6095B, 6110B, 6120B, and 6135B Tractors (OOS)

JOHN DEERE

OPERATOR'S MANUAL

6095B, 6110B, 6120B, and 6135B Tractors (OOS)

OMSU61433 ISSUE K1 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

John Deere (Tianjin) Co., Ltd.

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 may result in personal injury or equipment damage. This manual and safety signs on your machine also are available in other languages (see an authorized 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 (PIN) 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 the first 100 hours, schedule an after-sale inspection with your dealer to ensure best performance.

All tractors comply with the enterprise standard Q/12 JDTW 003—2018.

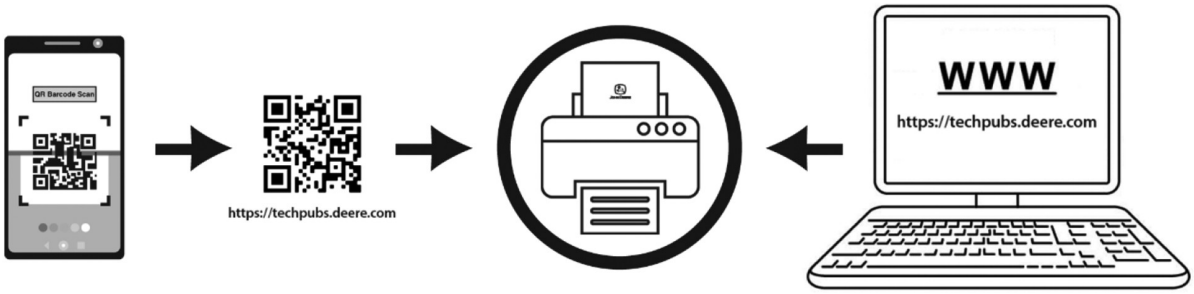
THIS TRACTOR IS DESIGNED SOLELY for use in plowing, raking, rototilling, seeding, intertilling, field transporting, or similar operations ("INTENDED USE"). Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from this 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.

If you are not the original owner of this machine, it is in your interest to contact a local authorized John Deere dealer to inform them of this unit's serial number. This helps John Deere notify you of any issues or product improvements.

N400041,0003ED8-19-18DEC18

Download Instructions



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Les instructions, les manuels et autres documents peuvent être téléchargés à cette adresse: www.techpubs.deere.com. Scanner le QR code via un appareil mobile mène automatiquement au site.
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Anleitungen, Handbücher und andere Dokumente können unter www.techpubs.deere.com heruntergeladen werden. Durch Scannen des QR-Codes mit einem Mobilgerät wird man automatisch zur Webseite weitergeleitet.
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Continued on next page

Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Product View

CPA0007641—UN—17DEC18

John Deere 6B OOS Tractor

NOTE: Tractor shown has optional equipment.

N400041,0003ED9-19-11DEC18

Trademarks

Trademarks	
AutoTrac™	Trademark of Deere & Company
Bio Hy-Gard™	Trademark of Deere & Company
Break-In Plus™	Trademark of Deere & Company
Break-In™	Trademark of Deere & Company
COOL-GARD™	Trademark of Deere & Company
CoolScan™	Trademark of Deere & Company
GREASE-GARD™	Trademark of Deere & Company
GreenStar™	Trademark of Deere & Company
Hy-Gard™	Trademark of Deere & Company
Oilscan™	Trademark of Deere & Company
Plus-50™	Trademark of Deere & Company
PowrReverser™	Trademark of Deere & Company
Roll-Gard™	Trademark of Deere & Company
SERVICEGARD™	Trademark of Deere & Company
TEFLON®	Trademark of Du Pont Co.
Torq-Gard™	Trademark of Deere & Company
StarFire™	Trademark of Deere & Company

N400041,0003F40-19-20DEC18

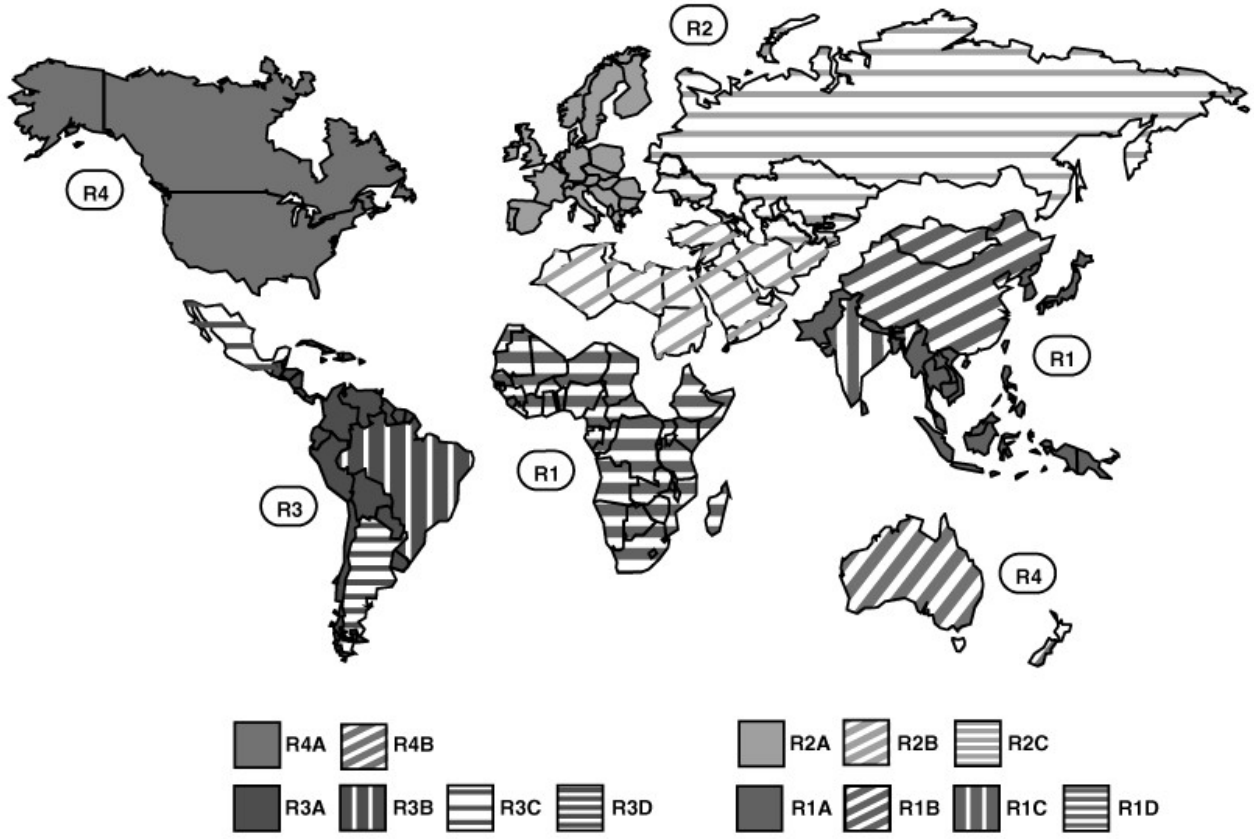
Glossary of Terms

ITEM	ABBREVIATION	DESCRIPTION
Accessory	ACC	Secondary electrical system
Alternating Current	AC	Electrical current that reverses its direction at regularly recurring intervals
Controller Area Network	CAN	A communication system linking on-board electronics
Chassis Control Unit	CCU	Computerized system for the tractor monitoring
Cold Cranking Amperes	CCA	Battery capability to perform during cold-weather operation
Direct Current	DC	Electrical current flowing in one direction only
Engine Control Unit	ECU	Electronic device used to house computerized system that controls engine functions
Forward-Neutral-Reverse	FNR	Abbreviation
Gallons per Minute	gpm	Amount of fluid displaced over a period of one minute
High-Pressure Common Rail	HPCR	Abbreviation
Ignition	IGN	Control for starting and stopping the tractor
Instrument Cluster Control Unit	ICC	Computerized system used to control instrument cluster functions
International Standards Organization	ISO	Standards organization
Liquid Crystal Display	LCD	A technology used for displaying information
Manifold Air Pressure	MAP	Air Pressure measured at engine air intake
Mechanical Front Wheel Drive	MFWD	A mechanically powered front axle
Negative	Neg (-)	Electrical Ground Circuit
Number	No.	Abbreviation
Open Operator Station	OOS	Abbreviation
Positive	Pos (+)	Charged part of an electrical circuit
Potentiometer	POT	A device used to vary electrical voltage
PowrReverser™ Plus	HLPR	24 forward and 12 reverse transmission; 3-speed gear case, 4-speed range box, and two-direction clutch pack with two clutches which produce high and low speed for every set of speed gear.
Power Take-Off	PTO	Abbreviation

ITEM	ABBREVIATION	DESCRIPTION
PowerTech™ E	PTE	Electronically controlled fuel injection
PowerTech™ M	PTM	Mechanical controlled fuel injection
Product Identification Number	PIN	Serial number relating to tractor identification
Region 1	R1	Asian and Sub-Saharan Africa
Reverse	Rev	Direction of movement
Revolutions per Minute	rpm	Abbreviation
Roll-Over Protective Structure	ROPS	Abbreviation
Selective Control Valve	SCV	Device used to control remote hydraulic functions
Specification	Spec	Abbreviation
Three-Point Hitch	3 PT	Abbreviation
Transmission	Trans	Abbreviation
Voltage (Volts)	V	Abbreviation

CO00263,0001C52-19-18DEC18

Regions and Country Versions



RXA0150915—UN—01FEB16

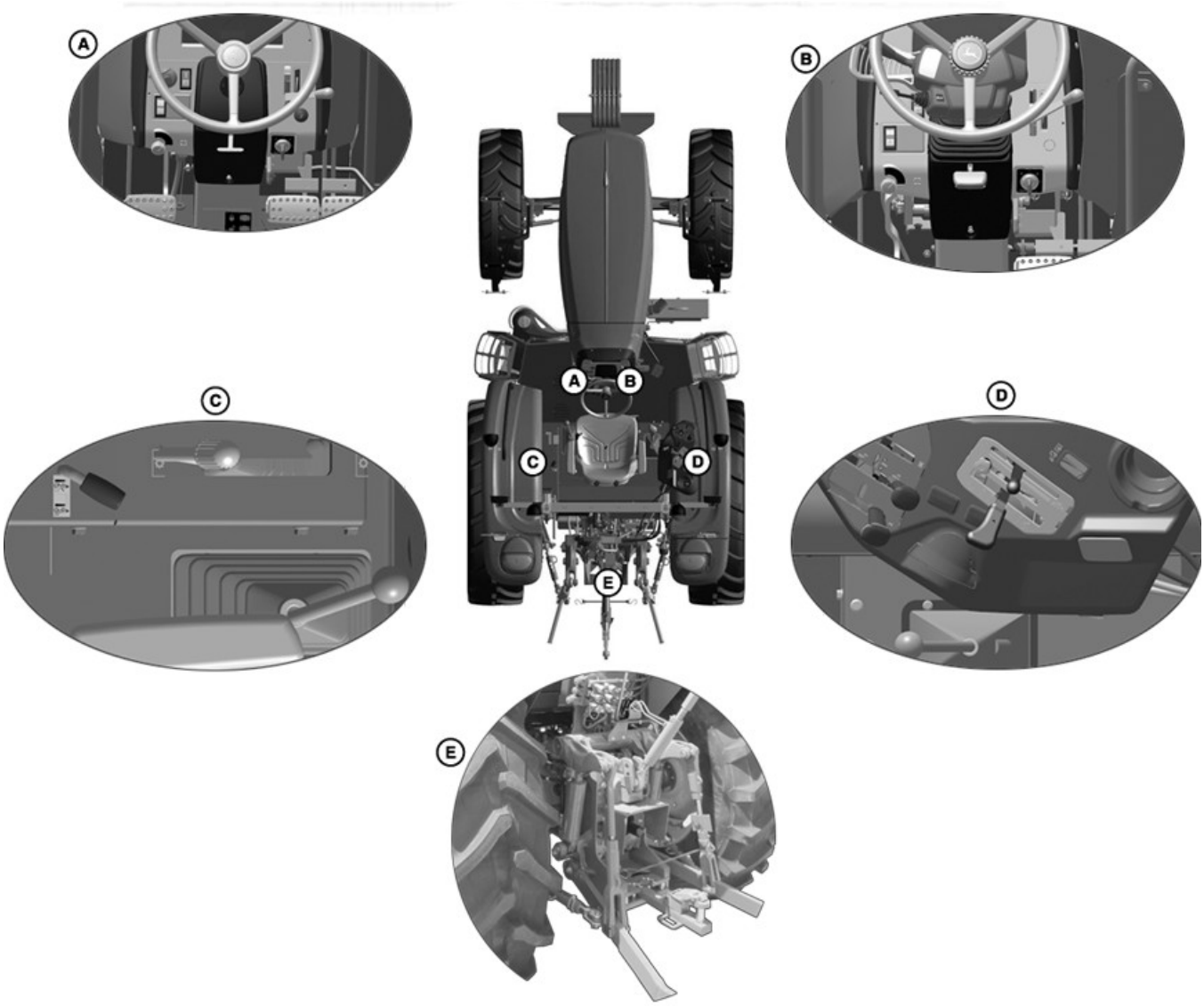
R1—Asia and Sub-Saharan Africa
R1A—Far East, Sri Lanka, and Pakistan
R1B—China
R1C—India
R1D—Sub-Saharan Africa
R2—Europe, North Africa, Mid East, CIS
R2A—European Union (EU 28+)
R2B—North Africa and North Middle East (NANME)
R2C—Common Wealth of Independent States (CIS)
R3—Central and South America
R3A—Latin America (JDLA)
R3B—Brazil
R3C—Mexico
R3D—Argentina
R4—North America
R4A—USA and Canada
R4B—Oceania (Australia and New Zealand)

Regions 1, 2 and 3 equipment is traditionally manufactured with Economic Commission for Europe (ECE) features or systems.	**Region 4 equipment is traditionally manufactured with Society of Automotive Engineers (SAE) features or systems.**
Drive and signal lighting, traffic signs, safety signs, and braking features are some of the systems that differ between ECE and SAE. For example, Text-Free (pictorial only) safety signs are used for ECE while Texts with Picture safety signs are used on SAE. Use information previous, if equipment information is identified by regions, countries, trade federations, industry standards, or governmental regulations.	

N400041,0003F41-19-20DEC18

Machine Overview

IMPORTANT: 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.



CPA0007644—UN—17DEC18

A—Front Console Controls (standard)
B—Front Console Controls (premium)
C—Left Side Controls
D—Right Side Controls
E—Rear Hitch

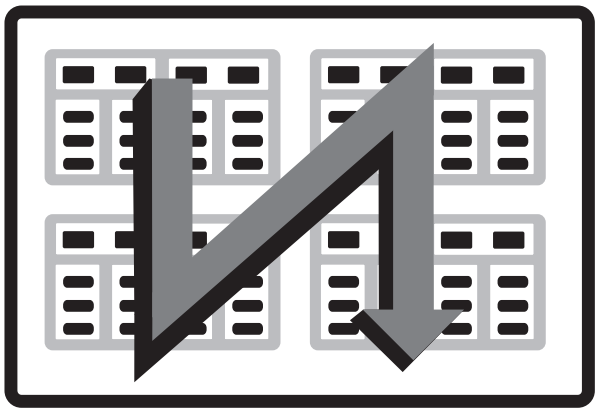
Operating the Machine Introduction:

- Sit in the operator's seat and fasten seat belt.
- Start engine. (See Engine Operation section.)
- Turn on lights or signals as required. (See Electrical and Lighting Operation section.)
- Move machine by operating transmission. (See Transmission Operation section.)
- Use steering and brakes as required. (See Steering and Brake Operation section.)
- Activate features and implements as required. (See Operational sections.)

Preliminary Overview

Using the following list as a reminder to inspect items before operation. Detailed operation and service information is available in Operational and Maintenance sections.

- Review manual and machine for safety information and safety signs.
- Review manual for proper operation, adjustment, and service.
- Review manual for engine and drivetrain operations. (Throttles, brakes, steering, transmission gears, MFWD, and differential Lock.)
- Review manual for control devices (hitch, hydraulic, and electrical).
- Review manual for regular lubrication points and intervals.
- Check for visual signs of leaks, damage, failures, and flats.
- Prepare machine hardware, fuel, fluids, lubricants, air, and daily maintenance.
- Check and prepare implements or attachments according to implement or attachment Operator's Manuals.



W28329—UN—18OCT17

Sequential Reading

N400041,0003F42-19-20DEC18

Using this Manual:

The information provided in this manual is divided into sections. The sections organization are organized by typical machine features or functional systems. These sections are identified at the top of each page. Specific information within each section is organized into modules. These modules are enclosed in boxes and a heading at the top left identifies the main modules. Page numbers identify the section as well as the number of the page in the section.

By reviewing this manual frequently you will learn which section to turn to for specific information. For example:

- Safety information is at the beginning
- Operation of all features and systems are in the first half of the manual
- Maintenance Intervals are in the middle of the manual
- Maintenance of all the features and systems are in the second half of the manual,
- Specifications are at the end

A detailed table of contents appears before Safety information and there is an alphabetical index at the very end of the manual.

The Operator's Manual content flows as sequential reading down one column of text and graphic then over to the top of the next column as shown.

Recognize Safety Information

T81389—UN—28JUN13

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-19-03OCT22

Understand Signal Words

TS187—19—30SEP88

DANGER; The signal word DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION; The signal word CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events which could lead to personal injury.

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.

DX,SIGNAL-19-05OCT16

Passenger Seat

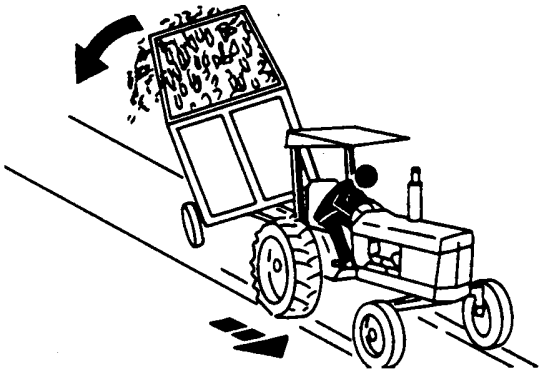
TS1730—UN—24MAY13

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 transporting a passenger provided by John Deere.

DX,SEAT,EU-19-28FEB17

Towing Trailers/Implements Safely



TS216—UN—23AUG88

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.

When towing a trailer, become familiar with the braking characteristics and ensure the compatibility of the tractor/trailer combination in regard to the deceleration rate.

Stay clear of area between tractor and trailed vehicle.

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)
Single-line hydraulic brake	25 km/h (15.5 mph)
Dual-line hydraulic brake	40 km/h (25 mph)
Single-line air brake	25 km/h (15.5 mph)

Trailer/Implement Brake System	Top Speed
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-19-28FEB17

Vibration

All operator‘s seats approved by John Deere are component type-approved in accordance with 78/764/EEC or (EU) 1322/2014 Annex XIV, being allocated an average of the vibration acceleration actually measured at the seat (a_{wS}), equivalent to ≤ 1.25 m/s^2.

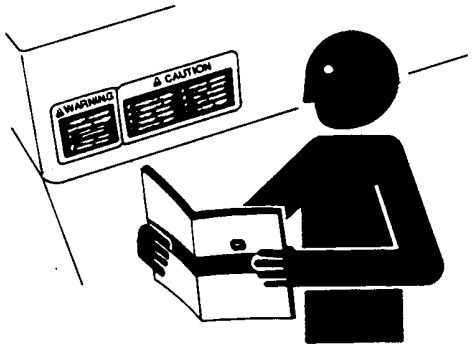
This value must NOT be used to calculate vibration stress as per 2002/44/EC! Local John Deere dealers can provide assistance in assessing vibration stress.

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-19-28FEB17

Follow Safety Instructions



TS201—UN—15APR13

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.

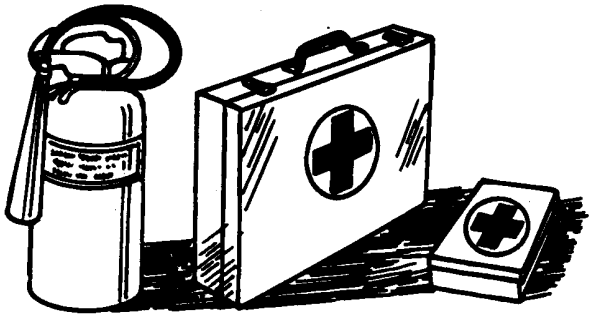
Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

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-19-01AUG22

Prepare for Emergencies



TS291—UN—15APR13

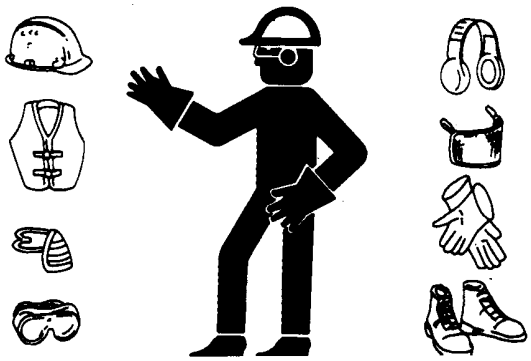
Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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

DX,FIRE2-19-03MAR93

Wear Protective Clothing



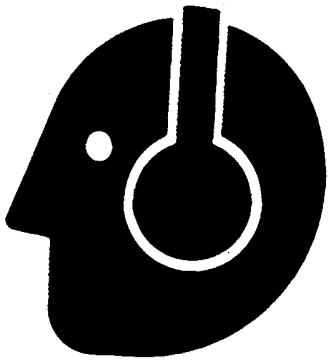
TS206—UN—15APR13

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.

DX,WEAR2-19-03MAR93

Protect Against Noise



TS207—UN—23AUG88

There are many variables that affect the sound level range, including machine configuration, condition and maintenance level of the machine, ground surface, operating environmental, duty cycles, ambient noise, and attachments.

Exposure to loud noise can cause impairment or loss of hearing.

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

DX,NOISE-19-03OCT17

Handle Fuel Safely—Avoid Fires

TS202—UN—23AUG88

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

Handle Starting Fluid Safely

TS1356—UN—18MAR92

Starting fluid is highly flammable.

Keep all sparks and flame away when using it. Keep starting fluid away from batteries and cables.

To prevent accidental discharge when storing the pressurized can, keep the cap on the container, and store in a cool, protected location.

Do not incinerate or puncture a starting fluid container.

Do not use starting fluid on an engine equipped with glow plugs or an air intake heater.

DX,FIRE3-19-14MAR14

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

In Case of Fire

TS227—UN—15APR13

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.

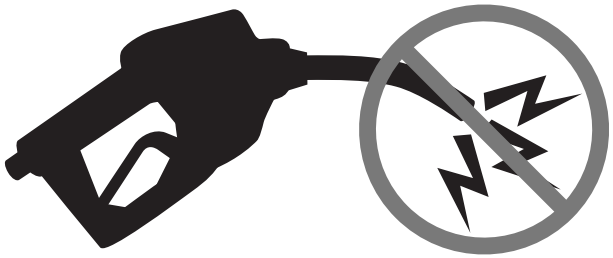
If your extinguisher does not have instructions, follow these general guidelines:

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

Avoid Static Electricity Risk When Refueling

RG22142—UN—17MAR14



RG21992—UN—21AUG13

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.

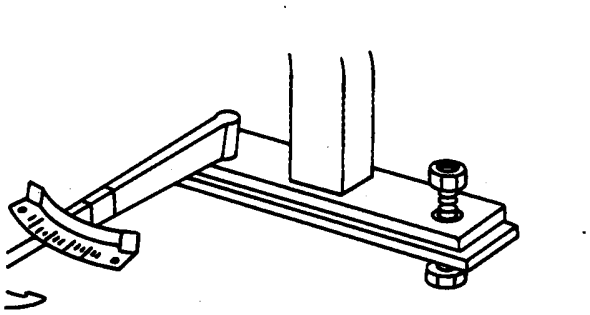
Static charges can build up in ULSD fuel while it is flowing through fuel delivery systems. Static electricity discharge when combustible vapors are present could result in a fire or explosion.

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

Keep ROPS Installed Properly



TS212—UN—23AUG88

Make certain all parts are reinstalled correctly if the roll-over protective structure (ROPS) is loosened or removed for any reason. Tighten mounting bolts to proper torque.

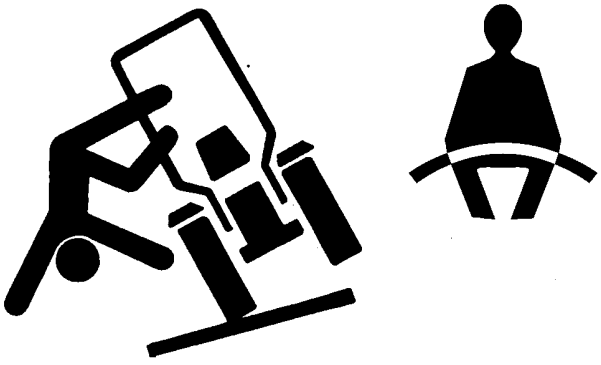
The protection offered by ROPS will be impaired if ROPS is subjected to structural damage, is involved in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS should be replaced, not reused.

The seat is part of the ROPS safety zone. Replace only with John Deere seat approved for your tractor.

Any alteration of the ROPS must be approved by the manufacturer.

DX,ROPS3-19-12OCT11

Use Foldable ROPS and Seat Belt Properly



TS1729—UN—24MAY13

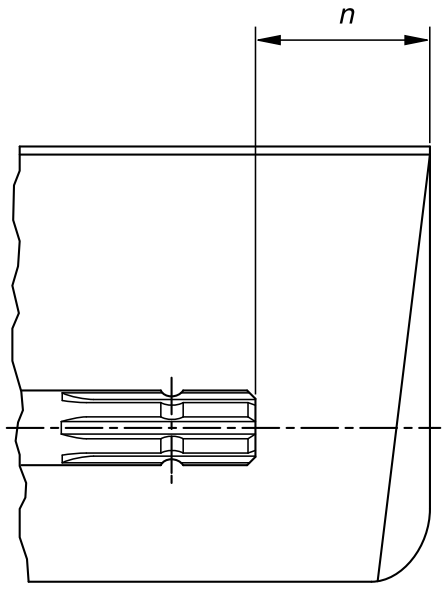
Avoid crushing injury or death during rollover.

- 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.

DX,FOLDROPS-19-22AUG13

Stay Clear of Rotating Drivelines

TS1644—UN—22AUG95



H96219—UN—29APR10

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.

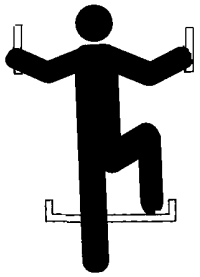
Do not install any adapter device between the tractor and the primary implement PTO drive shaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

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 ± 5 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	38 mm (1.496 in)	8	85 mm (3.35 in)

CO00263,00009C0-19-23JAN18

Use Steps and Handholds Correctly



T133468—UN—15APR13

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.

DX,WW,MOUNT-19-12OCT11

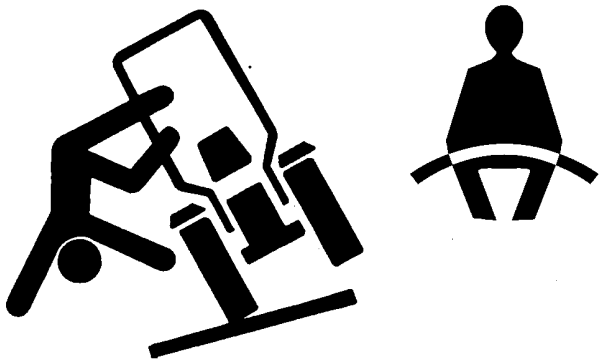
Read Operator's Manuals for ISOBUS Controllers

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. 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

Use Seat Belt Properly



TS1729—UN—24MAY13

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

DX,ROPS1-19-22AUG13

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.

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- Operators must be mentally and physically capable of accessing the operator's station and/or controls, and operating the machine properly and safely.
- Never operate machine when distracted, fatigued, or impaired. Proper machine operation requires the operator's full attention and awareness.
- 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.
- Follow the instructions outlined in the operator's manual of any mounted or trailed machinery or trailer. Do not operate a combination of tractor-machine or tractor-trailer unless all instructions have been followed.
- Make sure that everyone is clear of machine, attached equipment, and work area before starting engine or operation.
- Stay clear of the three-point linkage and pickup hitch (if equipped) when controlling them.
- Keep hands, feet, and clothing away from power-driven parts.

Driving Concerns

- Never get on or off a moving tractor.
- Complete any required training prior to operating vehicle.
- 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 a 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.
- Stability degrades when attached implements are at high position.
- Couple brake pedals together for road travel.
- Pump brakes when stopping on slippery surfaces.
- Regularly clean fenders and fender valances (mud flaps) if installed. Remove dirt before driving on public roadways.

Heated and Ventilated Operator's Seat

- An overheated seat heater can cause a burn injury or damage to the seat. To reduce the risk of burns, use caution when using the seat heater for extended periods of time, especially if the operator cannot feel temperature change or pain to the skin. Do not place objects on the seat, such as a blanket, cushion, cover, or similar item, which can cause the seat heater to overheat.

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, place implement/attachment control devices in neutral, and securely engage park mechanism, including the park pawl and park brake. In addition, if the 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 are:

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

DX,WW,TRACTOR-19-08MAY19

Avoid Backover Accidents

PC10857XW—UN—15APR13

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.

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

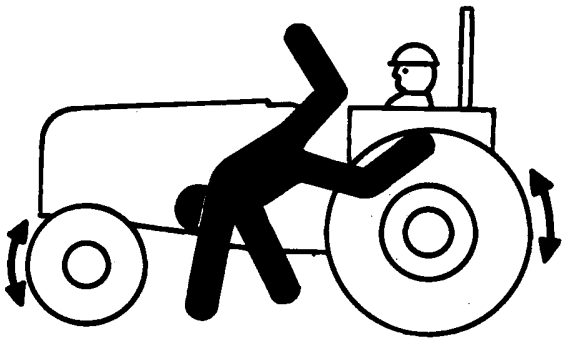
Limited Use in Forestry Operation

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

Keep Riders Off Machine



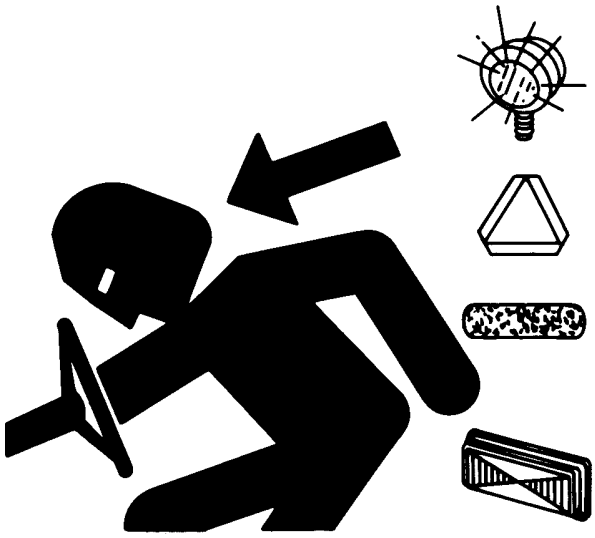
TS290—UN—23AUG88

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

Use Safety Lights and Devices



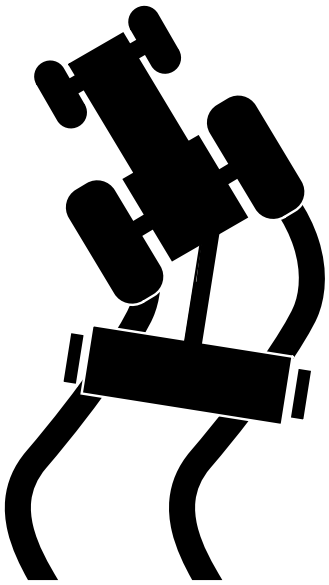
TS951—UN—12APR90

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.

