when operating with heavy draft implements causing extreme weight transfer from front to rear.

Correct Ballast

Use no more ballast than necessary, and adjust ballast as tractor use changes.

For correct ballast, measure amount of travel reduction (% slip) of drive wheels. Under normal field conditions, travel reduction should be 8—12 percent. Add more weight to drive wheels if slip is excessive. If there is less than minimum percent slip, ballast should be removed, unless needed for stability.

Correct ballast allows for most efficient use of tractor's available power and will not make up for an implement

which is too big for tractor. Adding ballast will not improve performance, if engine speed falls below rated speed and/or wheel slip is beyond the recommended range.

Correct Inflation Pressure

Inflate tires to correct pressure to carry load on each axle for optimum tractive performance.

Selecting Ballast Carefully

Factors Determining Amount of Ballast
Soil surface—Loose or firm
Type of implement—Integral/semi-integral or towed
Travel speed—Slow or fast
Tractor power output—Partial or full load
Tires—Single or dual; small or large

Pulling lighter load at a higher speed is more economical and more efficient than pulling heavier loads at a lower speed.

Too Little Ballast	Too Much Ballast
Excessive wheel spin	Soil compaction
Power loss	Power loss
Tire wear	Increased load
Fuel waste	Fuel waste
Lower productivity	Lower productivity

Ballast Limitations

IMPORTANT: Tractor weight exceeding heavy ballast limits should be avoided and can void the warranty due to "overload" conditions.

Ballast should be limited by lowest of either tire capacity or tractor capacity.

Carrying capacity of each tire should not be exceeded. If greater amount of weight is needed, larger duals or triples should be considered.

TO84419,0000123 -19-05JAN15-1/1

Determining Maximum Ballast

IMPORTANT: Do not overload tires. If maximum weight shown in chart is not enough for safety, reduce load or install tires with more load capacity.

NOTE: For tractors with dual or triple tires, maximum ballast is not normally limited by tire carrying capacity.

Use appropriate ballast for a particular operating condition. Tractors should have only enough ballast to maintain safe steering control.

Adjust ballast as tractor use changes. For example, adjust ballast when changing from mounted to towed implements.

IMPORTANT: To extend drive train life and avoid excessive soil compaction and rolling resistance, avoid adding too much ballast. Never add ballast that results in continuous full-power loads below 6.6 km/h (4.1 mph).

Remove ballast if tractor engine labors when pulling heavy loads below 6.6 km/h (4.1 mph).

TO84419,0000124 -19-10SEP15-1/1

Tire Sidewall Information

520 / 85 R 42 158 A8
 (A) (B) (C) (D) (E) (F)

Displayed on tire sidewalls is information useful in selecting and working with tires.

- A** — Tire section width —Width in millimeters.
- B** — Aspect ratio — Ratio of height to tire section width.
- C** — Construction type —R = Radial, B = Bias.
- D** — Rim diameter —Diameter in inches (not total tire height or group size).
- E** — Load index —Numerical code indicates tire load-carrying capacity. Higher load index number designates higher load capacity. See Tire Load Index chart in this section of this Operator's Manual.
- F** — Speed rating —Maximum speed tire is designed to travel.

Additional information that may be displayed on sidewall.

Tread pattern — Indicates tread design and tire usage. Designs offered are all lug- or bar-type tires and are separated into one of three specifications: R1, R1W, or R2.

Direction of rotation — Icon (usually an arrow or group of arrows) indicating tire rotation direction.

Manufacturer name — Name of tire manufacturer.

Max load and pressure information — Maximum load a tire is permitted to carry under specified pressure and operating conditions. See Recommended Pressures charts in this section of this Operator's Manual.

Safety warnings — Important information provided by tire manufacturer.

RXA0149658 —UN—13AUG15

TO84419,0000157 -19-24AUG15-1/1

Worksheet to Calculate Ballast Changes

IMPORTANT: Ballast must not exceed weight required to result in recommended percent slip at 6.6 km/h (4.1 mph) MINIMUM.

field and operation conditions. Complete worksheet prior to changing ballast and tire air pressures to help achieve optimal tractor performance.

Completed worksheet provides suggested initial ballast recommendations. Ballast should be adjusted to match

1. Determine desired weight of tractor. See General Performance Guidelines in this section of this Operator's Manual. _____ % Front

2. Record desired weight of tractor. See Ballasting for Engine Horsepower in this section of this Operator's Manual. _____

	Front	Rear	Total
3. Percent of Weight Split from Step 1 multiplied by Step 2 (Desired Weight) results in Total Front Weight. For Rear Weight, subtract front weight from Total Weight. This determines weight on each axle.	_____	_____	_____

4. Weight of tractor as determined from the UNBALLASTED TRACTOR WEIGHT CHART, in this section of this Operator's Manual, or weight from scale.	_____	_____	_____
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5. Ballast needed (subtract tractor weight in Step 4 from desired weight in Step 3).	_____	_____	
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6. Add front ballast.	_____	_____	
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7. Determine weight removed from rear axle when ballasting front axle, if using suitcase weights and add weight to Step 5.	_____	_____	_____
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8. Add ballast from Step 7 to weights from Step 5.	_____	_____	
--	-------	-------	--

9. Set tire pressure for operating conditions using weights from Step 7 (see appropriate inflation pressure table in the Wheels, Tires, and Treads section in this Operator's Manual).		_____	
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NOTE: Wheel slippage can now be tested. See MEASURING WHEEL SLIP, in this section of this Operator's Manual.

TO84419,0000125 -19-12DEC14-1/1

Ballasting for Engine Horsepower

A guide to ballasting tractors is to use engine horsepower combined with necessary ballast for a particular job—light, medium, or heavy. Start process with lightest ballast that can handle job. Then add ballast as necessary to get performance desired.

NOTE: *Correct weight split must be maintained when adding or removing ballast. Cast weight is preferred to get best tractive performance.*

More or less weight is necessary when different travel speeds are used. Higher speeds do not require as much weight. Final indication of correct ballast is wheel slip measured in field.

NOTE: *Radar is recommended to monitor wheel slip. Checking wheel slip manually is possible but can only show slip in one area of field. Knowing*

correct average wheel slip is necessary to maintain optimum tractive performance.

Add more weight if slip is excessive. Remove weight if there is less than minimum percent slip.

If implement pull at full load is 5.5 mph (8.8 km/h) or more, tractor can operate without ballast. Medium ballast is a better choice when operating at full load between 4.5 and 5.5 mph (7.2 and 8.8 km/h). Heavy ballast can only be used for few implements (such as deep rippers) which require full load traction below 4.5 mph (7.2 km/h).

IMPORTANT: *Never add ballast that results in continuous full power loads below 4.1 mph (6.6 km/h). Continued operation below 4.1 mph (6.6 km/h) can shorten power train life.*

Tractor	Engine kW (hp.)	kg/kW (lb./hp.)	Total kg (lb.)
9370R	272 (370)	71 (116)	22105 (48700)
9420R	309 (420)	71 (116)	22105 (48700)
9470R	346 (470)	71 (116)	24721 (54500)
9520R	382 (520)	71 (116)	27216 (60000)*
9570R	419 (570)	65 (105)*	27216 (60000)*
9620R	456 (620)	60 (97)*	27216 (60000)*

*Maximum ballast for 9520R, 9570R, and 9620R is 27216 kg (60000 lb.).

Ground Speed	Light Ballast Above 8.9 km/h (5.5 mph)	Medium Ballast 7.4—8.6 km/h (4.6—5.5 mph)	Heavy Ballast 7.2 km/h (4.5 mph) or Less
kg/kW (lb./hp)	60 (97) or Less	62—65 (101—106)	68—71 (111—116)**

**Maximum ballast is 71 kg/kW (116 lb./hp).

TO84419,0000126 -19-12DEC14-1/1

Control Power Hop

Power hop is a condition where tractor exhibits severe bounce and/or jump at field working speeds under 16 km/h (10 mph). Power hop is associated with tractors pulling towed implements at medium to high draft loads in loose, dry soil on top of a firm base and/or when climbing hills. As a result, tractor cannot maintain pull due to loss of traction, rough ride, or both.

Adjust inflation pressures *only* after following performance guidelines (recommended weight split, correct ballast, and correct inflation pressures):

NOTE: *HydraCushion™ suspension system must be properly set and turned ON to help control power hop.*

1. A) Increase **REAR** tire pressure by 41-55 kPa (0.4-0.6 bar) (6-8 psi) in 2 psi increments over rated pressure for axle load. Follow steps 2 and 3.

B) If power hop remains a problem, reduce front tire pressure to rated pressure. Then raise **FRONT** tire inflation pressure by 41-55 kPa (0.4-0.6 bar) (6-8 psi) in 2 psi increments above rated pressure for axle load. Follow steps 2, 3, and 4 below.

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NOTE: *Raising front or rear inflation pressure depends on weight splits, operating conditions (steep slopes) or travel speeds. On steep slopes and operating speeds above 8.8 km/h (5.5 mph) raising rear tire pressure is recommended.*

Tires on one of two axles must remain at rated pressure.

Ballast tractor so no more than 55 percent of total tractor weight is on front for best power hop control.

2. Remove any liquid ballast and replace with cast weight equivalent, if power hop remains a problem.
3. Liquid ballast has a stiffening effect that causes rough ride. If liquid ballast is used in rear tires, *all tires on axle must be filled to same level* which should not exceed 40 percent fill.

IMPORTANT: Do not use liquid ballast in front tires.

4. If power hop remains a problem, see your John Deere™ Dealer.

TO84419,0000127 -19-17NOV14-1/1

Calculating Ballast (Tractors Without Hitch)

Add enough weight to rear axle to achieve desired weight split. Then, to increase total weight per engine horsepower add equal amounts of weight to each axle. Chart below illustrates how weight splits between front and rear axles are affected as weight is added to the rear axle only.

ADD	9370R	9420R	9470R	9520R	9570R	9620R
1000 lb.	56/44%	57/43%	57/43%	56/44%	56/44%	55/45%
2000 lb.	—	56/44%	56/44%	55/45%	55/45%	55/45%
3000 lb.	—	56/44%	56/44%	53/47%	53/47%	53/47%
4000 lb.	—	53/47%	53/47%	52/48%	52/48%	52/48%
5000 lb.	—	53/47%	53/47%	51/49%	51/49%	51/49%

Factory Recommendation for Overall Best Performance

Model	Front Ballast	Rear Ballast	Weight Split
9370R*	0	2130 lb.	56/44
9420R	0	4000 lb.	54/46
9470R	0	3920 lb.	54/46
9470R	1250 kg (2756 lb.)	7080 lb.	53/47
9520R	1250 kg (2756 lb.)	7080 lb.	53/47
9570R	1250 kg (2756 lb.)	7080 lb.	53/47
9620R	1250 kg (2756 lb.)	7080 lb.	53/47

* May not require additional ballast if power hop is not a concern. Up to 4000 lb. can be required on rear axle to achieve desirable weight split if power hop is a concern.

Cast Weights Required for Ballast Recommendation

2126 lb. — one 72 kg (159 lb.) plus two 205 kg (452 lb.) weights on each dual wheel
2756 lb. — one 625 kg (1378 lb.) weight each inner wheel
3950 lb. — one 205 kg (452 lb.) installed on each inside/inner and one 72 kg (159 lb.) plus three 205 kg (452 lb.) weights on each rear
7080 lb. — one set of 20 rear frame weights and one 625 kg (1378 lb.) installed on each rear inside/inner wheel and two 72 kg (159 lb.) plus two 205 kg (452 lb.) weights on each dual

TO84419,0000128 -19-20NOV14-1/1

Calculating Ballast (Tractors With Hitch)

Tractors equipped with a 3-Point Hitch have approximately a 55/45 percent front to rear weight split. This split needs to be maintained for most hitch-mounted implements.

Factory Recommendation for Overall Best Performance

Model	Percent Front to Rear Weight Split	Front	Rear
9370R	54/46	0	0
9420R	54/46	2126 lb.	3029 lb.
9470R	54/46	2126 lb.	3029 lb.
9520R	53/47	2126 lb.	3029 lb.
9570R	53/47	2126 lb.	3029 lb.
9620R	53/47	2126 lb.	3029 lb.

Cast Weights Required for Ballast Recommendation

964 kg (2126 lb.) — one 72 kg (159 lb.) plus two 205 kg (452 lb.) weights on each dual wheel

1374 kg (3029 lb.) — one 205 kg (452 lb.) installed on each inside/inner and one 72 kg (159 lb.) plus two 205 kg (452 lb.) weights on each rear dual wheel

TO84419,0000129 -19-20NOV14-1/1

Unballasted Tractor Weight Chart (9370R and 9420R) — Pounds

NOTE: Unballasted weights are calculated by averaging and are figured based on tractor with a full tank of fuel. Each tractor will be different. Have your tractor weighed for exact weight splits.

Divide weight in pounds by 2.2 to obtain kg.

Tractor	9370R OPTIONS				9420R OPTIONS			
	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO
480/80R46 - Triples - Cast/Steel/Steel								
FRONT	24820	24566	24480	24224	25992	20377	25683	25397
REAR	18887	20955	20150	22223	19026	21234	20289	22361
TOTAL	43707	45521	44630	46447	45018	46835	45942	47759
Lb/hp	118	123	121	126	107	112	109	114
FRONT	57%	54%	55%	53%	58%	55%	56%	53%
REAR	43%	46%	45%	47%	42%	45%	44%	47%
520/85R42 - Triples - Cast/Steel/Steel								
FRONT	25075	24822	24736	24480	26248	25995	25909	25653
REAR	19143	21211	20406	22478	19282	21352	20545	22617
TOTAL	44218	46032	45142	46958	45530	47346	46454	48270
Lb/hp	120	124	122	127	108	113	111	115
FRONT	57%	55%	55%	52%	58%	55%	56%	54%
REAR	43%	46%	45%	48%	42%	45%	44%	46%
620/70R42 - Duals - Cast/Steel								
FRONT	23620	23367	23281	23025	24793	24540	24454	24198
REAR	17688	19756	18951	21023	17827	19897	19090	21162
TOTAL	41308	43122	42232	44048	42620	44436	43543	45360
Lb/hp	112	117	114	119	101	106	104	108
FRONT	57%	54%	55%	52%	58%	55%	56%	53%
REAR	43%	46%	45%	48%	42%	45%	44%	47%
710/70R38 - Duals - Cast/Steel								
FRONT	24127	23874	23788	23532	25300	25047	24961	24705
REAR	18195	20263	19458	21530	18334	20404	19597	21669
TOTAL	42322	44136	43246	45062	43634	45450	44558	46374
Lb/hp	114	119	117	122	104	108	106	110
FRONT	57%	54%	55%	52%	58%	55%	56%	53%
REAR	43%	46%	45%	48%	42%	45%	44%	47%
IF710/70R38 - Duals - Cast/Steel								
FRONT	24196	23942	23856	23603	24240	25115	25029	23406
REAR	18263	20333	19526	21596	14535	20472	19667	18107
TOTAL	42459	44275	43383	45199	43773	45587	44696	46513
Lb/hp	115	120	117	122	104	109	106	111
FRONT	57%	54%	55%	52%	58%	55%	56%	53%
REAR	43%	46%	45%	48%	42%	45%	44%	47%

TO84419,000012A -19-23FEB15-1/1

Unballasted Tractor Weight Chart (9370R and 9420R) — Pounds (Continued)

Tractor	9370R OPTIONS				9420R OPTIONS			
	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO
480/80R50 - Duals - Cast/Steel								
FRONT	23466	23212	23126	22871	24639	24385	24299	24044
REAR	17533	19601	18797	20869	17672	19742	18935	21008
TOTAL	40999	42814	41923	43740	42311	44128	43235	45051
Lb/hp	111	116	113	118	101	105	103	107
FRONT	57%	54%	55%	52%	58%	55%	56%	53%
REAR	43%	46%	45%	48%	42%	45%	44%	47%
IF480/80R50 - Duals - Cast/Steel								
FRONT	23951	23697	23611	23356	25124	24870	25292	24529
REAR	18018	20086	19282	21354	18157	20227	19662	21493
TOTAL	41969	43784	42893	44710	43281	45098	44954	46021
Lb/hp	113	118	116	120	103	107	107	110
FRONT	57%	54%	55%	52%	57%	55%	56%	53%
REAR	43%	46%	45%	48%	43%	45%	44%	47%
520/85R46 - Triples - Cast/Steel/Steel								
FRONT	26067	25814	25728	25472	27240	26987	26901	26645
REAR	20135	22203	21398	23470	20274	22344	21537	23609
TOTAL	46202	48017	47126	48943	47514	49331	48438	50254
Lb/hp	125	130	127	132	115	117	115	120
FRONT	56%	54%	55%	52%	53%	55%	56%	53%
REAR	44%	46%	45%	48%	47%	45%	44%	47%
620/70R46 - Duals - Cast/Steel								
FRONT	23775	23521	23435	23179	24947	24694	24608	24802
REAR	17842	19910	19105	21178	17984	20360	19244	2116
TOTAL	41617	43431	42540	44357	42928	44745	43852	45669
Lb/hp	112	117	115	120	102	107	104	109
FRONT	57%	54%	55%	52%	58%	55%	56%	53%
REAR	43%	46%	45%	48%	42%	45%	44%	47%
650/85R38 - Duals - Cast/Steel								
FRONT	23973	23720	23634	23378	24237	23820	23821	23404
REAR	18040	20111	19583	21376	14533	16765	15872	18105
TOTAL	42013	43830	42937	44754	38770	40585	39694	41509
Lb/hp	114	118	116	121	95	99	97	101
FRONT	57%	54%	55%	52%	63%	59%	60%	56%
REAR	43%	46%	45%	48%	37%	41%	40%	44%
IF650/85R38 - Duals - Cast/Steel								
FRONT	24674	24249	24163	23907	25675	25421	25335	25080
REAR	18570	20637	19833	21905	18708	20779	19972	22044
TOTAL	43072	44886	43995	45812	44383	46200	45307	47124
Lb/hp	119	121	119	124	106	110	108	112
FRONT	55%	54%	55%	52%	58%	55%	56%	53%
REAR	45%	46%	45%	48%	42%	45%	44%	47%

TO84419,000012B -19-28OCT14-1/1

Unballasted Tractor Weight Chart (9370R and 9420R)— Pounds (Continued)

Tractor	9370R OPTIONS				9420R OPTIONS			
	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO
710/70R42 - Duals - Cast/Steel								
FRONT	24568	24315	24229	23973	25741	25999	25402	25146
REAR	18636	20704	19899	22110	18775	25488	20038	22110
TOTAL	43204	45018	44128	45944	44516	46332	45439	47256
Lb/hp	117	122	119	124	106	110	108	113
FRONT	57%	54%	55%	52%	58%	55%	56%	53%
REAR	43%	46%	45%	48%	42%	45%	44%	47%
IF710/70R42 - Duals - Cast/Steel								
FRONT	24877	24623	24537	24282	26050	52796	25710	25455
REAR	18944	21012	20208	22280	19083	21153	20346	22419
TOTAL	43821	45636	44745	46562	45133	46950	46057	47873
Lb/hp	118	123	121	126	107	112	110	114
FRONT	57%	54%	55%	52%	58%	55%	56%	53%
REAR	43%	46%	45%	48%	42%	45%	44%	47%
800/70R38 - Duals - Cast/Steel								
FRONT	24866	24866	24919	24634	26292	26039	25953	25697
REAR	21255	21255	20111	22213	19326	21396	20589	22661
TOTAL	44306	46121	45030	46847	45618	47435	46542	48358
Lb/hp	120	125	122	127	109	113	111	115
FRONT	54%	54%	55%	53%	58%	55%	56%	53%
REAR	46%	46%	45%	47%	42%	45%	44%	47%
IF800/70R38 - Duals - Cast/Steel								
FRONT	24943	24690	24604	24348	26116	25862	25776	25521
REAR	19010	21078	20274	22346	19149	21219	20413	22485
TOTAL	43954	45768	44877	46694	45265	47082	46189	48006
Lb/hp	119	124	121	126	110	112	110	114
FRONT	57%	54%	55%	52%	58%	55%	56%	53%
REAR	43%	46%	45%	48%	42%	45%	44%	47%
480/80R50 - Triples - Cast/Steel/Steel								
FRONT	25847	25593	25507	25252	27020	26766	26680	26425
REAR	19914	21982	21178	23250	20053	22123	21316	23389
TOTAL	45761	47576	46685	48502	47073	48890	47997	49813
Lb/hp	131	129	126	131	112	116	114	119
FRONT	57%	54%	55%	52%	57%	55%	56%	53%
REAR	43%	46%	45%	48%	43%	45%	44%	47%
IF480/80R50 - Triples - Cast/Steel/Steel								
FRONT	26552	26299	26213	25957	27725	27472	27386	27130
REAR	20620	22688	21883	23955	20759	22829	22022	24094
TOTAL	47172	48987	48096	49913	48484	50301	49408	51224
Lb/hp	127	132	130	135	115	120	118	122
FRONT	56%	54%	55%	52%	57%	55%	55%	53%
REAR	44%	46%	45%	48%	43%	45%	45%	47%

TO84419,000012C -19-29OCT14-1/1

Unballasted Tractor Weight Chart (9470R and 9520R) — Pounds

NOTE: Unballasted weights are calculated by averaging and are figured based on tractor with a full tank of fuel. Each tractor will be different. Have your tractor weighed for exact weight splits.

NOTE: Divide weight in pounds by 2.2 to obtain kg.

Tractor	9470R OPTIONS				9520R OPTIONS			
	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO
480/80R46 - Triples - Cast/Steel/Steel								
FRONT	25992	25739	25653	25397	25918	25662	25576	25322
REAR	19026	21096	20289	22361	19775	21848	21043	23111
TOTAL	45018	46835	45942	47759	45693	47510	46619	48433
Lb/hp	96	100	98	102	88	91	90	93
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
520/85R42 - Triples - Cast/Steel/Steel								
FRONT	26248	25995	25909	25653	26173	25918	25832	25578
REAR	19282	21352	21018	22617	20031	22104	21299	23367
TOTAL	45530	47346	46454	48270	46204	48021	47130	48945
Lb/hp	97	101	99	103	89	92	91	94
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
620/70R42 - Duals - Cast/Steel								
FRONT	24793	24540	24454	24198	24718	24462	24376	24123
REAR	17827	19897	19090	21162	18576	20648	19844	21912
TOTAL	42620	44436	43543	45360	43294	45111	44220	46035
Lb/hp	91	95	93	97	83	87	85	89
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
710/70R38 - Duals - Cast/Steel								
FRONT	25300	25047	24961	24705	25225	24970	24884	24630
REAR	18334	20404	19597	21669	19083	21156	20351	22419
TOTAL	43634	45450	44558	46374	44308	46125	45234	47049
Lb/hp	93	97	95	99	85	89	87	90
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
IF710/70R38 - Duals - Cast/Steel								
FRONT	25701	26849	26802	26,517	25294	25040	24954	24698
REAR	21028	21697	20851	22,953	19154	21222	20417	22489
TOTAL	46729	48546	47653	49,470	44447	46262	45371	47188
Lb/hp	99	103	101	105	85	89	87	91
FRONT	55%	55%	56%	54%	57%	54%	55%	52%
REAR	45%	45%	44%	46%	43%	46%	45%	48%

TO84419,000012D -19-29OCT14-1/1

Unballasted Tractor Weight Chart (9470R and 9520R) — Pounds (Continued)

Tractor	9470R OPTIONS				9520R OPTIONS			
	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO
IF480/80R50 - Duals - Cast/Steel								
FRONT	25124	24870	24784	24529	25049	24793	24707	24454
REAR	18157	20227	19420	21493	18907	20979	20174	22242
TOTAL	43281	45098	44205	46021	43956	45772	44882	46696
Lb/hp	92	96	94	98	85	88	86	90
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
520/85R46 - Triples - Cast/Steel/Steel								
FRONT	27240	26987	26901	26645	27165	26910	26824	26570
REAR	20274	22344	21537	23609	21023	23096	22291	24359
TOTAL	47514	49331	48438	50254	48189	50005	49115	50929
Lb/hp	101	105	103	107	93	96	94	98
FRONT	57%	55%	56%	53%	56%	55%	55%	52%
REAR	43%	45%	44%	47%	44%	45%	45%	48%
620/70R46 - Duals - Cast/Steel								
FRONT	24947	24694	24608	24352	24873	24617	24531	24277
REAR	17981	20051	19244	21316	18730	20803	19998	22066
TOTAL	42928	44745	43852	45669	43603	45420	44529	46343
Lb/hp	91	95	93	97	84	87	86	89
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
650/85R38 - Duals - Cast/Steel								
FRONT	25146	24892	24806	24551	25071	24815	24729	24476
REAR	18179	20249	19445	21515	18929	21001	20197	22264
TOTAL	43325	45142	44251	46066	44000	45816	44926	46740
Lb/hp	92	96	94	98	85	88	86	90
FRONT	58%	55%	56%	53%	57%	55%	55%	52%
REAR	42%	45%	44%	47%	43%	45%	45%	48%
IF650/85R38 - Duals - Cast/Steel								
FRONT	25675	25421	25335	26082	25600	25344	25258	25005
REAR	18708	20779	19972	22639	19458	21530	20726	22794
TOTAL	44383	46200	45307	48721	45058	46875	45984	47798
Lb/hp	94	98	96	104	87	90	88	95
FRONT	58%	55%	56%	54	57%	54%	55%	53%
REAR	42%	45%	44%	46	43%	46%	45%	47%
710/70R42 - Duals - Cast/Steel								
FRONT	25741	25488	25402	25146	25666	25410	25324	25071
REAR	18775	20845	20038	22110	19524	21596	20792	22860
TOTAL	44516	46332	45439	47256	45190	47007	46116	47931
Lb/hp	95	99	97	101	87	90	89	92
FRONT	58%	55%	56%	54%	57%	54%	55%	52%
REAR	42%	45%	44%	46%	43%	46%	45%	48%

TO84419,000012E -19-03DEC14-1/1

Unballasted Tractor Weight Chart (9470R and 9520R) — Pounds (Continued)

Tractor	9470R OPTIONS				9520R OPTIONS			
	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO
IF710/70R42 - Duals - Cast/Steel								
FRONT	26050	25796	26802	25455	25975	25719	25633	25380
REAR	19083	21153	20851	22419	19833	21905	21100	23168
TOTAL	45133	46950	46057	47873	45808	47624	46734	48548
Lb/hp	96	100	98	102	88	92	90	93
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
800/70R38 - Duals - Cast/Steel								
FRONT	26292	26039	25953	25697	26217	25962	25876	25622
REAR	19326	21396	20589	22661	20075	22148	21343	23411
TOTAL	45618	47435	46542	48358	46293	48109	47219	49033
Lb/hp	97	101	99	103	89	93	91	94
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
IF 800/70R38 - Duals - Cast/Steel								
FRONT	26116	25862	25776	25521	26041	25785	25699	25446
REAR	19149	21219	20413	22485	19899	21971	22214	23234
TOTAL	45265	47082	47785	48006	45940	47756	46866	48680
Lb/hp	96	100	98	102	88	92	90	94
FRONT	58%	55%	56%	53%	57%	54%	55%	52%
REAR	42%	45%	44%	47%	43%	46%	45%	48%
480/80R50 - Triples- Cast/Steel/Steel								
FRONT	27020	26766	26680	26425	26945	26689	26603	26350
REAR	20053	22123	21316	23389	20803	22875	22070	24138
TOTAL	47073	48890	47997	49813	47748	49564	48674	50488
Lb/hp	100	104	102	106	92	95	94	97
FRONT	57%	55%	56%	53%	56%	54%	55%	52%
REAR	43%	45%	44%	47%	44%	46%	45%	48%
IF480/80R50 - Triples - Cast/Steel/Steel								
FRONT	27725	27472	27386	27130	27650	27395	27309	27055
REAR	20759	22829	22022	24094	21508	23581	22776	24844
TOTAL	48484	50301	49408	51224	49159	50975	50085	51899
Lb/hp	103	107	105	109	95	98	96	100
FRONT	57%	55%	55%	53%	56%	54%	55%	52%
REAR	43%	45%	45%	47%	44%	46%	45%	48%

TO84419,000012F -19-30OCT14-1/1

Unballasted Tractor Weight Chart (9570R and 9620R) — Pounds

NOTE: Unballasted weights are calculated by averaging and are figured based on tractor with a full tank of fuel. Each tractor will be different. Have your tractor weighed for exact weight splits.

Divide weight in pounds by 2.2 to obtain kg.

All values for 9570R and 9620R are the same except for lb/hp. This is shown as 9570R value first, followed by 9620R value.

Tractor	9570R and 9620R OPTIONS							
	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO
480/80R46 - Triples - Cast/Steel/Steel					520/85R42 - Triples - Cast/Steel/Steel			
FRONT	27452	27376	27112	26859	25975	25721	25635	25382
REAR	21665	22931	22928	24998	20188	22258	21451	23521
TOTAL	49117	50933	50040	51857	46163	47979	47086	48903
Lb/hp	86,79	89,82	88,81	84,91	81,74	84,77	76,83	86,79
FRONT	56%	54%	54%	53%	54%	54%	54%	52%
REAR	44%	46%	46%	47%	46%	46%	46%	48%
620/70R42 - Duals - Cast/Steel					710/70R38 - Duals - Cast/Steel			
FRONT	24520	24266	24180	23927	25027	24773	24687	24434
REAR	18733	20803	19996	22066	19240	21310	20503	22573
TOTAL	43252	45069	44176	45993	44267	46083	45190	47007
Lb/hp	76,70	79,73	78,71	81,74	78,71	81,74	79,73	82,76
FRONT	57%	54%	55%	52%	57%	54%	55%	52%
REAR	43%	46%	45%	48%	43%	46%	45%	48%
IF710/70R38 - Duals - Cast/Steel					520/85R46 - Triples - Cast/Steel/Steel			
FRONT	25097	24842	24756	24502	26967	26713	26627	26374
REAR	19306	21378	22283	22641	21180	23250	22443	24513
TOTAL	44403	46220	45329	47144	48147	49963	49070	50887
Lb/hp	78,72	81,75	78,72	83,76	84,78	88,81	86,79	89,82
FRONT	57%	54%	57%	52%	56%	54%	54%	53%
REAR	43%	46%	43%	48%	44%	46%	46%	47%
620/70R46 - Duals - Cast/Steel					650/85R38 - Duals - Cast/Steel			
FRONT	24674	24421	24335	24081	24873	24619	24533	24279
REAR	18887	20957	20150	22220	19085	21156	20349	22419
TOTAL	43561	45378	44485	46301	43958	45775	44482	46698
Lb/hp	76,70	80,73	78,72	81,75	77,71	80,74	79,72	82,75
FRONT	57%	54%	55%	52%	57%	54%	55%	52%
REAR	43%	46%	45%	48%	43%	46%	45%	48%
IF650/85R38 - Duals - Cast/Steel					710/70R42 - Duals - Cast/Steel			
FRONT	25402	25148	25062	25402	25468	25214	25128	24875
REAR	19615	21685	20878	19615	19681	21751	20944	23014
TOTAL	45016	46833	45940	45016	45148	46965	46072	47889
Lb/hp	73,79	82,76	81,74	79,73	73,73	82,76	81,74	84,77
FRONT	56%	54%	55%	56%	56%	54%	55%	52%
REAR	44%	46%	45%	44%	44%	46%	45%	48%

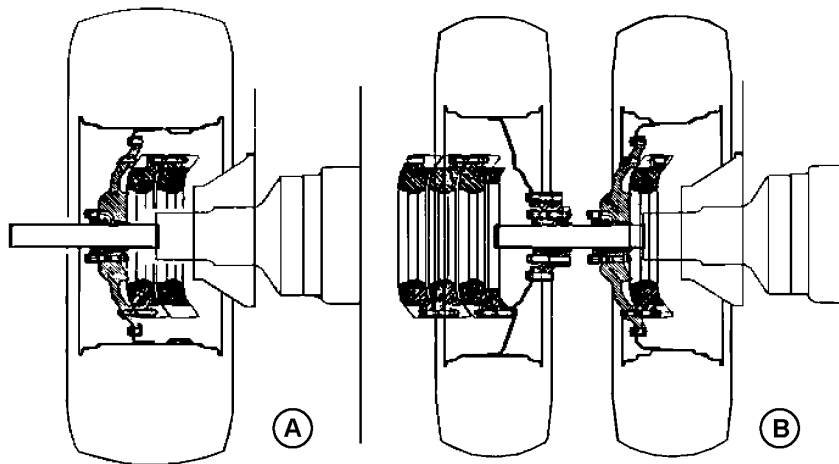
TO84419,0000130 -19-31OCT14-1/1

Unballasted Tractor Weight Chart (9570R and 9620R) — Pounds (Continued)

Tractor	9570R and 9620R OPTIONS							
	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO	NO HITCH NO PTO	HITCH - NO PTO	PTO - NO HITCH	HITCH and PTO
IF710/70R42 - Duals - Cast/Steel					800/70R38 - Duals - Cast/Steel			
FRONT	25776	25523	25437	25183	26019	25765	25679	25426
REAR	19989	22059	21253	23323	20232	22302	21495	23565
TOTAL	45766	47582	46689	48506	46251	48067	47174	48991
Lb/hp	80,74	83,77	82,75	85,78	81,75	84,78	83,76	86,79
FRONT	56%	54%	55%	52%	56%	54%	54%	52%
REAR	44%	46%	45%	48%	44%	46%	46%	48%
IF800/70R38 - Duals - Cast/Steel					480/80R50 - Triples - Cast/Steel/Steel			
FRONT	25843	25589	25503	25250	26746	26493	26407	26153
REAR	20055	22126	21319	23389	20959	23029	22223	24293
TOTAL	45898	47715	46822	48638	47706	49522	48630	50446
Lb/hp	81,74	84,77	82,76	85,78	77,84	87,80	85,78	81,89
FRONT	56%	54%	55%	52%	56%	54%	54%	52%
REAR	44%	46%	45%	48%	44%	46%	46%	48%
IF480/80R50 - Triples - Cast/Steel/Steel								
FRONT	27452	27198	27112	28772	—	—	—	—
REAR	21665	23735	22928	25784	—	—	—	—
TOTAL	51814	50933	50040	51857	—	—	—	—
Lb/hp	86,79	89,82	88,81	91,84	—	—	—	—
FRONT	56%	54%	56%	52%	—	—	—	—
REAR	44%	46%	46%	48%	—	—	—	—

TO84419,0000131 -19-03NOV14-1/1

Using Cast Hub Wheel Weights



A—Single Wheel (110 mm Axle) B—Dual Wheels (110 and 120 mm Axle)

CAUTION: When installing weights, use appropriate equipment or see your John Deere™ Dealer.

Cast iron weights of 72 kg (159 lb.), 205 kg (452 lb.), or 625 kg (1378 lb.) are available for cast or steel wheels.

Weights can be installed on inside or outside of wheel. Also 625 kg (1378 lb.) cast weights are available for inside of cast wheel. Use diagrams showing placement of weights or see your John Deere™ Dealer.

TO84419,0000132 -19-24NOV14-1/2

RW26744 —UN—22NOV99

Weight Attaching Cap Screws—Specifications

M16-Cap Screw—Torque	310 N·m (228 lb.-ft.)
M20-Cap Screw—Torque	610 N·m (450 lb.-ft.)

Install cast weights on wheel.

For additional weights, install cap screws in previous weight. Rotate alternate weight to align cap screws with mounting holes (A).

Tighten cap screws and then retighten after driving approximately 100 m (109 yd.).

Retighten cap screws after working **3 HOURS** and again after **10 HOURS**.

Check torque every **250 hours**.

IMPORTANT: Inside wheel weight must have at least 25 mm (1 in.) clearance between weight and tractor components.

Do NOT stack more than 690 kg (1520 lb.) of weights together—three 205 kg (452 lb.) weights and one 72 kg (159 lb.) weight.



Installing Cast Weights on Wheels

A—Mounting Holes

RXA0119716 —UN—11AUG11

TO84419,0000132 -19-24NOV14-2/2

Front Weight Frame

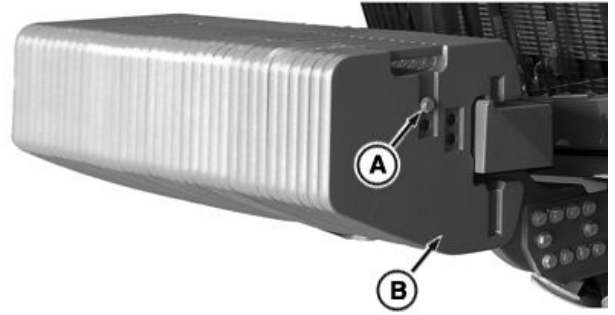
IMPORTANT: Front frame weight support is not intended to be used for pushing other tractors or implements and should not be used for securing chains or cables as tow points.

A field installed tow cable kit is available through John Deere™ Parts. If tow cable kit is installed on a tractor without front weight support, then support should also be ordered through service parts to attach cable onto front of tractor frame.

Front weights (B) are secured on support by a center pin, retainers, and long cap screws (A).

Front weight support extends out in front of tractor and has following effect on front axle weight and rear axle weight because of weight transfer effect:

	Actual Weight	Weight Transfer to Front Axle	Weight Reduced From Rear Axle
Front Weight Support	390 kg (860 lb.)	+207 kg (+456 lb.)	-69 kg (-152 lb.)
26 Weights and Support	1308 kg (2884 lb.)	+2058 kg (+4538 lb.)	-879 kg (-1938 lb.)
Total	1507 kg (3744 lb.)	+2265 kg (+4994 lb.)	-948 kg (-2090 lb.)
Front Weight Support	385 kg (850 lb.)	+612 kg (+1350 lb.)	-227 kg (-500 lb.)
36 Weights and Support	1933 kg (4262 lb.)	+3420 kg (+7540 lb.)	-1406 kg (-3100 lb.)
Total	2318 kg (5112 lb.)	+4032 kg (+8890 lb.)	-1621 kg (-3600 lb.)



Front Weight Support With Weights

A—Cap Screw

B—Front Weights

TO84419,0000133 -19-04DEC14-1/1

Implement Guidelines

Front-Mounted Implements:

Front frame reinforcement is recommended whenever tractor has front-mounted dozer blades or spray tanks, is used in scraper applications, or is equipped with front frame ballast.

Reinforcement attaches to underside of front axle and to outside of front frame behind front axle. See your John Deere™ Dealer for parts and assistance.

Towed Scrapers:

IMPORTANT: Under scraper or severe applications, tighten wheel bolts every 2 HOURS until all cap screws remain at 600 N·m (445 lb.-ft.).

Follow manufacturers instruction in attaching and using scraper.

NON-APPROVED USES

Spray Tanks - Mounted forward of grille screen

Spray Tanks - Unbalanced

Scrapers - Without proper tractor/scraper drawbar and frame/axle supports (9470R, 9520R, 9570R and 9620R)

Tiling Plows - Are not approved

Fully Mounted Hitch Implements - Center of gravity greater than 609 mm (24 in.) beyond hitch points

Fully Mounted Hitch Implements - Total weight exceeds 6350 kg (14000 lb.) - Category 4 (Without additional implement mounted lift-assist)

Fully Mounted Hitch Implements - Total weight exceeds 6123 kg (13500 lb.) - Category 3 (Without additional implement mounted lift-assist)

9470R, 9520R, 9570R and 9620R with Category 3 Hitch - Deep ripping/plowing applications using full horsepower (Use Category 4 hitch)

Extreme Draft Loads - Requiring two tractors hooked in tandem

Tow Hooks - Adding tow hooks is not an option

TO84419,0000135 -19-17NOV14-1/1

Measuring Wheel Slip (Manually)

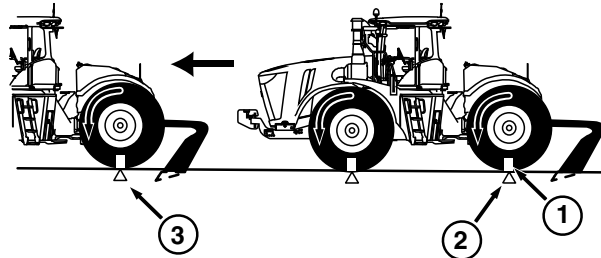
NOTE: Wheel slip can be easily determined, automatically, with Performance Monitor, if equipped with optional radar unit. (See Controls and Instruments section in this Operator's Manual.)

Radar will display true ground speed on corner post below 26 km/h (16 mph) and actual wheel speed above 27 km/h (16 mph).

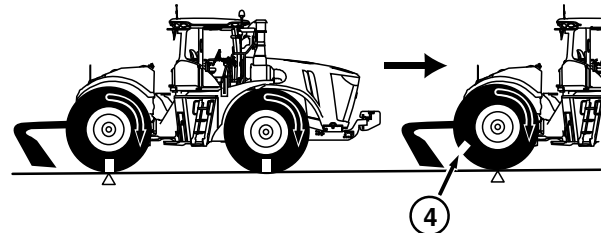
1. Mark a tire.
2. With tractor working, mark starting point on ground.
3. Follow tractor and mark ground again where tire completes 10 full revolutions.
4. At working speed, go back with implement raised. Count revolutions between same two marks.
5. Use second count and chart to determine slippage. Remember 8—12 percent is ideal.

Wheel Slippage Chart		
Wheel Revolutions (Step 4)	Percent of Slip	Result
10	0	Remove Ballast
9-1/2	5	
9-1/3	8	Proper Ballast
8-3/4	12	
8	20	Add Ballast
7-1/2	25	
7	30	

6. Adjust ballast or load to give 8—12 percent slippage at 4.1 mph (6.6 km/h), without exceeding maximum ballast level.



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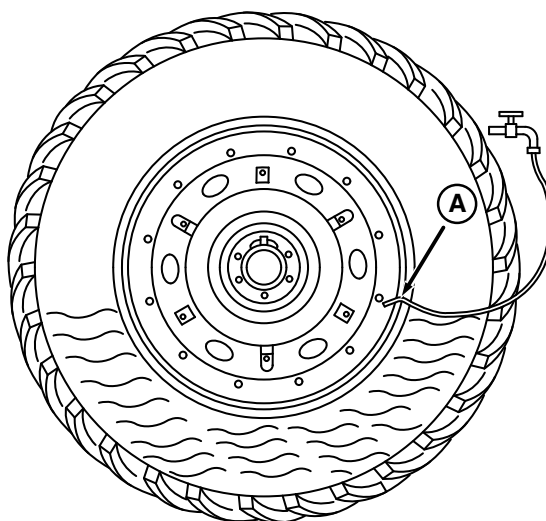


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NOTE: Available horsepower is greatly reduced when wheel slip drops below eight percent.

TO84419,0000136 -19-20NOV14-1/1

Using Liquid Ballast



A—Valve

Fill tube-type or tubeless tires up to valve level (40 percent full) with valve (A) in 4 o'clock position. Radial and bias tires hold same amount of liquid. When putting liquid in rear tires, make sure all tires on axle have same amount of liquid fill.

Liquid Weight per Tire		
Tire Size	40% Fill	75% Fill
18.4R46	301 kg (664 lb.)	595 kg (1312 lb.)
480/80R46	274 kg (604 lb.)	548 kg (1208 lb.)
480/80R50 IF480/80R50	288 kg (635 lb.)	575 kg (1268 lb.)
520/85R42	325 kg (717 lb.)	655 kg (1444 lb.)
520/85R46	351 kg (774 lb.)	703 kg (1550 lb.)
20.8R42	340 kg (748 lb.)	682 kg (1504 lb.)
620/70R42	390 kg (859 lb.)	779 kg (1717 lb.)
650/85R38 IF650/85R38	561 kg (1237 lb.)	597 kg (1316 lb.)
710/70R38 IF710/70R38	462 kg (1019 lb.)	924 kg (2037 lb.)
710/70R42 IF710/70R42	523 kg (1154 lb.)	1047 kg (2308 lb.)
800/70R38 IF800/70R38	650 kg (1433 lb.)	1270 kg (2800 lb.)
850/60R38	477 kg (1052 lb.)	954 kg (2103 lb.)
900/50R42	532 kg (1173 lb.)	1065 kg (2348 lb.)

CAUTION: Avoid possible injury. Installing liquid ballast requires special equipment and training. See your John Deere™ Dealer or a tire service store.

IMPORTANT: Liquid ballast is not preferred. Liquid weight greatly increases tire stiffness at lower operating pressures, and greatly reduces ride performance.

Use calcium chloride to prevent water from freezing. A mixture of 3.5 lb. of calcium chloride per gallon (0.42 kg per liter) will not freeze solid above -50°F (-45°C).

IMPORTANT: A maximum liquid fill of 40 percent is recommended for better tractor performance.

NOTE: Use of alcohol as liquid ballast is not recommended.

In areas where freezing is not a problem and water is used as ballast, multiply weight shown in table by 0.8.

TO84419,0000137 -19-20NOV14-1/1

RW71542 —UN—05SEP00

Wheels, Tires, and Treads

Service Tires Safely

Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims, or missing lug bolts and nuts.



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DX,WW,RIMS -19-19AUG09-1/1

Tire Group Sizes

Tire Group Sizes						
Tire Section Width mm (in)						
Group Size	480 (18.9)	520 (20.8)	620 (24.4)	650 (25.6)	710 (28)	800 (30.5)
47	480/80R46	520/85R42	620/70R42	N/A	710/70R38 IF710/70R38	N/A
48	480/80R50 IF480/80R50	520/85R46	620/70R46	650/85R38 IF650/85R38	710/70R42 IF710/70R42	800/70R38 IF800/70R38

NOTE: If tire group change is desired, see your John Deere™ dealer.

TO84419,0000139 -19-10SEP15-1/1

Tire Load Index

IMPORTANT: Tire load capacity may exceed allowable axle loading. Tractor should be ballasted according to engine power and weight split guidelines. See Performance Ballasting Section in this Operator's Manual for more information.

maximum amount of weight that can be supported by each tire at manufacturer's maximum rated pressure.

Load carrying capacity per tire is reduced for tractors equipped with duals and triple.

Tire industry uses a number called "load index" to define load rating of a tire. This chart lists, for a given load index,

Load Index	Maximum Load per Tire ^a		Load Index	Maximum Load per Tire ^a	
	Singles kg (lb)	Duals kg (lb)		Singles kg (lb)	Duals kg (lb)
137	2300 (5071)	2024 (4462)	159	4375 (9645)	3850 (8488)
138	2360 (5203)	2077 (4579)	160	4500 (9921)	3960 (8730)
139	2430 (5357)	2138 (4714)	161	4625 (10196)	4070 (8973)
140	2500 (5512)	2200 (4850)	162	4750 (10472)	4180 (9215)
141	2575 (5677)	2266 (4996)	163	4875 (10748)	4290 (9458)
142	2650 (5842)	2332 (5141)	164	5000 (11023)	4400 (9700)
143	2725 (6008)	2398 (5287)	165	5150 (11354)	4532 (9991)
144	2800 (6173)	2464 (5432)	166	5300 (11684)	4664 (10282)
145	2900 (6393)	2552 (5626)	167	5450 (12015)	4796 (10573)
146	3000 (6614)	2640 (5820)	168	5600 (12346)	4928 (10864)
147	3075 (6779)	2706 (5966)	169	5800 (12787)	5104 (11252)
148	3150 (6945)	2772 (6111)	170	6000 (13228)	5280 (11640)
149	3250 (7165)	2860 (6305)	171	6150 (13558)	5412 (11931)
150	3350 (7385)	2948 (6499)	172	6300 (13889)	5544 (12222)
151	3450 (7606)	3036 (6693)	173	6500 (14330)	5720 (12610)
152	3550 (7826)	3124 (6887)	174	6700 (14771)	5896 (12998)
153	3650 (8047)	3212 (7081)	175	6900 (15212)	6072 (13386)
154	3750 (8267)	3300 (7275)	176	7100 (15653)	6248 (13774)
155	3875 (8543)	3410 (7518)	177	7300 (16094)	6424 (14162)
156	4000 (8818)	3520 (7760)	178	7500 (16535)	6600 (14550)
157	4125 (9094)	3630 (8003)	179	7750 (17086)	6820 (15036)
158	4250 (9370)	3740 (8245)	180	8000 (17637)	7040 (15521)

^aAt manufacturer's maximum rated pressure.

RW29387,00003E7 -19-11SEP15-1/1

Tire Sidewall Information

520 / 85 R 42 158 A8
 (A) (B) (C) (D) (E) (F)

RXA0149658 —JUN—13AUG15

Displayed on tire sidewalls is information useful in selecting and working with tires.

- A** — Tire section width —Width in millimeters.
- B** — Aspect ratio — Ratio of height to tire section width.
- C** — Construction type —R = Radial, B = Bias.
- D** — Rim diameter —Diameter in inches (not total tire height or group size).
- E** — Load index —Numerical code indicates tire load-carrying capacity. Higher load index number designates higher load capacity. See Tire Load Index chart in this section of this Operator's Manual.
- F** — Speed rating —Maximum speed tire is designed to travel.

Additional information that may be displayed on sidewall.

Tread pattern — Indicates tread design and tire usage. Designs offered are all lug- or bar-type tires and are separated into one of three specifications: R1, R1W, or R2.

Direction of rotation — Icon (usually an arrow or group of arrows) indicating tire rotation direction.

Manufacturer name — Name of tire manufacturer.

Max load and pressure information — Maximum load a tire is permitted to carry under specified pressure and operating conditions. See Recommended Pressures charts in this section of this Operator's Manual.

Safety warnings — Important information provided by tire manufacturer.

TO84419,0000157 -19-24AUG15-1/1

Tire Inflation Pressure Guidelines

Check tire inflation pressure *at least* every two weeks, while tires are cool using an accurate dial or stick-type gauge having 10 kPa (0.1 bar) (1 psi) graduations.

NOTE: Use a special air-water gauge and measure with valve stem at bottom if tires contain liquid ballast.

Checking inflation pressures of inner wheels is much easier, if valve stems of inner and outer tires are aligned at time outer wheel is installed.

Correctly inflated radial tires show a deflection of sidewall. This is normal and does not harm tire.

Inflation pressures less than 80 kPa (0.8 bar) (12 psi) should be monitored frequently because of increased risk of low pressure air leaks.

NOTE: *Bead slip can be experienced in high-traction conditions, with single tire usage. Increasing inflation pressure will help but will reduce traction.*

Maximum tire pressure is specified on tire sidewall.

Determine correct tire pressure by weighing tractor using following procedure:

- Front axle weight with implement lowered
- Rear axle weight with implement raised

Set tire inflation pressures according to weight measured. *Ballasting and tire inflation pressure may need to be adjusted when operating conditions change.* Use inflation tire charts on following pages.

NOTE: *If tractor is equipped with front-mounted implement, raise implement when determining front axle weight and lower implement when determining rear axle weight. If tractor is equipped with both a front and rear-mounted implement, raise both implements.*

IMPORTANT: Inflation pressures exceeding heavy ballast guidelines of 76 kg/kW (125 lbs/hp) are not recommended. Tractor efficiency will be decreased. Use larger dual or triple wheels.

Managing Tire Inflation Pressures

IMPORTANT: Integral implements transfer significant weight to rear axle. Include this added weight when determining correct inflation pressures. (See chart in Optimum Performance/Ballast section.)

Tractors operating on steep side slopes or furrow plowing should increase rear tire pressures 30 kPa (0.3 bar) (4 psi) above values listed for base pressures 80 kPa (0.8 bar) (12 psi) and above to compensate for lateral weight transfer. For base pressures below 80 kPa (0.8 bar) (12 psi), pressure should be increased by 30 percent.

NOTE: *All tires on an axle must have same inflation pressure.*

Tractors with heavy hitch-mounted implements require increased rear tire inflation pressures to carry increased weight during transport.

Reduce pressures to correct pressure for towed implement operation.

Using Tubes with Tubeless Radial Tires

Inflation pressure can be set as low as 40 kPa (0.4 bar) (6 psi), if high quality (natural rubber) tubes are used. Lower quality tubes require minimum inflation pressure of 80 kPa (0.8 bar) (12 psi). Direct questions regarding tube quality to your tire dealer.

TO84419,000013A -19-14MAY14-1/1

Recommended Inflation Pressures—Group 47

	480/80R46		520/85R42				620/70R42		710/70R38		IF710/70 R38
Load Index	158		157		162		160	166	166	171	178
Speed Rating	A8 / B		A8 / B		A8 / B		A8	A8 / B	A8 / D	A8 / B	A8
	Dual ^{a,b}	Triple	Dual ^c	Triple ^d	Dual	Triple	Dual	Dual	Dual	Dual	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
5900 (13000)	41 ^{ab} (0.4)(6)	41 (0.4)(6)	41 ^c (0.4)(6)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
6120 (13500)	48 ^{ab} (0.5)(7)	41 (0.4)(6)	41 ^c (0.4)(6)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
6350 (14000)	48 ^{ab} (0.5)(7)	41 (0.4)(6)	41 ^c (0.4)(6)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
6580 (14500)	55 ^{ab} (0.6)(8)	41 (0.4)(6)	41 ^c (0.4)(6)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
6800 (15000)	62 ^{ab} (0.6)(9)	41 (0.4)(6)	48 ^c (0.5)(7)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
7030 (15500)	62 ^b (0.6)(9)	41 (0.4)(6)	48 ^c (0.5)(7)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
7260 (16000)	69 ^b (0.7)(10)	41 (0.4)(6)	55 ^c (0.6)(8)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	48 (0.5)(7)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
7480 (16500)	69 ^b (0.7)(10)	41 (0.4)(6)	55 ^c (0.6)(8)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	48 (0.5)(7)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
7720 (17000)	76 ^b (0.8)(11)	41 (0.4)(6)	62 ^c (0.6)(9)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	55 (0.6)(8)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
7950 (17500)	83 ^b (0.8)(12)	41 (0.4)(6)	62 (0.6)(9)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	55 (0.6)(8)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
8170 (18000)	83 ^b (0.8)(12)	41 (0.4)(6)	69 (0.7)(10)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	62 (0.6)(9)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
8400 (18500)	90 ^b (0.9)(13)	48 (0.5)(7)	69 (0.7)(10)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	62 (0.6)(9)	103 (1.0)(15)	41 (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)
8630 (19000)	90 ^b (0.9)(13)	48 (0.5)(7)	76 (0.8)(11)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	69 (0.7)(10)	103 (1.0)(15)	48 (0.5)(7)	69 (0.7)(10)	48 (0.5)(7)
8850 (19500)	97 ^b (1.0)(14)	55 (0.6)(8)	76 (0.8)(11)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	69 (0.7)(10)	103 (1.0)(15)	48 (0.5)(7)	69 (0.7)(10)	48 (0.5)(7)
9080 (20000)	103 ^b (1.0)(15)	55 (0.6)(8)	83 (0.8)(12)	41 ^d (0.4)(6)	103 (1.0)(15)	103 (1.0)(15)	69 (0.7)(10)	103 (1.0)(15)	48 (0.5)(7)	69 (0.7)(10)	48 (0.5)(7)
9530 (21000)	110 (1.1)(16)	55 (0.6)(8)	90 (0.9)(13)	48 ^d (0.5)(7)	103 (1.0)(15)	103 (1.0)(15)	76 (0.8)(11)	103 (1.0)(15)	55 (0.6)(8)	69 (0.7)(10)	48 (0.5)(7)
9990 (22000)	110 (1.1)(16)	62 (0.6)(9)	90 (0.9)(13)	55 ^d (0.6)(8)	103 (1.0)(15)	103 (1.0)(15)	83 (0.8)(12)	103 (1.0)(15)	62 (0.6)(9)	76 (0.8)(11)	55 (0.6)(8)
10440 (23000)	117 (1.2)(17)	69 (0.7)(10)	97 (1.0)(14)	62 ^d (0.6)(9)	103 (1.0)(15)	103 (1.0)(15)	90 (0.9)(13)	103 (1.0)(15)	69 (0.7)(10)	76 (0.8)(11)	55 (0.6)(8)
10900 (24000)	124 (1.2)(18)	76 (0.8)(11)	103 (1.0)(15)	62 ^d (0.6)(9)	103 (1.0)(15)	103 (1.0)(15)	97 (1.0)(14)	103 (1.0)(15)	76 (0.8)(11)	83 (0.8)(12)	55 (0.6)(8)
11350 (25000)	131 (1.3)(19)	83 (0.8)(12)	110 (1.1)(16)	69 (0.7)(10)	103 (1.0)(15)	103 (1.0)(15)	103 (1.0)(15)	103 (1.0)(15)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)
11800 (26000)	138 (1.4)(20)	90 (0.9)(13)	117 (1.2)(17)	76 (0.8)(11)	110 (1.1)(16)	110 (1.1)(16)	110 (1.1)(16)	110 (1.1)(16)	83 (0.8)(12)	83 (0.8)(12)	62 (0.6)(9)
12260 (27000)	152 (1.5)(22)	97 (1.0)(14)	117 (1.2)(17)	83 (0.8)(12)	117 (1.2)(17)	117 (1.2)(17)	117 (1.2)(17)	117 (1.2)(17)	90 (0.9)(13)	90 (0.9)(13)	69 (0.7)(10)
12701 (28000)	159 (1.6)(23)	103 (1.0)(15)	124 (1.2)(18)	90 (0.9)(13)	124 (1.2)(18)	124 (1.2)(18)	117 (1.2)(17)	117 (1.2)(17)	97 (1.0)(14)	97 (1.0)(14)	69 (0.7)(10)
13154 (29000)	165 (1.7)(24)	110 (1.1)(16)	131 (1.3)(19)	90 (0.9)(13)	131 (1.3)(19)	131 (1.3)(19)	124 (1.2)(18)	124 (1.2)(18)	103 (1.0)(15)	97 (1.0)(14)	76 (0.8)(11)
13608 (30000)	179 (1.8)(26)	110 (1.1)(16)	138 (1.4)(20)	97 (1.0)(14)	145 (1.4)(21)	145 (1.4)(21)	131 (1.3)(19)	131 (1.3)(19)	103 (1.0)(15)	103 (1.0)(15)	83 (0.8)(12)

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TO84419,000013B -19-09SEP15-1/2

Wheels, Tires, and Treads

	480/80R46		520/85R42				620/70R42		710/70R38		IF710/70 R38
Load Index	158		157		162		160	166	166	171	178
Speed Rating	A8 / B		A8 / B		A8 / B		A8	A8 / B	A8 / D	A8 / B	A8
	Dual ^{a,b}	Triple	Dual ^c	Triple ^d	Dual	Triple	Dual	Dual	Dual	Dual	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
14061 (31000)	200 (2.0)(29)	117 (1.2)(17)	145 (1.4)(21)	103 (1.0)(15)	152 (1.5)(22)	152 (1.5)(22)	138 (1.4)(20)	138 (1.4)(20)	110 (1.1)(16)	110 (1.1)(16)	90 (0.9)(13)
14515 (32000)	214 (2.1)(31)	117 (1.2)(17)	152 (1.5)(22)	103 (1.0)(15)	165 (1.7)(24)	165 (1.7)(24)	138 (1.4)(20)	145 (1.4)(21)	110 (1.1)(16)	110 (1.1)(16)	90 (0.9)(13)
14969 (33000)	234 (2.3)(34)	124 (1.2)(18)	159 (1.6)(23)	110 (1.1)(16)	179 (1.8)(26)	179 (1.8)(26)	152 (1.5)(22)	152 (1.5)(22)	117 (1.2)(17)	117 (1.2)(17)	97 (1.0)(14)
15422 (34000)	—	131 (1.3)(19)	—	110 (1.1)(16)	193 (1.9)(28)	193 (1.9)(28)	159 (1.6)(23)	159 (1.6)(23)	124 (1.2)(18)	124 (1.2)(18)	97 (1.0)(14)
15873 (35000)	—	138 (1.4)(20)	—	117 (1.2)(17)	200 (2.0)(29)	200 (2.0)(29)	—	165 (1.7)(24)	124 (1.2)(18)	131 (1.3)(19)	103 (1.0)(15)
16326 (36000)	—	138 (1.4)(20)	—	117 (1.2)(17)	228 (2.3)(33)	228 (2.3)(33)	—	179 (1.8)(26)	131 (1.3)(19)	131 (1.3)(19)	110 (1.1)(16)
16780 (37000)	—	145 (1.4)(21)	—	124 (1.2)(18)	—	110 (1.1)(16)	—	193 (1.9)(28)	138 (1.4)(20)	138 (1.4)(20)	110 (1.1)(16)
17233 (38000)	—	152 (1.5)(22)	—	131 (1.3)(19)	—	117 (1.2)(17)	—	200 (2.0)(29)	145 (1.4)(21)	145 (1.4)(21)	110 (1.1)(16)
17687 (39000)	—	159 (1.6)(23)	—	131 (1.3)(19)	—	124 (1.2)(18)	—	214 (2.1)(31)	152 (1.5)(22)	152 (1.5)(22)	117 (1.2)(17)
18140 (40000)	—	165 (1.7)(24)	—	138 (1.4)(20)	—	131 (1.3)(19)	—	228 (2.3)(33)	152 (1.5)(22)	159 (1.6)(23)	117 (1.2)(17)
18594 (41000)	—	179 (1.8)(26)	—	145 (1.4)(21)	—	138 (1.4)(20)	—	241 (2.4)(35)	159 (1.6)(23)	159 (1.6)(23)	124 (1.2)(18)
19047 (42000)	—	186 (1.9)(27)	—	152 (1.5)(22)	—	145 (1.4)(21)	—	—	—	172 (1.7)(25)	131 (1.3)(19)
19501 (43000)	—	200 (2.0)(29)	—	152 (1.5)(22)	—	152 (1.5)(22)	—	—	—	186 (1.9)(27)	131 (1.3)(19)
19954 (44000)	—	214 (2.1)(31)	—	159 (1.6)(23)	—	159 (1.6)(23)	—	—	—	200 (2.0)(29)	138 (1.4)(20)
20408 (45000)	—	221 (2.2)(32)	—	—	—	165 (1.7)(24)	—	—	—	214 (2.1)(31)	138 (1.4)(20)
20861 (46000)	—	234 (2.3)(34)	—	—	—	179 (1.8)(26)	—	—	—	221 (2.2)(32)	145 (1.4)(21)
21315 (47000)	—	241 (2.4)(35)	—	—	—	186 (1.9)(27)	—	—	—	234 (2.3)(34)	152 (1.5)(22)
21768 (48000)	—	—	—	—	—	193 (1.9)(28)	—	—	—	—	159 (1.6)(23)
22222 (49000)	—	—	—	—	—	200 (2.0)(29)	—	—	—	—	165 (1.7)(24)
22675 (50000)	—	—	—	—	—	221 (2.2)(32)	—	—	—	—	172 (1.7)(25)
23129 (51000)	—	—	—	—	—	234 (2.3)(34)	—	—	—	—	172 (1.7)(25)
23582 (52000)	—	—	—	—	—	—	—	—	—	—	179 (1.8)(26)
24036 (53000)	—	—	—	—	—	—	—	—	—	—	193 (1.9)(28)
24489 (54000)	—	—	—	—	—	—	—	—	—	—	207 (2.1)(30)
24943 (55000)	—	—	—	—	—	—	—	—	—	—	214 (2.1)(31)
25396 (56000)	—	—	—	—	—	—	—	—	—	—	228 (2.3)(33)

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Wheels, Tires, and Treads

	480/80R46		520/85R42				620/70R42		710/70R38		IF710/70 R38
Load Index	158		157		162		160	166	166	171	178
Speed Rating	A8 / B		A8 / B		A8 / B		A8	A8 / B	A8 / D	A8 / B	A8
	Dual ^{a,b}	Triple	Dual ^c	Triple ^d	Dual	Triple	Dual	Dual	Dual	Dual	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
25850 (57000)	—	—	—	—	—	—	—	—	—	—	234 (2.3)(34)
26303 (58000)	—	—	—	—	—	—	—	—	—	—	241 (2.4)(35)

^aFor Michelin dual tire option, recommended pressure is 62 kPa (0.6 bar) (9 psi) up to axle load of 6803 kg (15000 lbs).

^bFor Mitas dual tire option, recommended pressure is 103 kPa (1.0 bar) (15 psi) up to axle load of 9070 kg (20000 lbs).

^cFor Michelin dual tire option, recommended pressure is 9 kPa (0.6 bar) (9 psi) up to axle load of 7710 kg (17000 lbs).

^dFor Michelin triple tire option, recommended pressure is 9 kPa (0.6 bar) (9 psi) up to axle load of 10884 kg (24000 lbs).

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Recommended Inflation Pressures—Group 48

	480/80R50		IF480/80R50		520/85R46		620/70R46	650/85R38	IF650/85R38
Load Index	159		166		158		167	173	179
Speed Rating	A8		A8		A8		A8	A8 / B / D	D
	Dual	Triple	Dual	Triple	Dual ^a	Triple ^b	Dual	Dual ^{c,d}	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
5900 (13000)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	41 (0.4)(6)	62 ^a (0.6)(9)	62 ^b (0.6)(9)	41 (0.4)(6)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
6120 (13500)	62 (0.6)(9)	62 (0.6)(9)	48 (0.5)(7)	41 (0.4)(6)	62 ^a (0.6)(9)	62 ^b (0.6)(9)	41 (0.4)(6)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
6350 (14000)	62 (0.6)(9)	62 (0.6)(9)	48 (0.5)(7)	41 (0.4)(6)	62 ^a (0.6)(9)	62 ^b (0.6)(9)	41 (0.4)(6)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
6580 (14500)	62 (0.6)(9)	62 (0.6)(9)	48 (0.5)(7)	41 (0.4)(6)	62 ^a (0.6)(9)	62 ^b (0.6)(9)	41 (0.4)(6)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
6800 (15000)	62 (0.6)(9)	62 (0.6)(9)	48 (0.5)(7)	41 (0.4)(6)	62 ^a (0.6)(9)	62 ^b (0.6)(9)	41 (0.4)(6)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
7030 (15500)	62 (0.6)(9)	62 (0.6)(9)	55 (0.6)(8)	41 (0.4)(6)	62 ^a (0.6)(9)	62 ^b (0.6)(9)	41 (0.4)(6)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
7260 (16000)	69 (0.7)(10)	62 (0.6)(9)	55 (0.6)(8)	41 (0.4)(6)	62 ^a (0.6)(9)	62 ^b (0.6)(9)	41 (0.4)(6)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
7480 (16500)	69 (0.7)(10)	62 (0.6)(9)	55 (0.6)(8)	41 (0.4)(6)	69 ^a (0.7)(10)	62 ^b (0.6)(9)	48 (0.5)(7)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
7720 (17000)	76 (0.8)(11)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	69 ^a (0.7)(10)	62 ^b (0.6)(9)	48 (0.5)(7)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
7950 (17500)	76 (0.8)(11)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	76 ^a (0.8)(11)	62 ^b (0.6)(9)	48 (0.5)(7)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
8170 (18000)	83 (0.8)(12)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	76 ^a (0.8)(11)	62 ^b (0.6)(9)	55 (0.6)(8)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
8400 (18500)	90 (0.9)(13)	62 (0.6)(9)	62 (0.6)(9)	41 (0.4)(6)	83 ^a (0.8)(12)	62 ^b (0.6)(9)	55 (0.6)(8)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
8630 (19000)	90 (0.9)(13)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)	83 ^a (0.8)(12)	62 ^b (0.6)(9)	62 (0.6)(9)	41 ^{cd} (0.4)(6)	83 (0.8)(12)
8850 (19500)	97 (1.0)(14)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)	90 ^a (0.9)(13)	62 ^b (0.6)(9)	62 (0.6)(9)	48 ^{cd} (0.5)(7)	83 (0.8)(12)
9080 (20000)	97 (1.0)(14)	62 (0.6)(9)	69 (0.7)(10)	41 (0.4)(6)	90 ^a (0.9)(13)	62 ^b (0.6)(9)	69 (0.7)(10)	48 ^{cd} (0.5)(7)	83 (0.8)(12)
9530 (21000)	103 (1.0)(15)	62 (0.6)(9)	76 (0.8)(11)	41 (0.4)(6)	103 ^a (1.0)(15)	62 ^b (0.6)(9)	69 (0.7)(10)	55 ^{cd} (0.6)(8)	83 (0.8)(12)
9990 (22000)	110 (1.1)(16)	62 (0.6)(9)	83 (0.8)(12)	41 (0.4)(6)	110 (1.1)(16)	62 ^b (0.6)(9)	76 (0.8)(11)	62 ^{cd} (0.6)(9)	83 (0.8)(12)
10440 (23000)	117 (1.2)(17)	69 (0.7)(10)	90 (0.9)(13)	48 (0.5)(7)	110 (1.1)(16)	69 ^b (0.7)(10)	83 (0.8)(12)	62 ^{cd} (0.6)(9)	83 (0.8)(12)
10900 (24000)	124 (1.2)(18)	76 (0.8)(11)	97 (1.0)(14)	55 (0.6)(8)	117 (1.2)(17)	69 ^b (0.7)(10)	90 (0.9)(13)	69 ^{cd} (0.7)(10)	83 (0.8)(12)
11350 (25000)	131 (1.3)(19)	83 (0.8)(12)	103 (1.0)(15)	55 (0.6)(8)	124 (1.2)(18)	76 ^b (0.8)(11)	97 (1.0)(14)	76 ^{cd} (0.8)(11)	83 (0.8)(12)
11800 (26000)	138 (1.4)(20)	90 (0.9)(13)	110 (1.1)(16)	62 (0.6)(9)	131 (1.3)(19)	83 ^b (0.8)(12)	103 (1.0)(15)	76 ^{cd} (0.8)(11)	83 (0.8)(12)
12260 (27000)	145 (1.4)(21)	97 (1.0)(14)	117 (1.2)(17)	62 (0.6)(9)	138 (1.4)(20)	90 ^b (0.9)(13)	110 (1.1)(16)	83 ^{cd} (0.8)(12)	83 (0.8)(12)
12710 (28000)	152 (1.5)(22)	97 (1.0)(14)	117 (1.2)(17)	69 (0.7)(10)	145 (1.4)(21)	90 ^b (0.9)(13)	110 (1.1)(16)	90 ^{cd} (0.9)(13)	83 (0.8)(12)
13170 (29000)	159 (1.6)(23)	103 (1.0)(15)	124 (1.2)(18)	76 (0.8)(11)	152 (1.5)(22)	97 ^b (1.0)(14)	117 (1.2)(17)	97 ^{cd} (1.0)(14)	83 (0.8)(12)
13605 (30000)	179 (1.8)(26)	110 (1.1)(16)	131 (1.3)(19)	76 (0.8)(11)	159 (1.6)(23)	103 ^b (1.0)(15)	117 (1.2)(17)	103 ^d (1.0)(15)	83 (0.8)(12)
14060 (31000)	193 (1.9)(28)	110 (1.1)(16)	138 (1.4)(20)	83 (0.8)(12)	145 (1.4)(21)	110 (1.1)(16)	124 (1.2)(18)	110 ^d (1.1)(16)	83 (0.8)(12)

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Wheels, Tires, and Treads

	480/80R50		IF480/80R50		520/85R46		620/70R46	650/85R38	IF650/85R38
Load Index	159		166		158		167	173	179
Speed Rating	A8		A8		A8		A8	A8 / B / D	D
	Dual	Triple	Dual	Triple	Dual ^a	Triple ^b	Dual	Dual ^{c,d}	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
14510 (32000)	207 (2.1)(30)	117 (1.2)(17)	138 (1.4)(20)	90 (0.9)(13)	159 (1.6)(23)	110 (1.1)(16)	138 (1.4)(20)	110 ^d (1.1)(16)	83 (0.8)(12)
14970 (33000)	228 (2.3)(33)	117 (1.2)(17)	152 (1.5)(22)	90 (0.9)(13)	—	117 (1.2)(17)	145 (1.4)(21)	117 ^d (1.2)(17)	90 (0.9)(13)
15420 (34000)	—	124 (1.2)(18)	159 (1.6)(23)	97 (1.0)(14)	—	117 (1.2)(17)	145 (1.4)(21)	117 ^d (1.2)(17)	90 (0.9)(13)
15875 (35000)	—	131 (1.3)(19)	165 (1.7)(24)	103 (1.0)(15)	—	124 (1.2)(18)	152 (1.5)(22)	124 (1.2)(18)	97 (1.0)(14)
16326 (36000)	—	138 (1.4)(20)	172 (1.7)(25)	103 (1.0)(15)	—	131 (1.3)(19)	159 (1.6)(23)	124 (1.2)(18)	97 (1.0)(14)
16780 (37000)	—	138 (1.4)(20)	186 (1.9)(27)	110 (1.1)(16)	—	138 (1.4)(20)	165 (1.7)(24)	131 (1.3)(19)	103 (1.0)(15)
17233 (38000)	—	145 (1.4)(21)	207 (2.1)(30)	110 (1.1)(16)	—	138 (1.4)(20)	172 (1.7)(25)	138 (1.4)(20)	110 (1.1)(16)
17687 (39000)	—	152 (1.5)(22)	221 (2.2)(32)	117 (1.2)(17)	—	145 (1.4)(21)	186 (1.9)(27)	145 (1.4)(21)	110 (1.1)(16)
18140 (40000)	—	159 (1.6)(23)	228 (2.3)(33)	117 (1.2)(17)	—	152 (1.5)(22)	200 (2.0)(29)	152 (1.5)(22)	117 (1.2)(17)
18594 (41000)	—	165 (1.7)(24)	241 (2.4)(35)	124 (1.2)(18)	—	159 (1.6)(23)	221 (2.2)(32)	152 (1.5)(22)	117 (1.2)(17)
19047 (42000)	—	179 (1.8)(26)	—	131 (1.3)(19)	—	159 (1.6)(23)	241 (2.4)(35)	159 (1.6)(23)	117 (1.2)(17)
19501 (43000)	—	193 (1.9)(28)	—	131 (1.3)(19)	—	145 (1.4)(21)	—	165 (1.7)(24)	124 (1.2)(18)
19954 (44000)	—	200 (2.0)(29)	—	138 (1.4)(20)	—	152 (1.5)(22)	—	172 (1.7)(25)	131 (1.3)(19)
20408 (45000)	—	207 (2.1)(30)	—	138 (1.4)(20)	—	159 (1.6)(23)	—	179 (1.8)(26)	131 (1.3)(19)
20861 (46000)	—	221 (2.2)(32)	—	145 (1.4)(21)	—	159 (1.6)(23)	—	200 (2.0)(29)	138 (1.4)(20)
21315 (47000)	—	234 (2.3)(34)	—	152 (1.5)(22)	—	—	—	207 (2.1)(30)	138 (1.4)(20)
21768 (48000)	—	—	—	152 (1.5)(22)	—	—	—	221 (2.2)(32)	145 (1.4)(21)
22222 (49000)	—	—	—	159 (1.6)(23)	—	—	—	228 (2.3)(33)	152 (1.5)(22)
22675 (50000)	—	—	—	159 (1.6)(23)	—	—	—	241 (2.4)(35)	152 (1.5)(22)
23129 (51000)	—	—	—	—	—	—	—	—	159 (1.6)(23)
23582 (52000)	—	—	—	—	—	—	—	—	165 (1.7)(24)
24036 (53000)	—	—	—	—	—	—	—	—	172 (1.7)(25)
24489 (54000)	—	—	—	—	—	—	—	—	179 (1.8)(26)
24943 (55000)	—	—	—	—	—	—	—	—	186 (1.9)(27)
25396 (56000)	—	—	—	—	—	—	—	—	200 (2.0)(29)
25850 (57000)	—	—	—	—	—	—	—	—	207 (2.1)(30)
26303 (58000)	—	—	—	—	—	—	—	—	221 (2.2)(32)

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Wheels, Tires, and Treads

	480/80R50		IF480/80R50		520/85R46		620/70R46	650/85R38	IF650/85R38
Load Index	159		166		158		167	173	179
Speed Rating	A8		A8		A8		A8	A8 / B / D	D
	Dual	Triple	Dual	Triple	Dual^a	Triple^b	Dual	Dual^{c,d}	Dual
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
26757 (59000)	—	—	—	—	—	—	—	—	234 (2.3)(34)
27216 (60000)	—	—	—	—	—	—	—	—	241 (2.4)(35)

^aFor Mitas dual tire option, recommended pressure is 103 kPa (1.0 bar) (15 psi) up to axle load of 9524 kg (21000 lbs).

^bFor Mitas triple tire option, recommended pressure is 103 kPa (1.0 bar) (15 psi) up to axle load of 13605 kg (30000 lbs).

^cFor Trelleborg dual tire option, recommended pressure is 97 kPa (1.0 bar) (14 psi) up to axle load of 13152 kg (29000 lbs).

^dFor Michelin & Mitas dual tire option, recommended pressure is 103 kPa (1.0 bar) (15 psi) up to axle load of 15420 kg (34000 lbs).

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Recommended Inflation Pressures—Group 48 (Continued)

	710/70R42		IF710/70R42	IF800/55R46		800/70R38		IF800/70R38	
Load Index	168	173	179	182		173		179	
Speed Rating	A8	A8 / B / D	A8 / B / D	D		A8 / B / D		A8	D
	Dual	Dual ^{a,b}	Duals ^c	Single	Duals	Single ^d	Dual ^{e,f}	Single	Duals
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
5670 (12500)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	41 (0.4)(6)	41 (0.4)(6)	41 ^d (0.4)(6)	41 ^{ef} (0.4)(6)	41 (0.4)(6)	83 (0.8)(12)
5896 (13000)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	48 (0.5)(7)	41 (0.4)(6)	48 ^d (0.5)(7)	41 ^{ef} (0.4)(6)	48 (0.5)(7)	83 (0.8)(12)
6123 (13500)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	48 (0.5)(7)	41 (0.4)(6)	48 ^d (0.5)(7)	41 ^{ef} (0.4)(6)	48 (0.5)(7)	83 (0.8)(12)
6350 (14000)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	55 (0.6)(8)	41 (0.4)(6)	55 ^d (0.6)(8)	41 ^{ef} (0.4)(6)	48 (0.5)(7)	83 (0.8)(12)
6577 (14500)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)	62 ^d (0.6)(9)	41 ^{ef} (0.4)(6)	48 (0.5)(7)	83 (0.8)(12)
6803 (15000)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	62 (0.6)(9)	41 (0.4)(6)	62 ^d (0.6)(9)	41 ^{ef} (0.4)(6)	55 (0.6)(8)	83 (0.8)(12)
7030 (15500)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	69 (0.7)(10)	41 (0.4)(6)	69 (0.7)(10)	41 ^{ef} (0.4)(6)	55 (0.6)(8)	83 (0.8)(12)
7257 (16000)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	69 (0.7)(10)	41 (0.4)(6)	69 (0.7)(10)	41 ^{ef} (0.4)(6)	55 (0.6)(8)	83 (0.8)(12)
7484 (16500)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	76 (0.8)(11)	41 (0.4)(6)	76 (0.8)(11)	41 ^{ef} (0.4)(6)	55 (0.6)(8)	83 (0.8)(12)
7711 (17000)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	76 (0.8)(11)	41 (0.4)(6)	76 (0.8)(11)	41 ^{ef} (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)
7937 (17500)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	83 (0.8)(12)	41 (0.4)(6)	83 (0.8)(12)	41 ^{ef} (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)
8164 (18000)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	83 (0.8)(12)	41 (0.4)(6)	83 (0.8)(12)	41 ^{ef} (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)
8391 (18500)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	90 (0.9)(13)	41 (0.4)(6)	90 (0.9)(13)	41 ^{ef} (0.4)(6)	62 (0.6)(9)	83 (0.8)(12)
8618 (19000)	41 (0.4)(6)	41 ^{ab} (0.4)(6)	41 ^c (0.4)(6)	97 (1.0)(14)	41 (0.4)(6)	97 (1.0)(14)	41 ^{ef} (0.4)(6)	69 (0.7)(10)	83 (0.8)(12)
8845 (19500)	48 (0.5)(7)	48 ^{ab} (0.5)(7)	48 ^c (0.5)(7)	97 (1.0)(14)	41 (0.4)(6)	97 (1.0)(14)	41 ^{ef} (0.4)(6)	69 (0.7)(10)	83 (0.8)(12)
9072 (20000)	48 (0.5)(7)	48 ^{ab} (0.5)(7)	48 ^c (0.5)(7)	103 (1.0)(15)	41 (0.4)(6)	103 (1.0)(15)	41 ^{ef} (0.4)(6)	76 (0.8)(11)	83 (0.8)(12)
9525 (21000)	55 (0.6)(8)	55 ^{ab} (0.6)(8)	48 ^c (0.5)(7)	110 (1.1)(16)	41 (0.4)(6)	110 (1.1)(16)	41 ^{ef} (0.4)(6)	83 (0.8)(12)	83 (0.8)(12)
9979 (22000)	62 (0.6)(9)	62 ^{ab} (0.6)(9)	48 ^c (0.5)(7)	117 (1.2)(17)	41 (0.4)(6)	117 (1.2)(17)	41 ^{ef} (0.4)(6)	90 (0.9)(13)	83 (0.8)(12)
10432 (23000)	62 (0.6)(9)	62 ^{ab} (0.6)(9)	55 ^c (0.6)(8)	117 (1.2)(17)	48 (0.5)(7)	117 (1.2)(17)	48 ^{ef} (0.5)(7)	97 (1.0)(14)	83 (0.8)(12)
10886 (24000)	69 (0.7)(10)	69 ^b (0.7)(10)	55 ^c (0.6)(8)	124 (1.2)(18)	55 (0.6)(8)	124 (1.2)(18)	55 ^{ef} (0.6)(8)	103 (1.0)(15)	83 (0.8)(12)
11340 (25000)	76 (0.8)(11)	76 ^b (0.8)(11)	55 ^c (0.6)(8)	138 (1.4)(20)	55 (0.6)(8)	138 (1.4)(20)	55 ^{ef} (0.6)(8)	110 (1.1)(16)	83 (0.8)(12)
11793 (26000)	76 (0.8)(11)	76 ^b (0.8)(11)	62 ^c (0.6)(9)	145 (1.4)(21)	62 (0.6)(9)	145 (1.4)(21)	62 ^{ef} (0.6)(9)	110 (1.1)(16)	83 (0.8)(12)
12247 (27000)	83 (0.8)(12)	83 ^b (0.8)(12)	62 ^c (0.6)(9)	152 (1.5)(22)	69 (0.7)(10)	152 (1.5)(22)	69 ^f (0.7)(10)	117 (1.2)(17)	83 (0.8)(12)
12700 (28000)	90 (0.9)(13)	90 (0.9)(13)	62 ^c (0.6)(9)	165 (1.7)(24)	69 (0.7)(10)	159 (1.6)(23)	69 ^f (0.7)(10)	124 (1.2)(18)	83 (0.8)(12)
13154 (29000)	97 (1.0)(14)	97 (1.0)(14)	69 ^c (0.7)(10)	172 (1.7)(25)	76 (0.8)(11)	—	76 ^f (0.8)(11)	131 (1.3)(19)	83 (0.8)(12)

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T084419,0000140 -19-09SEP15-1/3

Wheels, Tires, and Treads

	710/70R42		IF710/70R42	IF800/55R46		800/70R38		IF800/70R38	
Load Index	168	173	179	182		173		179	
Speed Rating	A8	A8 / B / D	A8 / B / D	D		A8 / B / D		A8	D
	Dual	Dual ^{a,b}	Duals ^c	Single	Duals	Single ^d	Dual ^{e,f}	Single	Duals
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
13607 (30000)	103 (1.0)(15)	103 (1.0)(15)	76 ^c (0.8)(11)	186 (1.9)(27)	76 (0.8)(11)	—	76 ^f (0.8)(11)	138 (1.4)(20)	83 (0.8)(12)
14061 (31000)	110 (1.1)(16)	110 (1.1)(16)	76 ^c (0.8)(11)	200 (2.0)(29)	83 (0.8)(12)	—	83 ^f (0.8)(12)	145 (1.4)(21)	83 (0.8)(12)
14514 (32000)	110 (1.1)(16)	110 (1.1)(16)	83 ^c (0.8)(12)	214 (2.1)(31)	83 (0.8)(12)	—	83 (0.8)(12)	152 (1.5)(22)	83 (0.8)(12)
14968 (33000)	117 (1.2)(17)	117 (1.2)(17)	90 (0.9)(13)	228 (2.3)(33)	90 (0.9)(13)	—	90 (0.9)(13)	159 (1.6)(23)	83 (0.8)(12)
15422 (34000)	117 (1.2)(17)	117 (1.2)(17)	90 (0.9)(13)	241 (2.4)(35)	97 (1.0)(14)	—	97 (1.0)(14)	159 (1.6)(23)	83 (0.8)(12)
15875 (35000)	124 (1.2)(18)	124 (1.2)(18)	97 (1.0)(14)	255 (2.5)(37)	103 (1.0)(15)	—	103 (1.0)(15)	—	83 (0.8)(12)
16326 (36000)	124 (1.2)(18)	124 (1.2)(18)	97 (1.0)(14)	269 (2.7)(39)	110 (1.1)(16)	—	110 (1.1)(16)	—	83 (0.8)(12)
16780 (37000)	131 (1.3)(19)	131 (1.3)(19)	103 (1.0)(15)	283 (2.8)(41)	110 (1.1)(16)	—	110 (1.1)(16)	—	83 (0.8)(12)
17233 (38000)	138 (1.4)(20)	138 (1.4)(20)	110 (1.1)(16)	—	110 (1.1)(16)	—	110 (1.1)(16)	—	90 (0.9)(13)
17687 (39000)	145 (1.4)(21)	145 (1.4)(21)	110 (1.1)(16)	—	117 (1.2)(17)	—	117 (1.2)(17)	—	90 (0.9)(13)
18140 (40000)	145 (1.4)(21)	145 (1.4)(21)	117 (1.2)(17)	—	117 (1.2)(17)	—	117 (1.2)(17)	—	97 (1.0)(14)
18594 (41000)	152 (1.5)(22)	152 (1.5)(22)	117 (1.2)(17)	—	117 (1.2)(17)	—	117 (1.2)(17)	—	97 (1.0)(14)
19047 (42000)	159 (1.6)(23)	159 (1.6)(23)	117 (1.2)(17)	—	124 (1.2)(18)	—	124 (1.2)(18)	—	103 (1.0)(15)
19501 (43000)	159 (1.6)(23)	159 (1.6)(23)	124 (1.2)(18)	—	131 (1.3)(19)	—	131 (1.3)(19)	—	103 (1.0)(15)
19954 (44000)	—	172 (1.7)(25)	131 (1.3)(19)	—	138 (1.4)(20)	—	138 (1.4)(20)	—	110 (1.1)(16)
20408 (45000)	—	179 (1.8)(26)	131 (1.3)(19)	—	138 (1.4)(20)	—	138 (1.4)(20)	—	110 (1.1)(16)
20861 (46000)	—	193 (1.9)(28)	138 (1.4)(20)	—	145 (1.4)(21)	—	145 (1.4)(21)	—	110 (1.1)(16)
21315 (47000)	—	200 (2.0)(29)	145 (1.4)(21)	—	152 (1.5)(22)	—	152 (1.5)(22)	—	117 (1.2)(17)
21768 (48000)	—	207 (2.1)(30)	145 (1.4)(21)	—	159 (1.6)(23)	—	152 (1.5)(22)	—	117 (1.2)(17)
22222 (49000)	—	221 (2.2)(32)	152 (1.5)(22)	—	165 (1.7)(24)	—	159 (1.6)(23)	—	124 (1.2)(18)
22675 (50000)	—	241 (2.4)(35)	152 (1.5)(22)	—	172 (1.7)(25)	—	159 (1.6)(23)	—	124 (1.2)(18)
23129 (51000)	—	—	159 (1.6)(23)	—	172 (1.7)(25)	—	—	—	131 (1.3)(19)
23582 (52000)	—	—	159 (1.6)(23)	—	179 (1.8)(26)	—	—	—	138 (1.4)(20)
24036 (53000)	—	—	165 (1.7)(24)	—	186 (1.9)(27)	—	—	—	138 (1.4)(20)
24489 (54000)	—	—	172 (1.7)(25)	—	193 (1.9)(28)	—	—	—	138 (1.4)(20)
24943 (55000)	—	—	179 (1.8)(26)	—	200 (2.0)(29)	—	—	—	145 (1.4)(21)
25396 (56000)	—	—	193 (1.9)(28)	—	207 (2.1)(30)	—	—	—	152 (1.5)(22)

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Wheels, Tires, and Treads

	710/70R42		IF710/70R42	IF800/55R46		800/70R38		IF800/70R38	
Load Index	168	173	179	182		173		179	
Speed Rating	A8	A8 / B / D	A8 / B / D	D		A8 / B / D		A8	D
	Dual	Dual ^{a,b}	Duals ^c	Single	Duals	Single ^d	Dual ^{e,f}	Single	Duals
Axle Load kg (lb)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)	kPa (bar)(psi)
25850 (57000)	—	—	207 (2.1)(30)	—	221 (2.2)(32)	—	—	—	152 (1.5)(22)
26303 (58000)	—	—	221 (2.2)(32)	—	228 (2.3)(33)	—	—	—	159 (1.6)(23)
26757 (59000)	—	—	228 (2.3)(33)	—	234 (2.3)(34)	—	—	—	159 (1.6)(23)
27216 (60000)	—	—	241 (2.4)(35)	—	241 (2.4)(35)	—	—	—	159 (1.6)(23)
27664 (61000)	—	—	—	—	248 (2.5)(36)	—	—	—	—
28118 (62000)	—	—	—	—	255 (2.5)(37)	—	—	—	—
28571 (63000)	—	—	—	—	262 (2.6)(38)	—	—	—	—
29025 (64000)	—	—	—	—	276 (2.8)(40)	—	—	—	—
29478 (65000)	—	—	—	—	283 (2.8)(41)	—	—	—	—

^aFor Michelin dual tire option, recommended pressure is 62 kPa (0.6 bar) (9 psi) up to axle load of 10431 kg (23000 lbs).

^bFor Mitas dual tire option, recommended pressure is 83 kPa (0.8 bar) (12 psi) up to axle load of 12245 kg (27000 lbs).

^cFor Michelin dual tire option, recommended pressure is 83 kPa (0.8 bar) (12 psi) up to axle load of 14512 kg (32000 lbs).

^dFor Michelin single tire option, recommended pressure is 62 kPa (0.6 bar) (9 psi) up to axle load of 6803 kg (15000 lbs).

^eFor Michelin dual tire option, recommended pressure is 62 kPa (0.6 bar) (9 psi) up to axle load of 11791 kg (26000 lbs).

^fFor Mitas dual tire option, recommended pressure is 83 kPa (0.8 bar) (12 psi) up to axle load of 14059 kg (31000 lbs).

TO84419,0000140 -19-09SEP15-3/3

Using Correct Tire Combinations

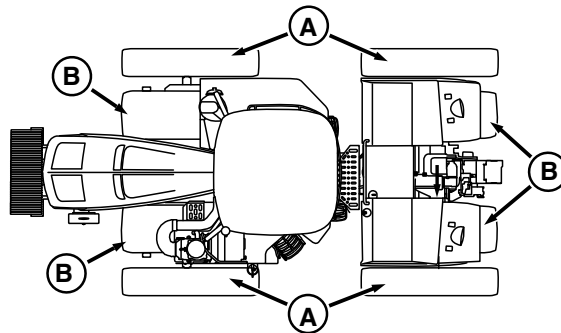
CAUTION: Prevent possible injury. High-speed transport with outer duals removed can cause loss of steering control and reduce vehicle stability. Reduce speed immediately if loss of steering control occurs.

If outer duals must be removed, adjust wheels to wider tread and travel at slow speeds.

Do not operate with single wheels except if equipped with 800/70R38 in. tires.

IMPORTANT: Avoid excessive drive train wear or possible reduction in performance. Do not mix worn and new tires, bias and radial, or tires of different diameters. Do not use R2 tires in combination with R1.

When radial-ply tires are used as inner dual (B), outer dual (A) may be bias-ply tires.



A—Outside Dual

B—Inside Dual

Any other mixing of radial-ply and bias-ply tires is not recommended.

RXA0142585 —JUN—16JUN14

TO84419,0000141 -19-18JUN14-1/1

Using Dual Tires

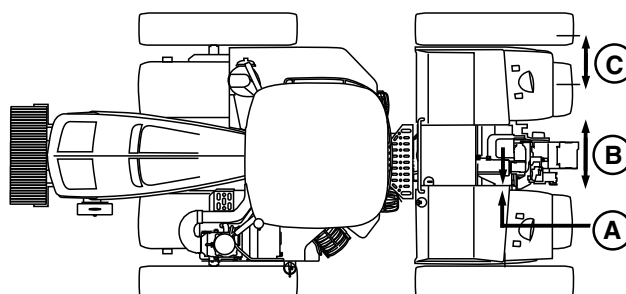
IMPORTANT: Installation of dual tires wider than 800 mm (31.5 in.) can cause damage to the axles from overloading.

Use of clamp-on dual wheels is *not* allowed. A separate hub is required for each dual or triple tire.

Installation of dual tires wider than 800 mm (31.5 in.) not recommended unless certain precautions are followed. See your John Deere Dealer for recommendations.

TO84419,0000142 -19-15JUN12-1/1

Observing Tread Width Limitations



A—Clearance

B—Width

C—Tire Spacing

IMPORTANT: Tires must have at least 25 mm (1 in.) clearance (A) with fenders. Clearance (B) between tires must be at least 1041 mm (41 in.), with tires equal distance from center line.

Clearance between tires must be at least 1179 mm (46.4 in.) for category 4 hitch, 1036 mm (40.8 in.) for category 4N, and 1047 mm (41.2 in.) for category 3 hitch, when no side sway is permitted on mounted implements. With sway allowed, check tire clearance before using equipment.

Shims from your John Deere™ Dealer will further reduce hitch side sway and lengthening lift links to maximum length will provide more clearance for "row cropping" at 762 mm (30 in.) treads.

IMPORTANT: With dual tires, refer to following chart for minimum spacing between tires (C). (See Using Radial and Bias-Ply Tires for more information.)

Steering stops may be required for some tread settings.

Extremely wide wheel spacings provide higher loads for axle bearings and shafts. Try to minimize overall tread width.

Maximum MEAN Tread Width

Hitch-Mounted Implements	2800 mm (110 in.)
Towed Implement	3130 mm (123 in.)

Tire Centerline

Tire Section	Minimum Spacing
(18.4)	612 mm (24.1 in.)
480 (18.9)	626 mm (24.6 in.)
520 (20.5)	670 mm (26.4 in.)
(20.8)	686 mm (27.0 in.)
620 (24.5)	801 mm (31.5 in.)
650 (25.5)	825 mm (31.5 in.)
710 (28.8)	890 mm (35.0 in.)
800 (30.5)	1008 mm (39.7 in.)

TO84419,0000143 -19-18JUN14-1/1

RXA0142584 —UN—16JUN14

Tread Widths—Singles or Duals

IMPORTANT: Use of clamp-on dual wheels is *not* allowed. A separate hub is required for each dual or triple tire.

Approximate tread ranges for each tire size are shown in the following chart:

NOTE: See *Observing Tread Width Limitations in this section of this Operator's Manual.*

TREAD WIDTH—SINGLE WHEELS		
Tire Size	Inner Tire Range Minimum - Maximum mm (in)	
710/70R38	1782—2477 (70.2—97.5)	
710/70R42	1782—2477 (70.2—97.5)	
800/70R38	1876—2630 (73.9—103.5)	
TREAD WIDTH—DUAL WHEELS		
Tire Size	Inner Tire Range Minimum - Maximum mm (in)	Outer Tire Range Minimum - Maximum mm (in)
18.4R46 Cast/Steel	1530—1910 (60—75.2)	2968—3348 (116.9—131.8)
480/80R46 Cast/Steel	1530—1910 (60—75.2)	2968—3348 (116.9—131.8)
480/80R50 Cast/Steel	1530—1910 (60—75.2)	2968—3348 (116.9—131.8)
20.8R42 Cast/Steel	1600—2063 (63—81.2)	2987—3450 (117.6—135.8)
520/85R42 Cast/Steel	1600—2063 (63—81.2)	2987—3450 (117.6—135.8)
520/85R46 Cast/Steel	1600—2063 (63—81.2)	2987—3450 (117.6—135.8)
620/70R42 Cast/Steel	1689—2063 (66.5—81.2)	3240—3615 (127.6—142.3)
620/70R46 Cast/Steel	1689—2063 (66.5—81.2)	3240—3615 (127.6—142.3)
650/85R38 Cast/Steel	1722—1966 (67.8—77.4)	3372—3648 (140.2—143.6)
710/70R38 Cast/Steel	1782—1844 (70.2—72.6)	3562—3624 (140.2—142.7)
710/70R42 Cast/Steel	1782—1911 (70.2—75.2)	3562—3691 (140.2—145.3)
800/70R38 Cast/Steel	1876—2188 (73.9—86)	3763—4077 (148—160.5)

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Tread Widths—Triples

Tread is measured between center of tires.

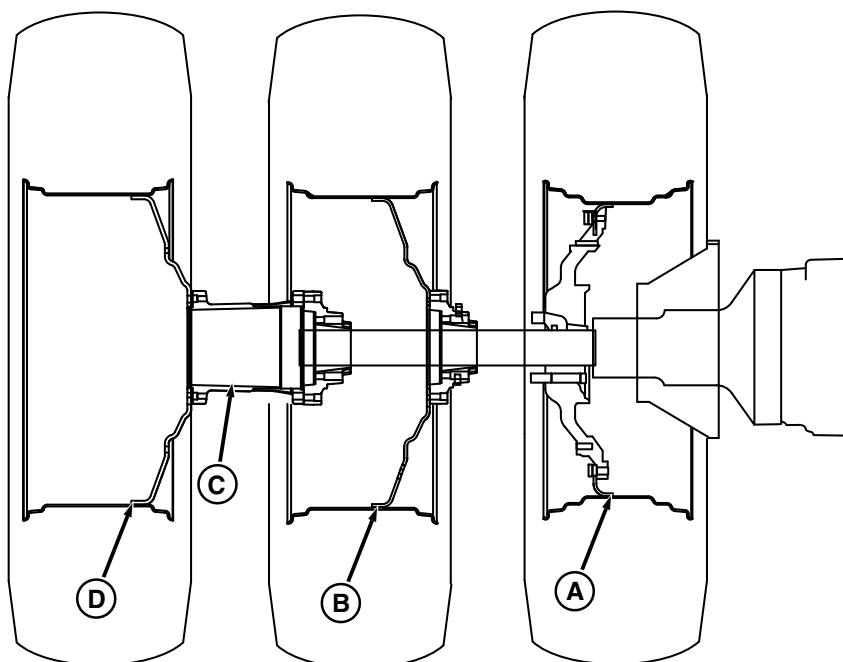
NOTE: See *Observing Tread Width Limitations* in this section.

Approximate tread range for each tire size is shown in the following chart. Additional spacings can be obtained by slight adjustment of inner and dual wheels. Steering stops required on all triple tread.

Tire Size	Inner mm (in)	Dual mm (in)	Triple mm (in)
18.4R46	1500 (59.0)	2750 (108.4)	4105 (161.7)
480/80R46	1500 (59.0)	2750 (108.4)	4105 (161.7)
20.8R42	1600 (63.0)	2987 (117.6)	4374 (172.2)
520/85R42	1600 (63.0)	2987 (117.6)	4374 (172.2)
480/80R50	1543 (60.8)	2816 (110.9)	4090 (161)
520/85R46	1600 (63.0)	2978 (117.2)	4356 (171.5)

TO84419,0000145 -19-09SEP15-1/1

Triple Wheels (Standard Wheel Hubs)



Triple Wheels (Standard Wheel Hubs)

A—Inner Wheel
B—Dual Wheel

C—Hub Extension

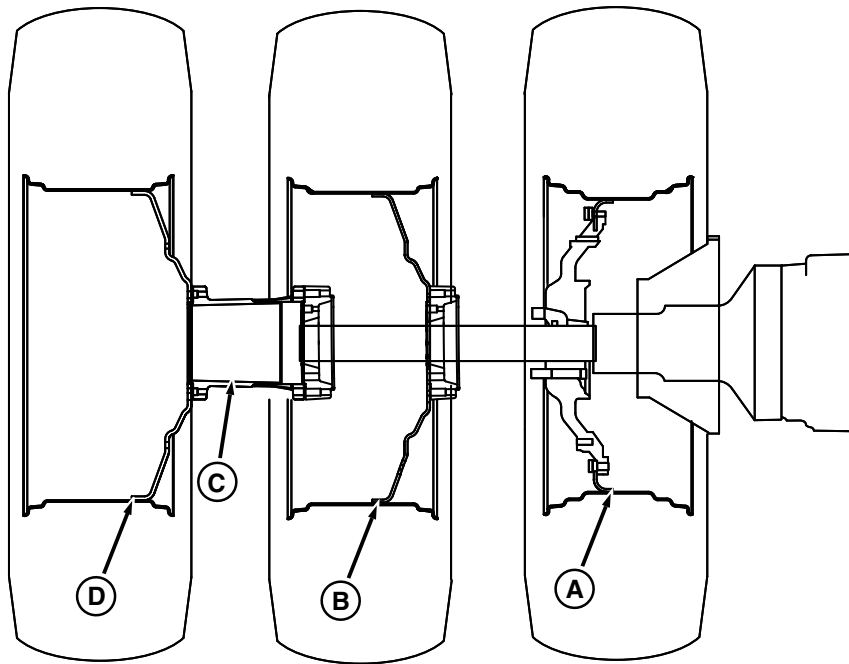
D—Outer Wheel

See following pages for instructions on installing wheel hardware and torque specifications.

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RXA0073455 —UN—13FEB04

Triple Wheels (Heavy Duty Wheel Hubs)



Triple Wheels (Heavy Duty Wheel Hubs)

A—Inner Wheel
B—Dual Wheel

C—Hub Extension

D—Outer Wheel

See following pages for instructions on installing wheel hardware and torque specifications.

RXA0073454 —UN—13FEB04

TO84419,0000147 -19-15JUN12-1/1

Installing Wheel Rim to Cast Wheel

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts.

NOTE: The wheel rim (A) has one **tight fit** hole that is smaller than other holes. One **slot fit** hole is 180° from the tight fit hole.

NOTE: Ensure the wheel retaining snap ring is properly seated in the axle groove.

Install and hand tighten bolt in the **tight fit** hole (B).

Install and hand tighten bolt in the **slot fit** hole (C).

Install and hand tighten remaining bolts.

Tighten all bolts to 600 N·m (445 lb-ft).

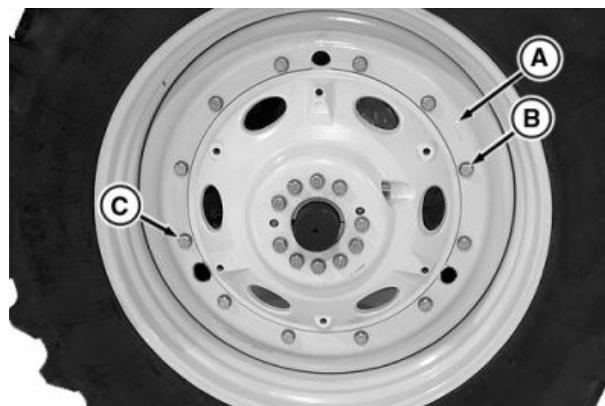
Drive tractor 100 meters (110 yd) and retighten bolts.

Tighten again at **3 HOURS** and **10 HOURS**. Continue to tighten to specified torque daily during the first week of operation.

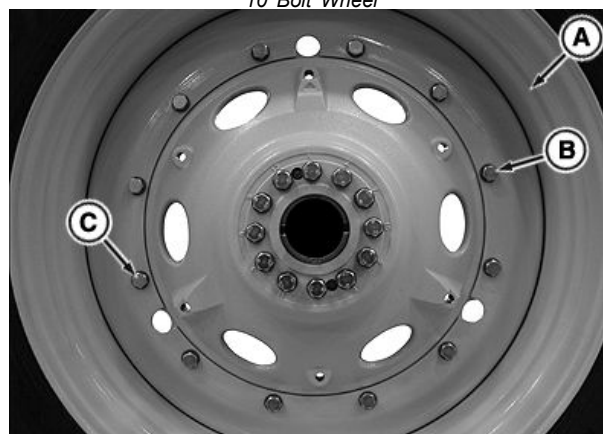
NOTE: For continual heavy draft load operation, like scrapers, tighten every two hours during the first week of operation.

A—Wheel Rim
B—Tight Fit Hole

C—Slot Fit Hole



10 Bolt Wheel



12 Bolt Wheel With Double Taper Sleeves

RXA0052979 —UN—17MAY01

RXA0111987 —UN—11NOV10

TO84419,0000148 -19-15JUN12-1/1

Wheel Torque Wrench Adapter—JDG679

JDG679 Torque Wrench Adapter (A), 32 mm (3/4 in.) drive is designed for easy access to sleeve bolts on inner cast wheels with outside duals in place.

Torque wrench adapter should be at **90° angle** from torque wrench shaft for correct torque specification.

See your John Deere™ Dealer to order.

Specification

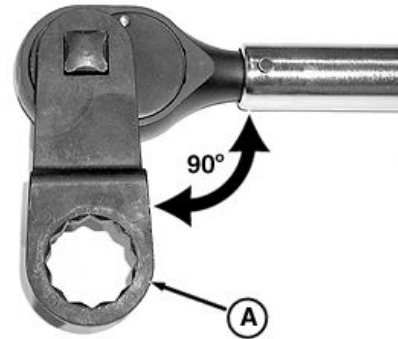
Cast Wheel Cap
Screws—Torque..... 610 N·m (450 lb.-ft.)

When unable to use Adapter at 90° angle from torque wrench shaft, use this formula to calculate correct torque setting.

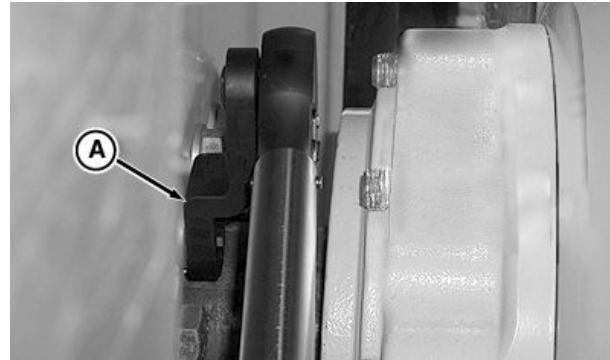
T_w	=	Torque setting on torque wrench
T_a	=	Torque actually being applied to the nut or cap screw
L	=	Length from point of force (center of the wrench handle) to the center of head of torque wrench
A	=	Application distance from center of torque wrench head to the center of adapter which is 95 mm (3.75 in.)

Example: Torque wrench length = 0.91 m (36 in.), wrench adapter = 0.1 m (4 in.), so new T_w for torque wrench setting is 549 N·m (405 lb.-ft.).

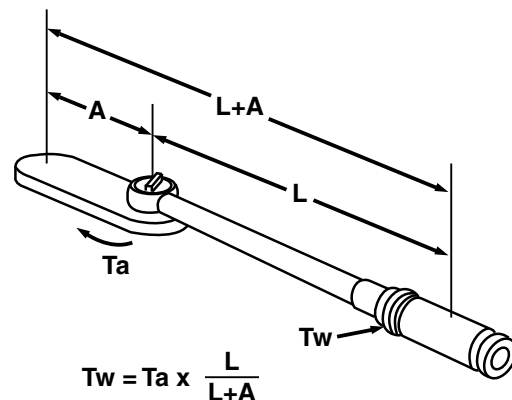
A—JDG679 Torque Wrench Adapter



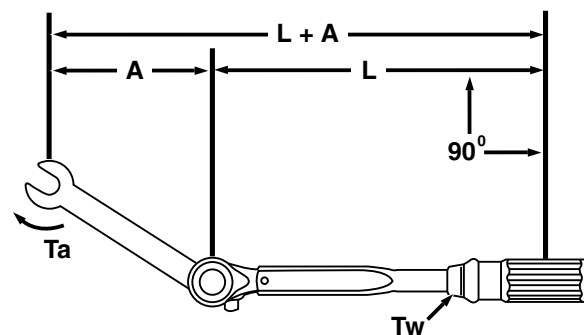
RXA0086802 —UN—15FEB06



RXA0086804 —UN—15FEB06



RXA0061214 —UN—19JUN02



RXA0062101 —UN—15AUG02

TO84419,0000149 -19-13JUN14-1/1

Wheel Weight Holding Wrench—JDG10958

JDG10958 Holding Wrench can be used when multiple inner and outer wheel weights are stacked on tractor wheel.

Holding Wrench is designed to hold M20 wheel weight cap screws in limited access areas while tightening cap screws to specified torque per Tractor Operator's Manual.

Wrench is available from your John Deere™ Dealer.

Specification

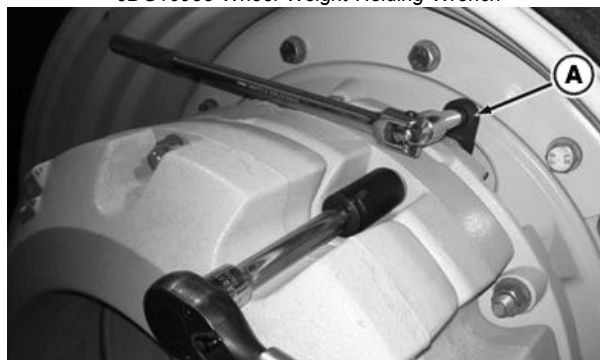
Wheel Weight Cap

Screws—Torque..... 610 N·m (450 lb.-ft.)

A—JDG10958 Wheel Weight Holding Wrench



JDG10958 Wheel Weight Holding Wrench



Outer Wheel Weight



Inner Wheel Weight

TO84419,000014A -19-13JUN14-1/1

RXA0100328 —UN—03FEB09

RXA0100329 —UN—03FEB09

RXA0100330 —UN—03FEB09

Wheel Tightening Stand—*DFRW219* or *JDG10741*

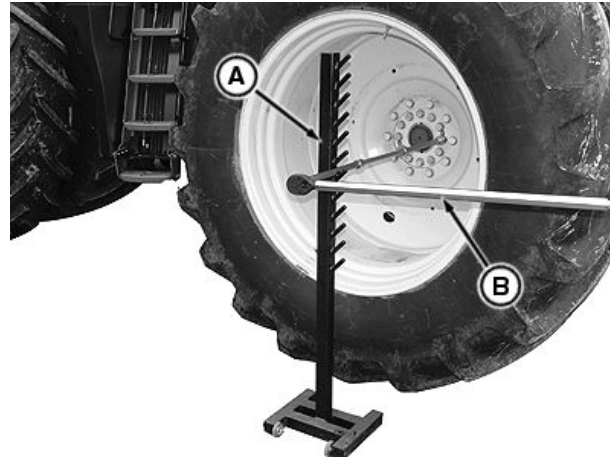
Wheel tightening stand (A) may be used to aid in tightening wheel hardware.

It will support the torque wrench (B) when tightening cap screws at different heights.

See your John Deere™ Dealer to order.

A—Wheel Tightening Stand

B—Torque Wrench



Wheel Tightening Stand

RXA0096392 —UN—25OCT07

TO84419,000014B -19-13JUN14-1/1

Adjusting and Tightening Wheels—Standard Cast Drive Wheel and Dual Hubs

CAUTION: Avoid personal injury. Never operate engine with transmission in gear when adjusting wheels. Wheels on ground could pull supported wheels off jack stands.

Never operate tractor with a loose rim, wheel, or hub.

IMPORTANT: Carefully follow procedure. Failure to do so could lead to wheel hub damage.

IMPORTANT: Clean any paint, grease, film, rust or debris from axle shafts prior to positioning and installing wheel hubs and sleeves. Do NOT apply any lubricant to cap screws or threads.

1. Raise tractor on level ground and turn wheel so rack on axle is upward.
2. Loosen lower hub center bolt against retaining nut. Loosen outer hub sleeve bolts.
3. Tighten inner jack screws on upper and lower hub sleeves to loosen sleeves. Tighten jack screws up to 500—600 N·m (370—440 lb.-ft.) if necessary.

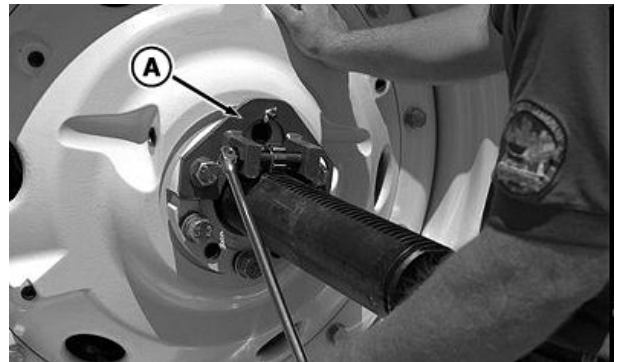
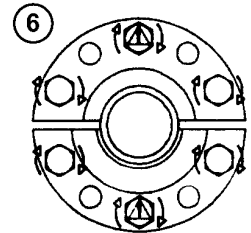
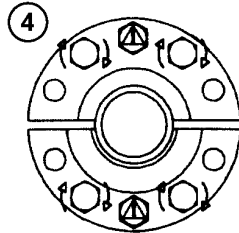
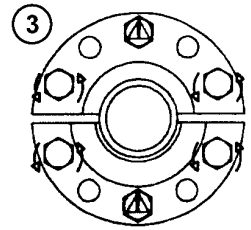
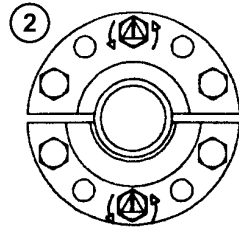
NOTE: Strike end of axle with a heavy hammer and use penetrating oil if sleeves are difficult to break loose.

4. Remove jack screws from upper hub sleeve and install JDG667A for 100 mm axle and JDG668A for 110 mm axle Wheel Adjusting Tool (A) (available from your John Deere Dealer) using sleeve bolts. Move wheel to desired position. Observe tread width limitations.
5. Remove adjusting tool and jack screws.

IMPORTANT: Keep the face of hub sleeves even to prevent hub breakage or bolt loosening.

6. Tighten hub sleeve bolts to 204 N·m (150 lb.-ft.) beginning with center bolt in lower sleeve, then criss-crossing other bolts. Retighten bolts to 410 N·m (300 lb.-ft.) using same sequence.

Drive tractor a minimum of 100 meters (110 yd.) and tighten bolts to 600 N·m (445 lb.-ft.).



A—Wheel Adjusting Tool

Retighten bolts after working **3 HOURS** and again after **10 HOURS**. Continue to tighten to specified torque daily during first week of operation.

IMPORTANT: If tractor is operated with wheel sleeve loose for 4-5 hours, it is necessary to replace sleeves.

RW26331 —UN—24JUN99

RXA0072370 —UN—05DEC03

TO84419,000014C -19-13JUN14-1/1

Adjusting and Tightening Wheels—Steel Drive Wheel and Dual Standard Hubs

CAUTION: Avoid personal injury. Never operate engine with transmission in gear when adjusting wheels. Wheels on ground could pull supported wheels off jack stands.

Never operate tractor with a loose rim, wheel, or hub.

IMPORTANT: Carefully follow procedure. Failure to do so could lead to wheel hub damage.

IMPORTANT: Clean any paint, grease, film, rust or debris from axle shafts prior to positioning and installing wheel hubs and sleeves. Do NOT apply any lubricant to cap screws or threads.

1. Raise tractor on level ground and turn wheel so rack on axle is upward.
2. Loosen hub center bolts against retaining nuts.
3. Remove outer hub sleeve bolts. Use hub sleeve bolts in jack screws (A) to loosen sleeves. Tighten jack screws (A) up to 500—600 N·m (370—440 lb.-ft.) if necessary.

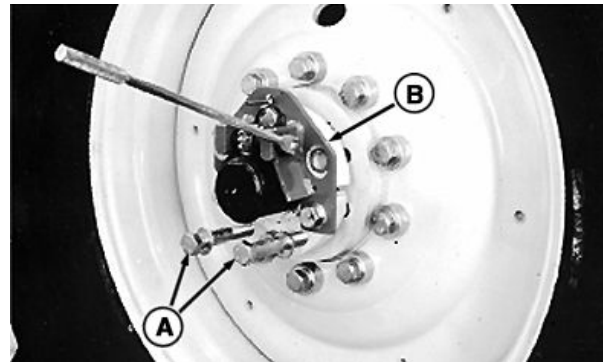
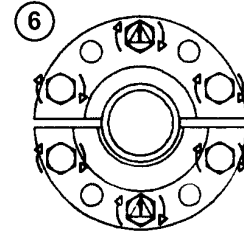
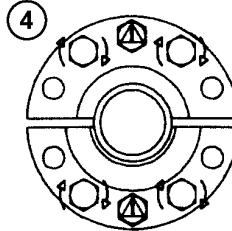
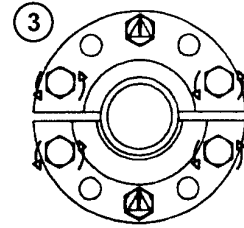
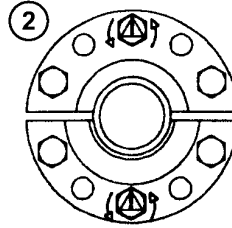
NOTE: Strike end of axle with heavy hammer and use penetrating oil if sleeves are difficult to break loose.

4. Remove jack screws from upper hub sleeve and install JDG667A for 100 mm axle and JDG668A for 110 mm axle Wheel Adjusting Tool (B) (available from your John Deere Dealer) using sleeve bolts. Move wheel to desired position. Observe tread width limitations.
5. Remove adjusting tool and jack screws.

IMPORTANT: Keep face of hub sleeves even to prevent hub breakage or bolt loosening.

6. Tighten hub sleeve bolts to 204 N·m (150 lb.-ft.) beginning with the center bolts, then criss-crossing the other bolts. Retighten bolts to 410 N·m (300 lb.-ft.) using the same sequence.

Drive tractor a minimum of 100 meters (110 yd.) and tighten bolts to 600 N·m (445 lb.-ft.).



A—Jack Screws

B—Wheel Adjusting Tool

Retighten bolts after working **3 HOURS** and again after **10 HOURS**. Continue to tighten to specified torque daily during first week of operation.

RW26331 —UN—24JUN99

RXA0062958 —UN—10OCT02

TO84419,000014D -19-13JUN14-1/1

Adjusting and Tightening Wheels-Heavy-Duty Drive Wheels and Dual Hubs

CAUTION: Avoid personal injury. Never run the engine with transmission in gear when adjusting wheels. Wheels on the ground could pull supported wheels off jackstands.

Never operate tractor with a loose rim, wheel or hub.

IMPORTANT: Tractors are equipped 12 bolt heavy-duty drive wheels and 10 or 12 bolt hubs. Numbers indicating proper torquing sequence are cast into wheel hub.

Carefully follow procedure. Failure to do so could lead to sleeve or cast wheel damage.

IMPORTANT: Clean any paint, grease, film, rust or debris from axle shafts, cap screws, and threads prior to positioning and installing wheel sleeves and cast wheel. **DO NOT** apply any lubricant to cap screws, threads, wheel or axle.

1. Raise the tractor on level ground and support tractor with jackstands.
2. Loosen (without removing) sleeve bolts (1—10) or (1—12) just enough to move wheel.

IMPORTANT: Do not loosen or remove the two allen head screws. Doing so could result in wheel jamming or damage.

NOTE: Adjusting tool is not compatible with heavy-duty cast wheel.

CAUTION: Use a hoist, wheel dolly or proper lifting equipment to safely slide and adjust wheels on axles and avoid possibility of personal injury.

Failure to follow torquing sequence and procedure will result in damage to wheel sleeves and may result in personal injury. Wheel bolt torques are critical and require repeated tightening.

3. Move wheel to desired position.
4. Tighten bolts (1—10) or (1—12) in numerical torque sequence until bolts maintain initial torque. Make sure wheel is perpendicular to axle.

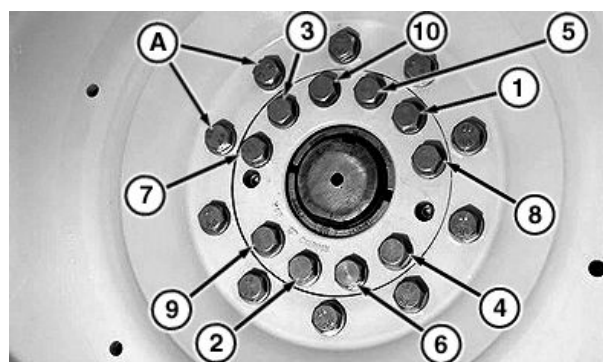
Specification

Wheel Bolts—Initial	
Torque.....	405 N·m 300 lb-ft

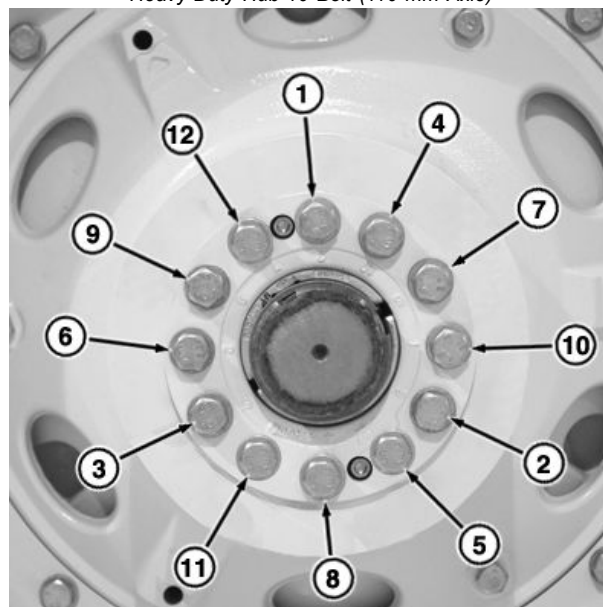
5. Tighten bolts (1—10) or (1—12) in numerical order until bolts maintain final torque.

Specification

Wheel Bolts—Final	
Torque.....	610 N·m 450 lb-ft



Heavy-Duty Hub-10 Bolt (110 mm Axle)



Heavy-Duty Drive Wheel-12 Bolt (120 mm Axle)

A—Cap Screws

IMPORTANT: Some sleeve bolts may loosen as sleeve is tightened. Repeat star shaped numbered sequence torquing pattern until **ALL** sleeve bolts maintain the proper torque. Failure to follow procedure could result in damage to equipment and may result in personal injury.

6. Drive tractor unloaded in a large figure-8 pattern a minimum of four times and tighten bolts in numerical order until bolts maintain final torque of 610 N·m (450 lb-ft).

IMPORTANT: Keep wheel sleeve cap screws tightened to specification. If tractor is operated with loose wheel sleeves or under-torqued cap screws it may be necessary to replace sleeves and cast wheels.

Continued on next page

TO84419,000014E -19-15JUN12-1/2

RXA0091580 —UN—20NOV06

RXA0090157 —UN—08AUG06

7. Torque bolts after working **3 HOURS, 10 HOURS, and DAILY** during the first week of operation or until bolts **do not** move when re-torquing.

NOTE: Continue to check torque a minimum of **weekly** if used for normal scraper operations.

TO84419,000014E -19-15JUN12-2/2

Adjusting and Tightening—Heavy-Duty Dual Wheel Hubs

CAUTION: Avoid personal injury. Never run the engine with transmission in gear when adjusting wheels. Wheels on the ground could pull supported wheels off jackstands.

Never operate tractor with a loose rim, wheel, or hub.

IMPORTANT: Tractors are equipped with 12 bolt heavy-duty wheels and 12 bolt hubs. Numbers indicating proper torquing sequence are cast into wheel hub.

Carefully follow procedure. Failure to do so could lead to wheel hub damage.

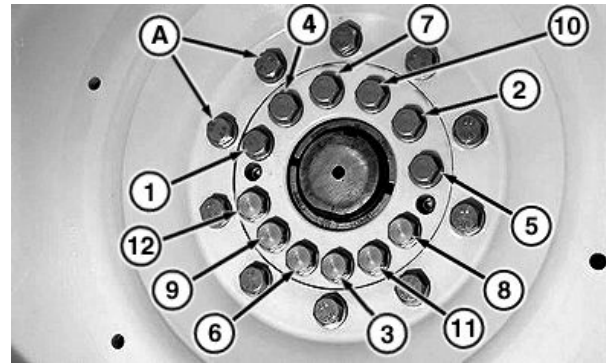
IMPORTANT: Clean any paint, grease, film, rust or debris from axle shafts prior to positioning and installing wheel hubs and sleeves. **DO NOT** apply any lubricant to cap screws or threads.

1. Raise the tractor on level ground and support tractor with jackstands.
2. Loosen (without removing) sleeve bolts (1—12) just enough to move wheel.

IMPORTANT: Do not loosen or remove the two allen head screws. Doing so could result in wheel jamming or damage.

NOTE: Adjusting tool is not compatible with heavy-duty wheel hub.

3. Move wheel to desired position.
4. Tighten bolts (1—12) in numerical order until bolts maintain torque of 405 N·m (300 lb-ft). Make sure wheel is perpendicular to axle.
5. Tighten bolts (1—12) in numerical order until bolts maintain torque of 610 N·m (450 lb-ft).
6. Using a star shaped pattern, torque all wheel to hub cap screws (A) as needed to maintain torque.



Heavy-Duty Hub-12 Bolt (120 mm Axle)

A—Cap Screws

Specification

Cap Screws (A)—Initial Torque.....	405 N·m 300 lb-ft
Cap Screws (A)—Final Torque.....	610 N·m 450 lb-ft

IMPORTANT: Repeat torquing pattern until **ALL** bolts maintain the proper torque. Failure to follow procedure could result in damage to equipment and may result in personal injury.

7. Drive tractor a minimum of 100 meters (110 yd) and tighten bolts in numerical order until bolts maintain torque of 610 N·m (450 lb-ft).

IMPORTANT: If tractor is operated with wheel sleeve loose for 4-5 hours, it is necessary to replace sleeves.

8. Torque bolts after working **3 HOURS, 10 HOURS, and DAILY** during the first week of operation.

NOTE: Continue to check torque a minimum of **weekly** if used for normal scraper operations.

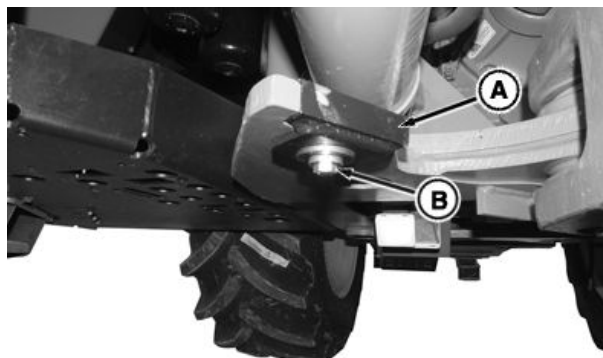
TO84419,000014F -19-15JUN12-1/1

Using Steering Stops

IMPORTANT: Steering stops (A) must be installed if tractor is equipped with dual tires when outer tire treads are greater than 3343 mm (131.6) or if equipped with triple tires.

Check clearance by turning steering wheel to full left-hand side and full right-hand side positions after installing steering stops and adjusting wheel treads.

NOTE: Steering Stops of 36° and 38° are available through your John Deere™ Dealer. Correct steering stops are installed at factory with tire option ordered.



RXA0142711 —UN—24JUN14

Tighten steering stop retaining cap screw to 90 N·m (66 lb.-ft.).

A—Steering Stop

B—Cap Screw

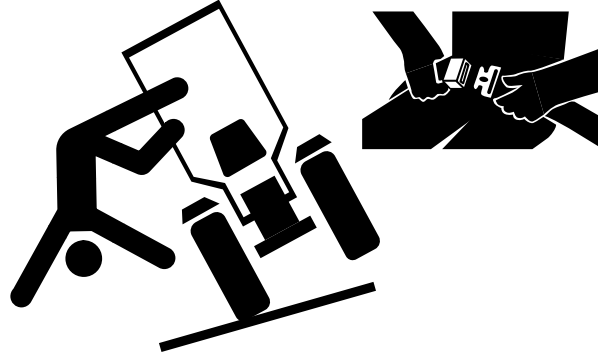
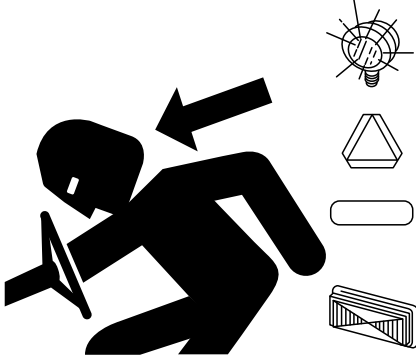
Tires	Steering Stop Setting	Tread Spacing Range mm (in)		
		Inner Tire	Outer Tire	Triple Tire
18.4R46, 480/80R46 Duals	38°	1524-1910 (60-75)	2969-3348 (117-131.8)	N/A
18.4R46, 480/80R46 Triples	38°	1500 (59)	2752 (108.4)	4106 (161.6)
480/80R50 Duals	36°	1524-1910 (60-75)	2969-3348 (117-131.8)	N/A
480/80R50 Triples	36°	1500 (59)	2752 (108.4)	4106 (161.6)
20.8R42, 520/85R42 Duals	38°	1600-2062 (63-81)	2985-2453 (117.6-136)	N/A
20.8R42, 520/85R42 Triples	38°	1600 (63)	2987 (117.6)	4374 (172)
520/85R46 Duals	36°	1600-2062 (63-81)	2985-2453 (117.6-136)	N/A
520/85R46 Triples	36°	1600 (63)	2987 (117.6)	4374 (172)
620/70R42 Duals	38°	1689-2062 (66.5-81)	3241-3614 (127.6-142)	N/A
620/70R46 Duals	36°	1689-2062 (66.5-81)	3241-3614 (127.6-142)	N/A
650/85R38 Duals	36°	1722-1966 (67.8-77.4)	3372-3648 (132.8-143.6)	N/A
710/70R38 Duals	38°	1783-1935 (70-76)	3472-3625 (137-143)	N/A
710/70R42 Duals	36°	1783-1935 (70-76)	3472-3625 (137-143)	N/A
800/70R38 Duals	36°	1876-2188 (74-86)	3763-4075 (148-160)	N/A

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TO84419,0000150 -19-09SEP15-1/1

Transport

Driving Tractor on Roads



RXA0086597 — UN—08FEB06

CAUTION: Avoid personal injury or death from losing control of tractor. When driving tractor on roads:

- Wear Seat belts.
- Reduce speed when driving on icy, wet, or graveled surfaces.
- Ballast tractor correctly (See Performance Ballasting section in this Operator's Manual).
- Prevent wheels from locking and skidding on tractors transporting heavy loads.
- Avoid holes, ditches, sharp turns, hillsides and obstructions which may cause tractor to roll over.
- Frequently check for traffic from rear, especially in turns, and use turn signal lights.
- Always operate flashing lights when traveling on a highway or public roads, except where prohibited by law.

Lights—Use headlights and turn signals day and night. Follow local regulations for equipment lighting and

marking. Keep lighting and marking visible and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere™ dealer.

Brakes—Tap brake pedal to ensure differential lock is NOT engaged. Avoid hard application of brakes.

Remote Cylinders—Position transport lock switch(es) to eliminate possibility of lowering an implement during transport by inadvertently bumping extend/retract lever(s). (See procedure in Hydraulics and Selective Control Valves or TouchSet Depth Control section of this Operator's Manual.)

Rear Hitch—Position or lock hitch in transport position to eliminate possibility of lowering an implement during transport by inadvertently bumping control lever. (See procedure in Hitch section of this Operator's Manual.)

TO84419,0000151 -19-21JUL14-1/1

Towed Mass

Depending on how trailer/implement is braked, following masses and speeds are permitted:

Trailer/implement brake system	Max. permissible towed mass	Max. speed
- Unbraked Towable Mass	3000 kg (6614 lb.)	25 km/h (15.5 mph)
- Independently - Braked Towable Mass	5000 kg (11023 lb.)	25 km/h (15.5 mph)
- Inertia Braked Towable Mass	8000 kg (17635 lb.)	25 km/h (15.5 mph)
- hydraulic brake	18400 kg (40565 lb.)	25 km/h (15.5 mph)
- single-line air brake	18400 kg (40565 lb.)	25 km/h (15.5 mph)
- dual-line air brake	18400 kg (40565 lb.)	max. design speed

There may be legal limits in force that restrict maximum towed mass and/or travel speeds to figures lower than those quoted here.

GH15097,00007F2 -19-20FEB15-1/1

Towing Loads and Transporting with Ballast

⚠ CAUTION: Avoid possible injury from losing control while towing a load. Stopping distance increases with speed and weight of towed loads, and on slopes.

Tractor wheels may lock and skid on slippery downhill slopes when tractors are transporting heavy loads.

Never exceed implement's maximum transport speed. Before transporting a towed implement, refer to implement operator's manual and implement decals to determine the maximum transport speed. This tractor is capable of operating at transport speeds which exceed maximum allowable transport speed for most towed implements. Use implement code in implement operator's manual to determine minimum number of front weights required. Failure to adhere to the implement's maximum transport speed or to have correct ballast can result in:

- Loss of control of tractor/implement combination
- Reduced or no ability to stop during braking
- Implement tire failure
- Damage to implement structure or components

Guidelines for Towing Equipment without Brakes:

- Do not transport at speeds greater than 32 km/h (20 mph).
- Must weigh less than 1.5 times the ballasted tractor weight.

Guidelines for Towing Equipment with Brakes:

- If manufacturer does not specify a maximum transport speed, do not transport at speeds above 40 km/h (25 mph).
- When transporting at speeds up to 40 km/h (25 mph) fully loaded implement must weigh less than 4.5 times tractor weight.
- When transporting at speeds between 40 km/h (25 mph) and 50 km/h (31 mph), fully loaded implement must weigh less than 3 times the tractor weight.

Tractor must be heavy and powerful enough with adequate braking power for towed load. Add ballast to tractor or lighten implement load.

Drive slowly enough to maintain safe control. Be alert for skids. Shift to a lower gear for hillsides, rough ground, and sharp turns, especially when transporting heavy equipment.

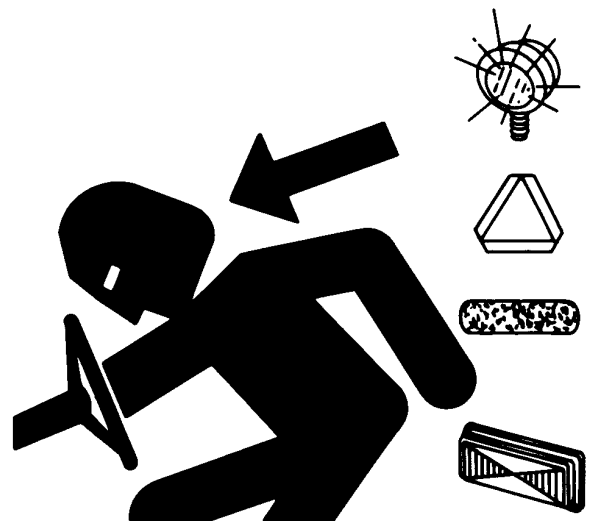
Never operate with transmission in neutral position or with clutch disengaged.

TO84419,0000152 -19-22MAY14-1/1

Use Safety Lights and Devices

Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from rear, especially in turns, and use turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere™ dealer.



TS951 — UN — 12APR90

TO84419,0000153 -19-13JUN14-1/1

Transporting Rear Mounted Implements with Ballast

⚠ CAUTION: Avoid possible injury when transporting heavy rear-mounted implements.

Drive slowly over rough ground, regardless of how much ballast used.

Add weight if needed for stability. Add enough ballast to maintain steering control.

TO84419,0000154 -19-13JUN14-1/1

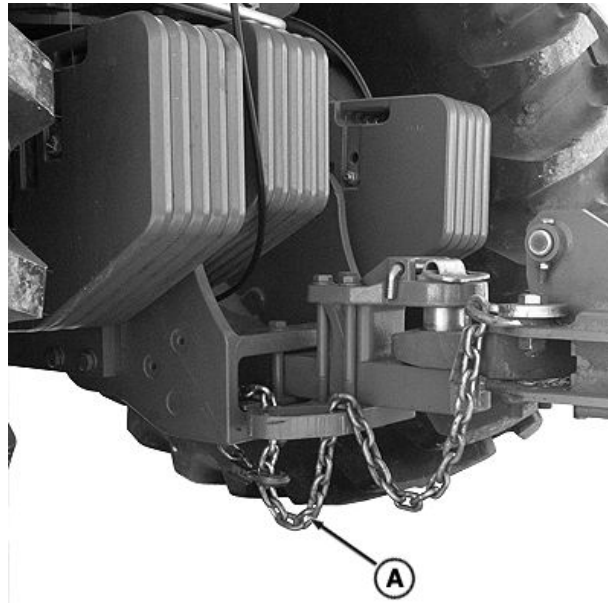
Using Safety Chains

Route safety chain (A) through loop and attach to the drawbar support.

⚠ CAUTION: Avoid possible accident and injury by using a safety chain on drawn equipment. Use a safety chain with a strength rating equal to or greater than the gross weight of equipment. Provide only enough slack in the chain to permit turning.

IMPORTANT: DO NOT use safety chain for towing or possible damage to tractor, implement, and drawbar may result. Safety chain is provided only for transport.

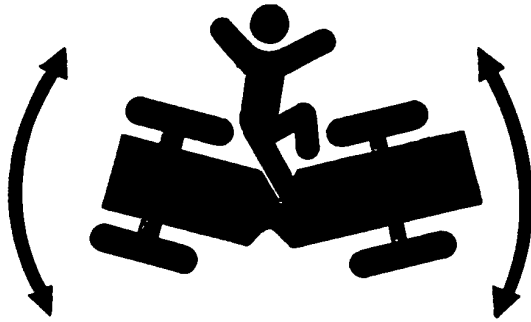
A—Safety Chain



RXA019965—UN—30AUG11

TO84419,0000155 -19-15JUN12-1/1

Transporting on Carrier



Transport on Carrier Safely

The best method of transporting a disabled tractor is to haul it on a flatbed carrier.

CAUTION: Shift transmission lever into PARK, stop engine and remove key before working in hinge area.

IMPORTANT: Install hinge lock, originally equipped with tractor, on hinge cylinders before transporting tractor.

Steer tractor straight ahead, shift transmission lever into PARK and turn OFF engine.

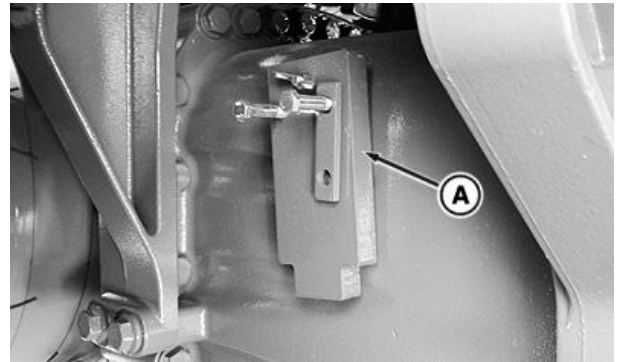
Remove left and right-hand hinge locks (A) from tractor frame storage location.

Install lock (B) behind cylinder and secure with retaining plate (C) and cap screws (D). Tighten cap screws to hold in place.

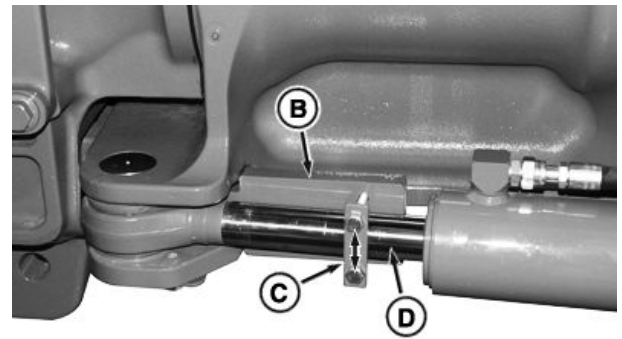
Chain tractor to trailer securely and drive slowly.

IMPORTANT: Remove hinge lock from hinge area before operating tractor.

RW13091—UN—07DEC88



RXA0142230—UN—24JUN14



RXA0142229—UN—11JUN14

Installed Hinge Lock

A—Stored Hinge Lock
B—Hinge Lock

C—Cap Screws
D—Retaining Plate

Remove hinge locks before unloading tractor.

Replace locks on tractor frame storage location as shown (A).

Continued on next page

GH15097,000087D -19-02OCT14-1/3

HydraCushion™ Suspension System (If Equipped)

IMPORTANT: When transporting 9R Series tractor on trailer, hydraulic pressure must be released from HydraCushion™ suspension system to facilitate proper tie down stability when shipping.

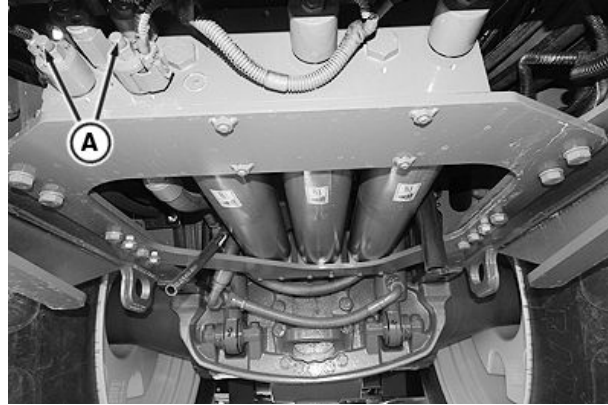
CAUTION: To avoid accident or injury, securely chain tractor to carrier. Drive carefully.

Stay clear of moving suspension components when releasing hydraulic pressure from solenoid valves.

1. Engage PARK position.
2. Push in and turn knobs in hydraulic solenoid valves (A) counterclockwise until knob pops out. This releases hydraulic pressure from HydraCushion™ suspension system. Tractor can now be tied down.
3. Push in and turn knobs in hydraulic solenoid valves (A) clockwise until knob pops out. This allows HydraCushion™ suspension system to pressurize and refill with hydraulic oil with when tractor is driven.

NOTE: For HydraCushion™ Suspension System operating instructions, see *Operate HydraCushion™*

HydraCushion is a trademark of Deere & Company



Hydraulic Solenoid Valves (Located Under Front Frame)

A—Hydraulic Solenoid Valves

Front Axle Suspension (If Equipped) in Operating the Tractor section of this Operator's Manual.

RXA0141851 —UN—02JUN14

Continued on next page

GH15097,000087D -19-02OCT14-2/3

"T" Hook Locations

CAUTION: To avoid accident or injury, securely chain tractor to carrier. Drive carefully.

IMPORTANT: Attach tie downs only to frame "T" hook slots and drawbar support when securing tractor on a carrier.

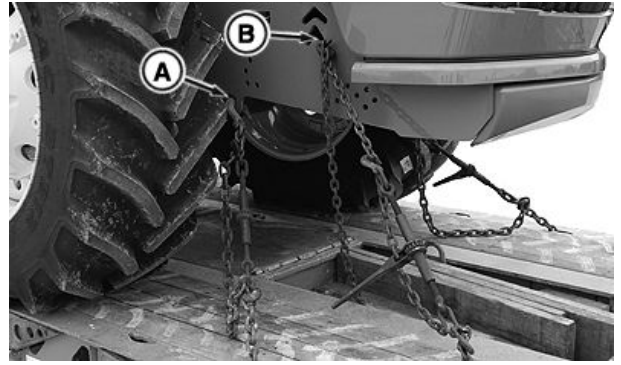
Transport a disabled tractor on a flat bed trailer.

1. Engage PARK position.
2. Attach chain using left and right-hand side front tie down loops (A) and/or left and right-hand side "T" hook slots (B) and tension chains forward and down to trailer frame.
3. Attach chain to rear tie down loop (C) on left and right-hand side of frame and tension chains forward and down to trailer frame.

NOTE: Use a rubber or protective material to prevent paint damage to drawbar support.

4. Attach chains to each side of rear drawbar support (D) to secure tractor to carrier.
5. Fold left and right-hand side mirrors (E) forward.
6. Fold left and right-hand extremity lights forward, if equipped.
7. Remove beacon light, if equipped.
8. Attach over dimension flags (F) to axles.
9. After traveling a short distance, check load shift to ensure tie downs are secure.

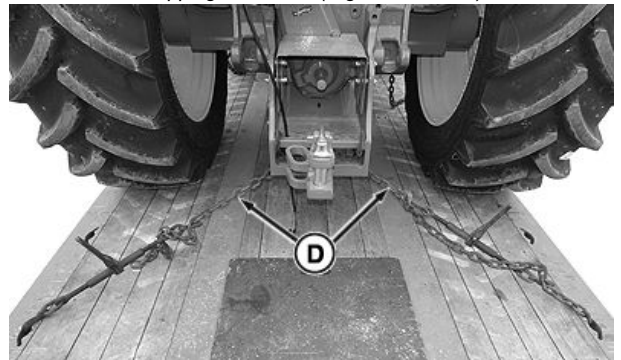
A—Front Tie Down Loop (Right-Hand Side)	D—Drawbar Support Tie Down
B—"T" Hook Slot (Right-Hand Side)	E—Side Mirror
C—Rear Tie Down Loop (Right-Hand Side)	F—Flags



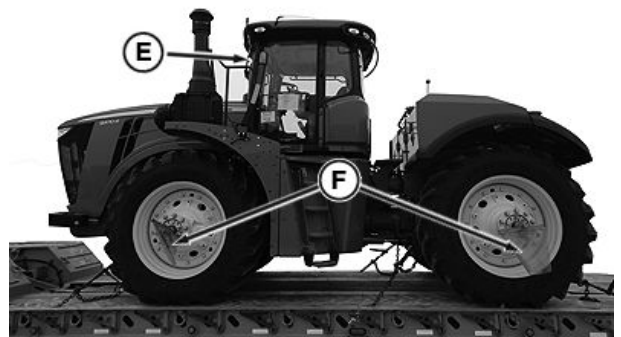
Hook Ring and "T" Hook Slot (Right-Hand Side)



Shipping Tie Down (Right-Hand Side)



Drawbar Support



GH15097.000087D -19-02OCT14-3/3

RXA0141812 —UN—29MAY14

RXA0141813 —UN—29MAY14

RXA0141814 —UN—29MAY14

RXA0141374 —UN—29MAY14

Towing—Rear Wheels Off Ground

If tractor must be towed, best method is to lift rear axle and tow tractor backward.

CAUTION: Stop engine and remove key before working in hinge area.

IMPORTANT: Install hinge lock (C) on tractor hinge cylinders before transporting tractor.

1. Steer tractor straight ahead before installing hinge lock.
2. Remove wing nut (A) to remove hinge lock.
3. Install hinge lock with cap screws.
4. Disconnect front axle by removing front axle drive shaft.

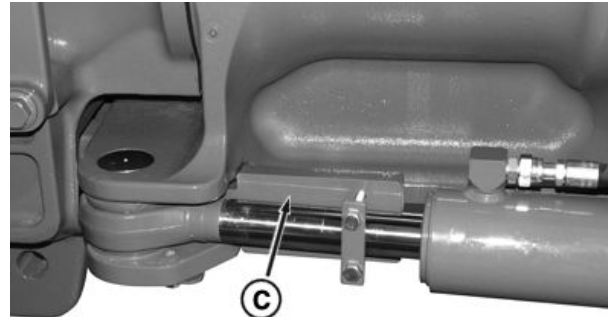
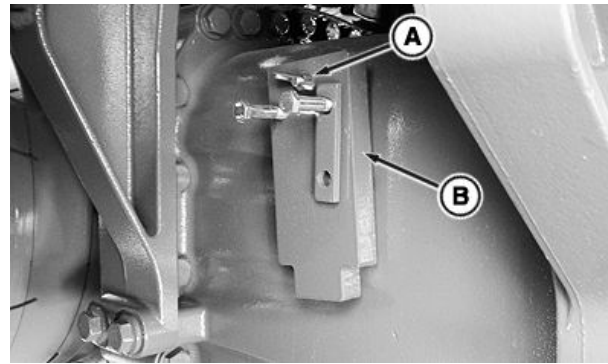
NOTE: It is not necessary to release internal park brake because rear wheels are off ground and front driveline is disconnected.

5. Release park brake on e18™ Powershift transmission. If tractor cannot be started to release park brake, see your John Deere™ Dealer for special tools required to release brake.

IMPORTANT: Never tow tractor faster than 8 km/h (5 mph) for a maximum distance of 8 km (5 mi.).

6. Lift tractor by rear axle housings. Attach tow bar to tractor drawbar. Couple as closely as possible.
7. Tow tractor cautiously.
8. Keep stored hinge lock (B) on tractor.

e18 is a trademark of Deere & Company



A—Wing Nut
B—Stored Hinge Lock

C—Hinge Lock

RXA0142713 —UN—24JUN14

RXA0142714 —UN—24JUN14

TO84419,0000157 -19-04MAY15-1/1

Towing with Axles on Ground—Engine Will Start

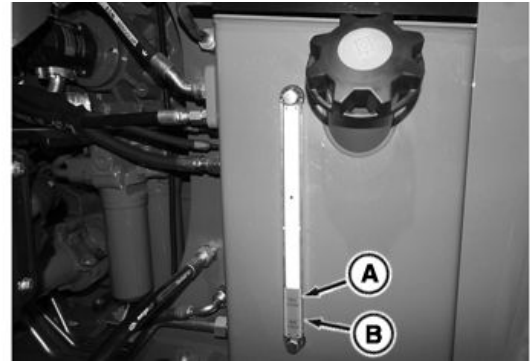
IMPORTANT: Avoid damage to transmission and hydraulic systems. Operate engine above 1250 rpm to provide adequate system lubrication. All pressure indicator lights must be off.

Never tow tractor faster than 8 km/h (5 mph) for a maximum distance of 8 km (5 mile).

1. Ensure hydraulic oil reservoir level in sight gauge is between FULL COLD (A) and MIN COLD (B) marks. See Check Transmission/Hydraulic Reservoir/Axle Oil Level in Daily or 10 Hour Service section of this Operator's Manual.
2. Attach tow bar to drawbar.
3. With transmission in PARK, start tractor.
4. Operate engine above 1250 rpm.
5. Move shift lever to NEUTRAL position (C). N on cornerpost display will illuminate.
6. Steer and brake tractor while being towed.
7. After towing is complete, place shift lever in PARK.

A—FULL COLD Mark
B—MIN COLD Mark

C—NEUTRAL



Hydraulic Oil Reservoir Sight Gauge



RXA0142406 —UN—10JUN14

RXA0141863 —UN—10JUN14

RX32825,000018A -19-29JUN15-1/1

Towing with All Wheels on Ground—Engine Will Not Start

CAUTION: If you have ACS™ and oil hydraulic oil temperature is less than -10° C (14° F), backup pump will not turn on. Tractor will not have brakes or steering. If tractor still must be moved, contact your John Deere™ dealer for assistance.

IMPORTANT: Never attempt to start tractor by towing.

Never tow tractor faster than 8 km/h (5 mph) for a maximum distance of 8 km (5 mi.).