DX,FLASH-19-07JUL99

Transport Towed Equipment at Safe Speeds



TS1686—UN—27SEP06

Do not exceed the maximum transport speed. This towing unit may be capable of operating at transport speeds that exceed the maximum allowable transport speed for towed implements.

Before transporting a towed implement, determine from signs on the implement or information provided in the implement's operator manual the maximum transport speed. Never transport at speeds that exceed the implement's maximum transport speed. Exceeding the implement's maximum transport speed can result in:

- Loss of control of the towing unit/implement combination
- Reduced or no ability to stop during braking
- Implement tire failure
- Damage to the implement structure or its components

Implements shall be equipped with brakes if the maximum fully loaded weight is greater than 1500 kg (3307 lbs) and greater than 1.5 times the weight of the towing unit.

Example: Implement mass is 1600 kg (3527 lbs) and towing unit mass is 1600 kg (3527 lbs), example implement is not required to have brakes.

Implements without brakes: Do not transport at speeds greater than 32 km/h (20 mph).

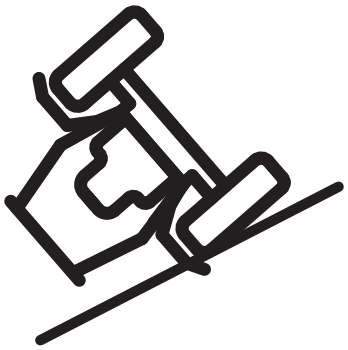
Implements with brakes:

- If the manufacturer does not specify a maximum transport speed, do not tow at speeds greater than 40 km/h (25 mph).
- When transporting at speeds up to 40 km/h (25 mph) the fully loaded implement must weigh less than 4.5 times the towing unit weight.
- When transporting at speeds between 40—50 km/h (25—31 mph) the fully loaded implement must weigh less than 3.0 times the towing unit weight.

When towing a trailer, become familiar with the braking characteristics and ensure the compatibility of the tractor/trailer combination in regard to the deceleration rate.

DX,TOW1-19-28FEB17

Use Caution on Slopes, Uneven Terrain, and Rough Ground



RXA0103437—UN—01JUL09

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 the 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.

Uneven terrain or rough ground can cause loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on uneven terrain or rough ground 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.

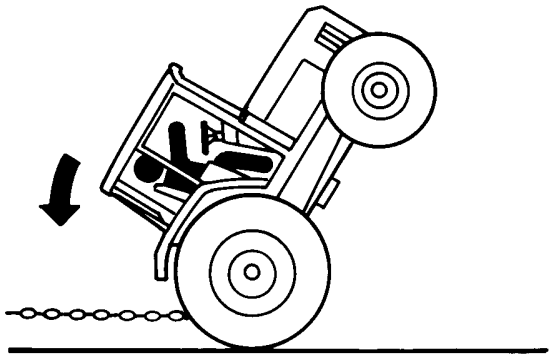
Avoid starting, stopping, or turning on a slope. If the tires

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-19-28FEB17

Freeing a Mired Machine



TS1645—UN—15SEP95

TS263—UN—23AUG88

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.

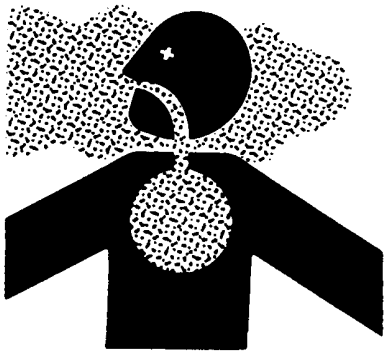
Back your tractor out if it gets mired down in mud. Unhitch any towed implements. Dig mud from behind the rear wheels. Place boards behind the wheels to provide a solid base and try to back out slowly. If necessary, dig mud from the front of all wheels and drive slowly ahead.

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,MIRED-19-07JUL99

Avoid Contact with Agricultural Chemicals



TS220—UN—15APR13

TS272—UN—23AUG88

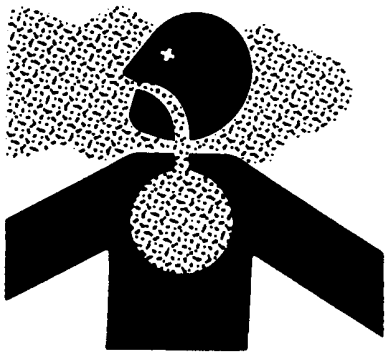
This enclosed cab does not protect against inhaling vapor, aerosol or dust. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.

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.

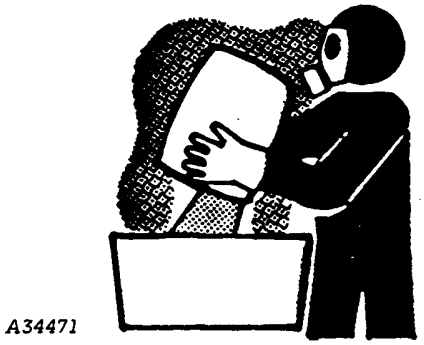
Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.

DX,CABS-19-25MAR09

Handle Agricultural Chemicals Safely



TS220—UN—15APR13



A34471—UN—11OCT88

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.

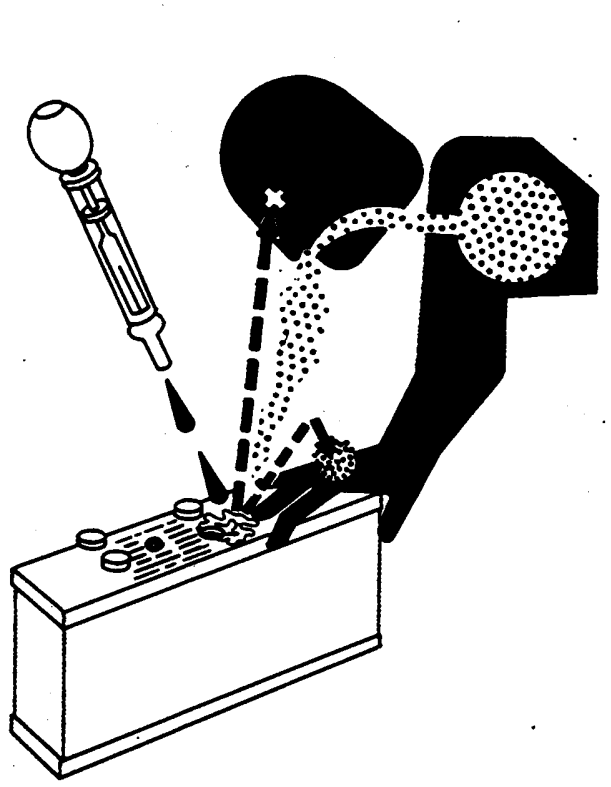
Reduce risk of exposure and injury:

- 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.
- 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.

DX,WW,CHEM01-19-24AUG10

Handling Batteries Safely

TS204—UN—15APR13



TS203—UN—23AUG88

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.**

DX,WW,BATTERIES-19-02DEC10

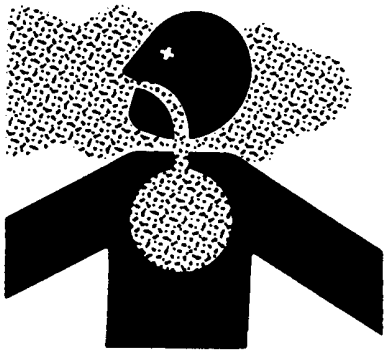
Avoid Heating Near Pressurized Fluid Lines

TS953—UN—15MAY90

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

Remove Paint Before Welding or Heating



TS220—UN—15APR13

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

Handle Electronic Components and Brackets Safely

TS249—UN—23AUG88

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

Practice Safe Maintenance

TS218—UN—23AUG88

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 away 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.

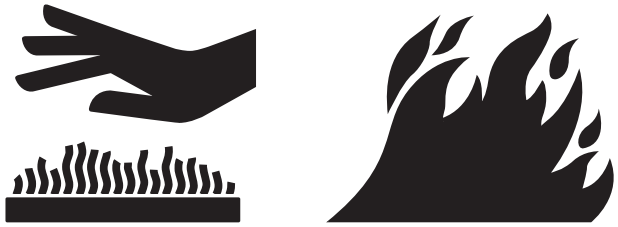
On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

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

Falling while cleaning or working at height can cause serious injury. Use a ladder or platform to easily reach each location. Use sturdy and secure footholds and handholds.

DX,SERV-19-28FEB17

Avoid Hot Exhaust

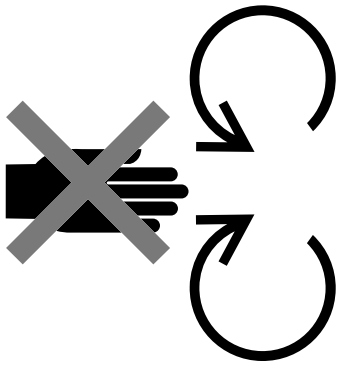


RG17488—UN—21AUG09

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.

DX,EXHAUST-19-20AUG09

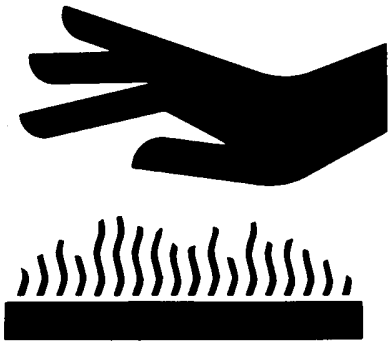


TS1693—UN—09DEC09

TS1695—UN—07DEC09

Clean Exhaust Filter Safely

TS227—UN—15APR13



TS271—UN—23AUG88

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.

DX,EXHAUST,FILTER-19-12JAN11

Work In Ventilated Area

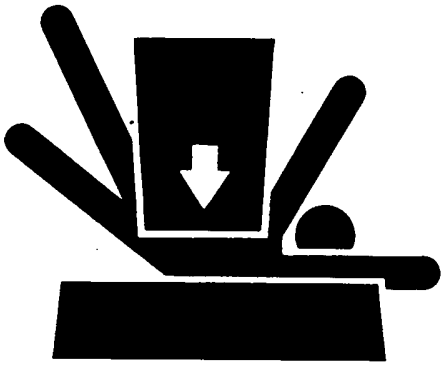
TS220—UN—15APR13

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

Support Machine Properly



TS229—UN—23AUG88

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

Prevent Machine Runaway

TS177—UN—11JAN89

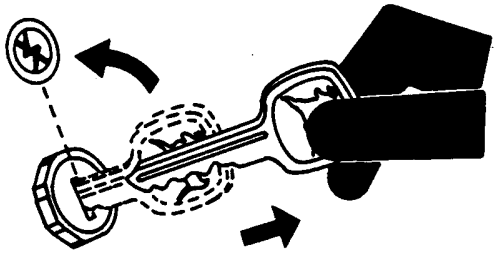
Avoid possible injury or death from machinery runaway.

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

Park Machine Safely



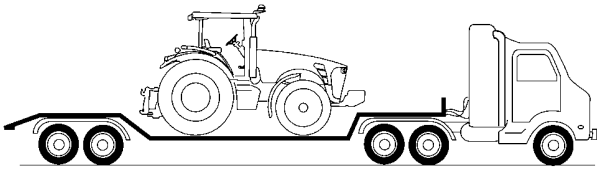
TS230—UN—24MAY89

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.

DX,PARK-19-04JUN90

Transport Tractor Safely



RXA0103709—UN—01JUL09

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.

DX,WW,TRANSPORT-19-19AUG09

Service Cooling System Safely

TS281—UN—15APR13

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.

DX,WW,COOLING-19-19AUG09

Service Accumulator Systems Safely

TS281—UN—15APR13

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.

DX,WW,ACCLA2-19-22AUG03

Service Tires Safely

RXA0103438—UN—11JUN09

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.

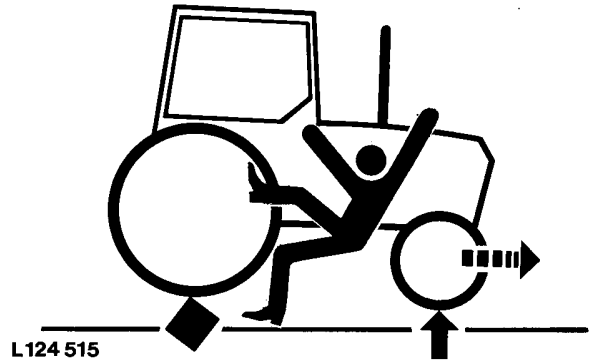
When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

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

Wheels and tires are heavy. When handling wheels and tires use a safe lifting device or get an assistant to help lift, install, or remove.

DX,WW,RIMS-19-28FEB17

Service Front-Wheel Drive Tractor Safely

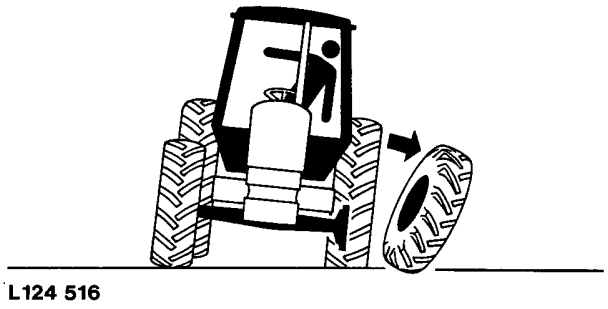


L124515—UN—06AUG94

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.

DX,WW,MFWD-19-19AUG09

Tightening Wheel Retaining Bolts/Nuts

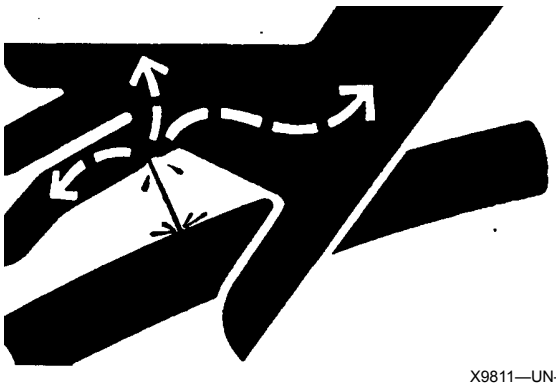


L124516—UN—03JAN95

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

DX,WW,WHEEL-19-12OCT11

Avoid High-Pressure Fluids



X9811—UN—23AUG88

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.

DX,FLUID-19-12OCT11

Do Not Open High-Pressure Fuel System

TS1343—UN—18MAR92

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.)

DX,WW,HPCR1-19-07JAN03

Store Attachments Safely

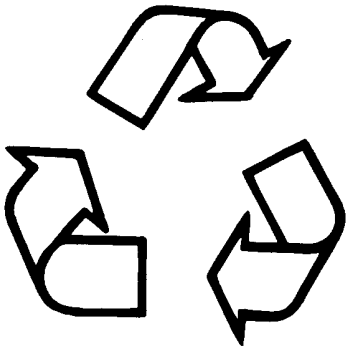
TS219—UN—23AUG88

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

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Carefully drain engines, fuel tanks, radiators, hydraulic cylinders, reservoirs, and lines before recycling components. Use leak-proof containers when draining fluids. Do not use food or beverage containers.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids (example: oil, fuel, coolant, brake fluid); filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
- Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.
- Contact your local environmental or recycling center, or your John Deere dealer for information on the proper way to recycle or dispose of waste.

DX,DRAIN-19-01JUN15

Emergency Measures

Emergency measure when engine coasters:

Measures when “coaster”, the main measures are fuel cut-off or air cut-off to shut down engine. The emergency measures are: First is release throttle and apply service brake; second is plug air intake hose; third is disconnect high pressure fuel hose to cut off fuel supplying.

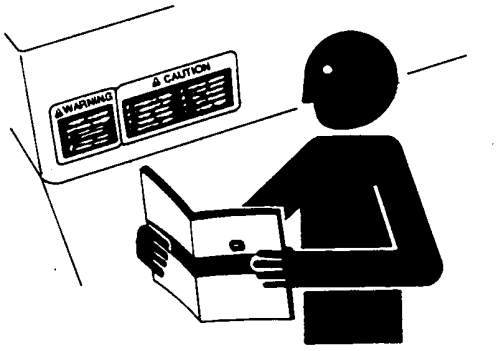
Emergency measure when machine head springs:

Release clutch to avoid machine roll back.

CP00612,0002056-19-30OCT14

Safety Signs

Replace Safety Signs



TS201—UN—15APR13

Replace missing or damaged safety signs. Use this operator's manual for correct safety sign placement.

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

DX,SIGNS-19-18AUG09

Operator's Manual Safety Sign

CPA0007552—UN—17DEC18

Right Side

PUC1613—UN—03NOV08

Decal

CAUTION: Avoid the risk of injury.

This Operator's Manual contains important and necessary information for safe machine operation and explanation of safety signs. Carefully observe all safety rules to avoid any accidents.

N400041,0003EDB-19-27NOV18

Use Seat Belt Safety Sign

CPA0007593—UN—17DEC18

Seat Belt

CPA0000207—UN—09OCT13

Decal

CAUTION: Avoid crushing injury or death during rollover.

Use foldable ROPS and seat belt properly.

- **If this machine is equipped with a roll-over protective structure (ROPS), use a seat belt when you operate with 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.**
- **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.

N400041,0003EDC-19-03DEC18

Riders Safety Sign

CPA0007593—UN—17DEC18

Left-Hand Fender

PUC1615—UN—03NOV08

Decal

CAUTION: Avoid falling and being struck.

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

N400041,0003F07-19-10DEC18

ROPS in Normal Position Safety Sign

CPA0007640—UN—17DEC18

Right Side

P15528A—UN—10DEC08

Decal

CAUTION: Avoid crushing injury or death during rollover.

Use Foldable ROPS and Seat Belt Properly.

If this machine is equipped with a foldable roll-over protective structure (ROPS), keep the ROPS in the fully extended and locked position.

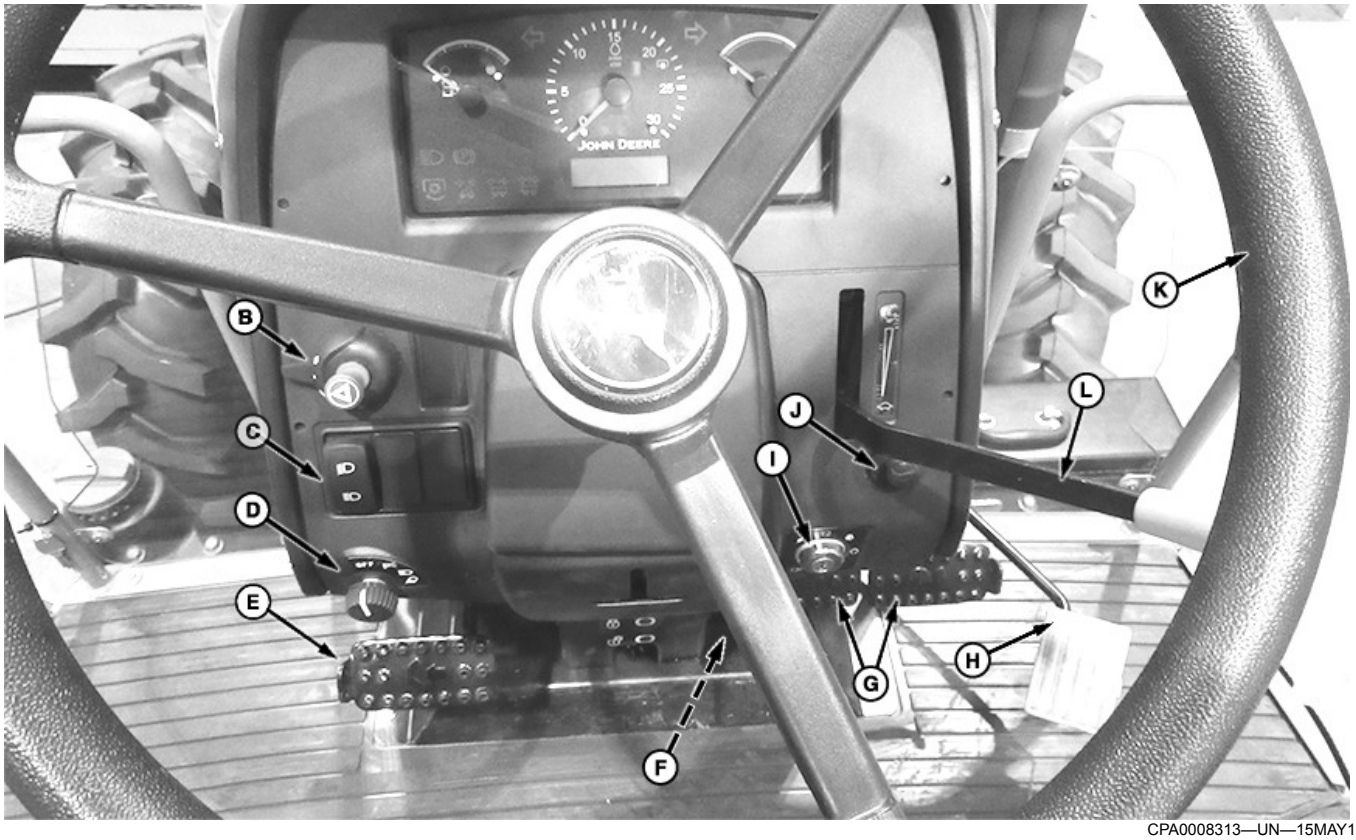
Use a seat belt when you operate with a ROPS in the fully extended position.

- **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.

N400041,0003F06-19-11DEC18

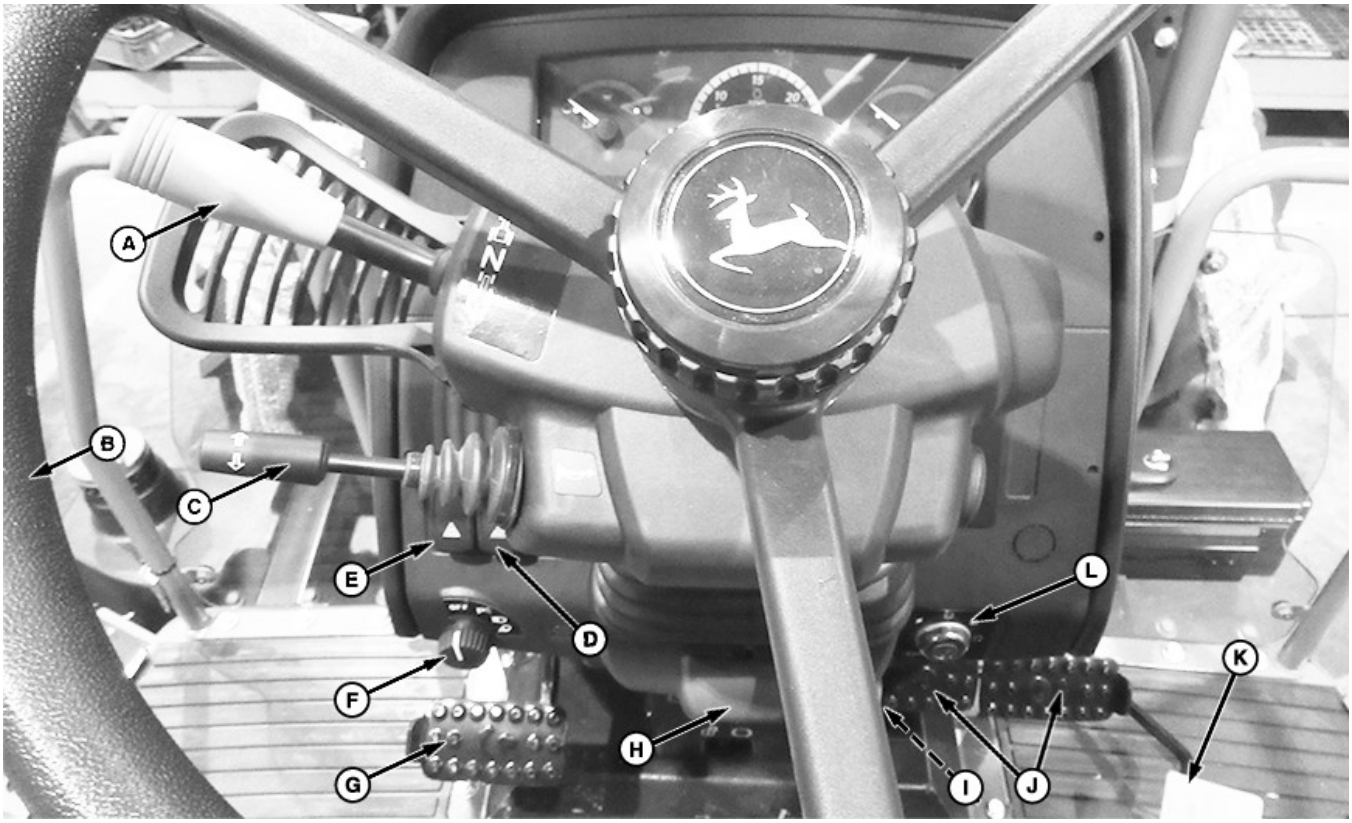
Tractor Controls - Front Console



CPA0008313—UN—15MAY19

Tractor Controls (Fixed Steering Column)

B—Turn/Hazard Switch
C—High/Low Beam Switch
D—Light Switch
E—Clutch Pedal
F—Parking Brake Lever
G—Brake Pedals (2 used)
H—Speed Control Pedal
I—Key Switch
J—Horn Switch
K—Steering Wheel
L—Hand Throttle (PTM engine)



CPA0008314—UN—16MAY19

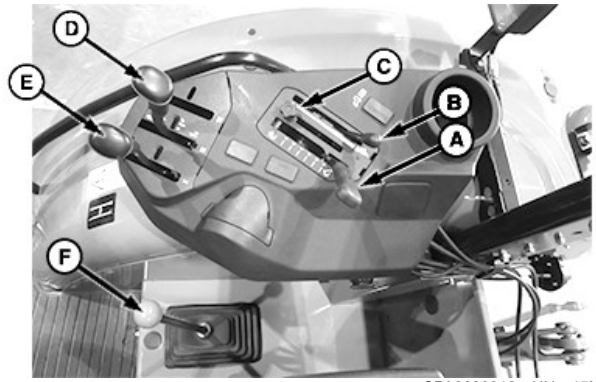
Tractor Controls (Tiltable and Telescopic Steering Column)

A—PowrReverser Lever
B—Steering Wheel
C—Multiple Signal Lever
D—Front Worklight Switch
E—Warning Light Switch
F—Light Switch
G—Clutch Pedal
H—Steering Wheel Adjusting Handle
I—Parking Brake Lever
J—Brake Pedals (2 used)
K—Speed Control Pedal
L—Key Switch

NOTE: For steering wheel adjustment, refer to Operator's Station section.