1. Ensure hydraulic oil reservoir level in sight gauge is between FULL COLD (A) and MIN COLD (B) marks. See Check Transmission/Hydraulic Reservoir/Axle Oil Level in Daily or 10 Hour Service section of this Operator's Manual.
2. Attach tow bar to drawbar.

IMPORTANT: If tractor has no electrical power, a 100 Amp electrical source must be connected. See Using a Battery Booster or Charger in Operating the Engine Section of this Operator's Manual.

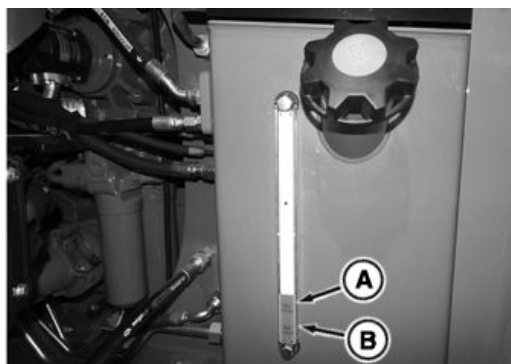
3. Open load center behind seat. See Load Center Fuses in Electrical System Service section of this Operator's manual.
4. Remove fuse F32 (10 Amp) and fuse:
 - F3 (10 Amp) - tractor equipped with 9.0 L or 13.5 L engine.
 - F11 (30 Amp) - tractor equipped with 15 L engine.
5. Install removed fuses into correct locations **F18 (10 Amp)** and **F22 (10 Amp or 30 Amp)**.

IMPORTANT: Park brake must be released before towing. Special tools are required. See your John Deere™ dealer.

6. Install appropriate Park Brake Release Hand Pump Kit components.
7. Turn key switch to ON position, required to pump off park brake manually.
8. Follow kit instructions to manually release spring-applied park brake.
9. Enable backup steering. Go to diagnostic addresses. See Diagnostic Center in CommandCenter™ section of this Operator's Manual.
10. Select correct control unit:
 - XSB – tractor equipped with ACS™ (ActiveCommand Steering).
 - XSC – tractor equipped with AutoTrac™.

CAUTION: Brakes are not part of hydraulic backup system and braking is achieved

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 CommandCenter is a trademark of Deere & Company
 ACS is a trademark of Deere & Company
 AutoTrac is a trademark of Deere & Company



Hydraulic Oil Reservoir Sight Gauge



A—FULL COLD Mark
 B—MIN COLD Mark

C—NEUTRAL

through manual braking only. Extra force is required for braking.

NOTE: When Back Up Mode is enabled, turning steering wheel activates backup pump. Pump should be heard operating.

11. Go to address 025 and select **Back Up Mode On**.
12. Press Accept.
13. Before closing CommandCenter™ display, go to PTP 055 to monitor park brake pressure. Ensure to pump power pack to a target value of 1800 kPa (18 bar)(261 psi) displayed at address PTP 055.
14. Press Close Window (X) until CommandCenter™ returns to normal operation.
15. Move shift lever to NEUTRAL position (C).
16. Steer and brake tractor while being towed.
17. After towing is complete, place shift lever in PARK.
18. Cycle key switch ON and OFF, to return address 025 to **Back Up Mode Off**.
19. Return all removed fuses to original locations.

RXA0142406 — UN — 10JUN14

RXA0141863 — UN — 10JUN14

RX32825,0000189 -19-16JAN15-1/1

Freeing a Mired Tractor

CAUTION: Use only a John Deere™ tow cable attached directly to tractor drawbar support. Tractor could be equipped with tow cable as standard equipment or field installed tow cable kit is available through John Deere™ Parts.

Clear area of people and other hazards before moving.

Attempting to free a mired machine can involve safety hazards.

When free, mired tractor can tip rearward or towed tractor can overturn. Tow chain, tow bar, or John Deere™ tow cable could fail and recoil from stretched condition.

Dig mud from behind rear wheels. Place boards behind wheels to provide a solid base and try to back out slowly. If necessary, dig mud from front of wheels and drive slowly ahead.

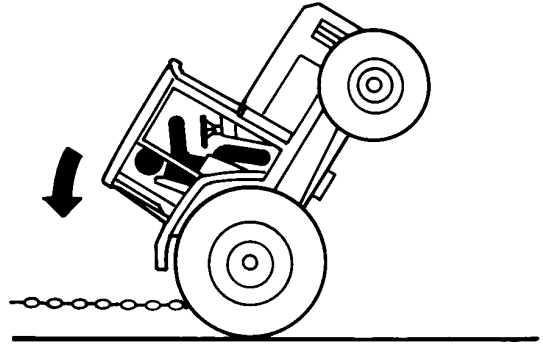
Unhitch any towed implements.

If rear of tractor is accessible, attach towing device to drawbar support and pull out tractor backwards.

IMPORTANT: Avoid damaging transmission/axle and hydraulic system. Never attempt to start tractor by towing.

If possible, run engine at least 1250 rpm to provide lubrication, steering and brakes. Have an operator steer and brake tractor.

Front weight support is not intended for pushing other tractors or implements or for securing chains or cables as tow points.



Never attempt to free stuck tractor by itself. Tow tractor from front or rear as straight as possible. Pulling at an angle causes heavy side loads and can cause damage to frame.

TO84419,0000159 -19-19JUN14-1/1

TS1645 —UN—15SEP95

TS263 —UN—23AUG88

Fuels, Lubricants, and Coolants

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended. Renewable diesel fuel produced by hydrotreating animal fats and vegetable oils is basically identical to petroleum diesel fuel. Renewable diesel that meets EN 590 or ASTM D975 is acceptable for use at all percentage mixture levels.

Required Fuel Properties

In all cases, the fuel shall meet the following properties:

Cetane number of 40 minimum. Cetane number greater than 47 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1675 m (5500 ft.).

Cold Filter Plugging Point (CFPP) should be at least 5°C (9°F) below the expected lowest temperature or **Cloud Point** below the expected lowest ambient temperature.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

Diesel fuel quality and sulfur content must comply with all existing emissions regulations for the area in which the engine operates. DO NOT use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm).

Sulfur content for Interim Tier 4, Final Tier 4, Stage III B, and Stage IV Engines

- Use ONLY ultra low sulfur diesel (ULSD) fuel with a maximum of 15 mg/kg (15 ppm) sulfur content.

Sulfur Content for Tier 3 and Stage III A Engines

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 1000—2000 mg/kg (1000—2000 ppm) REDUCES the oil and filter change interval.
- BEFORE using diesel fuel with sulfur content greater than 2000 mg/kg (2000 ppm), contact your John Deere dealer.

Sulfur Content for Tier 2 and Stage II Engines

- Use of diesel fuel with sulfur content less than 2000 mg/kg (2000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 2000—5000 mg/kg (2000—5000 ppm) REDUCES the oil and filter change interval.
- BEFORE using diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm), contact your John Deere dealer.

Sulfur Content for Other Engines

- Use of diesel fuel with sulfur content less than 5000 mg/kg (5000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm) REDUCES the oil and filter change interval.

IMPORTANT: Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.

Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

DX,FUEL1 -19-24OCT14-1/1

Supplemental Diesel Fuel Additives

Diesel fuel can be the source of performance or other operational problems for many reasons. Some causes include poor lubricity, contaminants, low cetane number, and a variety of properties that cause fuel system deposits. These and others are referenced in other sections of this Operator's Manual.

To optimize engine performance and reliability, closely follow recommendations on fuel quality, storage, and handling, which are found elsewhere in this Operator's Manual.

To further aid in maintaining performance and reliability of the engine's fuel system, John Deere has developed a family of fuel additive products for most global markets. The primary products include Fuel-Protect Diesel Fuel Conditioner (full feature conditioner in winter and summer formulas) and Fuel-Protect Keep Clean (fuel injector deposit removal and prevention). Availability of these and other products varies by market. See your local John Deere dealer for availability and additional information about fuel additives that might be right for your needs.

DX,FUEL13 -19-07FEB14-1/1

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

If fuel of low or unknown lubricity is used, add John Deere Fuel-Protect Diesel Fuel Conditioner (or equivalent) at the specified concentration.

Lubricity of BioDiesel Fuel

Fuel lubricity can improve significantly with BioDiesel blends up to B20 (20% BioDiesel). Further increase in lubricity is limited for BioDiesel blends greater than B20.

DX,FUEL5 -19-07FEB14-1/1

Handling and Storing Diesel Fuel

⚠ CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.

Keep all storage tanks as full as practicable to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using BioDiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and prevent water condensation. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4 -19-15FEB13-1/1

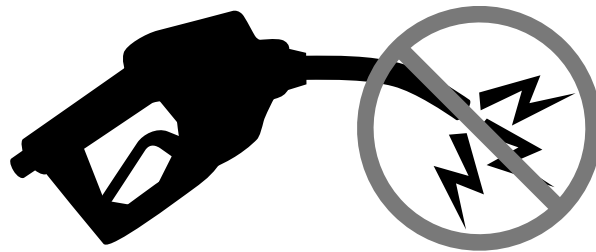
Avoid Static Electricity Risk When Refueling

The removal of sulfur and other compounds in Ultra-Low Sulfur Diesel (ULSD) fuel decreases its conductivity and increases its ability to store a static charge.

Refineries may have treated the fuel with a static dissipating additive. However, there are many factors that can reduce the effectiveness of the additive over time.

Static charges can build up in ULSD fuel while it is flowing through fuel delivery systems. Static electricity discharge when combustible vapors are present could result in a fire or explosion.

Therefore, it is important to ensure that the entire system used to refuel your machine (fuel supply tank, transfer pump, transfer hose, nozzle, and others) is properly grounded and bonded. Consult with your fuel or fuel system supplier to ensure that the delivery system is in compliance with fueling standards for proper grounding and bonding practices.



RG22142—UN—17MAR14

RG21992—UN—21AUG13

DX,FUEL,STATIC,ELEC -19-12JUL13-1/1

Fill Fuel Tank

CAUTION: Avoid possible personal injury:

- Always stop engine when refueling because fuel is highly flammable.
- Do not refuel while smoking or when near open flame or sparks.
- Handle fuel with care. Always clean up spilled fuel.
- Fill fuel tank outdoors.
- Prevent fires by keeping machine clean of accumulated trash, grease, and debris.

CAUTION: Handle fuel with care: It is highly flammable. Do not refuel the machine while smoking or when near flame or sparks.

Always stop engine before refueling machine.
Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris.
Always clean up spilled fuel.

IMPORTANT: To prevent damage to tractor fuel injection system and other components, never put Diesel Exhaust Fluid (DEF) into fuel tank or fuel system.

IMPORTANT: Use only ultra low sulfur fuel as prescribed by decal (D).

To confirm which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

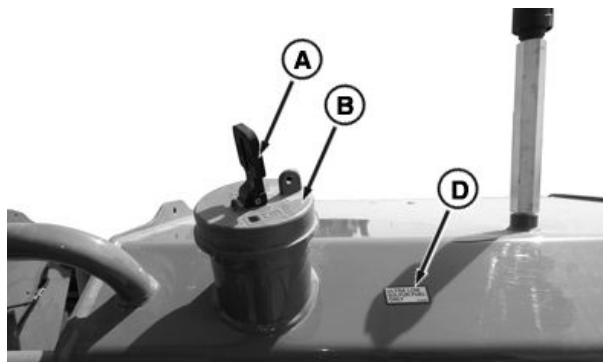
NOTE: If engine requires Diesel Exhaust Fluid (DEF) to operate, it is suggested that DEF tank is refilled each time machine is refueled to assure that sufficient DEF is available. See Filling DEF Tank in this section of this Operator's Manual

IMPORTANT: Each fuel tank is vented through filter at top of each tank. See LUBRICATION AND MAINTENANCE—1500 HOUR SERVICE section.

For machines with Final Tier 4/Stage IV engines, use only ultra low sulfur fuel as specified on decal (D) in this section of this Operator's Manual. For other machines, see Diesel Fuel in this section of this Operator's Manual.

Raise fuel cap lock lever (A) and rotate counterclockwise.

Remove fuel cap (B) and fill fuel tanks at end of each day. Filling tanks at end of day prevents condensation in tanks as moist air cools.



A—Fuel Cap Lock lever
B—Fuel Cap

C—Sight Tube
D—Ultra Low Sulfur Fuel Decal

NOTE: When digital display fuel gauge flashes, approximately 20 to 25 gallons of fuel remains.

Approximately 132 L (35 gal.) of fuel remains when the fuel level is at the bottom of sight tube (C).

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TSS202 —UN—23AUG88

RXA0142156 —UN—06JUN14

RXA0142158 —UN—06JUN14

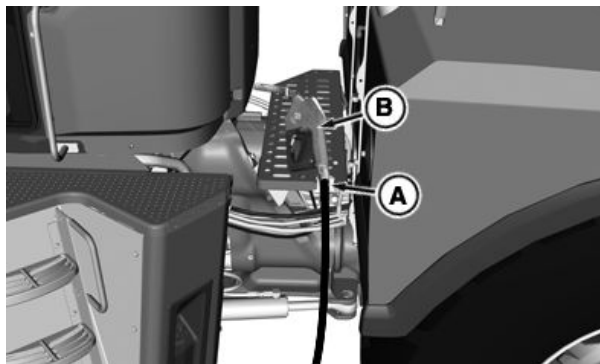
When filling fuel tank, place fuel nozzle (B) in fuel nozzle holder (A) before climbing steps.

Stand on platform (C), retrieve fuel nozzle and fill fuel tank.

Place fuel nozzle back in fuel nozzle holder before climbing down off of platform.

A—Fuel Nozzle Holder
B—Fuel Nozzle

C—Platform



RXA0143155 —UN—08JUL14



RXA0142198 —UN—08JUL14

TO84419,000015E -19-29OCT14-2/2

BioDiesel Fuel

BioDiesel fuel is comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats. BioDiesel blends are BioDiesel mixed with petroleum diesel fuel on a volume basis.

Before using fuel containing BioDiesel, review the BioDiesel Use Requirements and Recommendations in this Operator's Manual.

Environmental laws and regulations can encourage or prohibit the use of biofuels. Operators should consult with appropriate governmental authorities prior to using biofuels.

All John Deere™ and Cummins® Engines with Exhaust Filter (Released 2011 and After)

While 5% blends (B5) are preferred, BioDiesel concentrations up to a 20% blend (B20) in petroleum diesel fuel can be used. BioDiesel blends up to B20 can be used ONLY if the BioDiesel (100% BioDiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

BioDiesel concentrations above B20 can harm the engine's emission control systems and should not be used. Risks include, but are not limited to, more frequent stationary regeneration, soot accumulation, and increased intervals for ash removal.

John Deere approved fuel conditioners, which contain detergent and dispersant additives, are required when using BioDiesel blends from B10—B20, and are recommended when using lower BioDiesel blends.

All John Deere™ Engines Excluding Exhaust Filter (Primarily Released Prior to 2012)

While 5% blends (B5) are preferred, BioDiesel concentrations up to a 20% blend (B20) in petroleum diesel fuel can be used. BioDiesel blends up to B20 can be used ONLY if the BioDiesel (100% BioDiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

These John Deere™ engines can operate on BioDiesel blends above B20 (up to 100% BioDiesel). Operate at levels above B20 ONLY if the BioDiesel is permitted by law and meets the EN 14214 specification (primarily available in Europe). Engines operating on BioDiesel blends above B20 might not fully comply with or be permitted by all applicable emissions regulations. Expect up to a 12% reduction in power and an 18% reduction in fuel economy when using 100% BioDiesel.

John Deere™ approved fuel conditioners, which contain detergent and dispersant additives, are required when using BioDiesel blends from B10—B20, and are recommended when using lower BioDiesel blends.

BioDiesel Use Requirements and Recommendations

The petroleum diesel portion of all BioDiesel blends must meet the requirements of ASTM D975 (US) or EN 590 (EU) commercial standard.

BioDiesel users in the U.S. are strongly encouraged to purchase BioDiesel blends from a BQ-9000 Certified Marketer and sourced from a BQ-9000 Accredited Producer (as certified by the National BioDiesel Board). Certified Marketers and Accredited Producers can be found at the following website: <http://www.bq9000.org>.

BioDiesel contains residual ash. Ash levels exceeding the maximums allowed in either ASTM D6751 or EN14214 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present).

The fuel filter can require more frequent replacement, when using BioDiesel fuel, particularly if switching from diesel. Check engine oil level daily prior to starting engine. A rising oil level can indicate fuel dilution of the engine oil. BioDiesel blends up to B20 must be used within 90 days of the date of BioDiesel manufacture. BioDiesel blends above B20 must be used within 45 days from the date of BioDiesel manufacture.

When using BioDiesel blends up to B20, the following must be considered:

- Cold-weather flow degradation
- Stability and storage issues (moisture absorption, microbial growth)
- Possible filter restriction and plugging (usually a problem when first switching to BioDiesel on used engines)
- Possible fuel leakage through seals and hoses (primarily an issue with older engines)
- Possible reduction of service life of engine components

Request a certificate of analysis from your fuel distributor to ensure that the fuel is compliant with the specifications provided in this Operator's Manual.

Consult your John Deere™ dealer for approved fuel conditioners to improve storage and performance with BioDiesel fuels.

The following must also be considered if using BioDiesel blends above B20:

- Possible coking or blocked injector nozzles, resulting in power loss and engine misfire if John Deere approved fuel conditioners are not used
- Possible crankcase oil dilution (requiring more frequent oil changes)
- Possible lacquering or seizure of internal components
- Possible formation of sludge and sediments
- Possible thermal oxidation of fuel at elevated temperatures
- Possible compatibility issues with other materials (including copper, lead, zinc, tin, brass, and bronze) used in fuel handling equipment

Continued on next page

SV81855,00002BE -19-27JUN14-1/2

- Possible reduction in water separator efficiency
- Possible damage to paint if exposed to BioDiesel
- Possible corrosion of fuel injection equipment
- Possible elastomeric seal and gasket material degradation (primarily an issue with older engines)
- Possible high acid levels within fuel system
- Because BioDiesel blends above B20 contain more ash, using blends above B20 can result in more rapid

ash loading and require more frequent cleaning of the Exhaust Filter (if present)

IMPORTANT: Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere™ engines. Their use could cause engine failure.

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Cummins is a trademark of Cummins Inc.*

SV81855,00002BE -19-27JUN14-2/2

Testing Diesel Fuel

A fuel analysis program can help to monitor the quality of diesel fuel. The fuel analysis can provide critical data such as cetane number, fuel type, sulfur content, water content, appearance, suitability for cold weather

operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets specification.

Contact your John Deere dealer for more information on diesel fuel analysis.

DX,FUEL6 -19-14APR11-1/1

Fuel Filters

The importance of fuel filtration cannot be overemphasized with modern fuel systems. The combination of increasingly restrictive emission regulations and more efficient engines requires fuel system to operate at much higher pressures. Higher pressures can only be achieved using fuel injection components with very close tolerances. These close

manufacturing tolerances have significantly reduced capacities for debris and water.

John Deere™ brand fuel filters have been designed and produced specifically for John Deere™ products.

To protect the engine from debris and water, always change engine fuel filters as specified in this manual.

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Minimizing the Effect of Cold Weather on Diesel Engines

John Deere diesel engines are designed to operate effectively in cold weather.

However, for effective starting and cold-weather operation, a little extra care is necessary. The following information outlines steps that can minimize the effect that cold weather may have on starting and operation of your engine. See your John Deere dealer for additional information and local availability of cold-weather aids.

Use Winter Grade Fuel

When temperatures fall below 0 °C (32 °F), winter grade fuel (No. 1-D in North America) is best suited for cold-weather operation. Winter grade fuel has a lower cloud point and a lower pour point.

Cloud point is the temperature at which wax begins to form in the fuel. This wax causes fuel filters to plug. **Pour point** is the lowest temperature at which movement of the fuel is observed.

NOTE: On average, winter grade diesel fuel has a lower Btu (heat content) rating. Using winter grade fuel may reduce power and fuel efficiency, but should not cause any other engine performance effects. Check the grade of fuel being used before troubleshooting for low-power complaints in cold-weather operation.

Air Intake Heater

An air intake heater is an available option for some engines to aid cold weather starting.

Ether

An ether port on the intake is available to aid cold weather starting.

⚠ CAUTION: Ether is highly flammable. Do not use ether when starting an engine equipped with glow plugs or an air intake heater.

Coolant Heater

An engine block heater (coolant heater) is an available option to aid cold weather starting.

Seasonal Viscosity Oil and Proper Coolant Concentration

Use seasonal grade viscosity engine oil based on the expected air temperature range between oil changes and a proper concentration of low silicate antifreeze as recommended. (See DIESEL ENGINE OIL and ENGINE COOLANT requirements in this section.)

Diesel Fuel Flow Additive

Use John Deere Fuel-Protect Diesel Fuel Conditioner (winter formula), which contains anti-gel chemistry, or equivalent fuel conditioner to treat non-winter grade fuel (No. 2-D in North America) during the cold-weather season. This generally extends operability to about 10 °C (18 °F) below the fuel cloud point. For operability at even lower temperatures, use winter grade fuel.

IMPORTANT: Treat fuel when outside temperature drops below 0 °C (32 °F). For best results, use with untreated fuel. Follow all recommended instructions on label.

BioDiesel

When operating with BioDiesel blends, wax formation can occur at warmer temperatures. Begin using John Deere Fuel-Protect Diesel Fuel Conditioner (winter formula) at 5 °C (41 °F) to treat BioDiesel fuels during the cold-weather season. Use B5 or lower blends at temperatures below 0 °C (32 °F). Use only winter grade petroleum diesel fuel at temperatures below -10 °C (14 °F).

Winterfronts

Use of fabric, cardboard, or solid winterfronts is not recommended with any John Deere engine. Their use can result in excessive engine coolant, oil, and charge air temperatures. This can lead to reduced engine life, loss of power and poor fuel economy. Winterfronts may also put abnormal stress on fan and fan drive components potentially causing premature failures.

If winterfronts are used, they should never totally close off the grill frontal area. Approximately 25% area in the center of the grill should remain open at all times. At no time should the air blockage device be applied directly to the radiator core.

Radiator Shutters

If equipped with a thermostatically controlled radiator shutter system, this system should be regulated in such a way that the shutters are completely open by the time the coolant reaches 93 °C (200 °F) to prevent excessive intake manifold temperatures. Manually controlled systems are not recommended.

If air-to-air aftercooling is used, the shutters must be completely open by the time the intake manifold air temperature reaches the maximum allowable temperature out of the charge air cooler.

For more information, see your John Deere dealer.

DX,FUEL10 -19-15MAY13-1/1

Fill Diesel Exhaust Fluid (DEF) Tank - FT4/Stage IV Engines

CAUTION: DEF contains urea. Do not get the substance in eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Do not take internally. In event DEF is ingested, contact a physician immediately. Reference Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: To determine tractor engine type, see Record Engine Serial Number in Identification Numbers Section of this Operator's Manual.

IMPORTANT: Never put DEF in diesel fuel tank, or diesel fuel in DEF tank.

To avoid drastic changes in tractor performance, always keep DEF level above topmost red mark on cornerpost display (A). Monitor DEF level on cornerpost display and refill as necessary. Refill DEF tank every time tractor is refueled. See SCR System in Operating the Engine section of this Operator's Manual.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and may distort some plastic and rubber components.

To fill DEF tank:

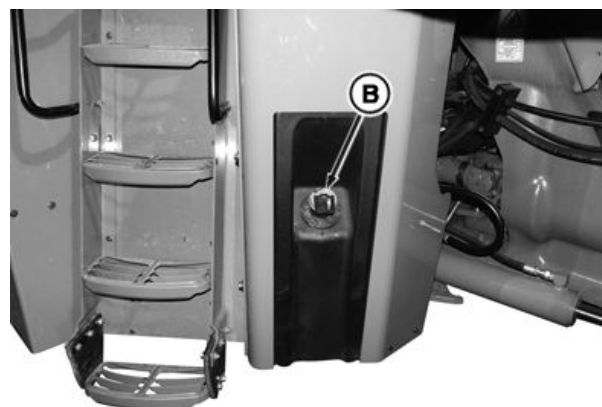
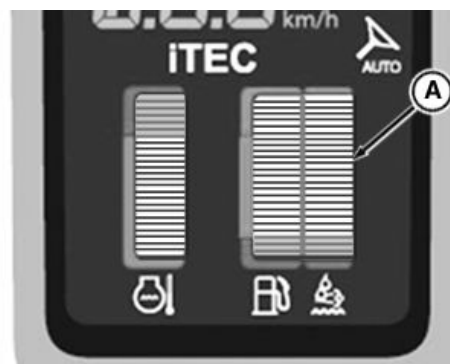
1. Before using containers, funnels, etc. to dispense DEF, wash and rinse items thoroughly with distilled water to remove contaminants.
2. Wipe DEF tank filler cap (B), area around cap and filler neck to reduce chance of contaminating DEF.
3. Lift DEF tank cap latch lever and turn 90° counterclockwise.
4. Lift cap from filler neck.

IMPORTANT: Avoid overfilling DEF tank.

Completely filling DEF tank at lower temperatures can cause a blockage in filler neck. If expected temperatures are expected to reach below -11°C (12°F), do not fill DEF tank more than half way according to DEF level display on corner post (A). Observe temperature guidelines to assure ability to refill tank.

5. Using funnel, carefully fill DEF tank. **DO NOT** over fill DEF tank. Best final fill level is determined by ambient air temperature guide:
 - **Ambient air temperature at or above -11°C (12°F):** Completely fill tank.
 - **Ambient air temperature below -11°C (12°F):** Keep fill tank level below the filler neck. Although main portion of DEF tank is heated to keep DEF from freezing, filler neck is not heated. Fluid in neck may freeze, preventing refill DEF tank until fluid melts.
6. Replace and securely latch DEF tank cap. The DEF tank cap can be locked with a padlock.
7. Carefully clean any spills, using clean (preferably distilled) water.

If an unapproved fluid, such as diesel fuel, or engine coolant is added to vehicle DEF tank, see Cleaning Diesel Exhaust Fluid (DEF) Tank in As Required Service section of this Operator's Manual.



A—DEF Level on Corner Post Display B—DEF Tank Cap

RXA0131292 — UN — 19MAR13

RXA0142157 — UN — 06JUN14

SV81855,0000299 -19-16DEC14-1/1

Diesel Exhaust Fluid (DEF) — Use in Selective Catalytic Reduction (SCR) Equipped Engines

Diesel exhaust fluid (DEF) is a high purity liquid that is injected into the exhaust system of engines equipped with selective catalytic reduction (SCR) systems. Maintaining the purity of DEF is important to avoid malfunctions in the SCR system. Engines requiring DEF shall use a product that meets the requirements for aqueous urea solution 32 (AUS 32) according to ISO 22241-1.

The use of John Deere Diesel Exhaust Fluid is recommended. John Deere Diesel Exhaust Fluid is available at your John Deere dealer in a variety of package sizes to suit your operational needs.

If John Deere Diesel Exhaust Fluid is not available, use DEF that is certified by the American Petroleum Institute

AdBlue is a trademark of VDA, the German Association of the Automotive Industry.

(API) Diesel Exhaust Fluid Certification Program or by the AdBlue™ Diesel Exhaust Fluid Certification Program. Look for the API certification symbol or the AdBlue™ name on the container.

In some cases, DEF is referred to by one or more of these names:

- Urea
- Aqueous Urea Solution 32
- AUS 32
- AdBlue™
- NOx Reduction Agent
- Catalyst Solution

DX,DEF -19-13JUN13-1/1

Storing Diesel Exhaust Fluid (DEF)

⚠ CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

Do not ingest DEF. In the event DEF is ingested, contact a physician immediately. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: It is unlawful to tamper with or remove any component of the aftertreatment system. Do not use DEF that does not meet the required specifications or operate the engine with no DEF.

Never attempt to create DEF by mixing agricultural grade urea with water. Agricultural grade urea does not meet the necessary specifications and can damage the aftertreatment system.

Do not add any chemicals or additives to DEF in an effort to prevent freezing. Any chemicals or additives added to DEF can damage the aftertreatment system.

Never add water or any other fluid in place of, or in addition to DEF. Operating with a modified DEF or using an unapproved DEF can damage the aftertreatment system.

The following storage information is provided for reference and is to be used as a guideline only.

It is preferred to store DEF out of extreme ambient temperatures. DEF freezes at -11°C (12°F). Exposure to temperatures greater than 30°C (86°F) can degrade DEF over time.

Dedicated DEF storage containers must be sealed between uses to prevent evaporation and contamination. Containers made of polyethylene, polypropylene, or stainless steel are recommended to transport and store DEF.

Ideal conditions for storage of DEF are:

- Store at temperatures between -5°C and 30°C (23°F and 86°F)
- Store in dedicated containers sealed to avoid contamination and evaporation

Under these conditions, DEF is expected to remain useable for a minimum of 18 months. Storing DEF at higher temperatures can reduce its useful life by approximately 6 months for every 5°C (9°F) temperature above 30°C (86°F).

If unsure how long or under what conditions DEF has been stored, test DEF. See Testing Diesel Exhaust Fluid (DEF).

Long-term storage in the DEF tank (over 12 months) is not recommended. If long-term storage is necessary, test DEF prior to operating engine. See Testing Diesel Exhaust Fluid (DEF).

It is recommended to purchase DEF in quantities that will be consumed within 12 months.

DX,DEF,STORE -19-13JUN13-1/1

Refilling Diesel Exhaust Fluid (DEF) Tank

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

Do not ingest DEF. In the event DEF is ingested, contact a physician immediately. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: Use only distilled water to rinse components that are used to deliver DEF. Tap water can contaminate DEF. If distilled water is not available, rinse with clean tap water, then thoroughly rinse with ample amounts of DEF.

If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

If DEF is filled into engine fuel tank or other fluid compartment, do not operate engine until system is properly purged of DEF. Contact your John Deere dealer immediately to determine how to clean and purge the system.

Reasonable care should be taken when refilling the DEF tank. Ensure that the DEF tank cap area is free of debris before removing the cap. Seal containers of DEF between use to prevent contamination and evaporation.

Avoid splashing DEF and do not allow DEF to come into contact with skin, eyes, or mouth.

DEF is not harmful to handle, but DEF can be corrosive to materials such as steel, iron, zinc, nickel, copper,



aluminum, and magnesium. Use suitable containers to transport and store DEF. Containers made of polyethylene, polypropylene, or stainless steel are recommended.

Avoid prolonged contact with skin. In case of accidental contact, wash skin immediately with soap and water.

Keep anything used to store or dispense DEF clean of dirt and dust. Wash and rinse containers or funnels thoroughly with distilled water to remove contaminants.

If an unapproved fluid, such as diesel fuel or coolant is added to the DEF tank, contact your John Deere dealer immediately to determine how to clean and purge the system.

If water has been added to the DEF tank, a tank cleaning is necessary. See Cleaning DEF Tank in this manual. After refilling the tank, check the DEF concentration. See Testing Diesel Exhaust Fluid (DEF).

The operator must maintain appropriate DEF levels at all times. Check the DEF level daily and refill the tank as needed. The filling port is identified by a blue colored cap embossed with the DEF symbol, shown.

TS1731 —UN—23AUG13

DX,DEF,REFILL -19-13AUG13-1/1

Testing Diesel Exhaust Fluid (DEF)

IMPORTANT: Using DEF with the correct concentration is critical to engine and aftertreatment system performance. Extended storage and other conditions can adversely alter the DEF concentration.

If DEF quality is questionable, draw a sample out of the DEF tank or storage tank into a clear container. DEF must be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint, or has a profound ammonia smell, it is likely not within specification. DEF in this condition should not be used. Drain tank, flush with distilled water and refill with new or good DEF. After refilling the tank, check the DEF concentration.

If the DEF passes the visual and smell test, check the DEF concentration with a handheld refractometer calibrated to measure DEF.

DEF concentration should be checked when the engine has been stored for extended periods, or if there is

suspicion the engine or packaged DEF fluid has been contaminated with water.

Two approved tools are available through your John Deere dealer:

- JDG11594 Digital DEF Refractometer—A digital tool providing an easy to read concentration measurement
- JDG11684 DEF Refractometer—Low-cost alternative tool providing an analog reading

Follow instructions included with either tool to obtain the measurement.

The correct DEF concentration is 31.8—33.2% urea. If the DEF concentration is not within specification, drain the DEF tank, flush with distilled water and fill with new or good DEF. If packaged DEF is not within specification, dispose of DEF packages and replace with new or good DEF.

DX,DEF,TEST -19-13JUN13-1/1

Disposal of Diesel Exhaust Fluid (DEF)

Although there is little issue with minor spillage of DEF on the ground, large amounts of DEF should be contained. If large spills occur, contact local environmental authorities for assistance with clean-up.

If a substantial quantity of DEF is not within specification, contact the DEF supplier for assistance with disposal. Do

not dump substantial quantities of DEF onto the ground or send DEF to wastewater treatment facilities.

DX,DEF,DISPOSE -19-13JUN13-1/1

John Deere Break-In Plus™ Engine Oil — Final Tier 4 and Stage IV 9.0 and 13.5 L Engines

New engines are filled at the factory with John Deere Break-In Plus™ Engine Oil. During the break-in period, add John Deere Break-In Plus™ Engine Oil, as needed to maintain the specified oil level.

Operate the engine under various conditions, particularly heavy loads with minimal idling, to help seat engine components properly.

During the initial operation of a new or rebuilt engine, change the oil and filter between a minimum of 100 hours and maximum equal to the interval specified for John Deere Plus-50™ II oil.

After engine overhaul, fill the engine with John Deere Break-In Plus™ Engine Oil.

If John Deere Break-In Plus™ Engine Oil is not available, use an SAE 10W-30 viscosity grade diesel engine oil meeting one of the following:

*Break-In Plus is a trademark of Deere & Company
Plus-50 is a trademark of Deere & Company.*

- API Service Category CJ-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E6

If one of these oils is used during the initial operation of a new or rebuilt engine, change the oil and filter between a minimum of 100 hours and a maximum of 250 hours.

IMPORTANT: Do not use any other engine oils during the initial break-in of a new or rebuilt engine.

John Deere Break-In Plus™ Engine Oil can be used for all John Deere diesel engines at all emission certification levels.

After the break-in period, use John Deere Plus-50™ II or other diesel engine oil as recommended in this manual.

RX32825.0000179 -19-16JUN15-1/1

Break-In Engine Oil Use — Final Tier 4 and Stage IV 15 L Engines

IMPORTANT: Special "break-in" engine oils (including John Deere™ Break-In or Break-In Plus™ Oil) are not recommended for new or rebuilt 15 L engines. Use the same lubricating oil that will be used during normal operation. See Diesel Engine Oil - Final Tier 4 and Stage IV and Interim

Tier 4 and Stage III B Engines in Fuel, Lubricants and Coolant section of this Operator's Manual.

15 L engines are not shipped from the factory with break-in oil installed. Use of break-in oils is not recommended.

RX32825,000017A -19-24SEP14-1/1

Determine Tractor Engine Type

IMPORTANT: To determine tractor engine type, see Record Engine Serial Number in Identification Numbers Section of this Operator's Manual.

Correct engine oil specification and oil change interval is determined by a number of factors. One important

consideration is type of engine aftertreatment installed. To determine engine type, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

RX32825,0000003 -19-29OCT14-1/1

Diesel Engine Oil — Interim Tier 4, Final Tier 4, Stage IIIB, and Stage IV

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere Plus-50™ II is the recommended engine oil.

Extended service intervals may apply when John Deere Plus-50™ II engine oil is used. Refer to the engine oil drain interval table and consult your John Deere dealer for more information.

If John Deere Plus-50™ II engine oil is not available, engine oil meeting one or more of the following may be used:

- API Service Category CJ-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E6

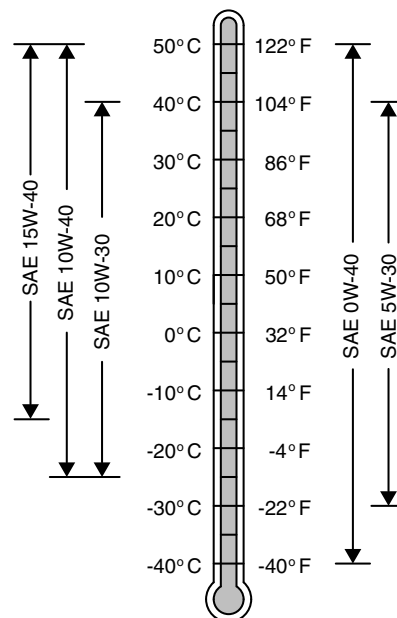
DO NOT use engine oil containing more than 1.0% sulfated ash, 0.12% phosphorus, or 0.4% sulfur.

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

IMPORTANT: Use only ultra low sulfur diesel (ULSD) fuel with a maximum sulfur content of 15 mg/kg (15 ppm).

Plus-50 is a trademark of Deere & Company



Oil Viscosities for Air Temperature Ranges

TS1691 —JUN—18JUL07

DX,ENOIL14 -19-15JUN10-1/1

Engine Oil and Filter Service Intervals — Final Tier 4 and Stage IV 9.0 and 13.5 L Engines

Recommended oil and filter service intervals are based on a combination of oil pan capacity, type of engine oil and filter used, and sulfur content of the diesel fuel. Actual service intervals also depend on operation and maintenance practices.

Use oil analysis to evaluate the condition of the oil and to aid in selection of the proper oil and filter service interval. Contact your John Deere™ dealer for more information on engine oil analysis.

Change the oil and oil filter at least once every 12 months even if the hours of operation are fewer than the otherwise recommended service interval.

Diesel fuel sulfur content affects engine oil and filter service intervals. Higher fuel sulfur levels reduce oil and filter service intervals.

Use of diesel fuel with sulfur content less than 15 mg/kg (15 ppm) is **REQUIRED**.

IMPORTANT: To avoid engine damage:

- **Reduce oil and filter service intervals by 50% when using BioDiesel blends greater than B20. Oil analysis may allow longer service intervals.**
- **Use only approved oil types.**

Approved Oil Types:

- John Deere Plus-50™ II
- “Other Oils” include API CJ-4, ACEA E9, and ACEA E6

NOTE: The 500 hour extended oil and filter change interval is only allowed if all of the following conditions are met:

- Use of diesel fuel with sulfur content less than 15 mg/kg (15 ppm)
- Use of John Deere™ Plus-50™ II oil
- Use of an approved John Deere™ oil filter

Engine Oil and Filter Service Intervals	
John Deere Plus-50™ II	500 hours
Other Oils	250 hours
Oil analysis may extend the service interval of “Other Oils” to a maximum not to exceed the interval of Plus-50™ II oils.	

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RX32825,0000178 -19-16JUN15-1/1

Engine Oil and Filter Service Intervals — Final Tier 4 and Stage IV 15 L Engines

Recommended oil and filter service intervals are based on a combination of oil pan capacity, type of engine oil and filter used, and sulfur content of the diesel fuel. Actual service intervals also depend on operation and maintenance practices.

Use oil analysis to evaluate the condition of the oil and to aid in selection of the proper oil and filter service interval. Contact your John Deere™ dealer for more information on engine oil analysis.

Change the oil and oil filter at least once every 12 months even if the hours of operation are fewer than the otherwise recommended service interval.

Diesel fuel sulfur content affects engine oil and filter service intervals. Higher fuel sulfur levels reduce oil and filter service intervals.

Use of diesel fuel with sulfur content less than 15 mg/kg (15 ppm) is **REQUIRED**.

IMPORTANT: To avoid engine damage:

- **BioDiesel blends greater than B20 are not recommended in 15 L engines. Oil analysis may allow longer service intervals.**
- **Use only approved oil types.**

Approved Oil Types:

- John Deere Plus-50™ II
- “Other Oils” include API CJ-4, ACEA E9, and ACEA E6

NOTE: The 400 hour extended oil and filter change interval is only allowed if all of the following conditions are met:

- Use of diesel fuel with sulfur content less than 15 mg/kg (15 ppm)
- Use of John Deere™ Plus-50™ II oil
- Use of an approved John Deere™ oil filter

Engine Oil and Filter Service Intervals	
John Deere Plus-50™ II	400 hours
Other Oils	250 hours
Oil analysis may extend the service interval of “Other Oils” to a maximum not to exceed the interval of Plus-50™ II oils.	

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Plus-50 is a trademark of Deere & Company*

SV81855,00002C0 -19-24SEP14-1/1

Diesel Engine Oil Service Interval for Operation at High Altitude

To avoid excessive oil degradation and potential engine damage, reduce oil and filter service intervals to 50% of the original recommended values when operating engines at altitudes above **1675 m (5500 ft)**.

Oil analysis may allow longer service intervals.

Use only approved oil types.

Example of Original Hours	Corresponding High Altitude Hours
125	60
150	75
175	85
200	100
250	125
275	135
300	150
350	175
375	185
400	200
500	250

DX,ENOIL,SERV,HIALT -19-11NOV14-1/1

Oil Filters

Filtration of oils is critically important for proper operation and lubrication. John Deere brand oil filters have been designed and produced specifically for John Deere applications.

John Deere filters adhere to engineering specifications for quality of the filter media, filter efficiency rating, strength

of the bond between the filter media and the element end cap, fatigue life of the canister (if applicable), and pressure capability of the filter seal. Non-John Deere branded oil filters might not meet these key John Deere specifications.

Always change oil filters regularly as specified in this manual.

DX,FILT1 -19-11APR11-1/1

Diesel Engine Coolant (engine with wet sleeve cylinder liners)

Preferred Coolants

The following pre-mix engine coolants are preferred:

- John Deere COOL-GARD™ II
- John Deere COOL-GARD II PG

COOL-GARD II pre-mix coolant is available in several concentrations with different freeze protection limits as shown in the following table.

COOL-GARD II pre-mix	Freeze Protection Limit
COOL-GARD II 20/80	-9 °C (16 °F)
COOL-GARD II 30/70	-16 °C (3 °F)
COOL-GARD II 50/50	-37 °C (-34 °F)
COOL-GARD II 55/45	-45 °C (-49 °F)
COOL-GARD II PG 60/40	-49 °C (-56 °F)
COOL-GARD II 60/40	-52 °C (-62 °F)

Not all COOL-GARD II pre-mix products are available in all countries.

Use COOL-GARD II PG when a non-toxic coolant formulation is required.

Additional Recommended Coolants

The following engine coolant is also recommended:

- John Deere COOL-GARD II Concentrate in a 40—60% mixture of concentrate with quality water.

IMPORTANT: When mixing coolant concentrate with water, do not use less than 40% or greater than 60% concentration of coolant. Less than 40% gives inadequate additives for corrosion protection. Greater than 60% can result in coolant gelation and cooling system problems.

Other Coolants

Other ethylene glycol or propylene glycol base coolants may be used if they meet the following specification:

- Pre-mix coolant meeting ASTM D6210 requirements

COOL-GARD is a trademark of Deere & Company

- Coolant concentrate meeting ASTM D6210 requirements in a 40—60% mixture of concentrate with quality water

If coolant meeting one of these specifications is unavailable, use a coolant concentrate or pre-mix coolant that has a minimum of the following chemical and physical properties:

- Provides cylinder liner cavitation protection according to either the John Deere Cavitation Test Method or a fleet study run at or above 60% load capacity
- Is formulated with a nitrite-free additive package
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

Coolant Drain Intervals

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

When COOL-GARD II or COOL-GARD II PG is used, the drain interval is 6 years or 6000 hours of operation.

If a coolant other than COOL-GARD II or COOL-GARD II PG is used, reduce the drain interval to 2 years or 2000 hours of operation.

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

Do not mix ethylene glycol and propylene glycol base coolants.

Do not use coolants that contain nitrites.

DX,COOL3 -19-15MAY13-1/1

John Deere COOL-GARD™ II Coolant Extender

Some coolant additives gradually deplete during engine operation. For COOL-GARD™ II pre-mix and COOL-GARD II Concentrate, replenish coolant additives between drain intervals by adding COOL-GARD II Coolant Extender.

COOL-GARD II Coolant Extender should not be added unless indicated by COOL-GARD II Test Strips. These test strips provide a simple, effective method to check the freeze point, additive levels, and pH of your engine coolant.

Test the coolant solution at intervals of 12 months and whenever excessive coolant is lost through leaks or overheating.

IMPORTANT: Do not use COOL-GARD II Test Strips with COOL-GARD II PG.

COOL-GARD II Coolant Extender is a chemically matched additive system for use with all COOL-GARD II coolants.

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COOL-GARD II Coolant Extender is not intended for use with nitrite-containing coolants.

IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

- John Deere COOL-GARD II
- John Deere COOL-GARD II PG

The use of non-recommended supplemental coolant additives can result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

Add the recommended concentration of COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

DX,COOL16 -19-15MAY13-1/1

Operating in Warm Temperature Climates

John Deere engines are designed to operate using recommended engine coolants.

Always use a recommended engine coolant, even when operating in geographical areas where freeze protection is not required.

IMPORTANT: Water may be used as coolant *in emergency situations only*.

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended engine coolant as soon as possible.

DX,COOL6 -19-15MAY13-1/1

Water Quality for Mixing with Coolant Concentrate

Engine coolants are a combination of three chemical components: ethylene glycol (EG) or propylene glycol (PG) antifreeze, inhibiting coolant additives, and quality water.

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

All water used in the cooling system should meet the following minimum specifications for quality:

Chlorides	<40 mg/L
Sulfates	<100 mg/L
Total solids	<340 mg/L
Total dissolved hardness	<170 mg/L
pH	5.5—9.0

IMPORTANT: Do not use bottled drinking water because it often contains higher concentrations of total dissolved solids.

Freeze Protection

The relative concentrations of glycol and water in the engine coolant determine its freeze protection limit.

Ethylene Glycol	Freeze Protection Limit
40%	-24 °C (-12 °F)
50%	-37 °C (-34 °F)
60%	-52 °C (-62 °F)
Propylene Glycol	Freeze Protection Limit
40%	-21 °C (-6 °F)
50%	-33 °C (-27 °F)
60%	-49 °C (-56 °F)

DO NOT use a coolant-water mixture greater than 60% ethylene glycol or 60% propylene glycol.

DX, COOL19 -19-15MAY13-1/1

Testing Coolant Freeze Point

The use of a handheld coolant refractometer is the quickest, easiest, and most accurate method to determine coolant freeze point. This method is more accurate than a test strip or a float-type hydrometer which can produce poor results.

A coolant refractometer is available through your John Deere dealer under the SERVICEGARD™ tool program. Part number 75240 provides an economical solution to accurate freeze point determination in the field.

To use this tool:

1. Allow cooling system to cool to ambient temperatures.
2. Open radiator cap to expose coolant.
3. With the included dropper, collect a small coolant sample.
4. Open the lid of the refractometer, place one drop of coolant on the window and close the lid.
5. Look through the eyepiece and focus as necessary.
6. Record the listed freeze point for the type of coolant (ethylene glycol coolant or propylene glycol) being tested.



SERVICEGARD™ Part Number 75240

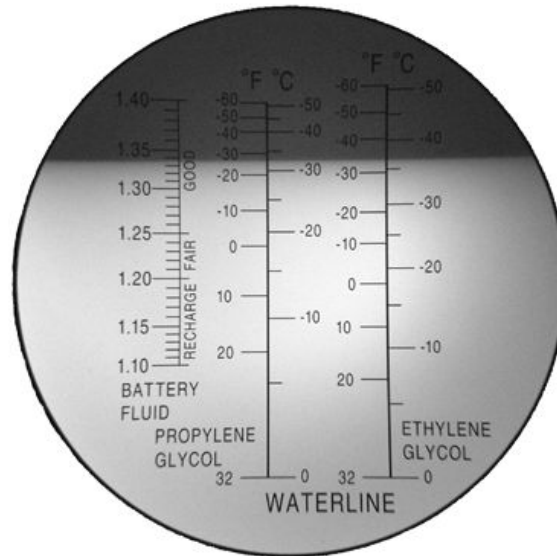


Image with a Drop of 50/50 Coolant Placed on the Refractometer Window

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DX,COOL,TEST -19-13JUN13-1/1

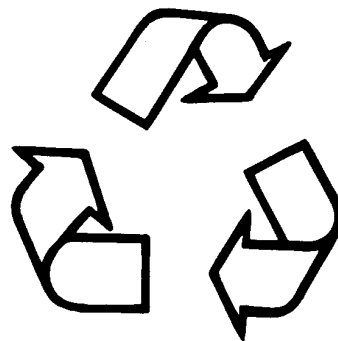
Disposing of Coolant

Improperly disposing of engine coolant can threaten the environment and ecology.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere engine distributor or servicing dealer.



Recycle Waste

RG,RG34710,7543 -19-09JAN07-1/1

Transmission/Axle and Hydraulic Oil

IMPORTANT: To ensure proper shift quality, an oil meeting HY-GARD or JDM J20C specifications must be used.

Shift quality problems and/or drivetrain damage may occur if the HY-GARD or JDM J20C specifications are not followed.

Your tractor's transmission/axle and hydraulic reservoir is factory filled with John Deere™ Hy-Gard JDM J20C™ oil.

Use oil viscosity based on the expected air temperature range during the period between oil changes.

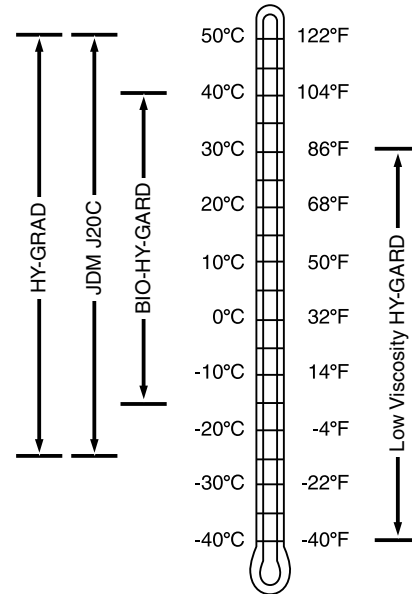
The following oils are preferred:

- John Deere™ HY-GARD®
- John Deere™ Low Viscosity *HY-GARD®

Other oils may be used if they meet one of the following:

- John Deere™ Standard JDM J20C

Use John Deere™ BIO-HY-GARD™ oil when a biodegradable fluid is required.¹



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HY-GARD is a trademark of Deere & Company.
BIO-HY-GARD is a trademark of Deere & Company*

¹ BIO-HY-GARD meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC-L-33-T-82 test method. BIO-HY-GARD should not be mixed with mineral oils, because this reduces the biodegradability and makes proper oil recycling impossible.

SV81855,000026E -19-12JUN14-1/1

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Grease

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

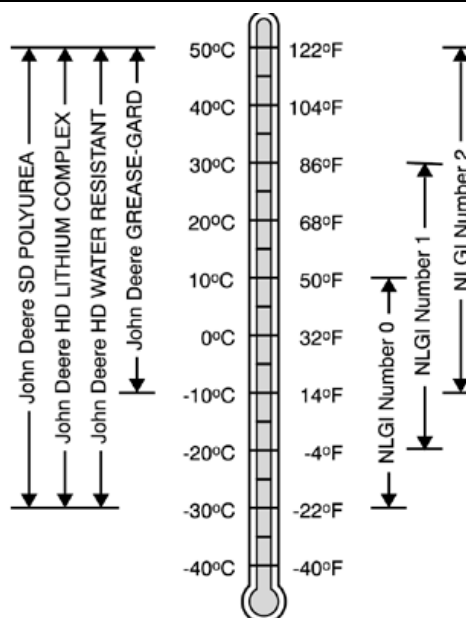
The following greases are also recommended:

- John Deere HD Lithium Complex Grease
- John Deere HD Water Resistant Grease
- John Deere GREASE-GARD™

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB

IMPORTANT: Some types of grease thickeners are not compatible with others. Consult your grease supplier before mixing different types of grease.



Greases for Air Temperature Ranges

GREASE-GARD is a trademark of Deere & Company

DX,GREA1 -19-14APR11-1/1

Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX -19-18MAR96-1/1

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic lubricants.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER -19-11APR11-1/1

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

Properly dispose of all old containers and any residual lubricant they may contain.

DX,LUBST -19-11APR11-1/1

Break-In Service (100 Hours or Less)

Perform Break-In Checks

IMPORTANT: To confirm which engine your tractor is equipped with, see Identification Numbers Section - Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

IMPORTANT: Special "break-in" engine oils (including John Deere™ Break-In or Break-In Plus™ Oil) are not recommended for new or rebuilt 15 L engines. Use the same lubricating oil that is used during normal operation. See Diesel Engine Oil - Interim Tier 4, Final Tier 4, Stage III B, and Stage IV section of this Operator's Manual. Maximum service interval is the same as service interval recommended for your engine listed in Engine Oil and Filter Service Intervals for your engine. For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine in Fuels, Lubricants, and Coolant section of this Operator's Manual.

IMPORTANT: Initial break-in service interval of a new or rebuilt wet sleeve engine with John Deere™ Break-In Plus™ must last at least 100 hours to assure surface mating of rings and liners has had an opportunity to occur. 100 hour minimum applies to all new or rebuilt John Deere™ engines. Maximum service interval is the same as service interval recommended for your engine listed in Engine Oil and Filter Service Intervals for your engine. For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine located in Fuels, Lubricants, and Coolant section of this Operator's Manual.

IMPORTANT: Performance problems and cab and component damage may occur if correct exhaust tip is not installed. If correct tip is not installed, see your John Deere™ dealer.

Install exhaust tip (A) with outlet facing forward.

Engine is ready for normal operation. During first 100 hours of operation:

- Operate engine at heavy loads without reaching sustained maximum load
- Avoid idling engine longer than 5 min. If engine idles longer than 5 min., stop engine

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A—Exhaust Tip

- Closely observe coolant temperature during operation
- Check engine air intake system hoses and clamps. See 500 Hour Service section of this Operator's Manual.
- Check for fluid leaks
- Tighten wheel, wheel weight and axle bolts after 3 hours, after 10 hours and daily for first week of operation. See 500 Hour Service section of this Operator's Manual.
- Tractors equipped with 15 L engines will automatically perform an initial engine regeneration after at least **4 hours** of operation. This procedure may have occurred prior to tractor delivery. If regeneration begins, allow full completion of process. See Parked Exhaust Filter Cleaning in Operating the Engine section of this Operator's Manual.

Daily or Every 10 Hours

Perform normal daily or 10 hours services, see Daily or 10 Hour Service section of this Operator's Manual. For first 100 hours of tractor operation, also perform these additional services daily or every 10 hours:

- Drain water separator. See As Indicated Service section of this Operator's Manual.
- Check coolant level. See As Indicated Service section of this Operator's Manual.
- Lubricate hitch (if equipped) components. See 250 Hour Service section of this Operator's Manual.
- Inspect tires to make sure there are no cuts or punctures. See 50 Hour Service section of this Operator's Manual.

RXA0142925 —UN—25JUN14

TO84419,00000A8 -19-22APR15-1/1

Maintenance and Service Intervals

Observe Service Intervals

⚠ CAUTION: Lower all implements to ground for service and repairs. If implement must be in raised position, properly support it with jack stands or blocks.

IMPORTANT: Recommended service intervals are for average conditions. Service **MORE OFTEN** if tractor is operated under adverse conditions.

When looking for details on any service listed in this section, go to either Table of Contents or Index of this

Operator's Manual. Look for same title listed in left-hand column of hourly and annual service tables on following pages.

Perform all services at hourly intervals indicated. Record the service performed in Lubrication and Maintenance Records section.

When scheduled services at any hourly level are performed, also perform all subordinate hourly level services as shown below. Other charts in the section provide list of main and subordinate services.

Main Service	Subordinate Services::							
	10 Hour	50 Hour	250 Hour	400 Hour	500 Hour	1000 Hour	1500 Hour	2000 Hour
50 Hours	X							
250 Hours	X	X						
400 Hours	X	X						
500 Hours	X	X	X					
1000 Hours	X	X	X		X			
Annual	No Subordinate Services Required							
1500 Hours	X	X	X		X			
2000 Hours	X	X	X	X	X	X		
2500 Hours	X	X	X		X			
3000 Hours	X	X	X		X	X	X	
4500 Hours	X	X	X		X		X	
5000 Hours	X	X	X		X	X		
6000 Hours	X	X	X	X	X	X	X	X

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Service Interval Chart—Daily or 10 Hour, 50 Hour, 250 Hour, 400 Hour, 500 Hour and 1000 Hour

Item	Daily or 10 Hours	50 Hours	250 Hours	400 Hours	500 Hours	1000 Hours
Check Engine Oil	•					
Check Transmission, Hydraulic and Axle Oil Levels	•					
Inspect Tires		•				
Lubricate Hinge Pins		•				
Lubricate Steering Pins (If Equipped)		•				
Lubricate Rear Hitch Components (If Equipped) ^a		•	•			
Check Manual Brakes ^b			•			
Check Secondary Brake			•			
Check Neutral Start System			•			
Check Transmission PARK System			•			
Lubricate Telescoping Drive Shafts			•			
Lubricate PTO Drive Shaft (If Equipped)			•			
Lubricate Heavy-Duty Gudgeon Bearings (If Equipped)			•			
Lubricate Lower Drive Line Bearings			•			
Lubricate Lift Cylinders and Rockshaft			•			
Change Engine Oil and Filter ^c (15 L Engine Only)				•		
Replace Fuel Filters (15 L Engine Only)				•		
Lubricate Vari-Cool™ Fan Drive (FT4/Stage IV Engines)					•	
Change Engine Oil and Filter ^c (9.0 and 13.5 L Engines Only)					•	
Tighten Wheel and Weight Bolts					•	
Inspect Drawbar Support and Cap Screws (Ag Tractors)					•	
Clean Dual Beam Radar Sensor (If Equipped)					•	
Replace Fuel Filters (9.0 and 13.5 L Engines Only) ^d					•	
Inspect Air Intake System					•	
Service Severe Duty Water Separator (If Equipped)					•	
Lubricate HydraCushion™ Front Axle (If Equipped) ^e					•	
Lubricate Rear Hitch Draft Sensor (If Equipped)					•	
Back Flush Optional Fuel Water Separator (If Equipped)					•	
Service Optional Fuel Water Separator Filter Element (If Equipped)					•	
Replace Cab Fresh Air and Recirculation Filters ^f						•
Test Coolant Freeze Point ^f						•

^aNormal lubrication at 250 hours. If used daily, lubricate every 50 hours.

^bIf tractor not equipped with electronic back-up pump.

^cPerform oil change in accordance with Change Engine Oil and Filter in Fuel, Lubricants, and Coolant section of this Operator's Manual.

^dReplace both filters at 500 hours, or as indicated - whichever comes first.

^eNormal service every 500 hours. If used in extremely wet conditions, service daily or 10 hours.

^fPerform service every 1000 hours or annually - whichever comes first.

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HydraCushion is a trademark of Deere & Company

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Service Interval Chart—Annual, 1500 Hour, 3000 Hour, 4500 Hour and 6000 Hour

Item	Annual	1500 Hours	3000 Hours	4500 Hours	6000 Hours
Change Engine Oil and Filter ^a	•				
Service Batteries ^b and Connections	•				
Test Coolant Freeze Point ^c	•				
Inspect Seat Belts	•				
Replace Primary and Secondary Engine Air Filters ^c	•				
Replace Cab Air and Recirculation Filters ^d	•				
Check HydraCushion™ Accumulator Charge Pressure (If Equipped) ^{d,e}	•	•			
Change Transmission, Hydraulic and Axle Oil and Filters		•			
Clean Aftertreatment Fuel Injector (15 L Engine) ^e		•			
Replace radiator pressure cap (15 L Engine)		•			
Clean Hydraulic Oil Sump Screen		•			
Inspect Fan Belt Tensioner (15 L Engine only)		•			
Check Axle End Play ^e		•			
Replace Fuel Tank Vent Filters ^f		•			
Replace Diesel Exhaust Fluid (DEF) Tank Filter (FT4/Stage IV Engines Only) ^{g,h}		•		•	
Change Crankcase Breather Filter Element (15 L Engine Only)			•		
Adjust Engine Valve Clearance ^e (9.0, 13.5 and 15 L FT4/Stage IV Engines Only) ^g			•		
Replace Transmission Drive Shaft Damper ⁱ			•	•	
Replace Diesel Exhaust Fluid (DEF) Dosing Unit Filter (FT4/Stage IV Engines only) ^g				•	
Drain, Flush, and Refill Engine Cooling System ^j and Replace Engine Coolant Thermostats					•

^aPerform service at least once per year. Perform oil change in accordance with Engine Oil and Filter Service Intervals in Fuel, Lubricants and Coolant section of this Operator's Manual.

^bFor replacement batteries, follow manufacturer's recommendations.

^cPerform service every 1000 hours or annually - whichever comes first.

^dPerform service every 1500 hours or annually - whichever comes first.

^eSee your John Deere™ dealer.

^fInterval may vary according to operating conditions.

^gTo confirm which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

^hReplace after initial 1500 hours, then 3 years or 4500 hours thereafter.

ⁱNormal duty operation replace at 4500 hours. If operating in heavy duty situations, replace every 3000 hours.

^jINITIAL change interval is 6 years or 6000 hours, provided cooling system is topped off using only John Deere Cool-GARD™ II and premix and coolant is tested at recommended intervals. SCHEDULED interval (2 years or 2000 hours) can be extended up to 6 years or 6000 hours depending on coolant used and if coolant is tested at recommended intervals. See Drain Intervals for Diesel Engine Coolant in Fuel, Lubricants and Coolant section of this Operator's Manual.

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SV81855,000033F -19-24AUG15-1/1

As Indicated Service

Perform As Indicated Service

As Indicated services should be performed when an appropriate indicator light is illuminated or Diagnostic Trouble Code (DTC) is displayed (see Diagnostic Trouble

Code section of this Operator's Manual). Other services without a specified hourly service interval may be found in As Required Service section of this Operator's Manual.

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Replace Primary And Secondary Engine Air Filters

IMPORTANT: Normal service is annually. If DTC displayed indicating engine air filters need service, see Inspect Primary and Secondary

Engine Air Filters in Annual Service section of this Operator's Manual.

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Check Coolant Level

Coolant level is monitored electrically. When coolant is low a diagnostic trouble code will appear on the CommandCenter™.

1. Pull hood release (A) and raise hood.
2. Check coolant level on side of de-aeration tank. Level should be at or above Min Cold line (D). If level is low, before adding coolant check for any signs of leakage. Repair if necessary.

IMPORTANT: Do not open de-aeration tank cap (B) when engine is warm. Doing so will add air to coolant system.

NOTE: If coolant level is low, but there is no sign of an external leak, there may be an internal coolant leak. Contact your John Deere™ dealer.

NOTE: 15 L engine, fill rear coolant tank (F) through de-aeration tank cap (B).

Radiator pressure cap (E) controls pressure in coolant tanks and for water pump.

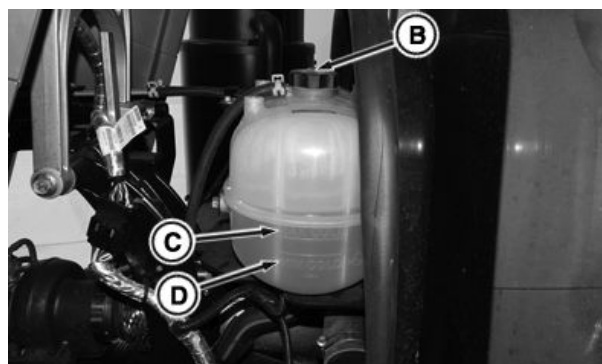
3. Wait until engine is cool. Remove de-aeration tank cap (B) and add coolant as specified in Fuel, Lubricants and Coolant section of this Operator's Manual. Do not fill above Max. cold line (C). Reinstall de-aeration tank cap.
4. Lower and secure hood.

A—Hood Release
B—De-aeration Tank Cap
C—Max Cold Line

D—Min Cold Line
E—Radiator Pressure Cap
F—Rear Coolant Tank

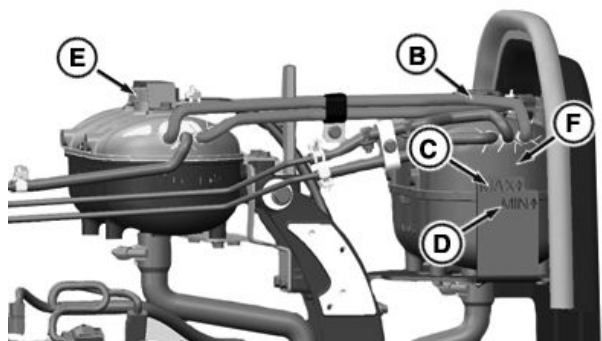


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RXA0141827 —UN—30MAY14

De-aeration Tank 9.0 and 13.5 L Engines



RXA0143415 —UN—14JUL14

De-aeration Tanks 15 L Engine (Left Side Shown)

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SV81855,00001C6 -19-24SEP14-1/1

Clean Diesel Particulate Filter (DPF)

When exhaust filter and warning light indicators are illuminated:

- Ensure exhaust filter cleaning is set to Auto. See Exhaust Filter System Overview and Auto Exhaust Filter Cleaning Mode in Operating the Engine section of this Operator's Manual

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- Perform parked exhaust filter cleaning (if system allows). See Parked Exhaust Filter Cleaning in Operating the Engine section of this Operator's Manual

If Exhaust Filter Cleaning is set to Auto, Parked Exhaust Filter Cleaning has been performed and exhaust filter and warning light indicators are still illuminated, contact your John Deere™ dealer.

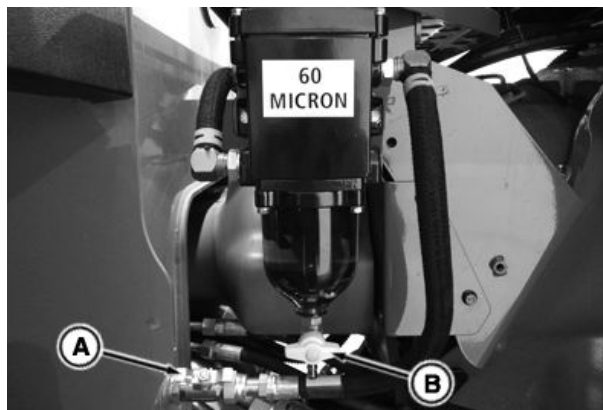
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Drain Optional Fuel/Water Separator (If Equipped)

1. Shut off engine.
2. Close fuel shut-off valve (A).
3. Open drain valve (B) to release any water from fuel water separator.
4. Close drain valve and reopen fuel shut-off valve.

A—Fuel Shut-Off Valve

B—Drain Valve



Fuel/Water Separator

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Drain Water Separator

In addition to a Fuel Water Separator, water can also be drained from fuel system through fuel filters. For 9.0 and 13.5 L engines, turn drain valve nut (A) to release water from fuel filters. For some filters, tabs (B) are visible and will drop when drain valve nut is opened. Turn drain valve nut completely counterclockwise to drain water.

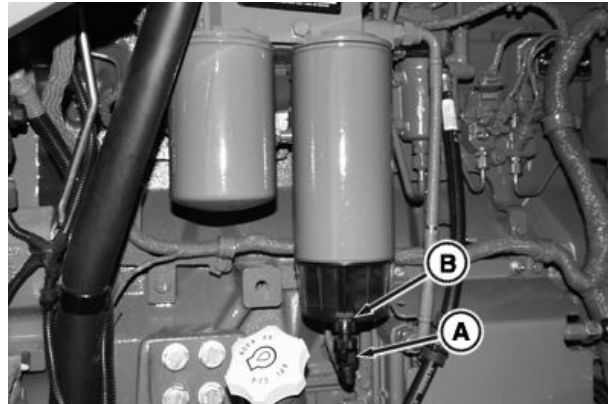
For 15 L engines with no fuel water separator, fuel filter will be located on gudgeon step. Turn drain valve (C) to drain water from fuel filter.

A—Drain Valve Nut
B—Tabs

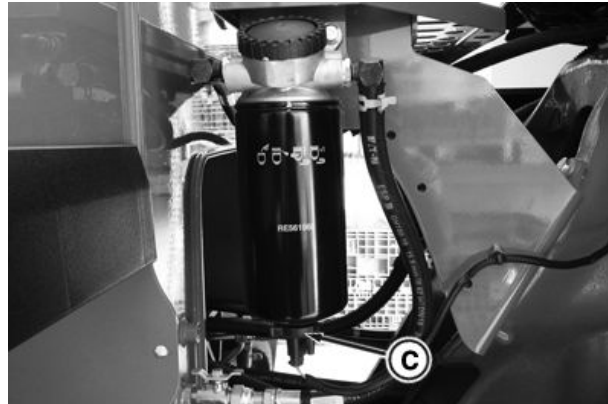
C—Drain Valve



9.0 L Engine



13.5 L Engine



15 L Engine on Gudgeon Step

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RXA0141831 —UN—30MAY14

RXA0141832 —UN—30MAY14

SV81855,0000289 -19-24SEP14-1/1

As Required Service

Perform As Required Service

As Required services should be performed when tractor performance indicates that service is needed. Conditions that indicate an As Required service is needed are

described under appropriate headings below. Other services without a specified hourly service interval may be found in As Indicated Service section of this Operator's Manual.

RX32825,000005E -19-25JUL13-1/1

Clean Radiator, Coolers, and Air Conditioning Condenser—9.0 and 13.5 L Engines

Turn engine OFF.

Clean grille screen (A) using a brush or compressed air.

Clean trash from engine compartment shields.

A—Screen



RXA0141833 —UN—02JUN14

Continued on next page

TO84419,000017F -19-30MAY14-1/2

IMPORTANT: Use caution when oil-fuel cooler is opened. Steel cooler line may contact air conditioner line when cooler is at a 30° angle. Steel line fitting (C) does not rotate and can cause damage to the line fitting if extended too far.

Release hood latch and raise hood.

Release air conditioning condenser retaining clips (A) to swing condenser forward for better cleaning access.

Use compressed air to clean air conditioning condenser (B) using compressed air.

Release oil-fuel cooler retaining clips (A) to swing cooler (D) forward.

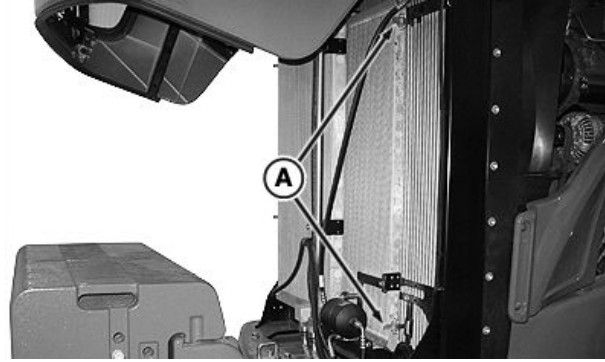
Use compressed air to clean radiator. Straighten any bent radiator fins.

Close air conditioning condenser and oil-fuel cooler and lock the retaining clips.

Gently lower hood and firmly close until hood latch is locked.

A—Retaining Clips
B—Air Conditioning
Condenser

C—Steel Line Fitting
D—Oil-Fuel Cooler

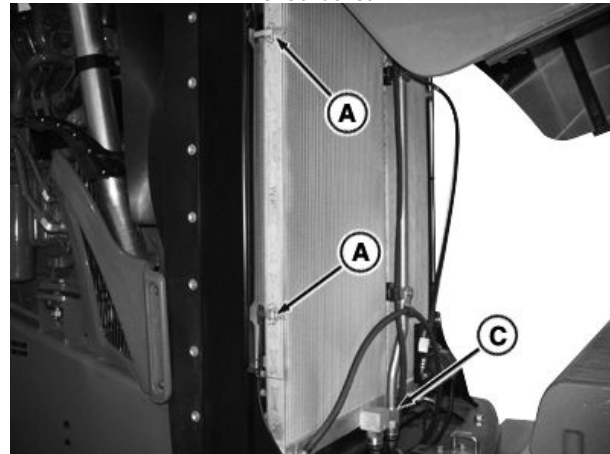


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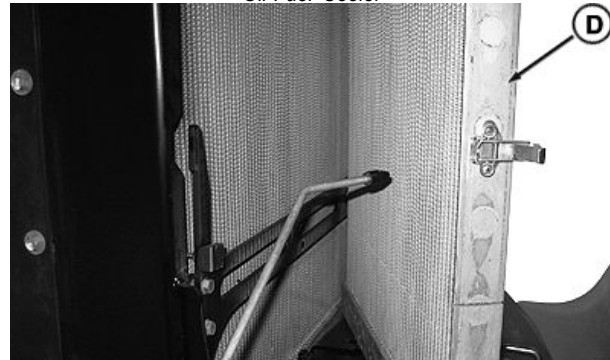
RXA0118338 —UN—23JUN11

A/C Condenser



RXA0118331 —UN—24JUN11

Oil-Fuel Cooler



RXA0118333 —UN—23JUN11

Oil-Fuel Cooler

TO84419,000017F -19-30MAY14-2/2

Clean Radiator, Coolers, and Air Conditioning Condenser—15 L Engine

Turn engine OFF.

Clean grille screen (A) using a brush or compressed air.

Clean trash from engine compartment shields.

A—Screen



RXA0141833 —UN—02JUN14

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SV81855,000028B -19-24SEP14-1/2

Release hood latch and raise hood.

Release oil cooler (C) retaining pins (A) to lower oil cooler forward carefully for easier cleaning access.

Use compressed air to clean oil cooler and radiator.

Release Air Conditioning retaining pins (F) and lift air conditioning condenser (D) and fuel cooler (E) up for easier cleaning access.

Use compressed air to clean air conditioning condenser and fuel cooler.

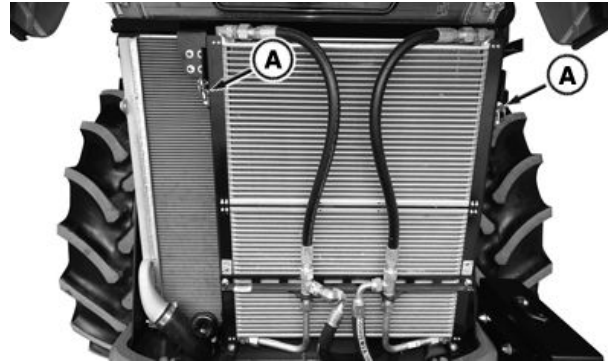
Close air conditioning condenser and oil-fuel cooler using handle (G). Pull air conditioning condenser and fuel cooler out to unlock and lower carefully. Lock retaining pins.

Lift oil cooler up and lock retaining pins.

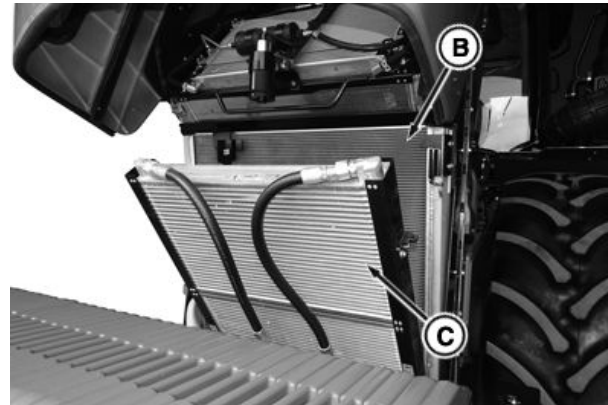
Gently lower hood and firmly close until hood latch is locked.

A—Retaining Pins
B—Radiator
C—Oil Cooler
D—Air Conditioning
Condenser

E—Fuel Cooler
F—Retaining Pins
G—Handle

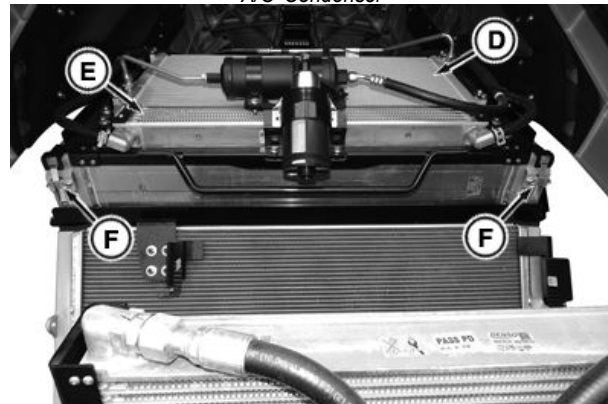


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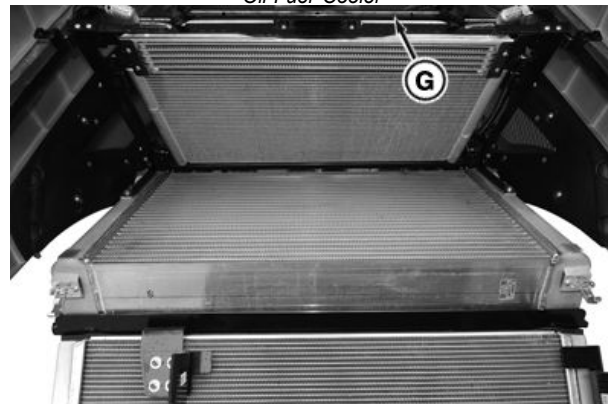
RXA0141760 —UN—02JUN14

A/C Condenser



RXA0141818 —UN—02JUN14

Oil-Fuel Cooler



RXA0141819 —UN—02JUN14

Oil-Fuel Cooler

SV81855,000028B -19-24SEP14-2/2

Check Engine and Exhaust Compartments for Debris

IMPORTANT: Accumulated crop residue inside engine compartment can reduce engine and cooling system performance. If tractor has been operated in field conditions which might have caused debris accumulation, inspect and clean engine compartment as necessary.

Directing pressurized water at electronic/electrical components, connectors, bearings and hydraulic seals, fuel injection pump or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90 degree angle.

Directing pressurized air at electronic/electrical components or connectors, may cause buildup of static electricity and product malfunctions.

Never steam clean or pour cold water on an injection pump that is operating or hot. Pump could seize.

1. Shut engine off and allow time for engine to cool.
2. Open and raise engine hood.
3. Remove any crop or debris within engine and exhaust compartments, especially around turbocharger, exhaust manifold, and exhaust aftertreatment system.
4. Reinstall all shields. Close and securely latch hood.

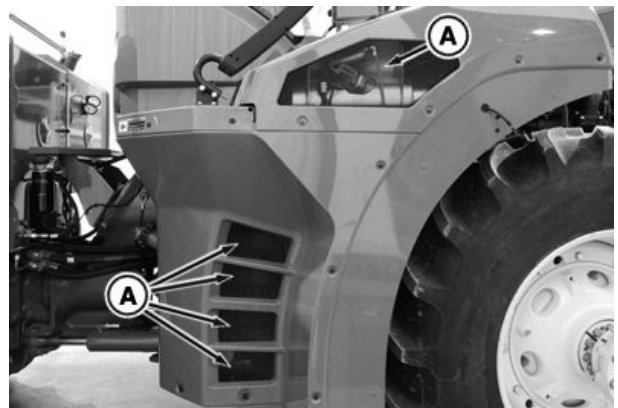
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Inspect Outer Exhaust Screens

NOTE: Screen must remain unrestricted to prevent damage to SCR system.

Inspect outer exhaust screens. Clean out debris as necessary.

A—Screens



Right-Hand Panel

RXA0140509 —UN—27MAY14

SV81855,000027D -19-28MAY14-1/1

Check Air Conditioning System

CAUTION: Avoid possible injury. Improper servicing may cause refrigerant to penetrate eyes and skin or cause burns.

IMPORTANT: R-134a refrigerant must be used in air conditioning system. Service requires special equipment and procedures. See your John Deere™ dealer.

NOTE: Some oil seepage from compressor shaft seal is normal.

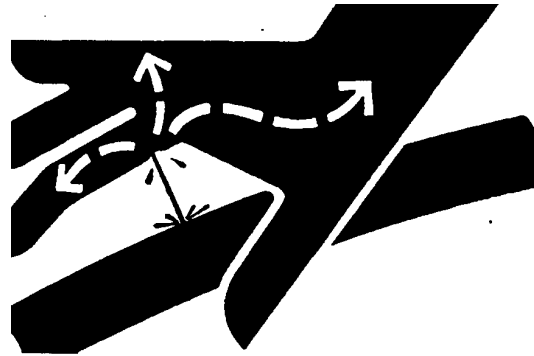
Perform following checks if air conditioning system will not cool, or cooling is intermittent:

- Confirm system does not function correctly. Access HVAC page on CommandCenter™ (see Generation 4 CommandCenter™ HVAC Settings in Operator Station section of this Operator's Manual). Set fan increment bar (A) to highest speed. Access Set Temperature page (B) and set temperature to coldest setting (C). Operate engine at 2000 rpm. Check air vents. If air is not significantly cooler than ambient cab air temperature, problem exists.
- Inspect and clean cab air filters. Replace filters if necessary. See Clean or Replace Cab Air Filters in this section of this Operator's Manual.
- Clean grille and radiator. See Clean Radiator, Coolers and Air Conditioning Condenser in this section of this Operator's Manual.
- Check air vents for cold air flow.

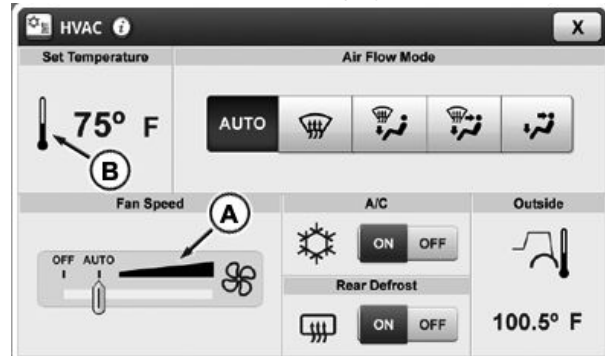
If problems persist, see your John Deere™ dealer.

A—Fan Increment Bar
B—Set Temperature Module

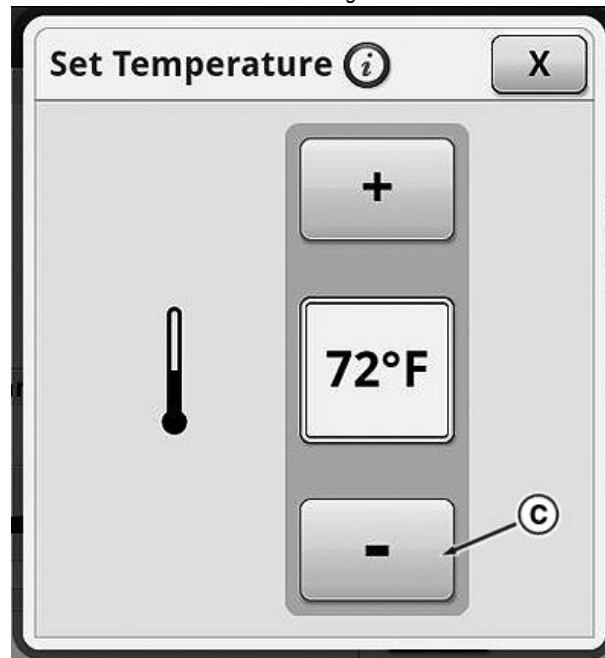
C—Decrease Temperature Button



Caution for Escaping Fluid



HVAC Page



Set Temperature Page

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RXA0131825 —UN—02APR13

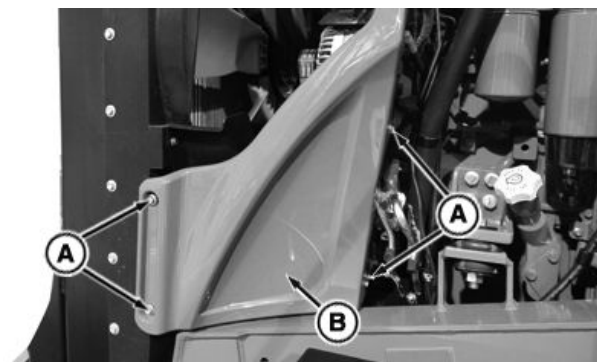
Remove and Install Vari-Cool™ Fan Belt—9.0 L Final Tier 4 Engine

IMPORTANT: When engine is stopped, fan drive oil pressure is released and flows back to the reservoir.

1. Disconnect negative (-) battery cable.
2. Raise hood.
3. Remove cap screws (A) and left-hand side panel (B).

A—Cap Screws

B—Side Panel



Left-Hand Guard

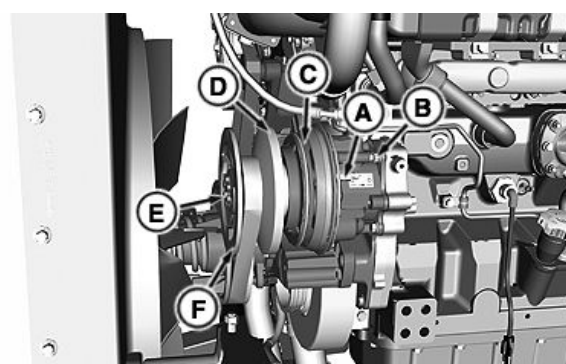
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RXA0142201 —UN—06JUN14

4. Remove vent adapter (A) from housing.
5. Remove cap screw (B) and install into vent adapter hole in piston plate (C).
6. Tighten cap screw (B) to pull inner sheave (D) inward.
7. Hold front pulley (F) and remove cap screws (E).
8. Remove front pulley evenly off shaft.

A—Vent Adapter
B—Cap Screw
C—Piston Plate

D—Inner Sheave
E—Cap Screws (6 used)
F—Front Pulley



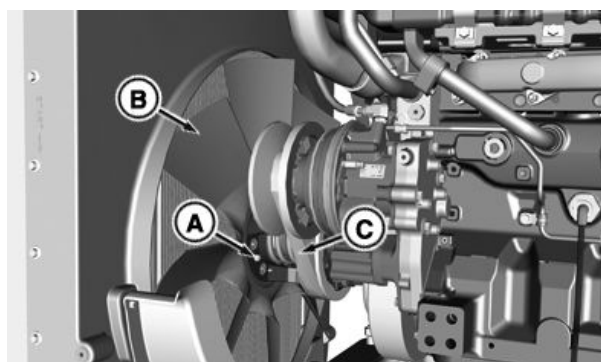
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RXA0142531 —UN—17JUN14

9. Remove six cap screws and nuts (A) and carefully position fan (B) against radiator.
10. Remove belt (C) through opening between fan and hub.
11. Discard old belt.

A—Cap Screws and Nuts (6 used)
B—Fan

C—Belt



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SV81855.00001D0 -19-16JAN15-3/4

RXA0142532 —UN—13JUN14

12. Install new fan belt between fan and hub so that it is positioned between lower pulley halves.

13. Slide fan into place, install cap screws and nuts and tighten to specification.

Fan-to-Drive Assembly —Specification

Nut—Torque.....25 N·m
(221 lb-in.)

14. Pull belt (A) onto drive shaft (B) and against rear pulley.

IMPORTANT: When installing front pulley (C), make sure that belt remains loose and is not pinched between pulleys.

Clean mating surfaces of front pulley and shaft.

15. Install front pulley (C).

16. Hold front drive pulley and tighten cap screws (D) to specification.

Drive Pulley-to-Drive —Specification

Cap Screw—Torque.....37 N·m
(27 lb-ft)

17. Remove cap screw and install vent adapter, reinstall cap screw, tighten to specification..

Vent Adapter And Cap Screw—Specification

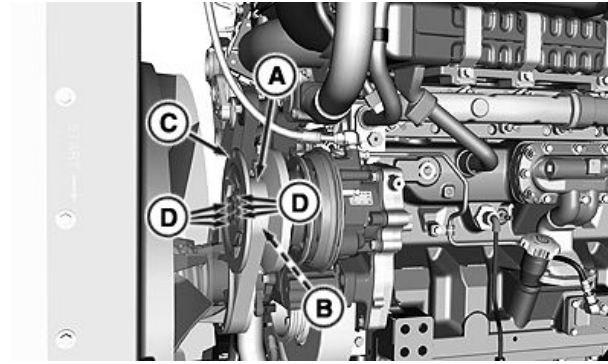
Vent Adapter—Torque.....24 N·m
(212 lb-in.)

Cap Screw—Torque.....13 N·m
(115 lb-in.)

18. Reinstall diverter panel and cap screws. Tighten to specification.

Diverter Panel Cap Screws —Specification

Cap Screw—Torque.....21 N·m
(185 lb-in.)



A—Belt
B—Drive Shaft

C—Front Pulley
D—Cap Screw (6 used)

NOTE: Starting engine with belt loose between pulleys allows belt to climb out of groove between pulleys. Belt will correctly position itself within a few seconds after engine is started.

19. Start engine and run at idle for 15 seconds. Turn off engine.

20. Remove right-hand side front shield and make sure that belt is correctly positioned between pulleys.

CAUTION: Keep hands away from exposed fan blades. Blades have sharp edges which may result in personal injury.

21. Reinstall side panel and tighten cap screws.

SV81855,00001D0 -19-16JAN15-4/4

Remove and Install Vari-Cool™ Fan Belt—13.5 L Final Tier 4 and Stage IV Engine

IMPORTANT: When engine is stopped, fan drive oil pressure is released and oil flows back to the reservoir.

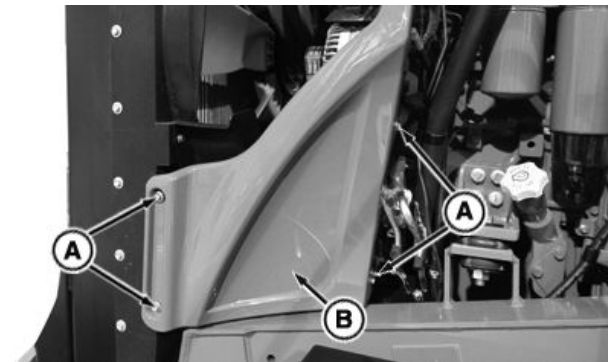
1. Disconnect negative (-) battery cable.

2. Raise hood.

3. Remove cap screws (A) and left-hand side panel (B).

A—Cap Screws

B—Side Panel



Left-Hand Guard

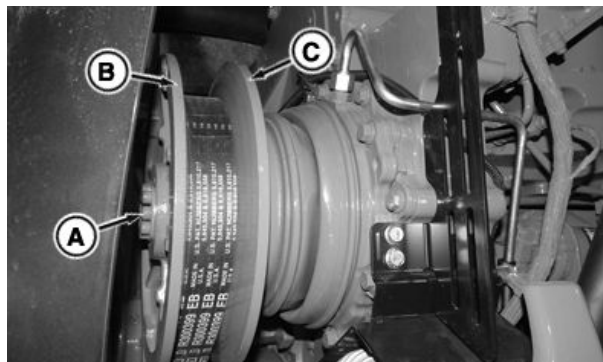
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SV81855,00002A4 -19-28APR15-1/4

4. Hold front pulley (B) and remove cap screws (A).

A—Cap Screws (8 used)
B—Front Pulley

C—Inner Sheave



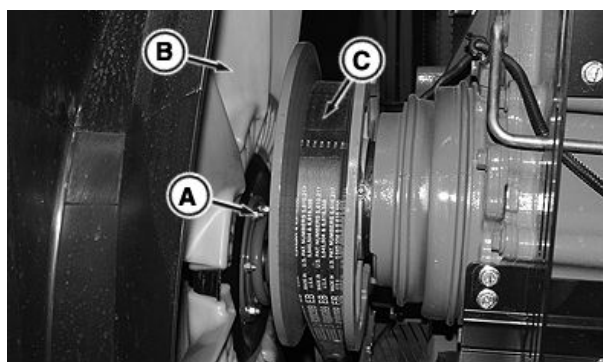
SV81855,00002A4 -19-28APR15-2/4

RXA0142535 —UN—13JUN14

5. Remove front pulley evenly off shaft.
6. Belt and inner sheave (C) should stay on shaft. Remove six cap screws and nuts (A) and carefully position fan (B) against radiator.
7. Remove belt (C) through opening between fan and hub.
8. Discard old belt.

A—Cap Screws and Nuts (6 used)
B—Fan

C—Belt



Continued on next page

SV81855,00002A4 -19-28APR15-3/4

RXA0142536 —UN—13JUN14

9. Install new fan belt between fan and hub so that it is positioned between lower pulley halves.

10. Slide fan into place, install cap screws and nuts and tighten to specification.

Fan-to-Drive Assembly —Specification

Nut—Torque.....25 N·m
(221 lb.-in.)

11. Pull belt (A) onto drive shaft (B) and against rear pulley.

IMPORTANT: When installing front pulley (C), make sure that belt remains loose and is not pinched between pulleys.

Clean mating surfaces of front pulley and shaft.

12. Install front pulley (C).

13. Hold front drive pulley and tighten cap screws (D) to specification.

Drive Pulley-to-Drive —Specification

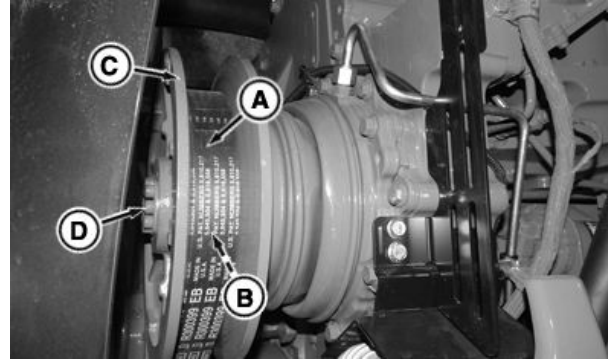
Cap Screw—Torque.....37 N·m
(27 lb.-ft.)

14. Reinstall diverter panel and cap screws. Tighten to specification.

Diverter Panel Cap Screws —Specification

Cap Screw—Torque.....21 N·m
(185 lb.-in.)

NOTE: Starting engine with belt loose between pulleys allows belt to climb out of groove between pulleys. Belt will correctly position itself within a few seconds after engine is started.



A—Belt
B—Drive Shaft

C—Front Pulley
D—Cap Screw (6 used)

15. Start engine and run at idle for 15 seconds. Turn off engine.

CAUTION: Keep hands away from exposed fan blades. Blades have sharp edges which may result in personal injury.

16. Remove right-hand side front shield and make sure that belt is correctly positioned between pulleys.

17. Reinstall side panel and tighten cap screws.

SV81855,00002A4 -19-28APR15-4/4

RXA0142537 —UN—13JUN14

Replace Auxiliary Drive Belt—15 L Engine

1. Raise hood.

IMPORTANT: Keep tension off belt during removal.

NOTE: Removal and installation of fan belt requires an assistant.

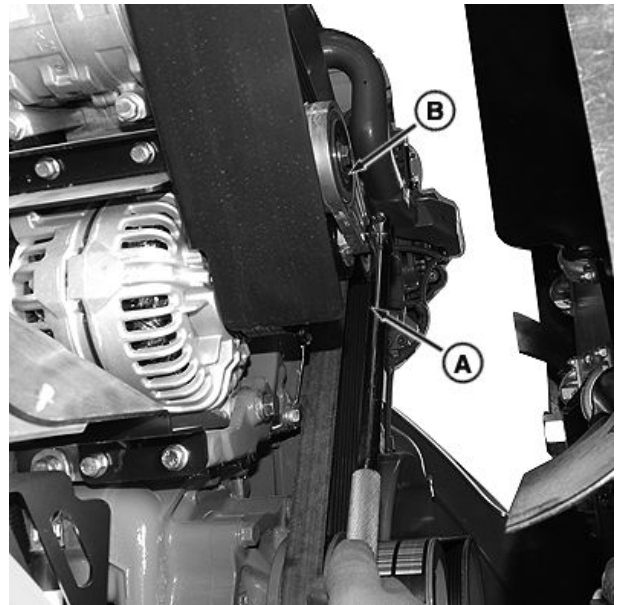
2. Insert 1/2 in. drive socket wrench into square hole (A) on tensioner arm (B).
3. Push down on wrench handle to relieve tension on drive belt.
4. Have assistant remove auxiliary belt from air conditioner pulley (C).
5. Remove belt from alternator pulley (D).
6. Remove belt from water pump pulley (E) and idler (F).
7. Discard old belt.

NOTE: Clearance between transmission auxiliary drive pulley and tractor frame is minimal. Do not damage new belt during installation.

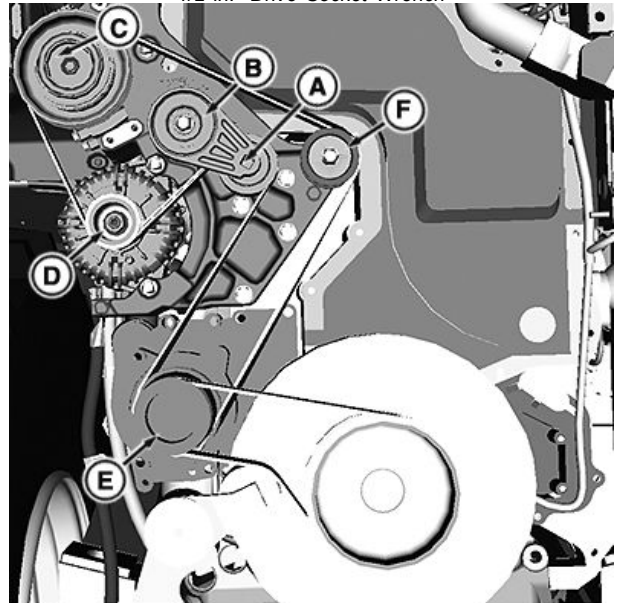
8. Install new belt to water pump pulley, alternator pulley then idler.
9. Install belt on air conditioner pulley.
10. Remove 1/2 in. drive socket wrench and restore tension on new belt.

A—Square Hole
B—Tensioner Arm.
C—Conditioner Pulley

D—Alternator Pulley
E—Water Pump Pulley
F—Idler



1/2 in. Drive Socket Wrench



Auxiliary Drive Belt

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SV81855,00001D1 -19-28APR15-1/2

RXA0142200 —UN—12JUN14

RXA0142199 —UN—06JUN14

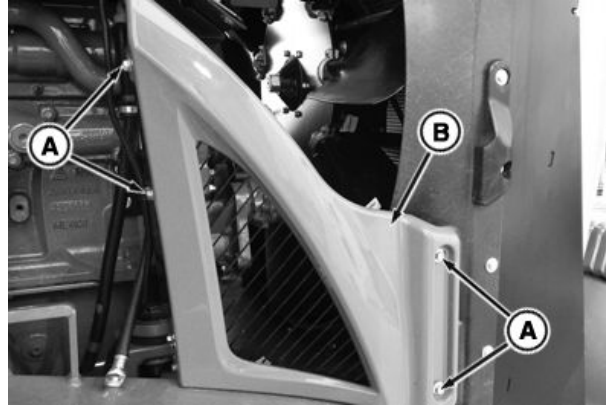
11. Close hood.

IMPORTANT: Keep tension off belt during removal.

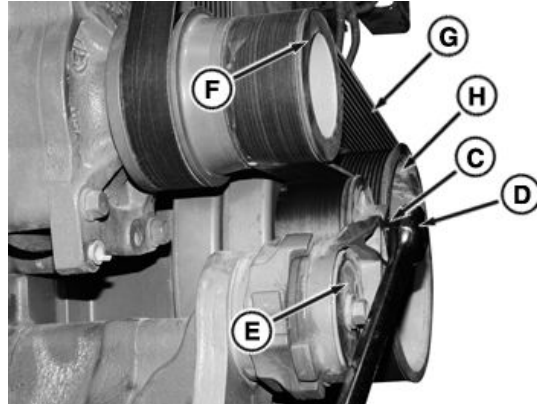
NOTE: Removal and installation of fan belt will require an assistant.

12. Remove cap screws (A) and right-hand finger guard (B).
13. Insert 1/2 in. drive socket wrench (D) into square hole (C) on tensioner arm (E).
14. Push down on wrench handle to relieve tension on water pump belt.
15. Have assistant remove water pump belt (G) from water pump pulley (F).
16. Remove belt from crankshaft (H).
17. Discard old belt.
18. Install new belt on crankshaft, then water pump pulley.
19. Restore tension on new belt and remove 1/2 in. drive socket wrench.
20. Reinstall right-hand finger guard.
21. Close hood.

A—Cap Screws	E—Tensioner Arm
B—Finger Guard	F—Water Pump Pulley
C—Square Hole	G—Belt
D—Wrench	H—Crankshaft



Right-Hand Finger Guard



Water Pump Belt

RXA0142917 —UN—23JUN14

RXA0142918 —UN—23JUN14

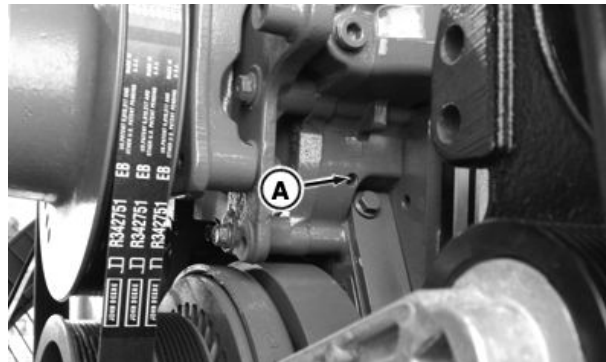
SV81855,00001D1 -19-28APR15-2/2

Check Weep Hole—9.0 L Engine

1. Remove left-hand side shield.
2. Inspect weep hole (A) for oil or coolant leakage.
 - Oil leakage indicates a damaged rear seal.
 - Coolant leakage indicates a damaged front seal.

If leakage is detected, see your John Deere™ dealer.
3. Replace left-hand side shield.

A—Weep Hole



Coolant Pump Weep Hole

RXA0142742 —UN—19JUN14

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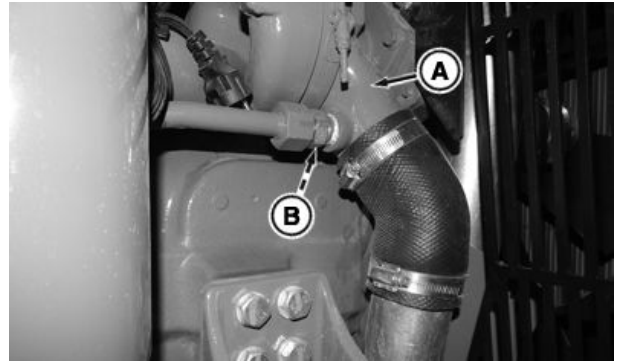
Check Weep Hole—13.5 L Engine

1. Raise hood.
2. Inspect weep hole (B) on under side of water pump (A) for oil or coolant leakage. Use mirror (C) to assist in locating weep hole.
 - Oil leakage indicates a damaged rear seal.
 - Coolant leakage indicates a damaged front seal.

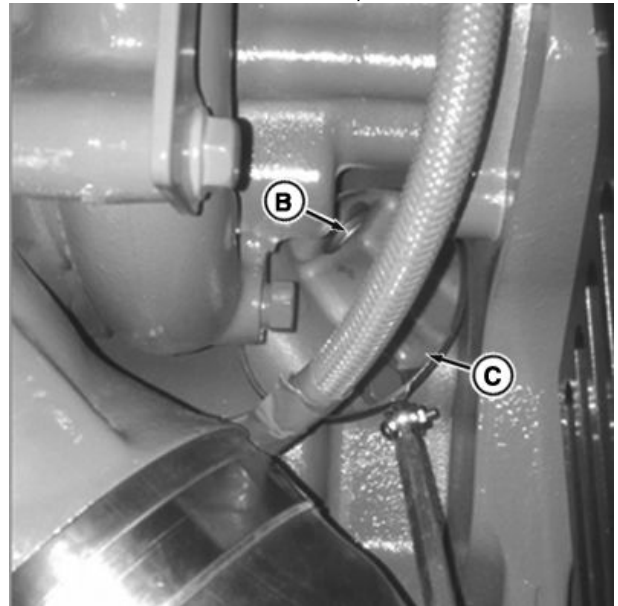
If leakage is detected, see your John Deere™ dealer.
3. Close hood.

A—Water Pump
B—Weep Hole

C—Mirror



Water Pump



Weep Hole Location

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RXA0142743 —UN—19JUN14

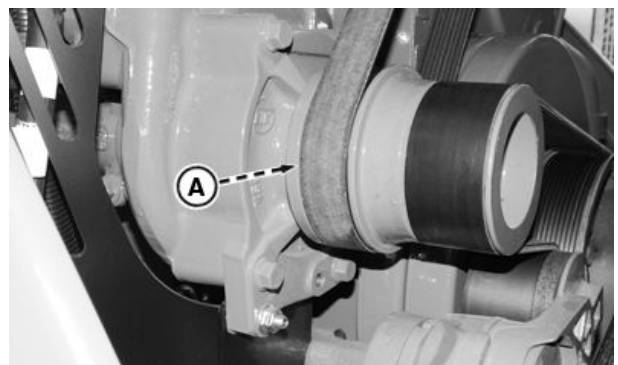
RXA0142744 —UN—19JUN14

Check Water Pump Seal—15 L Engine

1. Open hood.
2. Inspect water pump seal (A) for leakage.
3. Visually inspect engine and ground below engine for any leaks or puddles.

If leakage is detected, see your John Deere™ dealer.
4. Close hood.

A—Water Pump Seal



Water Pump Seal

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RXA0141838 —UN—02JUN14

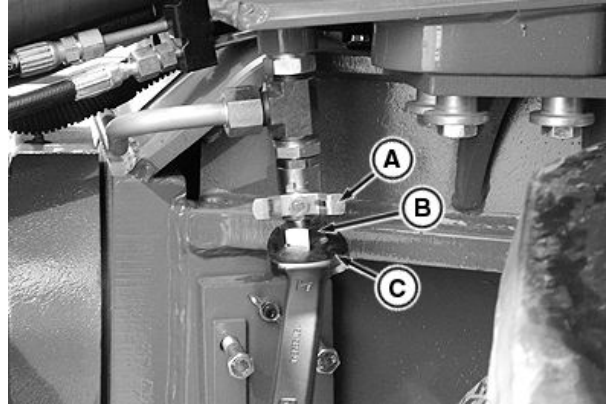
Drain Fuel Tank Sump

NOTE: Drain fuel tank sump if fuel filters are replaced frequently or water in the fuel tank. Service may be required more often under some conditions.

1. Place a catch pan under the drain tee.

IMPORTANT: Use wrench to hold drain fitting while opening or closing tee or damage to tank threads can occur.

2. Use a wrench (C) and remove drain cap (B).
3. Turn drain tree (A) by hand. Drain fuel until clean, water free fuel appears.
4. Tighten drain tree by hand to close.
5. Attach drain cap. Tighten with wrench.



A—Drain Tree
B—Drain Cap

C—Wrench

RXA0141820—UN—02JUN14

SV81855,00001D3 -19-15JUN15-1/1

Clean Diesel Exhaust Fluid (DEF) Tank

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

Spilled DEF, if left to dry or if only wiped away with a cloth, leaves a white residue. Improperly cleaned DEF spill can interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

If foreign material or fluid has been added to the DEF tank, drain the DEF tank, flush, and fill with new DEF.

If DEF quality is in question, pull a sample out of the DEF tank and place into a clear container. DEF should be crystal clear with a light ammonia smell. If DEF appears cloudy, has a colored tint or has a profound ammonia smell, it is likely not within specification. DEF in this condition should not be used.

1. Remove drain plug (if equipped), and drain or siphon bad DEF from DEF tank.

NOTE: Cleaning can take place with DEF tank installed or removed.

2. Clean DEF tank with new DEF.

DEF must pass visual, smell, and concentration checks before the engine can be ran. See Diesel Exhaust Fluid (DEF) – For Use In Selective Catalytic Reduction (SCR) Equipped Engines in the Fuels, Lubricants, and Coolants Section for more information.

3. Drain or siphon DEF tank.

NOTE: Repeat steps 2—3 until DEF tank has been cleaned.

4. Change DEF dosing unit filter.
5. Install drain plug in DEF tank, if removed. Install DEF tank, if removed.
6. Fill DEF tank with new DEF.
7. Check DEF concentration with DEF refractometer, such as JDG11594 or JDG11684. The correct DEF concentration is 31.8% — 33.2%. See your authorized dealer for more information.
8. If DEF is not within specification, does not appear clear, or does not have a slight ammonia smell, contact your authorized dealer.

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Clean Diesel Exhaust Fluid (DEF) Tank Filler Neck Filter

If DEF fill slows, clean tank filler neck filter.

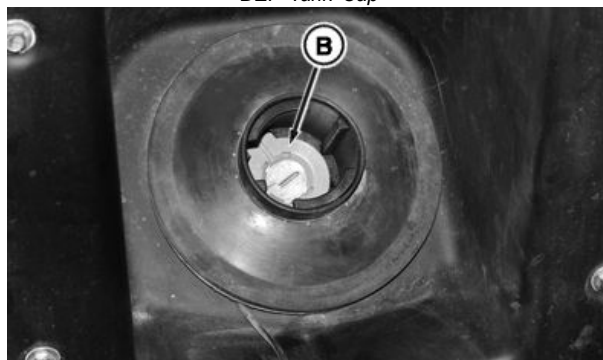
1. Place transmission in Park and shut off engine.
2. Open DEF tank cap (A).
3. Turn filter retainer (B) counterclockwise until it unlocks, then pull straight out of DEF tank.
4. Clean filler neck filter (C) with warm water to remove any debris.
5. Install in reverse order.

A—DEF Tank Cap
B—Filter Retainer

C—Filler Neck Filter



DEF Tank Cap



Filter Retainer



Filler Neck Filter

SV81855,000027F -19-29APR15-1/1

RXA0140510 —UN—27MAY14

RXA0140511 —UN—27MAY14

RXA0140512 —UN—27MAY14

Clean CommandCenter™ Display

Clean CommandCenter™ Display. See Clean CommandCenter™ Display in CommandCenter™ section of this Operator's Manual.

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SV81855,00002F5 -19-19AUG14-1/1

Daily or 10 Hour Service

Check Engine Oil—9.0 L Engine

IMPORTANT: Do not operate engine with oil level below the “ADD” mark on dipstick

NOTE: Most reliable oil level is determined prior to starting engine, after tractor has been parked on level ground for several hours or overnight.

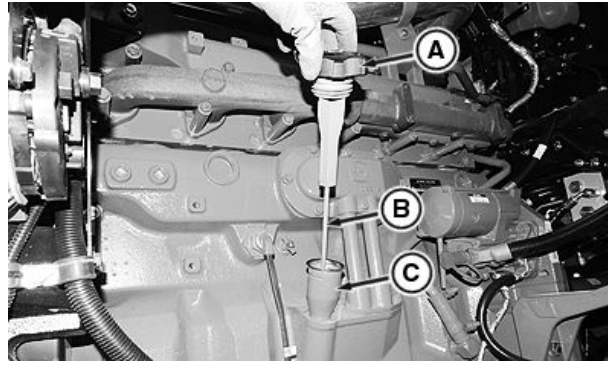
Loosen fill cap (A) and check oil level on dipstick (B) with tractor on level ground before starting tractor. Oil level anywhere within cross-hatched area (D) on dipstick is considered FULL. If oil is below crosshatched area on dipstick, add oil.

If oil is required, remove fill cap and add oil through fill tube (C). See Diesel Engine Oil -Interim Tier IV, Final Tier IV, Stage III B, and Stage IV in Fuel, Lubricants and Coolant section of this Operator's Manual.

Tighten cap securely.

A—Fill Cap
B—Dipstick

C—Fill Tube
D—Cross-hatched Area



RXA0141840 —UN—02JUN14



RXA0141918 —UN—02JUN14

Engine Oil Dipstick

SV81855,0000340 -19-17DEC14-1/1

Check Engine Oil—13.5 L Engine

IMPORTANT: Do not operate engine with oil level below cross-hatched area on dipstick.

NOTE: Most reliable oil level is determined prior to starting engine, after tractor has been parked on level ground for several hours or overnight.

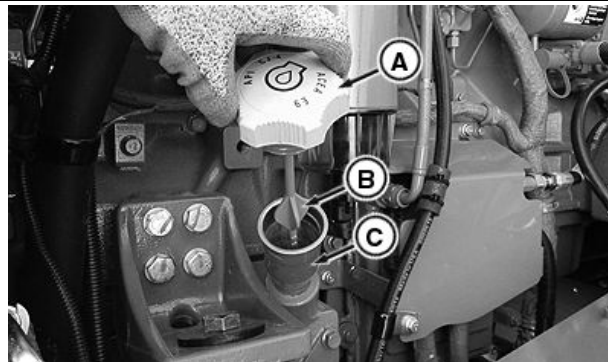
Prior to starting tractor, remove fill cap (A) and check oil level on dipstick (B) with tractor on level ground. Oil level anywhere within cross-hatched area (D) on dipstick is considered FULL. If oil is below cross-hatched area on dipstick, add oil.

If oil is required, remove fill cap and add oil through fill tube (C). See Diesel Engine Oil - Interim Tier IV, Final Tier IV, Stage III B, and Stage IV or Diesel Engine Oil - Tier II and Stage II in Fuel, Lubricants, and Coolant section of this Operator's Manual.

Tighten fill cap securely.

A—Fill Cap
B—Dipstick

C—Fill Tube
D—Cross-Hatched Area



13.5 L Engine

RXA0141917 —UN—02JUN14



RXA0141918 —UN—02JUN14

Dipstick Cross Hatch

RX32825,000062F -19-29APR15-1/1

Check Engine Oil—15 L Engine

IMPORTANT: Do not operate engine with oil level below cross-hatched area on dipstick.

NOTE: Most reliable oil level is determined prior to starting engine, after tractor has been parked on level ground for several hours or overnight.

NOTE: Dipstick is a different location (B) than fill tube.

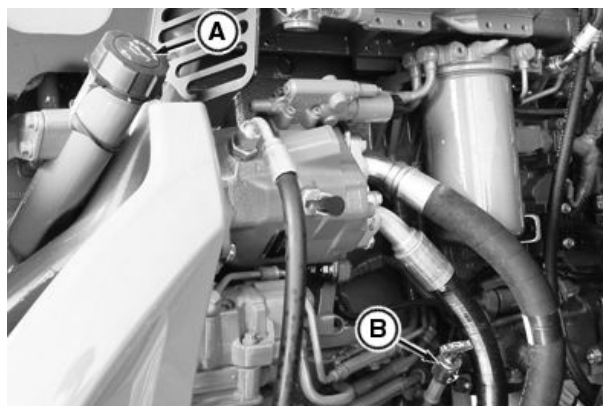
Remove dipstick (C) and check oil level with tractor on level ground before starting tractor. Oil level anywhere within cross-hatched area on dipstick (D) is considered FULL. If oil is below cross-hatched area on dipstick, add oil.

If oil is required, remove fill cap (A) and add oil in to fill tube. See Diesel Engine Oil - Interim Tier IV, Final Tier IV, Stage III B, and Stage IV or Diesel Engine Oil - Tier II and Stage II in the Fuels, Lubricants and Coolant Section of this Operator's Manual.

Place dipstick back in and tighten fill cap securely.

A—Fill Cap/Tube
B—Dipstick Location

C—Dipstick
D—Cross-Hatched Area



Engine Oil Dipstick



Dipstick Cross Hatch

RD47322,000033E -19-04MAY15-1/1

RXA0141821 —UN—02JUN14

RXA0141822 —UN—02JUN14

RXA0141823 —UN—02JUN14

Check Transmission-Hydraulic Reservoir/Axle Oil Level

IMPORTANT: Poor shift quality or transmission damage may occur if incorrect oil is used. See Transmission-Axle and Hydraulic Oil in Fuel, Lubricants, and Coolant section of this Operator's Manual.

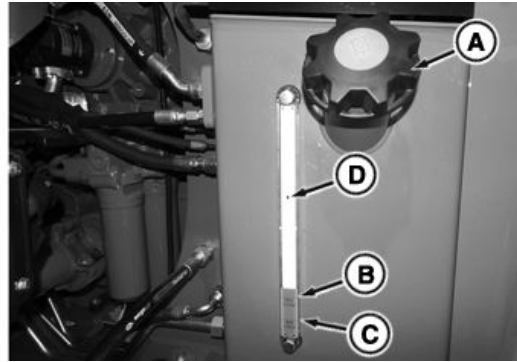
Do not operate tractor if oil level is at or below "MIN COLD" mark (C) in sight gauge with engine off.

If topping off oil in hydraulic reservoir, use sight gauge marks to estimate volume and add to transmission fill tube.

Hydraulic oil reservoir does not hold all system hydraulic oil capacity. Transmission and front and rear axles also hold additional system oil. If possible, check oil level prior to first start of day. Ambient temperature should be 7° C. (45° F) or above.

For implements and applications requiring high volumes of oil transfer (for example - large air seeders or pulling 3 scrapers), hydraulic reservoir can be filled up to High Volume Takeout Oil Mark (D). 58.5 L (15.4 gal.) above MIN COLD (C).

1. Check tractor and implement for leaks before daily start-up.
2. Park tractor on level ground with implement fully lowered.
3. Place transmission shift lever in PARK.
4. Start engine and leave engine speed set at 1200 rpm for 5 minutes.
5. Transmission lever should remain in PARK.
6. Shut engine OFF and wait 5 minutes for oil level to stabilize.
7. Check hydraulic reservoir oil level using sight gauge located on right-hand side gudgeon area.



Transmission/Hydraulic/Axle Oil Sight Gauge

A—Hydraulic Reservoir Cap
B—FULL COLD Mark

C—MIN COLD Mark
D—High Volume Takeout Oil Mark

NOTE: As tractor and hydraulic system get hot, oil level will rise in reservoir.

Oil level in reservoir fluctuates depending upon volume of oil exchanged with an attached implement. If low oil level results in pressure drop, a STOP engine light comes on.

8. If reservoir oil level is between FULL COLD (B) and MIN COLD (C) marks, tractor can be used for normal operation. Volume difference between "MIN COLD" and "FULL COLD" marks is about 11.4 L (3 gal.).
9. If reservoir oil level is below "MIN COLD" mark, add oil to hydraulic oil reservoir. See Change Transmission-Hydraulic Reservoir-Axle Oil in 1500 Hour Service Section.

If oil is required, remove hydraulic oil reservoir cap (A) and add oil. Replace reservoir cap.

RD47322,0000633 -19-06MAY15-1/1

Lubricate HydraCushion™ Front Axle Suspension (If Equipped)

IMPORTANT: Normal service is ever 500 hours. If used in extremely wet conditions, service every

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10 hours. See Lubricating HydraCushion™ Suspension in 500 Hour Service section of this Operator's Manual.

SV81855,00001CC -19-13JUN14-1/1

50 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Inspect Tires

Inspect tires for cuts or damage. Check tire inflation pressure weekly.



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RX32825,0000636 -19-30MAY14-1/1

Lubricate Rear Hitch (If Equipped)

IMPORTANT: Normal service is every 250 hours.
If used daily, service every 50 hours. See

Lubricate Rear Hitch in 250 Hour Service section of this Operator's Manual.

RX32825,00006B3 -19-15JAN15-1/1

Lubricate Hinge Pins

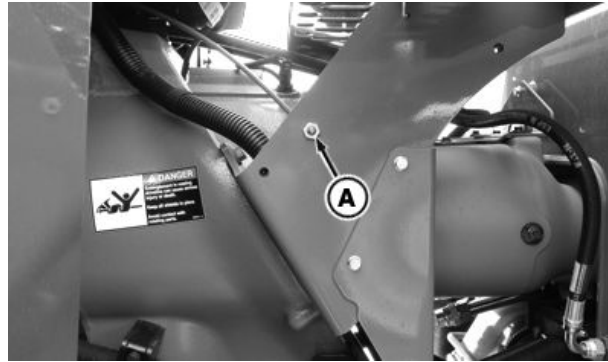
CAUTION: Place tractor in **PARK** and remove key before working in hinge area.

Lubricate upper (A) and lower hinge pins (B).

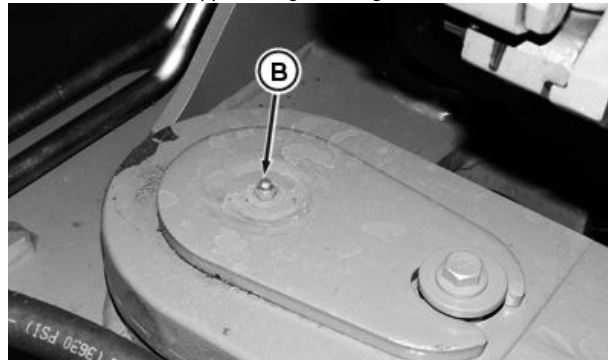
Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section of this Operator's Manual.

A—Upper Hinge Pin

B—Lower Hinge Pin



Upper Gudgeon Hinge Pin



Lower Gudgeon Hinge Pin

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RXA0147214 —UN—09FEB15

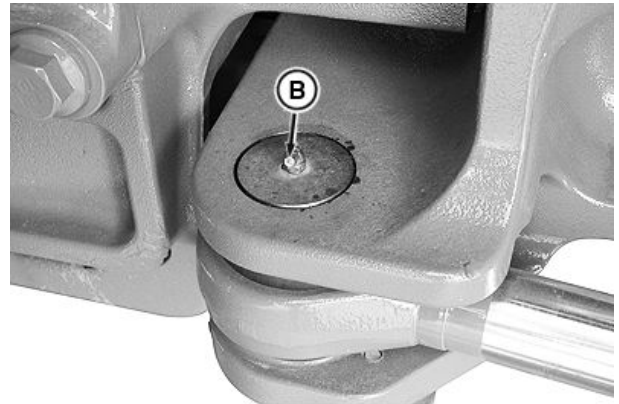
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Lubricate Steering Pin Bushings (If Equipped)



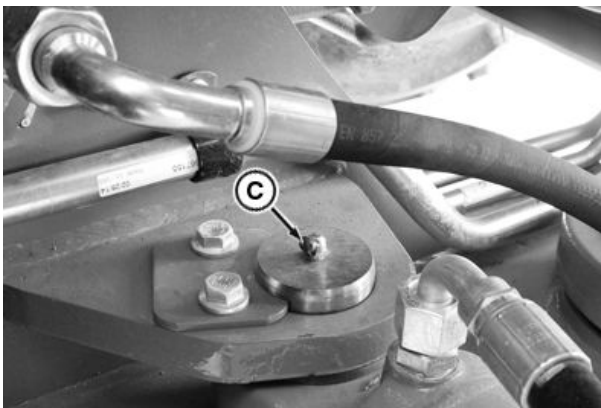
Right-hand Front Steering Pin

RXA0141971 —UN—02JUN14



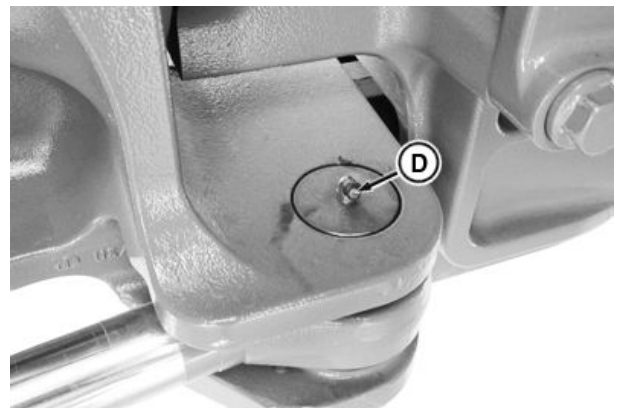
Right-hand Rear Steering Pin

RXA0141972 —UN—02JUN14



Left-hand Front Steering Pin

RXA0141973 —UN—02JUN14



Left-hand Rear Steering Pin

RXA0141974 —UN—02JUN14

A—Right-hand Front Pin

B—Right-hand Rear Pin

C—Left-hand Front Pin

D—Left-hand Rear Pin

⚠ CAUTION: Place tractor in PARK and remove key before working in hinge area.

Lubricate right-hand front (A) and rear (B), left-hand front (C) and rear (D) steering pin bushings.

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Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants, and Coolant section of this Operator's Manual.

RX32825.000063A -19-07MAY15-1/1

250 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Check Manual Brakes

Stop tractor, place transmission in PARK and turn off engine.

1. Pump brake pedal. Pedal (A) should have a solid feel. Solid pedal feel occurs when brake pedal feels like it has stopped moving, even when it is pushed harder; usually after pedal has traveled 102—127 mm (4—5 in.). Brake valve emits a squeak just before solid pedal point is reached. If the pedal does not feel solid, see your John Deere™ dealer.

IMPORTANT: Any noticeable pedal drift downward from point of resistance indicates brake leakage. See your John Deere™ dealer.

2. Press down firmly on brake pedal. Pedal should not settle to end of stroke within 10 seconds after being applied. If leakage exceeds this rate, see your John Deere™ dealer.

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A—Brake Pedal

RXA0142204 —UN—08JUN14

RX32825,000063B -19-07MAY15-1/1

Check Secondary Brake

1. Park tractor on incline. Incline should be steep enough to allow tractor to roll easily when tractors is place in Neutral.
2. For e18™, move transmission shift lever (A) to Neutral position.
3. Engage secondary brake (B).

If tractor does not hold with secondary brake engaged, see your John Deere™ dealer.

A—Transmission Shift Lever

B—Secondary Brake



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SV81855,00002CE -19-23JUL14-1/1

RXA0143602 —UN—23JUL14

RXA0143603 —UN—23JUL14

Check Neutral Start System

CAUTION: Avoid personal injury. Make sure that everyone is clear of tractor.

1. Park tractor on level ground.
2. Fully depress clutch and brake pedals.
3. Shut off tractor.
4. Move gear shift lever (A) from PARK position to a forward gear.

CAUTION: If tractor fails this test, contact your John Deere™ dealer immediately.

5. Attempt to start engine. If engine starts in any lever position other than NEUTRAL or PARK, repair system immediately. See your John Deere™ dealer.

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A—Gear Shift Lever

6. Repeat step 5 with transmission in a reverse gear.

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Check Transmission PARK System

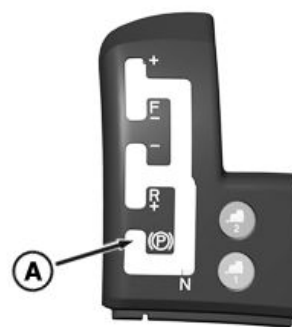
CAUTION: Avoid personal injury. Make sure that everyone is clear of tractor.

1. Position tractor on a 20 % incline 0.6 m (2 ft.) vertically for every 3.0 m (10 ft.) horizontally with front of tractor facing downward.
2. Move transmission shift lever (A) into PARK position.

CAUTION: If tractor fails this test, contact your John Deere™ dealer immediately.

3. If tractor does not hold on incline in PARK position, transmission PARK system should be repaired immediately by your John Deere™ dealer.

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e18™ Right-Hand Reverser Lever PARK Position

A—Shift/Reverser Lever PARK Position

RX32825,000063D -19-07MAY15-1/1

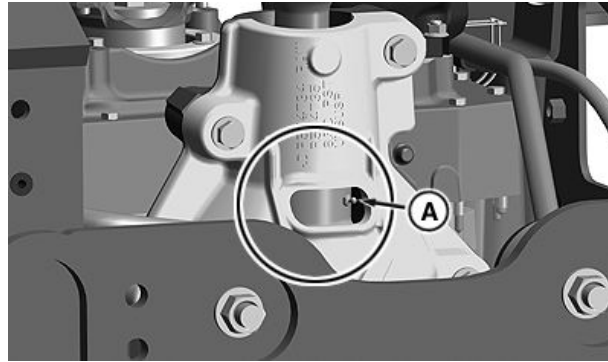
RXA0140499—UN—16APR14

Lubricate Telescoping Drive Shaft

Lubricate telescoping transmission to front axle drive shaft lubrication fitting (A).

Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants, and Coolant section of this Operator's Manual.

**A—Transmission to Front Axle
Drive Shaft Fitting**



Transmission to Front Axle Drive Shaft (View From Under Tractor)

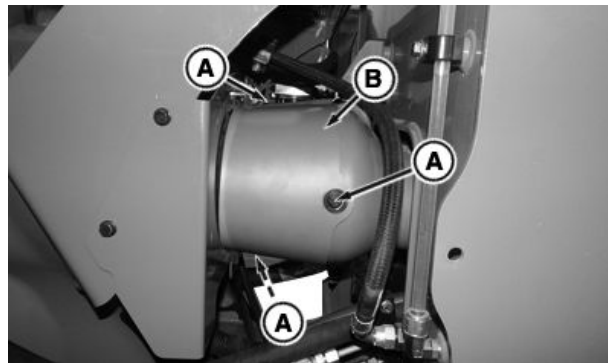
John Deere is a trademark of Deere & Company

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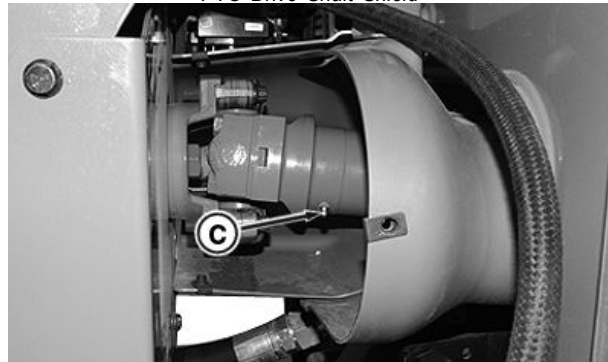
RXA0149743 —UN—24AUG15

Lubricate PTO Drive Shaft (If Equipped)

1. Remove three cap screws (A) and remove PTO shield (B) to access to PTO lubrication fitting. Rotate PTO shaft so fitting can be easily accessed for lubrication.
2. Lubricate rear PTO shaft fitting (C). Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section of this Operator's Manual.
3. Reinstall PTO drive shaft shield. Tighten cap screws.



PTO Drive Shaft Shield



Rear PTO Shaft Fitting (With Parts Removed)

**A—Cap Screws
B—PTO Drive Shaft Shield**

C—PTO Shaft Fitting

Item	Measurement	Specification
Drive Shaft Shield Cap Screws	Torque	28 N·m (20 lb-ft)

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RX32825,0000640 -19-16JAN15-1/1

RXA0142745 —UN—20JUN14

RXA0142916 —UN—20JUN14

Lubricate Heavy-Duty Gudgeon Bearings (If Equipped)

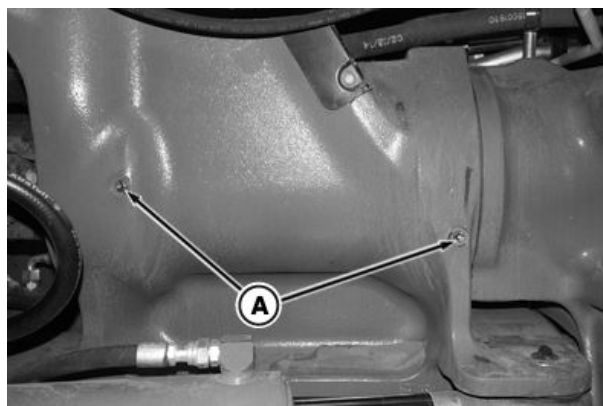
IMPORTANT: Over-lubrication of bearings may result in damage to bearings, seals, and drive shaft.

Use only hand pump grease gun. other grease gun types fill grease cavity too quickly and displace bearing seal. Grease then may bypass bearing, leaving it improperly lubricated.

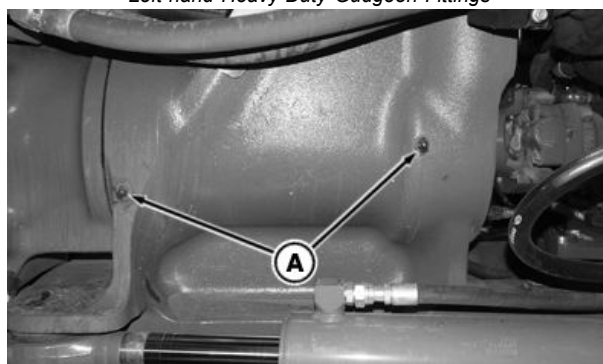
Lubricate heavy-duty gudgeon tapered roller bearing fittings (A) on both left-hand and right-hand side and on top of gudgeon. Give each fitting approximately 40 pumps of grease.

Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants, and Coolant section of this Operator's Manual.

**A—Heavy-Duty Gudgeon
Tapered Roller Bearing
Fittings**



Left-hand Heavy-Duty Gudgeon Fittings



Right-hand Heavy-Duty Gudgeon Fittings

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RX32825,0000641 -19-10JUN15-1/1

RXA0142539 —UN—16JUN14

RXA0142540 —UN—16JUN14

Lubricate Lower Drive Line Bearing

IMPORTANT: Operate tractor at low speeds (below 10 mph (16 km/h)) for first 6 hours of operation.

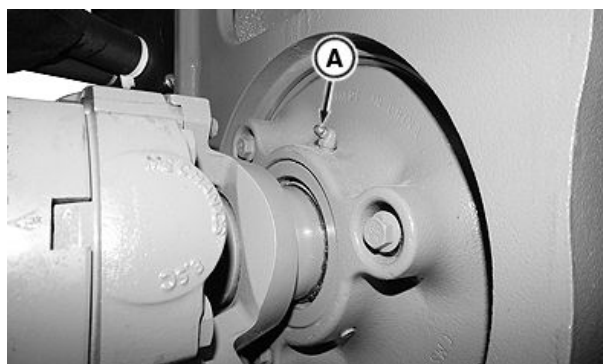
IMPORTANT: Over lubrication can result in premature bearing and drive shaft failures.

Use only hand pump grease gun. Other types of grease guns fill the grease cavity at greater speed. This can push retention seal out of position, allowing grease to enter gudgeon center cavity and leaving bearing improperly lubricated.

Lubricate lower drive line bearing lubrication fitting (A).

Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants, and Coolant section of this Operator's Manual.

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Gudgeon Drive Line Bearing Fitting

**A—Drive Line Bearing
Lubrication Fitting**

RX32825,0000642 -19-10JUN15-1/1

RXA0141923 —UN—02JUN14

Lubricate Rear Hitch (If Equipped)

IMPORTANT: Normal service is every 250 hours. If used daily, service every 50 hours.

Lubricate hitch center link lubrication fittings (A) and lift link lubrication fittings (B).

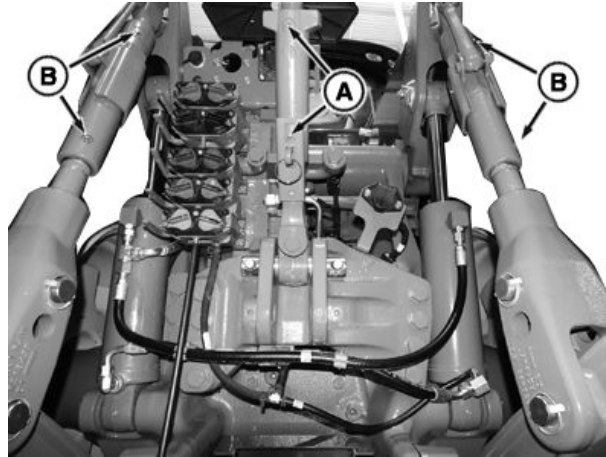
Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section of this Operator's Manual.

Normal service is every 250 hours. If used daily, service every 50 hours.

A—Center Link Lubrication Fittings

B—Lift Link Lubrication Fittings

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RXA0148432 —UN—17JUN15

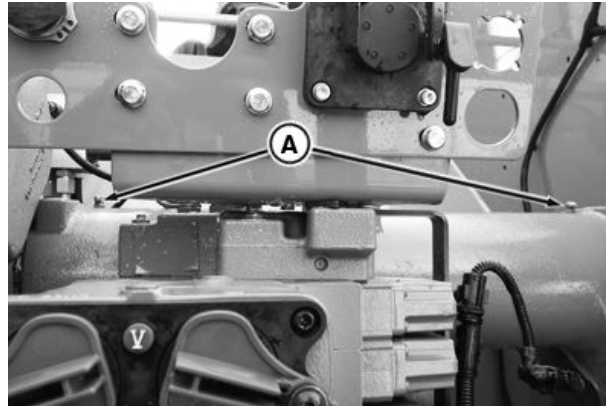
RX32825,0000643 -19-17JUN15-1/1

Lubricate Lift Cylinders and Rockshaft

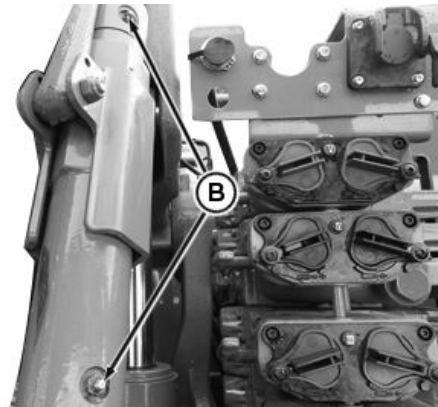
Lubricate lift cylinder pin fittings (B) on both sides of tractor. Lubricate left-hand (A) and right-hand side rockshaft fittings. See Grease in Fuels, Lubricants, and Coolant section of this Operator's Manual for correct grease to use.

A—Rockshaft Lubrication Fittings

B—Lift Cylinder Pin Lubrication Fittings



RXA0141976 —UN—02JUN14



RXA0141977 —UN—20JUN14

Rockshaft Assembly

TO84419,0000199 -19-07MAY15-1/1

400 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

SV81855,0000270 -19-21MAY14-1/1

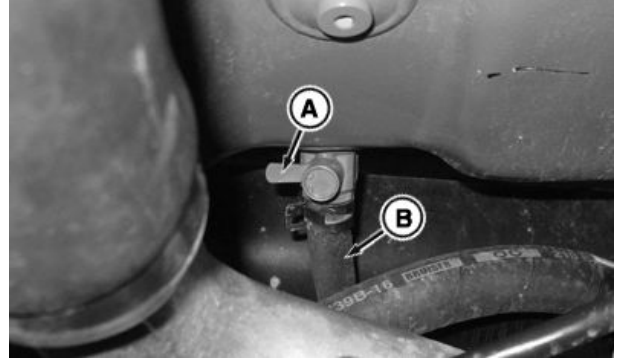
Change Engine Oil and Filter—15 L Engine

IMPORTANT: Fuel sulfur content should not exceed 0.10%. Fuel sulfur content less than 0.10% is preferred. Refer to Fuel, Lubricants, and Coolant section for more information on oil change intervals.

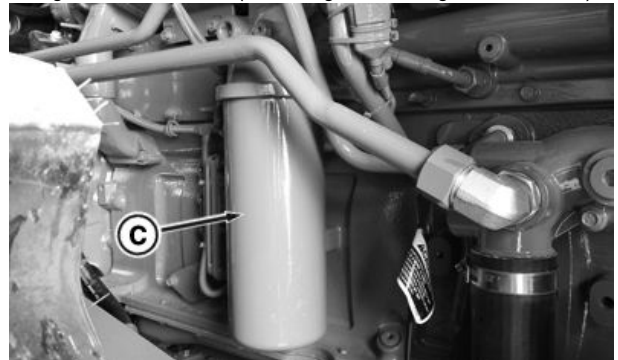
NOTE: No initial break-in service required for new or rebuilt engines. The maximum service interval is the same as the service interval recommendations listed in Engine Oil and Filter Service Intervals for your engine. To confirm which engine your tractor is equipped with, see Identification Numbers Section - Record Engine Serial Number in this Operator's Manual.

For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine located in the Fuel, Lubricants, and Coolant Section of this Operator's Manual.

1. Operate engine approximately 5 minutes to warm oil.
2. Stop engine.
3. Locate engine drain valve (A) located inside right-hand engine side frame.
4. Turn crankcase drain valve (A) to drain engine oil. Use enough containers for 75.7 L (20 gal.) capacity and direct oil flow with engine oil drain hose (B).
5. Close drain valve after all oil has been drained.
6. Remove filter (C) and old gasket. Clean filter mounting surface with clean dry cloth.
7. Apply thin film of oil to new gasket.
8. Fill filter with clean engine oil, approximately 1.9 L (0.5 gal.).
9. Install gasket and filter.



Engine Oil Drain Valve (Inside Right-Hand Engine Side Frame)



Engine Oil Filter

A—Engine Oil Drain Valve
B—Engine Oil Drain Hose

C—Oil Filter

10. Hand-tighten filter element until gasket contacts filter head surface. Use filter wrench to tighten an extra 3/4 to 1 turn after gasket contact. Refer to instructions on filter. Do not overtighten.

Crankcase Capacity with Filter

15 L Engine 43.5 L (11.5 gal.)

Continued on next page

SV81855,000027B -19-08MAY15-1/2

RXA0147883 —UN—20APR15

RXA0147884 —UN—20APR15

IMPORTANT: Do not overfill engine. Excess oil can cause loss of efficiency.

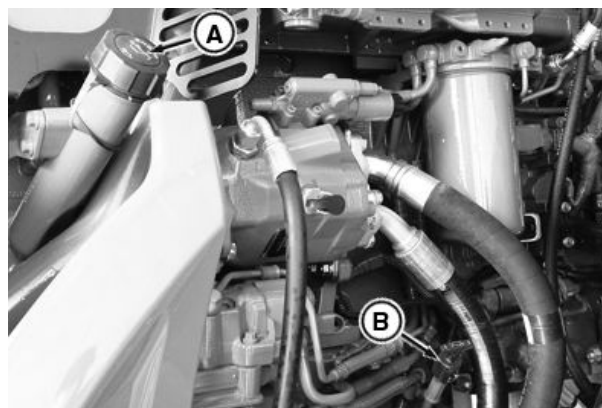
11. Remove engine oil fill cap (A) and fill crankcase using fill tube. Use seasonal viscosity grade oil as specified in Fuel, Lubricants, and Coolant section of this Operator's Manual.
12. Check oil level with dipstick (B), to ensure that oil level is in crosshatched "safe" area (C).
13. Start and run engine for two minutes. Then stop engine and check for oil leaks.

NOTE: Engine oil level indicator is a dipstick with a "crosshatched" area with a "safe" zone. Anywhere in the dipstick crosshatched safe zone is considered full.

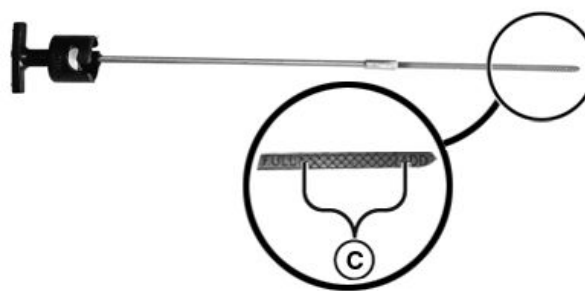
14. Recheck oil level with dipstick (B), to ensure that oil level is in crosshatched "safe" zone area (C).

A—Fill Cap
B—Dipstick

C—Crosshatch Area



Fill Tube



Dipstick

RXA0141925 —UN—03JUN14

RXA0141926 —UN—03JUN14

SV81855,000027B -19-08MAY15-2/2

Replace Fuel Filter Elements—15 L Engine

IMPORTANT: Replace fuel filter elements anytime audible alarm sounds and diagnostic trouble codes indicate plugged fuel filters (low fuel pressure). If no alarm sounds replace filters after 400 hours operation

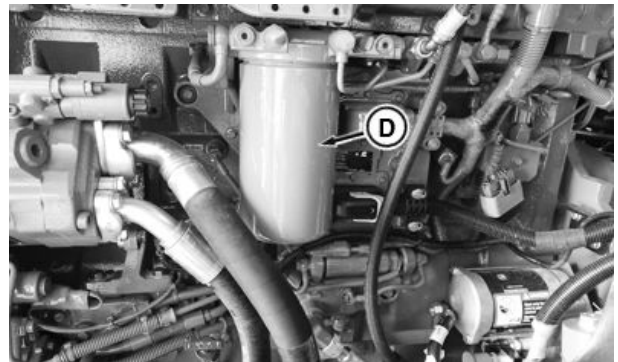
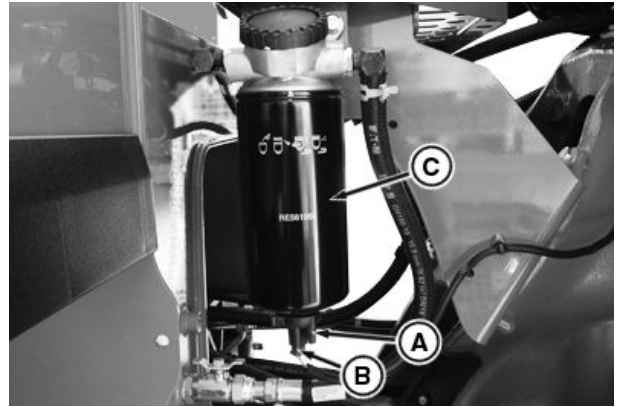
1. Thoroughly clean exterior of fuel filter/water separator assembly and surrounding area.
2. Drain water and contaminants from primary filter into suitable container by opening drain valve (A) on bottom of filter.
3. Dispose of drained material in accordance with local laws and ordinances.
4. Disconnect the water-in-fuel sensor connector (B) from primary filter.
5. Remove primary filter (C), secondary filter (D) and gaskets and discard filters.

IMPORTANT: Do NOT prefill either fuel filter with fuel.

6. Lubricate gasket for primary fuel filter with fuel, and install canister onto base. Tighten 3/4 turn after packing contacts base.
7. Lubricate primary fuel filter water separator gasket with fuel and install onto filter canister. Tighten 3/4 of a full turn after gasket contacts the base.
8. Lubricate gasket for secondary fuel filter with fuel, and install filter onto base. Tighten 3/4 turn after gasket contacts base.
9. Connect water-in-fuel sensor connector harness.

IMPORTANT: Turn key ON for 3 min. before starting engine to provide time to prefill fuel filters. Fuel system is self-bleeding.

Do not attempt to start engine until prefill is complete or a fuel system air lock may occur.



A—Drain Valve
B—Connector

C—Primary Filter
D—Secondary Filter

10. Turn key switch to ON position for 3 minutes to prefill fuel filters.
11. Start engine and run fast idle for 2 minutes.

SV81855,000027A -19-22APR15-1/1

RXA0141928 —UN—02JUN14

RXA0141924 —UN—02JUN14

500 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Change Engine Oil and Filter—9.0 L Engine

IMPORTANT: Sulfur content should not exceed 0.10%. Sulfur content less than 0.10% is preferred. Refer to Fuel, Lubricants and Coolant section of this Operator's Manual for more information on oil change intervals.

NOTE: The initial break-in service interval of a new or rebuilt wet sleeve engine with Break-In Plus must go at least 100 hours to assure the surface mating of the rings and liners has had an opportunity to occur. The 100 hour minimum applies to all new or rebuilt engines. The maximum service interval is the same as the service interval recommendations listed in Engine Oil and Filter Service Intervals for your engine. To confirm which engine your tractor is equipped with, see Identification Numbers Section - Record Engine Serial Number in this Operator's Manual.

For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine located in the Fuels, Lubricants, and Coolant Section of this Operator's Manual.

Operate engine to warm oil. Stop engine.

Place a large catch pan below engine drain valve (A) and open valve to drain oil.

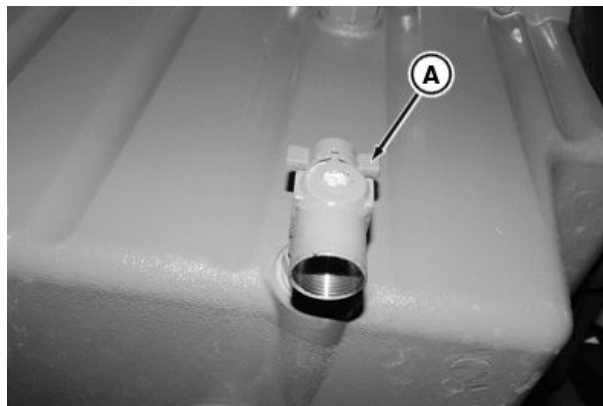
NOTE: Do not remove relief valve plug on side of filter housing. Oil in filter housing will drain back into crankcase when filter is removed.

1. Remove oil filter cover (B) using a 32 mm (1.25 in.) wrench.
2. Remove cap and filter element.
3. While holding cap, strike filter element against a solid surface to unfasten filter from cap.
4. Discard used filter.
5. Remove O-ring seal and replace with new O-ring provided with new filter element. Lubricate new O-ring with a small amount of engine oil.
6. Press new filter element into cap until it snaps into place.
7. Insert cap and filter assembly into oil filter housing. Screw cap into place and tighten cap to specification.

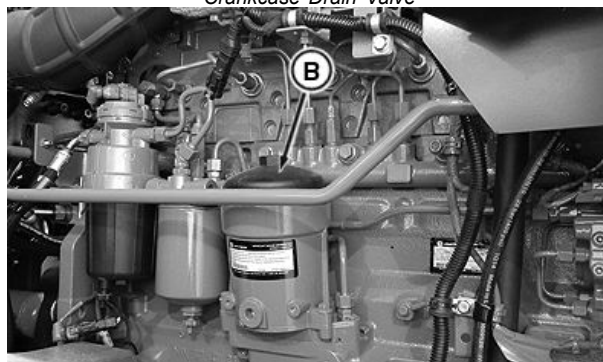
Oil Filter Cap—Specification

Cap—Torque..... 40 N·m (30 lb·ft)

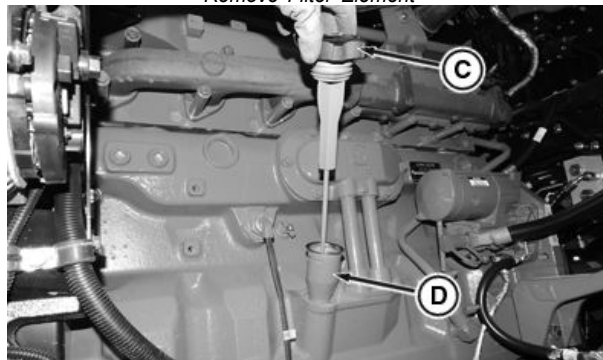
8. Close engine crankcase drain valve.
9. Remove engine oil filler cap (C) and refill crankcase with seasonal viscosity grade oil through filler tube (D).



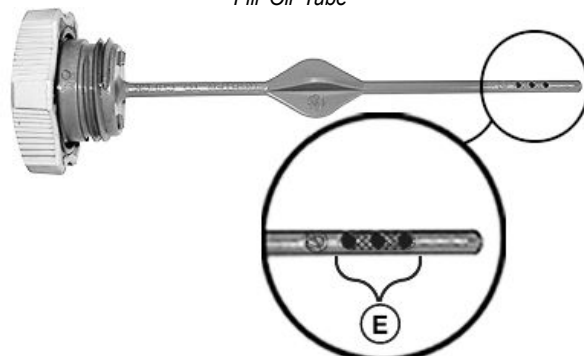
Crankcase Drain Valve



Remove Filter Element



Fill Oil Tube



Crosshatch Area

A—Engine Drain Valve
B—Engine Oil Filter Cover
C—Filter Cap

D—Filler Tube
E—Crosshatch Area

Continued on next page

RX32825,0000647 -19-30JAN15-1/2

RXA0141930 —UN—02JUN14

RXA0141932 —UN—02JUN14

RXA0141934 —UN—02JUN14

RXA0110097 —UN—10DEC10

Crankcase Capacity with Filter

9370R Engine Oil 34 L (9.0 gal)

Anywhere in the dipstick crosshatched safe zone is considered FULL.

10. Start and run engine for a two minutes. Then stop engine and check for oil leaks.

11. Recheck oil level with dipstick to ensure level is in crosshatched area (E).

NOTE: Engine oil level indicator is a dipstick with a "crosshatched" area with a "safe" zone.