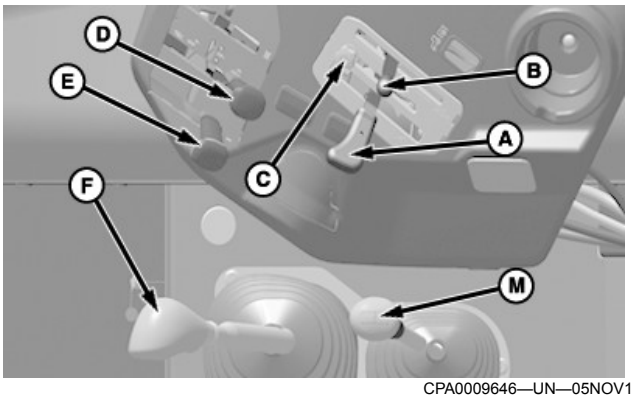
LG70251,00019D8-19-20MAY19

Tractor Controls - Right-Hand Side



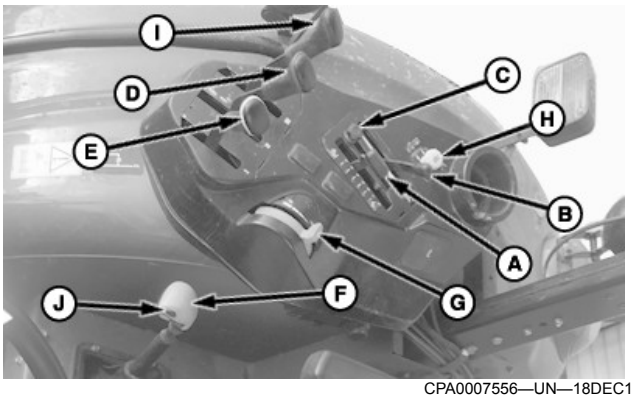
CPA0008312—UN—15MAY19

Right-Hand Side Controls (12F/4R transmission)



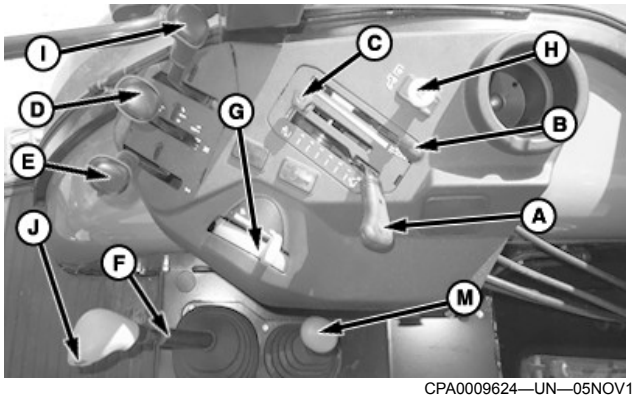
CPA0009646—UN—05NOV19

Right-Hand Side Controls (12F/4R transmission, option)



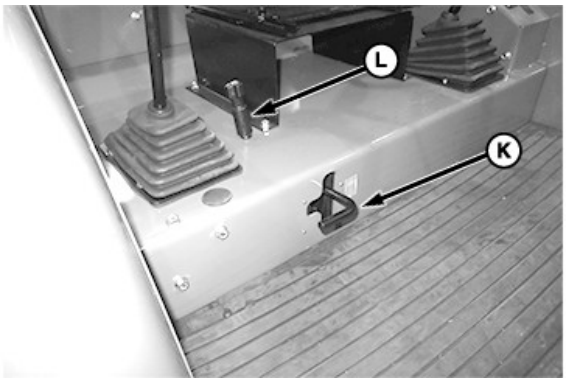
CPA0007556—UN—18DEC18

Right-Hand Side Controls (24F/12R transmission)



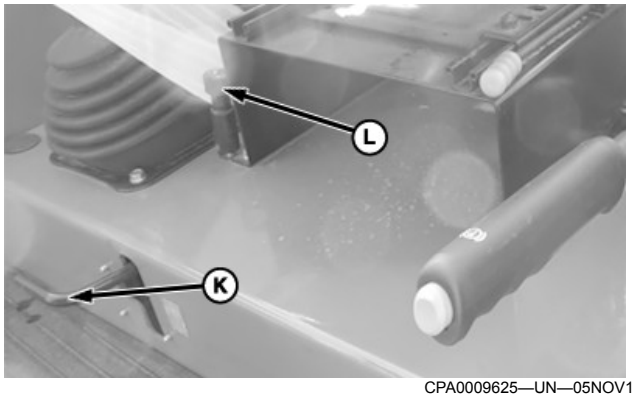
CPA0009624—UN—05NOV19

Right-Hand Side Controls (24F/12R transmission, option)



CPA0008315—UN—15MAY19

Differential Lock Pedal



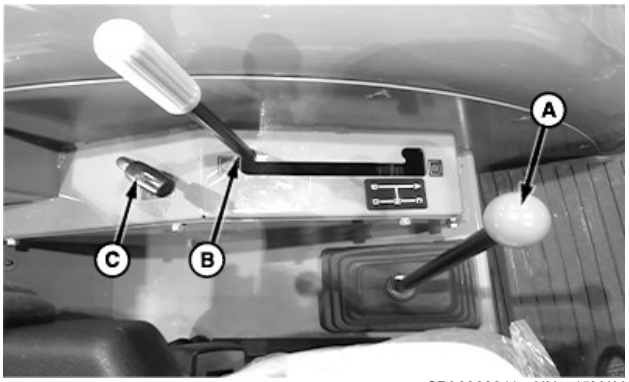
CPA0009625—UN—05NOV19

Differential Lock Pedal (option)

A—Position Control Lever
B—Draft Sensing Lever
C—Position Control Lever Stop
D—SCV II Lever
E—SCV I Lever
F—Gearshift Lever
G—Hand Throttle (PTE engine)
H—PTO Switch (wet clutch)
I—SCV III Lever
J—High/Low Speed Shift Button
K—Differential Lock Pedal
L—Rate-of-Drop Knob
M—Rang-Shift Lever

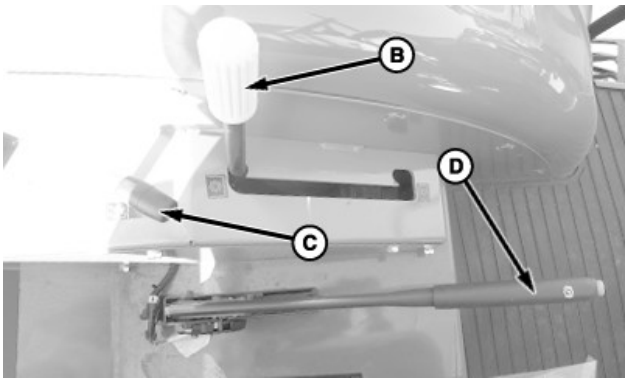
N400041,00047BA-19-06NOV19

Tractor Controls - Left-Hand Side



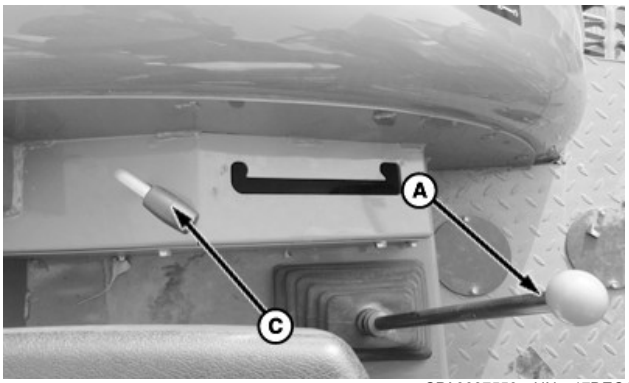
CPA0008311—UN—15MAY19

Left-Hand Side Controls (dry clutch)



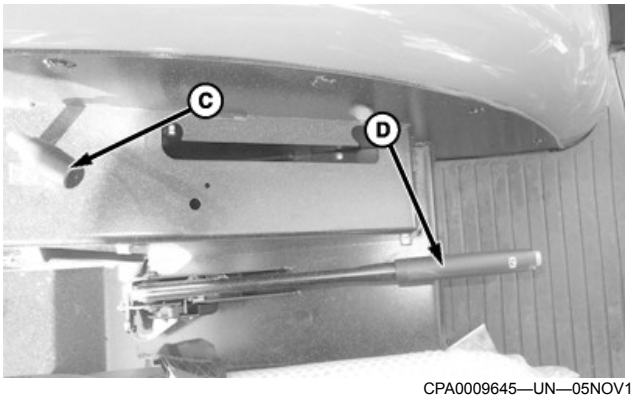
CPA0009644—UN—05NOV19

Left-Hand Side Controls (dry clutch, option)



CPA0007559—UN—17DEC18

Left-Hand Side Controls (wet clutch)



CPA0009645—UN—05NOV19

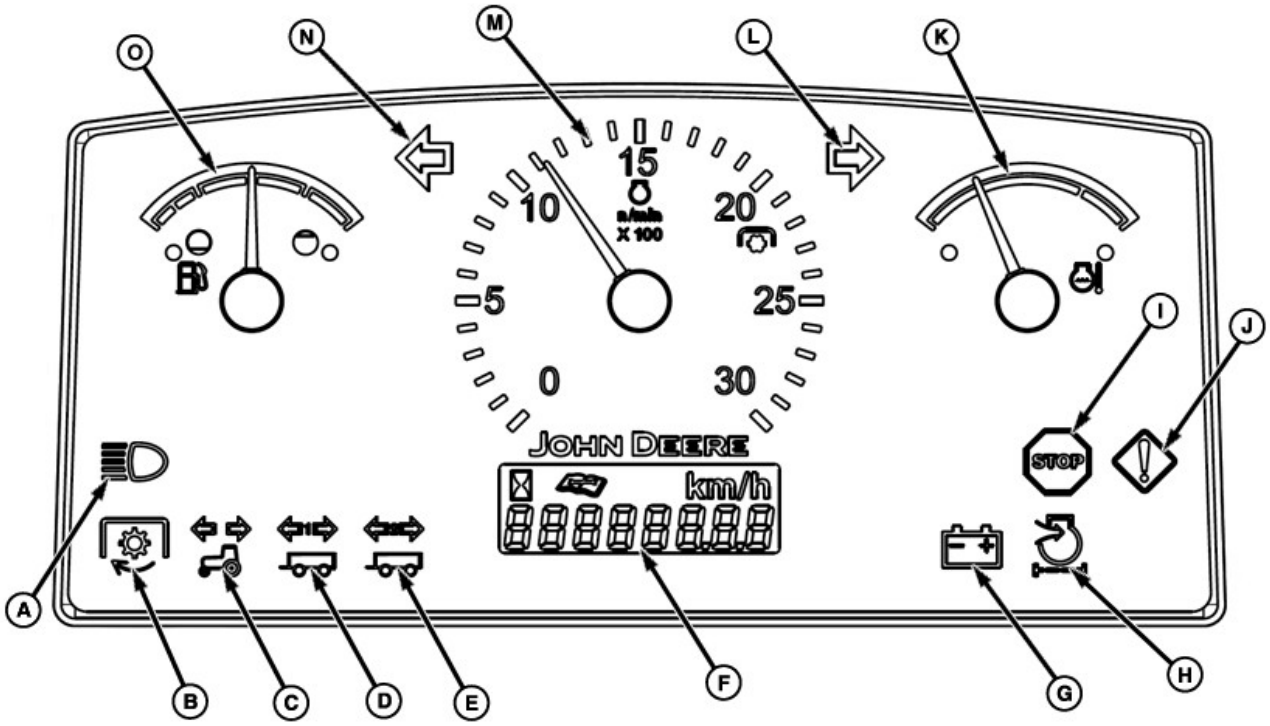
Left-Hand Side Controls (wet clutch, option)

A—Rang-Shift Lever
B—PTO Control Lever (dry clutch)
C—MFWD Lever
D—Secondary Brake Lever

N400041,00047BB-19-06NOV19

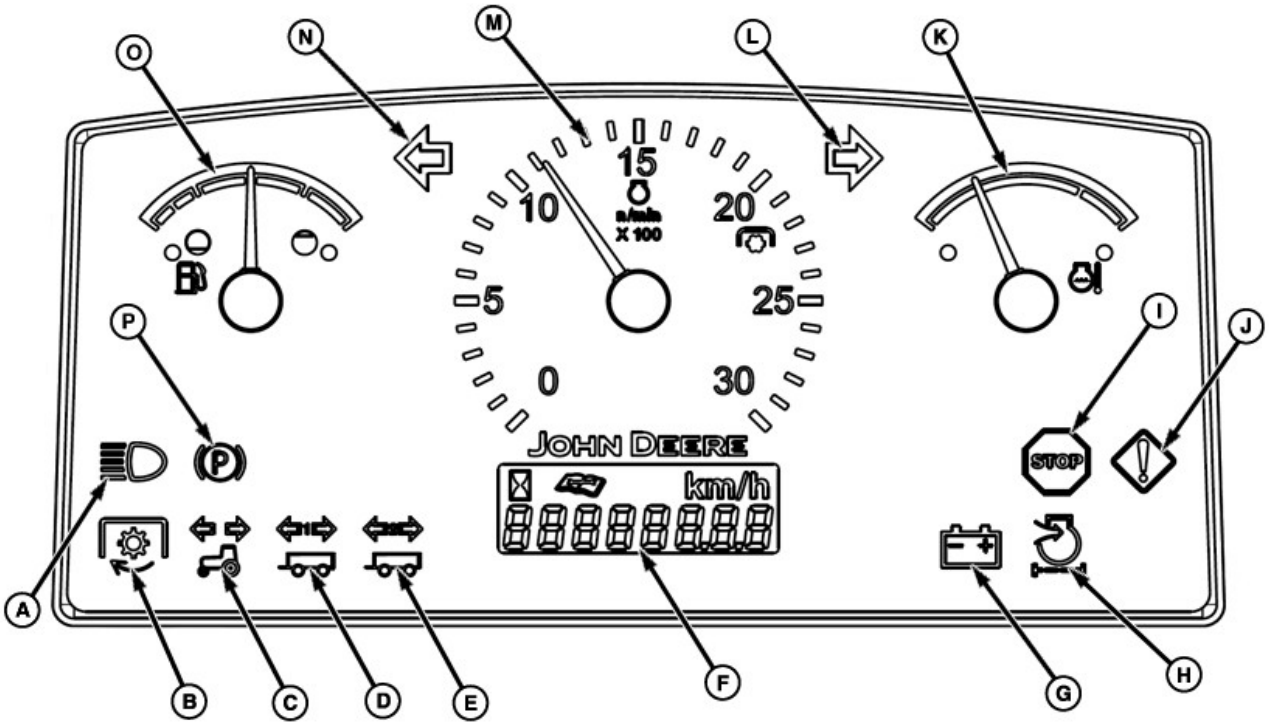
Instrument Cluster

Dry Clutch Transmission



CPA0007561—UN—29OCT19

A—High Beam Indicator
B—PTO Engaged Indicator
C—Vehicle Indicator
D—Trailer 1 Indicator
E—Trailer 2 Indicator
F—Information Display
G—Charging System Indicator
H—Air Restriction Indicator
I—STOP Indicator
J—Service Alert Indicator
K—Engine Coolant Temperature Gauge
L—Right Turn Indicator
M—Tachometer
N—Left Turn Indicator
O—Fuel Level Gauge

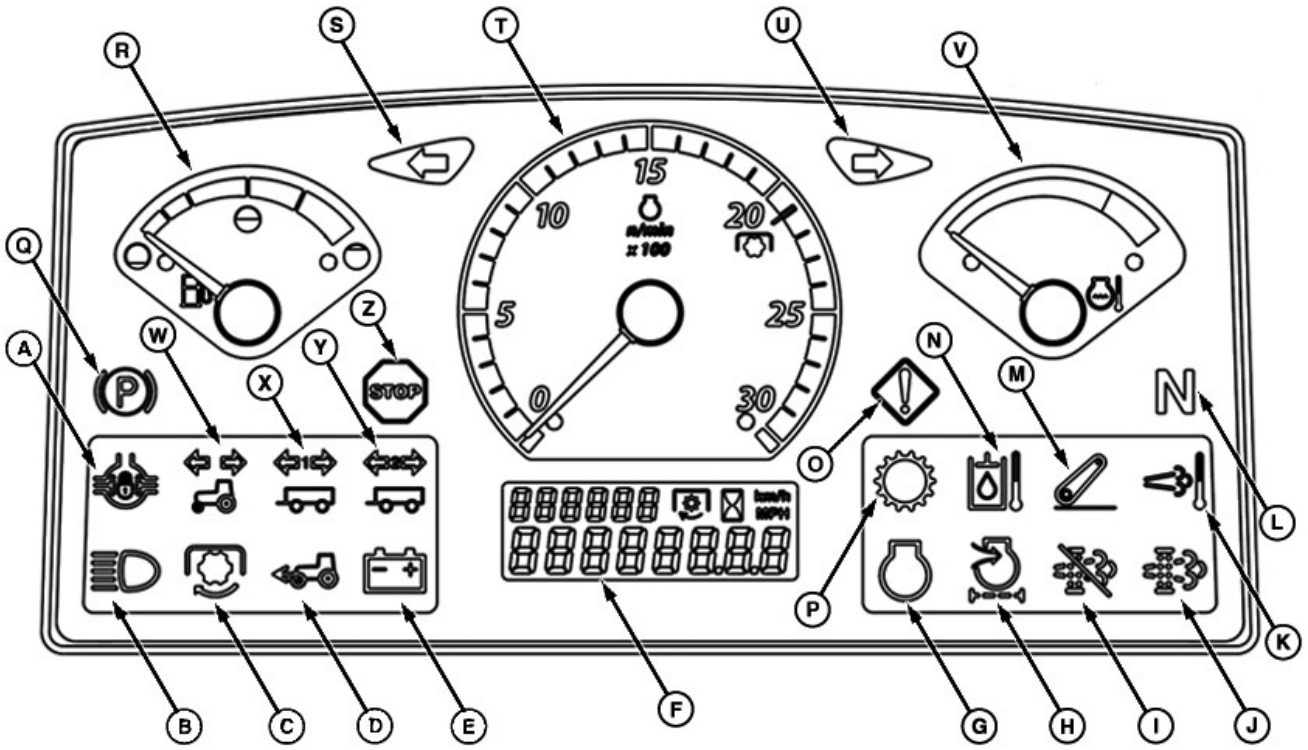


CPA0009614—UN—30OCT19

Option

A—High Beam Indicator
B—PTO Engaged Indicator
C—Vehicle Indicator
D—Trailer 1 Indicator
E—Trailer 2 Indicator
F—Information Display
G—Charging System Indicator
H—Air Restriction Indicator
I—STOP Indicator
J—Service Alert Indicator
K—Engine Coolant Temperature Gauge
L—Right Turn Indicator
M—Tachometer
N—Left Turn Indicator
O—Fuel Level Gauge
P—Park Brake Indicator

Wet Clutch Transmission



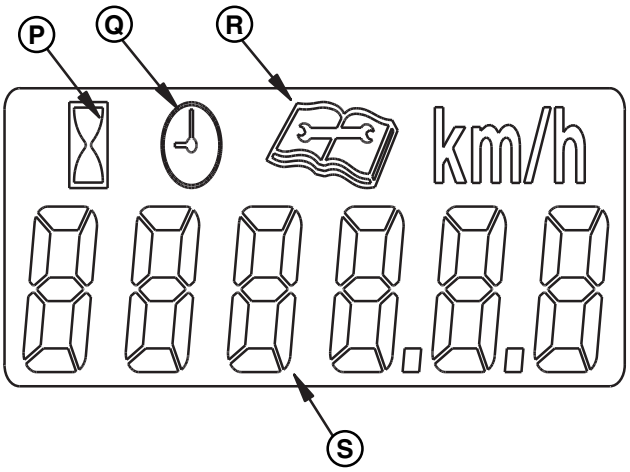
CPA0005184—UN—23JAN18

A—Differential Lock Indicator—Not Available
B—High Beam Indicator
C—PTO Engaged Indicator
D—MFWD Engaged Indicator—Not Available
E—Charging System Indicator
F—Information Display
G—Engine Information Indicator
H—Air Restriction Indicator
I—Exhaust Filter Disabled Indicator—Not Available
J—Exhaust Filter Indicator—Not Available
K—High Exhaust Temperature Indicator—Not Available
L—Neutral Indicator
M—Electrohydraulic Hitch Indicator—Not Available
N—Hydraulic Oil Temperature
O—Service Alert Indicator
P—Transmission Information Indicator
Q—Park Brake Indicator
R—Fuel Level Gauge
S—Left Turn Indicator
T—Tachometer
U—Right Turn Indicator
V—Engine Coolant Temperature Gauge
W—Vehicle Indicator
X—Trailer 1 Indicator
Y—Trailer 2 Indicator
Z—STOP Indicator

N400041,00047A8-19-30OCT19

Information Display

Display for Dry Clutch



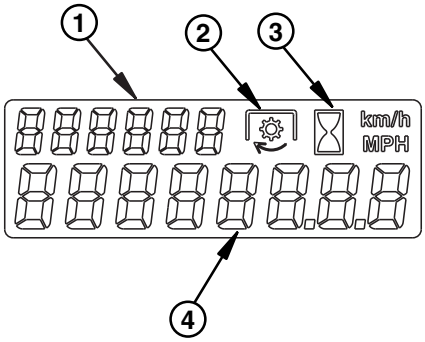
PY14922—UN—01FEB13

Display for Dry Clutch

P—Engine Hour Meter
Q—Job Timer—Not Available
R—Service Indicator—Not Available
S—Vehicle Information Display

Vehicle Information Display (S) displays hours when tractor speed is less than 1 km/h. If a DTC code is activated, the vehicle information display (S) displays DTC code.

Display for Wet Clutch



PY14921—UN—01FEB13

For Wet Clutch Transmission

1—Information Display
2—PTO Icon—Not Available
3—Hour Meter Icon
4—Vehicle Information Display

Vehicle Information Display (4) displays hours when tractor speed is less than 0.1 km/h; displays speed when speed is above 0.1 km/h.

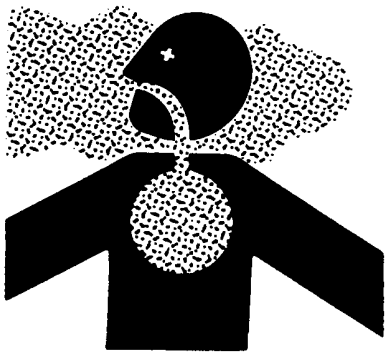
Information Display (1) displays the working mode of transmission:

- HI indicates high-speed mode
- Lo indicators low-speed mode
- R indicators reverse mode

YN00044,0000F6B-19-12JAN18

Operating Engine

Before Starting Engine

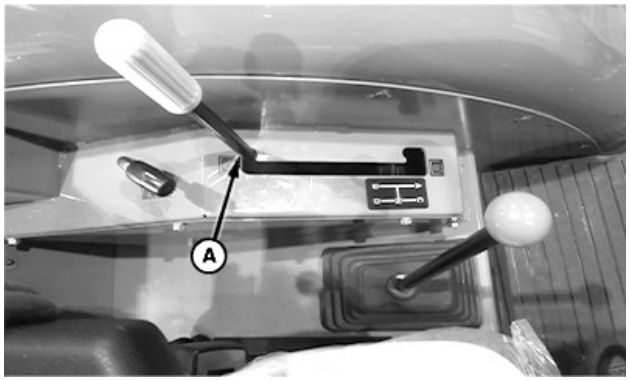


TS220—UN—15APR13

CAUTION: Prevent asphyxiation. Engine exhaust fumes can cause sickness or death to you and others.

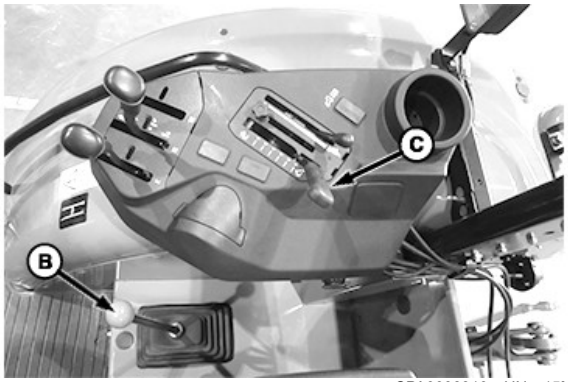
If you have to operate engine in a building, adequate ventilation is necessary. Either use an exhaust pipe extension to remove the exhaust fumes or open doors and windows to bring enough outside air into the area.

1. Check fuel gauge to be sure that tractor has plenty of fuel.



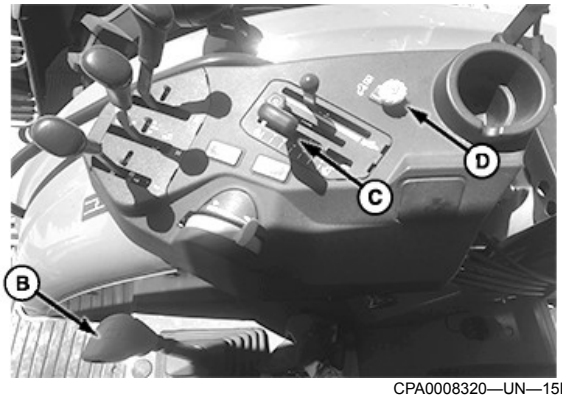
CPA0008318—UN—15MAY19

Left-Hand



CPA0008319—UN—15MAY19

Right-Hand (12F/4R transmission)



CPA0008320—UN—15MAY19

Right-Hand (24F/12R transmission)

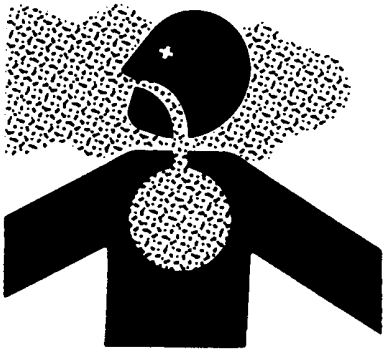
A—PTO Control Lever (dry clutch)
B—Gear-shift Lever
C—Rockshaft Position Control Lever
D—PTO Switch (wet clutch)

2. Place gear-shift lever (B) in neutral “N” position. PTO control lever (A) is in disengaged (rear-most) position or PTO switch (D) is raised. Starter does not operate if the gear-shift lever (B) and PTO control lever (A) /PTO switch (D) are not in these positions.
3. Place the rockshaft position control lever (C) in lower (forward) position.
4. Check charging system indicator and engine information indicator on the instrument cluster. They glow when the key switch is turned to ON position.

   If any indicator does not function properly, see an authorized John Deere dealer.

LG70251,00019B2-19-09MAY19

Before Starting Engine (Option)

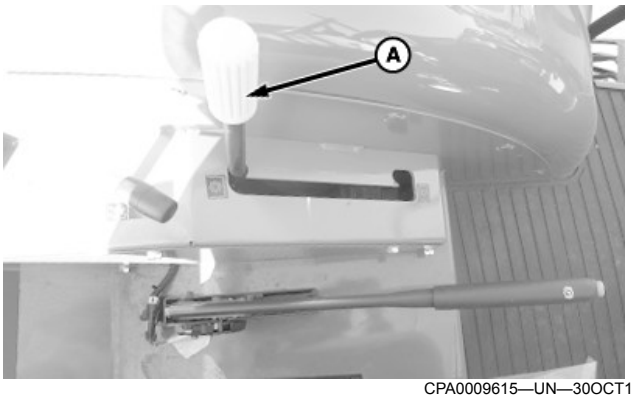


TS220—UN—15APR13

CAUTION: Prevent asphyxiation. Engine exhaust fumes can cause sickness or death to you and others.

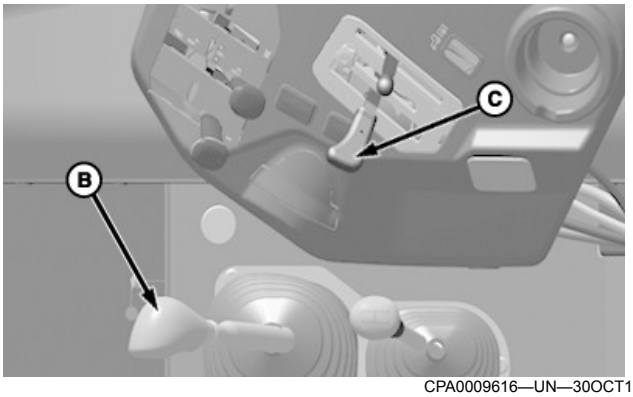
If you have to operate engine in a building, adequate ventilation is necessary. Either use an exhaust pipe extension to remove the exhaust fumes or open doors and windows to bring enough outside air into the area.

1. Check fuel gauge to be sure that tractor has plenty of fuel.



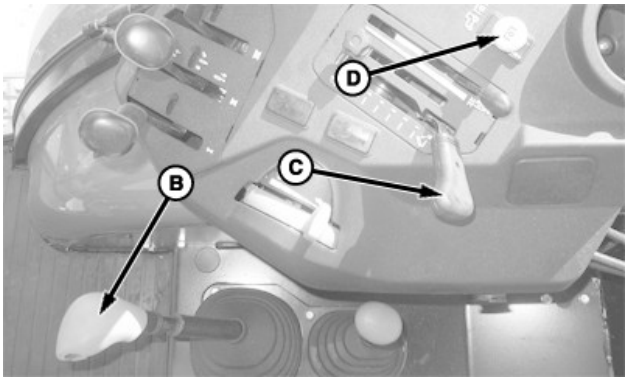
CPA0009615—UN—30OCT19

Left-Hand



CPA0009616—UN—30OCT19

Right-Hand (12F/4R transmission)



CPA0009617—UN—30OCT19

Right-Hand (24F/12R transmission)

A—PTO Control Lever (dry clutch)
B—Gear-shift Lever
C—Rockshaft Position Control Lever
D—PTO Switch (wet clutch)

2. Place gearshift lever (B) in neutral “N” position. PTO control lever (A) is in disengaged (rear-most) position or PTO switch (D) is raised. Starter does not operate if the gearshift lever (B) and PTO control lever (A) /PTO switch (D) are not in these positions.
3. Place the rockshaft position control lever (C) in lower (forward) position.
4. Check charging system indicator and engine information indicator on the instrument cluster. They glow when the key switch is turned to ON position.

   If any indicator does not function properly, see an authorized John Deere dealer.

N400041,00047A9-19-30OCT19

Operate Key Switch

CPA0004425—UN—21NOV17

A—ACCESSORY Position
B—OFF Position
C—IGNITION Position
D—START Position

NOTE: Accessory position (A) is optional.

ACCESSORY position (A) - Push key in and turn to ACCESSORY position for accessory operation.

OFF position (B) - Turn key to OFF position from ACCESSORY position (A) or IGNITION position (C) to stop engine and turn off electrical accessories.

IGNITION position (C) - After turning key to START position and releasing key, key returns to IGNITION position. IGNITION position enables power on circuit and allows engine to run.

START position (D) - Turn the key to START position when starting engine. The key returns to IGNITION position when it is released.

IMPORTANT: Turn key to IGNITION position and check gauges and indicators before selecting START position.

N400041,0003F37-19-18DEC18

Start Engine

TS177—UN—11JAN89

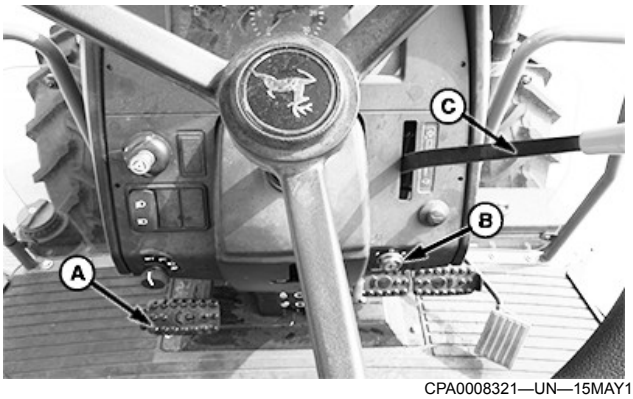
CAUTION: Avoid possible injury or death from a machine runaway.

If the normal circuitry is bypassed, machine starts in gear and moves. DO NOT start engine by shorting across starter terminals.

CAUTION: Set the park brake before starting engine.

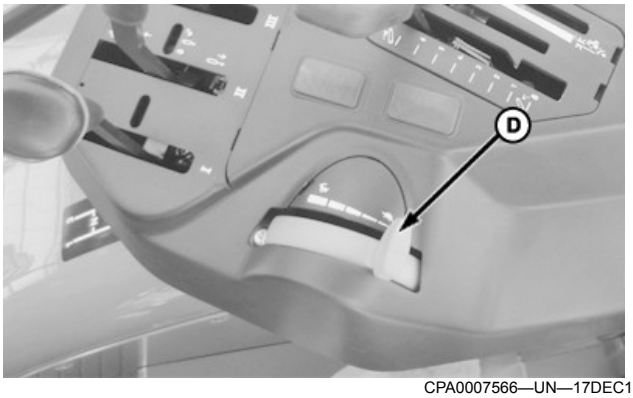
Start engine only from seat with transmission in neutral. Never start engine while standing on ground.

IMPORTANT: DO NOT run a cold engine at full throttle.



CPA0008321—UN—15MAY19

PTM Engine



CPA0007566—UN—17DEC18

PTE Engine

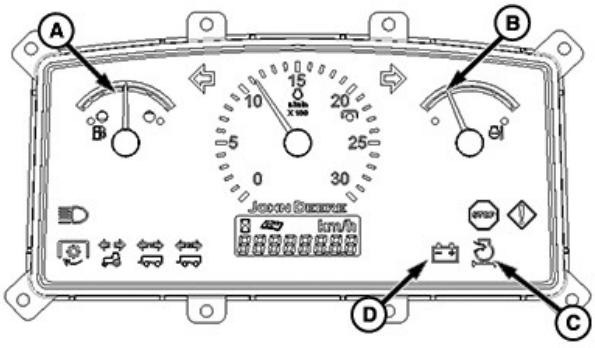
A—Clutch Pedal
B—Key Switch
C—Hand Throttle
D—Hand Throttle (PTE engine)

1. Increase engine speed by pushing hand throttle (C or D) forward (1/3 of lever travel) as indicated by fast/slow decal.
2. Make sure that the gear-shift lever is in neutral (“N”) position and that PTO control lever is in the disengaged position (dry clutch) or is raised (wet clutch).
3. Depress clutch pedal (A) and the turn key switch (B) fully clockwise to START position. Release key when engine starts.
4. If the key is released before engine starts, wait until starter and engine stop turning before trying again.