RX32825,0000647 -19-30JAN15-2/2

Change Engine Oil and Filter—13.5 L Engine

IMPORTANT: Sulfur content should not exceed 0.10%. Sulfur content less than 0.10% is preferred. Refer to Fuel, Lubricants, and Coolant section for more information on oil change intervals.

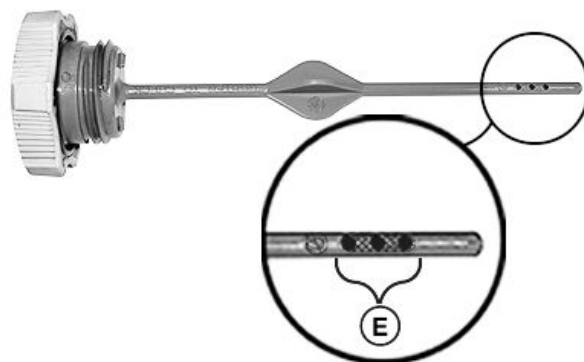
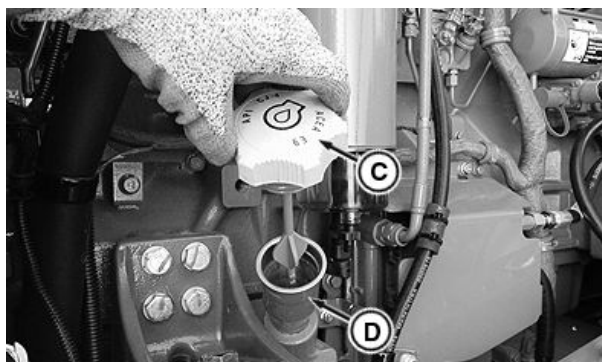
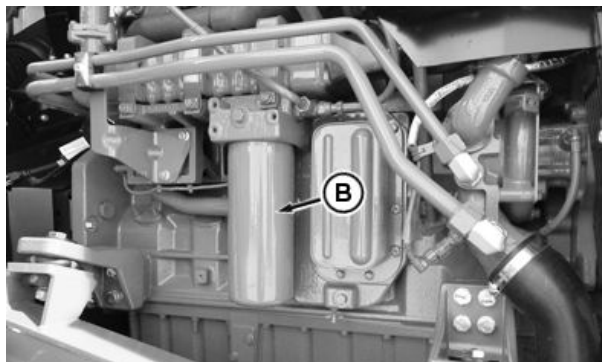
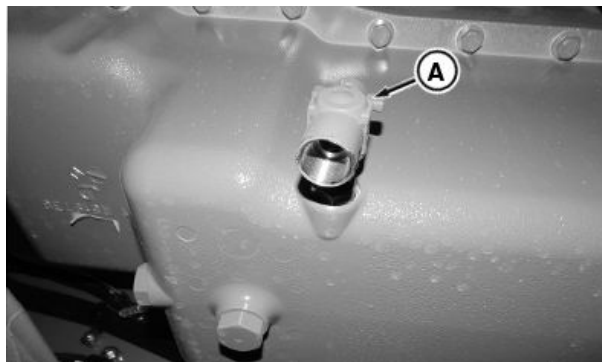
NOTE: The initial break-in service interval of a new or rebuilt wet sleeve engine with Break-In Plus must go at least 100 hours to assure the surface mating of the rings and liners has had an opportunity to occur. The 100 hour minimum applies to all new or rebuilt engines. The maximum service interval is the same as the service interval recommendations listed in Engine Oil and Filter Service Intervals for your engine. To confirm which engine your tractor is equipped with, see Identification Numbers Section - Record Engine Serial Number in this Operator's Manual.

For subsequent oil changes, see Engine Oil and Filter Service Intervals for your engine located in the Fuel, Lubricants, and Coolant Section of this Operator's Manual.

1. Operate engine approximately 5 minutes to warm oil.
2. Stop engine.
3. Turn crankcase drain fitting (A) to drain engine oil. Use enough containers for 75.7 L (20 gal.) and direct flow with attached valve hose.
4. Wait a few minutes, then tighten fitting after oil is completely drained.
5. Remove filter (B) and remove old O-ring. Clean filter mounting surface with clean dry cloth.
6. Apply a thin film of oil to new O-ring and install new filter.
7. Hand-tighten filter element, then turn filter element 1-1/4 turn after gasket contact. Filter wrench is required. Do not overtighten.
8. Remove engine oil fill cap (C) and refill crankcase using fill tube (D) with seasonal viscosity grade oil. See Engine Oil Filter Service Intervals—Final Tier 4 and Stage IV 9.0 and 13.5 L Engines in Fuels, Lubricants, and Coolants section of this Operator's Manual.
9. Start and run engine for a two minutes. Then stop engine and check for oil leaks.

NOTE: Engine oil level indicator is a dipstick with a "crosshatched" area with a "safe" zone. Anywhere in the dipstick crosshatched safe zone is considered FULL.

10. Recheck oil level with dipstick to ensure that level is in crosshatched (E) "safe" zone area.



A—Engine Drain Fitting
B—Oil Filter
C—Fill Cap

D—Fill Tube
E—Crosshatch Area

RXA0141931 —UN—02JUN14

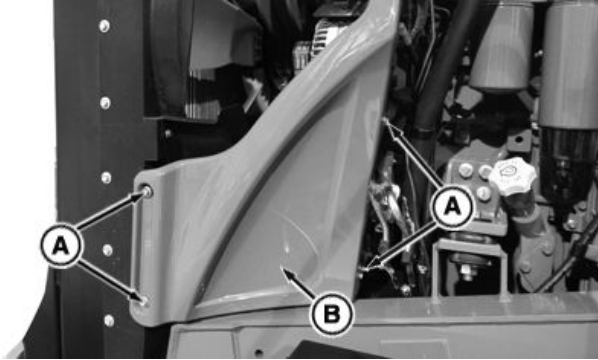
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RXA0141935 —UN—02JUN14

RXA0110097 —UN—10DEC10

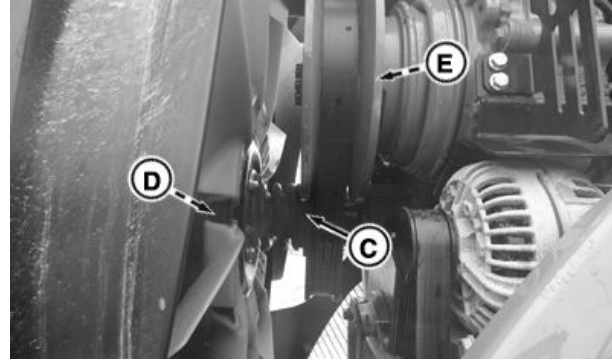
RX32825,0000648 -19-08MAY15-1/1

Lubricate Vari-Cool™ Fan Drive—13.5 L Final Tier 4 and Stage IV Engine



Side Panel

RXA0142201 —UN—06JUN14



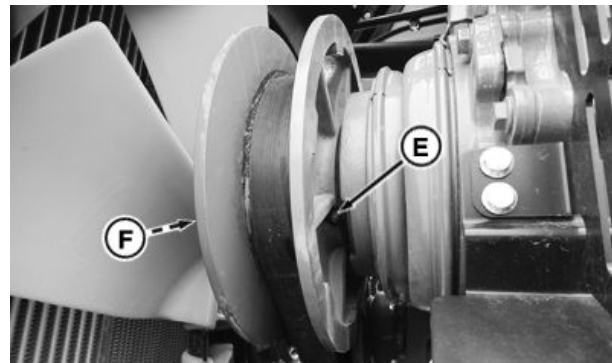
Fan Driver and Driven Shaft Lubrication Fittings

RXA0148382 —UN—15JUN15

1. Raise engine hood.
2. Remove cap screws (A) and remove engine side panel (B).

IMPORTANT: Grease only one driver and driven shaft fittings. The fitting on opposite side provides fan balance and service position convenience.

If more than 50 pumps of AN102562 Corn Head grease required, contact your John Deere™ dealer to replace internal seals and inspect shaft splines.



Fan Driver Pulley Lubrication Fitting

RXA0148375 —UN—15JUN15

3. 13.5 L engine only. Pump AN102562 Corn Head grease into shaft lubrication fitting (C) until grease is visible coming from driven shaft vent (D).
4. Grease fan driver pulley lubrication fitting (E).
5. Reinstall diverter panel and tighten cap screws.

Diverter Panel Cap Screws —Specification

Cap Screw—Torque.....20 N·m
(177 lb.-in.)

7. Close and secure hood.

A—Cap Screws
B—Side Panel
C—Fan Shaft Fittings

D—Driven Vent Opening
E—Fan Pulley Fitting
F—Driver Vent Opening

6. Reinstall finger guard and tighten cap screws.

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Tighten Wheel and Wheel Weight Bolts

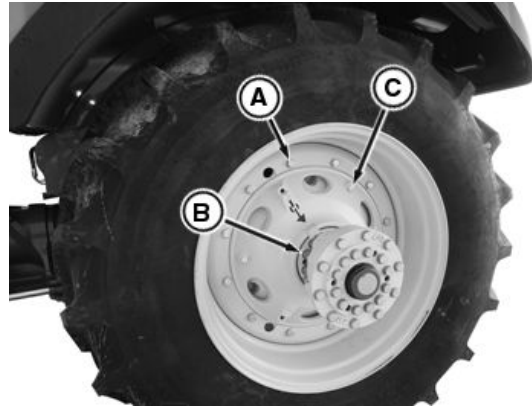
CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel or wheel weight bolts. Failure to follow torquing procedure may result in personal injury. Wheel and wheel weight bolts are critical and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow correct tightening procedure could result in equipment damage.

Retighten wheel and weight bolts after working 3 HOURS, 10 HOURS and DAILY during the first week of operation.

Check and torque all wheel and weight bolts on a regular or 500 Hour interval. See Wheels, Tires and Treads Section for bolt tightening procedure.

Tighten front and rear wheel bolts (A), hub bolts (B) and wheel weight bolts (C).



A—Rim to Wheel Bolts
B—Hub Bolts

C—Weight Bolts

RXA0141936 —UN—02JUN14

SV81855,0000226 -19-02JUN14-1/1

Use Wheel Tightening Stand

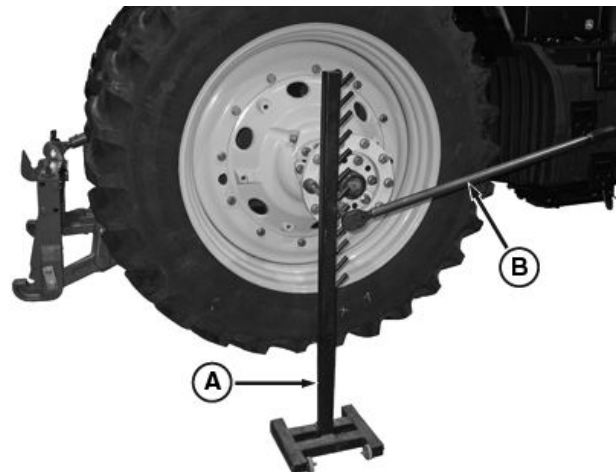
Wheel tightening stand (A) may be used to aid in tightening wheel and wheel weight hardware.

Stand will support torque wrench (B) and extension when tightening bolts at different heights.

See your John Deere™ dealer for information on purchasing or fabricating stand.

A—Wheel Tightening Stand
(DFR219 or JDG10741)

B—Torque Wrench



RXA0113539 —UN—11FEB11

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RX32825,0000736 -19-25JUN13-1/1

Use Wheel Torque Wrench Adapter

Install JDG679 Torque Wrench Adapter (A) [32 mm (3/4 in.) drive] to allow easy access to sleeve bolts on inner cast wheels with outside duals in place. See your John Deere™ dealer.

Install adapter at **90° angle** from torque wrench shaft to assure correct torque specification.

Specification

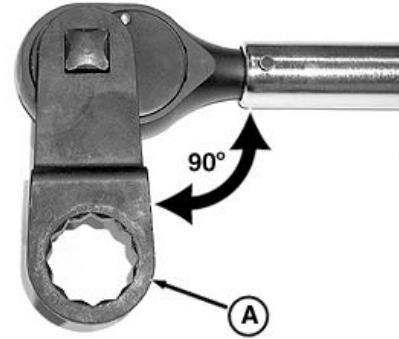
Cast Wheel Cap
Screws—Torque..... 610 N·m (450 lb-ft)

When unable to use adapter at 90° angle from torque wrench shaft, use formula to calculate correct torque wrench setting (Tw) to obtain desired final torque on bolts.

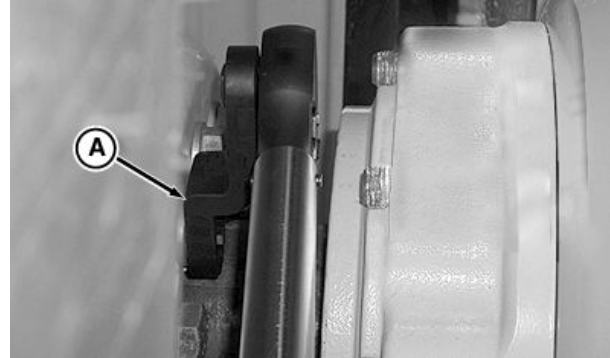
Tw	=	Torque setting on torque wrench
Ta	=	Torque actually being applied to bolt
L	=	Length from point of force (center of the wrench handle) to center of head of torque wrench
A	=	Application distance from center of torque wrench head to center of adapter [95 mm (3.75 in.)]

Example: Torque wrench length = 0.91 m (36 in.), wrench adapter = 0.1 m (4 in.), Value Tw for torque wrench setting is 549 N·m (405 lb-ft).

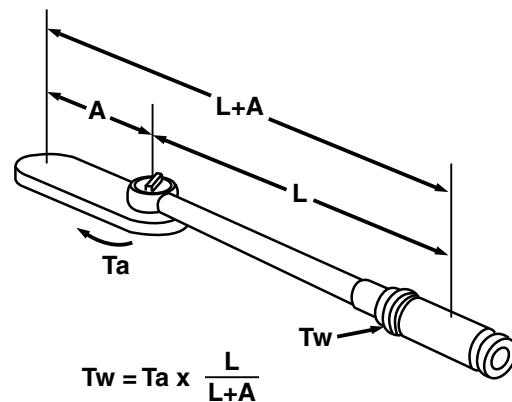
A—JDG679 Torque Wrench Adapter



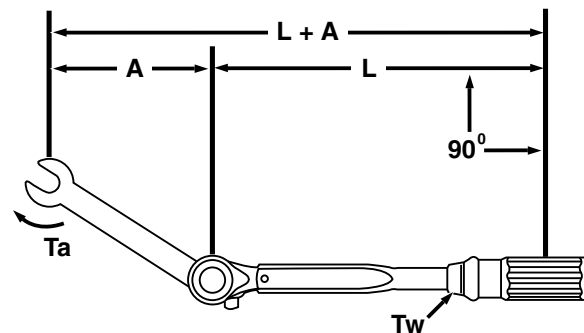
RXA0086802 —UN—15FEB06



RXA0086804 —UN—15FEB06



RXA0061214 —UN—19JUN02



RXA0062101 —UN—15AUG02

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Lubricate HydraCushion™ Front Axle Suspension (If Equipped)

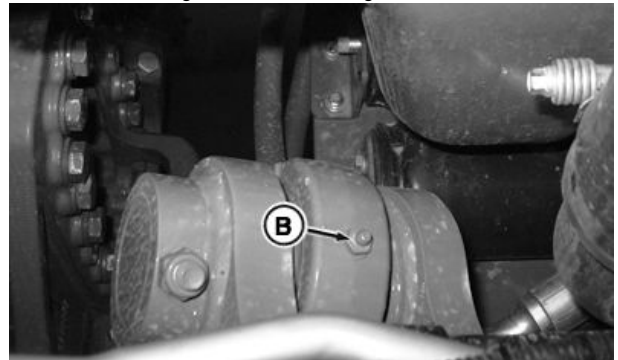
Lubricate HydraCushion™ front axle suspension components. Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section of this Operator's Manual.

Lubricate right-hand (B) and left-hand (D) fittings on located inboard of right (A) and left (C) side frames. Give each fitting approximately 10 pumps of grease.

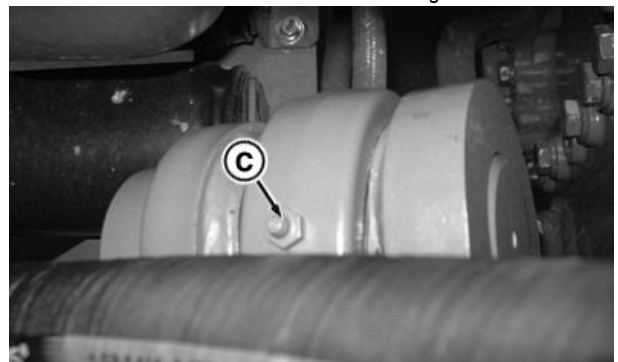
A—Right-Hand Fitting Location C—Left-Hand Fitting
B—Right-Hand Fitting D—Lower Suspension Fittings



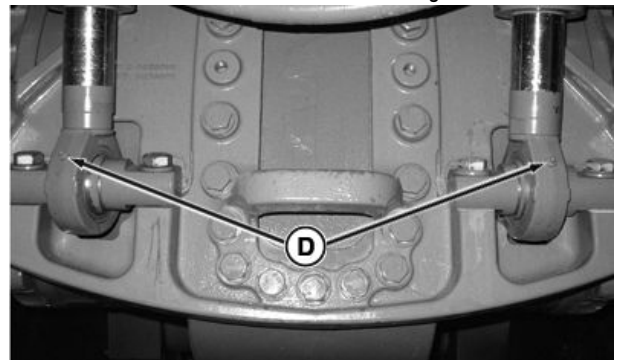
Right-Hand Axle Fitting Location



Left-Hand Lubrication Fitting



Left-Hand Lubrication Fitting



Lower Axle Suspension Fittings

*HydraCushion is a trademark of Deere & Company
John Deere is a trademark of Deere & Company*

Continued on next page

RW29387.000068B -19-13JUN14-1/2

RXA0132813 —UN—06JUN13

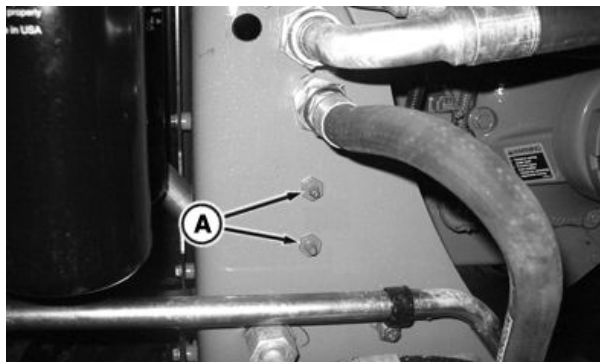
RXA0132818 —UN—30MAY13

RXA0132820 —UN—06JUN13

RXA0132821 —UN—06JUN13

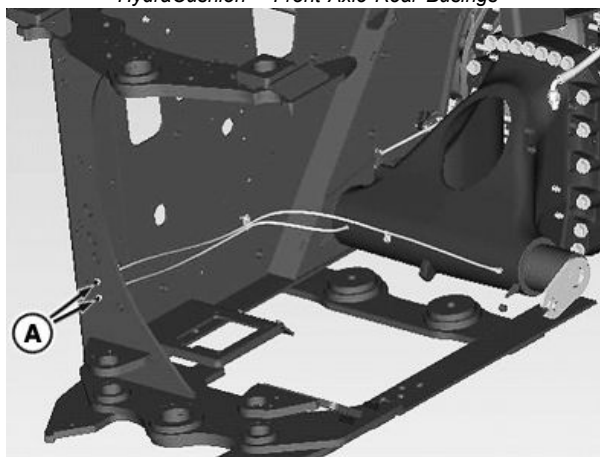
Lubricate front axle suspension remote fittings (A) located on left-hand side of gudgeon frame.

A—Front Suspension Fittings



RXA0133078 —UN—06JUN13

HydraCushion™ Front Axle Rear Busings

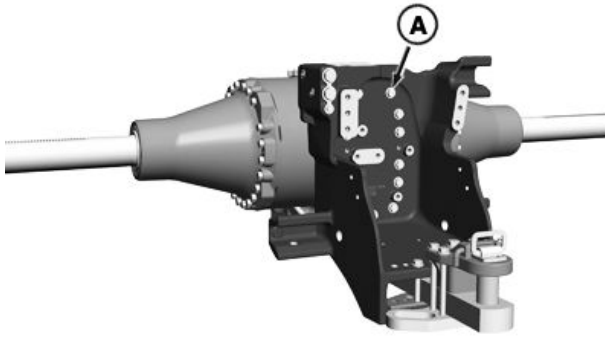


RXA0133079 —UN—06JUN13

Axle Suspension Rear Bushing Diagram

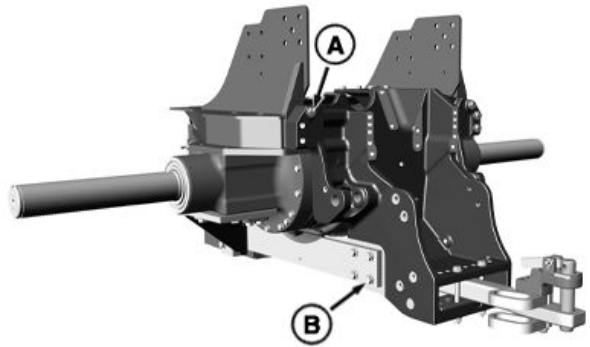
RW29387,000068B -19-13JUN14-2/2

Inspect Drawbar Support and Cap Screws



RXA0139208 —UN—19FEB14

Heavy Duty Double Reduction Axle Drawbar Support

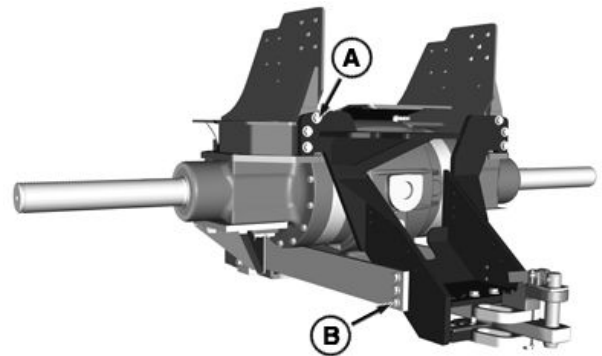


RXA0139447 —UN—21MAR14

Heavy Duty Single Reduction Axle Drawbar Support

Inspect and tighten drawbar support cap screws (A) and stabilizer cap screws (B).

Drawbar Support Cap Screw Torque Specifications	
Drawbar Support Cap Screws to Frame (A)	490 N·m (361 lb-ft)
Support Stabilizer Cap Screws to Drawbar Support (B)	490 N·m (361 lb-ft)



RXA0139448 —UN—21MAR14

Standard Single Reduction Axle Drawbar Support

RX32825,000064A -19-16JAN15-1/1

Clean Dual Beam Radar Sensor (If Equipped)

IMPORTANT: Inspect radar sensor horns for dirt or debris build up, which affects accuracy performance.

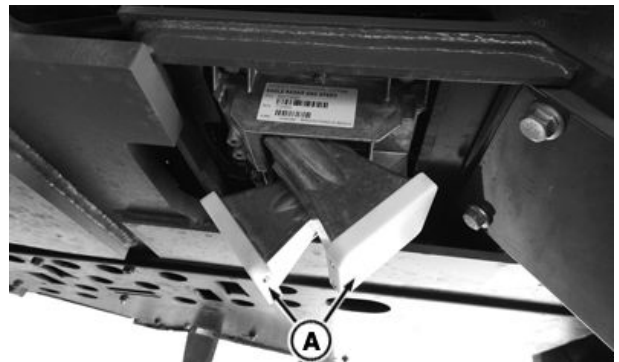
Avoid use of high-pressure washer nozzle pointed directly at radar.

Avoid damage to radar and wiring harness when using sharp tools to remove dirt or packed mud around radar.

Check and clean radar sensor depending on operating conditions.

Clean radar sensor horns (A) with warm water and mild soap.

Dry with clean soft cloth.



RXA0141826 —UN—02JUN14

Dual Beam Radar

A—Sensor Horn

RX32825,000064B -19-11MAY15-1/1

Replace Fuel Filter Elements—9.0 L Engine

IMPORTANT: Replace fuel filter elements anytime audible alarm sounds and diagnostic trouble codes indicate plugged fuel filters (low fuel pressure). If no alarm sounds replace filters after 500 hours operation

NOTE: Water separator is part of the fuel filter assembly.

1. Thoroughly clean exterior of fuel filter/water separator assembly and surrounding area.

CAUTION: Due to high pressure common rail system design, fuel in filter is likely to be under high pressure. To avoid possible personal harm, open valve (C) on bottom of water separator bowl to relieve pressure prior to removing each filter.

2. Drain water and contaminants from primary filter (A) and secondary filter (B) into suitable container by opening drain valves (C) on bottom of filters. Make sure to turn nut past threads until it drops onto plastic tabs.
3. Disconnect the water-in-fuel sensor connector from primary filter.

IMPORTANT: Always replace both filters at the same time.

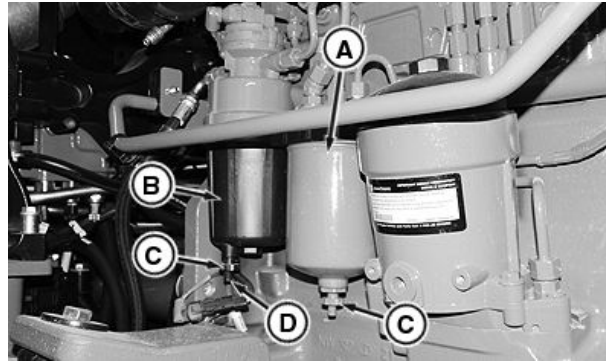
4. Remove the final fuel filter (B) first, for clearance, using a suitable filter wrench. Then remove primary fuel filter canister (A).
5. Remove primary fuel filter element and replace with new element.

IMPORTANT: Do NOT prefill either fuel filter with fuel.

6. Remove water-in-fuel sensor (D) from old primary filter. Inspect filter O-ring condition and replace if necessary. Install O-ring in new primary filter and tighten to specification.

Specification

Water-in-Fuel	
Sensor—Torque.....	3.3 N·m
	30 lb-in.



Fuel Filters

A—Primary Fuel filter
B—Secondary Fuel Filter
C—Drain Valve
D—Water-in-Fuel Sensor

7. Remove packing for primary fuel filter canister and replace with new packing provided with filter element. Lubricate packing for primary fuel filter with fuel, and install canister onto base. Tighten 3/4 turn after packing contacts base.
 8. Lubricate gasket and install filter onto base. Tighten 3/4 of a full turn after gasket contacts the base. Connect water-in-fuel sensor.
 9. Repeat above procedure for secondary filter.
- IMPORTANT:** Allow sufficient time to prefill fuel filter prior to attempting to start tractor. Tractor will not start until fuel system is full.
10. Fuel system is self bleeding. Turn key switch to ON position for at least 60 seconds to allow transfer pump to prefill fuel filters before attempting to start engine.
 11. Turn key switch clockwise to START position, and run engine at fast idle for 2 minutes. If engine won't start or dies, see BLEEDING FUEL SYSTEM.
 12. If engine will not start after bleeding fuel system, prime the system as indicated in Restarting Engine That Has Run Out Of Fuel in Operating the Engine section of this Operator's Manual.

RXA0141937 — UN—02JUN14

RX32825,000064C -19-16FEB15-1/1

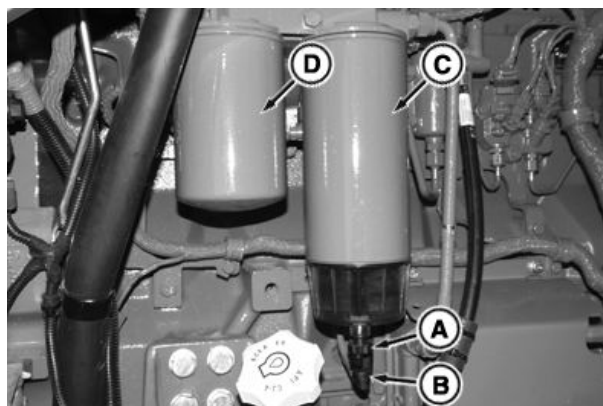
Replace Fuel Filter Elements—13.5 L Engine

IMPORTANT: Replace fuel filter elements anytime audible alarm sounds and diagnostic trouble codes indicate plugged fuel filters (low fuel pressure). If no alarm sounds replace filters after 500 hours operation

1. Thoroughly clean exterior of fuel filter/water separator assembly and surrounding area.
2. Drain water and contaminants from primary filter into suitable container by opening drain valve (A) on bottom of separator.
3. Dispose of drained material in accordance with local laws and ordinances.
4. Disconnect the water-in-fuel sensor connector (B) from primary filter.
5. Remove primary filter (C), secondary filter (D), and gaskets and discard.

IMPORTANT: Do NOT prefill either fuel filter with fuel.

6. Lubricate gasket for primary fuel filter with fuel, and install canister onto base. Tighten 3/4 turn after packing contacts base.
7. Lubricate primary fuel filter water separator gasket with fuel and install onto filter canister. Tighten 3/4 of a full turn after gasket contacts the base.
8. Lubricate gasket for secondary fuel filter with fuel, and install filter onto base. Tighten 3/4 turn after packing contacts base.



A—Drain Valve
B—Connector

C—Primary Filter
D—Secondary Filter

9. Connect water-in-fuel separator sensor harness.

IMPORTANT: Key must be turned to ON position for 3 minutes before starting engine to provide time to prefill fuel filters. Fuel system is self-bleeding.

Do not try to start engine until after 3 minute time elapses or an air lock in the fuel system may occur.

10. Turn key switch to ON position for 3 minutes to allow transfer pump to prefill fuel filters.
11. Start engine and run high idle for 2 minutes.

RX32825,000064D -19-11MAY15-1/1

RXA0141938 —UN—02JUN14

Inspect Air Intake System—9.0 L Final Tier 4 and Stage IV Engine

IMPORTANT: Operating engine with loose air intake clamps may allow dust entry into system and damage to engine.

NOTE: Not all air intake clamps are shown, but all need to be checked and tightened.

Check air intake system for loose clamps (A) or cap screws.

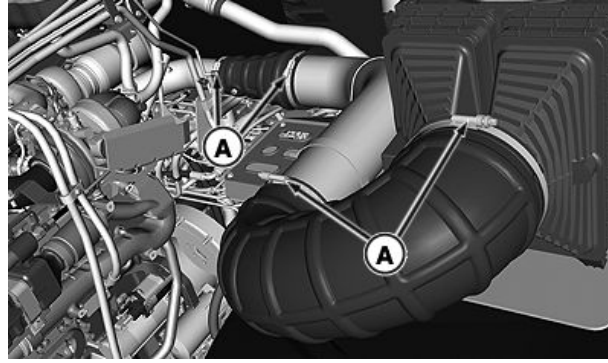
Tighten air intake system clamps to specification.

Specification

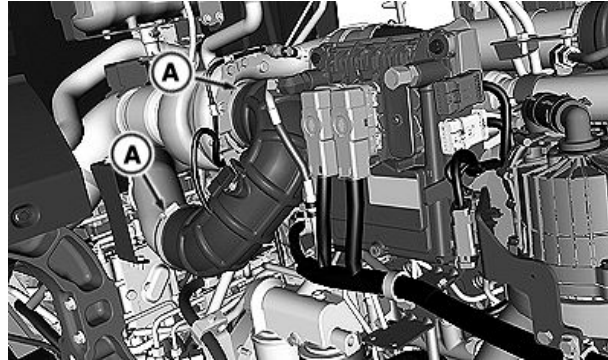
Air Intake Clamps

(A)—Torque..... 8 N·m (70 lb-in.)

A—Air Intake Clamps



Air Intake System - Left Side



Air Intake System - Right Side

RXA0140513 —UN—29MAY14

RXA0141741 —UN—29MAY14

SV81855,0000281 -19-28MAY14-1/1

Inspect Air Intake System—13.5 L Final Tier 4 and Stage IV Engine

IMPORTANT: Operating engine with loose air intake clamps may allow dust entry into system and damage to engine.

NOTE: Not all air intake clamps are shown, but all need to be checked and tightened.

Check air intake system for loose clamps (A) or cap screws.

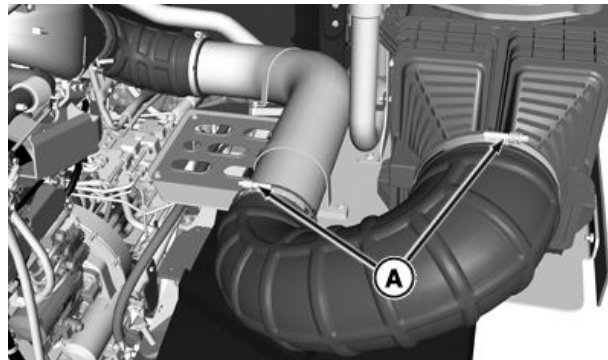
Tighten air intake system clamps to specification.

Specification

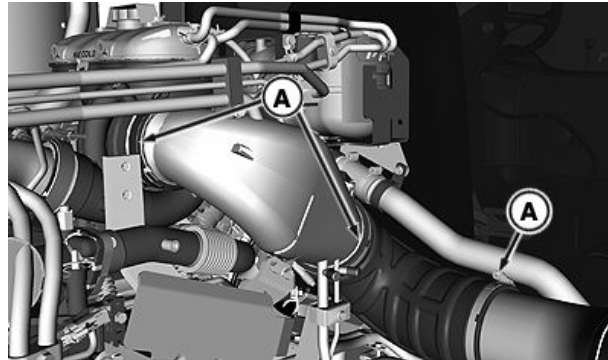
Air Intake Clamps

(A)—Torque..... 8 N·m (70 lb-in.)

A—Air Intake Clamps



Air Intake System - Left Side



Air Intake System - Right Side

RXA0141744 —UN—29MAY14

RXA0141745 —UN—29MAY14

SV81855,0000283 -19-28MAY14-1/1

Inspect Air Intake System—15 L Engine

IMPORTANT: Operating engine with loose air intake clamps may allow dust entry into system and damage to engine.

NOTE: Not all air intake clamps are shown, but all need to be checked and tightened.

Check air intake system for loose clamps (A) or cap screws.

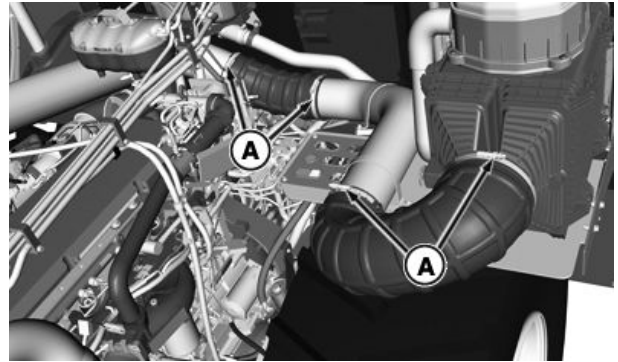
Tighten air intake system clamps to specification.

Specification

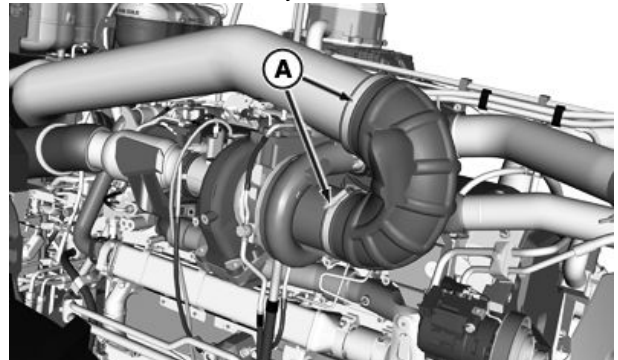
Air Intake Clamps

(A)—Torque..... 8 N·m (70 lb-in.)

A—Air Intake Clamps



Air Intake System - Left Side



Air Intake System - Right Side

RXA0141748 —UN—29MAY14

RXA0141749 —UN—29MAY14

SV81855,0000285 -19-24SEP14-1/1

Back Flush Optional Fuel Water Separator (If Equipped)

IMPORTANT: Back flush optional fuel water separator when bowl is half full of water or when diagnostic trouble code ECU 94.17, "Low fuel pressure out of lift pump", appears. If, after flushing, trouble code still displays, wash filter element. See Service Optional Fuel Water Separator Filter Elements in this section of this Operator's Manual. If code persists, change both fuel filters.

NOTE: Filter element in water separator can be back flushed up to five times before being cleaned.

1. Shut off engine.
2. Close fuel shut-off valve (A).
3. Open bleed screw (B) on top of water separator cover. Any dirt and water will be released and settle to bottom of bowl.

NOTE: Drain fuel into appropriate container and dispose of properly.

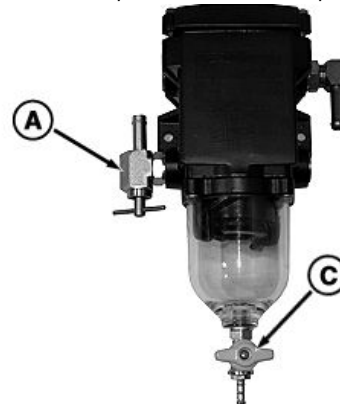
4. Push IN on drain valve (C) and turn counterclockwise to drain water and dirt from bowl.
5. Close drain valve (C) and allow water and dirt to settle again. As fuel, water, and dirt is drained from bowl in step 4, more water and dirt may be flushed from filter element and collect in bottom of bowl.
6. When all dirt and water have been drained, proceed to step 7.
7. Close bleed screw (B) and open fuel shut-off valve (A).
8. Start and run engine at high idle for at least 2 minutes. If engine will not start or dies, see Replace Fuel Filters in this section of this Operator's Manual.

A—Fuel Shut-Off Valve
B—Bleed Screw

C—Drain Valve



Optional Fuel Water Separator



RXA0148376 —UN—15JUN15

RXA0084314 —UN—26SEP05

RXA0084316 —UN—26SEP05

SV81855,000022F -19-15JUN15-1/1

Service Optional Fuel Water Separator Filter Element (If Equipped)

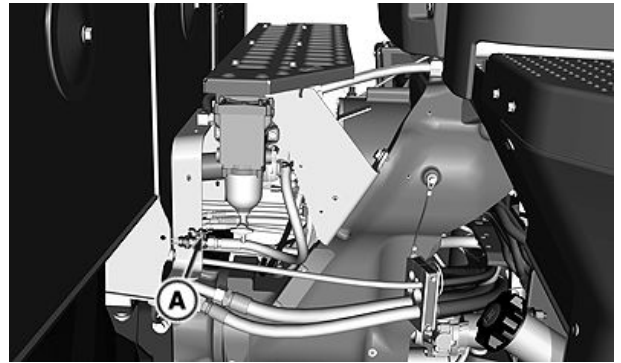
IMPORTANT: Clean filter element after each fifth back flushing of water separator assembly. Filter element can be cleaned as often as necessary for an indefinite number of times. Replace element if damaged or if cleaning becomes impossible.

1. Shut off engine.
2. Close fuel shut-off valve (A).

NOTE: Drain fuel into appropriate container and dispose of it in accordance with local laws and ordinances.

3. Open drain valve and drain fuel from bowl.
4. Loosen lid cap screws evenly in sequence shown.

A—Fuel Shut-Off Valve



Water Separator Lid

Continued on next page

SV81855,00003FE -19-24APR15-1/2

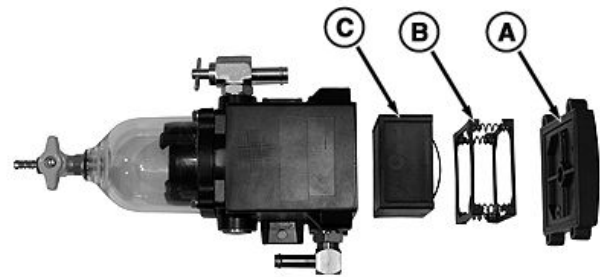
RXA0148087 —UN—24APR15

RXA0084320 —UN—26SEP05

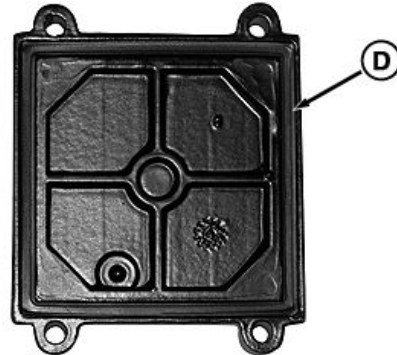
5. Remove lid (A), spring cassette (B). Lift filter element (C) from housing using attached handle.
6. Wash filter element in clean diesel fuel or mineral spirits.
7. Carefully inspect filter element for damage. If damaged, or if filter cannot be cleaned, replace filter element.
8. Install cleaned or new filter element and spring cassette.
9. Inspect lid gasket (D) condition and replace if necessary.
10. Install lid (A). Tighten cap screws in sequence shown.
11. Open fuel shut-off valve.
12. Start and run engine at high idle for at least 2 minutes. If engine will not start or starts and dies, see Replace Fuel Filters in this section of this Operator's Manual.
13. Shut off engine and check for fuel leaks.

A—Lid
B—Spring Cassette

C—Filter Element
D—Lid Gasket



RXA0084322—UN—26SEP05



RXA0084324—UN—26SEP05



RXA0084320—UN—26SEP05

Lid Cap Screw Tightening Sequence

SV81855,00003FE -19-24APR15-2/2

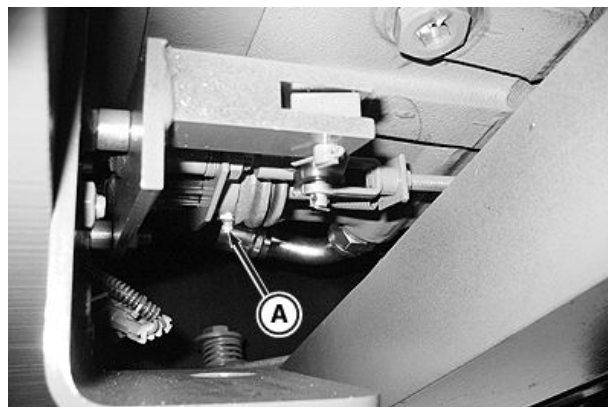
Lubricate Rear Hitch Draft Sensor (If Hitch-Equipped)

NOTE: For single reduction tractors only.

Lubricate rear hitch draft sensor (A).

Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants and Coolant section of this Operator's Manual.

A—Rear Hitch Draft Sensor



RXA0108326—UN—06AUG10

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RX32825,0000650 -19-01SEP15-1/1

1000 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Cab Classification According to EN 15695-1 (for Application of Crop Protection Chemicals and Liquid Fertilizer) (2010-52-EU)

Cab classification according to EN 15695-1 provides information on the effectiveness of protection against harmful substances offered by the cab.

Categories 1 to 4 are used for classification and specified on a label inside the cab.

Replace label if missing or damaged. See your John Deere™ dealer.

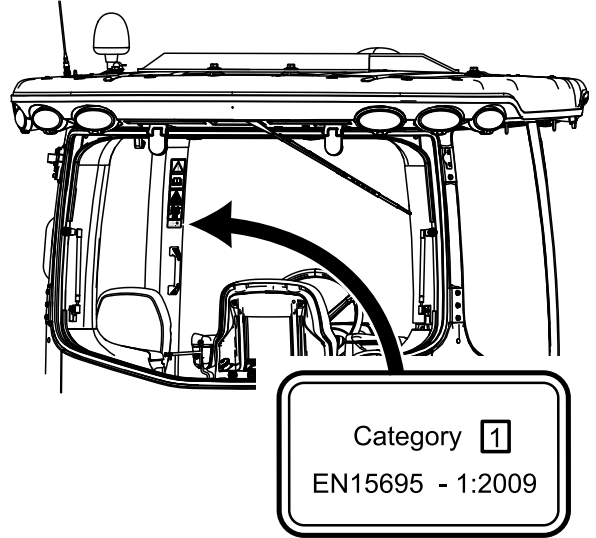
- A** — Category 1 - The cab does not offer any protection against substances which are harmful to health.
- B** — Category 2 - The cab offers protection against solid airborne particles such as dust, but not against aerosols and vapors.
- C** — Category 3 - The cab offers protection against dust and aerosols (liquid airborne substances such as spray), but not against vapors.
- D** — Category 4 - The cab offers protection against dust, aerosols and vapors.

CAUTION: Before working in an environment containing hazardous substances, i.e. when using pesticides, check whether the cab offers sufficient protection. Refer to the product data sheets of the spraying liquid manufacturer specifying the category required for the cab.

CAUTION: In case of category 3 and 4 cabs, find out whether the installed filters have been checked according to EN 15695-2:2009 and whether they are suitable for the chemical being used (refer to the manufacturer's information) before working in an environment containing hazardous substances.

CAUTION: The cab air filters must be serviced as specified. See Section "Lubrication and Periodic

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RXA0125666 —UN—04APR12

Label Shown for Illustration Purposes Only (May Not Indicate the Category of the Cab Installed)

Service” or “Service - As Required” and “Service - Once a Year” in this Operator's Manual.

CAUTION: Refer to product data sheets and product identification of the crop protection chemicals. These contain important information on how to avoid hazards.

The following requirements must be met to offer best protection:

1. All seals (on door, windows and roof) in good condition
2. Doors, windows and roof closed
3. Grommets for cables in the cab sealed properly
4. Fan ON
5. Cab air filters in good condition

GH15097,00007F6 -19-13JUN14-1/1

Replace Cab Fresh Air Filters and Recirculation Filters

Replace Cab Recirculation Filter

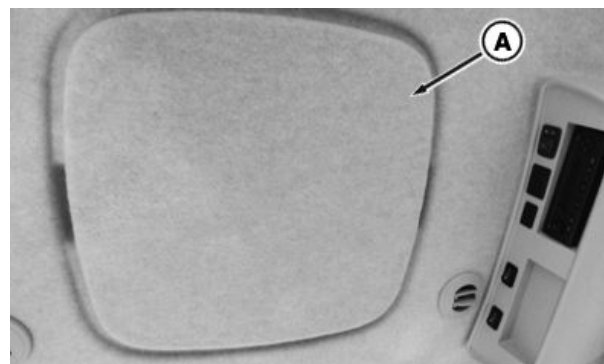
CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in the implement Operator's Manual and those given by chemical manufacturer when using agricultural chemicals.

NOTE: Replacement interval can vary according to operating conditions.

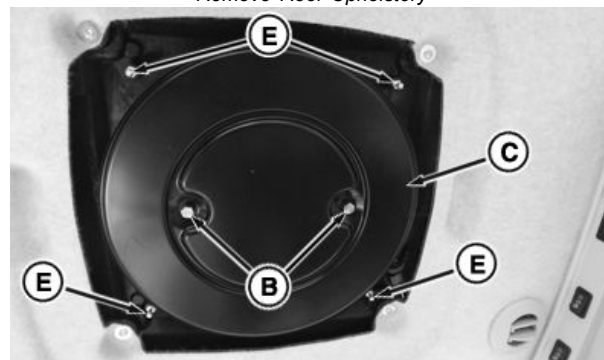
1. Close entry door to prevent debris getting into cab.
2. Remove upholstery cover (A) in headliner by grabbing outer edges and pulling down.
3. While holding cover (C) in place with one hand, remove fasteners (B) allowing cover to be lowered.
4. Using a clean cloth, wipe down inside and outside filter.
5. Remove and discard old recirculation filter (D).
6. Install new filter.
7. Install cover (C).
8. Install cover panel by lining up ball studs (E) with clip nuts (not shown) and pushing up.

A—Upholstery Cover
B—Fasteners
C—Cover

D—Filter
E—Ball Stud



Remove Roof Upholstery



Remove Cover



Remove Filter

Continued on next page

RX32825,0000654 -19-13MAY15-1/2

RXA0142919 —UN—23JUN14

RXA0142920 —UN—23JUN14

RXA0142921 —UN—23JUN14

Replace Cab Fresh Air Filter

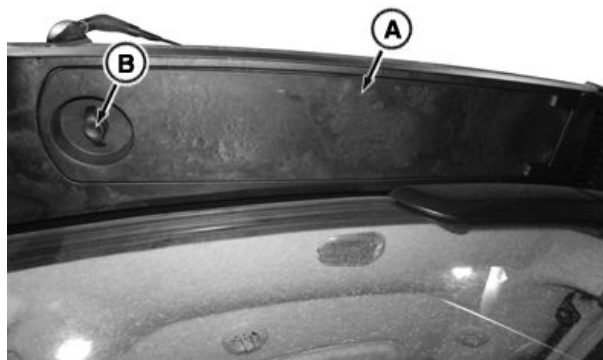
CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in the implement Operator's Manual and those given by chemical manufacturer when using agricultural chemicals.

NOTE: Replacement interval can vary according to operating conditions.

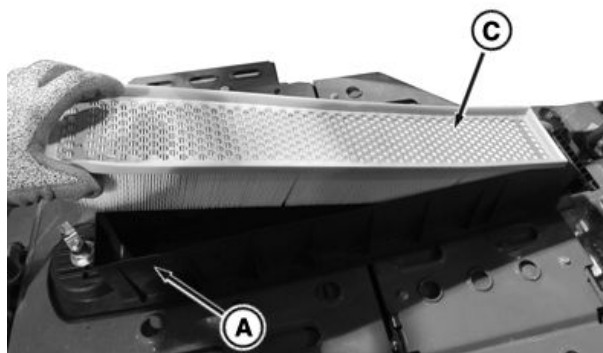
1. Close entry door to prevent debris getting in cab.
2. Support cover.
3. Turn knob (B) and swing cover (A) down.
4. Remove old filter (C) and discard.
5. Using a clean cloth, wipe down inside and outside filter cover.
6. Install new filter.
7. Close cover and turn knob 180° to lock latch.

A—Cover
B—Knob

C—Filter



Let Cover Swing By Turning Knob



Remove Filter



Install Filter and Cover

RX32825,0000654 -19-13MAY15-2/2

Test Coolant Freeze Point

IMPORTANT: Perform coolant service every 1000 hours or annually, whichever comes first.

See Test Coolant Freeze Point in Annual Service section of this Operator's Manual.

RX32825,0000655 -19-06AUG14-1/1

Annual Service

Cab Classification According to EN 15695-1 (for Application of Crop Protection Chemicals and Liquid Fertilizer) (2010-52-EU)

Cab classification according to EN 15695-1 provides information on the effectiveness of protection against harmful substances offered by the cab.

Categories 1 to 4 are used for classification and specified on a label inside the cab.

Replace label if missing or damaged. See your John Deere™ dealer.

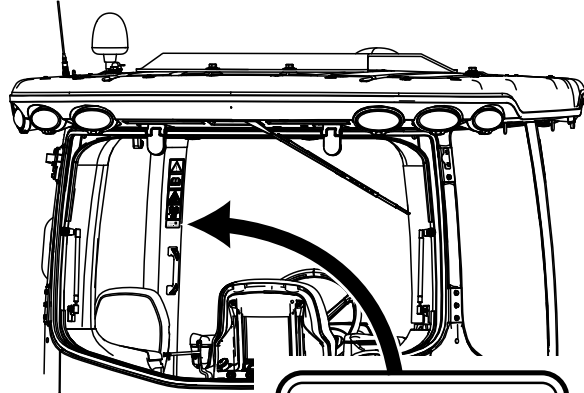
- A** — Category 1 - The cab does not offer any protection against substances which are harmful to health.
- B** — Category 2 - The cab offers protection against solid airborne particles such as dust, but not against aerosols and vapors.
- C** — Category 3 - The cab offers protection against dust and aerosols (liquid airborne substances such as spray), but not against vapors.
- D** — Category 4 - The cab offers protection against dust, aerosols and vapors.

⚠ CAUTION: Before working in an environment containing hazardous substances, i.e. when using pesticides, check whether the cab offers sufficient protection. Refer to the product data sheets of the spraying liquid manufacturer specifying the category required for the cab.

⚠ CAUTION: In case of category 3 and 4 cabs, find out whether the installed filters have been checked according to EN 15695-2:2009 and whether they are suitable for the chemical being used (refer to the manufacturer's information) before working in an environment containing hazardous substances.

⚠ CAUTION: The cab fresh air and recirculation air filters must be serviced as specified.

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Category **1**
EN15695 - 1:2009

Label Shown for Illustration Purposes Only (May Not Indicate the Category of the Cab Installed)

See “As Indicated or As Required Service”, “1000 Hour Service” and “Annual Service” in this Operator's Manual.

⚠ CAUTION: Refer to product data sheets and product identification of the crop protection chemicals. These contain important information on how to avoid hazards.

The following requirements must be met to offer best protection:

1. All seals (on door, windows and roof) in good condition
2. Doors, windows and roof closed
3. Grommets for cables in the cab sealed properly
4. Fan ON
5. Cab air filters in good condition

RXA0125686 —UN—04APR12

GH15097,00007F4 -19-13JUN14-1/1

Handling Batteries Safely

Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace grounded clamp last.

Sulfuric acid in battery electrolyte is poisonous and strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid hazards by:

- Filling batteries in a well-ventilated area
- Wearing eye protection and rubber gloves
- Avoiding use of air pressure to clean batteries
- Avoiding breathing fumes when electrolyte is added
- Avoiding spilling or dripping electrolyte
- Using correct battery booster or charger procedure.

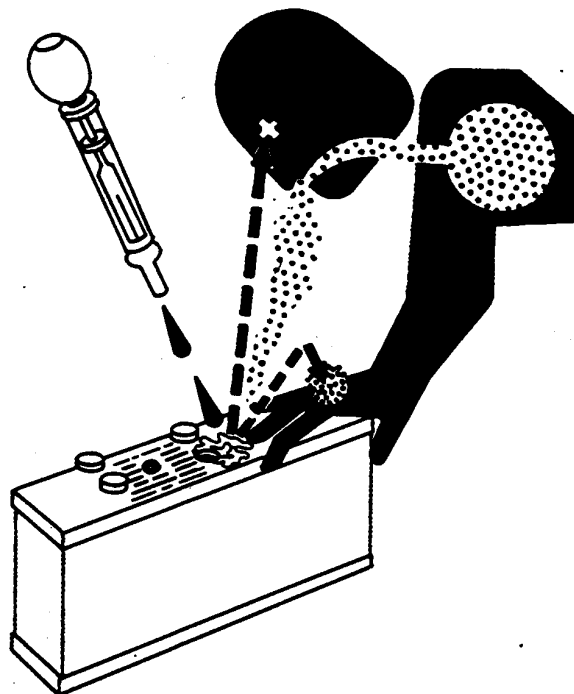
If acid is spilled on skin or in eyes:

1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 qt.).
3. Get medical attention immediately.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**



TS204 —UN—15APR13

TS203 —UN—23AUG88

DX,WW,BATTERIES -19-02DEC10-1/1

Service Batteries and Connectors

CAUTION: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

CAUTION: Avoid contact with poisonous sulfuric acid in battery electrolyte. Battery acid can burn skin, damage clothing, and cause blindness if splashed into eyes.

IMPORTANT: Do not disconnect battery for at least 4 minutes after tractor stops. Selective Catalytic Reduction system automatically purges lines of Diesel Exhaust Fluid (DEF) during this time, immediately after tractor is stopped. If adequate time is not allowed for lines to be purged, any DEF remaining in lines can crystallize and plug lines. In freezing weather, DEF will freeze and possibly burst lines.



CAUTION: Never use compressed air to clean batteries. It can cause a build up of static charge leading to potential injury.

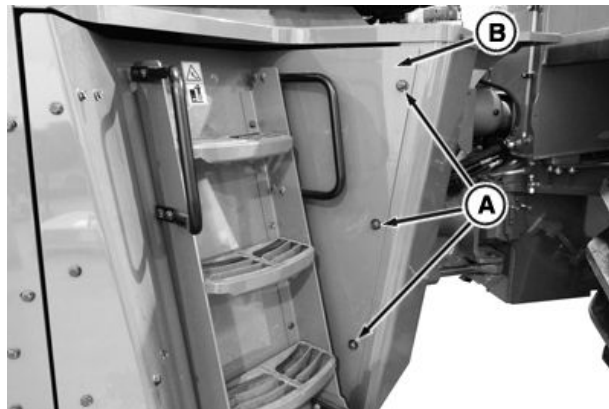
Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across posts. Use a voltmeter, load tester or hydrometer.

Always remove battery ground cables first and connect them last. Do not let disconnected ground terminal touch metal surface.

NOTE: Although this battery is a maintenance free battery, conditions such as long periods of operation at high ambient temperatures and excessive engine cranking may require adding water. See label on battery.

TS204—UN—15APR13

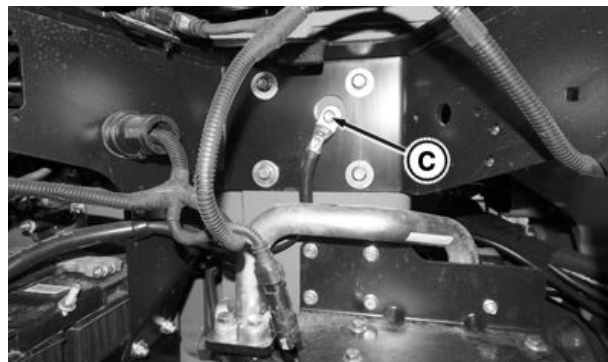


RXA0141965—UN—02JUN14

Remove 3 cap screws (A) and open up battery panel (B).
Disconnect the single point ground (-) cable (C).

A—Cap Screws
B—Battery Panel

C—Single Point Ground (-)
Cable



RXA0141966—UN—02JUN14

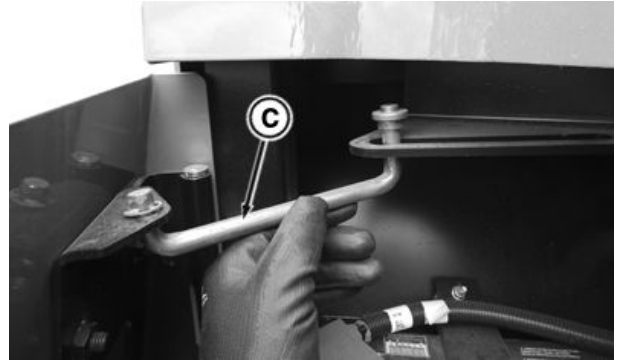
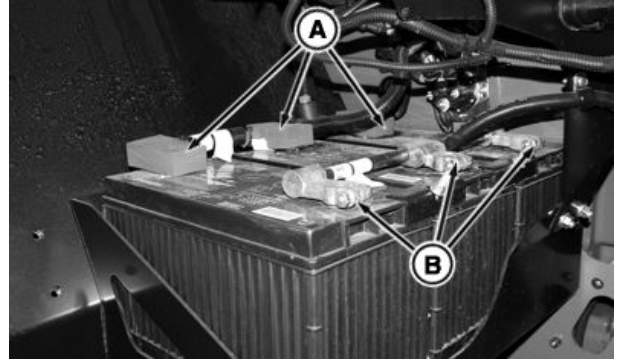
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RX32825,000065D -19-28JUL14-1/2

NOTE: Keep all battery terminals (A) and (B) clean and tight.

For replacement batteries follow manufacturer's recommendations.

1. Open battery panel.
2. Disconnect negative terminals (B) from batteries.
3. Disconnect positive terminals (A) from batteries.
4. Remove any corrosion with a terminal brush, then clean terminals and battery posts using a baking soda and water solution.
5. Rinse with clean water and air dry.
6. If batteries have been removed for service, slide batteries back into compartment. Install battery retaining clamp.
7. Connect positive battery cable terminals, then connect negative battery terminals.
8. Apply thin coating of grease to cable ends.
9. Connect single point ground cable to tractor frame.
10. Lift battery panel latch (C) up to close battery panel.
11. Reinstall cap screws and tighten.



A—Positive Battery Terminals C—Battery Panel Latch
B—Negative Battery Terminals

RX32825,000065D -19-28JUL14-2/2

RXA0141967 —UN—02JUN14

RXA0141968 —UN—02JUN14

Service Batteries and Connectors—15 L Engine

CAUTION: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

CAUTION: Avoid contact with poisonous sulfuric acid in battery electrolyte. Battery acid can burn skin, damage clothing, and cause blindness if splashed into eyes.

IMPORTANT: Do not disconnect battery for at least 4 minutes after tractor stops. Selective Catalytic Reduction system automatically purges lines of Diesel Exhaust Fluid (DEF) during this time, immediately after tractor is stopped. If adequate time is not allowed for lines to be purged, any DEF remaining in lines can crystallize and plug lines. In freezing weather, DEF will freeze and possibly burst lines.



CAUTION: Never use compressed air to clean batteries. It can cause a build up of static charge leading to potential injury.

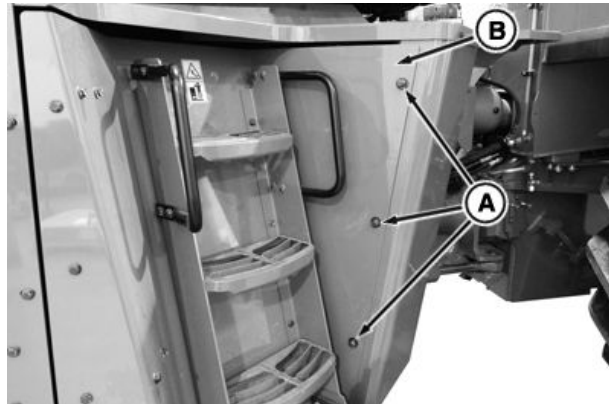
Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across posts. Use a voltmeter, load tester or hydrometer.

Always remove battery ground cables first and connect them last. Do not let disconnected ground terminal touch metal surface.

NOTE: Although this battery is a maintenance free battery, conditions such as long periods of operation at high ambient temperatures and excessive engine cranking may require adding water. See label on battery.

TS204 —UN—15APR13

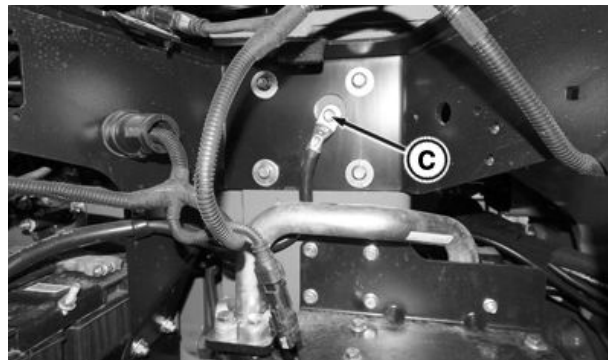


RXA0141965 —UN—02JUN14

Remove 3 cap screws (A) and open up battery panel (B).
Disconnect the single point ground (-) cable (C).

A—Cap Screws
B—Battery Panel

C—Single Point Ground (-)
Cable



RXA0141966 —UN—02JUN14

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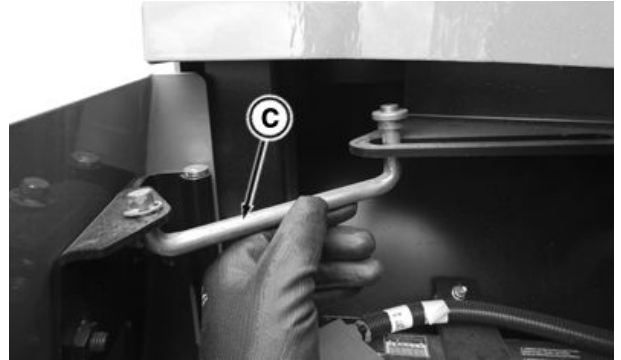
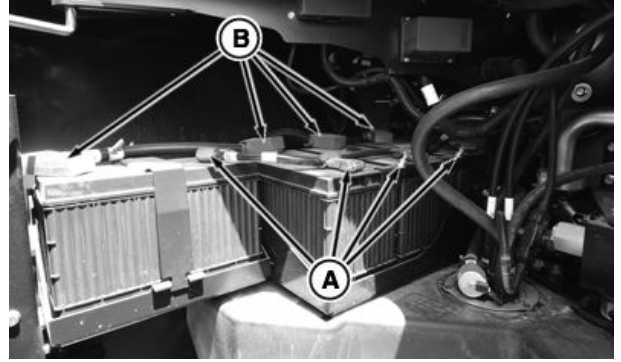
SV81855,0000291 -19-16JAN15-1/2

NOTE: Keep all battery terminals (A) and (B) clean and tight.

For replacement batteries follow manufacturer's recommendations.

1. Open battery panel.
2. Disconnect negative terminals (B) from batteries.
3. Disconnect positive terminals (A) from batteries.
4. Remove any corrosion with a terminal brush, then clean terminals and battery posts using a baking soda and water solution.
5. Rinse with clean water and air dry.
6. If batteries have been removed for service, slide batteries back into compartment. Install battery retaining clamp.
7. Connect positive battery cable terminals, then connect negative battery terminals.
8. Apply thin coating of grease to cable ends.
9. Connect single point ground cable to tractor frame.
10. Lift battery panel latch (C) up to close battery panel.

A—Negative Battery Terminals **C—Battery Panel Latch**
B—Positive Battery Terminals



SV81855,0000291 -19-16JAN15-2/2

RXA0141981 —UN—03JUN14

RXA0141968 —UN—02JUN14

Change Engine Oil and Filter

IMPORTANT: Change engine oil and filter at least once every twelve months.

Change oil and oil filter at least once every 12 months even if hours of operation are fewer than otherwise

recommended service interval. See Engine Oil and Filter Service Intervals in Fuel, Lubricants and Coolant section of this Operator's Manual. See Change Engine Oil and Filter in 500 Hour Service section in this Operator's Manual.

SV81855,0000197 -19-03JUN14-1/1

Test Coolant Freeze Point

IMPORTANT: Test coolant system and add coolant conditioner every 1000 hours, or annually - whichever comes first.

1. Open hood.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

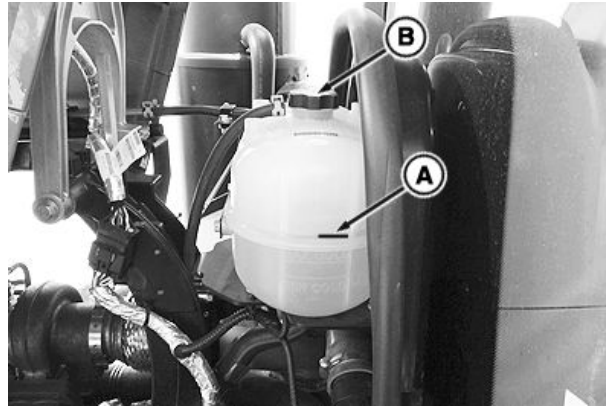
CAUTION: Avoid personal injury. Do not remove fill cap when engine is hot. Stop engine and wait until engine has cooled.

IMPORTANT: Do not open de-aeration tank cap when engine is warm. Doing so will add air to coolant system.

NOTE: De-aeration tank will not be full of coolant when cap is removed. When looking in tank, if coolant tank is at least half full, do not add additional coolant.

2. Slowly turn de-aeration tank cap (A) to relieve pressure. Remove cap.

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Surge Tank Cap-13.5 L Engine (Shown)

A—Coolant Level

B—Cap

3. Test coolant. A more precise test device is available from your John Deere™ dealer, see Testing Coolant Freeze Point in Fuel, Lubricants, and Coolant section of this Operator's Manual.
4. Visually inspect tank cap gasket for sealing effectiveness. No apparent scratches or leak paths should be seen. Replace cap if problem is observed.
5. Install de-aeration tank cap and lower hood.

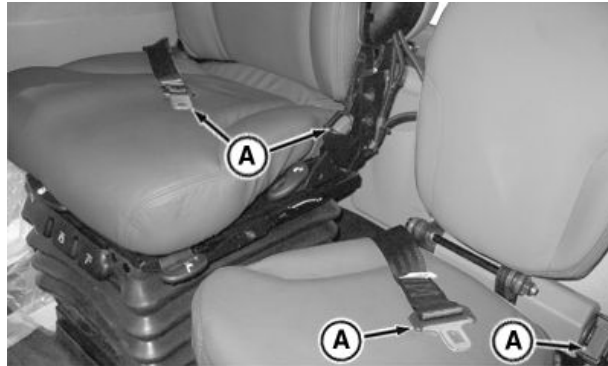
RXA0141939 —UN—02JUL15

SV81855,0000362 -19-14MAY15-1/1

Inspect Seat Belts

CAUTION: If the seat belt system, including the mounting hardware, buckle, belt or retractor shows any sign of damage such as cuts, fraying, extreme or unusual wear, discoloration or abrasion, the entire seat belt system should be replaced immediately. Replace the belt system only with replacement parts approved for your machine.

Inspect seat belts (A) and mounting hardware. If seat belts or system components require replacement, see your John Deere™ dealer.



A—Seat Belts

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RXA0108482 —UN—12JUL10

RX32825,000065F -19-14MAY15-1/1

Replace Cab Recirculation and Fresh Air Filters

CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in implement Operator's Manual and by chemical manufacturer when using agricultural chemicals.

IMPORTANT: Replacement interval can vary according to operating conditions. Normal service is 1000 hours or annually, whichever occurs first. See Replace Cab Recirculation Air Filter and Replace Cab Fresh Air Filter in 1000 Hour Service section of this Operator's Manual.

SV81855,000019B -19-30MAY14-1/1

Replace Primary and Secondary Engine Air Filters

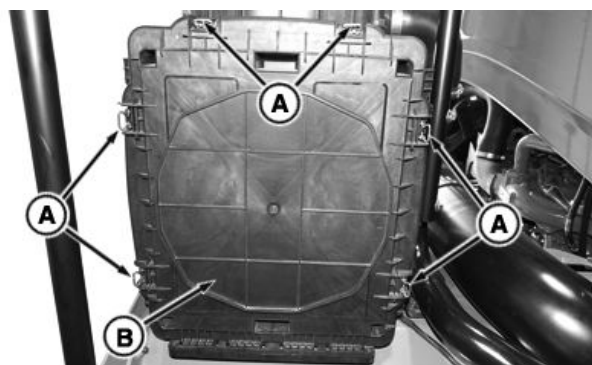
IMPORTANT: When Engine Air Filter Restriction Warning is activated engine performance will be reduced. Service engine air filter immediately.

IMPORTANT: Service interval may vary due to operating conditions. Replace secondary air filter every second primary air filter change.

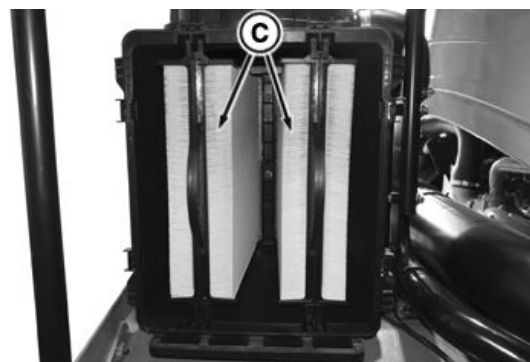
1. Inspect filters and intake seals.
2. Replace primary engine air filter if diagnostic trouble code remains on.
3. Unfasten six clips (A) to remove air filter cover (B).
4. Grasp air filter handles (D) to pull primary air filters (C) forward to release them from filter housing track.

A—Cover Clips
B—Cover

C—Primary Filters
D—Filter Handle



RXA0141984 —UN—03JUN14



RXA0141985 —UN—03JUN14



RXA0142021 —UN—03JUN14

Continued on next page

RX32825,0000667 -19-01SEP15-1/2

5. Remove air filter from filter housing.

IMPORTANT: Do not attempt to clean engine air filters.

Replace secondary filter every other primary filter change.

Install new secondary filter immediately to prevent dust from entering air intake system.

6. Pull on tabs (A) to remove secondary filters (B).
7. Clean debris and dirt from filter housing (C).

IMPORTANT: Incorrect installation of secondary filter tab may result in engine damage.

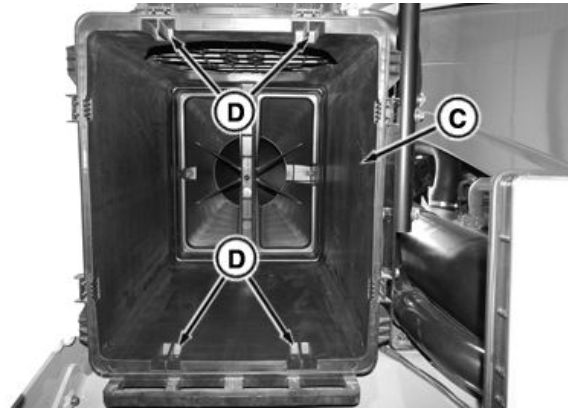
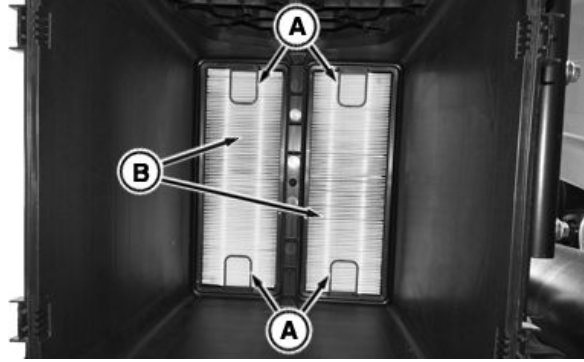
8. Replace secondary air filters.
9. Push filter firmly back to properly seat in the filter housing.
10. Install primary filter into filter housing slots (D).
11. Slide filter rearward to properly seat into filter housing.
12. Install air filter cover and fasten four cover clips.

A—Tabs

B—Secondary Filter

C—Filter Housing

D—Primary Filter Slots



RXA0142022 —UN—03JUN14

RXA0142023 —UN—03JUN14

RX32825,0000667 -19-01SEP15-2/2

Check HydraCushion™ Suspended Front Axle Accumulator Charge Pressure (If Equipped)

See your John Deere™ dealer.

IMPORTANT: Check HydraCushion™ suspended front axle accumulator charge pressure at 1500 hours or annually - whichever comes first.

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SV81855,00001C4 -19-11APR14-1/1

1500 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Replace Fuel Tank Vent Filters

1. Clean off dirt and debris before removing vent filters.
2. Remove left-hand and right-hand fuel tank vent filters (A).
3. Replace with new tank vent filters.

A—Fuel Tank Vent Filters



Fuel Vent Filters

RXA0142119 —UN—06JUN14

RW29387,00001A5 -19-13JUN14-1/1

Replace Diesel Exhaust Fluid (DEF) Tank Vent Filter—Final Tier 4 and Stage IV Engines

CAUTION: DEF contains urea. Do not get the substance in eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Do not take internally. In event DEF is ingested, contact a physician immediately. Reference Material Safety Data Sheet (MSDS) for additional information.

IMPORTANT: To determine tractor engine type, see Record Engine Serial Number in Identification Numbers Section of this Operator's Manual.

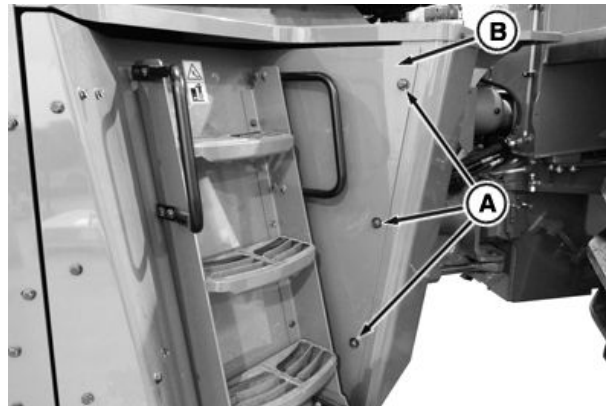
Replace filter after first year of operation and every THREE years thereafter.