IMPORTANT: DO NOT operate starter more than 10 seconds at a time. If engine does not start, wait at least 2 minutes for the starter motor to cool before trying again. If engine does not start in three attempts, refer to Troubleshooting section.

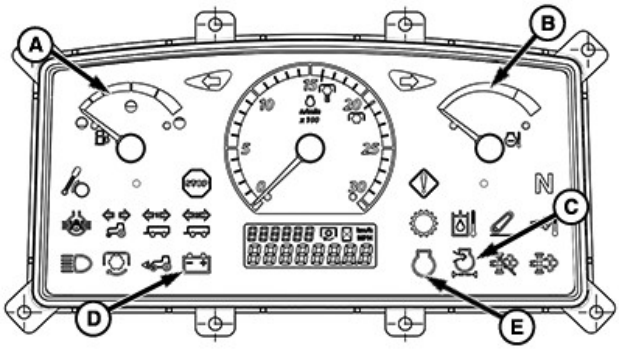
LG70251,00019B3-19-09MAY19

Check Indicators and Gauges



CPA0004864—UN—12JAN18

Instrument Cluster (Dry Clutch)



CPA0004865—UN—12JAN18

Instrument Cluster (Wet Clutch)

A—Fuel Level Gauge
B—Coolant Temperature Gauge
C—Air Restriction Indicator
D—Charging System Indicator
E—Engine Information Indicator

IMPORTANT: Indicators on cluster protect you and your machine from dangers. Check charging system indicator (D) and engine information indicator (E) status. Stop engine and determine the root cause if you find the charging system indicator (D) or engine information indicator remains on. Check coolant temperature gauge (B). If it goes into the red zone, stop engine and determine the cause.

Fuel Level Gauge (A)

Stop to refuel before fuel level gauge (A) reaches empty mark.

IMPORTANT: Use diesel fuel only. (See Fuels, Lubricants, and Coolant section for fuel specifications.)

If the tractor runs out of fuel and does not start in several attempts, air must be bled from the fuel system. (See Bleed Fuel System in Maintenance—Fuel System section).

Coolant Temperature Gauge (B)

The needle on coolant temperature gauge (B) rises as engine warms up. If the needle reaches red zone, stop engine and determine the cause.

CAUTION: DO NOT remove radiator cap until coolant cools down. Always loosen radiator cap slowly to relieve any excess pressure.

Check coolant level in the surge tank when engine cools. Also check front grille, radiator, and radiator side screens for plugging. Check fan belt tension. If the problem is not corrected, see your John Deere dealer.

Air Restriction Indicator (C)

Air restriction indicator (C) lights up if air cleaner becomes plugged. Service air cleaner as soon as possible.

Air restriction indicator lights up momentarily when key is turned to START position and goes off when engine starts.

Charging System Indicator (D)

Charging system indicator (D) lights up when alternator output is low. Indicator lights when key is turned to START position and goes off when engine starts.

If charging system indicator stays lit for longer than 5 seconds in normal operation, stop engine and check for cause.

If loose or broken fan belt is not the cause, see an authorized John Deere dealer.

Engine Information Indicator

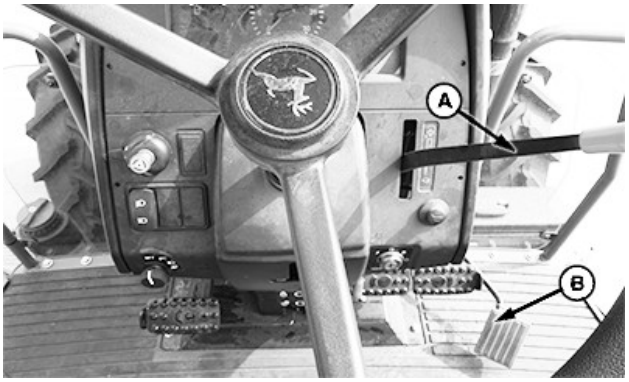
If engine oil pressure falls below minimum, engine information indicator (E) lights and stays lit.

IMPORTANT: NEVER operate engine without sufficient oil pressure. If the engine information indicator lights and stays on for longer than 5 seconds under the normal operating conditions, stop engine and check for cause.

If low oil level is not the cause, see an authorized John Deere dealer.

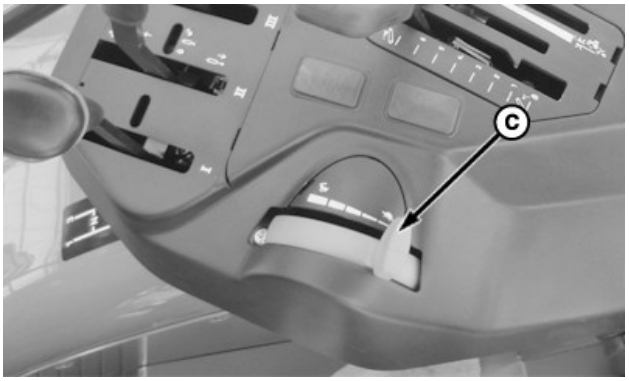
N400041,0003F38-19-18DEC18

Change Engine Speeds



CPA0008322—UN—15MAY19

PTM Engine



CPA0007568—UN—17DEC18

PTE Engine

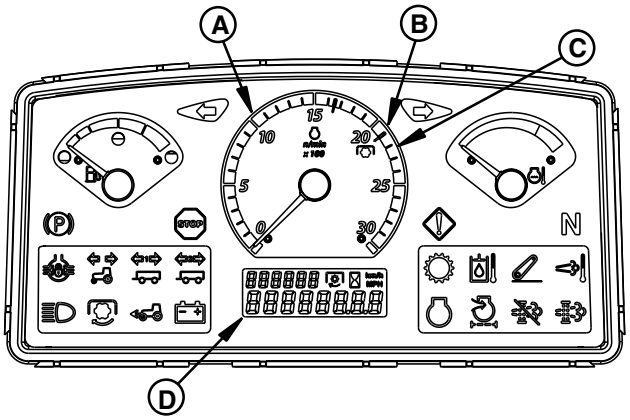
A—Hand Throttle
B—Speed Control Pedal
C—Hand Throttle (PTE engine)

To increase or decrease engine speed, use hand throttle (A or C). Engine maintains set speed until hand throttle is moved again. With lever all the way up, the maximum speed is attained. With lever all the way down, the minimum speed is attained. The fast/slow decal indicates the engine speed near the hand throttle.

When increasing the engine speed temporarily, use speed control pedal (B). Engine speed returns to the prior speed as soon as the speed control pedal is released.

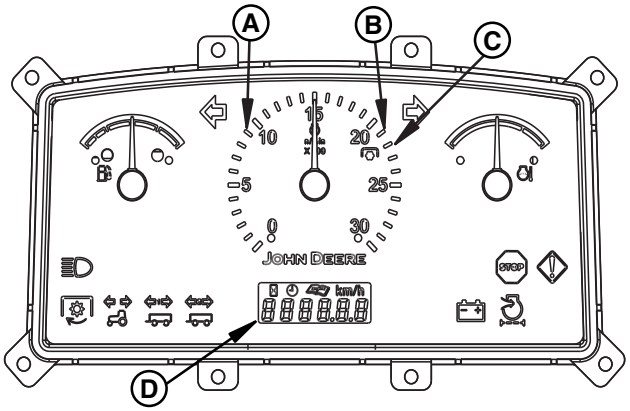
LG70251,00019D5-19-20MAY19

Recommended Engine Speeds and Operational Procedures



PY14906—UN—31JAN13

Instrument Cluster (wet clutch)



PY14911—UN—31JAN13

Instrument Cluster (dry clutch)

A—Revolution Counter
B—2100 rpm Mark
C—2200 rpm Mark
D—Hour Meter

Revolution counter (A) shows engine revolutions per minute, read in hundreds.

Hour meter (D) shows operating engine hours in full hours and tenths.

Warm Up Engine

Do not place the tractor under full load until it is properly warmed up.

1. Idle engine at about 1500 rpm for several minutes.
2. Run engine at about 1900 rpm and under light load until engine reaches normal operation condition.

Avoid Idling Engine

Running Engine at the low idle speed for a long time results in high fuel consumption and causes a buildup of carbon in the engine.

If the tractor must be left with the engine running more than 3 or 4 minutes, set the engine speed to 1200 rpm.

Observe Engine Work and Idle Speeds

Low idle speed is:

- 850—900 rpm

At light or no load, full throttle speed increases to:

- 2350—2400 rpm (6095B)
- 2325—2375 rpm (6110B, 6120B, and 6135B)

Normal working speed is:

- 1600—2200 rpm

Only operate the engine in full load within normal working speed range.

Restart Stalled Engine

IMPORTANT: Be sure to observe the following, or damage to turbocharger and booster could occur.

If engine stops running due to overload, immediately restart engine. A running engine causes oil and coolant to circulate, which prevents abnormal heat buildup. If engine stalls but does not stop running due to overload, run at low idle for 1 or 2 minutes in order to dissipate heat buildup.

N400041,0003EE6-19-03DEC18

Stop Engine

CPA0008323—UN—15MAY19

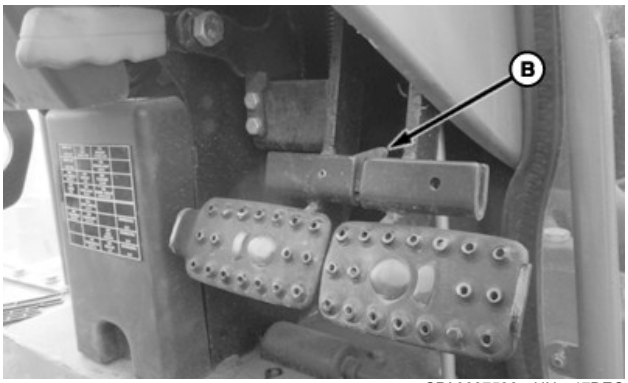
12F/4R Transmission

CPA0008324—UN—15MAY19

24F/12R Transmission

A—Gear-shift Lever

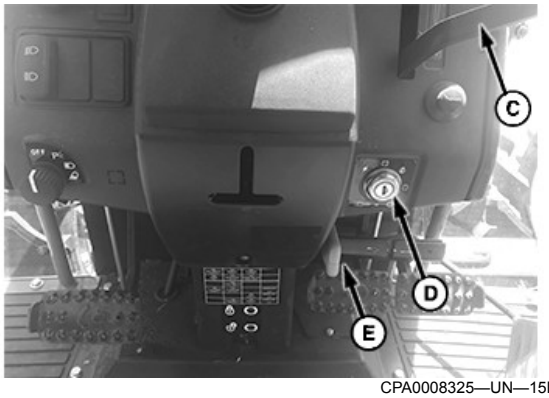
1. Stop the tractor and shut off engine. Put gear-shift lever (A) in neutral (“N”) position.



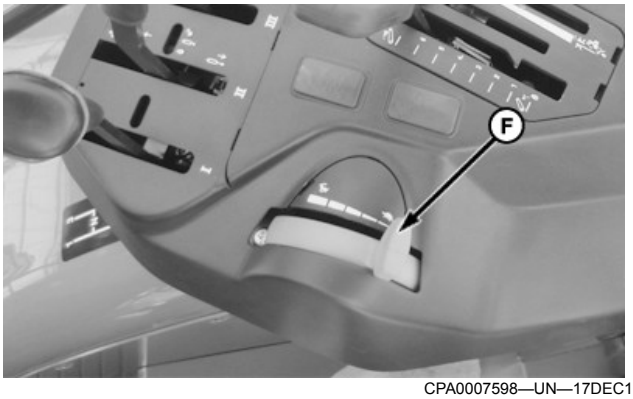
CPA0007596—UN—17DEC18

B—Brake Pedal Locking Bar

2. Lock brake pedals together with brake pedal locking bar (B).



CPA0008325—UN—15MAY19



CPA0007598—UN—17DEC18

PTE Engine

C—Hand Throttle (PTM engine)
D—Key Switch
E—Parking Brake Lever
F—Hand Throttle (PTE engine)

3. Set park brake by pressing down brake pedals and pulling up parking brake lever (E).

IMPORTANT: Cooling of engine parts is provided by engine oil. Stopping a hot engine suddenly could damage parts by overheating or lack of lubrication.

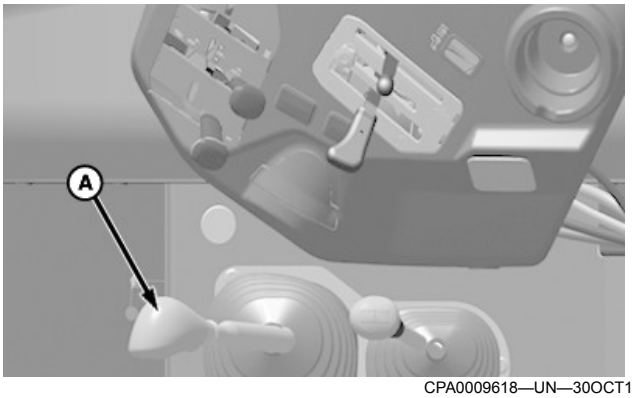
4. Reduce load, and slow down the engine speed to around 1200—1300 rpm. Run engine for another 3—5 minutes before stopping engine.

CAUTION: To prevent operation by untrained personnel, always remove the key from the key switch.

5. Turn key switch (D) to the STOP position.

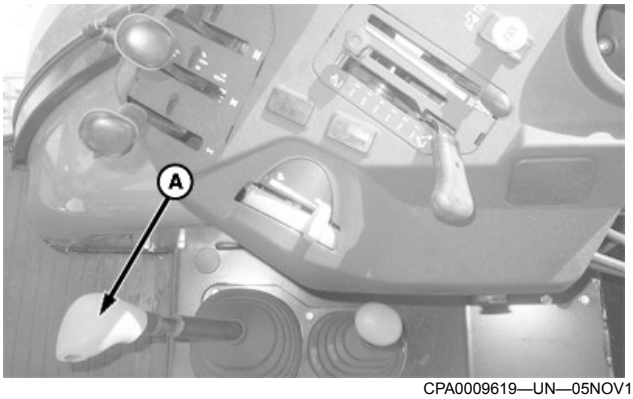
LG70251,00019B5-19-09MAY19

Stop Engine (Option)



CPA0009618—UN—30OCT19

12F/4R Transmission

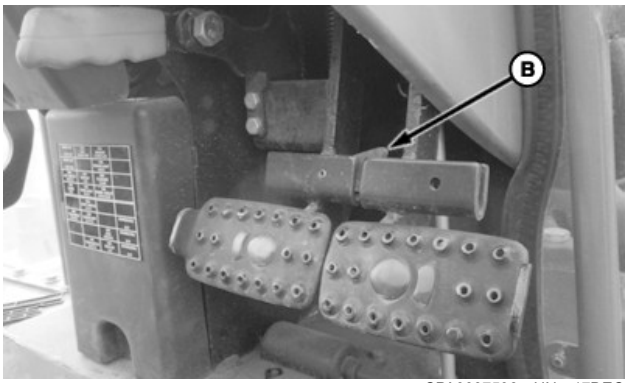


CPA0009619—UN—05NOV19

24F/12R Transmission

A—Gearshift Lever

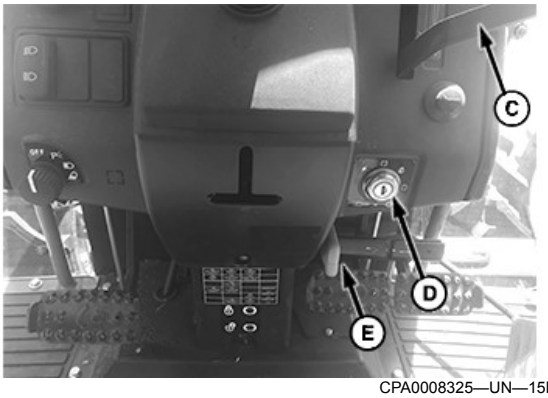
1. Stop the tractor and shut off engine. Put gearshift lever (A) in neutral (“N”) position.



CPA0007596—UN—17DEC18

B—Brake Pedal Locking Bar

2. Lock brake pedals together with brake pedal locking bar (B).



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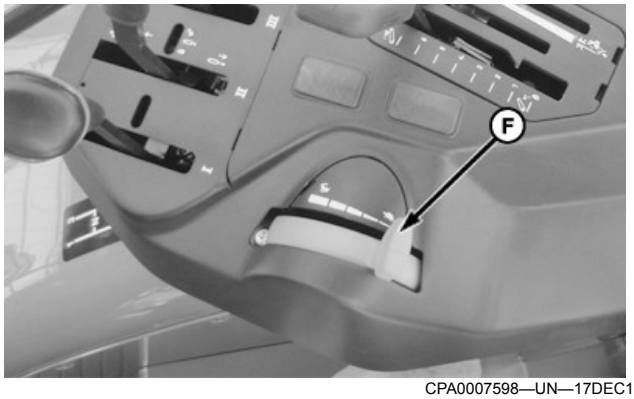
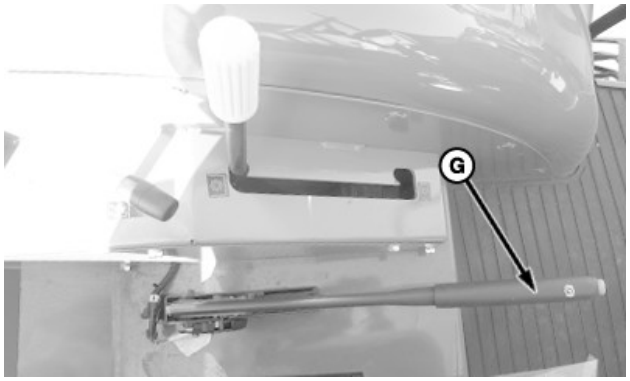


CPA0007598—UN—17DEC18

PTE Engine



CPA0009620—UN—05NOV19

C—Hand Throttle (PTM engine)
D—Key Switch
E—Park Brake Lever
F—Hand Throttle (PTE engine)
G—Secondary Brake Lever

3. Set park brake by pressing down brake pedals.
4. Pulling up park brake lever (E) and secondary brake lever (G).

IMPORTANT: Cooling of engine parts is provided by engine oil. Stopping a hot engine suddenly could damage parts by overheating or lack of lubrication.

5. Reduce load, and slow down the engine speed to around 1200—1300 rpm. Run engine for another 3—5 minutes before stopping engine.

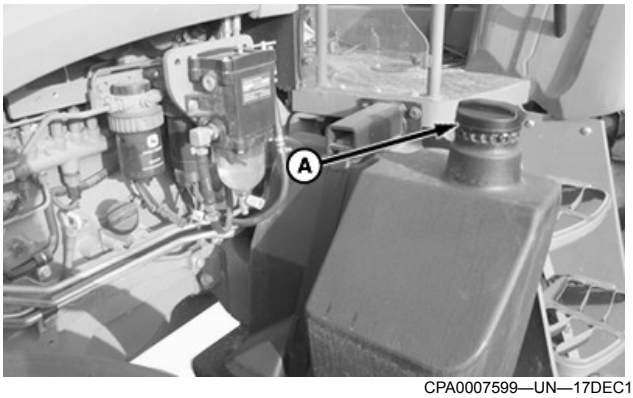
CAUTION: To prevent operation by untrained personnel, always remove the key from the key switch.

6. Turn key switch (D) to the STOP position.

N400041,00047AA-19-30OCT19

Fill Fuel Tank

TS202—UN—23AUG88



CPA0007599—UN—17DEC18

A—Fuel Tank Filler Cap

CAUTION: 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.

Fill fuel tank through the filler cap (A) of the fuel tank . To prevent condensation in the tank as moist air cools, fill fuel tank at end of each day's operation.

Fuel Tank — Specification

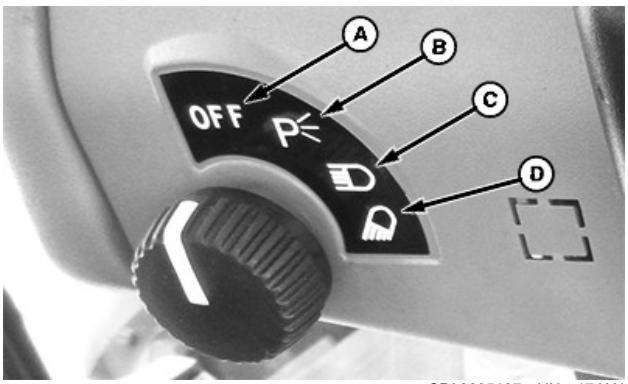
6095B Tractor—Capacity. . . . . 150 L (39.62 gal)

6110B, 6120B, and 6135B Tractors—Capacity. . . . . 220 L (58.12 gal)

NOTE: Add John Deere fuel flow improver, or equivalent to fuel or bulk storage tank. Fuel flow improver or equivalent reduces fuel gelling and controls wax separation during cold weather.

N400041,0003EE7-19-18DEC18

Light Switch



CPA0005137—UN—17JAN18

A—OFF Position
B—Park Position
C—Road Position
D—Work Position

Light Switch			
Function	**Headlights**	**Front/Rear Position Lights**	**Rear Worklight**
OFF	OFF	OFF	OFF
PARK	OFF	ON	OFF
ROAD	ON	ON	OFF
WORK	ON	ON	ON

Tractor light switch has four positions: OFF, Park, Road, and Work

Turning light switch to the four different positions, Headlights, Front/Rear Position Lights, and Rear Worklights are activated or deactivated as shown in the table previous.

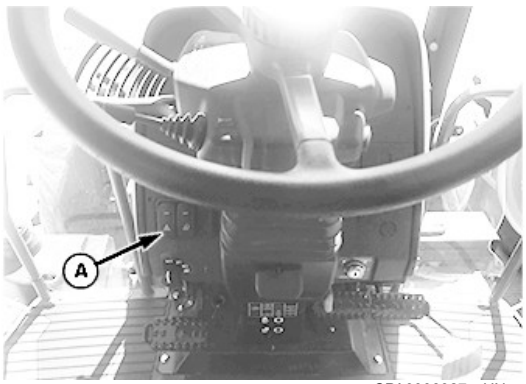
Turn/Hazard Switch

CPA0008326—UN—19MAY19

A—Turn/Hazard Switch

Turn/hazard switch (A) is used to switch ON turn lights and warning lights.

Warning Light Switch

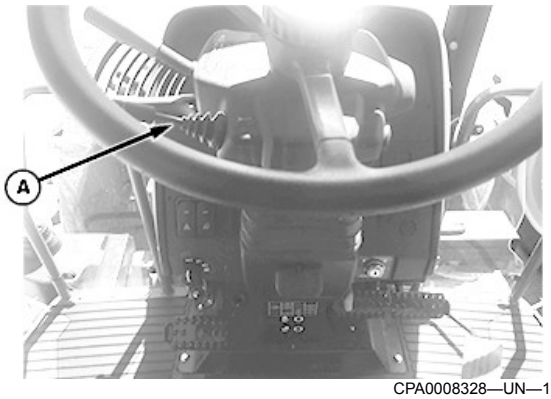


CPA0008327—UN—15MAY19

A—Warning Light Switch

Warning light switch (A) is only used to switch ON warning lights.

Multiple Signal Lever



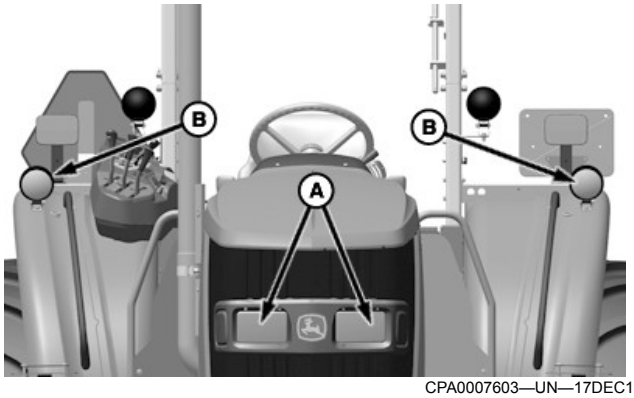
CPA0008328—UN—15MAY19

A—Multiple Signal Lever

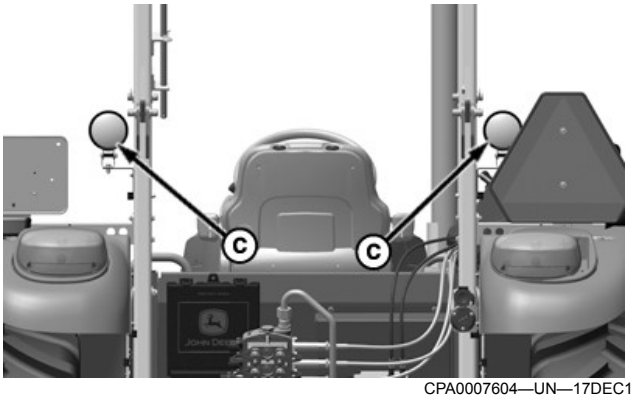
Multiple signal lever (A) is used to switch ON turn lights, high/low beam, and horn.

LG70251,00019B6-19-09MAY19

Use Headlights and Worklights



CPA0007603—UN—17DEC18



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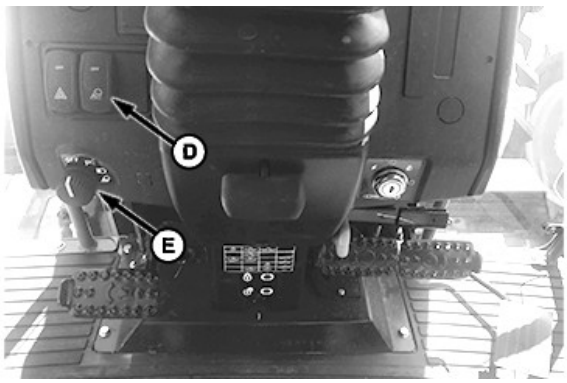


CPA0008329—UN—15MAY19

A—Headlights (2 used)
B—Front Worklights (option, 2 used)
C—Rear Worklights (2 used)
D—Front Worklights Switch
E—Light Switch

CAUTION: Bright lights could blind drivers of other vehicles as they approach. Use high-low beam lights properly when driving on the road. Never use worklights when transporting.

Set high/low-beam headlights switch to high-beam position when driving on a highway.

Always turn the high/low-beam headlights switch to low-beam position for oncoming vehicles.

Keep headlights adjusted properly. (See Electrical and Lighting Maintenance section.)

IMPORTANT: Rear-facing worklights can blind or confuse other drivers approaching from behind. When driving or transporting tractor on public roads, use headlights only, never use worklights.

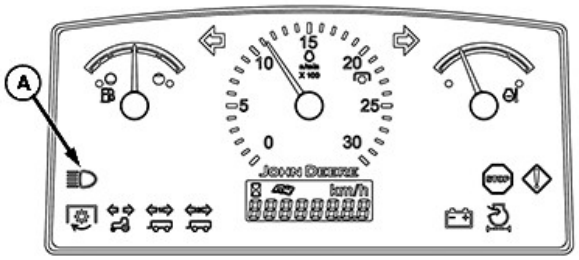
Front worklights (B) are ON when front worklights switch (D) is switched ON.

Rear worklights (C) are ON when light switch (E) is switched WORK position.

Worklights are for field work only and cannot be used on roads.

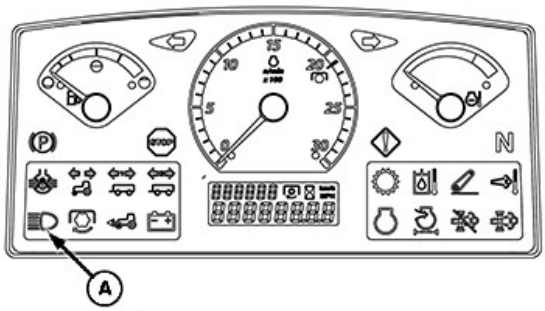
LG70251,00019E0-19-21MAY19

High-Beam Headlights Indicator



CPA0005139—UN—18JAN18

Instrument Cluster (wet clutch)



CPA0005138—UN—17JAN18

Instrument Cluster (dry clutch)

A—High-Beam Indicator

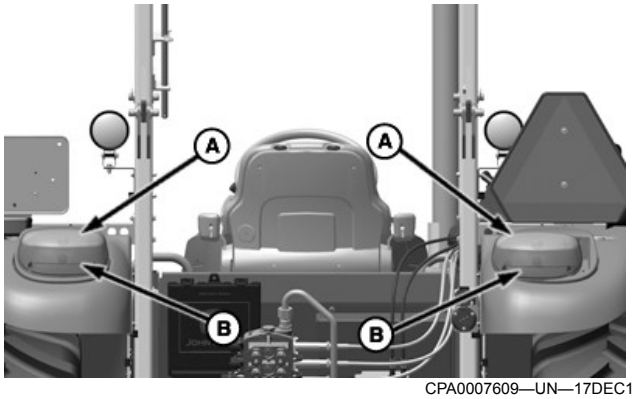
High-beam indicator (A) glows when light is turned to ROAD position and high-low beam switch is switched to high-beam position.

N400041,0003F39-19-18DEC18

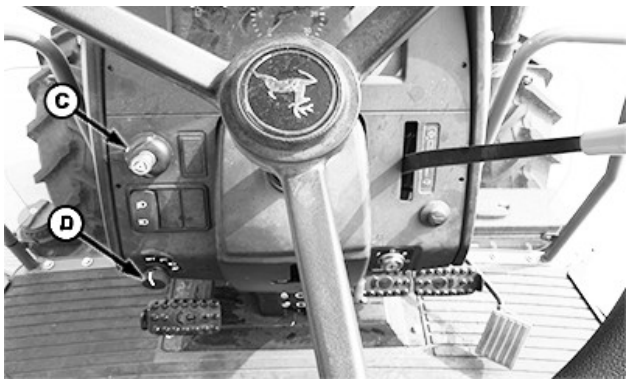
Use Tail Lights and Warning Lights

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 the rear, especially in turns, and use turn signal lights.

Follow local regulations for the 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. A safety lighting kit of the implement is available from an authorized John Deere dealer.

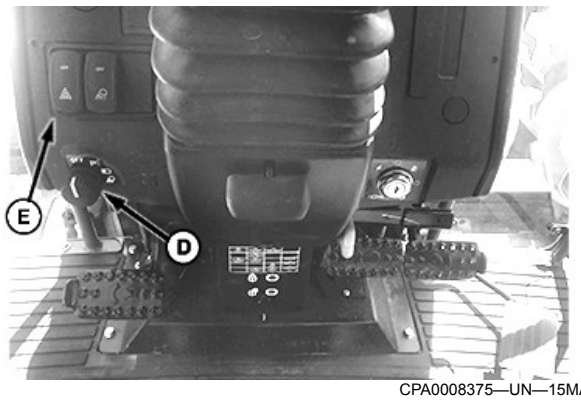


CPA0007609—UN—17DEC18



CPA0008353—UN—15MAY19

Switch (fixed steering column)



CPA0008375—UN—15MAY19

Switch (tiltable and telescopic steering column)

A—Warning Lights (2 used)
B—Tail Lights (2 used)
C—Turn/Hazard Switch
D—Light Switch
E—Warning Light Switch

Tail lights (B) are ON when the light switch (D) is in PARK position or ROAD position.

Be sure that tail light lenses are clean before driving on a road, so other drivers can see them easily.

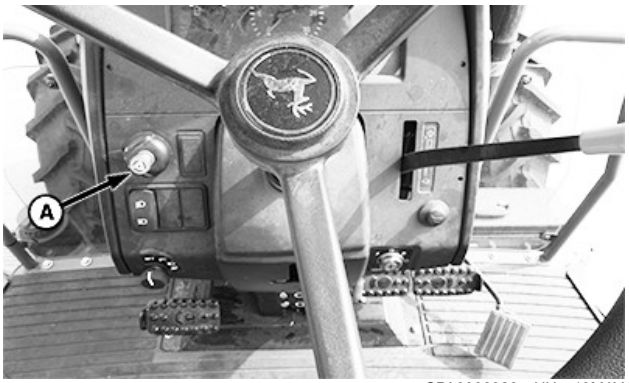
Warning lights can be pulled/pushed ON or OFF using turn/hazard switch (C).

Warning lights can be turned ON or OFF using warning light switch (E).

Flashing warning lights do not indicate turn intention to other vehicles. Switch off the warning lights before operating the turn-signal lights.

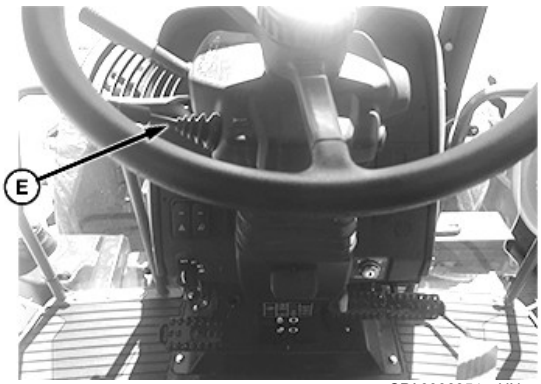
LG70251,00019CC-19-10MAY19

Use Turn Signals



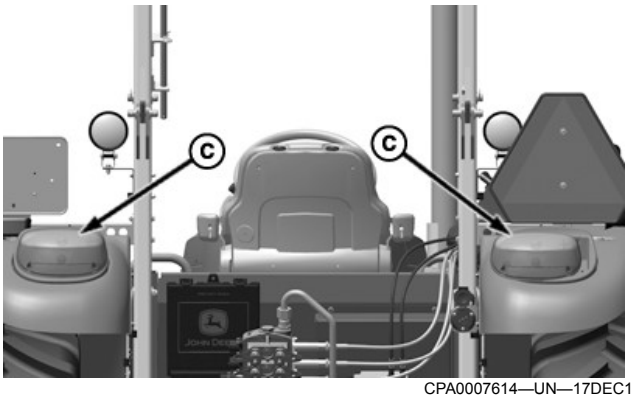
CPA0008326—UN—19MAY19

Switch (fixed steering column)

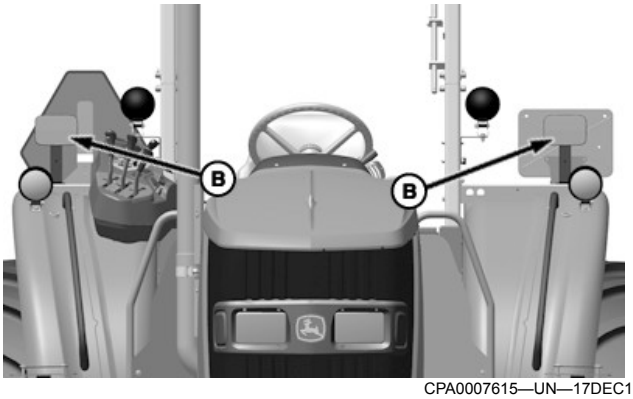


CPA0008354—UN—15MAY19

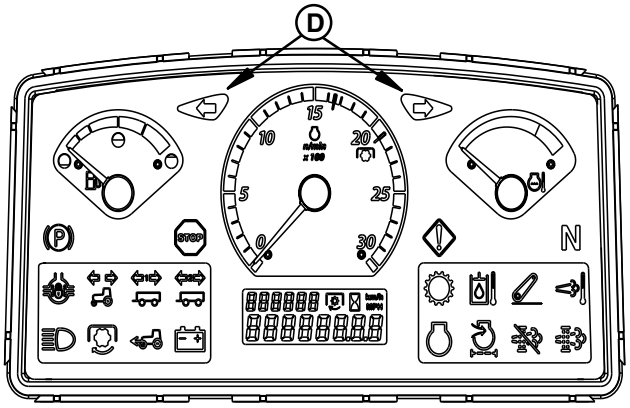
Switch (tiltable and telescopic steering column)



CPA0007614—UN—17DEC18

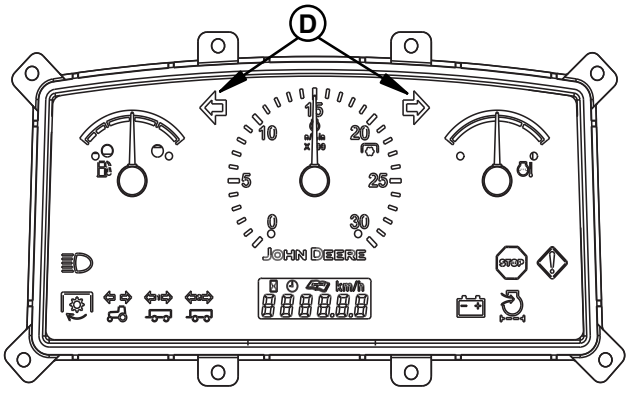


CPA0007615—UN—17DEC18



PY14899—UN—31JAN13

Instrument Cluster (wet clutch)



PY14916—UN—01FEB13

Instrument Cluster (dry clutch)

A—Turn/Hazard Switch
B—Front Turn-Signal Lights (2 used)
C—Rear Turn-Signal Lights (2 used)
D—Turn-Signal Indicators (2 used)
E—Multiple Signal Lever

IMPORTANT: Turn-signal switch is not functional when warning lights are flashing. Switch off warning lights with the warning light switch before operating turn-signal switch.

Option 1:

Turn the turn/hazard switch (A) to left-hand turn position (down) to indicate the left-hand turn.

Turn the turn/hazard switch (A) to right-hand turn position (up) to indicate the right-hand turn.

Option 2:

Horizontal:

Push forward multiple signal lever (E), right turn lights can be turned ON.

Pull backward multiple signal lever (E), left turn lights can be turned ON. Center position is OFF.

Vertical:

Push downward multiple signal lever (E), high beam can be turned ON.

Pull upward multiple signal lever (E), high/low beam can wink alternating. It can be automatically reset after releasing the multiple signal lever (E). It is called overtaking light generally.

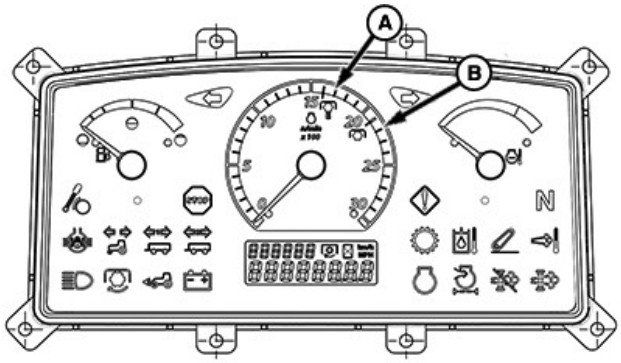
Press the end face of the multiple signal lever (E), horn can be turned ON. It can be automatically reset after releasing the multiple signal lever (E).

Turn-signal indicators (D) on the instrument panel flash to indicate signal turn direction.

NOTE: Be sure to return the turn/hazard switch (A) or multiple signal lever (E) manually to center position after turning.

LG70251,00019B9-19-09MAY19

Gear Selection



CPA0004866—UN—12JAN18

Working Speed Range

A—1600 rpm Mark
B—2200 rpm Mark

IMPORTANT: To extend drive train life and avoid excessive soil compaction and rolling resistance when using ballast, operate one gear lower than normal.

The tractor works in any gear with engine speeds between 1600 and 2200 rpm. Within these limits, the engine can work under full load. For light load operation, use a higher gear and lower engine speed to save fuel and reduce wear.

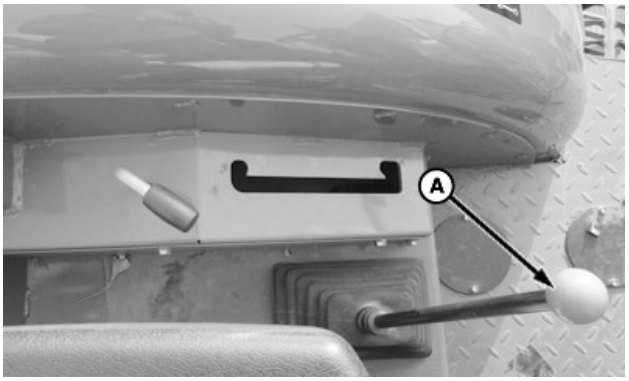
CO00263,000191A-19-06JUL18

Operate Transmission

12F/4R Transmission

CPA0008355—UN—15MAY19

Left Control (PTM engine)

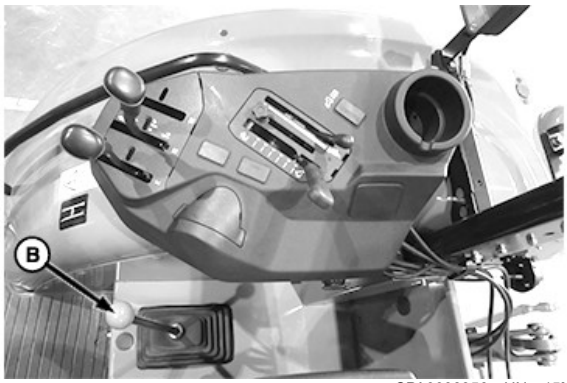


CPA0007619—UN—17DEC18

Left Control (PTE engine)

A—Range-Shift Lever

Range-shift lever (A) provides four forward speed ranges: A, B, C, and D.



CPA0008356—UN—15MAY19

B—Gearshift Lever

Gearshift lever (B) provides three forward speeds: 1st, 2nd, and 3rd, plus one reverse speed.

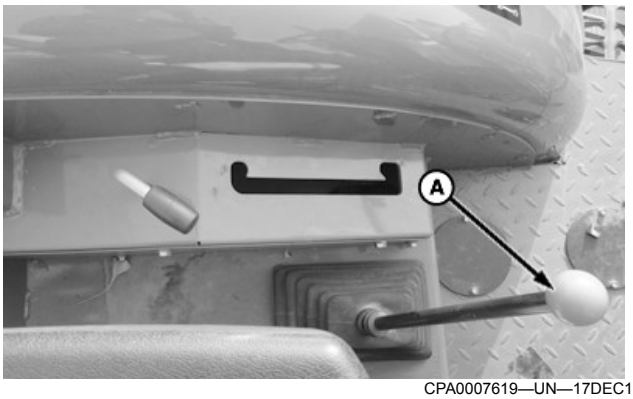
Use range-shift lever and gearshift lever in different combinations. Twelve forward speeds and four reverse speeds can be obtained.

To start the engine, put gearshift lever (B) in neutral (“N”) position.

24F/12R Transmission

CPA0008355—UN—15MAY19

Left Control (PTM engine)

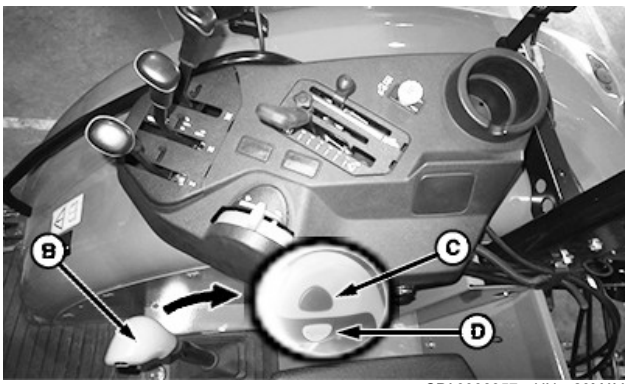


CPA0007619—UN—17DEC18

Left Control (PTE engine)

A—Range-Shift Lever

Range-shift lever (A) provides four forward speed ranges: A, B, C, and D.



CPA0008357—UN—20MAY19

B—Gearshift Lever
C—High Speed Shift Button
D—Low Speed Shift Button

Gearshift lever (B) provides three forward speeds: 1st, 2nd, and 3rd.

High/low speed shift button (C and D) is used to obtain the higher or lower ground speeds.

CPA0009623—UN—05NOV19

E—PowrReverser Lever

PowrReverser lever (E) provides travel direction (forward or reverse).

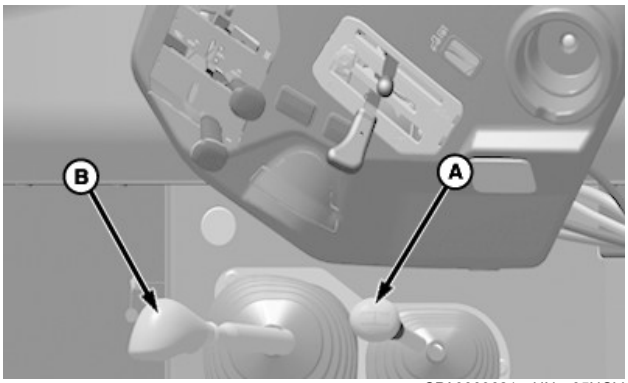
Use range shift lever, gearshift lever, high/low gearshift lever, and PowrReverser lever in different combinations. Twenty-four forward speeds and 12 reverse speeds can be obtained.

To start the engine, put gearshift lever in neutral (“N”) position.

N400041,00047AD-19-31OCT19

Operate Transmission (Option)

12F/4R Transmission



CPA0009621—UN—05NOV19

A—Range-Shift Lever
B—Gearshift Lever

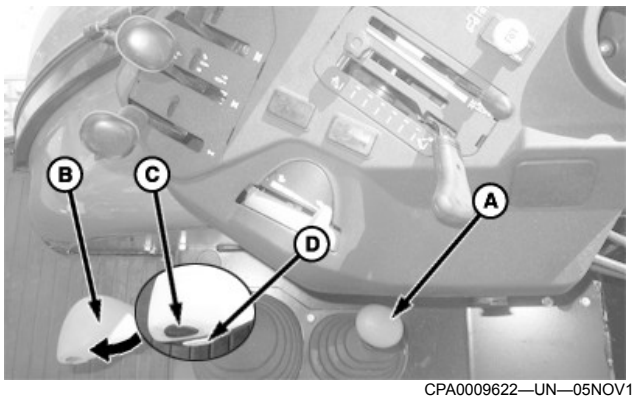
Range-shift lever (A) provides four forward speed ranges: A, B, C, and D.

Gearshift lever (B) provides three forward speeds: 1st, 2nd, and 3rd, plus one reverse speed.

Use range-shift lever and gearshift lever in different combinations. Twelve forward speeds and four reverse speeds can be obtained.

To start the engine, put gearshift lever (B) in neutral (“N”) position.

24F/12R Transmission



CPA0009622—UN—05NOV19

A—Range-Shift Lever
B—Gearshift Lever
C—High Speed Shift Button
D—Low Speed Shift Button

Range-shift lever (A) provides four forward speed ranges: A, B, C, and D.

Gearshift lever (B) provides three forward speeds: 1st, 2nd, and 3rd.

High/low speed shift button (C and D) is used to obtain the higher or lower ground speeds.

CPA0009623—UN—05NOV19

E—PowrReverser Lever

PowrReverser lever (E) provides travel direction (forward or reverse).

Use range shift lever, gearshift lever, high/low gearshift lever, and PowrReverser lever in different combinations. Twenty-four forward speeds and 12 reverse speeds can be obtained.

To start the engine, put gearshift lever in neutral (“N”) position.

N400041,00047AC-19-31OCT19

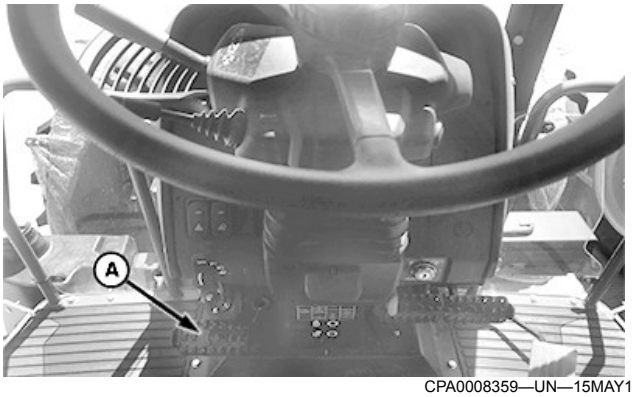
Shift Transmission

12F/4R Transmission

Range-Shift: Range A and range B equipped with collar shift, it must come to a **complete stop** when shifting.

Range C and range D equipped with synchronizer, **DO NOT** stop tractor when shifting.

1. Lower engine rpm to idle speed.



CPA0008359—UN—15MAY19

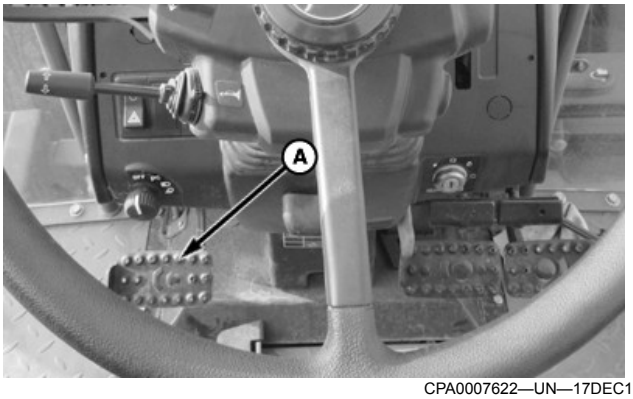
A—Clutch Pedal

2. Depress clutch pedal (A) fully.
3. Select desired speed range (A, B, C, and D).
4. Take up load gradually by slowly releasing the clutch pedal.
5. Increase engine speed once shift is completed.

Gear (speed) Shift: Tractor is equipped with synchronizer, changing gears can be made **on-the-go**, without stopping.

1. Depress clutch pedal fully.
2. Select desired speed (1, 2, 3, and R).
3. Take up load gradually by slowly releasing the clutch pedal.

24F/12R Transmission



CPA0007622—UN—17DEC18

A—Clutch Pedal

High/Low Speed Shift: Select high or low ground speed configuration. High or low ground speed can be selected without depressing the clutch pedal (A) and can be made **on-the-go**, without stopping.

Range-Shift: When shifting into A or B speed range, tractor must come to a **complete stop**. If shifting into C or D speed range, **DO NOT** stop tractor.

1. Lower engine rpm to idle speed.
2. Depress clutch pedal (A) fully.
3. Select desired speed range (A, B, C, and D).
4. Take up load gradually by slowly releasing the clutch pedal.
5. Increase engine speed once shift is completed.

Gear (speed) Shift: Changing gears can be made **on-the-go**, without stopping.

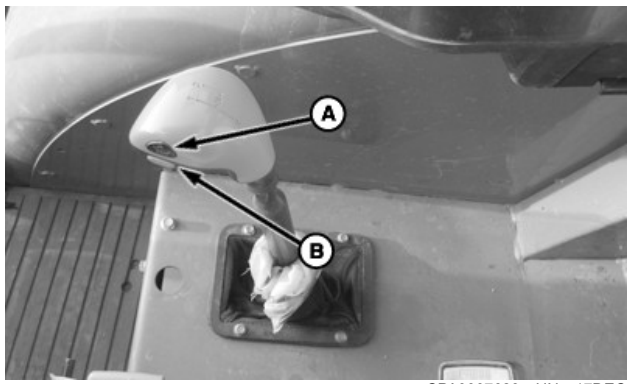
1. With the tractor in motion, depress the clutch pedal (A) fully.
2. Select desired speed (1, 2, 3).
3. Take up load gradually by slowly releasing the clutch pedal.

PowrReverser Lever: It can be operated without stopping completely, select desired travel direction (forward or reverse). Travel direction change can be done without depressing the clutch pedal.

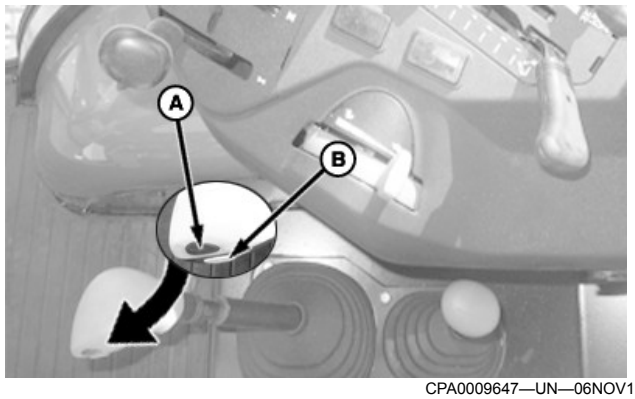
CAUTION: DO NOT operate PowrReverser lever when vehicle speed more than 16 km/h.

LG70251,00019E5-19-21MAY19

High/Low Split-Shift Feature



CPA0007623—UN—17DEC18



CPA0009647—UN—06NOV19

High/Low Switches (option)

A—High Speed Switch

B—Low Speed Switch

Press the high speed switch (A) and low speed switch (B) can upshift and downshift within the selected range and gear.

“H” appears when high speed is selected in the instrument cluster. And “L” appears in the instrument cluster when low speed is selected.

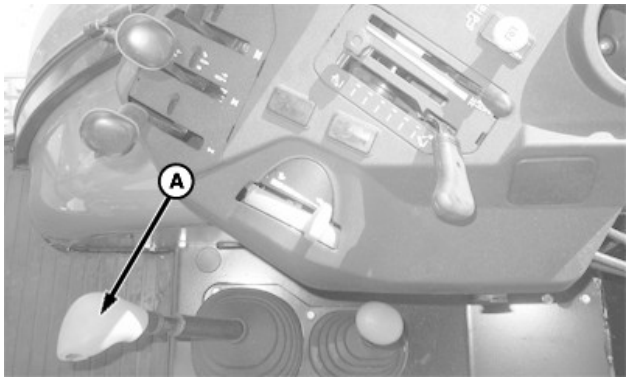
N400041,00047BE-19-06NOV19

Stop Tractor

CAUTION: Leaving transmission off with engine running cannot prevent tractor from moving. Always set park brake before leaving operation station.

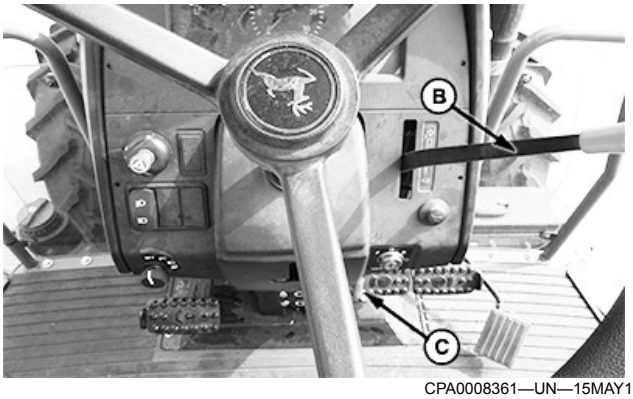
CPA0008360—UN—15MAY19

24F/12R Transmission (12F/4R transmission is similar)



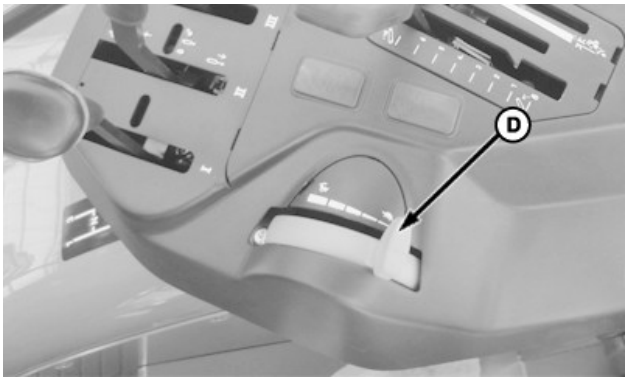
CPA0009619—UN—05NOV19

24F/12R Transmission (12F/4R transmission is similar, option)



CPA0008361—UN—15MAY19

PTM Engine



CPA0007566—UN—17DEC18

PTE Engine

A—Gearshift Lever
B—Hand Throttle (PTM engine)
C—Parking Brake Lever
D—Hand Throttle (PTE engine)

1. Place the gearshift lever (A) in neutral (“N”) and depress brake pedals until tractor stops, and pull up parking brake lever (C).
2. Lower all implements to the ground. (See Hitch and Drawbar Operation section.)

IMPORTANT: Engine oil cools parts of engine, turbocharger, and so on. Stopping a hot engine suddenly can damage these parts by overheating or lack of lubrication.

3. **For PTM models:** Pull hand throttle (B) down to low idle position. Allow engine to idle for 1 to 2 min.

   For PTE models: Push hand throttle (D) back to low idle position. Allow engine to idle for 1 to 2 min.

CAUTION: To prevent operation by untrained personnel, always remove the key from the key switch.

4. Turn the key to OFF position and remove.

N400041,00047BF-19-06NOV19

Operate Mechanical Front-Wheel Drive (MFWD)

Use mechanical front-wheel drive (MFWD) as required for better traction.

CAUTION: Mechanical front-wheel drive greatly increases traction. When using this option on slopes, extra caution is needed. Compared to 2WD, front-wheel drive maintains traction on steeper slopes, increasing the possibility of a tip-over.

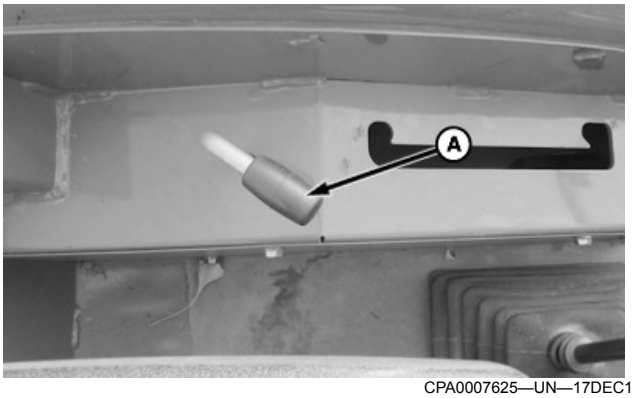
Be careful when driving on icy, wet, or gravel surfaces. To avoid skidding and to prevent loss of steering control, reduce speed and be sure that the tractor is properly ballasted. Front-wheel drive provides better control under these road conditions.

IMPORTANT: To extend front tire life, engage front-wheel drive only when needed in the field. Front wheels turn slightly faster than rear wheels with MFWD engaged and wear quickly in MFWD mode. Engage MFWD on hard surfaces only when it is necessary.

DO NOT install tire chains on front wheels; chains can strike and damage tractor.

While towing an implement and pushing the MFWD lever to disengage, front-wheel drive is likely to resist disengagement. If this situation occurs, relieve the load from the power train first. See step 3.

MFWD can be engaged or disengaged while in motion.



CPA0007625—UN—17DEC18

A—MFWD Control Lever

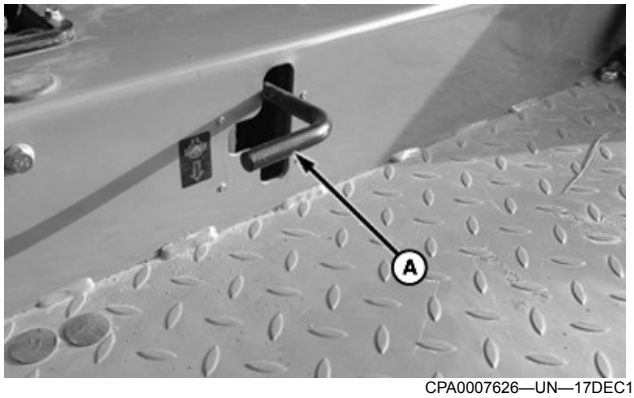
1. To engage, pull up MFWD control lever (A).
2. To disengage, push MFWD control lever down.
3. If the lever does not go down easily, relieve the load from the power train. Perform one or more of the following:
   - Reduce speed and drive tractor straight ahead for a few feet.
   - Stop tractor, then drive it briefly in reverse.
   - Raise implement slightly.
   - Disengage any ground-engaging tool in use.

N400041,0003EF0-19-05DEC18

Differential Lock

CAUTION: DO NOT operate tractor at high speed or attempt to turn when the differential lock is engaged.

IMPORTANT: To prevent damage to drivetrain, DO NOT engage differential lock when one wheel is spinning and the other is stopped.



CPA0007626—UN—17DEC18

A—Differential Lock Pedal

When one wheel starts to lose traction, stop the tractor and engage differential lock by depressing differential lock pedal (A). Tractor wheels must be stopped or turning at the same speed before engaging differential lock. If possible, engage differential lock before entering conditions where tires are likely to slip.

Unequal traction keeps the lock engaged. When traction equalizes, lock disengages itself by spring action. If lock does not disengage, depress one brake pedal and then the other.

If tires repeatedly slip, then get traction, and then slip again, hold differential lock pedal (A) in the engaged position.

N400041,0003EF1-19-05DEC18

Change Reversible PTO Stub Shaft

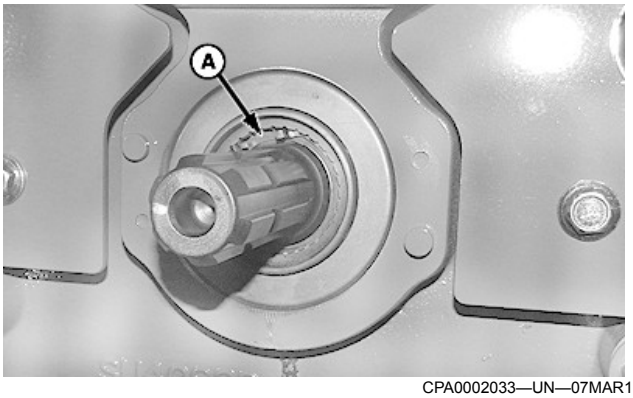
CAUTION: Avoid personal injury. PTO shaft becomes hot in operation. Allow shaft to cool down before handling it.

IMPORTANT: Operate PTO at 540 rpm only when the implement power requirement does not exceed 56 kW (75 hp).

Operating PTO at lower speeds under heavy load could damage PTO. If the implement power requirement is above 57 kW (76 hp) up to 110 kW (147 hp), switch PTO shaft to 1000 rpm end.

NOTE: The 1000 rpm shaft end has 21 splines and the 540 rpm shaft has six splines. Consult implement operator's manual and determine shaft suitability. Select suitable PTO speed by implement power requirement.