Using incorrect or unapproved aftertreatment components can cause damage to vehicle's aftertreatment system and reduce ability of aftertreatment system to function correctly. Never interchange aftertreatment components between Interim Tier 4/Stage III B and Final Tier 4/Stage IV equipped vehicles.

If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and may distort some plastic and rubber components.

NOTE: Procedure is similar for tractors with battery disconnect.

1. Remove cap screws (A) and open panel (B).
2. Remove DEF tank vent (C) located above DEF dosing unit.



Panel



A—Cap Screws
B—Panel

C—DEF Tank Vent Filter

3. Install new DEF tank vent.
4. Close panel and tighten cap screws.

SV81855,000019D -19-03JUN14-1/1

RXA0141965 —UN—02JUN14

RXA0142031 —UN—03JUN14

Change Transmission/Hydraulic Reservoir Suction Screens/Axle Oil and Filters

IMPORTANT: Prevent premature axle failure. Carefully follow drain and fill procedure.

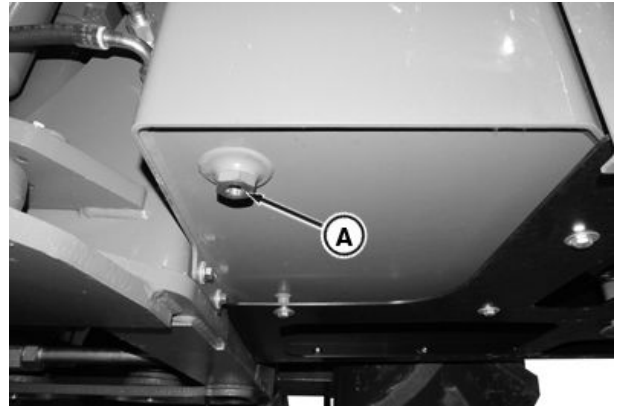
NOTE: Recalibrate transmission **only** if transmission shift characteristics change after transmission oil and filter change. See Powershift Transmission Calibration procedure in General Maintenance and Inspection Section.

Maximum transmission/hydraulic oil reservoir/axles volume is 265.5 L (71.0 gal), depending on option configuration. Select appropriately sized containers for draining oil.

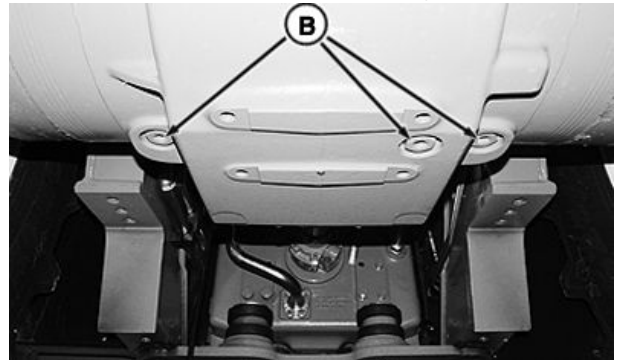
1. Park tractor on level ground, place transmission in PARK and shut engine **OFF**. Allow oil to cool for few minutes.
2. Remove hydraulic reservoir drain plug (A) in gudgeon area and direct oil into a catch oil container.
3. Remove three front axle plugs (B) to drain oil.
4. Remove two transmission plugs (C) to drain oil.

A—Reservoir Drain Plug
B—Front Axle Drain Plugs

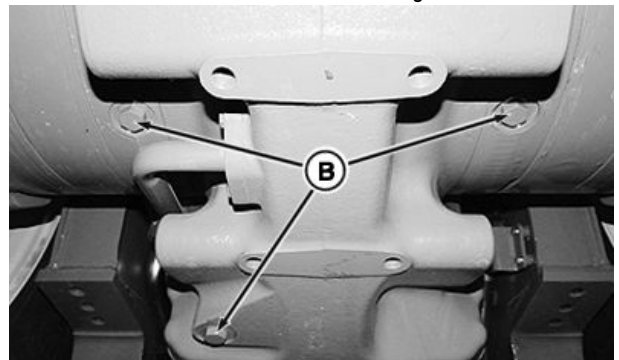
C—Transmission Drain Plugs



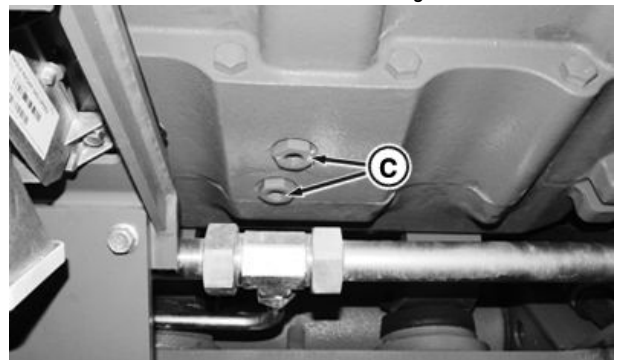
Reservoir Rear Drain Plug



Front SR Axle Drain Plugs



Front DR Axle Drain Plugs



Transmission Drain Plugs

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RX32825,000066A -19-07AUG14-1/10

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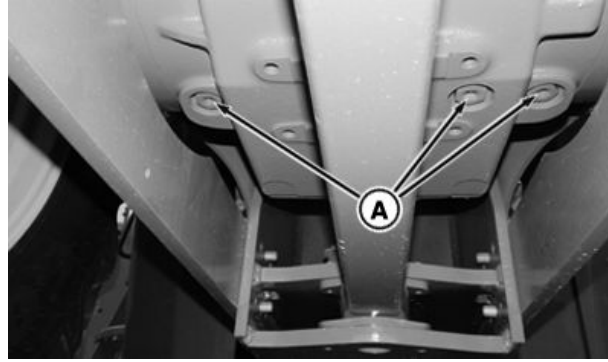
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RXA0142108 —UN—06JUN14

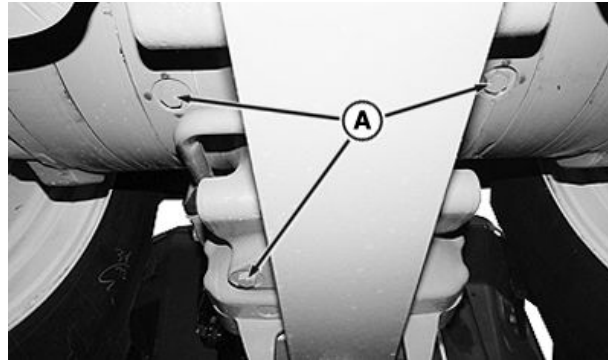
RXA0142109 —UN—06JUN14

5. Remove three plugs (A) to drain rear axle oil.

A—Rear Axle Drain Plugs



Rear SR Axle Drain Plugs



Rear DR Axle Drain Plugs

RX32825,000066A -19-07AUG14-2/10

RXA0142113 —UN—06JUN14

RXA0142110 —UN—06JUN14

6. If equipped with PTO, remove dropbox plug (A).
7. Reinstall and tighten reservoir drain plug.
8. Reinstall transmission drain plug.

Specification

Transmission Drain
Plug—Torque..... 70 N·m (52 lb-ft)

9. Reinstall all removed front and rear axle drain plugs.

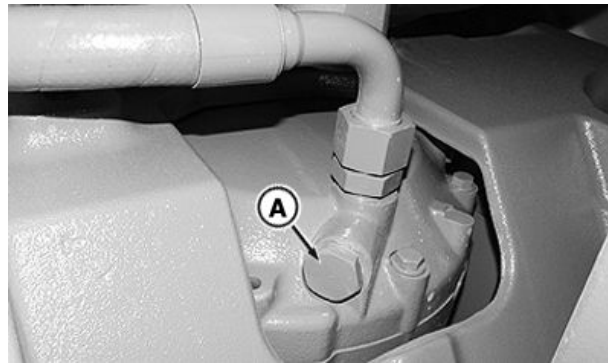
Specification

Front and Rear Axle
Drain Plugs—Torque..... 70 N·m (52 lb-ft)

10. If equipped, reinstall PTO dropbox drain plug.

Specification

PTO Dropbox Drain
Plug—Torque..... 70 N·m (52 lb-ft)



PTO Dropbox

A—PTO Dropbox Drain Plug

Continued on next page

RX32825,000066A -19-07AUG14-3/10

RXA0142116 —UN—06JUN14

NOTE: Some parts in illustration have been removed to better show transmission suction screen.

11. Remove suction screen cover cap screws (A) and remove cover (B).
12. Remove suction screen (C) and clean with a solvent.
13. Remove and discard O-ring (D) on suction screen cover.
14. Inspect for debris in suction screen cavity using a flashlight or magnet.
15. Install new O-ring on cover.
16. Reinstall suction screen and cover. Tighten cap screws to specification.

Specification

Suction Screen Cover

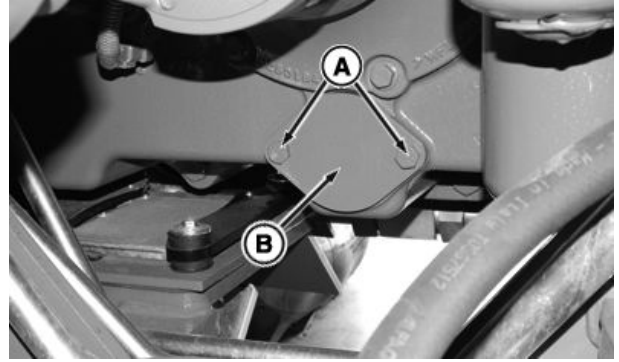
Cap Screws—Torque..... 55 N·m (40 lb·ft)

A—Cap Screws

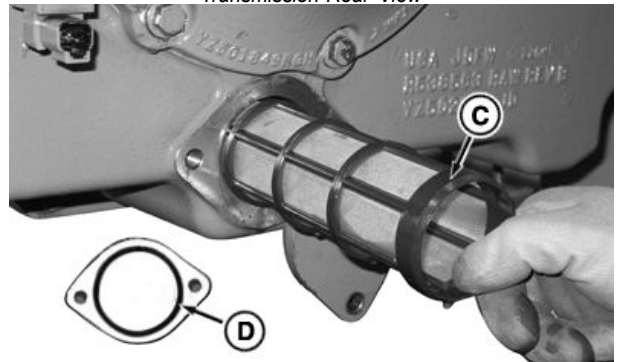
B—Suction Screen Cover

C—Suction Screen

D—Cover O-ring



Transmission-Rear View



Transmission-Suction Screen with Cover O-ring

Continued on next page

RX32825,000066A -19-07AUG14-4/10

RXA0142513—UN—20JUN14

RXA0142403—UN—10JUN14

17. Remove platform cap screws (A) and remove platform step (B).
18. Remove panel cap screws (C) and remove lower shield panel (D).
19. Remove screen cover cap screws (E) and both screen covers (F).
20. Remove axle lube suction screen (G) and clean with a solvent.
21. Remove charge pump suction screen (H) and clean with a solvent.
22. Reinstall suction screens and covers. Tighten screws to specification.

Specification

Platform Cap

Screws—Torque..... 73 N·m (53.8 lb-ft)

23. Reinstall lower panel and tighten cap screws to specification.

Specification

Panel Cap

Screws—Torque..... 37 N·m (27.3 lb-ft)

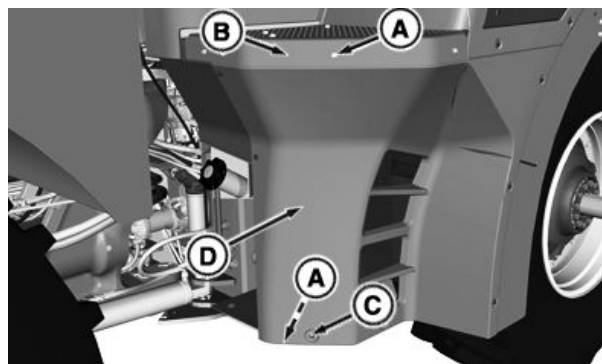
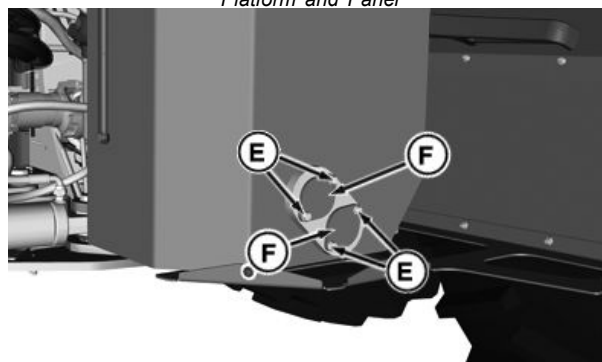
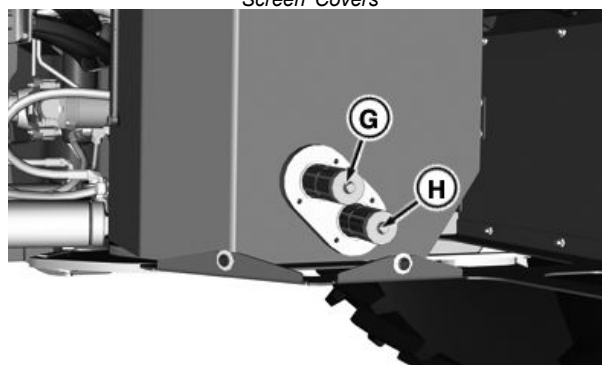
24. Reinstall platform and tighten cap screws to specification.

Specification

Screen Cover Cap

Screws—Torque..... 79 N·m (58.3 lb-ft)

- | | |
|--|---|
| A—Platform Cap Screws (11 used) | E—Screen Cover Cap Screws (4 used) |
| B—Platform Step | F—Screen Covers (2 used) |
| C—Panel Cap Screws (7 used) | G—Axle Lube Suction Screen |
| D—Lower Shield Panel | H—Charge Pump Suction Screen |

*Platform and Panel**Screen Covers**Suction Screens*

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RX32825,000066A -19-07AUG14-5/10

RXA0142339 —UN—12JUN14

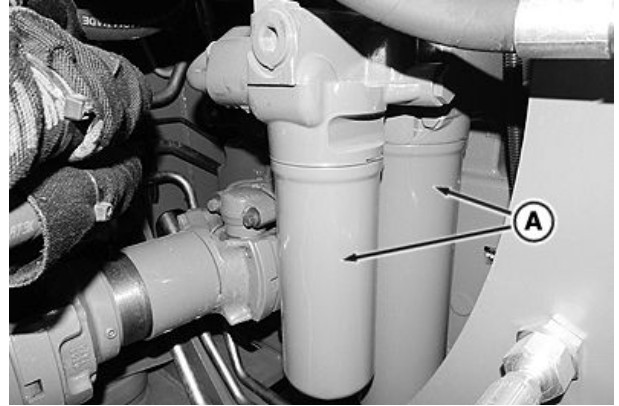
RXA0142340 —UN—12JUN14

RXA0142341 —UN—12JUN14

NOTE: A drain pan is recommended for 1.9 L (2 qts) oil spilled when changing filter.

25. Remove transmission oil filters (A), at right-hand rear of the transmission.
26. Lubricate new filter O-rings with hydraulic oil and install filters. Tighten one-half turn after O-rings contact filter housing base.

A—Transmission Oil Filters



Transmission Oil Filters

RX32825,000066A -19-07AUG14-6/10

RXA0142106—UN—05JUN14

NOTE: Use drip pan to catch any oil spilled when hydraulic oil filters are removed.

27. Remove hydraulic filters (A), at left-hand side of gudgeon at scheduled 1500 hour service interval or if indicator light comes on.
28. Lubricate filter gaskets with hydraulic oil and install filters. Tighten filters one half turn after O-ring contacts filter housing base.

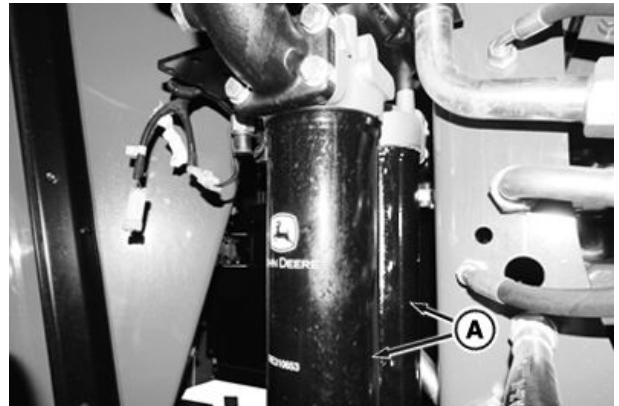
NOTE: Use a drip pan to catch any oil spilled when axle oil filter is removed.

NOTE: Double reduction (DR) axle is only available on 9520R, 9570R, and 9620R models.

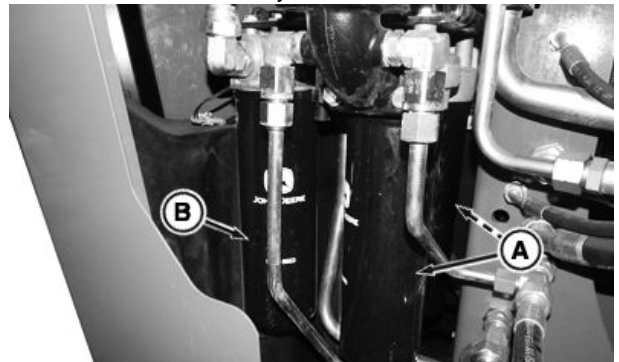
29. Replace DR axle filter (B), located next to hydraulic oil filters at scheduled 1500 hour service interval or if indicator light comes on.
30. Lubricate O-ring with hydraulic oil and install axle filter. Tighten one half turn after O-ring contacts filter housing base.

A—Hydraulic Oil Filters

B—DR Axle Oil Filter



SR Axle Hydraulic Oil Filters



DR Axle Hydraulic and Axle Filters

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RX32825,000066A -19-07AUG14-7/10

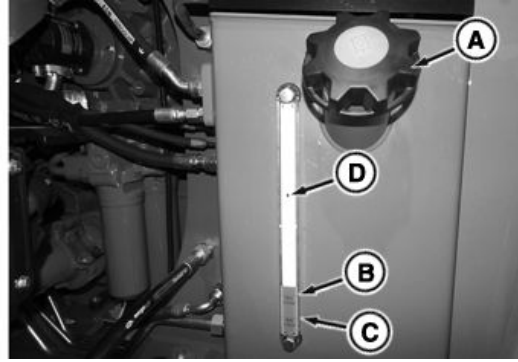
RXA0142114—UN—06JUN14

RXA0142105—UN—06JUN14

31. Perform Following Steps For All Tractors

NOTE: Hydraulic oil reservoir does not hold all system hydraulic oil capacity. Transmission and front and rear axles also hold additional system oil. If possible, check oil level prior to first start of day. Ambient temperature should be 7° C. (45° F) or above. Oil level in the reservoir will fluctuate depending upon the volume of oil exchanged with an attached implement.

For applications or implements requiring high volumes of oil transfer (for example - large air seeders or pulling 3 scrapers), hydraulic reservoir can be filled up to High Volume Takeout Oil Mark (D). 58.5 L (15.4 gal) above MIN COLD (C)).



Hydraulic Reservoir Sight Gauge

A—Hydraulic Reservoir Fill Cap C—MIN COLD Mark
B—FULL COLD D—High Volume Takeout Oil Mark

32. Remove hydraulic oil reservoir fill cap (A) and add hydraulic oil to the reservoir.

Transmission/Hydraulic Reservoir/Axle System Capacities (with Filters)

Transmission/Hydraulic Reservoir/Axle System: (Reference for topping off the system.)

Hydraulic Reservoir Volume Reference Mark:

.. Full Cold Mark	92.7 L (24.5 gal)
.. Min Cold Mark	81.4 L (21.5 gal)
.. High Volume Takeout Oil Mark	140.0 L (37.0 gal)
.. Oil Volume Between "Min Cold" and "Full Cold" Marks..	11.4 L (3 gal)

Transmission Fill Volume:

.. Transmission	37.9 L (10.0 gal)
-----------------------	-------------------

Transmission/Hydraulic Reservoir/Axles Fill Volume^a:

.. Transmission, 9370/9420/9470, SR Axles ^b	276 L (73.0 gal)
.. Transmission, 9370/9420/9470, SR Axles ^c	284 L (75.0 gal)
.. Transmission, 9520/9570/9620, DR Axles ^b	220 L (58.0 gal)
.. Transmission, 9520/9570/9620, DR Axles ^c	227 L (60.0 gal)

See Specifications Section for Additional Specifications

^aSystem volume based on axle and hydraulic configuration.

^bWithout 3-point rear hitch and PTO

^cWith 3-point rear hitch and PTO

33. Reinstall and tighten hydraulic reservoir fill cap.

Continued on next page

RX32825,000066A -19-07AUG14-8/10

RXA0141848—UN—02JUN14

NOTE: Fill transmission with limited quantity of oil to ensure that the transmission lube pump startup is wet. The balance of refill oil has to be added into the hydraulic reservoir.

34. **For Single Reduction Axle Tractors:** perform additional **steps 34 through 37.**

For Double Reduction Axle Tractors: Perform this **step 34 to prefill transmission, then proceed to step 38.** Prefill transmission with **37.9 L (10.0 gal.)** of **John Deere HY-GARD®** or **JDM J20C** oil at transmission fill tube (A).

35. Remove front axle bleed plug (B) and disconnect rear axle line fitting (C).
36. Start and set engine speed at 1200 rpm for approximately 5 minutes or until oil is circulated and appears at both front and rear axle ports.
37. Stop engine and install front axle bleed plug (B) and connect rear axle line fitting (C). **Go to next step 38.**

Specification

Front Axle	
Plug—Torque.....	70 N·m (52 lb·ft)
Rear Axle Line	
Fitting—Torque.....	24 N·m (18 lb·ft)

IMPORTANT: Do not depress brake pedal during this step. If brake pedal is depressed, additional oil flows to axles and result in an inaccurate oil level check.

38. OIL LEVEL CHECK PROCEDURE:

Perform For All Tractors: Start engine with transmission in PARK and set engine speed at **1200 rpm for 5 minutes.**

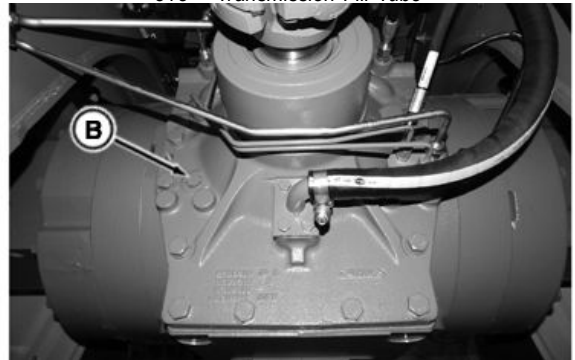
39. Shut engine **OFF** and wait **5 minutes** for oil level to stabilize.

A—Fill Tube
B—Front Axle Bleed Plug

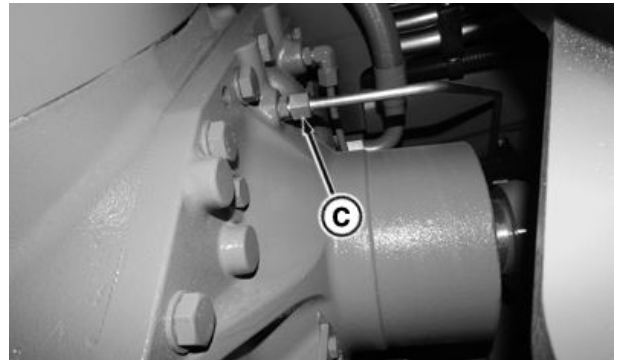
C—Rear Axle Bleed Line Fitting



e18™ Transmission Fill Tube



SR Front Axle Plug



SR Rear Axle Line Fitting

Continued on next page

RX32825,000066A -19-07AUG14-9/10

RXA0144384 —UN—07AUG14

RXA0142213 —UN—06JUN14

RXA0142214 —UN—06JUN14

40. Check to ensure transmission/hydraulic reservoir/axle oil level is visible between "Min Cold" (C) and "Full Cold" (B) marks in the sight gauge.

NOTE: Volume capacity between "Min Cold" mark (C) and "Full Cold" mark (B) is 11.4 L (3 gal).

*If oil level is visible between **Min Cold** (C) and **Full Cold** (B), tractor can be used for normal operation.*

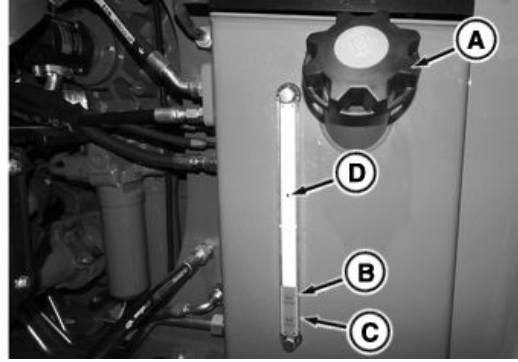
41. Identify oil volume required in reservoir until it reaches marks Min Cold (C) or Full Cold (B). If oil level is below (C) in sight gauge, add HY-GARD Hydraulic Oil through reservoir fill cap (A).

NOTE: An exception is implements with large hydraulic cylinders that remove large volumes of oil from tractor hydraulic system. Oil level should be near bottom mark of sight gage with implement positioned to contain maximum amount of oil.

NOTE: Oil level in reservoir will rise as temperature increases.

If low oil level results in pressure drop, a STOP engine light will come on.

Replace the hydraulic oil reservoir vent filter. See REPLACE HYDRAULIC OIL RESERVOIR VENT FILTER in this Section.



Hydraulic Reservoir Sight Gauge

A—Hydraulic Reservoir Fill Cap
B—FULL COLD

C—MIN COLD Mark
D—High Volume Takeout Oil Mark

IMPORTANT: Excess hydraulic oil can result in decreased engine power and decrease fuel economy.

42. If oil level is above **Full Cold** (B) mark, remove enough oil to bring it down to **Full Cold** mark level.

Recommended method to remove oil is use drain plug under hydraulic oil reservoir and direct oil into a container.

RX32825,000066A -19-07AUG14-10/10

RXA0141848—UN—02JUN14

Clean Aftertreatment Fuel Injector—15 L Engine

See your John Deere™ dealer to perform this service.

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SV81855,00002C1 -19-29JUN15-1/1

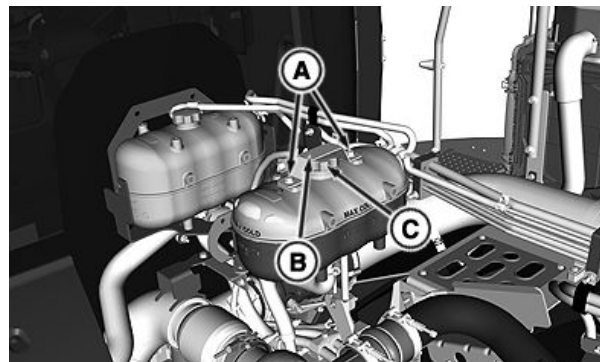
Replace Radiator Pressure Cap—15 L Engine

1. Raise hood.
2. Remove cap screws (A) and bracket (B) from over cap.
3. Remove radiator pressure cap (C)
4. Replace with new radiator pressure cap.
5. Reinstall bracket and tighten cap screws to specification.

Specification

Radiator Pressure
Cap Bracket Cap
Screws—Torque..... 20 N·m (14.8 lb·ft.)

6. Close hood.



Radiator Pressure Cap

A—Cap Screws (2 used)
B—Bracket

C—Radiator Pressure Cap

SV81855,00002C2 -19-24SEP14-1/1

RXA0143144—UN—02JUL14

Replace Transmission Vent Filter

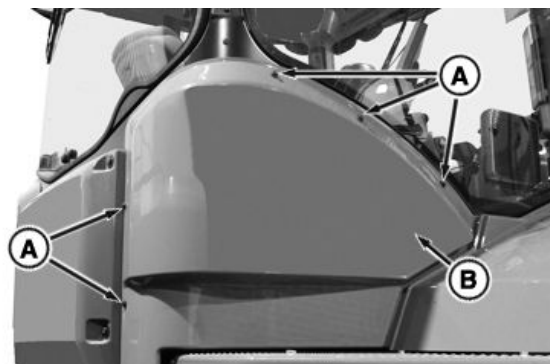
1. Remove left rear cab panel retaining cap screws (A) and remove cab panel (B).
2. Release retaining hose clamps to remove vent filter (C) from hose.
3. Install new filter onto hose and secure with retaining hose clamps.

IMPORTANT: Do not over tighten retaining screws. Overtightening may result in damage to cab panels.

4. Reinstall left rear cab panel and tighten retaining cap screws.

A—Cap Screws
B—Right-Hand Cab Panel

C—Vent Filter



Right-Hand Cab Panel



Hydraulic Reservoir Vent Filter

RXA0142029 —UN—03JUN14

RXA0142030 —UN—03JUN14

RX32825,0000653 -19-14MAY15-1/1

Inspect Auxiliary Drive Belt and Drive Belt Tensioner—15 L Engine Only

IMPORTANT: Inspect all belt tensioner and pulley systems in this manner.

NOTE: Pulley and dust shield can be serviced separate from spring tensioner. Spring tensioner is serviced as an assembly.

1. With belt **ON** drive, perform following checks:
 - a. Use long-handle 1/2 in. drive tool to test tensioning arm (A). If belt is against free arm stops (B) replace belt.
 - b. Examine belt tracking mark on pulley. Replace belt tensioner if tracking mark is considerably wider than belt.
2. With belt **OFF** drive, perform following checks:

IMPORTANT: Do not pry between pulley and spring case.

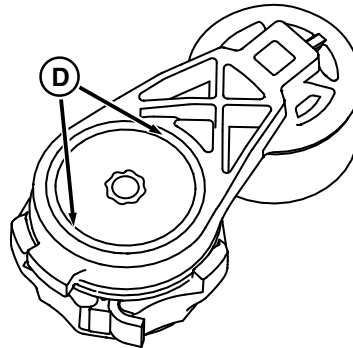
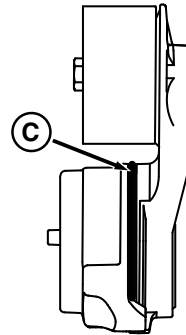
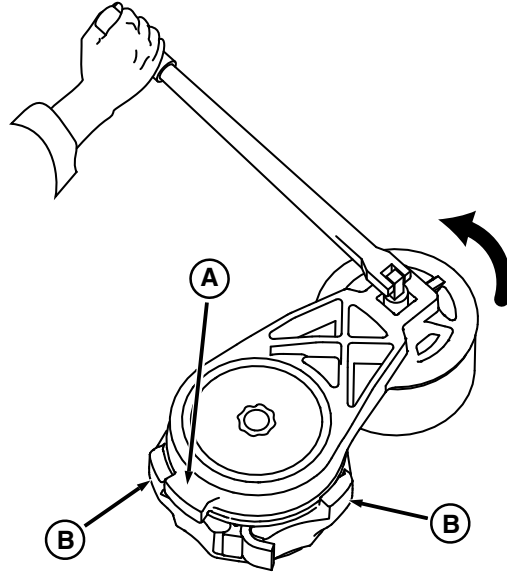
- a. Release tension on belt using a long-handle 1/2 in. drive tool. Remove belt from alternator pulley.
- b. Release tension on tension arm (A).
- c. Rotate tension arm slowly using a 1/2 in. drive tool. Arm should rotate smoothly between arm stops (B); if not, replace tensioner.
- d. Replace tension mechanism if there is:
 - Metal-to-metal contact is present between rotating and stationary parts at location (C and D) on tensioner.
 - Cracks or broken spring case or broken stops.
3. Apply thread lock and sealer to cap screw and install belt tensioner in engine front cover at mounting hole. Tighten to specification.

Specification

Belt Tensioner Mounting	
Cap Screw—Torque.....	70 N·m (52 lb-ft)

A—Tension Arm
B—Free Arm Stops

C—Metal-to-Metal Contact
Between Arm and Spring
Case
D—Metal-to-Metal Contact
Between Arm and End Cap



RXA0073092 —UN—09JAN04

RXA0074277 —UN—29MAR04

RXA0073094 —UN—09JAN04

RX32825,000066F -19-15OCT14-1/1

**Check HydraCushion™ Suspended Front
Axle Accumulator Charge Pressure (If
Equipped)**

See your John Deere™ dealer.

**IMPORTANT: Check HydraCushion™ suspended front
axle accumulator charge pressure at 1500 hours
or annually - whichever comes first.**

*HydraCushion is a trademark of Deere & Company
John Deere is a trademark of Deere & Company*

SV81855,00001C4 -19-11APR14-1/1

Check Axle End Play

See your John Deere™ dealer.

**IMPORTANT: Excessive axle end play results
from bearing wear or failure.**

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RX32825,0000670 -19-14APR14-1/1

3000 Hour Service

Perform This And Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services, See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

SV81855,000020A -19-05MAR14-1/1

Change Crankcase Breather Filter Element—15 L Engine

1. Open hood.
2. Remove cap screw (A) and finger guard (B).
3. Remove eight cap screws (C) and remove cover (D).
4. Replace and install new filter (E).
5. Replace cover and tighten cap screws to specification.

Specification

Filter Cover Cap
Screws—Torque..... 5 N·m (45 lb-in)

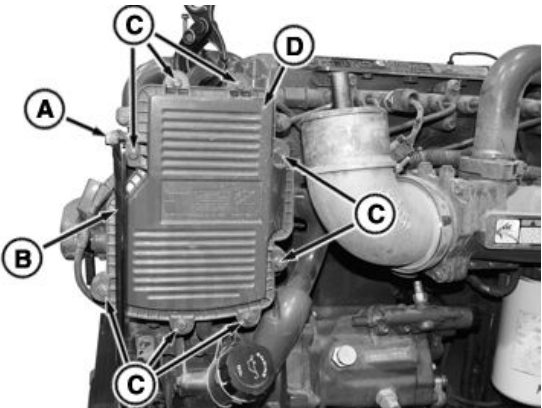
6. Reinstall bracket and cap screw. Tighten to specification.

Specification

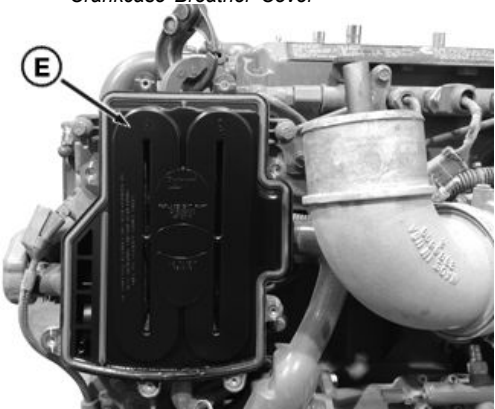
Finger Guard Cap
Screw—Torque..... 73 N·m (54 lb-in)

7. Close hood.

A—Cap Screw
B—Finger Guard
C—Cap Screws (8 used)
D—Cover
E—Filter



Crankcase Breather Cover



Filter Element

RXA0142546 —UN—16JUN14

RXA0142547 —UN—17JUN14

RW29387,00000D5 -19-24SEP14-1/1

Adjust Engine Valve Clearance—Final Tier 4 and Stage IV Engines

See your John Deere™ dealer.

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SV81855,00001BE -19-29OCT14-1/1

4500 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

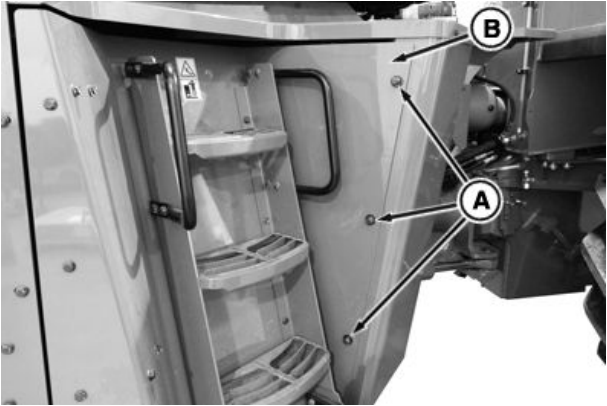
Access Diesel Exhaust Fluid (DEF) Dosing Unit and Tank Vent Filters—Final Tier 4 and Stage IV Engines

1. Remove cap screws (A) and panel (B).
2. Replace DEF dosing unit filter (C), located on bottom of dosing unit. See Changing Diesel Exhaust Fluid (DEF) Dosing Unit Filter in this section of this Operator's Manual.
3. Replace DEF tank vent filter (D), located just above dosing unit.
4. See Replace DEF Tank Vent Filter in 1500 Hour Service section of this Operator's Manual.
5. Install shield. Tighten cap screws to specification.

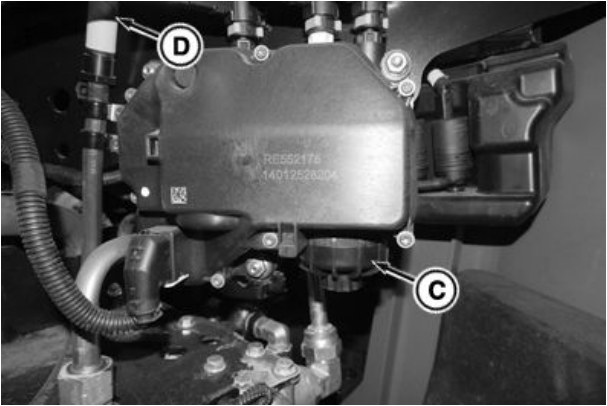
Specification

Shield Cap
Screws—Torque.....73 N·m
(54 lb.-ft.)

A—Panel Cap Screws (3 used) C—DEF Dosing Unit Filter
B—Panel D—DEF Tank Vent Filter



RXA0141965 —UN—02JUN14



RXA0142039 —UN—04JUN14

RW29387,00000E0 -19-04JUN14-1/1

Changing Diesel Exhaust Fluid (DEF) Dosing Unit Filter

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

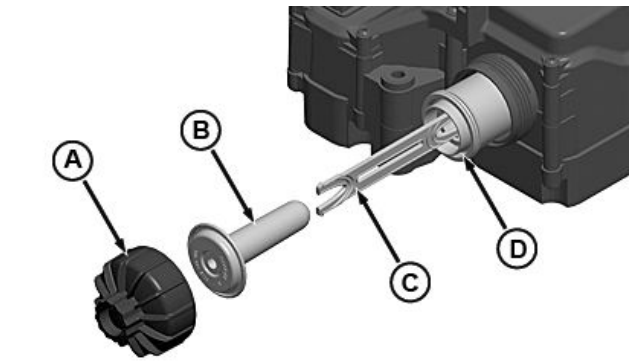
Spilled DEF, if left to dry or if only wiped away with a cloth, leaves a white residue. Improperly cleaned DEF spill can interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

NOTE: Servicing DEF dosing unit filter may require removing additional covers or components. See *Access DEF Dosing Unit* for location information.

1. Remove DEF dosing unit filter cover (A).
2. Remove and discard DEF dosing unit filter equalizing element (B).
3. Insert "Black" end of DEF dosing unit filter tool (C) into DEF dosing unit filter (D) until CLICK is felt or heard indicating DEF dosing unit filter tool is fully engaged.

NOTE: A tool such as a screwdriver can be inserted into DEF dosing unit filter tool slot to assist removal.

4. Pull DEF dosing unit filter tool and DEF dosing unit filter from DEF dosing unit. Discard DEF dosing unit filter and DEF dosing unit filter tool.



DEF Dosing Unit Filter

- A—DEF Dosing Unit Filter Cover
B—DEF Dosing Unit Filter Equalizing Element
C—DEF Dosing Unit Filter Tool
D—DEF Dosing Unit Filter

5. Clean DEF dosing unit threads and mating surfaces with distilled water.
6. Lubricate new DEF filter O-rings with clean engine oil. Carefully insert DEF dosing unit filter into DEF dosing unit.
7. Install new DEF dosing unit filter equalizing element into DEF dosing unit filter.
8. Install DEF dosing unit filter cover and tighten to specifications.

Specification

DEF Dosing Unit Filter	
Cover—Torque.....	23 N·m (204 lb.-in.)

DX,DEF,CHANGE,FILT -19-12JUL13-1/1

Replace Transmission Drive Shaft Damper

IMPORTANT: In normal operating conditions, replace damper every 4500 hours. In heavy duty

operations, replace every 3000 hours. See your John Deere™ dealer.

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RX32825,0000674 -19-14APR14-1/1

6000 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Drain, Flush and Refill Cooling System—9.0L Engine



Safety—Explosive Release of Fluids

IMPORTANT: Thermostat, thermostat gasket, and de-aeration tank cap should be replaced whenever system is flushed.

INITIAL change interval is 6 years or 6000 hours, provided cooling system is topped off using only John Deere Cool-Gard II™ and premix and coolant is tested at recommended intervals. After initial service, the **SCHEDULED** interval (2 years or 2000 hours) can be extended up to 6 years or 6000 hours depending on coolant used and if coolant is tested at recommended intervals. Follow recommendations in "Drain Intervals for Diesel Engine Coolant" in Fuels, Lubricants and Coolant section of this manual.

NOTE: When service is performed on cooling system, make sure to check coolant daily for the next three days of operation. The most effective way to check coolant level is when tractor engine is cool. If coolant is low, fill de-aeration tank to mark on tank.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

1. Park tractor, turn key switch to **OFF** and allow radiator to cool.

NOTE: Throughout the draining, flushing and filling procedure, set cab temperature to highest setting (B) and leave set to the highest setting to ensure that fluids are drained from heating/Air conditioning unit. If either cab temperature setting (B) is not set to highest setting or key switch is not turned to Run, system will not completely drain.

TS281—UN—15APR13



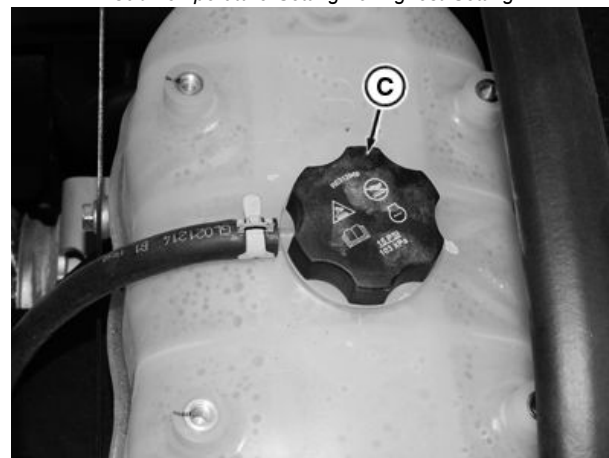
Turn Key To Run Position

RXA0141883—UN—04JUN14



Cab Temperature Setting To Highest Setting

RXA0141884—UN—06OCT14



Remove De-aeration Cap

RXA0141887—UN—09JUN14

A— Run Position C— De-aeration Cap
B— Cab Temperature Setting

See your John Deere™ dealer for recommendations on cleaning solutions.

2. Turn key to **RUN Position** (A), then set cab temperature setting (B) to highest setting.
3. Open hood and remove de-aeration tank cap (C).

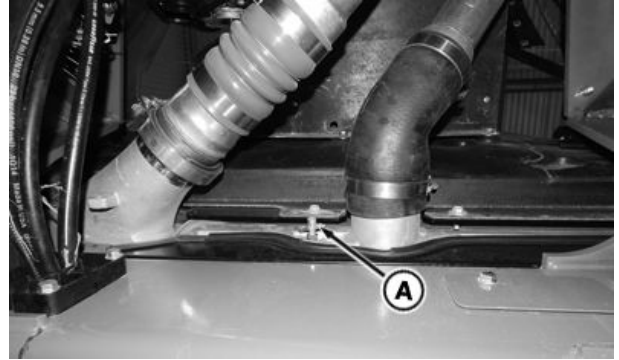
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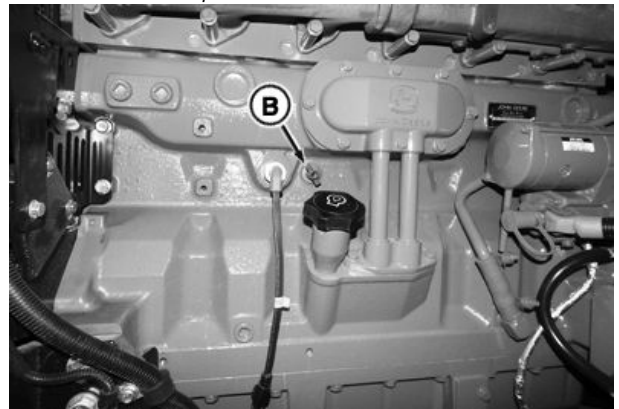
4. Place catch pan under radiator drain valve (A).
5. Open radiator drain valve (A) and drain coolant into catch pan.
6. Place catch pan under engine drain valve.
7. Open engine block drain valve (B) and drain coolant into catch pan.

A— Radiator Drain Valve

B— Engine Block Drain Valve



Open Radiator Drain Valve



Open Engine Block Valve And Drain

SV81855.00002F3 -19-11SEP15-2/5

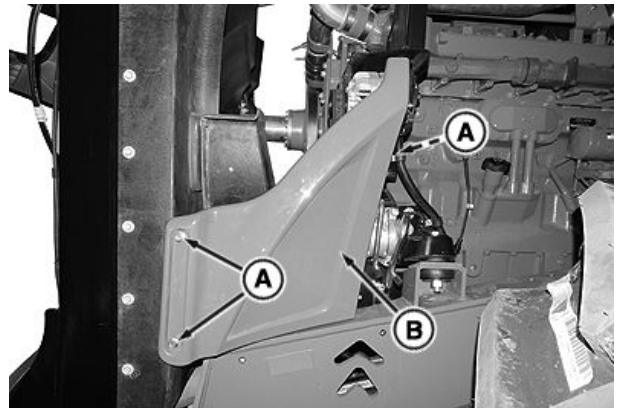
RXA0141885 —UN—04JUN14

RXA0141886 —UN—04JUN14

8. Allow radiator and engine to drain.
9. Remove cap screws (A) and left front side panel (B).

A— Cap Screws

B— Left Side Panel.



Remove Left Side Panel

Continued on next page

SV81855.00002F3 -19-11SEP15-3/5

RXA0141888 —UN—04JUN14

10. Loosen hose clamp (A) and slide hose (B) off of thermostat cover.
11. Remove three cap screws (C) and thermostat cover (D).
12. Remove old thermostat (E) and clean sealing area.

NOTE: During draining, filling, and flushing, coolant system will not have thermostat installed.

13. Install new gasket and cover. Tighten cap screws to specifications.

Specification

Thermostat Cover Cap
Screws—Torque.....48 N·m
(35 lb-ft)

14. Replace previously removed radiator hose and clamp, diverter and side panel.
15. Close engine drain valve, and radiator drain valve.
16. Dispose of old coolant in accordance with local laws and ordinances.

IMPORTANT: Never pour cold water or coolant into hot engine.

NOTE: See your John Deere™ dealer for recommendations on cleaning solutions.

17. Fill high pressure coolant system at de-aeration tank with cooling system cleaning solution.
18. Install de-aeration cap and close hood.

IMPORTANT: Make sure side panel is installed and hood is closed before starting engine.

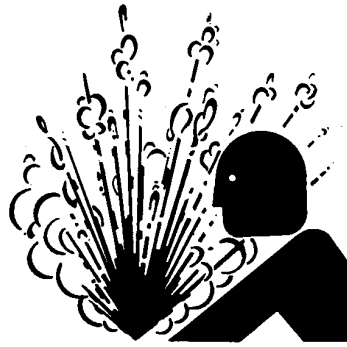
19. Start engine and run at a minimum of 1500 rpm for 15 minutes.
20. Shut off engine and allow cleaning solution to cool.
21. Make sure temperature knob is turned to highest setting, then turn key switch to Run position.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

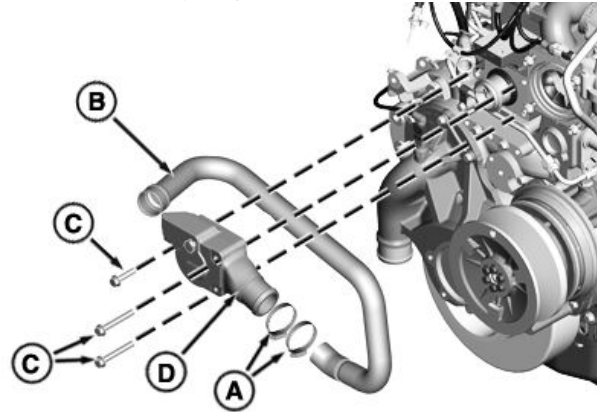
Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

22. Open hood, remove de-aeration cap, put drain pans in place, then open radiator and engine drain valves.

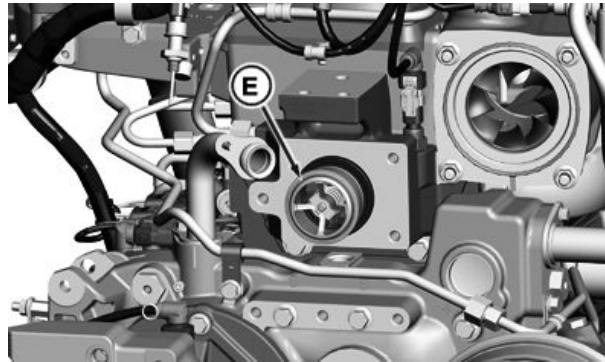
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Safety—Explosive Release of Fluids



Loosen Hose Clamps And Slide Hose Off Thermostat Cover



Remove Thermostat

A— Hose Clamp
B— Hose
C— Cap Screws
D— Thermostat Cover
E— Thermostat

23. Allow cooling system to completely drain.

TS281 —UN—15APR13

RXA0142076 —UN—03JUN14

RXA0142077 —UN—03JUN14

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SV81855,00002F3 -19-11SEP15-4/5

24. Close engine drain valve, and radiator drain valve.

IMPORTANT: Never pour cold water or coolant into hot engine.

25. Dispose of cleaning solution in accordance with local laws and ordinances.

26. Fill high pressure coolant system at de-aeration tank with clean water.

27. Install de-aeration cap and close hood.

28. Start engine and run at a minimum of 1500 rpm for 15 minutes.

29. Shut off engine and allow water to cool.

30. Make sure temperature knob is turned to highest setting. then turn key to Run.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

31. Open hood, remove de-aeration cap, put drain pans in place, then open radiator and engine drain valves.

32. Allow radiator to drain, then remove left side panel and diverter.

33. Loosen clamp and slide hose back, remove three cap screws, thermostat cover, and gasket.

34. Inspect sealing area to ensure it is clean.

35. Apply light coat of RTV silicone sealant to new gasket.

36. Install **new thermostat, new gasket** and cover. Tighten cap screws to specifications.

Specification

Thermostat Cover Cap

Screws—Torque.....73 N·m
(54 lb-ft)

37. Replace previously removed hose, clamps, diverter and left front side panel.



38. Close engine drain valve and radiator drain valve.

39. Dispose of drain clean water in accordance with local laws and ordinances.

40. Fill high pressure coolant system at de-aeration tank with new coolant solution.

Cooling System Capacity: Final Tier 4/Stage IV

9370 50 L (13.2 gal)

CAUTION: Make sure side panel is installed and hood is closed before starting engine.

41. Install de-aeration cap, install front side panels, close hood, start engine and run for a minimum of 1500 rpm for 15 minutes.

NOTE: Coolant may seep out of the de-aeration tank overflow vent as air is purged from the coolant system.

Level may change when tractor is running or during the next few cycles.

It is highly recommended the cooling system is checked for leaks after draining, flushing and refilling to ensure tractor performance. Consult your John Deere™ Dealer for procedure and appropriate tools.

42. Monitor coolant level for next several hours/overnight. Refill De-aeration tank as required.

SV81855,00002F3 -19-11SEP15-5/5

TS281 —UN—15APR13

Drain, Flush and Refill Cooling System—13.5 L Engine



Safety—Explosive Release of Fluids

IMPORTANT: READ ENTIRE PROCEDURE BEFORE BEGINNING. Special tools and other products are needed to complete procedure.

Thermostat, thermostat gasket, and de-aeration tank cap should be replaced whenever system is flushed.

INITIAL change interval is 6 years or 6000 hours, provided cooling system is topped off using only John Deere™ Cool-Gard II™ and premix and coolant is tested at recommended intervals. After initial service, the **SCHEDULED** interval (2 years or 2000 hours) can be extended up to 6 years or 6000 hours depending on coolant used and if coolant is tested at recommended intervals. Follow recommendations in "Drain Intervals for Diesel Engine Coolant" in Fuels, Lubricants and Coolant section of this manual.

NOTE: When service is performed on cooling system, make sure to check coolant daily for the next three days of operation. The most effective way to check coolant level is when tractor engine is cool. If coolant is low, fill de-aeration tank to mark on tank.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

1. Park tractor, turn key switch to **OFF** and allow radiator to cool.

NOTE: Throughout the draining, flushing and filling procedure, turn temperature knob to highest setting (B) and leave set to the highest setting to ensure that fluids are drained from heating/Air conditioning unit. If either temperature knob is not set to highest setting or key switch is not turned to **RUN**, system will not completely drain.

TS281 —UN—15APR13



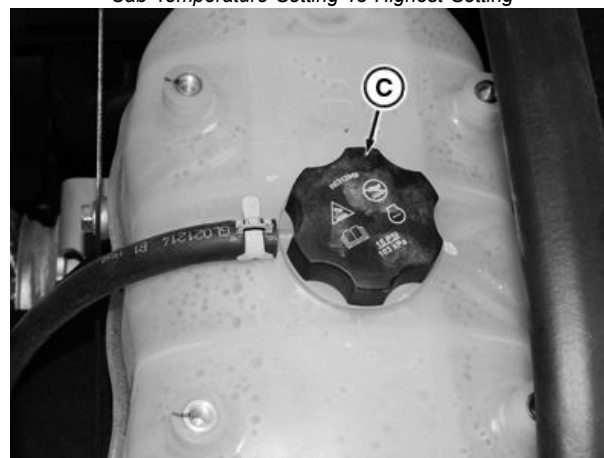
Turn Key To Run

RXA0141883 —UN—04JUN14



Cab Temperature Setting To Highest Setting

RXA0141884 —UN—06OCT14



Remove De-aeration Cap

RXA0141887 —UN—09JUN14

A— Run
B— Temperature knob

C— De-aeration Cap

See your John Deere™ dealer for recommendations on cleaning solutions.

2. Turn key to **RUN** (A), then turn temperature knob (B) to highest setting.
3. Open hood and remove de-aeration tank cap (C).

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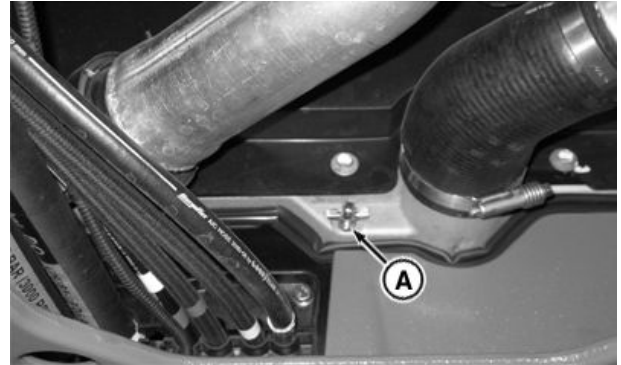
Safety—Explosive Release of Fluids

4. Place catch pan under radiator drain valve (A).
5. Open radiator drain valve and drain coolant into catch pan.
6. Place catch pan under engine drain valve.
7. Open engine drain valve (B) and drain coolant into catch pan.
8. Allow radiator and engine to drain.
9. Loosen hose clamp (C) and slide hose (D) off of thermostat housing.

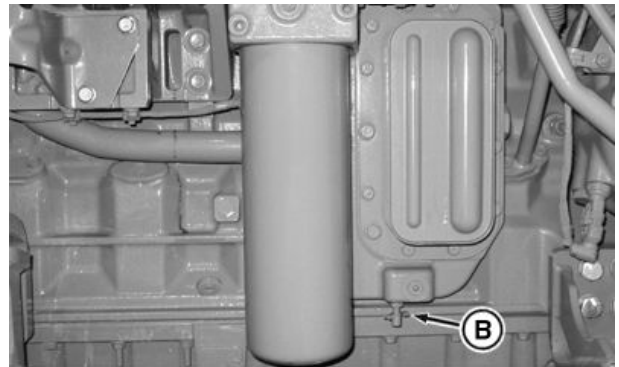
A— Radiator Drain Valve
B— Engine Drain Valve

C— Hose Clamp
D— Hose

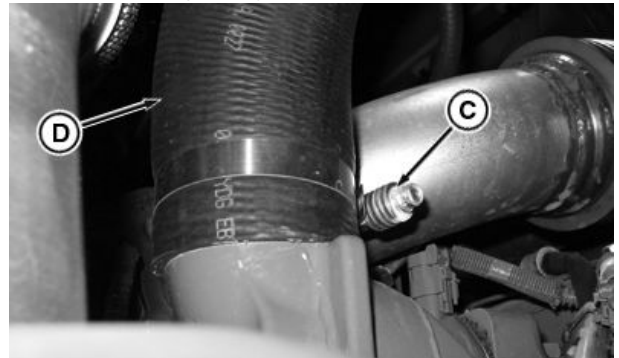
TS281—UN—15APR13



Open Radiator Drain Valve And Drain



Open Engine Valve And Drain



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RXA0115307—UN—10MAY11

RXA0111547—UN—20OCT10

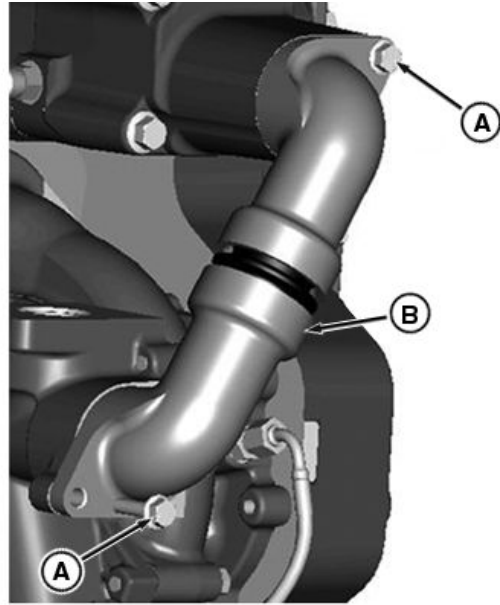
10. Remove cap screws (A) and remove coolant by-pass tube assembly (B).

NOTE: Coolant by-pass tube assembly does not need to be taken apart.

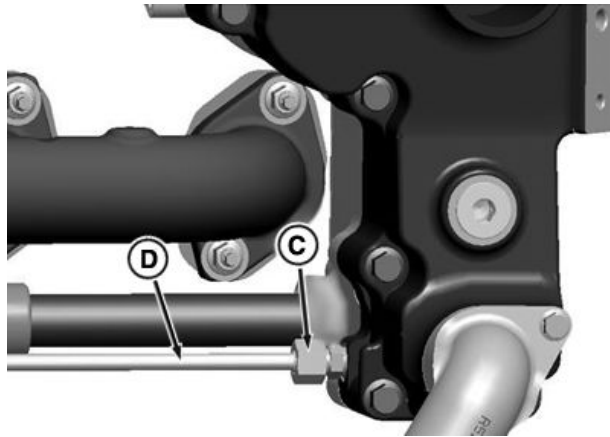
11. Remove coolant return line (D) by removing fitting on thermostat housing (C) and rear top liner cooling fitting with O-ring.

A— Cap Screws
B— Coolant By-pass Tube Assembly

C— Fitting on Thermostat Housing
D— Coolant Return Line



RXA011551—UN—03NOV10



RXA011555—UN—18NOV10

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SV81855,0000341 -19-11SEP15-3/10

12. Remove cap screws (A), bracket (B), and brace (C).

13. Remove cap screw (E).

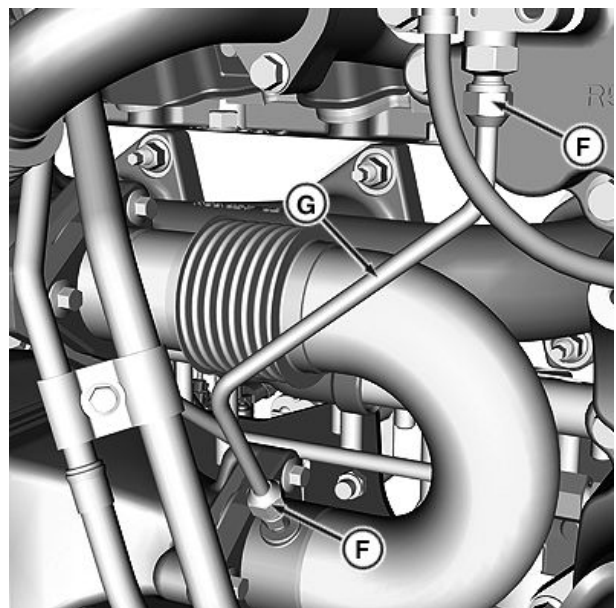
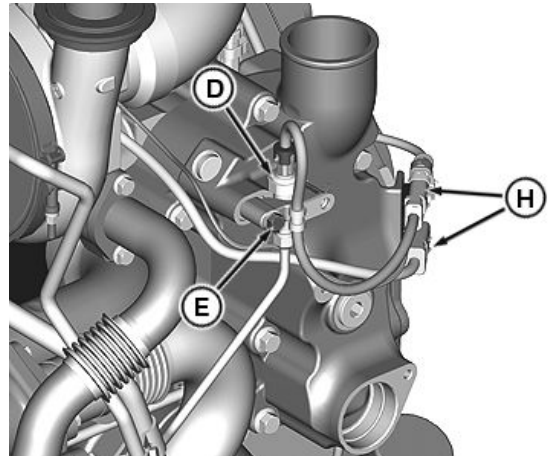
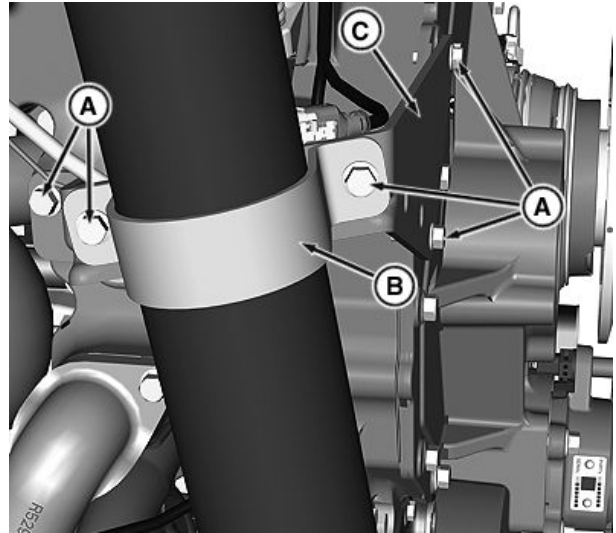
14. Loosen fittings (F) and rotate hard line (G) enough to remove housing.

IMPORTANT: Handle pressure line (G) with caution. Line is easily damaged and can cause engine problems.

15. Remove pressure sensor (D) and electrical hardware (H).

A— Cap Screws
B— Bracket
C— Brace
D— Pressure Sensor

E— Cap Screw
F— Fitting
G— Line
H— Electrical hardware



RXA011809—UN—03NOV10

RXA011545—UN—18NOV10

RXA011810—UN—03NOV10

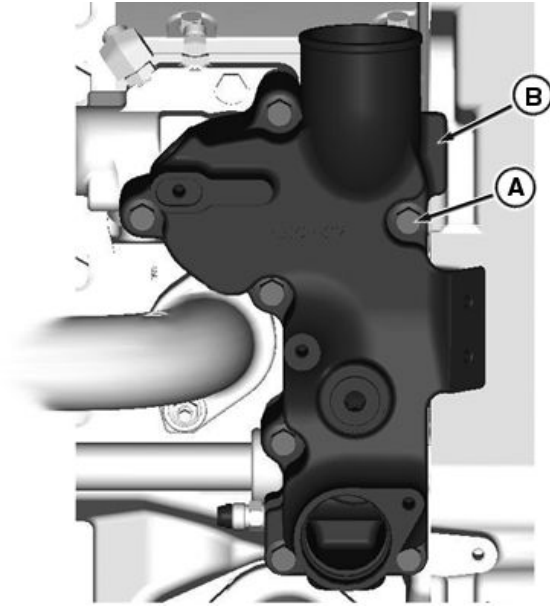
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SV81855,0000341 -19-11SEP15-4/10

16. Remove six 85 mm cap screws, one 100 mm cap screw (A), and thermostat housing (B).

A— Cap Screws

B— Thermostat Housing



RXA0111553—JUN—03NOV10

Continued on next page

SV81855.0000341 -19-11SEP15-5/10

17. Remove old thermostats and clean sealing area.

NOTE: During draining, filling, and flushing, coolant system will not have thermostat installed.

18. Replace gasket and housing.
19. Replace previously removed coolant return line assembly, coolant by-pass hose assembly, hard line, electrical hardware, bracket, brace, cap screws, radiator hose and clamp.
20. Close engine drain valve, and radiator drain valve.
21. Dispose of old coolant in accordance with local laws and ordinances.

IMPORTANT: Never pour cold water or coolant into hot engine.

NOTE: See your John Deere™ dealer for recommendations on cleaning solutions.

22. Fill high pressure coolant system at de-aeration tank with cooling system cleaning solution.
23. Install de-aeration cap and close hood.

CAUTION: Make sure hood is closed before starting engine.

24. Start engine and run at a minimum of 1500 rpm for 15 minutes.
25. Shut off engine and allow cleaning solution to cool.
26. Make sure temperature knob is turned to highest setting, then turn key switch to Run position.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

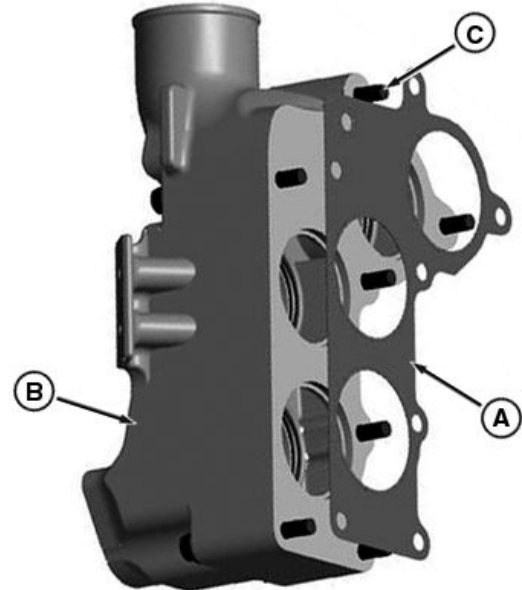
Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

27. Open hood, remove de-aeration cap, put drain pans in place, then open radiator and engine drain valves.
28. Allow cooling system to completely drain.
29. Close engine drain valve, and radiator drain valve.
30. Dispose of cleaning solution in accordance with local laws and ordinances.
31. Fill high pressure coolant system at de-aeration tank with clean water.

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Safety—Explosive Release of Fluids



A— Gasket
B— Thermostat Housing

C— Cap Screws

IMPORTANT: Never pour cold water or coolant into hot engine.

32. Install de-aeration cap and close hood.

CAUTION: Make sure hood is closed before starting engine.

33. Start engine and run at a minimum of 1500 rpm for 15 minutes.
34. Shut off engine and allow water to cool.

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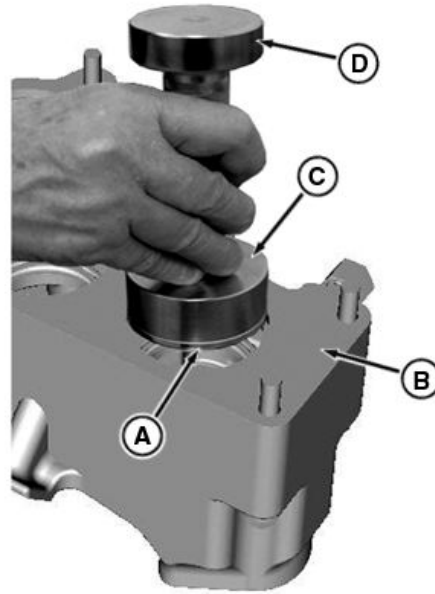
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RXA011552 —UN—03NOV10



TS281—UN—15APR13



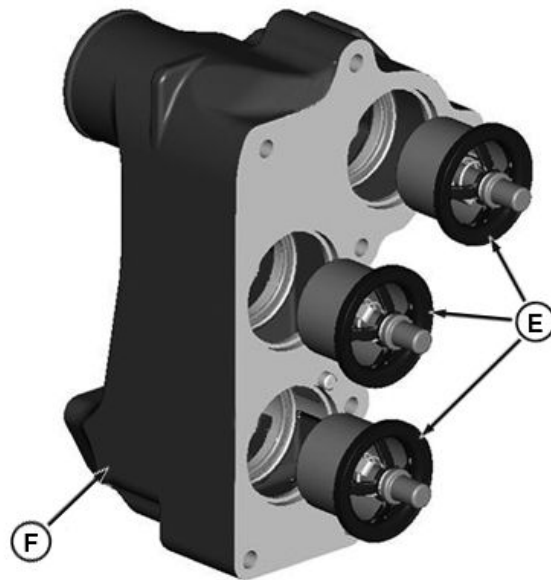
RXA0111811—UN—08NOV10

35. Make sure temperature knob is turned to highest setting. then turn key to Run.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

36. Open hood, remove de-aeration cap, put drain pans in place, then open radiator and engine drain valves.
37. Allow radiator to drain.
38. Remove radiator hose and clamp, bracket, brace, cap screws, electrical hardware, coolant return assembly, coolant bypass assembly, thermostat housing and gasket.
39. Install lip seals (A) using handle JDG8092 (D) and seal installer JDG11202 (C).
40. Apply light coat of RTV silicone sealant to new gasket.
41. Install new thermostats (E), new gasket and reinstall housing (F).



RXA0111556—UN—03NOV10

A— Lip Seal
B— Thermostat Housing
C— Seal Installer JDG11202

D— Handle JDG8092
E— Thermostats
F— Housing

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SV81855.0000341 -19-11SEP15-7/10

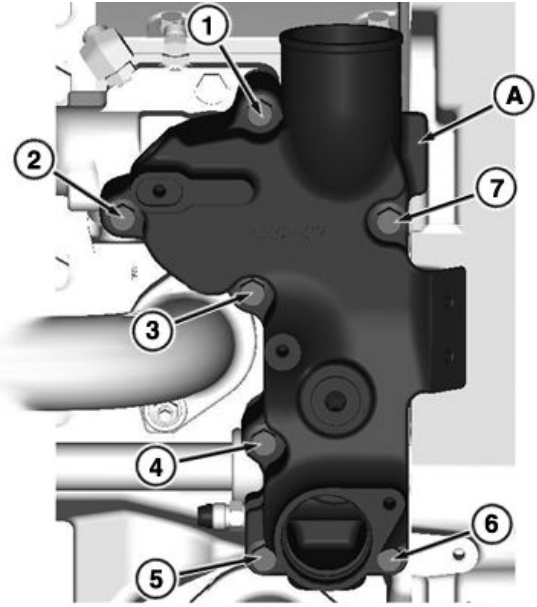
42. Tighten cap screws to specifications in order from 1 to 7.

Specification

Thermostat Housing Cap

Screws—Torque.....50 N·m
(39 lb-ft)

A— Thermostat Housing



Continued on next page

SV81855,0000341 -19-11SEP15-8/10

RXA0112136—UN—18NOV10

43. Replace previously removed by-pass tube assembly (A) and new O-rings (B) according to specifications.

Specification

Coolant Bypass Cap
Screws—Torque.....37 N·m
(27 lb-ft)

44. Replace previously removed return line (D) with fitting (C) and rear top liner cooling fitting with O-ring.

IMPORTANT: When installing rear top liner cooling fitting, apply Loctite® 242 thread locker to fitting threads and tighten fitting to specification. Apply AR54749 soap solution to O-ring when installing return line to thermostat housing.

Specification

Rear Top Liner
Cooling Fitting Cap
Screws—Torque.....13.5 N·m
(10 lb-ft)

45. Replace hard line and tighten fittings to specification.

Specification

Fittings—Torque.....19 N·m
(14 lb-ft)

46. Replace cap screw and electrical hardware.

Specification

Housing Cap
Screw—Torque.....20 N·m
(14 lb-ft)

47. Replace bracket and brace, tight cap screws to specification.

Specification

Cap Screws—Torque.....30 N·m
(22 lb-ft)

48. Replace previously removed hose and clamp.

49. Close engine drain valve and radiator drain valve.

50. Dispose of drain clean water in accordance with local laws and ordinances.

51. Fill high pressure coolant system at de-aeration tank with new coolant solution.

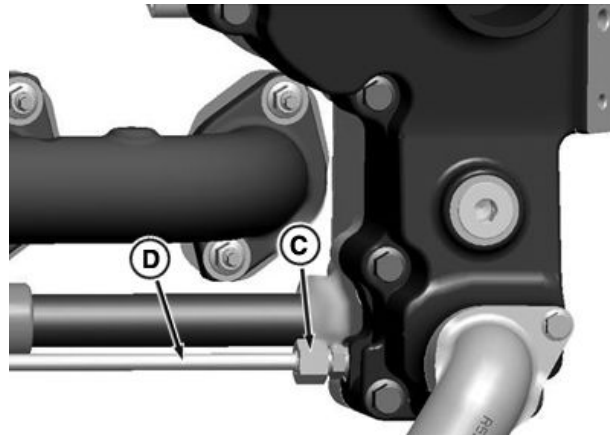
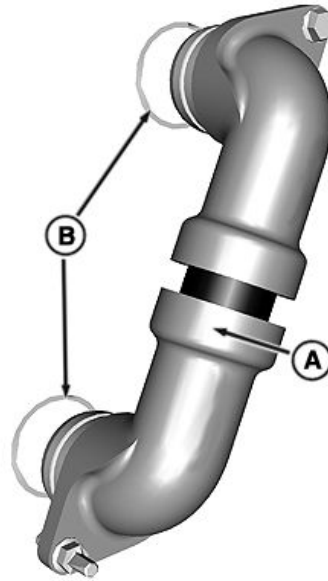
Cooling System Capacity:

Final Tier 4/Stage IV 56.5 L (14.9 gal)

CAUTION: Make sure hood is closed before starting engine.

IMPORTANT: Never pour cold water or coolant into hot engine.

Loctite is a trademark of Henkel Corporation



A—By-pass Tube Assembly
B—O-Rings

C—Fitting on Thermostat Housing
D—Return Line

52. Install de-aeration cap, close hood, start engine, and run for a minimum of 1500 rpm for 15 minutes.

NOTE: Coolant may seep out of the de-aeration tank overflow vent as air is purged from the coolant system.

Level may change when tractor is running or during the next few cycles.

It is highly recommended the cooling system is checked for leaks after draining, flushing and refilling to ensure tractor performance. Consult your John Deere Dealer for procedure and appropriate tools.

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RXA0112137 —UN—18NOV10

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Drain, Flush and Refill Cooling System—15 L Engine

Due to air conditioning compressor needing to be removed, and lines broken, see your John Deere™ dealer to drain, flush and refill cooling system..