Remove PTO Stub Shaft:



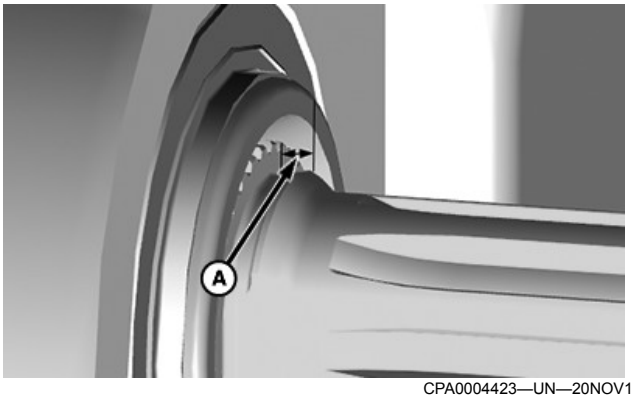
CPA0002033—UN—07MAR17

A—Snap Ring

1. Rotate the ends of the snap ring (A) until they are aligned with flat section on shaft. Remove snap ring (A) and pull out PTO stub shaft.
2. Clean stub shaft thoroughly. Coat splines with John Deere High-Temperature/Extreme-Pressure/Non-Clay grease.

Test PTO Gear Position:

1. Tightly push the PTO stub shaft into PTO drive cradle until a contact is felt. Keep the six-spline end of PTO stub shaft facing outside in the test.



CPA0004423—UN—20NOV17

A—Distance

2. Measure distance (A) with suitable tools. Keep hands off the PTO stub shaft while measuring.

Specification

Distance—Distance. . . . . 5.3±0.9 mm (0.21±0.035 in)

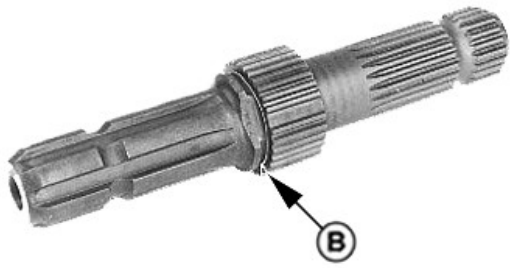
3. If distance (A) does not meet specification, adjust gear position by rotating PTO stub shaft with suitable tools.
4. Measure distance (A). If the distance still does not meet specification, repeat step 3.

IMPORTANT: Make sure distance (A) meets specification before installing the PTO stub shaft. Not meeting the requirement causes wrong PTO speed output and seriously damages the PTO system.

Install 540 rpm PTO:

1. Check PTO stub shaft condition. Make sure that the PTO stub shaft is coated properly.
2. Push the PTO stub shaft into drive cradle with six-spline end facing outside.

CPA0004424—UN—26NOV17



PUC1118—UN—16JAN08

B—Snap Ring Groove

3. Keep pushing the stub shaft until the snap ring groove (B) on PTO drive cradle is visible. Rotate shaft back and forth while installing, to make sure that it is seated correctly in housing.
4. Keep pushing the stub shaft, install the snap ring in position.
5. Try to rotate the PTO stub shaft. Shaft is correctly engaged when strong effort is required to turn it.

Install 1000 rpm PTO:

1. Check PTO stub shaft condition. Make sure that the PTO stub shaft is coated properly.
2. Push the PTO stub shaft into drive cradle with 21 splines end facing outside until the snap ring groove (B) is visible. Rotate shaft back and forth while installing, to make sure that it is seated correctly in housing.
3. Install the snap ring in position.
4. Try to rotate the PTO stub shaft. Shaft is correctly engaged when strong effort is required to turn it.

NOTE: Always check the PTO stub shaft end after installation. Make sure that the correct PTO speed is selected.

N400041,0003EF2-19-19DEC18

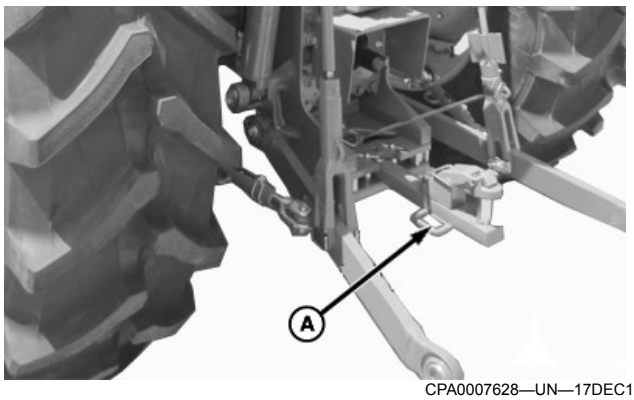
Attach PTO-Driven Implement

1. Attach implement to tractor before connecting PTO driveline. Raise hitch to upward position if it is not to be used.

⚠ CAUTION: To avoid injury, stop engine before attaching implement or working in area of the implement hitch.

2. Put gear-shift lever in neutral (“N”) position. Lock and depress brake pedals, and set park brake.
3. Pull down hand throttle all the way and allow engine to idle for 1 to 2 minutes.

IMPORTANT: Remove clevis assembly on drawbar when using PTO-driven equipment.



CPA0007628—UN—17DEC18

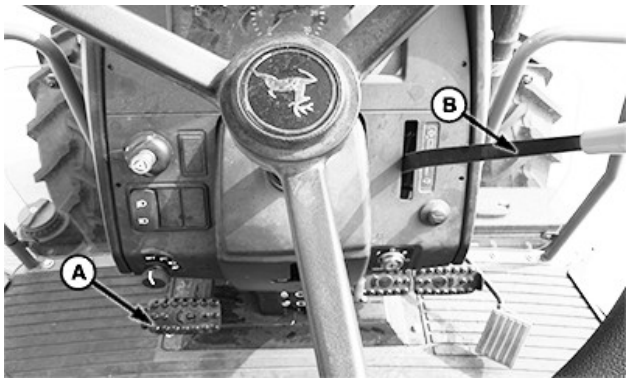
A—Drawbar

4. Attach implement to drawbar (A).
5. If implement is connected to 3-point hitch, make sure that the drawbar is not interfered with by other components. Remove it if necessary.
6. With engine off, turn shaft slightly by hand if necessary to line up splines. Connect driveline to the PTO shaft. Pull out on shaft to be sure that drive line is locked to PTO shaft.
7. Check carefully for any interference and make sure that hitch is raised to the upper position if it is not used.

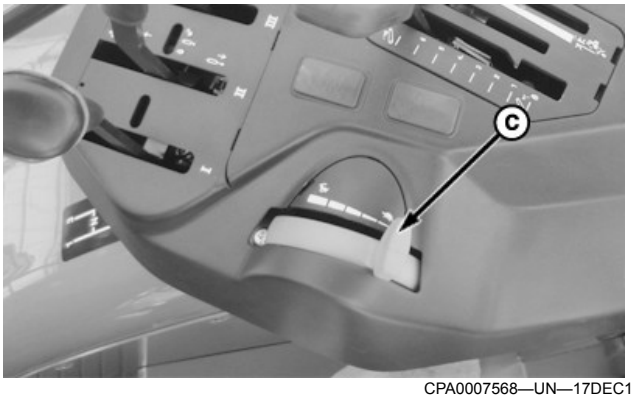
N400041,0003EF3-19-19DEC18

Operate Tractor PTO

NOTE: If the PTO clutch lever or PTO switch is engaged, engine does not start.



CPA0008362—UN—15MAY19

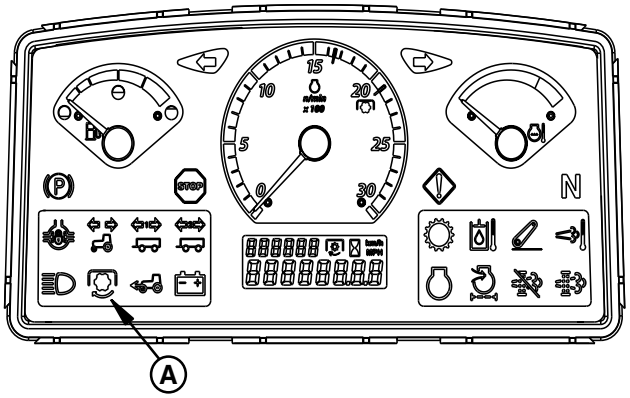


CPA0007568—UN—17DEC18

A—Clutch Pedal
B—Hand Throttle (PTM engine)
C—Hand Throttle (PTE engine)

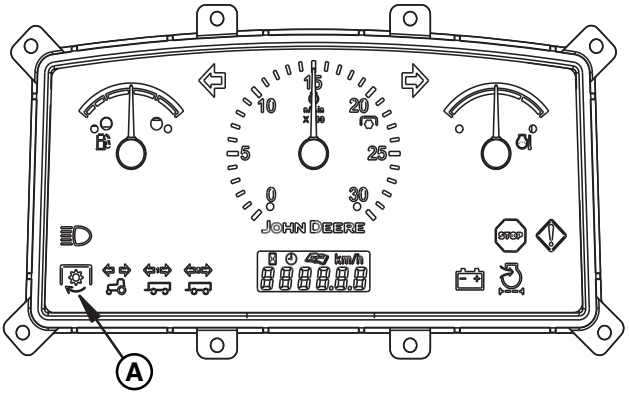
1. Depress clutch pedal (A), start engine and push hand throttle (B or C) forward until engine speed is sufficient to start PTO implement.

   For **540/1000 rpm PTO speed**, increase engine speed to 2100 rpm



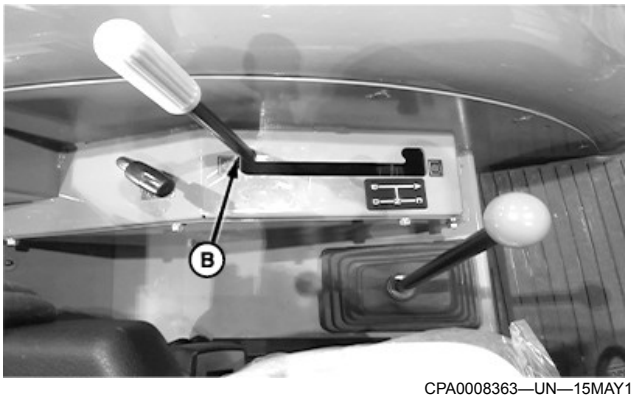
PY14914—UN—31JAN13

Instrument Cluster (wet clutch)



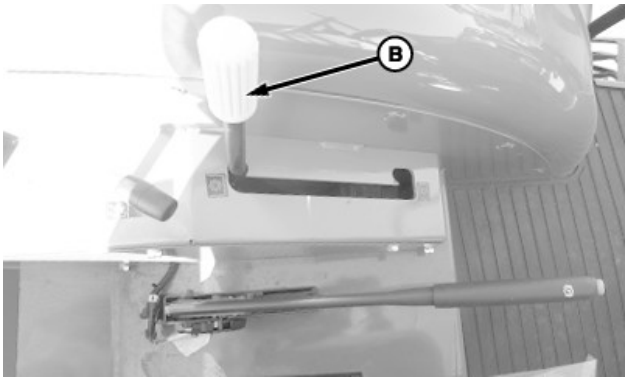
PY14912—UN—31JAN13

Instrument Cluster (dry clutch)



CPA0008363—UN—15MAY19

PTO Control Lever (dry clutch)



CPA0009648—UN—06NOV19

PTO Control Lever (dry clutch, option)

CPA0008364—UN—15MAY19

A—PTO Indicator
B—PTO Control Lever
C—PTO switch

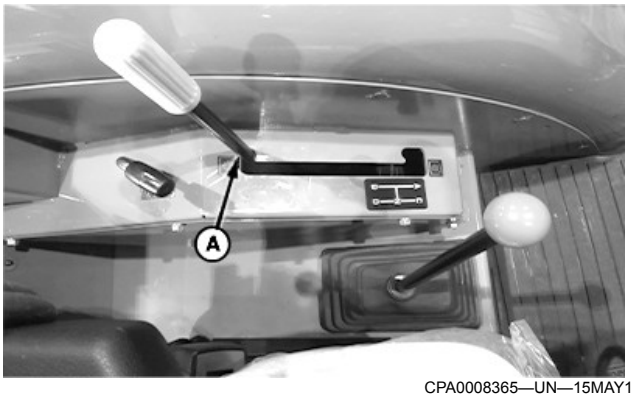
2. Move PTO control lever (B) forward or raise PTO switch (C). PTO indicator (A) lights when PTO is engaged.
3. Increase engine speed to rated 2100 rpm for 540/1000 rpm PTO operation.
4. Pull PTO control lever back or press PTO switch to disengage PTO.

CAUTION: Turn the key switch OFF to stop engine. Set park brake. Make sure that all mechanisms have stopped before cleaning out machine and adjusting PTO-driven implement.

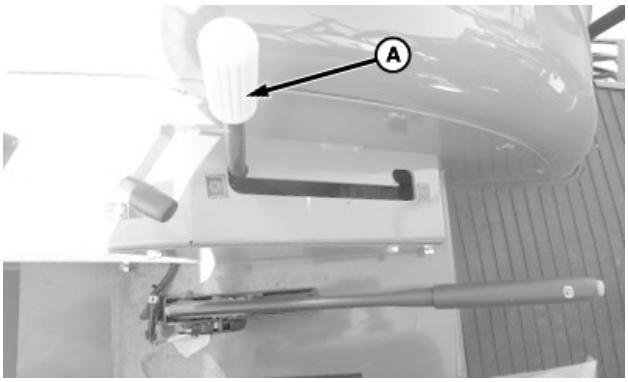
N400041,00047C0-19-06NOV19

Adjust PTO Clutch Operating Rod

NOTE: The adjusting mechanism is at the left-hand side.



CPA0008365—UN—15MAY19

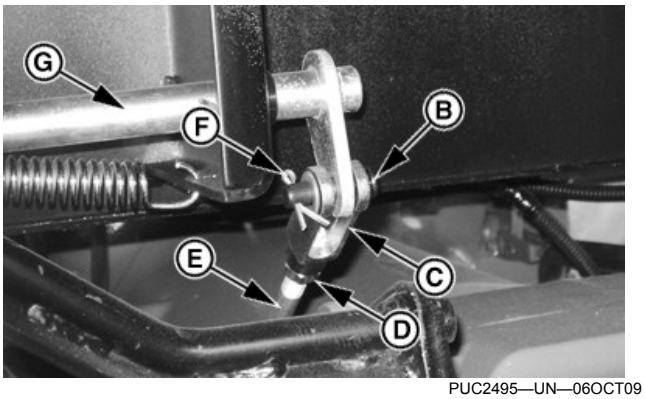


CPA0009615—UN—30OCT19

PTO Control Lever (dry clutch, option)

A—PTO Control Lever

1. Place PTO control lever (A) in disengaged position (rear position).



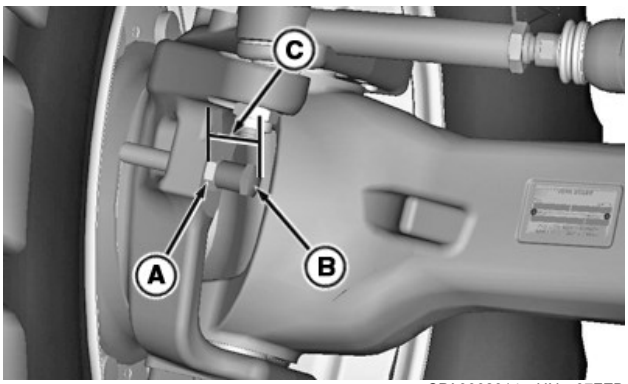
PUC2495—UN—06OCT09

B—Pin Shaft
C—Yoke
D—Lock Nut
E—Rod
F—Cotter Pin
G—PTO Clutch Operating Rod

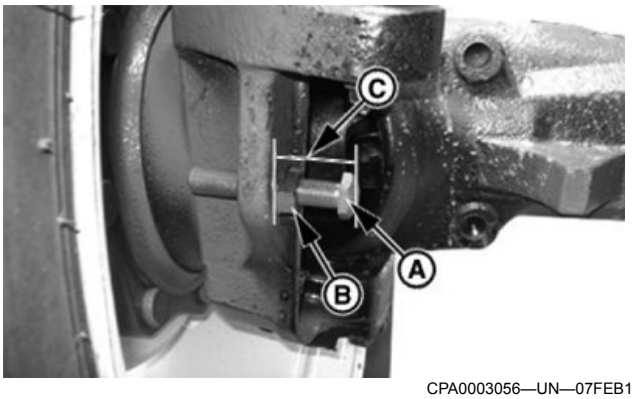
2. Remove cotter pin (F) and pin shaft (B).
3. Remove yoke (C) from the PTO clutch operating rod (G).
4. Loosen lock nut (D). Turn yoke (C) (clockwise or counterclockwise as necessary) until its hole aligns with the hole of the PTO clutch operating rod (G).
5. Turn yoke (C) half turn, counterclockwise, to allow half a turn of free play.
6. Align holes on yoke (C) and PTO clutch operating rod (G), by pushing rod (E) forward.
7. Reinstall yoke (C) to the PTO clutch operating rod (G), tighten up lock nut, and reinstall pin shaft (B) and cotter pin (F).

N400041,00047C1-19-06NOV19

Steering Stop Adjustment (MFWD Axle)



CPA0002314—UN—07FEB17



CPA0003056—UN—07FEB17

Option

A—Adjusting Screw
B—Lock Nut
C—Adjustment Dimension

Front wheel steering angle must be kept within certain limits according to tire size and tread width. Set adjustment dimension (C) by turning adjusting screw (A). Tighten lock nut (B) to specification. Refer to one of the Rim and Wheel disk positions tables for reference.

Specification

Lock Nut—Torque. . . . . 200 N·m (148 lb·ft)

NOTE: Make sure adjustment dimension (C) is set to same value on right-hand and left-hand wheels.

This adjustment applies only to tractors equipped with front-wheel drive (MFWD).

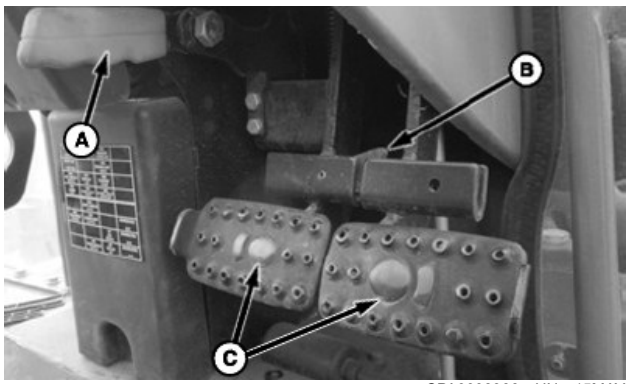
All these data for the front wheel tread are in relation to the factory setting.

Adjust the dimension C for different wheel tread. Make sure that there is no interference with tractor parts in any position when front wheels are turned and front axle is swayed.

Rim and Wheel Disk Positions				
	6095B	**6110B**	**6120B**	**6135B**
Tire Size	**Adjustment dimension (C)**			
320/85R24	55 mm (2.16 in)			
340/85R24		70 mm (2.75 in)		
380/85R24			38 mm (1.5 in)	38 mm (1.5 in)
12.4-24 (option)	55 mm (2.16 in)			
13.6-24 (option)		70 mm (2.75 in)		
14.9-24 (option)			38 mm (1.5 in)	38 mm (1.5 in)

N400041,0003EF7-19-10DEC18

Use Brakes



CPA0008366—UN—15MAY19

A—Parking Brake Lever
B—Brake Pedal Locking Bar
C—Brake Pedals (2 used)

CAUTION: Before operating tractor on a road, lock the pedals together with brake pedal locking bar (B). Use brakes lightly and cautiously at transport speeds.

Do not lock brake pedals (C) together for field work. Instead, apply the right brake pedal lightly to assist in making sharp right-hand turns and left pedal for left-hand turns.

To stop the tractor completely, lock brake pedals together with brake pedal locking bar (B) after the tractor completely stops. Depress brake pedals (C) and pull up parking brake lever (A). Parking brake lever (A) keeps brake pedals down. To release the parking brake lever, push down briefly on brake pedals (C). Parking brake lever (A) drops down on its own.

IMPORTANT: To prevent unnecessary wear, NEVER "ride" the brakes by resting a foot on the pedals.

Reduce speed if towed load is not equipped with brakes and weighs more than the tractor. Avoid hard braking applications. Consult implement operator's manual for recommended transport speeds.

Use additional caution when transporting towed loads under adverse conditions, and when turning or stopping on inclines.

LG70251,00019C0-19-09MAY19

Open Center Hydraulic System

IMPORTANT: Tractor hydraulic system design is known as an open center system. This type of hydraulic system is NOT COMPATIBLE with continuous hydraulic motor applications such as those used in: vacuum blower motors, centrifugal sprayer pumps, hydraulically driven rakes or other similar applications. In such cases, the use of a PTO-driven hydraulic pump is strongly recommended. Anytime one of the above applications is considered, consult your nearest John Deere dealer or service facility.

Failure to observe this application information will likely cause serious damage to tractor hydraulic system.

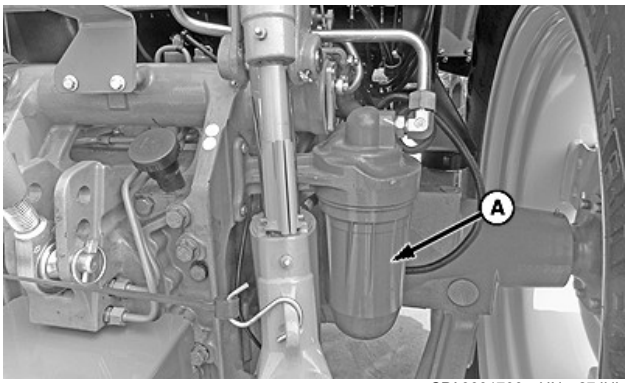
CP00834,0001F6D-19-20OCT15

Warm Transmission-Hydraulic System Oil

CAUTION: Overheating of hydraulic oil causes malfunction of hydraulic components and possible personal injury. To prevent hydraulic oil from overheating, DO NOT hold the SCV in the extend or retract position for an extended time.

CPA0008367—UN—15MAY19

Right–Hand Side (dry clutch)



CPA0001700—UN—27JUL15

Rear of Tractor (wet clutch))

A—Hydraulic Oil Filter

NOTE: Hydraulic oil filter (A) is on the right hand for the dry clutch machine, or at the rear for the wet clutch machine.

Hydraulic system is slow to function when tractor is started in cold weather, because the cold oil does not pass through the hydraulic oil filter (A) easily.

Steering is also slow until system warms up.

Hydraulic system functions normally when oil warms up.

To warm up the oil in the system, proceed as follows:

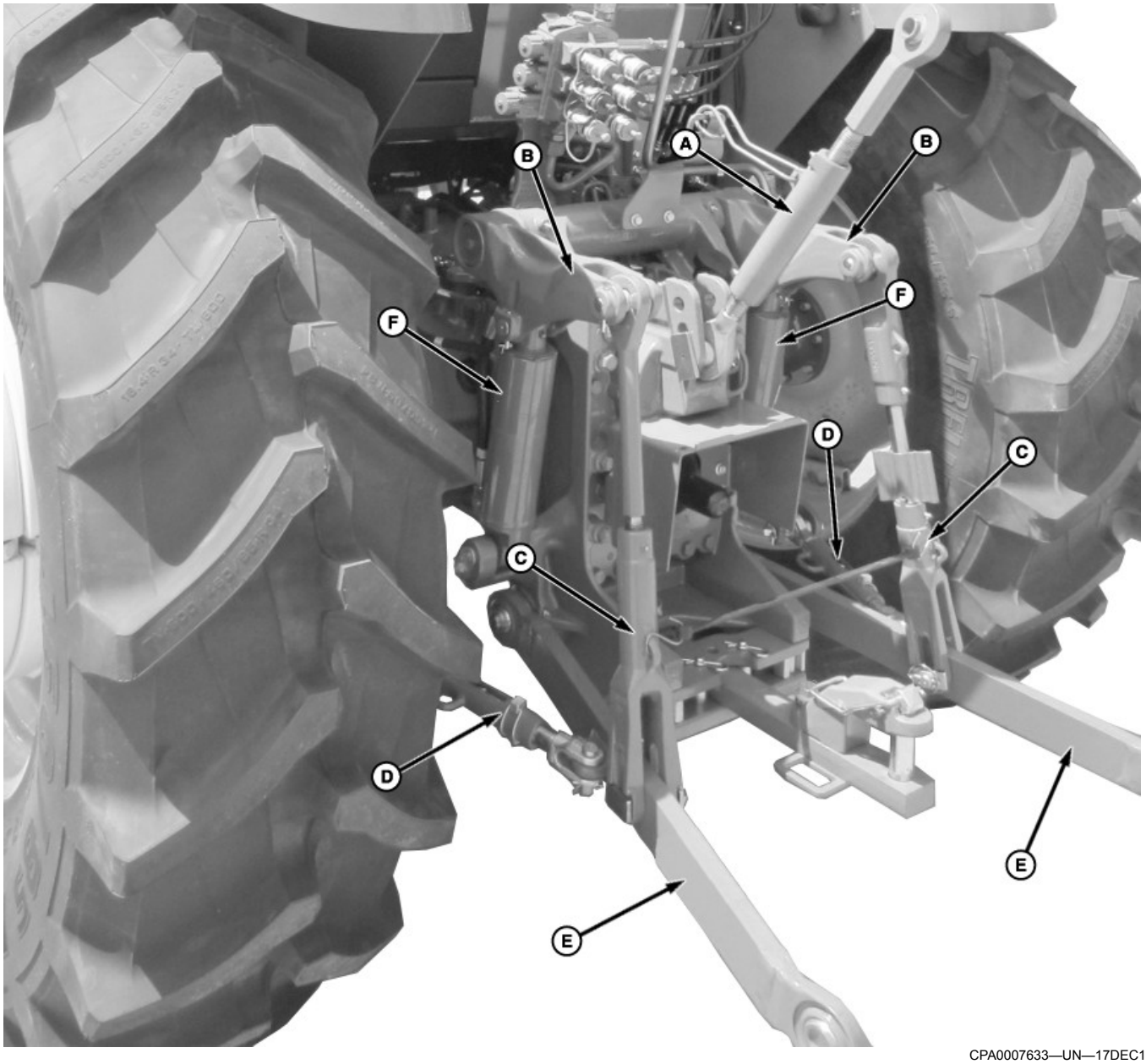
1. Depress clutch pedal, start engine and idle at about 1000 rpm.

IMPORTANT: In order to prevent damaging hydraulic pump or relief valve, DO NOT exceed 3 minutes warm-up time with steering wheel held in full left or right turn position.

2. Turn and hold steering wheel in full left or full right position, for no more than 3 min.

LG70251,00019C1-19-09MAY19

Rear Hitch Components

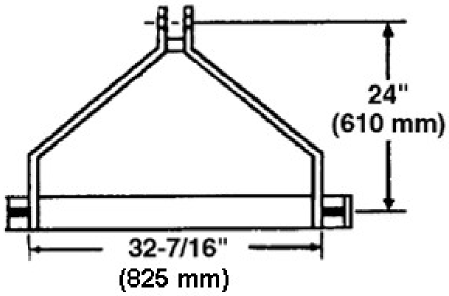


CPA0007633—UN—17DEC18

A—Center Link
B—Lift Arms (2 used)
C—Lift Links (2 used)
D—Stabilizer Bars (2 used)
E—Draft Links (2 used, fixed ball type)
F—Hitch Cylinders (2 used)

LG70251,00019DC-19-20MAY19

Prepare Implement



PUC1571—UN—30NOV07

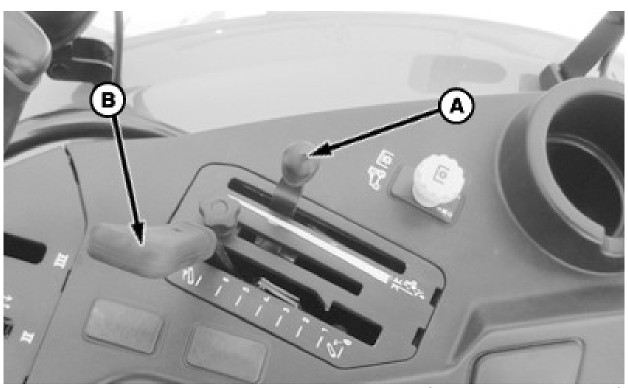
Implement Mast

Category II implements have the top pin hole of the implement mast located 610 mm (24 in) above the lower pin holes. Drill another hole in top mast or extend top mast if necessary.

Mast Height	Width Between Lower Pins	Pin Size	
		Lower	Top
610 mm (24 in)	825 mm (32-7/16 in)	28 mm (1-1/8 in)	25.5 mm (1 in)

N400041,0003EFB-19-07DEC18

Rockshaft Control Lever



CPA0007634—UN—17DEC18

A—Draft Control Lever
B—Position Control Lever

Position control lever (B) and draft control lever (A) controls the rockshaft.

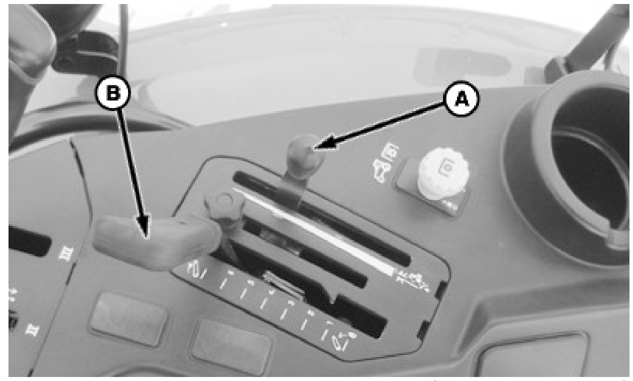
Position control lever (B) raises the hitch when pulled rearward, and lowers the hitch when moved forward. (See details in this section)

Draft control lever (A) controls hitch position relative to draft loads. (See details in this section.)

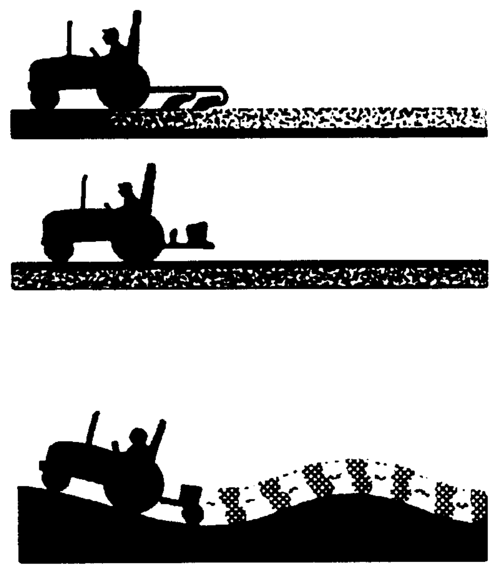
N400041,0003F03-19-19DEC18

Use Rockshaft Position Control

CAUTION: To prevent unexpected movement of rockshaft, pull draft control lever (A) all the way forward before attaching an implement.



CPA0007634—UN—17DEC18



P9043—UN—01AUG00

A—Draft Control Lever
B—Position Control Lever

Use position control lever (B) for hitch movement and depth control. Position control can be used for the following applications:

CONSTANT DEPTH USE: Implement is on level terrain or not engaged the ground, such as spreaders or sprayers. Place position control lever (B) at depth desired.

TRANSPORT AND FIELD TURNAROUND: Position control lever (B) must be moved fully rearward.

FLOAT OPERATION: Use position control for implement with skids or depth gauge wheels designed to carry full implement weight. Push position control lever all the way forward, and pull draft control lever all the way upward so implement can follow the ground contour.

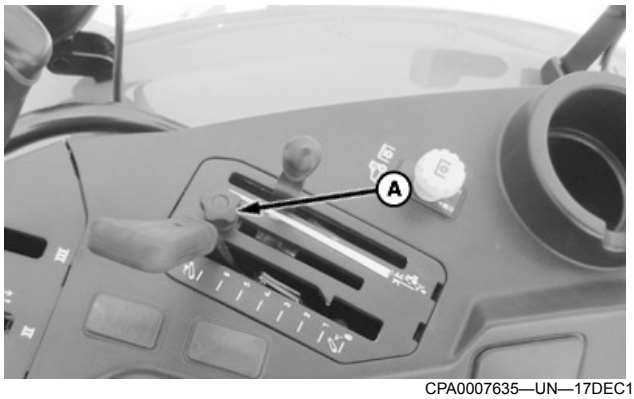
NOTE: Lift links can be adjusted for the implement float. (See Adjust Lateral Float in this section.)

N400041,0003F04-19-07DEC18

Set Position Control Lever Stop

NOTE: Use position control lever stop when operating depth or height repeats often.

1. Determine the proper depth or height by operating the implement for a few minutes.



CPA0007635—UN—17DEC18

A—Position Control Lever Stop

2. Move the position control lever stop (A) and slide against the position control lever. Tighten the position control lever stop to lock the position control lever.

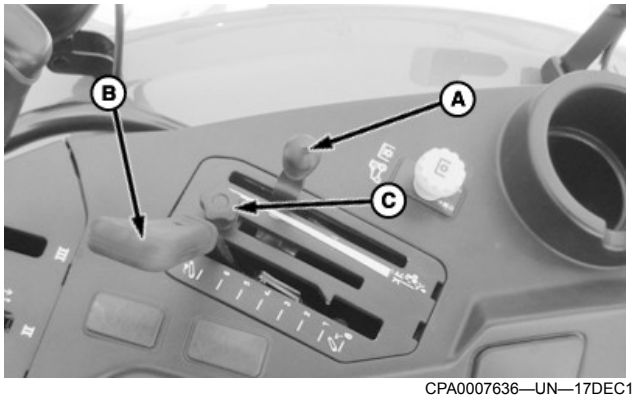
N400041,0003F05-19-07DEC18

Use Draft Control

The rockshaft is equipped with the variable draft control system.

Use draft load sensing for the following conditions:

- Operating with a fully mounted implement in uneven terrain. To maintain a nearly constant depth, the implement rises and lowers following the ground contours.
- Operating in varying soil conditions. When getting through a tough spot, the implement can raise slightly. There is no need to shift gears in this condition.



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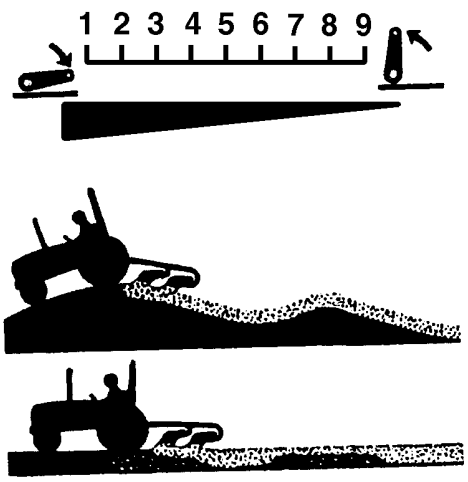


P9066—UN—11SEP00

A—Draft Control Lever
B—Position Control Lever
C—Position Control Lever Stop

Draft control lever (A) controls amount of load required before hitch responds. When the knob is placed all the way up, there is no draft sensing. Increase the required draft load by pushing down the knob. Draft load can override the position set by the position control lever (B).

For draft load sensing operation:

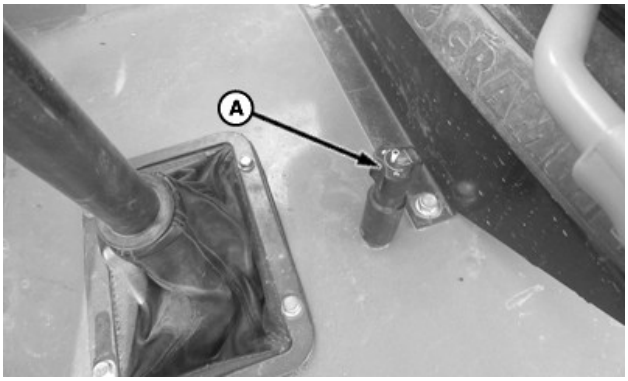
- Initially, place the position control lever (B) in its fully forward position, and place the draft control lever (A) in the top (least draft) position.
- With tractor moving, pull position control lever (B) backward to set implement operating depth. Set the position control lever stop (C). When the tractor begins to slip, push the draft control lever (A) down until desired draft sensing level is obtained.
- Position control lever (B) can also be raised slightly to override the draft control setting. To avoid getting stuck, performance this action in adverse conditions.
- Position control lever (B) can be moved fully rearward to raise the hitch at the end of the field.

N400041,0003EFF-19-19DEC18

Adjust Rockshaft Rate-of-Drop

CAUTION: Excessive rate-of-drop damages equipment or injures to the machine operator. Fully lowering implement requires at least 2 sec.

Rockshaft drops faster when a heavy implement is attached. Adjust rate-of-drop knob so that it is slow enough to be safe and prevent implement damage.



CPA0007637—UN—17DEC18

On the Right Side of Seat

A—Rate-of-Drop Knob

Rockshaft rate-of-drop knob (A) is located behind the seat. Turn knob clockwise to slow rockshaft drop, and counterclockwise to speed up rate-of-drop.

To lock rockshaft in position, turn rate-of-drop knob (A) clockwise to the stop.

To unlock the rockshaft, turn the rate-of-drop knob (A) counterclockwise and reset the rate of drop per instructions.

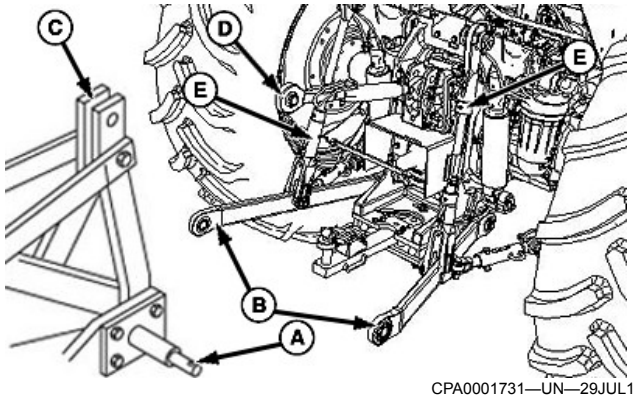
N400041,0003F00-19-10DEC18

Attach Implements to 3-Point Hitch

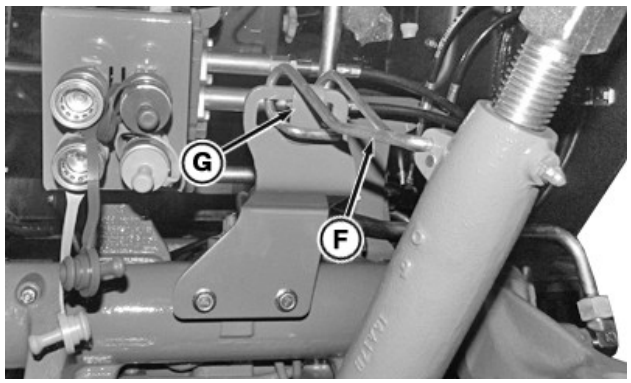
1. Avoid interference with drawbar. If necessary, move the drawbar forward or remove it. Check for any other potential interference for the drawbar.

CAUTION: Prevent unexpected movement of rockshaft by placing draft sensing knob all the way up before attaching implement to hitch.

2. Back tractor to implement until hitch points align. Place gearshift lever in neutral, “N”. Lock and depress brake pedals, and pull up park brake lever.
3. Pull down the hand throttle all the way and allow engine to idle for 1—2 min, then shut off engine.



CPA0001731—UN—29JUL15



CPA0002308—UN—23NOV15

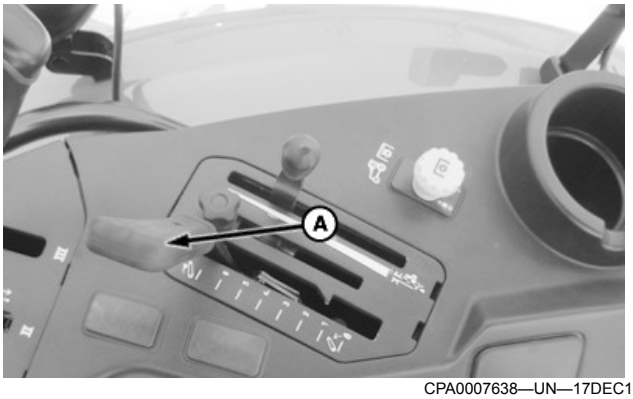
A—Implement Hitch Pins (2 used)
B—Draft Links (2 used)
C—Implement Top Mast
D—Center Link
E—Lift Links (2 used)
F—Center Link Locking Clip
G—Tab

4. Slip draft links (B) over the implement hitch pins (A) on both sides and retain with locking pins.

NOTE: Locking pins can be stored on the draft links through holes in sway the chain ears when not in use.

5. Remove center link (D) from the transport hook, lift center link locking clip (F) and rotate the tab (G) to rear of clip.
6. Attach center link (D) and implement top mast (C). Retain with pin and locking pin.
7. Adjust center link (D) and lift links (E) as necessary. (See Leveling Hitch in this section.)

CAUTION: Avoid bodily injury or machine damage when using attachments. Check the full range of operation for interference, binding, or PTO separation.



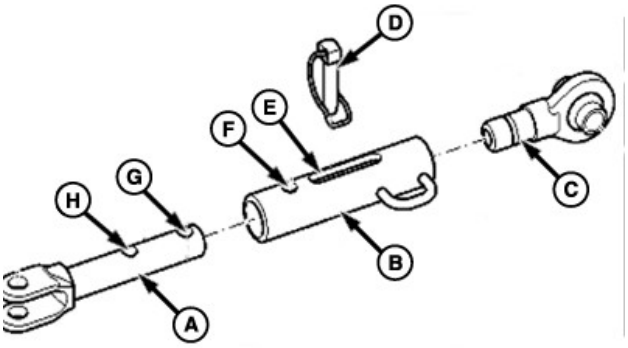
CPA0007638—UN—17DEC18

A—Position Control Lever

8. Use the rockshaft position control lever (A) to lower or raise implement slowly and check for any interference.

N400041,0003F02-19-19DEC18

Adjust Stabilizer Bar



CPA0003521—UN—27MAR17

CPA0003520—UN—27MAR17

CPA0003523—UN—27MAR17

Position 1

CPA0003524—UN—27MAR17

Position 2

A—Rod
B—Adjuster
C—Threaded Rod
D—Lock Pin
E—Adjust Hole E
F—Adjust Hole F
G—Adjust Hole G
H—Adjust Hole H
I—Dimension of Bare Thread of Threaded Rod

The stabilizer bars are used to adjust the lateral sway of implements (draft links). Adjust length of stabilizer bars by routing stabilizer adjuster (B). Insert lock pin (D) into adjust holes (F and H) to set as position 1 , then the stabilizer bar cannot sway. Insert lock pin into adjust holes (E and G) to set as position 2, then the stabilizer bar can sway in a certain range.

Select position 1 or position 2 on basis of work condition. Recommend setting as position 1 when road travel, or equips with rotary cultivator or hay mower. Recommend setting as position 2 when equips with plough or harrow, tractor will perform better performance.

Recommended adjustment method:

- Try to adjust dimension of bare thread of threaded rod (I) to 25 mm (0.98 in) by adjusting adjuster when equips with implement of category II.
- Try to adjust dimension of bare thread of threaded

rod (I) to 0 mm (0 in) by adjusting adjuster when equips wider implement.

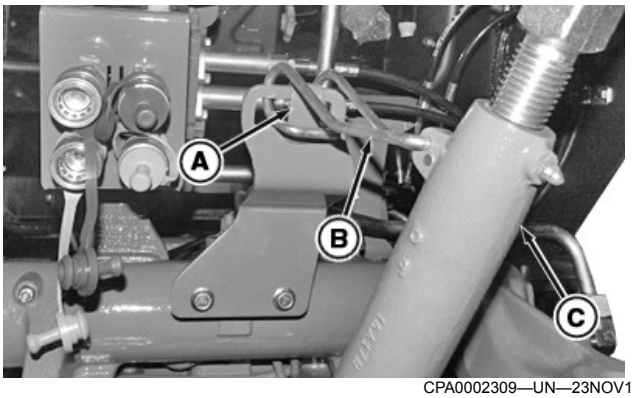
YN00044,0000E7E-19-09NOV17

Level Hitch

1. Lower implement to take off hitch weight.

IMPORTANT: DO NOT attempt to extend the center link beyond limits of locking clip or to raise lift links past the stops. Link body threads could be damaged.

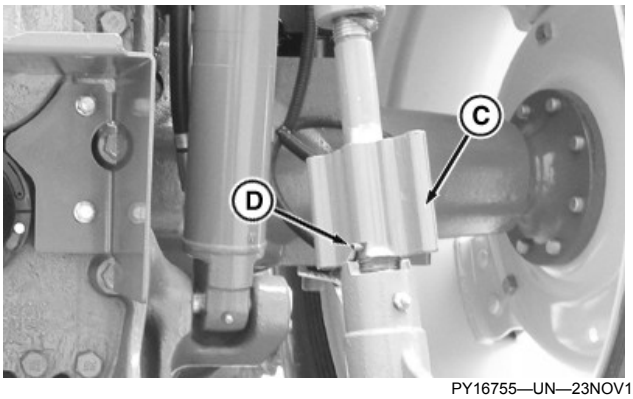
NOTE: Maximum adjustment range of the center link can only be obtained if the ends are positioned equally within the body when attached to an implement.



CPA0002309—UN—23NOV15

A—Tab
B—Locking Clip
C—Center Link Body

2. Adjust center link to level implement front-to-rear. Unlatch locking clip (B). Rotate center link body (C) clockwise to lengthen center link or counterclockwise to shorten it. Minimum length is 570 mm (22.4 in) and maximum length, 720 mm (28.3 in). Be sure to latch locking clip (B) again after every adjustment.



PY16755—UN—23NOV12

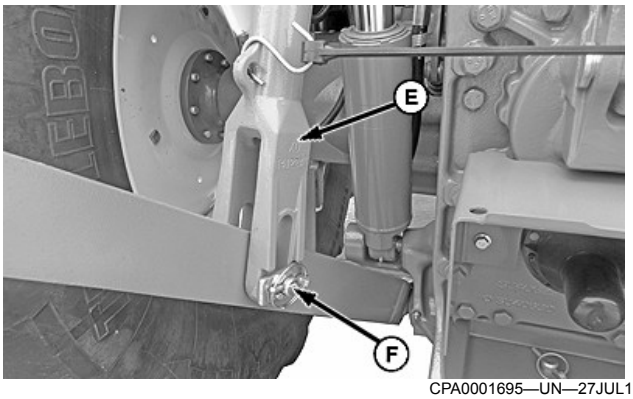
C—Locking Handle
D—Roll Pin

3. Adjust right-hand lift link to level implement side-to-side. Lift locking handle (C) and turn 1/4 turn to engage slot onto roll pin (D) in center portion of lift link.

   Turn locking handle (C) clockwise to raise draft link.

   Turn locking handle (C) counterclockwise to lower draft link.

   After adjustment, lift handle and turn it to engage slot onto lower body and to prevent change of adjustment during operation.



CPA0001695—UN—27JUL15

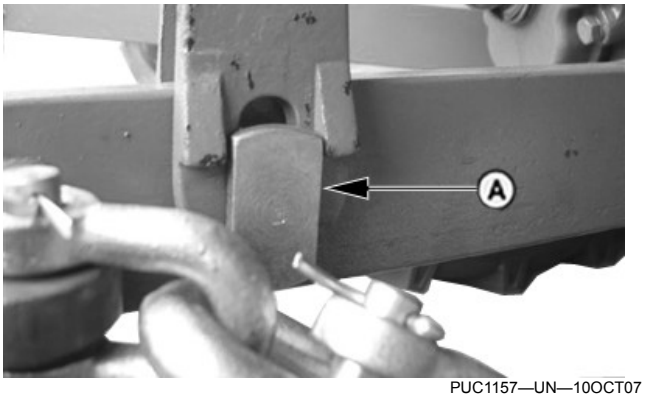
E—Lower End Assembly
F—Lower Link Pin

4. The left-hand lift link is also adjustable in length. To change length, remove lower link pin (F) and rotate lower end assembly (E) clockwise to shorten, or counterclockwise to lengthen. Then reinstall the pin and locking pin.

   Adjust left-hand and right-hand lift links to accommodate various tire sizes or implement heights. For greatest range of up and down hitch motion, set lift links so that when fully lowered, draft link balls are approximately 178 mm (7 in) off the ground.

CO00263,00009E2-19-24JAN18

Adjust Lateral Float

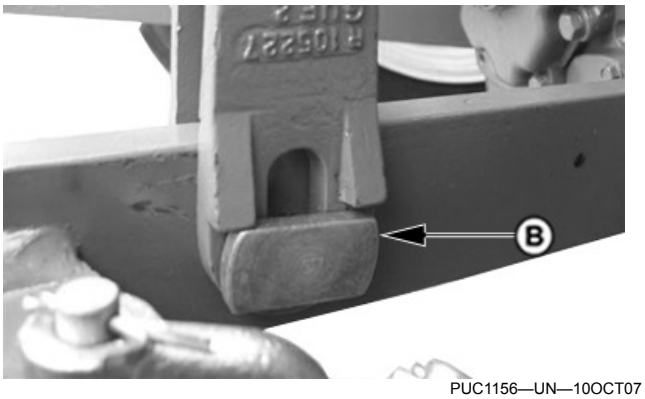


PUC1157—UN—10OCT07

A—Pin in Vertical (Float) Position

To allow the draft link to raise slightly as implement

follows the ground contour, place the pin in vertical (float) position (A).



PUC1156—UN—10OCT07

B—Pin in Horizontal (Rigid) Position

To hold implement rigid, place the pin in horizontal (rigid) position (B).

Use lift arm pins in the vertical (float) position for hitch-mounted implements. A particular application is a cultivator or mower, equipped with ground gauging skids or wheels which causes the implement to twist relative to the tractor.

Use lift arm pins in the horizontal (rigid) position for implements such as plows and ground engaging implements that do not twist relative to the tractor.

CO00263,00009E3-19-24JAN18

Observe Drawbar Load Limitations

IMPORTANT: Certain heavy equipment, such as a loaded single-axle trailer, can place excessive strain on drawbar. Strain is greatly increased by speed and rough ground.

Static vertical load on drawbar should not exceed specification.

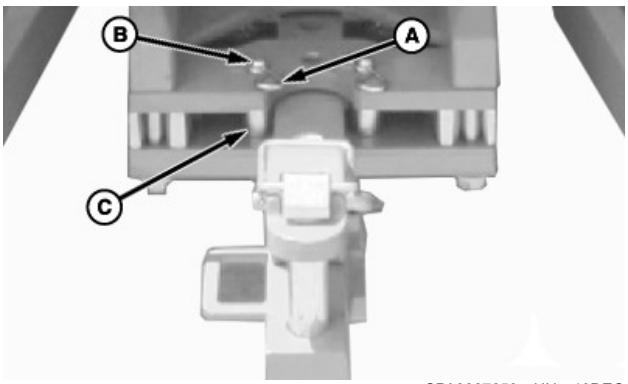
Drive slowly with heavy loads.

Specification

Static Vertical Load—Capacity. . . . . 1200 kg (2646 lb)

CO00263,00009E4-19-24JAN18

Use Swinging Drawbar



CPA0007659—UN—19DEC18

A—Spring Lock Clip
B—Retaining Pin
C—Spacer

To allow drawbar to swing sideways, remove spring lock clip (A). Pull retaining pin (B) down and remove spacer (C). If full swing of drawbar is needed, remove opposite side pin and spacer.

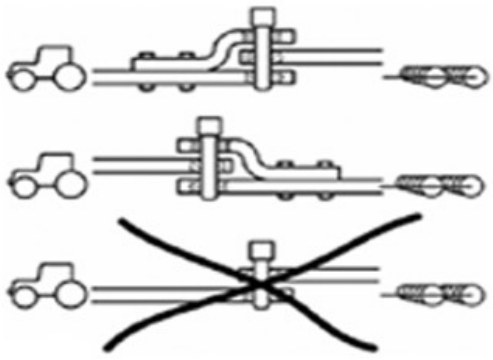
This is helpful when turning under load.

IMPORTANT: Install spring lock clip, retaining pin, and spacer to prevent drawbar from swinging free during transport of towed loads.

Install spring lock clip, retaining pin, and spacer at all other times.

N400041,0003F3B-19-19DEC18

Proper Use of Drawbar



PUC1443—UN—24OCT07

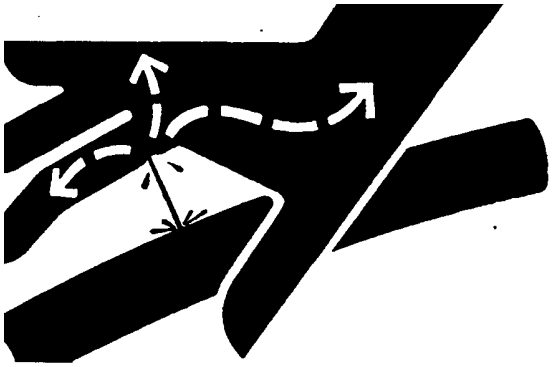
IMPORTANT: Comply with local traffic regulations when using the drawbar. Use suitable, approved hitch pins only. Combine drawbars as shown only.

CP00613,00005E6-19-08JUN13

Connect Cylinder Hoses

CAUTION: 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 placed under connections. Protect hands and body from high-pressure fluids.

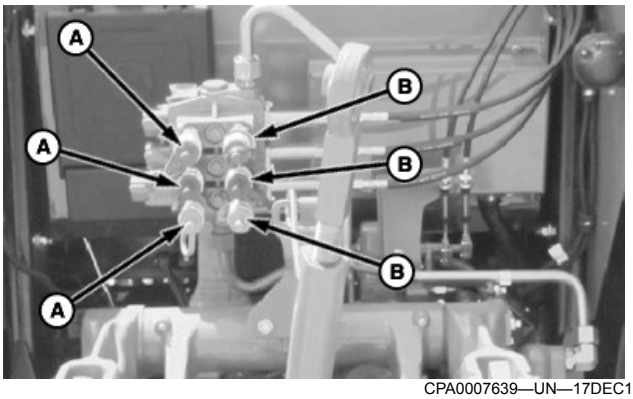
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811—UN—23AUG88

IMPORTANT: Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

1. Remove dust cups (if equipped) from hose ends.
2. Pull dust plugs from couplers.
3. Make sure that hose ends and coupler receptacles are clean and dry.



CPA0007639—UN—17DEC18

Hose Coupler (three sets shown, two sets is similar)

A—Supply Hose Coupler (2 or 3 used)
B—Return Hose Coupler (2 or 3 used)

4. Return hose couplers (B) receive the cylinder return hose.
5. Supply hose couplers (A) receive cylinder supply hose.
6. To connect each hose, push the coupler sleeve forward and push hose tip firmly into the coupler receptacle. Release the sleeve and pull lightly on hose to make sure that positive connection was made.

CAUTION: Hoses that have been reversed when connecting pose a serious hazard. If the SCV lever is pushed all the way forward to float or regenerate position, implement would drop suddenly, potentially causing serious injury or death. Therefore, never attempt to use float or regenerate position before you have performed the following verification step.

7. To make sure that hoses have been connected to the correct receptacle, pull SCV I lever slightly back of center. This should raise implement. If implement lowers instead of rising, hoses are reversed and need to be connected correctly.

N400041,0003F08-19-10DEC18

Reconnect Hoses Under Pressure

If hoses pull from tractor accidentally during use, clean hose tips and coupler receptacles before proceeding to reconnect. Then use following procedure:

IMPORTANT: Implement must be raised slightly to reset coupler check valves, before it can be lowered.

CPA0008171—UN—29MAR19

A—SCV Lever

1. Raise any attached implement slightly by pulling back SCV lever (A).
2. Push SCV lever (A) forward to lower implement and relieve line pressure.

3. Reconnect hoses (See Connect Cylinder Hoses in this section).

LG70251,0001916-19-29MAR19

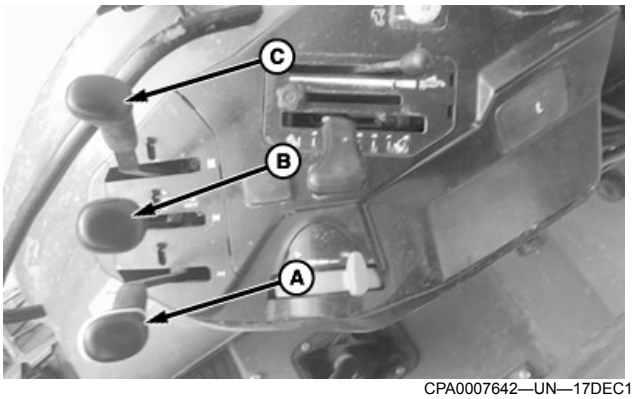
Use Correct Hose Tips

Tractors are equipped with selective control valves (SCV). The coupler receptacles accept a standard hose tip as recommended by ISO and SAE. Adapters to allow connecting older John Deere hose tips to the ISO couplers in your tractor are available from your John Deere dealer.

CP00834,0001F6F-19-20OCT15

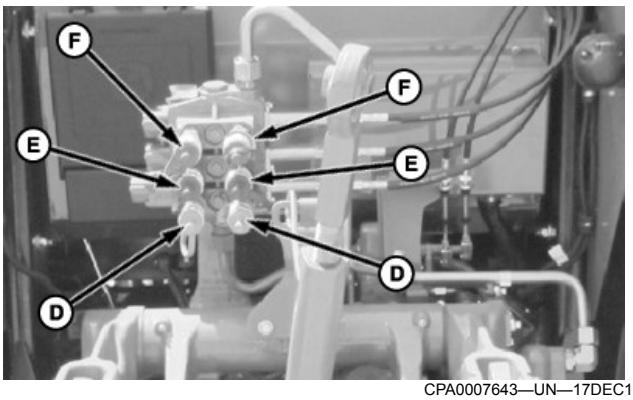
SCV Control Lever and Coupler Identification

SCV levers control oil flow to hydraulic hose couplers at the rear of tractor.



CPA0007642—UN—17DEC18

SCV Control Levers (three sets shown, two sets is similar)



CPA0007643—UN—17DEC18

SCV Coupler (three sets shown, two sets is similar)

A—SCV I Lever
B—SCV II Lever
C—SCV III Lever
D—SCV I Couplers (2 used)
E—SCV II Couplers (2 used)
F—SCV III Couplers (2 used)

SCV I lever (A) operates SCV I couplers (D).

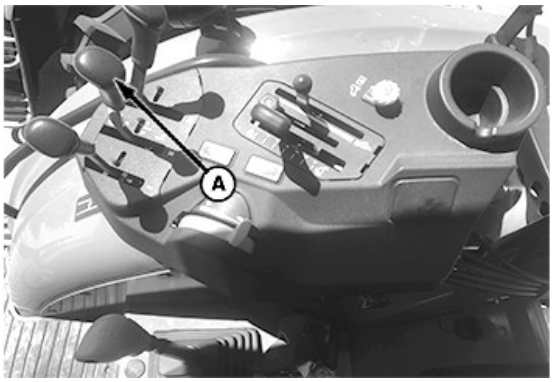
SCV II lever (B) operates SCV II couplers (E).

SCV III lever (C) operates SCV III couplers (F).

N400041,0003F09-19-11DEC18

Operate SCV Control Levers

Neutral Position



CPA0008368—UN—15MAY19

A—SCV Lever (neutral position)

Spring pressure returns the SCV lever (A) to neutral position (unless lever is fully forward, in the “float” position). When the SCV lever is centered, the cylinder is hydraulically locked in neutral position.

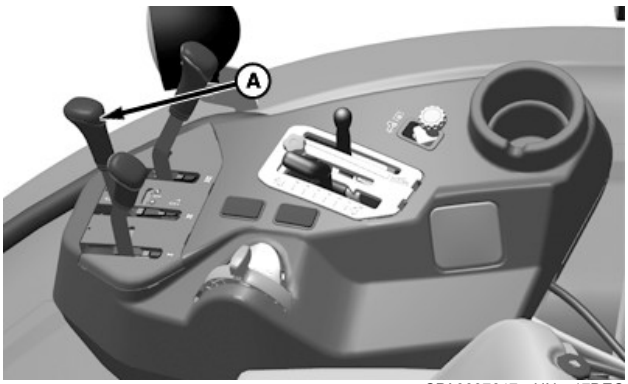
Extend Position

CPA0007646—UN—17DEC18

A—SCV Lever (extend position)

Pull the SCV lever (A) slightly to rear of neutral and hold it against spring pressure, which extends cylinder connected to SCV coupler and normally raises implement. SCV lever returns to neutral when released. When the cylinder piston protrudes, oil supply port is connected to SCV quick coupler (supply coupler) for raising implement.

Retract Position



CPA0007647—UN—17DEC18

A—SCV Lever (retract position)

Push SCV lever (A) slightly forward of neutral and hold it against spring pressure, which retracts cylinder connected to SCV couplers and normally lowers implement. SCV lever returns to neutral when released. When the cylinder piston retracts, oil return port is connected to SCV quick coupler for descending the implement.

Float Position

NOTE: The floating position is only available for SCV I of the triple rear SCV.

CPA0007648—UN—17DEC18

A—SCV Lever (float position)

Push SCV lever (A) all the way forward, past detent. The detent keeps lever from going back to neutral position, until operator pulls SCV lever back. When the SCV lever is in this position, known as “float”, cylinder pressure allows attached implement to follow the ground contour automatically without input from the operator. Cylinder float position is only available in tractors equipped with triple SCV.