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General Service

Jack Up the Tractor - Lifting Points and Support Stand Placement (2010-52-EU)

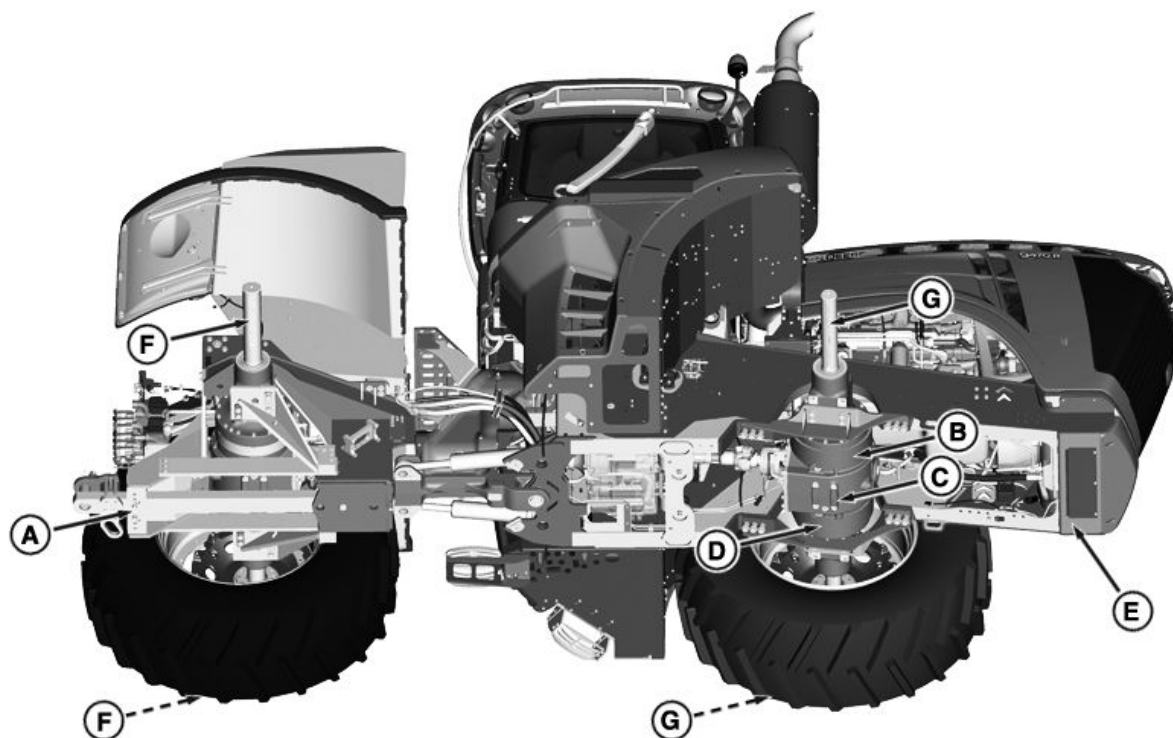
CAUTION: Use approved lifting equipment only.

Install oscillation stop (B) to prevent oscillation during axle removal. Failure to do so may result in injury.

Jack up tractor on firm, level ground only.

Before working on tractor, secure it using suitable support stands. Support stands are available from your John Deere™ dealer.

Illustrations show recommended lifting points for jacking up tractor. Use appropriate and suitable lifting device.



Underside, Lifting Points



Rear Drawbar

A- Raise Rear of Tractor, e.g. to Remove Rear Wheel.

B- Raise Right Side of Front Differential, e.g. to Remove Right Front Wheel.

C- Raise Center of Front Differential Housing.

D- Raise Left End of Front Axle, e.g. to Remove Left Front Wheel.

E- Raise Front End of Tractor.

F- Rear Axle Support Stand Placement.

G- Front Axle Support Stand Placement.

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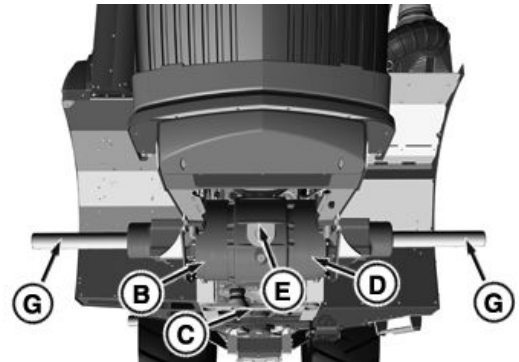
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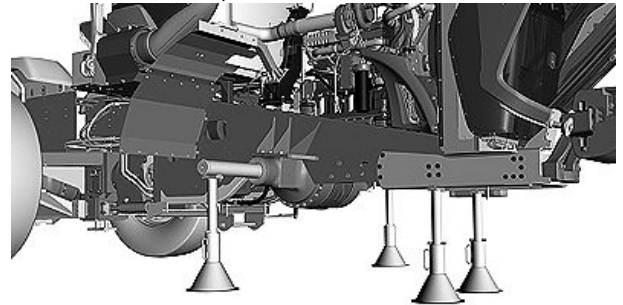
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RXA0138239 —UN—13JAN14

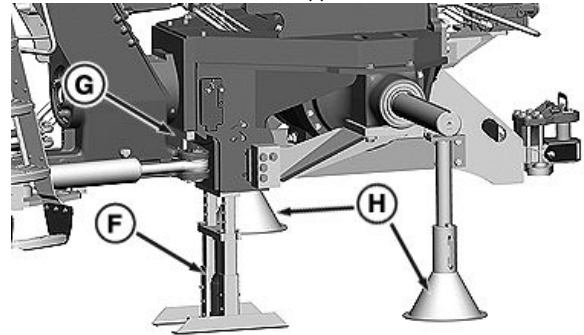
- B— Raise Right End of Front Differential, e.g. to Remove Right Front Wheel
- C— Raise Center of Front Differential Housing.
- D— Raise Left Side of Front Differential, e.g. to Remove Left Front Wheel
- E— Raise Front End of Tractor under the Basic Weight
- R— JT05725 Universal Support Stand
- G— JDG660B Gudgeon Oscillation Stop
- H— JT07211 Support Stands



Jack up the Front End of Tractor



JT07211 Support Stands



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RXA0138240 —UN—13JAN14

RXA0101151 —UN—27MAR09

RXA0147886 —UN—23APR15

Service and Connect Snap to Connect STC® Fittings

CAUTION: Do not disconnect STC fitting when under pressure. Failure to relieve pressure before disconnecting fitting may result in personal injury, damage to equipment or both.

NOTE: Snap to Connect fittings are used on steel lines, hose connections and come in a variety of sizes. JDG1885 STC tool (A) is designed as a spacer to move release ring (B) inward which releases retaining ring (C). JDG1885 STC tool can be purchased through your John Deere™ dealer.

IMPORTANT: Do not use tool to pry fittings apart. Prying with tool may damage fitting and tool.

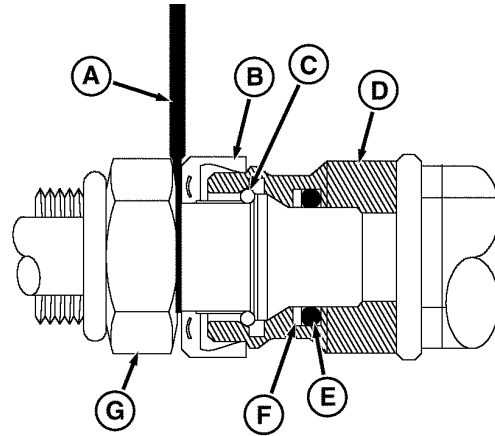
1. Insert correct STC tool between release ring and fitting.
2. Remove hose or line from connector.

NOTE: If retaining ring (C), backup ring (F) or O-ring (E) are damaged, see your John Deere™ dealer for replacement kit and replace all three parts.

Before connecting Snap to Connect Fitting:

1. Check mating surfaces for nicks, scratches or flat spots.
2. Check O-ring, backup ring and retaining ring for wear or damage.

STC is a registered trademark of Aeroquip Corporation
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A—JDG1885 STC Tool
B—Release Ring
C—Retaining Ring
D—Female End (STC Fitting)
E—O-Ring
F—Backup Ring
G—Male End (STC Fitting)

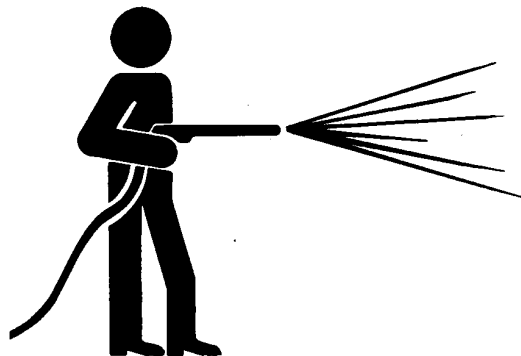
3. Make sure female end (D) and male end (G) are clean and free of contaminants.
4. Make sure release ring (B) is on male end fitting.
5. Push fitting halves together until a definite snap and solid stop is felt.
6. Pull back on hose to make sure fitting halves are locked together.

RXA0080095 —UN—31MAR05

TO84419,00001C6 -19-29OCT14-1/1

Use High-Pressure Washers

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps, exhaust outlet or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90 degree angle. When washing do not direct any water towards the exhaust or any fill tank openings.



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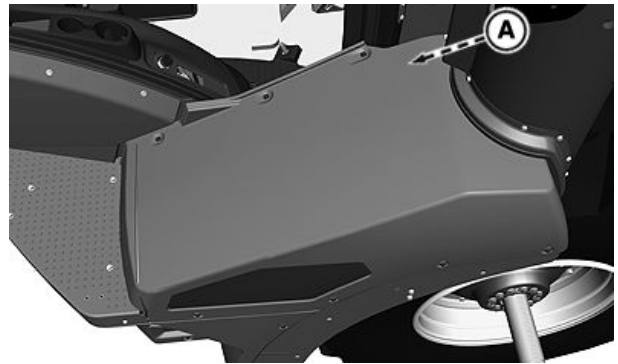
Diesel Particulate Filter Service

IMPORTANT: Using incorrect or unapproved aftertreatment components can cause damage to vehicle's aftertreatment system and reduce ability of aftertreatment system to function correctly. Never interchange aftertreatment components between Interim Tier 4/Stage III B and Final Tier 4/Stage IV equipped vehicles.

The Exhaust Filter includes the Diesel Oxidation Catalyst and Diesel Particulate Filter (DPF) (A). The DPF is designed to retain residual ash, which is a noncombustible result of additives used in crankcase lubrication oils and the fuel. The DPF provides many hours of maintenance free operation. At some point the DPF will require professional service to remove the accumulated ash. The exact number of hours of operation before service is required will vary depending upon the engine's power category, duty cycle and operating conditions, engine oil ash content, and fuel quality. Adhering to John Deere's™ recommended oil and fuel specifications will maximize the hours of operation before professional DPF service is required.

As the engine owner, you are responsible for performing the required maintenance described in your Operator's Manual. During normal equipment operation the DPF maintenance requirements will depend on the rate at which ash accumulates in it. As ash levels rise in the DPF the capacity for soot storage is reduced and the back pressure of the exhaust system will rise more frequently. The Exhaust Filter's dash lamp indicator or the diagnostic gauge will indicate when the DPF needs servicing.

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DPF Filter in Exhaust Enclosure

A—DPF Filter

The removal of DPF ash must be done by removing the DPF from the machine and placing it into specialized equipment. Do not remove ash by using water or other chemicals. Removing ash by these methods may damage the material securing the DPF in its canister, resulting in the loosening of the DPF element in the canister and subjecting it to damage from vibration.

Failure to follow the approved ash removal methods may violate U.S. federal, state and local hazardous waste laws, along with damage to the DPF resulting in potential denial of the Diesel Exhaust Filter emissions warranty. It is strongly recommended you take the DPF to an authorized John Deere™ service location or other qualified service provider for servicing.

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Exhaust Filter / Diesel Particulate Filter Ash Handling and Disposal

CAUTION: Under federal, state, and/or local laws or regulations, Diesel Particulate Filter ash may be classified as a hazardous waste. Hazardous wastes must be disposed of in accordance with all applicable federal, state and local laws or regulations governing hazardous waste disposal.

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Only a qualified service provider should remove ash from the DPF. Personal protective equipment and clothing, maintained in a sanitary and reliable condition, should be used when handling and cleaning a DPF. See your John Deere™ dealer or qualified service provider for assistance.

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Exhaust Filter Disposal

CAUTION: Proper management of an Exhaust Filter that has reached the end of its useful life is required, since the ash or catalyst material in the device may be classified as hazardous

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waste under federal, state, and/or local laws or regulations. Used Exhaust Filters, which include the Diesel Particulate Filter, may be exchanged at any John Deere™ dealer or qualified service provider.

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Transmission Calibration

WHEN TO CALIBRATE

Transmission calibration is recommended for any of the following reasons:

- A clutch solenoid or valve is replaced.
- Shift quality has degraded.
- Transmission filters are replaced.
- Transmission hydraulic fluid is changed.
- Transmission system control unit (PTP) is replaced.
- Transmission is removed for maintenance or replaced for any reason.

CHECK OIL LEVEL AND WARM-UP PROCEDURE BEFORE CALIBRATION

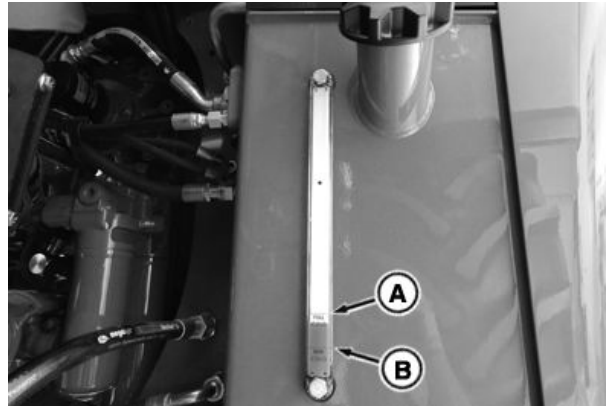
1. Check oil level sight gauge in hydraulic oil reservoir. Oil level should be between Full Cold (A) and Min. Cold (B) marks.

NOTE: Only calibrate transmission if shift characteristics change after transmission oil and filter change.

Do not perform oil check soon after transporting tractor in 15th or a higher gear.

IMPORTANT: Poor shift quality or transmission damage may occur if incorrect transmission-hydraulic oil is used. See Transmission-Hydraulic Oil in Fuel, Lubricants and Coolant section of this Operator's Manual.

2. Heat hydraulic oil. See Warm-Up Transmission-Hydraulic System in Operating the Tractor section of this Operator's Manual.
3. When oil is at desired temperature, drive to a level surface.



Hydraulic Oil Reservoir

A—"Full Cold" Mark

B—"Min Cold" Mark

NOTE: DO NOT depress brake pedal during this portion of oil warming procedure. If brake pedal is depressed, additional oil will flow to axles and result in inaccurate oil level reading.

4. Shift transmission lever to **PARK**. Set engine speed at 1800 rpm and run for 5 minutes.

IMPORTANT: Do not operate tractor if oil level is below "Min Cold" mark (B) in sight gauge with engine off.

NOTE: Reduce engine speed to slow idle, shut engine OFF, and wait 5 minutes for oil to stabilize.

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SV81855,0000256 -19-26JUN15-1/6

RXA0142195 —UN—10JUN14

CAUTION: Perform transmission calibration with tractor in an open, outdoor area on flat ground. Do not permit others near tractor during procedure.

Verify park brake is functioning properly.

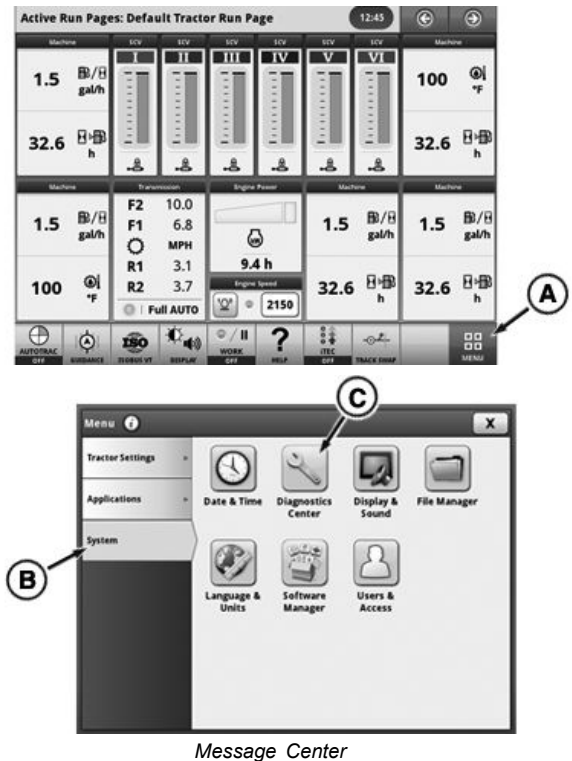
While calibrating, remain in the operator's seat. Depending on transmission-hydraulic oil temperature at start of procedure, calibration typically takes 12-15 minutes.

IMPORTANT: Serious damage to transmission may result if oil level is inadequate.

5. Make sure Efficiency Manager™ is disabled.
6. Press the Menu button (A) and select System Tab (B).
7. Select Diagnostic Center Icon (C).

A—Menu Button
B—System Tab

C—Diagnostics Center Icon



Message Center

Efficiency Manager is a trademark of Deere & Company

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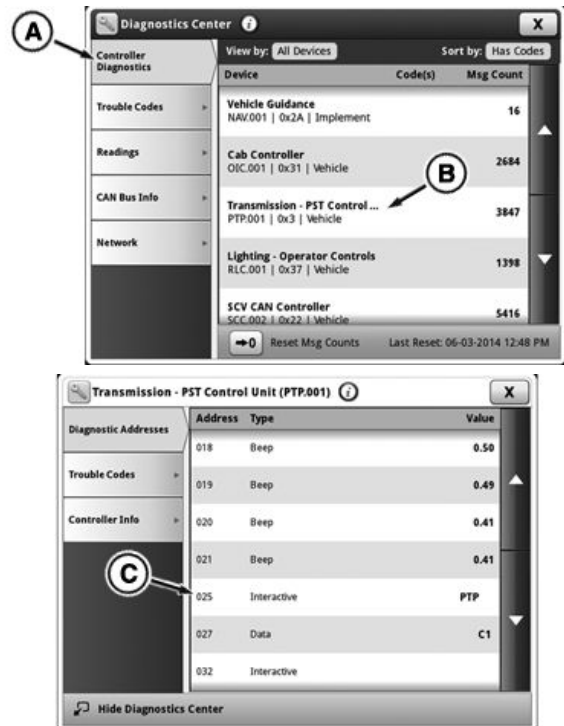
RXA0142149 —UN—10JUN14

RXA0142150 —UN—10JUN14

8. Select Controller Diagnostics Tab (A).
9. Select Transmission-PST Control (PTP.001) (B) from list.
10. Select Address 025 in drop down menu.

CAUTION: Leave shift lever in Park. Placing shift lever in F or R will result in tractor movement.

A—Controller Diagnostics Tab C—025
B—Transmission-PST Control



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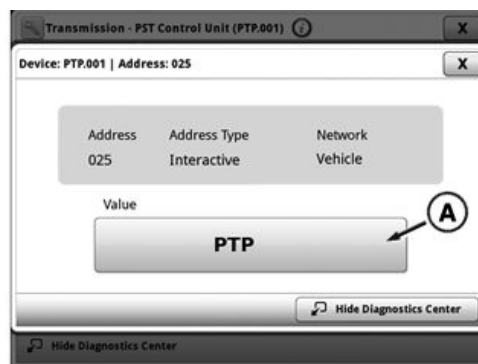
RXA0142151 —UN—10JUN14

RXA0142152 —UN—10JUN14

11. PTP should appear on Secondary Display Unit display.
Press on PTP button (A).

IMPORTANT: Do not leave seat. Operator presence must be detected in this step to allow calibration to continue.

A—PTP Button



RXA0142153—UN—10JUN14

SV81855,0000256 -19-26JUN15-4/6

12. If CAL (A) should appear on Secondary Display Unit display, transmission calibration is ready to begin.

13. Adjust throttle to 1650 engine rpm.

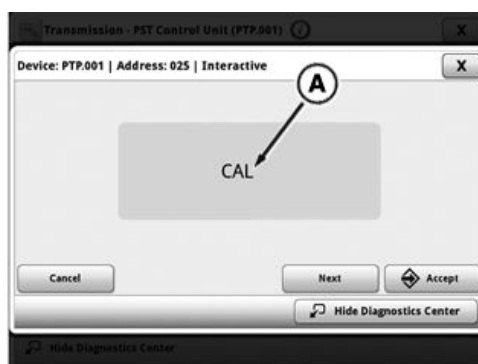
IMPORTANT: If "P" is NOT displayed on corner post display, do not proceed with calibration. Leave shift lever in PARK. Lever movement to F position will result in unintended tractor movement. Return to Step 2.

14. Move shift lever to N position. P should be displayed on the corner post PDU display.

15. Move shift lever to F position to start calibration.

16. If CLD appears, transmission oil temperature has dropped to less than 50° C (122° F) PTP will halt calibration until temperature has increased sufficiently to allow calibration to restart. If oil temperature (available in PTP Address 33) is more than a few degrees below 50° C (122° F), manually heat oil.

A—CAL



RXA0142154—UN—10JUN14

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SV81855,0000256 -19-26JUN15-5/6

NOTE: Once calibration begins, do not manually change throttle position, move shift lever, or depress clutch pedal. Calibration will be aborted.

NOTE: If calibration aborts due to a fault (i.e. no engine or transmission activity is heard for a period of 30 seconds or longer), a three-letter fault message will be displayed. Record code. Another calibration attempt may be made if desired. See *Aborting Transmission Calibration* in this section of this Operator's Manual.

17. When calibration starts, C1H (A) appears. C1H indicates Clutch 1 Hold calibration is in progress. As calibration continues, clutch hold calculations for clutches C2, CR, CA, CB, CC, CL, CM and CH follows. Display indicates which step is being performed during process.
18. When all nine clutch hold stage calibrations are complete, C1F displays as next phase of calibration begins. C1F indicates that Clutch 1 Fill time calibration is in progress. As calibration continues, clutch fill calculations for clutches C2, CR, CA, CB, CC, CM, and CH follows. Display indicates which step is being performed during process.

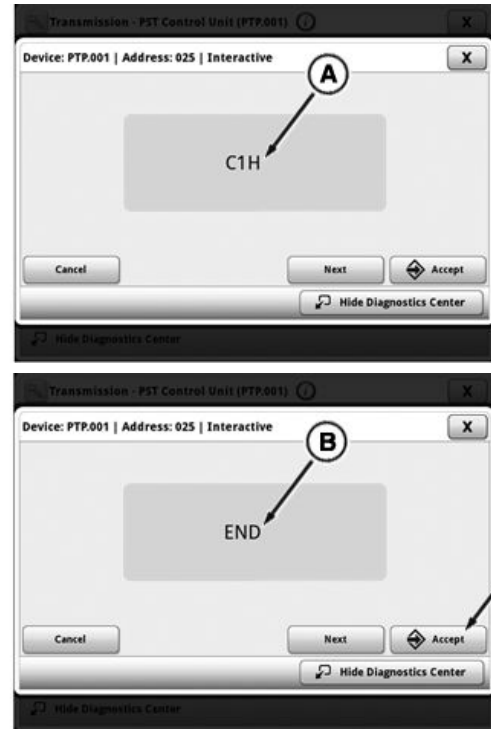
19. When END (B) appears, calibration is complete.

NOTE: Use correct calibration exit procedure to avoid generating unnecessary Diagnostic Trouble Codes (DTC's).

20. Move shift lever from F to PARK.

21. Throttle down.

22. Press Accept button (C) to save and exit calibration



A—C1H
B—End

C—Accept Button

NOTE: Display shows instructions for operator and malfunctions that have occurred. If a malfunction is displayed during calibration, new data is not stored.

23. Turn the engine off. PTP will store new calibration.

Calibration Fault	Meaning	Instruction
CLD	Transmission oil is below 50° C (122°F). Automatic warm-up is in progress.	No action required. Wait for automatic warm-up to warm oil to 50° C (122°F). Calibration begins automatically once temperature is reached.
OIL	Transmission oil temperature is below minimum temperature of 10° C (50°F) to begin automatic warm-up.	Manually heat hydraulic oil to 50° C (122°F). See manual Warm-up for Calibration at beginning of this section.
SPD	Engine speed is not within required range of 1600-1700 rpm to begin or continue calibration.	Set engine speed to 1650 rpm.
CLU	Clutch pedal is not UP or was depressed by operator during calibration.	Make sure that clutch pedal is fully UP, and do not depress during calibration.
NOP	Operator is not in seat when calibration is initiated.	Remain seated during transmission calibration.
FLT	Transmission oil filters are restricted.	Replace transmission filters. Retry calibration after filter replacement.

SV81855,0000256 -19-26JUN15-6/6

RXA0142193 —UN—10JUN14

RXA0142194 —UN—10JUN14

Abort Transmission Calibration

PTP aborts calibration, and will make no changes to stored calibration values from last complete calibration if:

- Significant tractor motion is detected
- Address number is incremented or decremented by operator
- System detects problem during calibration

- Shift lever is moved out of gear
- Engine speed moves above or below calibration limits

If calibration aborts, transmission system reverts to last good calibration. If recalibration is still required, a new calibration procedure must be started. Calibration cannot be restarted from point at which it stopped.

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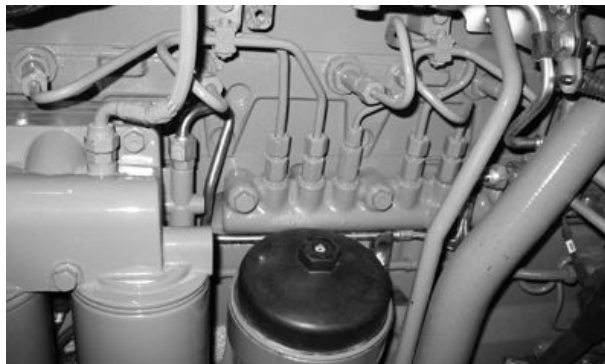
Do Not Modify Fuel System

IMPORTANT: Increasing horsepower, or altering any aspect of fuel and air delivery on emissions certified engines beyond factory rating, will cause emission levels beyond what is approved by United States Environmental Protection Agency (EPA). Violations of EPA regulations may result in substantial fines to persons or companies committing such violations.

Tractor warranty is void if power level is changed from factory specifications.

Do not attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. See your John Deere™ dealer.

Never steam clean or spray water on a warm injection pump. This could damage pump parts.



RXA0109527 —UN—18AUG10



RXA0142739 —UN—19JUN14



RXA0142740 —UN—19JUN14

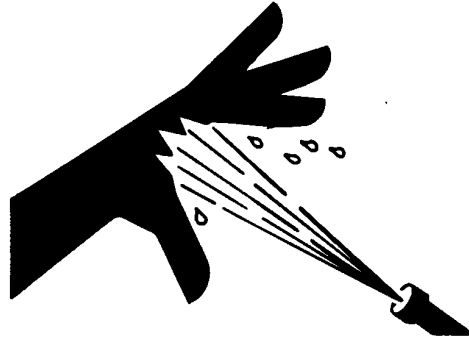
John Deere is a trademark of Deere & Company

SV81855,00002B5 -19-19JUN14-1/1

Do Not Open High-Pressure Fuel System

High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt repair of fuel lines, sensors, or any other components between the high-pressure fuel pump and nozzles on engines with High Pressure Common Rail (HPCR) fuel system.

Only technicians familiar with this type of system can perform repairs. (See your John Deere™ dealer.)



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SV81855,00001E9 -19-16JAN15-1/1

TS1343 —UN—18MAR92

Bleed Fuel System

Turn key to RUN position. Electric fuel pump will run and bleed air from fuel system. Allow pump to run for 30 seconds to one minute before attempting restart.

SV81855,00001EA -19-02APR14-1/1

Identify Zinc-Flake Coated Fasteners

Standard cap screws (A) are of a reflective silver color.

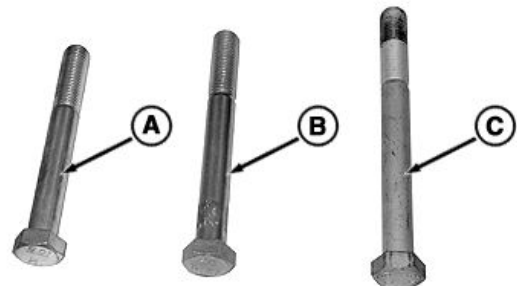
Zinc plated cap screws (B) are of a reflective bright silver color.

Zinc-Flake Coated cap screws (C) are of a dull silver color.

NOTE: *Zinc-Flake Coated fasteners are tightened to lubricated specifications, unless otherwise noted. (See Torque Value Charts in this Section.)*

A—Standard Cap Screws
B—Zinc-plated Cap Screw

C—Zinc-Flake Cap Screw (16 mm and larger)

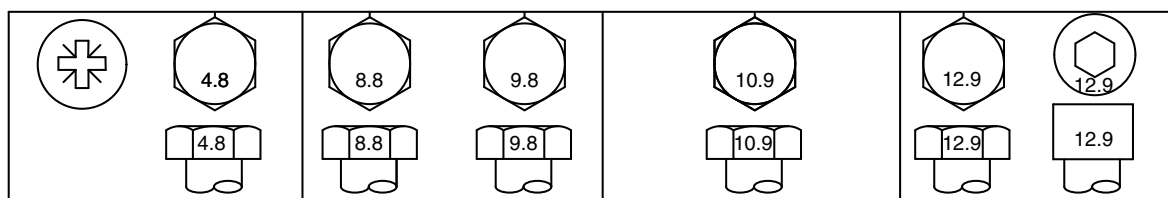


RW29387,000020F -19-17JUN15-1/1

RXA0073812 —UN—03MAR04

Metric Bolt and Screw Torque Values

TS1670 —UN—01MAY03



Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b	
	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N·m	lb.-ft.														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

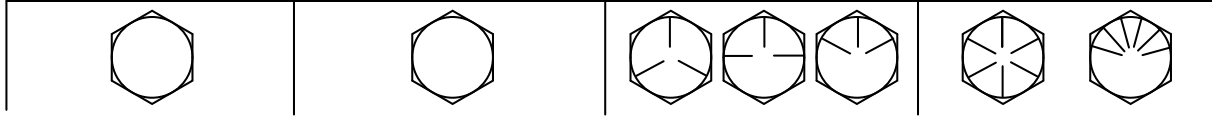
^a“Lubricated” means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

^b“Dry” means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ2 -19-12JAN11-1/1

Unified Inch Bolt and Screw Torque Values

TS1671 —UN—01MAY03



Bolt or Screw Size	SAE Grade 1				SAE Grade 2 ^a				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c	
	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N·m	lb.-ft.	N·m	lb.-ft.
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N·m	lb.-ft.	N·m	lb.-ft.				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N·m	lb.-ft.														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

^aGrade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

^b"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

^c"Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ1 -19-12JAN11-1/1

Electrical System Service

Introduction to Electrical Service Section

In addition to fuses and relays mounted in fuse panels (behind operator's seat), tractors are also equipped with solid state load centers located in two electronic control units.

These solid-state load centers replace fused relay circuits previously used. Their primary function is to control the majority of high current loads such as rear fender lights and horn. Load center circuitry monitors loads and voltages providing fast reaction time and ability to alert operator if a circuit overloads or if voltage is out of specification, i.e. open circuit (undercurrent) or short circuit (over-current).

If circuit is faulty and a diagnostic trouble code is generated, circuit will stay OFF and diagnostic trouble code will remain active until circuit is recycled by operator. If circuit or one of its components is turned back ON and problem is no longer present, system will function normally.

As an example, if a light circuit is determined to have an over-current condition, load center system will shut the circuit off. If operator turns light switch off and back on, and system senses zero amps when light controlled

by the switch is off, system will turn system back on and normal operation will turn back on.

If total current load of load center exceeds a preset level, software will automatically shut down system, turning off one circuit at a time. Logic circuit will wait a few seconds between circuit shutdowns to determine if total controller current has fallen below preset level, or if additional circuits should be turned off.

Solid state circuits are rated for a fixed value. If additional electrical devices need to be added to tractor, it is recommend to use a power strip or convenience outlets in conjunction with an off/on switch. Splicing into a wire in the wrong location could cause circuit to overload and shut circuit down.

If extra implement lights and controls, such as switches are needed, contact your John Deere™ dealer. A dealer can provide information on correct method to tie in a light switch with one of accessory wires located in 7 pin terminal on back of tractor.

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SV81855,0000259 -19-02APR14-1/1

Disconnect Battery—Final Tier 4 and Stage IV Engines

IMPORTANT: To determine tractor engine type, see Record Engine Serial Number in Identification Numbers Section of this Operator's Manual.

IMPORTANT: Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF

remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If equipped with a battery disconnect system, a light next to disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

SV81855,00001F4 -19-29JUL14-1/1

Load Center Fuses

NOTE: The seat backrest can be folded down to allow easier access to the Load Center Fuses. It will improve lighting and allows easier access for fuse replacement.

Load center is found directly behind the operator's seat and just below the rear cab window. To access load center, lift on Operator's Manual holder (A).

A—Operator's Manual Holder



Operator's Manual Holder

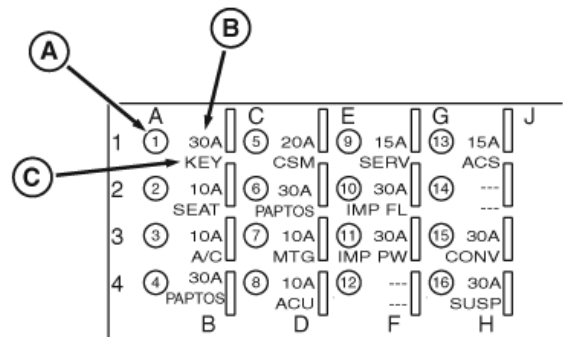
RXA0108495 —UN—12JUL10

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Diagram identifies load center fuse location, size and description.

A—Fuse Location Number
B—Fuse Size

C—Fuse Use/Description

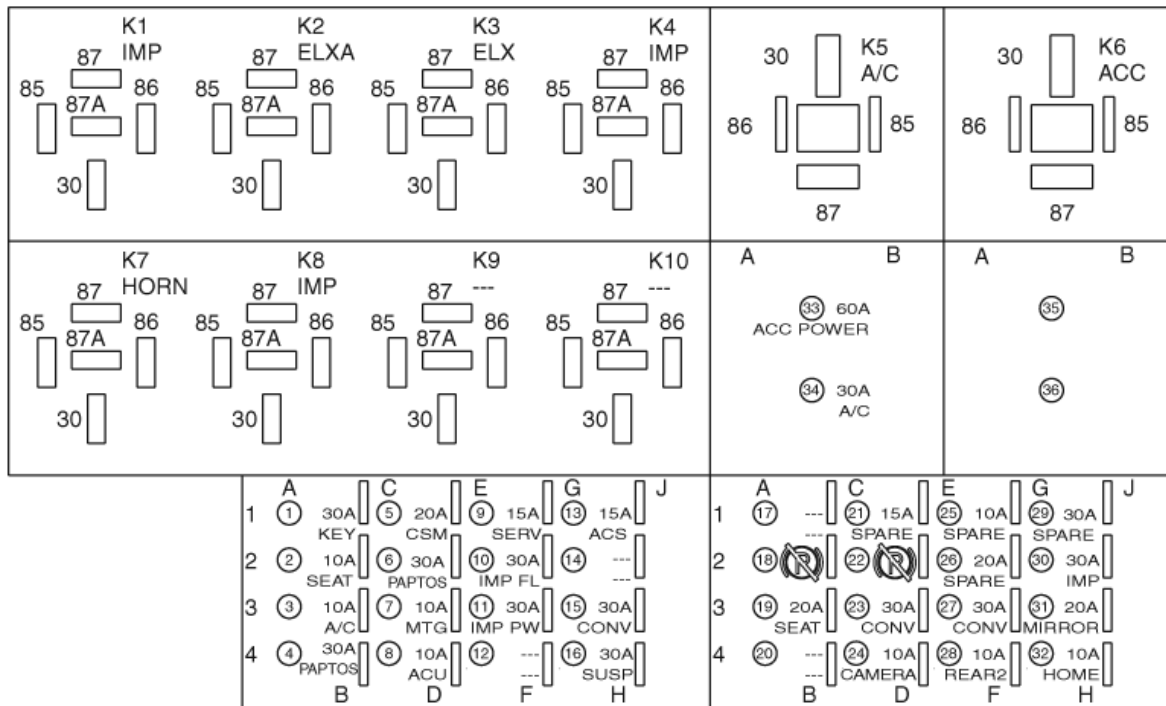


Load Center — Legend

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SV81855,0000342 -19-05JAN15-2/6

RXA0129611 —UN—25JAN13



RXA0127389 — UN—25JAN13

Relay and Fuse Locations

- | | | | |
|--|---|---|---------------------------------------|
| K1—ISO Implement Connector Power Relay | 4—Not Used | 16—Tracks Suspension (Tracks Only) (30 Amp) | 28—Rear Chassis Control Unit (10 Amp) |
| K2—Electronics Relay | 5—Radio, Primary Display and Interior Lights (20 Amp) | 17—Not Used | 29—Spare (30 Amp) |
| K3—Electronics Relay | 6—Not Used | 18—Park Brake Release | 30—ISO Implement Connector (30 Amp) |
| K4—Implement Accessory Relay | 7—Modular Telematics Gateway (10 Amp) | 19—Seat Controls (20 Amp) | 31—Remote Mirror (20 Amp) |
| K5—Blower Relay | 8—Armrest Control Unit (10 Amp) | 20—Not Used | 32—Come Home Mode (10 Amp) |
| K6—Accessories Relay | 9—Server (15 Amp) | 21—Spare (15 Amp) | 33—Accessories Power (60 Amp) |
| K7—Warning Horn Relay | 10—Implement Flood Lights (30 Amp) | 22—Park Brake Release | 34—Blower Motor (30 Amp) |
| K8—Implement Flood Relay | 11—Implement Accessory (30 Amp) | 23—Convenience Outlet Switched (30 Amp) | 35—Not Used |
| K9—Not Used | 12—Not Used | 24—Video Camera Power and Armrest Outlet (10 Amp) | 36—Not Used |
| K10—Not Used | 13—Steering Controller (15 Amp) | 25—Spare (10 Amp) | |
| 1—Key Switch (30 Amp) | 14—Not Used | 26—Spare (20 Amp) | |
| 2—Operator Presence Switch (10 Amp) | 15—Convenience Outlet Battery (30 Amp) | 27—Convenience Outlet Switched (30 Amp) | |
| 3—Air Conditioner (10 Amp) | | | |

IMPORTANT: Fuse replacement must be the same rating as the original. Ensure key is in OFF position before removing or replacing fuse.

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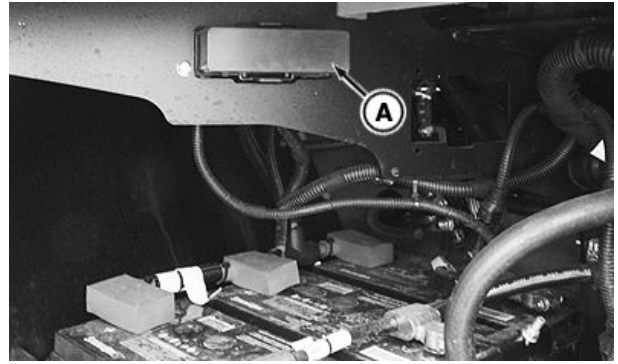
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Load center is located in battery compartment. Open battery compartment cover.

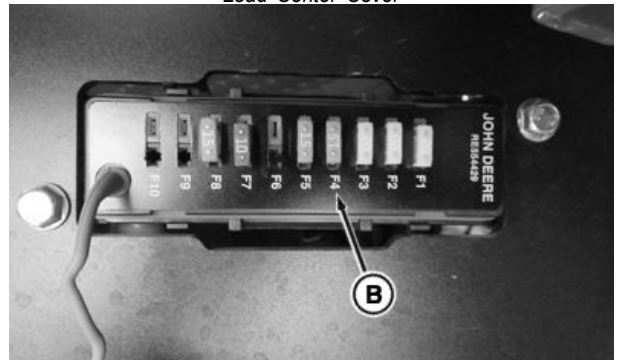
Tractor Load Center for with 9.0 L (9370R) or 13.5 L (9420R, 9470R, 9520R or 9570R) Engines

IMPORTANT: Replacement fuse must be same rating as original. Ensure key is turned to OFF position before replacing any fuses.

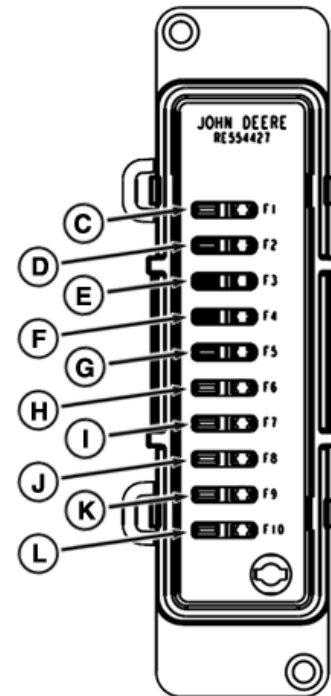
- | | |
|-----------------------------|--|
| A—Load Center Cover | G—F5 - Fuel Transfer Pump (15 Amp) |
| B—Load Center Fuse Panel | H—F6 - Not Used |
| C—F1 - ECU (20 Amp) | I— F7 - Key Switch (10 Amp) |
| D—F2 - ECU (20 Amp) | J— F8 - ActiveCommand Steering (ACS) [™] Control Unit (If ACS [™] Equipped) or AutoTrac [™] Control Unit (If AutoTrac [™] Equipped) (15 Amp) |
| E—F3 - ECU (20 Amp) | K—F9 - Front Chassis Control Unit 2 (25 Amp) |
| F—F4 - Dosing Pump (15 Amp) | L—F10 - Front Chassis Control Unit 1 (HydraCushion [™] Suspension-If Equipped) (10 Amp) |



Load Center Cover



Load Center Panel



Fuses

ActiveCommand Steering is a trademark of Deere & Company
AutoTrac is a trademark of Deere & Company
HydraCushion is a trademark of Deere & Company

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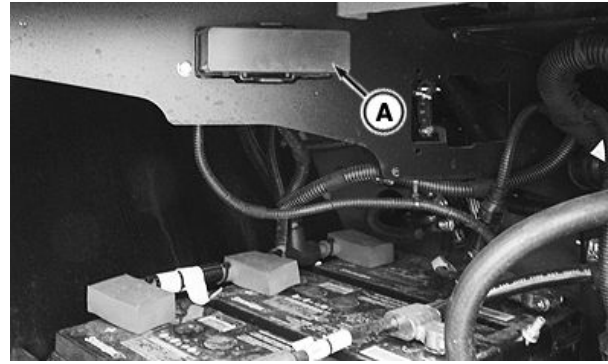
RXA0142042 —UN—04JUN14

RXA0130342 —UN—11JAN13

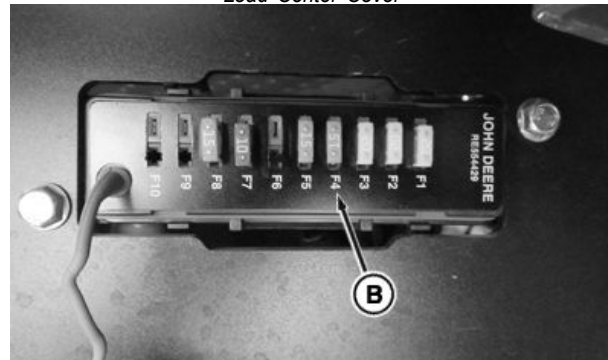
Tractor Load Center for 15 L Engine

IMPORTANT: Fuse replacement must be same rating as original.

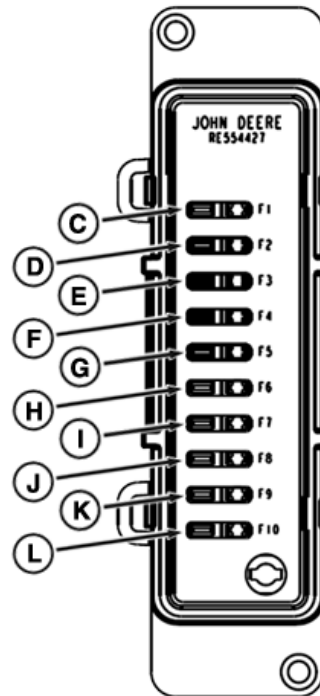
- | | |
|-----------------------------|---|
| A—Cover | G—F5 - DEF Supply Pump (15 Amp) |
| B—Load Center Panel | H—F6 - A/C Compressor |
| C—F1 - ECU (20 Amp) | I— F7 - Key Switch (10 Amp) |
| D—F2 - Not Used | J— F8 - Steering System, AutoTrac Control Unit (If Equipped with AutoTrac) (10 Amp) |
| E—F3 - DEF Heaters (20 Amp) | K—F9 - Not Used |
| F—F4 - After Treatment | L—F10 - Not Used |



Load Center Cover



Load Center Panel



Fuses

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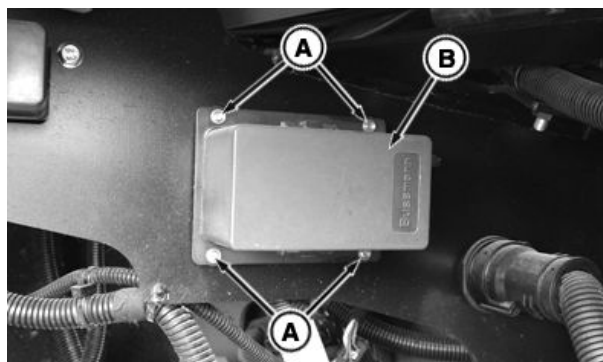
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RXA0142042—UN—04JUN14

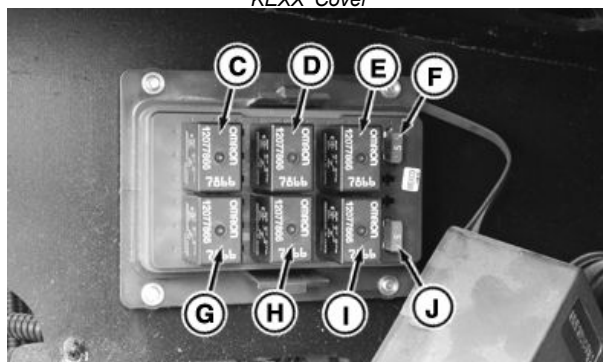
RXA0130342—UN—11JAN13

A—Cap Screws (4 used)
 B—Cover
 C—A/C Compressor Clutch
 Relay
 D—Line Heater Relay
 (PRESSURE)
 E—Aftertreatment Relay

F—Alternator
 G—DEF Supply Relay
 H—Line Heater Relay
 (RETURN)
 I— Line Heater Relay
 (SUCTION)
 J— ECU



KEXX Cover



Kexx Fuses and Relays

RXA0142548 —UN—17JUN14

RXA0142549 —UN—16JUN14

SV81855.0000342 -19-05JAN15-6/6

Master Fuse

IMPORTANT: Replacement fuse must be same rating as original.

See your John Deere™ dealer for replacement fuses.

Do not attempt to disassemble master fuse unless instructed by your John Deere™ dealer.

CAUTION: Insure both negative (—) and positive (+) battery connections are disconnected from both batteries prior to fuse inspection or replacement.

Tractors have three master fuses.

1. Disconnect battery ground (-) cable.

NOTE: Master fuse (C) is located within battery panel of tractor. Master fuse is connected across both posts of junction box.

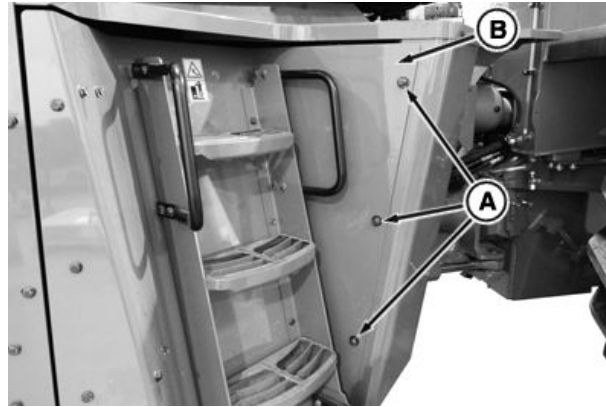
2. Remove cap screws (A) and open panel (B) to expose master fuses.

The master fuses are:

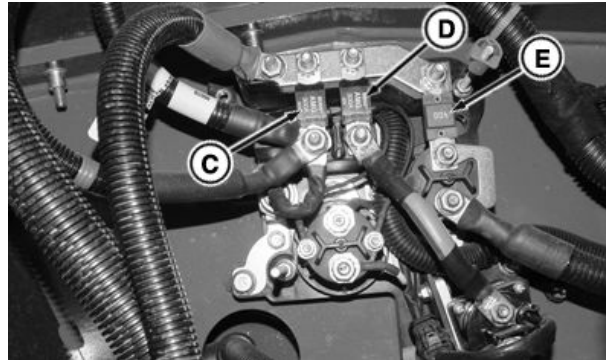
- Master Fuse-300 Amps (C)
- Alternator Battery Fuse-300 Amps (D)
- Backup Hydraulic Pump Fuse - 400 Amps (E)

A—Cap Screws
B—Panel
C—Master Fuse

D—Alternator Fuse
E—Backup Pump Fuse (If Equipped)



RXA0141965 —UN—02JUN14



RXA0142038 —UN—04JUN14

Master Fuse with ACS



RXA0142334 —UN—10JUN14

Master Fuse without ACS

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TO84419,00001D9 -19-16JAN15-1/1

Welding Near Electronic Control Units

IMPORTANT: Do not jump-start engines with arc welding equipment. Currents and voltages are too high and may cause permanent damage.

1. Disconnect the negative (-) battery cable(s).
2. Disconnect the positive (+) battery cable(s).
3. Connect the positive and negative cables together. Do not attach to vehicle frame.
4. Clear or move any wiring harness sections away from welding area.
5. Connect welder ground close to welding point and away from control units.



TS953 —UN—15MAY90

6. After welding, reverse Steps 1—5.

DX,WW,ECU02 -19-14AUG09-1/1

Keep Electronic Control Unit Connectors Clean

IMPORTANT: Do not open control unit and do not clean with a high-pressure spray. Moisture, dirt, and other contaminants may cause permanent damage.

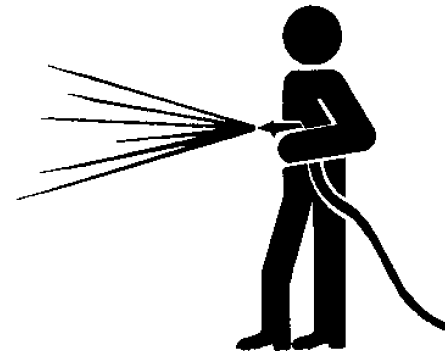
1. Keep terminals clean and free of foreign debris. Moisture, dirt, and other contaminants may cause the terminals to erode over time and not make a good electrical connection.

2. If a connector is not in use, put on the proper dust cap or an appropriate seal to protect it from foreign debris and moisture.
3. Control units are not repairable.
4. Since control units are the components LEAST likely to fail, isolate failure before replacing by completing a diagnostic procedure. (See your John Deere dealer.)
5. The wiring harness terminals and connectors for electronic control units are repairable.

DX,WW,ECU04 -19-11JUN09-1/1

Use Compressed Air

IMPORTANT: Directing pressurized air at electronic/electrical components or connectors, may cause buildup of static electricity and product malfunctions.

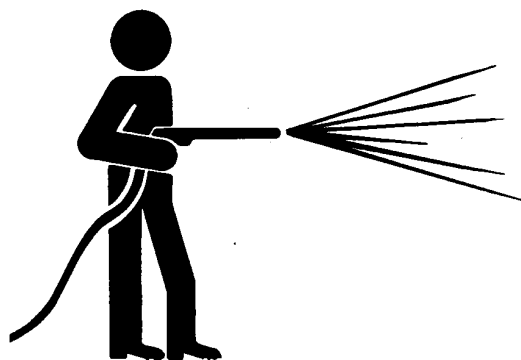


RW56455 —UN—30JUN97

TO84419,0000228 -19-29OCT14-1/1

Use High-Pressure Washers

IMPORTANT: Directing pressurized water at electronic/electrical components or connectors, bearings and hydraulic seals, fuel injection pumps, exhaust outlet or other sensitive parts and components may cause product malfunctions. Reduce pressure, and spray at a 45 to 90 degree angle. When washing do not direct any water towards the exhaust or any fill tank openings.



T6642EJ—UN—18OCT88

TO84419,0000215 -19-29OCT14-1/1

Replace Implement Power Relay Module Fuses

IMPORTANT: Replacement fuse must be same rating as original.

Remove cab back panel. In upper left-hand corner is a relay module to route power to implement CAN Bus Breakaway Connector.

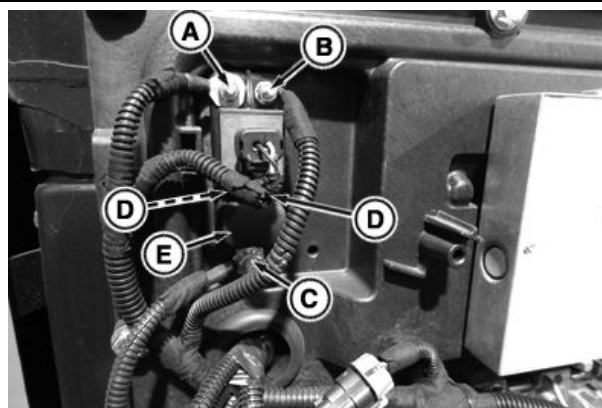
Top left-hand module stud is switched power lug (A) protected by a 60 amp fuse (F). Top right-hand module stud is unswitched power lug (B) protected by a 30 amp fuse (G).

Bottom center is the battery power input stud (C).

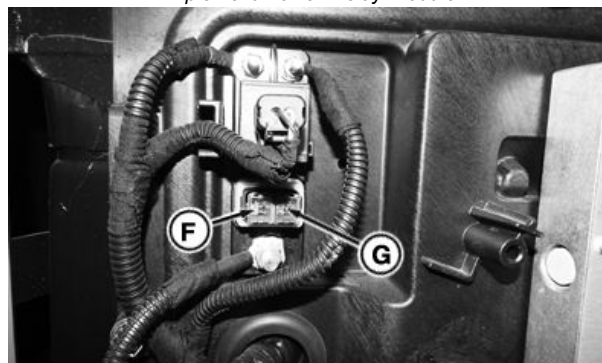
To Change Fuses

1. Press down on fuse cover tabs (D) and remove fuse cover (E).
2. To remove, pull fuse straight back.
3. Insert new fuse.
4. Replace cover and slide tabs over cover edge to hold in place.

A—Switched Power Lug	E—Fuse Cover
B—Unswitched Power Lug	F—60 Amp Fuse
C—Input Stud	G—30 Amp Fuse
D—Fuse Cover Tabs	



Implement Power Relay Module



Remove Cover To Access Implement Power Relay Module

RXA0142135—UN—05JUN14

RXA0142136—UN—05JUN14

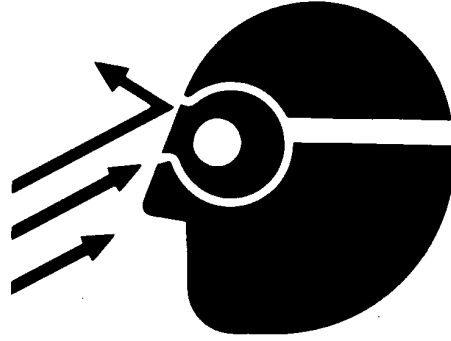
TO84419,00001DA -19-16JAN15-1/1

Handle Halogen Light Bulbs Safely

CAUTION: Halogen bulbs (A) contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. To avoid possible injury:

- Turn light switch off and allow bulbs to cool before changing. Leave switch off until bulb change is done.
- Wear eye protection.
- Handle bulb by its base. Keep bulb oil free; wear gloves to avoid touching glass.
- Do not drop or scratch bulb. Keep moisture away.
- Place used bulb in the new bulb carton and dispose of properly. Keep out of reach of children.

A—Halogen Bulb



SV81855,00001F9 -19-03MAR14-1/1

T5266 —UN—23AUG88

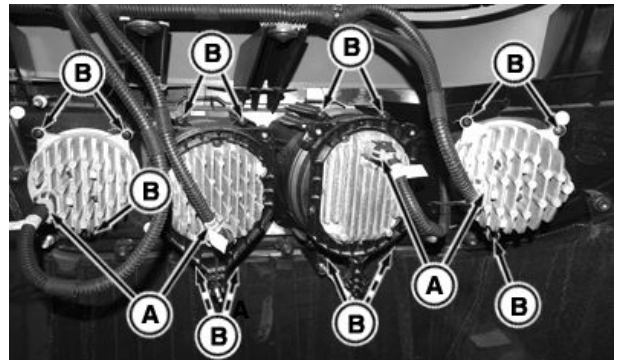
H39474 —UN—30JUN00

Replace Front HID/LED Light Assembly

1. Raise hood.
2. Disconnect harness connector (A).
3. Remove screws (B) and light assembly (C).
4. Replace light assembly.
5. Install new light assembly in reverse order of removal.
6. Close and secure hood.

A—Harness Connector
B—Screws

C—Light Assembly



Right-Hand Side Shown

SV81855,00001FA -19-16JUN14-1/1

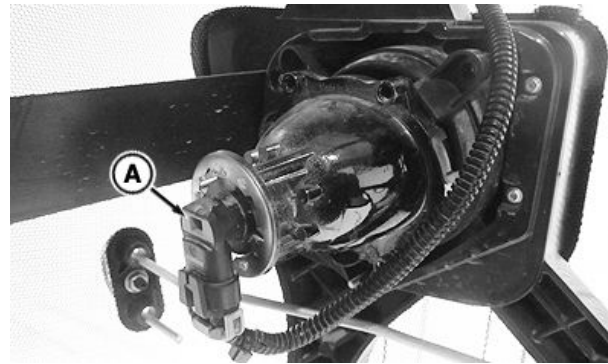
RXA0142550 —UN—16JUN14

Replace Front Grille Halogen Light Bulbs

1. Raise hood.
2. Rotate halogen headlight (A) counterclockwise 1/4 turn and remove.
3. Disconnect wiring harness plug by lifting retaining tab (B).
4. Replace light bulb assembly (C).
5. Install new light bulb in reverse order of removal.

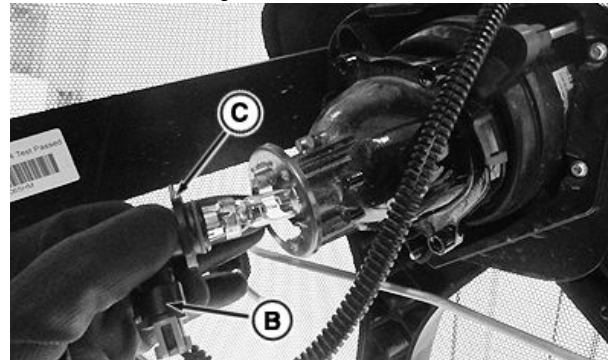
A—Halogen Headlight
B—Retaining Tab

C—Light Bulb Assembly



Right-Hand Side Shown

RXA0134246 —UN—31JUL13



Right-Hand Side Shown

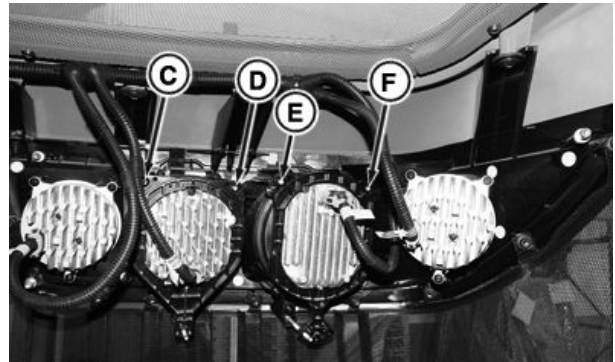
RXA0134247 —UN—31JUL13

SV81855,00001FB -19-03MAR14-1/1

Adjust Front Grille Lights



RXA0142137 —UN—05JUN14



RXA0142138 —UN—05JUN14

A—Low Beam Lowering
Adjustment Screw
B—High Beam Lowering
Adjustment Screw

C—High Beam Tilt Up And Out
Adjustment Screw
D—High Beam Tilt Up And In
Adjustment Screw

E—Low Beam Tilt Up and Out
Adjustment Screw
F—Low Beam Tilt Up and In
Adjustment Screw

To adjust front grille lights:

For Low Beam Headlights:

1. To lower low beam aim, turn low beam adjustment screw (A) clockwise.

To raise and tilt out low beam headlights, turn low beam adjustment screw (E) clockwise.

To raise and tilt in low beam headlights, turn low beam adjustment screw (F) clockwise.

For High Beam Headlights:

2. To lower high beam aim, turn high beam adjustment screw (B) clockwise.

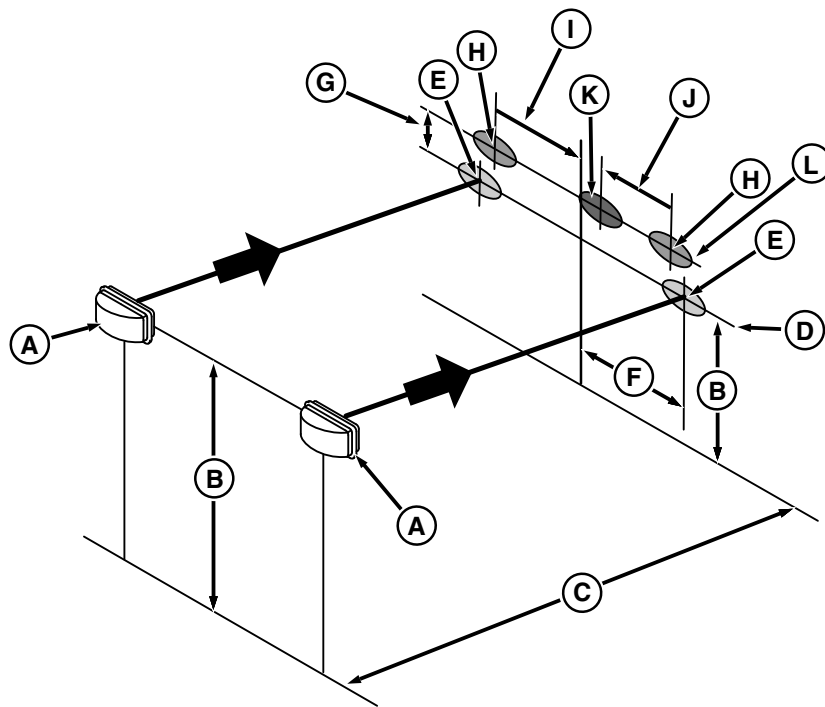
To raise and tilt out high beam, turn high beam adjustment screw (C) clockwise.

To raise and tilt in high beam, turn high beam adjustment screw (D) clockwise.

3. Repeat for opposite side of tractor.

SV81855,00001FC -19-05JUN14-1/1

Aim Headlights



A—Low Beam Road Lights
B—Distance, Road Light Low Beam Center To Ground
C—Distance, 7.5 meters (25 ft.)
D—Horizontal Line on Wall

E—Road Light Low Beam Center
F—Distance, 914 mm (36 in.)
G—Distance, 355 mm (14 in.) (Road Light Low Beam Center To High Beam Center)

H—Road Light High Beam Center
I—Distance, 787 mm (31 in.) (Road Light High Beam Center To Tractor Center Line)
J—Distance, 635 mm (25 in.) (Road Light High Beam Center To Inner Hood Light Beam Center)

K—Inner Hood Light Beam Center
L—Edge of High Beam Bright Area

1. Park tractor on level surface with low beam road lights (A) 7.5 meters (25 ft.) (C) from a straight wall. Tractor must be perpendicular to wall. Turn on low beam road lights.
2. Measure distance (B) from center of road light low beam lamps to ground.
3. Mark a horizontal line (D) on wall at same height as center of road light low beams.
4. On wall, mark each road light low beam center (E).
5. Determine total distance between centers of road light low beams.
6. Calculate one-half distance determined in step 5.
7. Mark vertical line at distance calculated in step 6 from center of right-hand low beam center.
8. Distance (F) between center of road light low beam and center line should be 914 mm (36 in.). Adjust as necessary. See Adjust Front Grille Lights in this section of this Operator's Manual.
9. Turn on road light high beams.
10. Adjust road light high beams so edge of bright area (L) is **at least** one tenth of distance (B) **above** road light low beam centers (E).
11. On wall, mark each road light high beam center (H), then mark a horizontal center line between center of road light high beams.
12. Distance (I) between center of road light high beams and center line should be 787 mm (31 in.). Adjust as necessary. See Adjust Front Grille Lights in this section of this Operator's Manual.
13. Configure inner hood lights ON.
14. Turn on field lights. Inner hood light beam center (K) should be on horizontal line between centers of road light high beams. Adjust as necessary.
15. Distance (J) between inner hood light beam center (K) and light center line should be 635 mm (25 in.). Adjust as necessary.

RXA0147456—UN—20FEB15

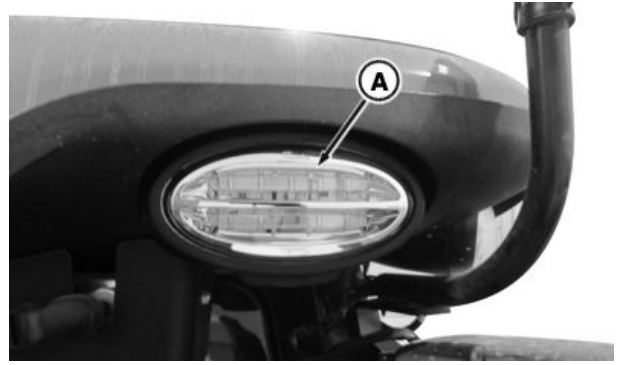
TO84419,000022F -19-20FEB15-1/1

Replace Front, Side And Rear Cab Roof Light Assembly

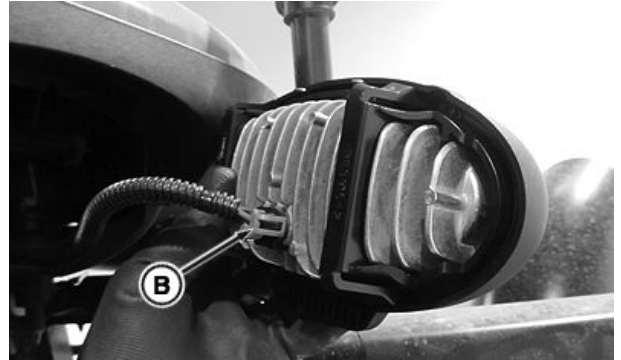
1. Push down light fixture latch tab (A). Remove fixture.
2. Disconnect harness connector (B) and replace light assembly.
3. Connect harness connector.
4. Insert fixture into cab roof until it seats and tab snaps into place.

A—Light Fixture Tab

B—Harness Connector



Push Down On Tab To Remove Fixture



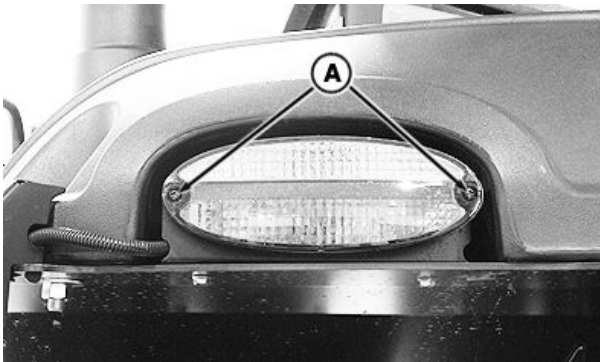
Remove Bulb

RXA0134250 —UN—31JUL13

RXA0134251 —UN—31JUL13

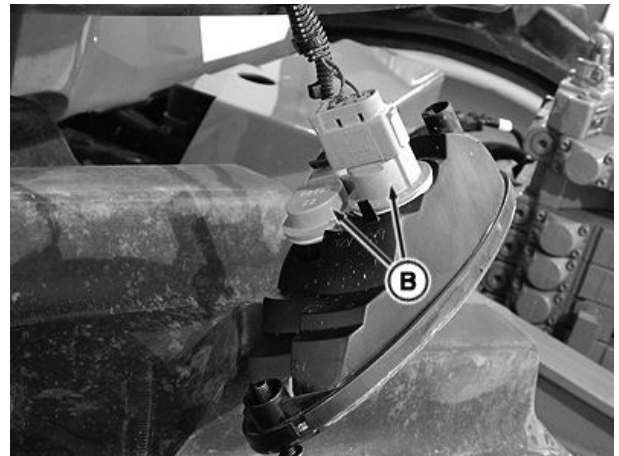
SV81855,00001FE -19-03MAR14-1/1

Replace Brake or Turn Signal Light Bulb



Remove Light Assembly

RXA0137101 —UN—19NOV13



Remove Light Bulb

RXA0137102 —UN—19NOV13

A—Screws

B—Light Bulb

1. Remove screws (A) and take out light assembly.
2. Turn bulb (B) counterclockwise 1/4 turn and pull out to remove.
3. Install new bulb in fixture and turn 1/4 turn clockwise.
4. Reinstall assembly and screws.

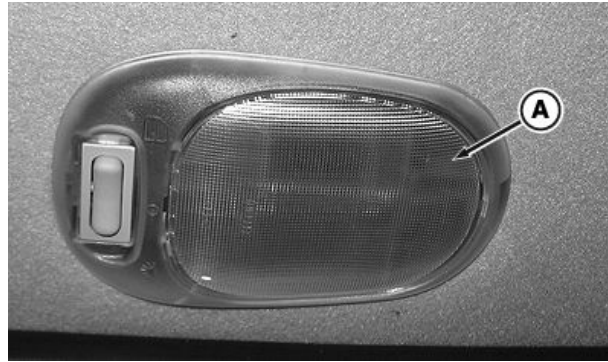
SV81855,00001FF -19-03APR14-1/1

Replace Dome Light Bulb

1. Remove lens cover (A).
2. To remove light bulb (B), grasp firmly and pull straight down.
3. Gently push new bulb into fixture until it seats.
4. Reinstall cover.

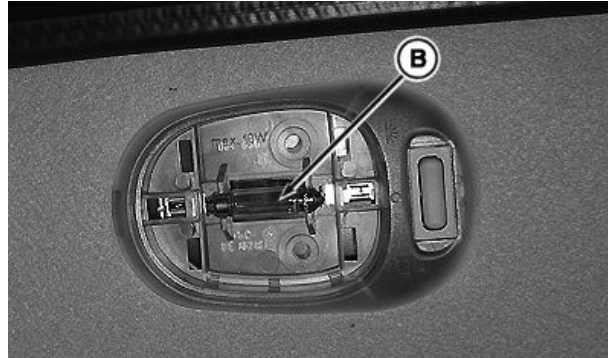
A—Cover

B—Light Bulb



RXA0099130 —UN—19SEP08

Remove Cover



RXA0099128 —UN—19SEP08

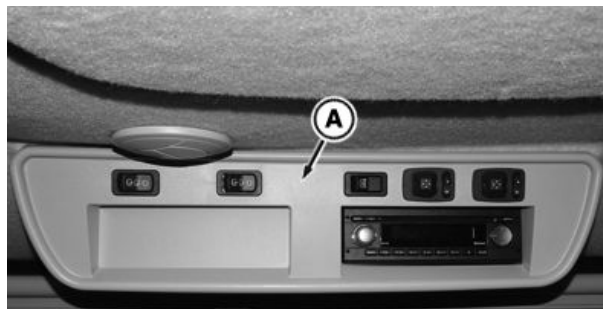
Remove And Replace Bulb

SV81855,0000200 -19-03MAR14-1/1

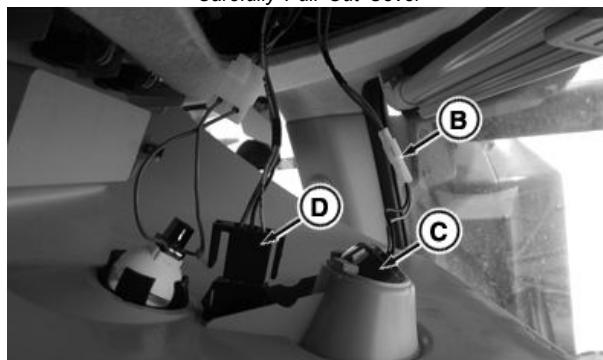
Replace Courtesy Light Bulb

1. Carefully pull out cover (A) to access bulbs.
2. Disconnect plug (D) and courtesy light connector (B). Cover with bulb assembly is now free from cab roof.
3. Remove courtesy light bulb (C) from cover.
4. Install new bulb in cover.
5. Slide rear clips into roof.
6. Reconnect connector (B) and plug (D), then reinstall cover.

A—Cover
B—Courtesy Light Connector
C—Courtesy Bulb
D—Plug



Carefully Pull Out Cover



Remove Bulb From Retaining Ring

SV81855,0000201 -19-08JUL14-1/1

RXA0143154 —UN—08JUL14

RXA0143150 —UN—08JUL14

RXA0143152 —UN—08JUL14

Replace Map Light Bulb

1. Carefully pull out cover (A) to access bulbs.
2. Disconnect plug (E) and map light connector (B). Cover with bulb assembly is now free from cab roof.
3. Remove bulb (D) from retaining ring (C).
4. Install new bulb in retaining ring.
5. Snap retaining ring with bulb into cover.
6. Reconnect connector(B) and plug (E), then reinstall cover.

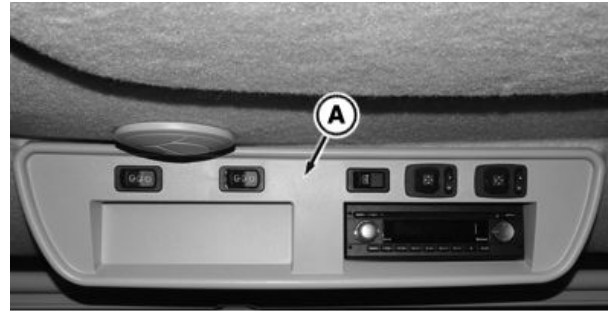
A—Cover

B—Map Light Connector

C—Retaining Ring

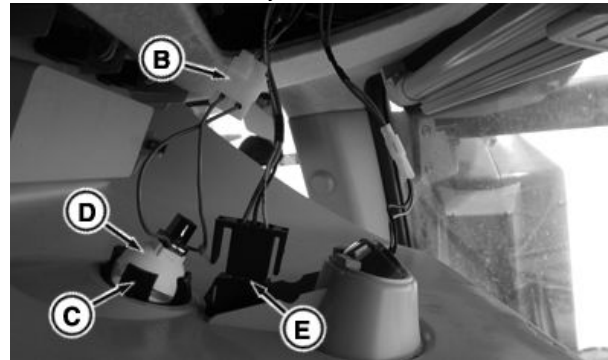
D—Map Light Bulb

E—Plug



RXA0143154 —UN—08JUL14

Carefully Pull Cover Out



RXA0143151 —UN—08JUL14



RXA0143153 —UN—08JUL14

Remove Bulb From Retaining Ring

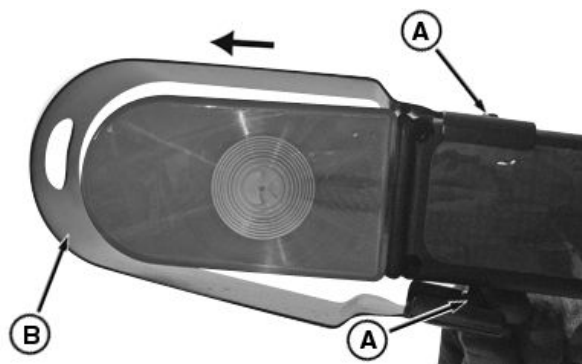
SV81855,0000202 -19-08JUL14-1/1

Replace Extremity Warning Light Bulb (If Equipped)

1. Loosen screws (A).
2. Slide shield (B) away from lens cover to remove.
3. Turn lens cover (C) counterclockwise to access light bulb.
4. Install new bulb (D) in reverse order of removal.

A—Screws
B—Shield

C—Lens Cover
D—Light Bulb



RXA0108609 —UN—29JUL10



RXA0108611 —UN—29JUL10



RXA0108613 —UN—29JUL10

SV81855,0000203 -19-03MAR14-1/1

Troubleshooting

Engine Troubleshooting

Symptom	Problem	Solution
Engine hard to start or will not start	Incorrect starting procedure	Review starting procedure
	No fuel	See Bleeding Fuel System
	Air in fuel line	Bleed fuel line
	Cold weather	Use cold weather starting aids
	Slow starter speed	See Starter Cranks Slowly
	Crankcase oil too heavy	Use correct oil viscosity
	Incorrect type of fuel	Consult fuel supplier; use correct fuel type for operating conditions
	Water, dirt, or air in fuel system	Drain, flush, fill and bleed system
	Clogged fuel filter	Replace filter
	Clogged sump screen	Drain tank, clean or replace screen
	Dirty or faulty injectors	Have John Deere™ Dealer check injectors
Engine knocks	Insufficient oil	Add oil
	Low coolant temperature	Replace thermostats
	Engine overheating	See Engine Overheats
	Valve lash	See your John Deere™ Dealer
Engine runs irregularly or stalls frequently	Low coolant temperature	Replace thermostats
	Clogged in-line filter or fuel filter	Replace filters and flush in-line filter
	Clogged sump screen	Drain tank, clean or replace screen
	Water, dirt, or air in fuel system	Drain, flush, fill and bleed system
	Restricted fuel line	Clean or replace fuel line
	Dirty or faulty injectors	Have John Deere™ Dealer check injectors
Below normal engine temperature	Defective thermostat or thermostat incorrectly installed	Remove and check thermostats
	Defective temperature gauge or sender	Check gauge, sender and connections
	Viscous fan locked up	See your John Deere™ Dealer

Continued on next page

TO84419,00001E9 -19-11JUN14-1/3

Symptom	Problem	Solution
Lack of power	Engine overloaded	Reduce load or shift to lower gear
	Low fast idle speed	See your John Deere™ Dealer
	Intake air restriction	Service air cleaner
	Clogged in-line filter or fuel filter	Replace filter(s)
	Clogged sump screen	Drain tank, clean or replace screen
	Incorrect type of fuel	Use correct fuel
	Overheated engine	See Engine Overheats
	Below normal engine temperature	Replace thermostats
	Incorrect valve clearance	See your John Deere™ Dealer
	Dirty or faulty injectors	Have John Deere™ Dealer check injectors
	Turbocharger not functioning	See your John Deere™ Dealer
	Leaking exhaust manifold gasket	See your John Deere™ Dealer
	Implement incorrectly adjusted	See implement operator's manual
	Restricted fuel line	Clean or replace fuel line
	Incorrect ballast	Adjust ballast to load
Low oil pressure	Low oil level	Add oil
	Incorrect type of oil	Drain, fill crankcase with correct quality and viscosity of oil
High oil consumption	Crankcase oil too light	Use correct viscosity oil
	Incorrect oil refill	See CHECKING ENGINE OIL LEVEL in the Lubrication Section
	Oil leaks	Check for leaks in lines, around gaskets and drain plug
	Defective turbocharger	See your John Deere™ Dealer
Engine emits white smoke	Incorrect type of fuel	Use correct fuel
	Clogged or dirty air cleaner	Service air cleaner
	Engine overloaded	Reduce load or shift to a low gear

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TO84419,00001E9 -19-11JUN14-2/3

Symptom	Problem	Solution
	Incorrect starting procedure	See STARTING THE ENGINE, in Operating The Engine Section
	Injection nozzles dirty	See your John Deere™ Dealer
	Engine out of time	See your John Deere™ Dealer
	Turbocharger not functioning	See your John Deere™ Dealer
Engine overheats	Dirty radiator core, oil cooler, or grille screens	Remove all trash
	Engine overloaded	Shift to lower gear or reduce load
	Low engine oil level	Check oil level. Add oil as required
	Low coolant level	Fill radiator to correct level, check radiator and hoses for loose connections or leaks
	Faulty radiator cap	See your John Deere™ Dealer
	Loose or defective fan belt	Check belt tensioner. Replace as needed
	Cooling system needs flushing	Flush cooling system
	Defective thermostat	Replace thermostats
	Defective temperature gauge or sender	See your John Deere™ Dealer
High fuel consumption	Incorrect type of fuel	Use correct fuel
	Clogged or dirty air cleaner	Service air cleaner
	Engine overloaded	Reduce load or shift to lower gear
	Incorrect valve clearance	See your John Deere™ Dealer
	Injection nozzles dirty	See your John Deere™ Dealer
	Implement incorrectly adjusted	See implement operator's manual
	Low engine temperature	Replace thermostats
	Excessive ballast	Adjust ballast to load

TO84419,00001E9 -19-11JUN14-3/3

Troubleshooting

Symptom	Problem	Solution
Engine power reduced	Defective turbocharger	See your John Deere™ Dealer
	Operating with heavy ballast and full power	See DRIVE TRAIN PROTECTION—9470R, 9520R, 9570R and 9620R in Operating the Tractor section of this operator's manual
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T084419,00001E9 -19-11JUN14-4/3		

Transmission-Hydraulic-Axles Troubleshooting

Symptom	Problem	Solution
Transmission slippage	Riding clutch pedal	Remove foot from clutch pedal
	Excessive load on tractor	Lower gear and/or reduce load
	Transmission filter indicator light on	Change filter element or have your John Deere™ Dealer repair
	Plugged transmission sump screens.	Clean sump screens.
	Plugged filters	Replace filters.
	Low oil.	Refill oil.
Tractor will not move in any gear	Check for active diagnostic code	See your John Deere™ Dealer
	Transmission malfunction	Remove and inspect transmission suction screen for metal particles or See your John Deere™ Dealer
	Transmission drive line broken	Repair or have your John Deere™ Dealer repair
Tractor lacks power or moves slow	Transmission slipping	Have your John Deere™ Dealer repair
	Transmission in too high a gear	Downshift to lower gear
	Excessive load	Transmission in wrong gear for operating conditions
Transmission shifts too slow	Sticking clutch solenoid valve	Have your John Deere™ Dealer repair
	Pump malfunction	Have your John Deere™ Dealer repair
	Transmission filter indicator light on	Change filter element
Transmission warning displays	Diagnostic trouble code has been stored	Access PTP codes in the CommandCenter™ display. See Diagnostic Trouble Codes section
Transmission shifts too fast	High transmission system pressure	Have your John Deere™ Dealer repair
	Transmission requires calibration	See Transmission Calibration in General Service section of this Operator's Manual
Transmission shift quality changed	Transmission requires calibration	See Transmission Calibration in General Service section of this Operator's Manual

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TO84419,00001EB -19-29JUN15-1/2

Symptom	Problem	Solution
	Transmission shifts without direct operator input	If in manual mode, verify that clutch is not being used excessively
Transmission system overheats	Sticking clutch solenoid valve	Have your John Deere™ Dealer repair
	Pump malfunction	Have your John Deere™ Dealer repair
	Transmission filter indicator light on	Change filter element or see your John Deere™ Dealer to repair
	Excessive load	Lighten load or use lower gear
	Plugged front grille screens	Clean debris from front grille screens
	Plugged hydraulic cooler	Clean debris from hydraulic cooler
Transmission alarm sounds and red stop engine indicator light on	Transmission filter restricted	Stop engine. Change transmission filter element
Excessive transmission noise (Under load or no load)	Parts worn or damaged in transmission	Have your John Deere™ Dealer repair
Excessive tractor vibration	Transmission or transmission pump malfunction	Have your John Deere™ Dealer repair
	Parts worn or damaged in transmission	Have your John Deere™ Dealer repair
Excessive noise	Transmission pump malfunction	Have your John Deere™ Dealer repair
	Excessive backlash in gear train	Have your John Deere™ Dealer repair
CommandCenter™ hydraulic display icon appears	Axle filter is restricted	Replace axle filter
Entire hydraulic system functions are slow	Hydraulic filters are restricted	Replace hydraulic filters
Entire hydraulic system fails to function	Clogged hydraulic filters	Replace hydraulic filters
	Oil cooler air passages clogged	Clean oil cooler
	High-pressure internal leak	See your John Deere™ Dealer
Hydraulic oil overheats	Oil cooler air passages clogged	Clean oil cooler
	Internal hydraulic leak	See your John Deere™ Dealer
	Implement hydraulic load not matched to tractor	See your John Deere™ Dealer

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CommandCenter is a trademark of Deere & Company*

TO84419,00001EB -19-29JUN15-2/2

Hydraulic System Troubleshooting

Symptom	Problem	Solution
Entire hydraulic system fails to function	Low oil supply	Fill system with correct oil
	Clogged hydraulic filters	Replace hydraulic filter
	Oil cooler air passages clogged	Clean oil cooler
	High-pressure internal leak	See your John Deere™ Dealer
Hydraulic oil overheats	Low oil supply	Fill system with correct oil
	Oil cooler air passages clogged	Clean oil cooler
	Clogged transmission oil filter	Replace transmission filter
	Internal hydraulic leak	See your John Deere™ Dealer
	Implement hydraulic load not matched to tractor	See your John Deere™ Dealer

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TO84419,00001EC -19-15JUN12-1/1

Brakes Troubleshooting

Symptom	Problem	Solution
No solid pedal feel (Engine Off)	Air in system	See your John Deere™ Dealer
Pedal settles (Engine Off)	Brake piston seals leaking	See your John Deere™ Dealer
	Brake bleeder not correctly closed	See your John Deere™ Dealer
	Leakage in pump control system at brake valve	See your John Deere™ Dealer
Excessive pedal travel or kickback (With Engine On)	Leakage in pump control system	See your John Deere™ Dealer
	Air in system	See your John Deere™ Dealer
	Brake piston seals leaking	See your John Deere™ Dealer
	Brake bleeder not correctly closed	See your John Deere™ Dealer

TO84419,00001ED -19-13MAR14-1/1

Hitch Troubleshooting

Symptom	Problem	Solution
Insufficient transport clearance	Center link too long	Adjust center link
	Lift links too long	Adjust lift links
	Implement not level	Level implement
	Implement not correctly adjusted	See implement operator's manual
	Upper height limit not correctly set	Adjust upper height limit
Hitch fails to follow lever	Malfunction in lever position sensor circuit or hitch position sensor	See your John Deere™ Dealer
Poor position control	Load/depth mix control on wrong position	Turn load/depth mix control to the left
	System is reset	Enable system
	Calibration fuse inadvertently moved	Be sure key switch is OFF and move fuse to spare position
Hitch drops slowly	Malfunction in lever position sensor circuit or hitch position sensor	See your John Deere™ Dealer
	Hitch rate-of-drop control not correctly set	Adjust rate-of-drop knob
Hitch fails to lift or lifts slowly	Excessive load on hitch	Reduce load
	Center link in wrong position	Adjust upper height limit
Implement will not operate at desired depth	Lift links too short	Adjust lift links
	Lack of penetration	See implement operator's manual
	Draft sensor failed	See your John Deere™ Dealer
Insufficient or no hitch response to draft load	Load/depth mix control in wrong position	Turn load/depth mix control to the right
	System is reset	Enable system
	Rate-of-drop too slow	Adjust rate-of-drop knob
Hitch too responsive	Load/depth mix control not correctly set	Turn load/depth mix control to the left
Hitch settles too fast after tractor is parked and engine is shut off	Internal circuit leakage	See your John Deere™ Dealer
Hitch will not move (controls not working, including rear raise/lower switch)	Fuse(s) blown	Replace fuses
	Engine not running	Start engine

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TO84419,00001EE -19-15JUN12-1/2

Troubleshooting

Symptom	Problem	Solution
Rear raise/lower switch will not move hitch	Failure of raise/lower switch, connector, or wiring harness Lever in transport	See your John Deere™ Dealer Move lever out of transport
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TO84419,00001EE -19-15JUN12-2/2		

Selective Control Valve Troubleshooting

Symptom	Problem	Solution
Remote cylinder will not lift load	Flow check	Cycle SCV levers
	Excessive load	Reduce load
	Hoses not completely installed	Attach hoses correctly
	Incorrect remote cylinder size	Use correct size cylinder
Remote cylinder rate of travel too fast or too slow	Incorrect flow rate	Adjust flow rate
Direction of remote cylinder travel is reversed	Incorrect hose connections	Reverse hose connections
Hoses will not couple	Incorrect hose male connectors	Replace connectors with ISO Standard connectors
Detent does not hold or releases too soon	Detent time set incorrectly	Set time correctly
	SCV lever is not being released to neutral	Release SCV lever from detent to neutral in less than 0.8 seconds
SCV lever does not release	SCV float is being "commanded"	Do not push lever down in forward position
	Lever mechanism failed	See your John Deere™ Dealer
Implement does not operate or does not operate correctly	Incorrect hose connections	See hose connection examples in Remote Hydraulic Connections Section
		See your John Deere™ Dealer
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TO84419,00001EF -19-18JUN14-1/1		

Electrical System Troubleshooting

Symptom	Problem	Solution
Voltage indicator flashing when there is low battery voltage (key ON and engine stopped)	Defective battery	Check electrolyte level and specific gravity
	Low charging voltage	Have your John Deere™ Dealer check charging circuit
	High resistance in charging circuit	Have your John Deere™ Dealer check charging circuit
	Indicator malfunction	Have your John Deere™ Dealer check indicator
Voltage and SERVICE ALERT indicators flashing indicating low charging voltage (engine running)	Low engine speed	Increase speed
	Alternator belt slipping	Check belt tension
	Defective battery	Check electrolyte level and specific gravity
	Defective alternator	Have your John Deere™ Dealer check alternator
	Excessive electrical load	Decrease load
Voltage and SERVICE ALERT indicators flashing indicating excessive charging voltage	Faulty connection to alternator	Check wiring connections
	Defective regulator	Have your John Deere™ Dealer check alternator
	Excessive electrical load	Decrease load
Voltage indicator flashing indicating excessive charging voltage	Faulty connection to alternator	Check wiring connections
	Defective regulator	Have your John Deere™ Dealer check alternator
Batteries will not charge	Loose or corroded connections	Clean and tighten connections
	Sulfated or worn-out batteries	Check electrolyte level and specific gravity
	Loose or defective alternator belt	Adjust belt tension or replace belts
Starter inoperative	Transmission in gear	Place transmission in PARK
	Faulty or maladjusted neutral start switch or starter solenoid malfunction	See your John Deere™ Dealer
	Loose or corroded connections	Clean and tighten loose connections

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TO84419,00001F0 -19-25JUN14-1/2

Troubleshooting

Symptom	Problem	Solution
	Low battery output	See your John Deere™ Dealer
	Blown fuse	Replace fuse
	Low battery output	Check electrolyte level and specific gravity
Starter cranks slowly	Crankcase oil too heavy	Use correct viscosity oil
	Loose or corroded connections	Clean and tighten loose connections
	Blown fuse	Replace fuse
Light system does not function; rest of electrical system functions	Faulty battery connection	Clean and tighten connections
	Sulfated or worn out batteries	Check electrolyte level and specific gravity
	Blown fuse	Replace fuse
Blower malfunctioning	Blower does not work	Check all blower fuses
Blower operates only in PURGE	Blown blower resistor	See you John Deere™ Dealer

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TO84419,00001F0 -19-25JUN14-2/2

Operator Enclosure Troubleshooting

Symptom	Problem	Solution
Blower not keeping dust out of operator enclosure	Defective seal around filter	Check seal condition Check filter for correct installation
	Defective filter	Replace filter
	Excessive air leak	Seal air leaks
	Blower air flow too low	See Blower Air Flow Too Low
Blower air flow too low	Clogged filter or air intake screen	Clean
	Heater core or evaporator core clogged	Clean
Heater will not shut off	Heater hoses connected incorrectly	See your John Deere™ Dealer
Air conditioner not cooling	Low voltage	Check charging circuit. See CHECKING AIR CONDITIONING SYSTEM in the General Maintenance and Inspection Section
	Low refrigerant	Check sight glass. (If Equipped) See CHECKING AIR CONDITIONING SYSTEM in the General Maintenance and Inspection Section
	Belt slipping	Check belt tension
	Heater switched on	Switch heater off
	Compressor stuck	Rock compressor pulley back and forth
Intermittent cooling	Air restriction	Clean side screens, radiator and oil cooler condenser. See CHECKING AIR CONDITIONING SYSTEM in the General Maintenance and Inspection Section
Seat suspension not working	Blown fuse	Replace fuse
Radio does not function	Blown fuse	Replace fuse
Intermittent or poor radio reception	Check for broken braided wire inside antenna spring	Replace radio spring antenna

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TO84419,00001F1 -19-15JUN12-1/1

Premium Radio Troubleshooting

Symptom	Problem	Solution
"NO CD" displayed	CD will not play	No CD has been loaded in the player
"CD ERROR" displayed	No playable files on media	Change media
"DEV ERR" displayed	No playable files on media	Change media
Bad sound quality, skipping, difficulty in finding tracks, and/or difficulty in loading or ejecting	CD-R may be affected by a CD-R's quality, the method of recording, the quality of the music that has been recorded or the way the CD-R has been handled.	Play CD you know is good to see if error corrects itself. If an error occurs repeatedly or if an error cannot be corrected, contact your dealer. If radio displays an error message, write it down and provide it to dealer when reporting problem.
"BLOCKED" displayed	No audio in any source	Verify radio is installed in correct vehicle. Run engine for at least 5 minutes. Restart radio to resolve.
Radio display blank with radio on.	Display in DIM-OFF mode.	Change to DIM-ON mode in radio SETUP mode.

TO84419,000023D -19-01AUG14-1/1

Diagnostic Trouble Codes

STOP, Service Alert, and Information Indicators

NOTE: All STOP and Service Alert Indicators are accompanied by an informative message, diagnostic trouble code, and/or fault description shown on CommandCenter™.

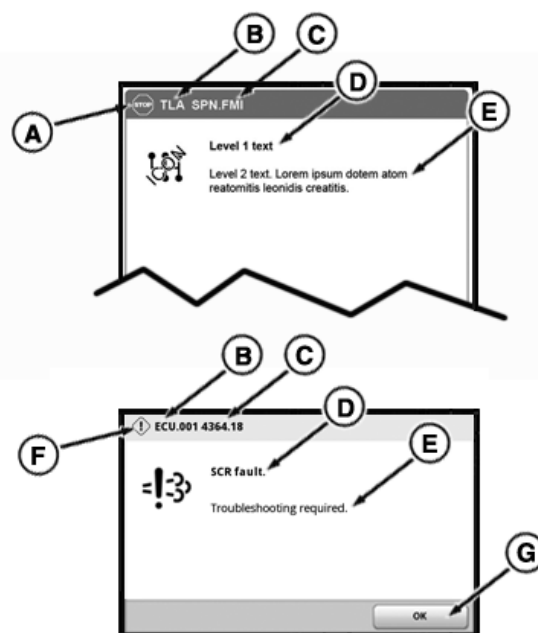
STOP Indicator (A): Light flashes and alarm sounds continuously. A serious malfunction has occurred, requiring immediate attention or the tractor will be damaged. Control unit (B), diagnostic trouble code (C), system (D) and solution (E) are identified on CommandCenter™. When control unit detects a malfunction or condition "out of range", a diagnostic trouble code containing the control unit followed by an industry standard number are displayed. Numbers to the left of the decimal indicate the malfunction and numbers to the right of decimal indicate the condition.

IMPORTANT: Engine will shut down automatically if STOP signal is received when operator is out of the seat for longer than 3 seconds and the transmission control is in PARK. CommandCenter™ display can be reset by cycling key switch.

If situation allows to stop operations immediately, reduce engine speed to idle, then shut down engine and turn key ON to observe CommandCenter™ display for problem identification and solution. It may be necessary to access the stored codes, see Using Diagnostics, Stored Codes and CAN Statistics. Correct problem before restarting.

Service Alert Indicator (F): Light flashes and alarm sounds five times indicating a performance or operational problem has been detected, which must be resolved as soon as possible. Some Service Alert Indicators can be "acknowledged" and cleared by pressing OK button (G) CommandCenter™ display. If condition still exists, diagnostic trouble code may reappear later. Continued operations can cause a Service Alert to escalate into a STOP indicator. If appropriate corrective action is not taken soon (serviced, repaired, operated in a different

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Diagnostic Trouble Codes

- | | |
|---------------------------|---------------------------|
| A—STOP Indicator | E—Solution |
| B—Control Unit | F—Service Alert Indicator |
| C—Diagnostic Trouble Code | G—OK Button |
| D—System | |

manner), a significant reduction in performance and/or damage to machine will occur.

When Service Alert Indicator is displayed, place tractor in park and shut off engine.

Follow solution on CommandCenter™ or if situation cannot be corrected contact your John Deere™ dealer.

Continued on next page

SV81855,000012D -19-03JAN14-1/2

RXA0137743 —UN—11DEC13

Information (INFO) Indicator (A)

NOTE: All Information Indicators are accompanied by an informative message, diagnostic trouble code, and/or fault description shown on CommandCenter™.

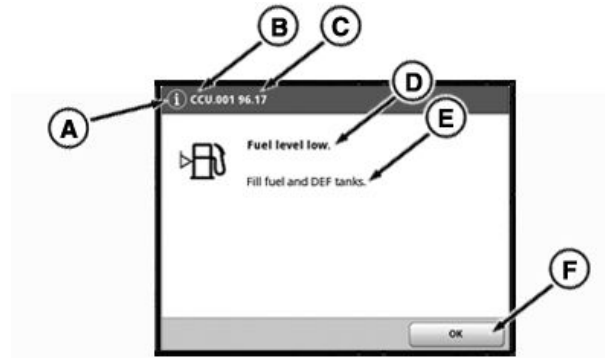
Light comes on continuously and alarm sounds for 2 seconds, indicating a fault condition. Tractor operations can continue without damage; but, performance of some functions may be degraded.

Operating in a different manner may correct and clear out of range condition. Some Information Indicators can be "acknowledged" and cleared by pressing OK button (F) CommandCenter™ display. If condition still exists, diagnostic trouble code may reappear later.

When Information Indicator is displayed, place tractor in park and shut off engine.

Follow solution on CommandCenter™ or if situation cannot be corrected contact your John Deere™ dealer.

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Diagnostic Trouble Code

A—Information Indicator	D—System
B—Control Unit	E—Solution
C—Diagnostic Trouble Code	F—OK Button

RXA0137695—UN—02JAN14

SV81855,000012D -19-03JAN14-2/2

Access Diagnostic Trouble Codes

NOTE: If problem is not resolved after cycling power to tractor, or following solution on CommandCenter™ page, see your John Deere™ dealer.

NOTE: Not all active DTC's are displayed. Follow steps to retrieve stored DTC's.

1. Select **Menu**.
2. Select **System tab**.
3. **Diagnostics Center icon**
4. Select **Trouble Codes tab**.
5. Select control unit (A) desired.
6. Select diagnostic code (B) for code display.

A—Control Unit

B—Diagnostic Code

RXA0133360 —UN—26JUL13

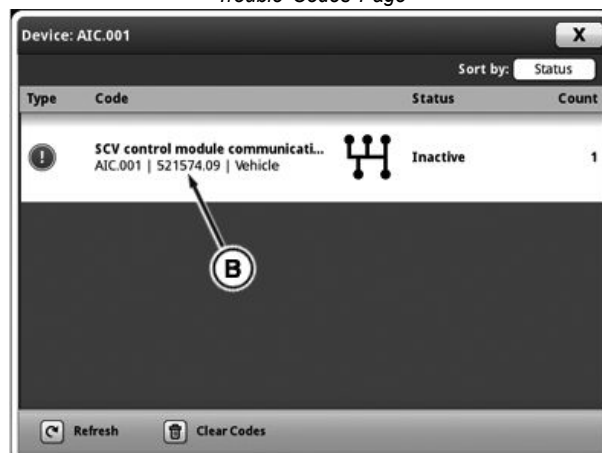


Menu → System Tab → Diagnostics Center Icon → Trouble Codes Tab



RXA0133359 —UN—26JUL13

Trouble Codes Page



RXA0133361 —UN—26JUL13

Diagnostic Trouble Code

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SV81855,000012E -19-29OCT14-1/1

Storage

Place Tractor in Storage

IMPORTANT: If tractor will not be used for more than three months, the following recommendations for storage and removal from storage will minimize corrosion and deterioration.

NOTE: Whenever possible store tractor in a building or under a roof to avoid damage resulting from prolonged exposure to the elements.

1. Thoroughly clean tractor, touching up any scratched or chipped painted surfaces.
2. Lower hitch.
3. Change engine oil and replace filter (if required).

NOTE: Do not add bio-diesel fuel if placing tractor in storage.

4. Drain fuel tank and add back approximately 19 L (5 gal) of fuel.

IMPORTANT: (Final Tier 4 and Stage IV Engines only) To determine which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.) Long term storage of Diesel Exhaust Fluid (DEF) in vehicle (over 6 months) is not recommended. If long term storage is necessary, periodic testing of DEF is recommended to ensure that urea concentration does not fall out of specification.

5. Final Tier 4 and Stage IV tractors: Diesel Exhaust Fluid (DEF) has a limited shelf life, but may be stored in vehicle for as long as 6 months, depending upon storage conditions. See Handling and Storing DEF in Fuel, Lubricants and Coolant section of this Operator's Manual. If draining DEF tank is necessary, see Draining DEF Tank in Fuel, Lubricants and Coolant section of this Operator's Manual for proper procedure.
6. Using plastic bags and either tape or tie-bands, seal air inlets and exhaust, crankcase vent tube, radiator overflow hose, and transmission-hydraulic system fill cap.

IMPORTANT: (Final Tier 4 and Stage IV Tractors)
To determine which engine your tractor is

equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.) Do not disconnect battery until Selective Catalytic Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If tractor is equipped with a battery disconnect system, a light will illuminate when SCR system is finished purging.

If tractor is not equipped with battery disconnect switch, wait at least 4 minutes after tractor stops before disconnecting battery.

7. Remove and store batteries in a cool, dry location. Keep batteries charged. Disconnect battery ground cable for short-term storage periods (20 to 90 days).
8. Coat all exposed (machined) metal surfaces (such as lift cylinders and steering cylinder rods) with light coat of grease.
9. Lubricate all grease fittings.
10. Release tension on auxiliary drive belt and remove belt from air conditioning compressor pulley.

If tractor must be stored outside, follow these additional precautions.

1. Cover instrument panel, control levers and seat with sheets of material or cardboard to protect against sun rays.
2. Thoroughly clean tractor touching up any scratched or chipped painted surfaces.
3. Wax or cover entire tractor with waterproof material.
4. Raise tires off ground and/or cover them to protect from heat and sunlight.

SV81855,000025E -19-29JUL14-1/1

Remove Tractor from Storage

1. Remove all coverings placed in or on tractor while preparing for storage.

IMPORTANT: To avoid engine damage, make sure crankcase vent tube is unsealed after storage.

2. Unseal all openings sealed during storage.
3. Remove any accumulated trash or debris, especially around engine and inside engine compartment.

IMPORTANT: If air conditioning compressor is locked up, engine operation with compressor clutch engaged may damage drive belt or compressor.

4. Rotate air conditioner compressor pulley several turns. If pulley does not turn freely, compressor components may be seized. See your John Deere™ dealer.
5. Check auxiliary drive belt for cracking and if serviceable, install auxiliary drive belt on air conditioner pulley.
6. Check under and around tractor for any evidence of fluid leaks.

IMPORTANT: If transmission-hydraulic oil level was correct at time of storage, and there is no evidence of hydraulic oil leaks, there should be no concern starting tractor even if transmission-hydraulic oil sight glass level is low. Over a period of storage, hydraulic oil may drain into transmission, causing sight glass to read low even when adequate amount of oil is available. If there are indications of oil leaks, do not start tractor until the source has been determined and repairs made. If there are no leakage indications, but there is any doubt about oil level at time of storage, check hydraulic oil level as soon as possible after starting tractor.

7. Check transmission-hydraulic oil level. Add oil as required.
8. Check all other fluid levels. Fill as required.

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9. Fill fuel tank.

IMPORTANT: To confirm which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

10. Final Tier 4 and Stage IV engine tractors: If Diesel Exhaust Fluid (DEF) tank has not been drained, test urea concentration, see Testing DEF in Fuel, Lubricants, and Coolant and section of this Operator's Manual. If concentration is not within specifications, drain and replace with new or good DEF. If DEF tank has been drained, fill tank. See Filling DEF Tank in Fuel, Lubricants and Coolant section of this Operator's Manual for appropriate procedures.
11. Inspect tires and check tire inflation pressures. (See Wheels, Tires and Treads sections of this Operator's Manual.)
12. Perform all Daily or 10 Hour service procedures and any other scheduled services as required. (See Maintenance and Service Intervals and Daily or 10 Hour Service sections of this Operator's Manual.)
13. Install batteries and connect cables.
14. Turn key to **RUN** position for one minute to allow fuel system to prime.
- NOTE: While operating engine at slow idle, visually check all instruments and indicators to ensure they function properly.*
15. Start and operate engine at slow idle for several minutes.
16. Check tractor functions and systems, including air conditioning.
17. Warm up tractor before putting tractor under load.

SV81855,00002BC -19-25JUN14-1/1

Paint Finish Care

1. Wash tractor regularly, particularly if it has been exposed to herbicides, pesticides, road salt or other chemical agents.
2. DO NOT wash tractor in direct sunlight.
3. DO NOT use strong soaps, chemical detergents, or cleaning agents containing acids, caustics, or abrasives. It is best to use commercially available car wash (non-detergent) products which will not remove protective wax, which may be applied to the paint finish.
4. All cleaning agents should be rinsed promptly and not be allowed to dry on the paint surface.
5. Waxing tractor occasionally is recommended to remove residue from and further protect the paint finish. DO NOT use waxes containing abrasive compounds.
6. Inspect paint surface during washing or waxing for chips and scratches. Repaint any areas where paint has been damaged.

Your John Deere™ dealer has a full line of cleaners, waxes, and touch-up paints to help enhance the paint finishes and which are compatible with your equipment.

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TO84419,0000212 -19-16JUN14-1/1

Specifications

Engine: John Deere™

	9370R	9420R	9470R	9520R
POWER:				
US EPA Final Tier4/EU Stage IV Engine ^a				
Rated Engine power PS (hp ISO) at 2100 engine rpm (97/68/EC) ^b	370 hp (272 kW)	420 hp (309 kW)	470 hp (346 kW)	520 hp (382 kW)
Rated Engine power PS ^c (hp ISO) at 2100 engine rpm (ECE-R24)	355 hp (261 kW)	403 hp (297 kW)	451 hp (332 kW)	499 hp (367 kW)
Rated PTO power (hp SAE) at rated engine speed (1895 erpm) ^{d,e}	335 hp (250 kW)			
Rated Engine Speed	2100 rpm			
Governed Speed Range	900—2200 rpm			
Operating Speed Range	1500—2100 rpm			
Slow Idle	900±10 rpm			
Fast Idle	2240±25 rpm			
ENGINE MANUFACTURER:				
US EPA Final Tier 4/EU Stage IV ^f	John Deere™ PowerTech™ 9.0 L PSS (B20 Diesel Compatible)	Not Available		
US EPA Final Tier 4/EU Stage IV ^g	Not Available	John Deere™ PowerTech™ 13.5 L PSS (B20 Diesel Compatible)		
Rated Speed	2100 rpm			
Type	Diesel, In-Line, 6-Cylinder, Wet-Sleeve Cylinder Liners With 4 Valves-In-Head			
Aspiration US EPA Final Tier 4/EU Stage IV ^a	Dual Series Turbocharger With Fixed Geometry First Stage-Variable Geometry Second Stage - Air-to-Air Aftercooling and Cooled Exhaust Gas Recirculation			
Filter, engine air	Dual Stage With Exhaust Aspiration			
Displacement	9.0 L (548 in. ³)	13.5 L (824 in. ³)		
Bore and stroke	118.4 mm (4.66 in.) x 136 mm (5.35 in.)	132 mm (5.20 in.) x 165 mm (6.50 in.)		
Compression Ratio	16.0:1			
Lubrication	Full Pressure, Full-Flow Filtration With Bypass			
Filter, Oil	Replaceable Cartridge Style Oil Filter	Replaceable Spin-On Style Oil Filter		
FUEL:				
Injection Pump Type:	Electronically Controlled, High-Pressure Common Rail With Electric Fuel Transfer Pump (Self Priming)	Electronically Controlled Unit Injectors, Electronic Governor (Self Priming)		
Filter System	Two Stage With Water Separator and Service Indicator Light			
Filter, Primary	10 Micron Replaceable Cartridge With Water Indication Sensor and Drain			
Filter, Secondary	2 Micron Spin-On Element			
Air Cleaner	Dry-Type with Secondary Element			
COOLING:				
Type	103kPa (1.03 bar) (15 psi)			
Fan Drive	Variable Ratio Belt Drive			
Thermostats	Two Heavy-Duty	Three Heavy-Duty (Two Large, One Small)		

^aEngines identified by letter "U" in the engine serial number. An example is RG6090UXXXXXX or RG6135UXXXXXX

^b97/68/EC power refers to average (50% MOE) net brake power measured and corrected for ambient conditions according to the EC emissions directive. It is equivalent to internal Deere Standard RES10080, and SAE Standards J1349, J1995.

^cGerman term for horse power in which one PS is equivalent to .9863 horse power

^dDoes not include optional equipment losses.

^e80% Factory Observed MOE value.

Continued on next page

SV81855,0000343 -19-05JAN15-1/2

Specifications

^fEngines identified by letter "U" in the engine serial number. An example is RG6090UXXXXXX

^gEngines identified by letter "U" in the engine serial number. An example is RG6135UXXXXXX

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SV81855,0000343 -19-05JAN15-2/2

Engine: QSX15 Cummins®

	9570R	9620R
POWER:		
US EPA Final Tier4/EU Stage IV Engine		
Rated Engine power PS (hp ISO) at 2100 engine rpm (97/68/EC) ^a	570 hp (419 kW)	620 hp (456 kW)
Rated Engine power PS ^b (hp ISO) at 2100 engine rpm (ECE-R24)	547 hp (402 kW)	595 hp (438 kW)
Rated PTO power (hp SAE) at rated engine speed (1895 erpm) ^{c,d}	335 hp (250 kW)	
Rated Engine Speed	2100 rpm	
ENGINE MANUFACTURER:		
US EPA Final Tier4/EU Stage IV	QSX15 Cummins® 15 L (912 cu. in.) (B20 Diesel Compatible)	
Rated Speed	2100 rpm	
Type	Diesel, In-Line, 6-Cylinder, Wet-Sleeve Cylinder Liners With 4 valves-in-head	
Aspiration US EPA Final Tier4/EU Stage IV	Single Variable geometry turbocharger air-to-air aftercooling and cooled exhaust gas recirculation	
Filter, engine air	Dual stage with exhaust aspiration	
Displacement	15 L (912 cu in.)	
Bore	137 mm (5.39 in.)	
Stroke	169 mm (6.65 in.)	
Compression Ratio	17.2:1	
Lubrication	Full-pressure, full-flow filtration with bypass	
Filter, Oil	Replaceable spin-on style oil filter	
FUEL:		
Injection Pump Type:	High Pressure Common Rail (self priming)	
Filter System	Two stage with water separator and service indicator light	
Filter, Primary	7 micron spin-on style with water in fuel sensor and drain	
Filter, Secondary	3 micron spin-on element	
Air Cleaner	Dual Stage with exhaust aspiration	
COOLING:		
Type	103 kPa (1.03 bar) (15 psi)	
Fan Drive	Hydraulic Drive	
Thermostats	One	

^a97/68/EC power refers to average (50% MOE) net brake power measured and corrected for ambient conditions according to the EC emissions directive. It is equivalent to internal Deere Standard RES10080, and SAE Standards J1349, J1995.

^bGerman term for horse power in which one PS is equivalent to .9863 horse power

^cDoes not include optional equipment losses.

^d80% Factory Observed MOE value.

KT81203,000013C -19-24AUG15-1/1

Specifications

Capacities

	9370R	9420R	9470R	9520R	9570R	9620R
CAPACITIES:						
Fuel Tank Fill	1173 L (310 gal.)			1514 L (400 gal.)		
Cooling System, ^a PowerTech™ PSS ^b	42 L (11.1 gal.)	63.5 L (16.8 gal.)			N/A	
Cooling System, ^a QSX15 Cummins™, US EPA Final Tier4/EU Stage IV	50 L (13.2 gal.)	56.5 L (14.9 gal.)			62 L (16.3 gal.)	
Crankcase, includes filter, PowerTech™ PSS ^b	34 L (9 gal.)	48.0 L (12.7 gal.)			43.5 L (11.5 gal.) ^c	N/A
QSX15 Cummins™, US EPA Final Tier4/EU Stage IV	Not Available			43.5 L (11.5 gal.) ^c		
DEF Tank (Final Tier 4/Stage IV Engine Only)	83 L (22 gal.)					
Hydraulic/transmission/axle oil without 3-point rear hitch and PTO	276 L (73 gal.)			220 L (58 gal.)		
Hydraulic/transmission/axle oil with 3-point rear hitch and PTO	284 L (75 gal.)			227 L (60 gal.)		
Hydraulic Reservoir Reference Marks						
FULL COLD Mark	93 L (24.5 gal.)					
MIN COLD Mark	81 L (21.5 gal.)					
High Volume Take Out Oil Mark (Dot half way up the sight tube) ^d	140 L (37 gal.)					
Transmission/Hydraulic Reservoir ^e						
SR Axles, Standard Flow Hydraulics	265 L (70 gal.)			Not Available		
SR Axles, High Flow Hydraulics	268.5 L (71 gal.)			Not Available		
DR Axles, Standard Flow Hydraulics	Not Available			208 L (55 gal.)		
DR Axles, High Flow Hydraulics	Not Available			212 L (56 gal.)		

^aIncludes deaeration tank capacity

^bEngines identified by letter "U" in the engine serial number. An example is RG6090UXXXXXX or RG6135UXXXXXX

^c41.6 L Crankcase, 1.9 Prefill Filter (11.0 gal. Crankcase, 0.5 gal. Pre-fill Filter)

^dFor applications requiring large volumes of oil (For example an Air Seeder)

^eSystem volume based on axle and hydraulic configuration.

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SV81855,0000344 -19-09SEP15-1/1

Specifications

Hydraulics

	9370R	9420R	9470R	9520R	9570R	9620R
HYDRAULIC SYSTEM:						
Type	Closed Center Pressure/Flow Compensated					
Selective Control Valves	4 (Standard), 5, 6 and 8 (Optional)					
Maximum Pressure	20,000 kPa (2900 psi)					
Maximum pump flow-base hydraulics	220 L/min (58 gpm)					
Maximum pump flow-high flow.	435 L/min (115 gpm)					
Available flow at a single SCV - 1/2" coupler	132 L/min (35 gpm)					
Approximate flow values @ 2100 Engine rpm	Approximate flow values @ 2100 Engine rpm					
Main Hydraulic Pump	Axial Piston					
Displacement	90cm ³ (5.4 in. ³)					
Available Flow Two 1/2" SCV's	220 L/min (58 gpm)					
Selective Control Valves 1/2" (SCVs)	Electro-hydraulic					
High Flow	Approximate flow values @ 2100 Engine rpm					
Main Hydraulic Pump	Axial Piston					
Displacement	90 cm ³ (5.4 in. ³)					
Second Hydraulic Pump	Axial Piston					
Displacement	85 cm ³ (5.2 in. ³)					
Available Flow Top Two 1/2" SCV's	215 L/min (57 gpm)					
Available Flow Bottom Three 1/2" SCV's	220 L/min (58 gpm)					
Available Flow at One 3/4" SCV I (3/4" SCV is Field Installed Only)	159 L/min (42 gpm)					

TO84419,0000348 -19-17MAR15-1/1

Electrical

	9370R	9420R	9470R	9520R	9570R	9620R
ELECTRICAL SYSTEM :						
Alternator/Battery	200 amps/12 Volt — 240 amps/12 Volt (Optional)					
Cold Cranking Amps	2775 (3 or 4-925 CCA)					
Batteries (In parallel, Negative ground)	3				4	

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Specifications

Hitch, Drawbar, and PTO

	9370R	9420R	9470R	9520R	9570R	9620R
3-POINT HITCH:	Electric-Hydraulic: 3 Point Hitch with Draft Sensing			N/A		
Category 4N/3with Quik-Coupler-All Axle Diameters Allowed	Optional: 6804 kg (15,000 lb.)			N/A		
Category 4N/3 with Quik-Coupler-120mm Axle Diameters	Optional: 9072 kg (20,000 lb.)			N/A		
Category 4/4N with Quik-Coupler-All Axle Diameters Allowed	Optional: 6804 kg (15,000 lb.)					
Category 4/4N with Quik-Coupler-120mm Axle Required	Optional: 9072 kg (20,000 lb.)					
DRAWBAR: ^a						
Category 4 with Standard Drawbar Support, 2470 kg (5450 lb.) Maximum Vertical Load	Standard			N/A		
Category 4 with HD Drawbar Support, 2470 kg (5450 lb.) Maximum Vertical Load	Optional			N/A		
Category 4 with HD Drawbar Support and reinforcement kit, 4990 kg (11000 lb.) Maximum Vertical Load	Field Installed Only			N/A		
Category 5 with Heavy-Duty Drawbar Support, 5440 kg (12000 lb.) Maximum Vertical Load	Optional			Standard		
POWER TAKE OFF (PTO): Independent						
1-3/4 in., 20-spline 1,000-rpm	Optional					

^aMaximum vertical load when drawbar is in short position.

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Specifications

Transmission and Power Train

	9370R	9420R	9470R	9520R	9570R	9620R
e18™ POWERSHIFT TRANSMISSION:						
e18™ Transmission with Efficiency Manager™	Standard					
Type	Electronically Activated Wet Disk Clutch					
Gear Selections, 40 kph (25 mph)	18 Forward, 6 Reverse with Efficiency Manager™					
AXLE FINAL DRIVES:	Inboard planetary with single reduction axles			Inboard planetary with double-reduction axles		
FRONT AND REAR AXLES:						
110 x 3048 mm (4.33 x 120 in.), Single Reduction Axles	Standard		N/A			
120 x 3048 mm (4.72 x 120 in.), (Dual Taper Hub)	Optional		Standard			
HydraCushion™ front axle suspension	N/A			Optional		Standard
DIFFERENTIAL LOCK:						
Full-Locking electrohydraulic	Standard					
STEERING:						
Hydraulic power-steering w/electric pump back-up	Standard					
Active Command Steering (ACS)	Optional					
BRAKES:						
Hydraulic power, wet disc, self adjusting on front and rear axle	Standard					
Hydraulic Trailer Brakes	Optional					

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HydraCushion is a trademark of Deere & Company*

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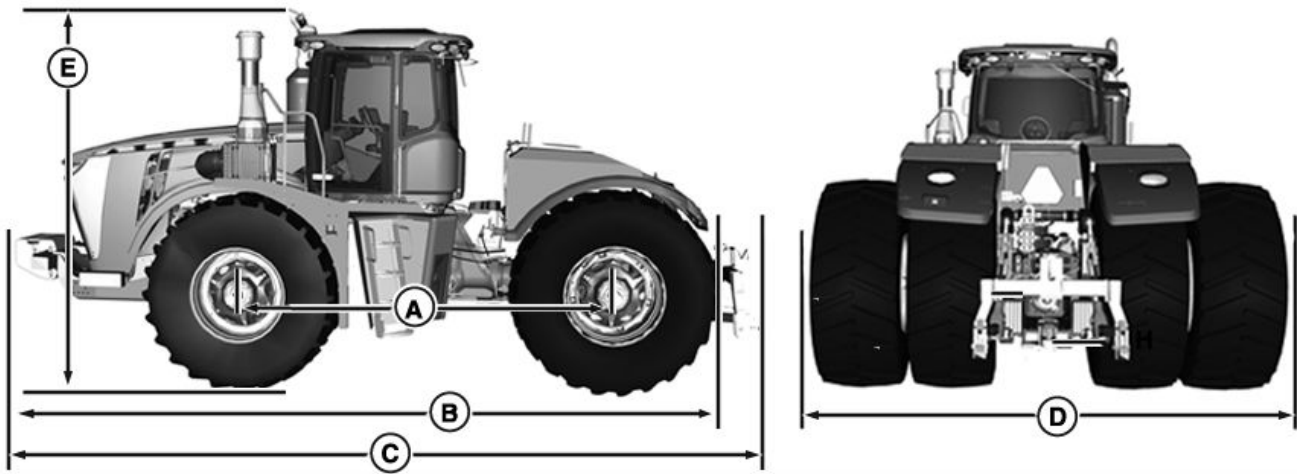
Other Equipment

	9370R	9420R	9470R	9520R	9570R	9620R
OTHER EQUIPMENT:						
AutoTrac™ Ready	Standard					
Modular Telematics Gateway (MTG)	Available JDLink™ Ultimate and Ethernet Harness (Availability dependent upon destination)					
Service ADVISOR™ Remote	Capable with JDLink™ Select and Ultimate					
ISOBUS Implement Connection	Standard (ISO 11783)					
CommandCenter™ Video with 4100 Processor	Single video input (Tyco Connector PN 776536-1) for camera using PAL or NTSC signal. Integrated behind rear cab cover. Camera and extension harness available through parts.					
CommandCenter™ Video with 4600 Processor	Four video inputs (Tyco Connector PN 776536-1) for camera using PAL or NTSC signal. Integrated behind rear cab cover. Camera and extension harness available through parts.					

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JDLink is a trademark of Deere & Company
Service ADVISOR is a trademark of Deere & Company
CommandCenter is a trademark of Deere & Company

TO84419,0000384 -19-17MAR15-1/1

Overall Dimensions



RXA0143407—UN—14JUL14

	9370R ^a	9420R ^a	9470R ^a	9520R ^b	9570R ^b	9620R ^b
LENGTH:						
Wheelbase (A)	3807 mm (149.9 in.)			3912 mm (154 in.)		
Overall Length (with front weights) (excluding hitch and coupler) (B)	7593 mm (298.9 in.)			7697 mm (303 in.)		
Overall Length (with front weights) (including hitch and coupler) (C)	8311 mm (327.2 in.)			8416 mm (331.3 in.)		
OVERALL WIDTH:						
Axle Length	3048 mm (120 in.)					
Axle Diameter (std.)	110 mm (4.3 in.)	120 mm (4.7 in.)				
Axle Diameter (opt.)	120 mm (4.7 in.)	N/A				
Overall Width (with outside duals) (D)	4900 mm (192.9 in.)					
HEIGHT FROM GROUND:						
Top of Exhaust (E)	3666 mm (144.3 in.)	3979 mm (156.6 in.)			4135 mm (162.8 in.)	
TURNING RADIUS:						
Group 48 Tires	5547 mm (18.2 ft.)			6035 mm (19.8 ft.)		
GROUND CLEARANCE:						
Drawbar ^c	355.6 mm (14 in.)			419.1 mm (16.5 in.)		
Estimated Shipping Weight ^{d,e}	17,780 kg (39,200 lbs)	18,810 kg (41,470 lbs)	19,190 kg (42,310 lbs)	19,750 kg (43,550 lbs)	19,690 kg (43,420 lbs)	

Continued on next page

TO84419,0000214 -19-17MAR15-1/2

Specifications

	9370R ^a	9420R ^a	9470R ^a	9520R ^b	9570R ^b	9620R ^b
Estimated Shipping Weight ^{d,f}	17,370 kg (38,290 lbs)	18,250 kg (40,240 lbs)	18,635 kg (41,080 lbs)	19,200 kg (42,320 lbs)		Not Available
Maximum Ballast Level	22,105 kg (48,700 lbs)	22,105 kg (48,700 lbs)	24,721 kg (54,500 lbs)	27,216 kg (60,000 lbs)		

^aSingle Reduction Axle

^bDouble Reduction Axle

^cGround Clearances were calculated using Group 48 tires

^dTractor equipped with standard tires, no pto, no 3 point hitch

^eFinal Tier IV/Stage IV models

^fTier II/Stage II models

TO84419,0000214 -19-17MAR15-2/2

Loads and Weights - (on Tractors 9370R, 9420R, 9470R)

Tractor weights*:

* Details apply to a tractor equipped as follows:

- 800/70R38 Radial in Dual Configuration
- Inboard Planetary 3048 mm (120 in.) x 120 mm (4.72 in.) Single Reduction
- Standard Hydraulic
- 18 Speed Powershift™ Transmission
- Cast Main and Steel Dual
- 4 Deluxe Electrical Hydraulic Rear Remote SCV's
- Less PTO
- Shipping fuel in the tank (87 liter (23 gal))
- Group 48 Tires
- Passenger seat
- CAT 5 Drawbar (2 position with Heavy Duty Drawbar Support)
- Less Rear 3 -Point Hitch

Note: Different equipment, transmission versions and tire sizes affect the weight details.

	9370R	9420R	9470R
Maximum permissible static vertical load			
- CAT 4 with Standard Drawbar Support	2470 kg (5450 lb.)	2470 kg (5450 lb.)	2470 kg (5450 lb.)
- CAT 4 with Heavy Duty Drawbar Support.....	2470 kg (5450 lb.)	2470 kg (5450 lb.)	2470 kg (5450 lb.)
- CAT 5 Heavy Duty Drawbar Support	5440 kg (12000 lb.)	5440 kg (12000 lb.)	5440 kg (12000 lb.)
Estimated shipping weight	17370 kg (38290 lb.)	18250 kg (40240 lb.)	18635 kg (41080 lb.)
Maximum permissible front axle load	11,052 kg (24,365 lb.)	11,052 kg (24,365 lb.)	12,360 kg (27,249 lb.)
Maximum permissible rear axle load	11,052 kg (24,365 lb.)	11,052 kg (24,365 lb.)	12,360 kg (27,249 lb.)
Maximum permissible total weight	22105 kg (48700 lb.)	22105 kg (48700 lb.)	24721 kg (54500 lb.)

* Maximum permitted travel speed is 40 km/h (24.9 mph). At higher travel speeds, the maximum permissible static vertical load is limited to 2470 kg (5400 lb.).

NOTE: Traffic regulations in certain countries may restrict the permissible axle loads and total weight to figures lower than those quoted above.

GH15097,00007F7 -19-10DEC14-1/1

Loads and Weights - (on Tractors 9520R, 9570R, 9620R)

Tractor weights*:

Total weight 18842 kg (41540 lb)

* Details apply to a tractor equipped as follows:

- 800/70R38 Radial in Dual Configuration
- Heavy Duty 3048 mm (120 in.) x 120 mm (4.72 in.) Double Reduction
- Standard Hydraulic
- 18 Speed Powershift™ Transmission
- Cast Main and Steel Dual
- 4 Deluxe Electrical Hydraulic Rear Remote SCV's
- Less PTO
- Shipping fuel in the tank (87 liter(23 gal))
- Group 48 Tires
- Passenger seat
- CAT 5 Drawbar (2 position with Heavy Duty Drawbar Support)
- Less Rear 3 -Point Hitch

Note: Different equipment, transmission versions and tire sizes affect the weight details.

Maximum permissible static vertical load	9520R	9570R	9620R
- CAT 5 Heavy Duty Drawbar Support	5440 kg (12000 lb)	5440 kg (12000 lb)	5440 kg (12000 lb)
Maximum permissible front axle load	13,608 kg (30,000 lb.)	13,608 kg (30,000 lb.)	13,608 kg (30,000 lb.)
Maximum permissible rear axle load	13,608 kg (30,000 lb.)	13,608 kg (30,000 lb.)	13,608 kg (30,000 lb.)
Maximum permissible total weight	27216 kg (60000 lb)	272161 kg (60000 lb)	272161 kg (60000 lb)

* Maximum permitted travel speed is 40 km/h (24.9 mph). At higher travel speeds, the maximum permissible static vertical load is limited to 2000 kg (4400 lb).

NOTE: Traffic regulations in certain countries may restrict the permissible axle loads and total weight to figures lower than those quoted above.

GH15097,00007F8 -19-10DEC14-1/1

How to Calculate Permissible Mass (2010-52-EU)

Calculating permissible tractor mass and permissible trailer mass on the basis of the D value

EC-approved, dynamically tested trailer hitches are always provided with a D value. This is calculated as follows:

$$D = \frac{G * A * B}{A + B}, \text{ where}$$

D = D value of hitch

G = Gravitational constant 9.81 m/s²

A = Tractor mass

B = Trailer mass

To calculate trailer mass for a given D value and a given tractor mass, and to calculate tractor mass for a given D value and a given trailer mass, use the following formulas:

$$\text{Tractor mass } A = \frac{D * B}{G * B - D}$$

$$\text{Trailer mass } B = \frac{D * A}{G * A - D}$$

*NOTE: If when calculating A the product of G*B is less than the D value, or if when calculating B the product of G*A is less than the D value, then the result of this calculation is negative. Even so, the D value is sufficient for every combination of tractor mass and trailer mass.*

Example of how to calculate permissible trailer mass:

Given that: D value, D = 55 kN = 55000 N

Tractor mass A = 7000 kg

$$B = \frac{55000 \text{ N} * 7000 \text{ kg}}{9.81 \text{ m/s}^2 * 7000 \text{ kg} - 55000 \text{ N}} = 28163 \text{ kg}$$

Pay close attention to permissible towed mass and tractor mass!

GH15097,00007F9 -19-10JUL13-1/1

Sound Level

NOTE: The operator ear sound level is below the directive requirement of 86 dB(A) with the windows and door closed.

Maximum sound level at operator's ear	86 dB(A)	Measurement method in accordance with Directive 2009/76/EC (1), Supplement II
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RD47322,00007FA -19-15SEP14-1/1

Ground Speeds—e18™ Powershift Transmission

Travel speeds are at rated engine speed of 2100 rpm using maximum rolling circumference (RC).

		Group 47 Tires		Group 48 Tires	
		RC = 5850 mm (230 in.) ^a 18.4R46, 20.8R42, 480/80R46, 520/85R42, 620/70R42, 710/70R38		RC = 6165 mm (243 in.) ^a 480/80R50, 520/85R46, 620/70R46, 650/85R38, 710/70R42, 800/70R38	
Engine rpm	Gear	km/h	mph	km/h	mph
2100	1	4.0	2.5	4.1	2.6
2100	2	5.0	3.1	5.0	3.1
2100	3	5.5	3.4	5.6	3.5
2100	4	6.1	3.8	6.2	3.9
2100	5	6.8	4.2	6.8	4.3
2100	6	7.6	4.7	7.7	4.8
2100	7	8.4	5.2	8.5	5.3
2100	8	9.3	5.8	9.4	5.8
2100	9	10.3	6.4	10.4	6.5
2100	10	11.4	7.1	11.6	7.2
2100	11	12.6	7.9	12.8	8.0
2100	12	14.1	8.7	14.2	8.8
2100	13	15.6	9.7	15.7	9.8
2100	14	17.3	10.8	17.5	10.9
2100	15	21.4	13.3	21.6	13.4
2100	16	26.3	16.4	26.6	16.4
2100	17	32.4	20.1	32.7	20.2
2100	18	39.8	24.7	40.3	24.8
2100					
2100	R1	4.0	2.5	4.1	2.6
2100	R2	5.5	3.4	5.6	3.5
2100	R3	6.1	3.8	6.2	3.9
2100	R4	8.4	5.2	8.5	5.3
2100	R5	9.3	5.8	9.4	5.8
2100	R6	12.6	7.9	12.8	8.0
2100					

^aSpeed based on RC shown.

RD47322,0000216 -19-11SEP15-1/1

Required Emission-Related Information

Service Provider

A qualified repair shop or person of the owner's choosing may maintain, replace, or repair emission control devices and systems with original or equivalent replacement parts. However, warranty, recall, and all other services paid for by John Deere must be performed at an authorized John Deere service center.

DX,EMISSIONS,REQINFO -19-12JUN15-1/1

Limited Battery Warranty

NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.

To Secure Warranty Service

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

Free Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within 90 days of purchase will be replaced free of charge. Installation costs will be covered by warranty if (1) the unserviceable battery was installed by a John Deere factory or dealer, (2) failure occurs within 90 days of purchase, and (3) the replacement battery is installed by a John Deere dealer.

Pro Rata Adjustment

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship more than 90 days after purchase, but before the expiration of the applicable adjustment period, will be replaced upon payment of the battery's current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and chart below. Installation costs are not covered by warranty after 90 days from the date of purchase.

This Warranty Does Not Cover

Breakage of the container, cover, or terminals.

Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

Transportation, mailing, or service call charges for warranty service.

Limitation of Implied Warranties and Purchaser's Remedies

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

No Dealer Warranty

The selling dealer makes no warranty of its own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

Pro Rata Months of Adjustment

Warranty Code	Warranty Period
A	40 Months
B	36 Months
C	24 Months

NOTE: If your battery is not labeled with a warranty code, it is a warranty code "B".

DX,BATWAR,NA -19-16APR92-1/1

Identification Numbers

Identification Plates

Each tractor has the identification plates shown on these pages. The letters and numbers stamped on the plates identify a component or assembly. ALL these characters are needed when ordering parts or identifying a tractor or component for any John Deere™ product support

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program. Also, they are needed for law enforcement to trace your tractor if it is ever stolen. ACCURATELY record these characters in the spaces provided in each of the following photographs.

TO84419,000021B -19-16JUN14-1/1

Record Product Identification Number

Identification data plate (A) is along right-hand tractor frame.

Product Identification Number

* _____ *

Product Identification Number (PIN): consists of 17 positions without spaces, dashes or other interruptions:

Positions 1-3: World Manufacturer Code (WMC) (e.g. 1RW)

Positions 4-7: Numeric portion of the tractor model number.

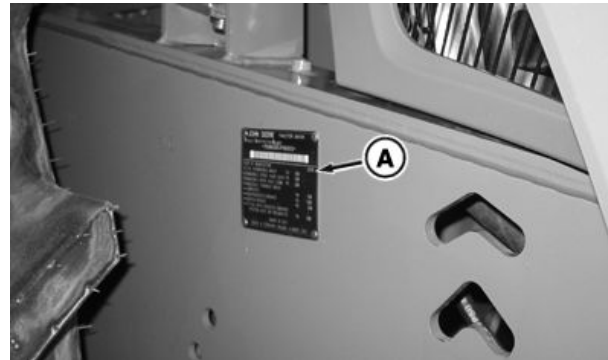
Position 8: Model identifier suffix (Additional machine information).

Position 9: Check letter calculated based on the values and positions of the other sixteen characters.

Position 10: Calendar year of manufacture is a letter identifying calendar year (not model year) of manufacture. Value of this character is specified in table.

Characters Used To Designate Year Of Manufacture Or Model Year			
Year	Code	Year	Code
2015	F	2016	G
2017	H	2018	J

Position 11: Transmission Option Code:



RXA0131490 —UN—22MAR13

A—Identification Data Plate

Configuration and Transmission Option Code	
P	Powershift Transmission

Positions 12: Additional Product Information provides supplemental information about the product configuration. Character in position 12 is a number from 0 to 7.

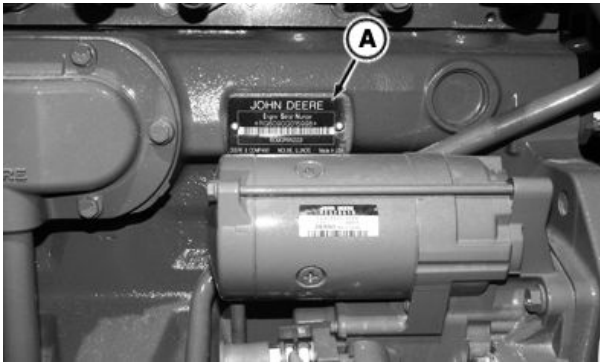
Positions 13-17: Sequential Serial Number will be a serialized number uniquely identifying a specific tractor within the same model designation.

Additionally: Asterisks (*) precede first character and follow last character of PIN to discourage tampering or altering. These asterisks are not part of the 17 - character PIN number.

SV81855,0000388 -19-11SEP15-1/1

Record Engine Serial Number

John Deere™ Engine Serial Plate



9.0 L Engine Serial Number Plate Location

RXA0142410 —UN—12JUN14



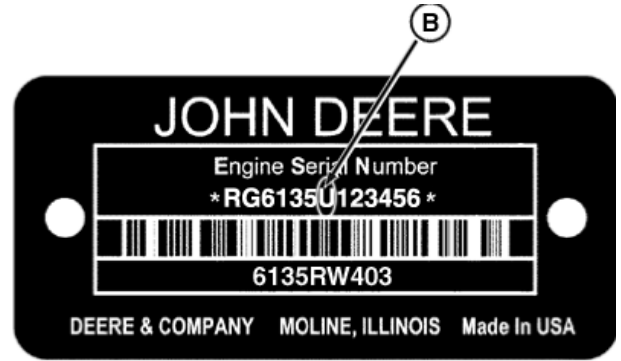
9.0 L Engine Serial Number Plate

RXA0139513 —UN—21FEB14



13.5 L Engine Serial Number Plate Location

RXA0141860 —UN—02JUN14



13.5 L Engine Serial Number Plate

RXA0139514 —UN—21FEB14

A—Engine Serial Number Plate Location **B—Engine Emissions Tier Level Code**

Identification plate (A) is on left-hand side of engine, near the starter.

Serial Number

Engine emission tier level is identified by seventh character (B) of the engine serial number.

Emission Tier Level	Seventh Character of Engine Serial Number
U.S. EPA Final Tier 4 and EU Stage IV	U

Continued on next page

SV81855,0000345 -19-26AUG15-1/2

Cummins® 15 L Engine Dataplate

Identification plate (A) is on left-hand side of engine valve cover.

Serial Number

* _____ *

The engine dataplate, on top of the rocker lever cover, provides the model identification and other important data about the engine.

Have the following engine data available when communicating with a Cummins® Authorized Repair Location. The information on the dataplate is **mandatory** when sourcing service parts:

1. Engine serial number (ESN)
2. Control parts list (CPL)
3. Model
4. Indicates the Emmisions Control Systems

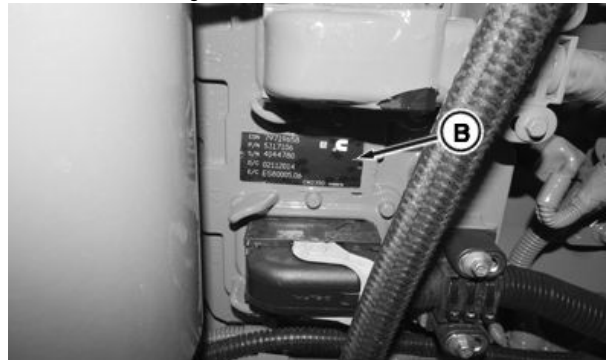
The Engine Control Module (ECM) Dataplate (B) is on left-hand side of engine, on front of the ECM.

The abbreviations on the dataplate are explained as follows:

- P/N = part number
- ESN = engine serial number
- S/N = serial number
- D/C = date code
- E/C = engine calibration



15 L Engine Serial Number Plate Location



15 L Engine Control Module (ECM) Dataplate

A—Engine Serial Number Plate B—Engine Control Module (ECM) Dataplate Location

SV81855,0000345 -19-26AUG15-2/2

Record Cab Serial Number

Identification plate (A) is located on cab floor panel, inside entry door and under the floor mat.

Serial Number

* _____ *

A—Identification Plate



TO84419,000021E -19-16JAN15-1/1

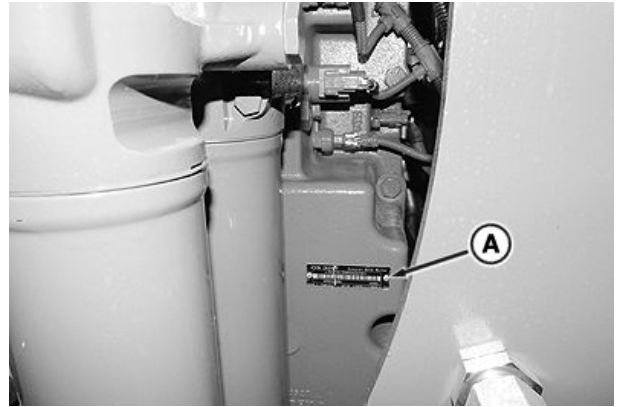
Record Transmission Serial Number

Identification plate (A) for Powershift is located on right-hand rear of transmission case, near the transmission filters.

Serial Number

* _____ *

A—Identification Plate



Powershift Transmission

TO84419,000021F -19-16JAN15-1/1

RXA0142107 —UN—05JUN14

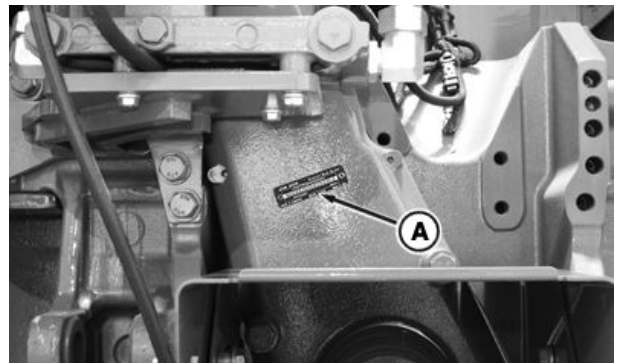
Record PTO Dropbox Serial Number

Identification plate (A) is on PTO drop box at rear of tractor.

Serial Number

* _____ *

A—Identification Plate



Record PTO Serial Number

TO84419,0000220 -19-16JAN15-1/1

RXA0142515 —UN—24JUN14

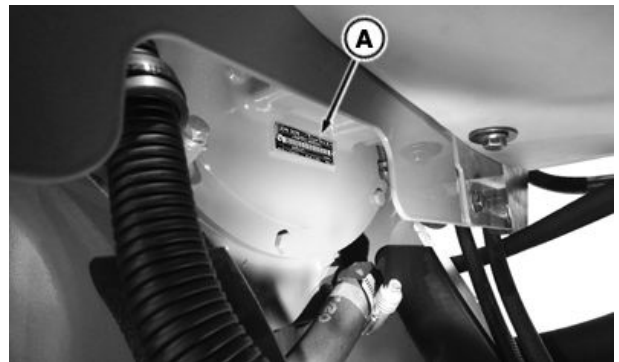
Record PTO Clutch Serial Number

Identification plate (A) is on PTO clutch in the gudgeon area.

Serial Number

* _____ *

A—Identification Plate



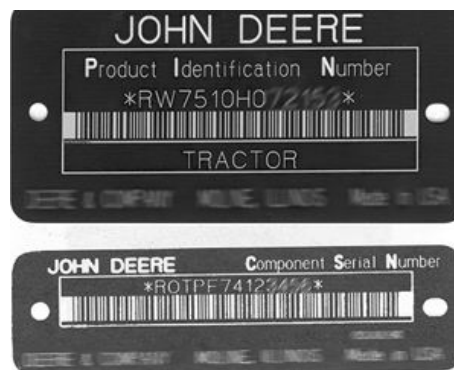
PTO Clutch Serial Number (Bottom View)

TO84419,0000221 -19-16JAN15-1/1

RXA0142514 —UN—24JUN14

Keep Proof of Ownership

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
 - Mark your machine with your own numbering system
 - Take color photographs from several angles of each machine

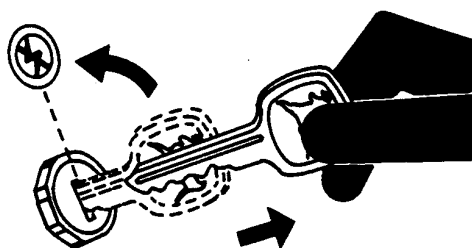


TS1680—UN—09DEC03

DX,SECURE1 -19-18NOV03-1/1

Keep Machines Secure

1. Install vandal-proof devices.
2. When machine is in storage:
 - Lower equipment to the ground
 - Set wheels to widest position to make loading more difficult
 - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
6. Notify your John Deere dealer of any losses.



TS230—UN—24MAY89

DX,SECURE2 -19-18NOV03-1/1

Lubrication and Maintenance Records

50 Hour Service Records

- Inspect Tires
- Lubricate Hinge Pins
- Lubricate Steering Pins (If Equipped)
- Lubricate Rear Hitch*

* Normal lubrication is 250 hours. If used daily, lubricate every 50 hours.

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

TO84419,0000224 -19-11MAR14-1/1

250 Hour Service Records

- Check manual brakes
- Check secondary brake
- Check neutral start system
- Check transmission PARK system
- Lubricate telescoping drive shafts

- Lubricate PTO drive shaft
- Lubricate heavy-duty gudgeon bearings
- Lubricate lower drive line bearing
- Lubricate rear hitch
- Lubricate lift cylinders and rockshaft.

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

SV81855,00002D1 -19-26MAR15-1/1

400 Hour Service Records

- Change engine oil and filter (15 L Engine Only)

- Replace fuel filters (15 L Engine Only)

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

SV81855,000027C -19-24SEP14-1/1

500 Hour Service Records

- Change engine oil and filter *
- Tighten wheel and weight bolts**
- Inspect drawbar support (tighten cap screws-if needed)
- Clean dual beam radar sensor
- Replace fuel filters ***
- Inspect air intake system for loose clamps and worn hoses
- Lubricate rear hitch draft sensor
- Lubricate Vari-Cool™ Fan Drive (FT4/Stage IV Engines)
- Back flush optional fuel water separator (If Equipped)
- Service optional fuel water separator filter element (If Equipped)
- Lubricate HydraCushion™ Front Axle (If Equipped)

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

* **SCHEDULED** oil and filter change interval is only allowed if using diesel fuel with sulfur content less than 15 mg/kg (15 ppm), John Deere™ Plus 50™ II oil and John Deere™ filter are used. If above conditions are not met, change oil and filter at 250 hours of operation, or even if all the conditions are met, change oil and filter at least

once every 12 months even if hours of operation are less than the otherwise recommended service interval.

** **INITIAL** tighten at 3 and 10 hours, and daily for first week of operation.

*** Interval can vary according to operating conditions.

Vari-Cool is a trademark of Deere & Company
HydraCushion is a trademark of Deere & Company

TO84419,0000226 -19-24APR15-1/1

1000 Hour Service Records

- Test coolant freeze point
- Check suspended front axle accumulator charge pressure
- Replace cab fresh air and recirculation filters

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

* Interval can vary according to operating conditions.

TO84419,0000227 -19-15JUN12-1/1

Annual Service Records

- Change engine oil and filter¹
- Service batteries and connections
- Test coolant freeze point
- Replace cab fresh air and recirculation filters
- Replace primary and secondary engine air filters
- Inspect seat belts
- Check HydraCushion™ suspended front axle accumulator charge pressure (If Equipped).

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

HydraCushion is a trademark of Deere & Company

¹Perform service at least once a year. Perform oil change in accordance with Engine Oil and Filter Service Intervals in Fuel, Lubricants and Coolant section of this Operator's Manual

TO84419,0000228 -19-14APR14-1/1

1500 Hour Service Records

- Change transmission, hydraulic, axle oil and filters*
- Clean aftertreatment fuel injector (15 L Engine)¹
- Replace radiator pressure cap (15 L Engine)
- Clean transmission sump screen
- Inspect fan belt and auxiliary drive belt tensioners
- Check axle end play**
- Lubricate draft link support shaft bushing
- Replace fuel tank vent filter
- Replace Diesel Exhaust Fluid (DEF) dosing unit filter (FT4/Stave IV Engines Only)
- Check HydraCushion™ suspended front axle accumulator charge pressure (If Equipped).

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

* Interval can vary according to operating conditions.

**** FOR HEAVY TILLAGE, FRONT BLADE, OR SCRAPER APPLICATION Check at 1500 hours.**

HydraCushion is a trademark of Deere & Company

¹See your John Deere™ dealer.

TO84419,0000229 -19-26MAR15-1/1

3000 Hour Service Records

- Adjust Engine Valve Clearance (9.0, 13.5 and 15 L FT4/Stage IV Engines Only)*
- Replace Transmission Drive Shaft Damper**
- Change crankcase breather filter element (15 L Engine Only)

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

* See your John Deere™ Dealer to perform this service.

** Normal service at 4500 Hours. Service at 3000 only if operating in heavy duty situations.

SV81855,00001BB -19-24SEP14-1/1

4500 Hour Service Records

- Replace transmission drive shaft damper*
- Replace Diesel Exhaust Fluid (DEF) dosing unit filter (FT4/Stage IV Engines Only)
- Replace Diesel Exhaust Fluid (DEF) tank vent filter (FT4/Stage IV Engines Only)

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

* Normal 4500 hours, service at 3000 hours if used for heavy duty operation

TO84419,000022B -19-29JUL14-1/1

6000 Hour Service Records

- Drain, flush, and refill cooling system and replace engine thermostat(s)

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

TO84419,000022D -19-30JUL14-1/1

Glossary

Glossary of Terms

Alternating Current	AC	Electrical current that reverses its direction at regularly recurring intervals
Air Conditioning	A/C	System used for conditioning the air in the cab
Accessory	ACC	Secondary electrical system
Air Quality System	AQS	System used to control conditioned air in the cab
Automatic Powershift Control System	APS	System used to control automatic transmission shifting
Armrest Control Unit	ACU	Armrest control used to control tractor functions
Cold Cranking Amperes	CCA	Refers to a battery's capability to perform during cold weather operation
Circulator Motor		Symbols for circulator motor speeds
	O	Medium Speed
	++	Fastest Speed
Chassis Control Unit	CCU	Computerized system for tractor monitoring
Component Technical Manual	CTM	Technical manual developed for the servicing of major components
Direct Current	DC	Electrical current flowing in one direction only
Engine Control Unit	ECU	Computerized system used to govern engine speed
Electro-hydraulic	EH	Refers to a hydraulic valve function that is controlled electrically
Electro-hydraulic Depth Control	EHDC	Abbreviation
Electro-hydraulic Selective Control Valve	EH SCV	Selective control valve operated with electrical solenoids
Gallons Per Minute	gpm	Amount of fluid over a period of one minute
Hitch Control Unit	HCU	Computerized system used to control hitch functions
High Intensity Discharge	HID	Type of field lights use for front lighting
High Pressure Common Rail	HPCR	Fuel injection system on the engine
Hitch Slip Command	HSC	Computerized system used to supplement hitch draft control
Ignition	IGN	Control for starting and stopping the tractor
Implement Management System	iTEC	Computerized system used to perform multi-functional tractor tasks
International Standards Organization	ISO	Standards organization
Mechanical Front Wheel Drive	MFWD	A powered front axle which is driven mechanically from the transmission
Number	No.	Abbreviation
Product Identification Number	PIN	Serial number relating to tractor identification
Powershift Transmission Control Software	PTP	Computerized system used to control transmission shift functions
Pressure Control Valve	PCV	Valve used to control pressure within a system
Powershift Transmission	PST	Abbreviation
Power Take-Off	PTO	Abbreviation
Revolutions Per Minute	rpm	Abbreviation
Society of Automotive Engineers	SAE	Standards Organization
Selective Control Valve	SCV	Device used to control remote hydraulic functions
Selective Control Unit	SCU	Computerized system used to control selective control valve functions for selective control valves 1, 2, and 3
Selective Control Option	SCo	Controller for selective control valves 4 and 5
Slow Moving Vehicle	SMV	Warning sign on the rear of the tractor
Set-Up Panel	SUP	Operator control panel used to set selective control valve function

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