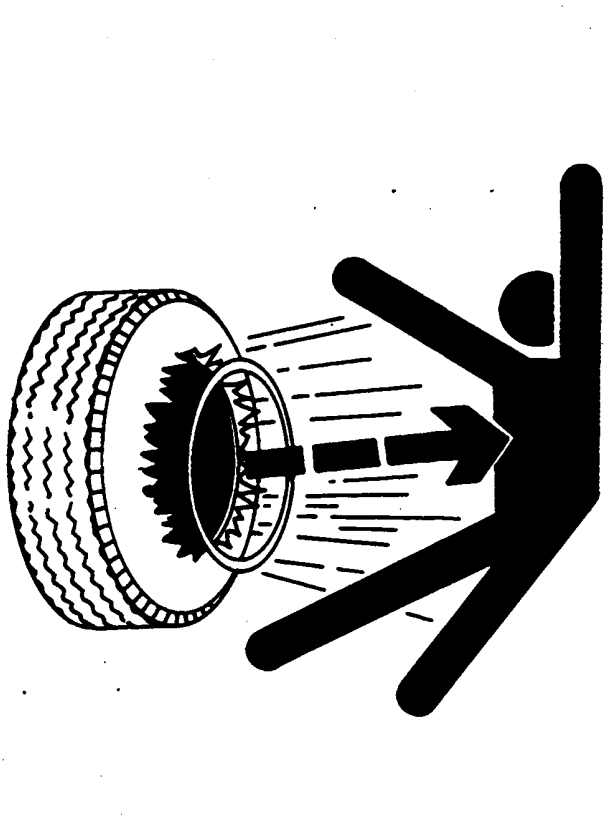
LG70251,00019C2-19-09MAY19

Match Tractor Power to Implement

IMPORTANT: Tractor power is supposed to match the size of certain implements. Excessive power can damage an implement, and too large an implement can damage the tractor. (Refer to your implement operator's manual for minimum and maximum power requirements before attaching an implement.)

CO00263,00009E8-19-24JAN18

Service Tires Safely



TS211—UN—15APR13

CAUTION: 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.

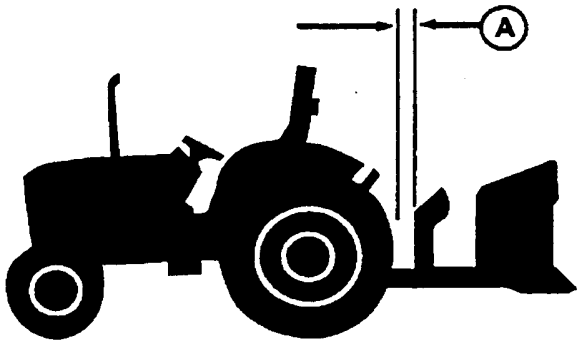
Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

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.

DX,RIM1-19-27OCT08

Check Implement-to-Tire Clearance



M47177—UN—31JAN92

A—Clearance

IMPORTANT: Check for adequate clearance (A) between outside diameter of the tire and implement with hitch in raised position.

When large diameter rear tires are installed on a tractor with a 3-point hitch, a quick coupler or similar device may be required to provide adequate implement-to-tire clearance.

CP00834,0001F2F-19-18OCT15

Check Tire Inflation Pressure

Check tires daily for damage or noticeably low pressure.

At least every 100 hours of operation, check inflation pressure with a gauge. Use an accurate gauge having 10 kPa (0.1 bar) (1 psi) graduations.

If tires contain liquid ballast, use a special air-water gauge and measure with valve stem at bottom.

NOTE: When furrow plowing or during hillside operation, tire pressure can be increased 28 kPa (0.28 bar) (4 psi) ABOVE maximum to prevent tire wrinkling or buckling.

IMPORTANT: Over-inflation reduces performance and increases strain on both tire and rim. Always check inflation pressure with an accurate tire gauge to prevent over-inflation.

NOTE: Following inflation information applies to both front and rear tires and Tire Inflation Pressure Chart.

1. All inflation pressures are calculated for 30 km/h (18.6 mph) or 40 km/h (24.8 mph) travel speeds.
2. Operation of tires at the inflation pressures listed on chart will result in optimum tractive performance of the tire/vehicle system.
3. Inflation pressures less than 80 kPa (12 psi) should be monitored regularly because of the increased risk

of low pressure air leaks (especially due to leaking valve cores).

4. Tractors operating on steep side slopes should increase inflation pressures 28 kPa (4 psi) above the values listed to compensate for lateral weight transfer.
5. Tires run as singles in high traction conditions sometimes experience bead slip if the bead was not fully seated or if too much lubricant was used to mount the tire. Increasing the inflation pressure will compensate for this condition but will not cause reduced traction. Consult your tire dealer if this problem occurs.
6. If higher load capacities are needed, contact your John Deere dealer for tire manufacturer's load and inflation table information.

N400041,0003566-19-12JAN17

Tire Inflation Pressure Chart

IMPORTANT: The pressures indicated in the charts are for reference and can vary depending on the supplier of the tires. For more precise information, consult the supplier of the tires.

Front Tires	Pressure										
	psi	9	12	14	17	20	23	26	29	30	33
	Bar	0.6	0.8	1	1.2	1.4	1.6	1.8	2.0	2.1	2.3
	Maximum Load (kg)										
320/85R24		645	765	870	965	1060	1145	1225	1305	1340	1415
340/85R24		745	880	1000	1115	1220	1320	1415	1505	1545	/
380/85R24		925	1095	1250	1390	1520	1645	1760	/	/	/
12.4-24		645	765	870	965	1060	1145	1225	1305	1340	1415
13.6-24		745	880	1000	1115	1220	1320	1415	1505	1545	/
14.9-24		925	1095	1250	1390	1520	1645	1760	/	/	/
Rear Tires	Pressure										
	psi	9	12	14	17	20	23	26	29	30	33
	Bar	0.6	0.8	1	1.2	1.4	1.6	1.8	2.0	2.1	2.3
	Maximum Load (kg)										
420/85R34		1285	1525	1735	1930	2115	2285	2450	2605	/	/
460/85R34		1570	1860	2120	2355	2580	2790	2990	/	/	/
460/85R38		1665	1970	2245	2495	2730	2955	3165	/	/	/
16.9-34		1285	1525	1735	1930	2115	2285	2450	2605	/	/
18.4-34		1570	1860	2120	2355	2580	2790	2990	/	/	/
18.4-38		1665	1970	2245	2495	2730	2955	3165	/	/	/

N400041,0003F0A-19-13DEC18

Front and Rear Tire Combinations-MFWD

Chart shows combinations of front and rear tires in an MFWD system:

Rear Tire Size	Front Tire Size	6095B	6110B	6120B	6135B
420/85R34	320/85R24	Standard	/	/	/
460/85R34	340/85R24	/	Standard	/	/
460/85R38	380/85R24	/	/	Standard	Standard
16.9-34	12.4-24	Optional	/	/	/
18.4-34	13.6-24	/	Optional	/	/
18.4-38	14.9-24	/	/	Optional	Optional

N400041,0003F0B-19-11DEC18

Calculate Tire Combination

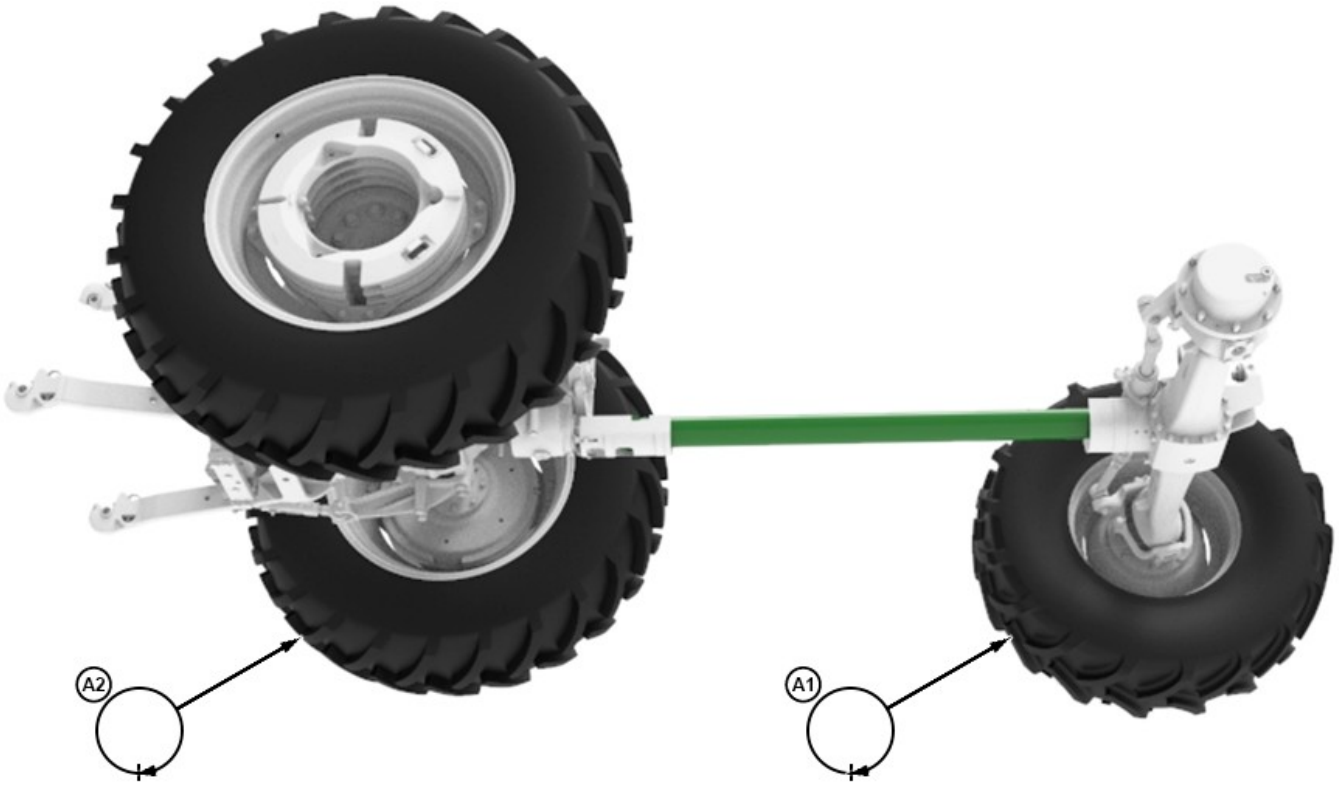
To fully exploit the advantages of 4 wheels drive and to avoid premature wear of transmission and tires, the peripheral speed of the front axle must be higher than the rear. The "MECHANICAL LEAD" (L) is the percentage relative ratio between the peripheral speeds of the front and rear tires.

Commonly, the correct advancement of the tractor with double traction foresees a value of L included between +1.5 and + 4% (peripheral speed of front tires > peripheral speed rear tires).

Values of L out of this range could cause problems of handling instability (L < 1.5, the rear axle "pushes" the tractor in excessive way respect to the frontal axle) or cause excessive creeping between the front and rear tires (L > 4, excessive mechanic effort of all the transmission chain).

In both cases, rises difficulty in the management / insertion of the "gears" and the tires are subjects to rapid and uneven wears.

Calculation of the Front Lead



CPA0010819—UN—02NOV22

L=[(A1* R - A2)/A2]*100=(+1.5~+4)

where:

A1= rolling circumference of front axle tires (mm)

A2= rolling circumference of rear axle tires (mm)

R = mechanical ratio between front and rear axle

1. *Get the data of A1 and A2 from tire manufacturer*
2. *Consider the clearance limitation with the rear fender, the max rear tire outer diameter is <1850mm*
3. *See the R in the table*

Transmission Type	6095B	6110B	6120B	6135B	6140B
30K	1.426	1.426	1.417	1.417	1.417
40K	1.436	1.436	1.428	1.428	1.428

Sample Calculation:

The intention is to fit 6135B 30k tractor with 460/85R34 and 340/85R24 tires, made by a certain manufacturer.

A1 = 3547

A2=4945

R = 1.417

L=[(3547 * 1.417 - 4945)/4945]*100=(+1.64)%

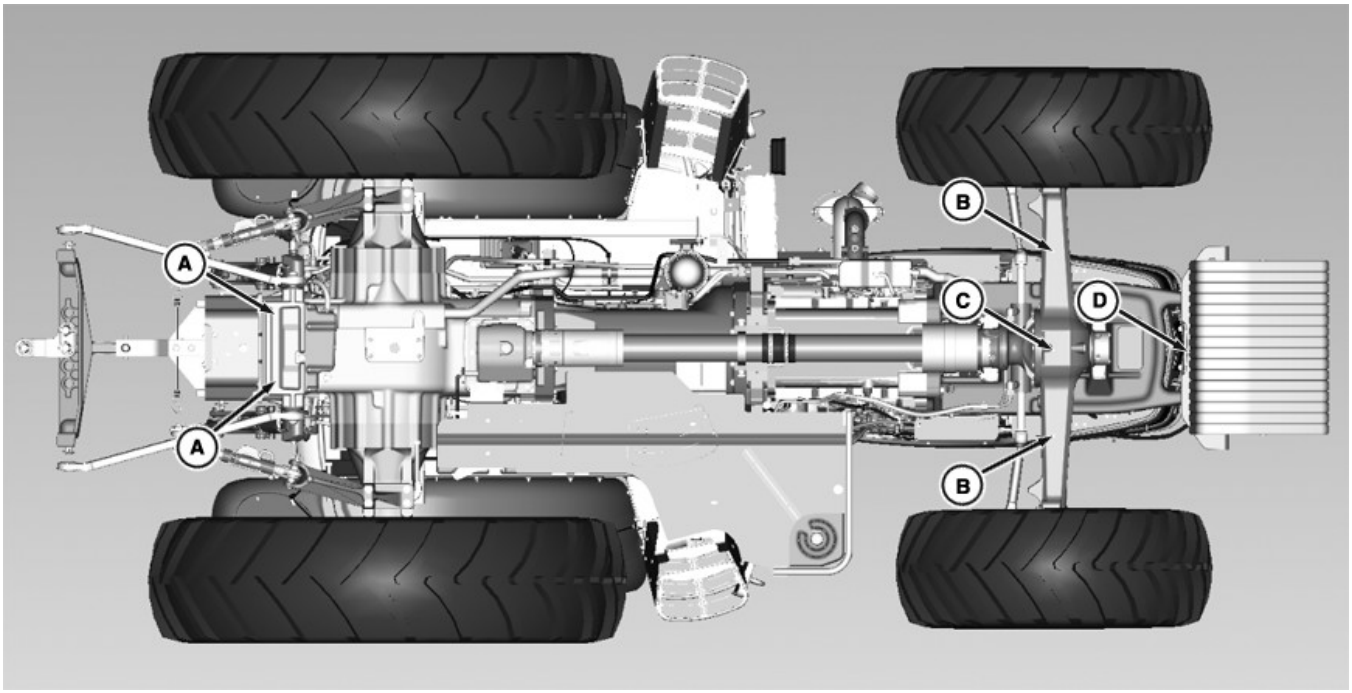
1.64% can meet requirement.

co00263,1664324947596-19-03NOV22

Jack Up Tractor—Lifting Points

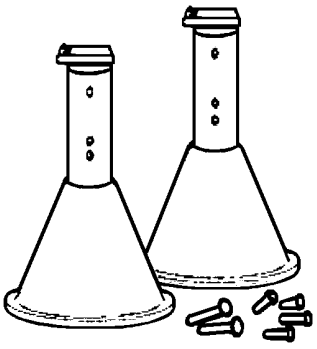
NOTE: Remove front ballast weights before lifting front end of tractor.

This illustration shows the recommended lifting points for jacking up the tractor. Use a stable jack with sufficient lifting force. See Machine Dimensions and Weights in Specifications section.



CPA0003046—UN—22DEC16

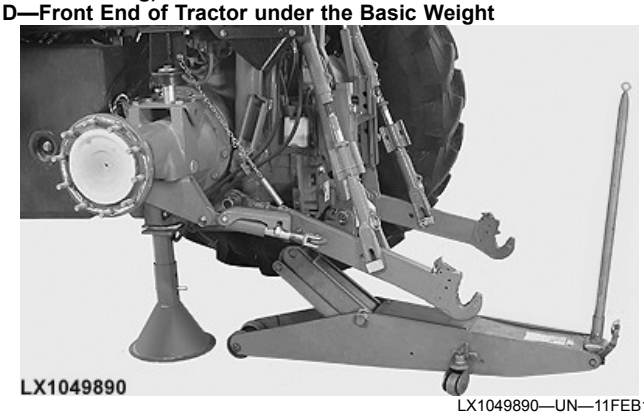
A—Rear of Tractor Lift Point
B—Front of Tractor Lift Point
C—Center of Axle Lift Point (use wooden wedges to prevent axle from tilting)
D—Front End of Tractor under the Basic Weight



JT07211

JT07211—UN—14DEC06

JT02043 and JT02044 Support Stands



LX1049890—UN—11FEB11

Example

JT02043—Support Stand, 482—736 mm (19—29 in)
JT02044—Support Stand, 863—1117 mm (34—44 in)

CAUTION: Use approved lifting equipment only.

Jack up tractor on firm, level ground only.

Before doing any further work on the tractor, first secure it using suitable support stands. The special John Deere tools shown can be used for this purpose. These support stands are available from your John Deere dealer.

YN00044,0000E87-19-15NOV17

Tighten Wheel/Axle Hardware Correctly

CAUTION: Never operate the tractor with a loose rim, wheel, hub, or axle.

Anytime hardware is loosened, tighten to the specified torque.

Tighten Front Wheel/Axle Hardware Correctly

Follow checking procedures after adjusting the tread setting.

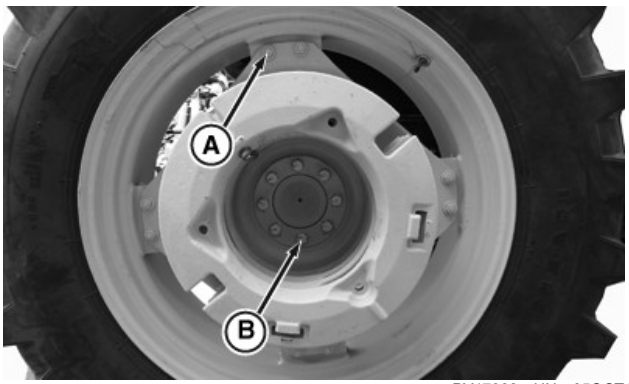
1. Torque the hardware to the specification after adjusting the tread setting. (see Tighten Bolts—MFWD Axle in Section 80)
2. Check and torque the hardware per the guideline.
   - Torque the hardware after 3 hours and 10 hours in the first working week.
   - Torque the hardware once a day during 100 working hours after the first working week.
   - Torque the hardware every 250 hours regularly.

Tighten Rear Wheel/Axle Hardware Correctly

1. Torque the hardware to the specification after adjusting the tread setting. (see Tighten Bolts—Rear Axle in Section 80)
2. Tighten the hardware to specifications after driving tractor about 100 m (109 yd). (see Tighten Bolts—Rear Axle in Section 80)
3. Check and torque the hardware per the guideline.
   - Torque the hardware after 3 hours and 10 hours in the first working week.
   - Torque the hardware once a day during 100 working hours after the first working week.
   - Torque the hardware every 250 hours regularly.

CO00263,00021EA-19-24NOV21

Tighten Bolts—Rear Axle



PY17068—UN—05OCT12

Rear Axle

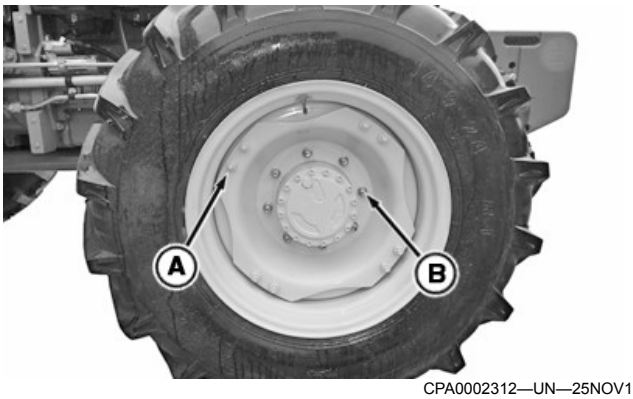
A—Wheel Rim-to-Disk Bolts (16 used)
B—Wheel Disk-to-Axle Flange Bolts (8 used)

Tighten bolts and nuts to the specifications:

	Specification
Wheel Rim-to-Disk Bolts—Torque	310 N·m (229 lb·ft)
Wheel Disk-to-Flange Bolts—Torque	530 N·m (391 lb·ft)

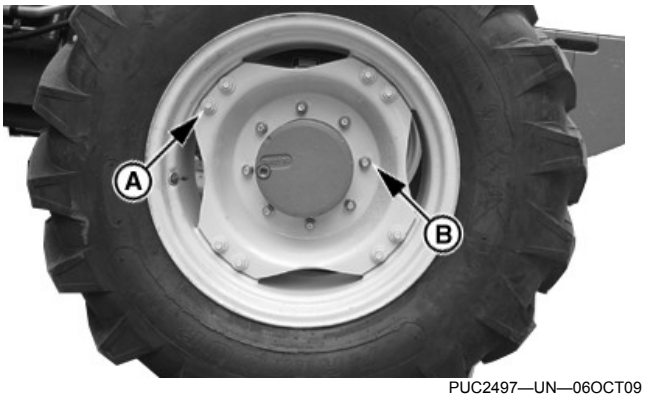
CO00263,00021EC-19-24NOV21

Tighten Bolts—MFWD Axle



CPA0002312—UN—25NOV15

6095B and 6110B Tractors



PUC2497—UN—06OCT09

6120B, 6135B, and 6140B Tractors

A—Wheel Rim-to-Disk Bolt (16 used)
B—Wheel Disk-to-Axle Flange Bolt (16 used)

Tighten bolts to specifications in the following locations:

Specification
Wheel Rim-to-Disk Bolts—Torque. . . . . 290 N·m (214 lb·ft)
Wheel Disk-to-Axle Flange Bolts—Torque. . . . . 310 N·m (229 lb·ft)

CO00263,00021EB-19-24NOV21

Tread Settings—Multi-Position Rear Wheels

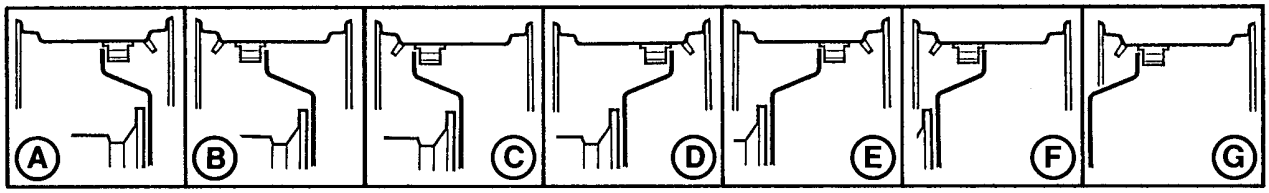
Tread Settings—Multi-Position Rear Wheels (Option I)

Wheel tread on the rear axle with multi-position wheels can be adjusted by repositioning or exchanging the rims or by reversing the wheel disks.

Wheel tread can also be adjusted by exchanging the complete wheel to the opposite side of the tractor. (This maneuver permits the change from disk dished-in to disk dished-out operations without disassembling the wheel.) When changing rear wheels from one side to the other, the arrow on the side wall of tire should point in the direction of forward rotation.

The relationship of the wheel disk and rim in obtaining the different tread settings is shown in the diagrams on the following page.

A study of these diagrams before attempting to change tread settings will save unnecessary labor.



LX012555

LX012555—UN—27JUN96

IMPORTANT: After setting wheel spacing, tighten rim-to-disk and disk-to-flange bolts. Drive tractor 100 m and tighten again.

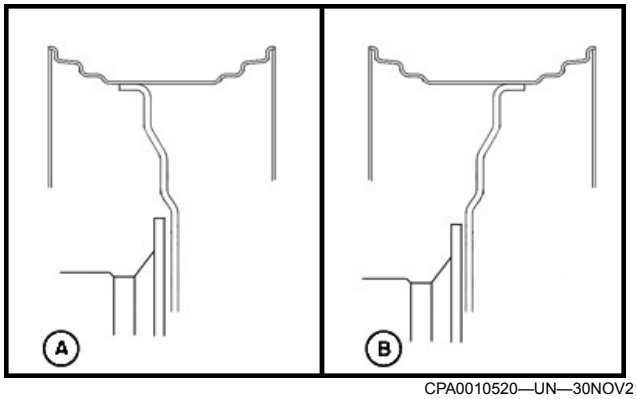
Specification
Multi-Position Rear Wheels Rim-to-Disk Bolts—Torque. . . . . 310 N·m (229 lb·ft)
Multi-Position Rear Wheels Disk-to-Flange Bolts—Torque. . . . . 530 N·m (391 lb·ft)

⚠ CAUTION: Driving with wheel tread (B and C) will greatly increase the possibility of rollover.

TREAD WIDTH (centerline-to-centerline) mm (in)		
Diagram	Tire Sizes	Tire Sizes
	420/85R34, 460/85R34 16.9-34, 18.4-34	460/85R38 18.4-38
A	N/A	N/A
B	N/A	N/A
C	1613 (63.50)	1620 (63.78)
D	1713 (67.44)	1710 (67.32)
E	1813 (71.38)	1820 (71.65)
F	1913 (75.31)	1910 (75.20)
G	2013 (79.25)	2020 (79.53)

Tread Settings—Multi-Position Rear Wheels (Option for 6095B Model)

NOTE: The tread setting is option for 6095 tractor only.



CPA0010520—UN—30NOV21

Wheel tread on rear axle can be adjusted by exchanging the complete wheel to the opposite side of the tractor. (This maneuver permits the change from disk dished-in to disk dished-out operations without disassembling the wheel.)

CAUTION: Driving with narrow wheel tread setting greatly increases the possibility of roll-over.

When changing rear wheels from one side to the other, the arrow on side wall of tire should point in the direction of forward rotation.

IMPORTANT: After setting wheel spacing, tighten rim-to-disk and disk-to-flange bolts. Drive tractor 100 m and tighten again.

Specification

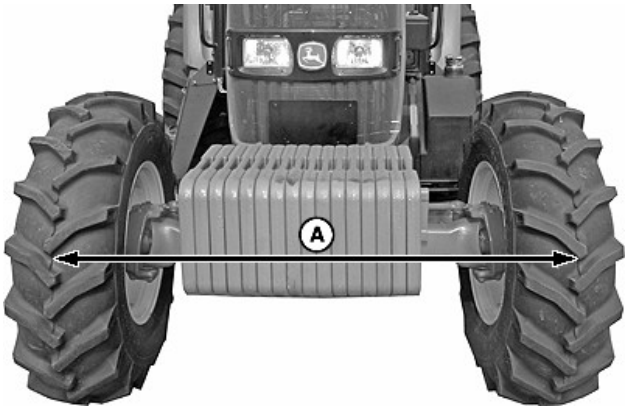
Multi-Position Rear Wheels
Rim-to-Disk Bolts—Torque. . . . . 310 N·m (229 lb·ft)
Multi-Position Rear Wheels
Disk-to-Flange Bolts—Torque. . . . . 530 N·m (391 lb·ft)

TREAD WIDTH (Centerline-to-Centerline) mm (in)	
Diagram	**Tire Sizes**
	420/85R34
A	1617 (63.66 in)
B	1713 (67.44 in)

CO00263,00021F2-19-30NOV21

Check Toe-In-MFWD Axle

1. Disengage MFWD and park tractor on smooth, level surface. Steer front wheels straight ahead. Stop engine.



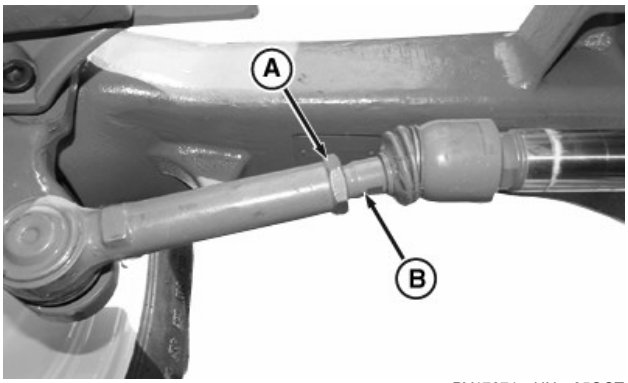
CPA0002085—UN—20OCT15

A—Distance

2. Measure distance (A) between centerline of tires at hub level in front of axle, using an outside bar of each tire or an inside bar of each tire. Record measurement and mark the tires.
3. Move tractor back about 1 m (3 ft), so mark is at hub level behind the axle. Again, measure distance between tires at same point on tire. Record measurement.
4. Determine the difference between front and rear measurements. The front measurement should be smaller than rear that is “toe in”. Toe-in should be 0—7 mm. Adjust toe-in if necessary. (See Adjust Toe-In in this section.)

CO00263,0000A15-19-29JAN18

Adjusting Toe-In-MFWD Axle



PY17071—UN—05OCT12

A—Lock Nut (2 used)
B—Inner Rod (2 used)

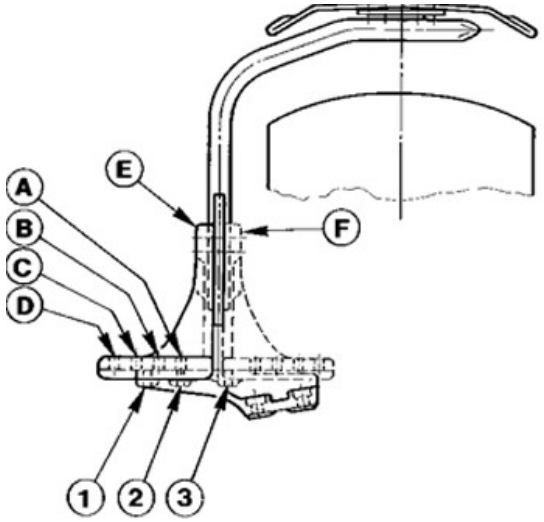
1. Loosen lock nuts (A) on right-hand and left-hand tie rod.
2. Lengthen or shorten the tie rod as needed. Adjust each side by rotating inner rod (B). Obtain toe-in of 0—7 mm (0—0.27 in).
3. Tighten lock nuts after adjustment.

Specification

Tie Rod Jam Nut—Torque. . . . . 120—150 N·m (88—110 lb·ft)

N400041,0003F0C-19-11DEC18

Front Fender Adjustment (MFWD Axle, If Equipped)



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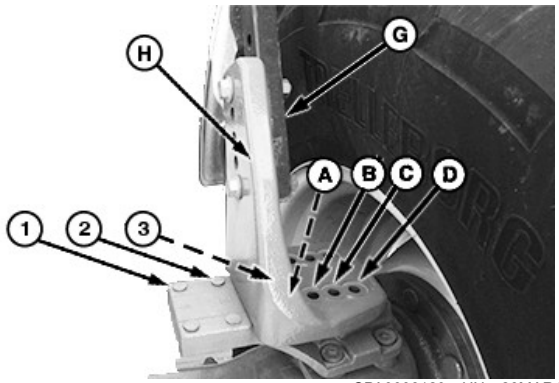


CPA0008129—UN—26MAR19

A—Hole Position
B—Hole Position
C—Hole Position
D—Hole Position
E—Bracket Facing Out
F—Bracket Facing In
G—Fender
H—Bracket
1—Hole Position
2—Hole Position
3—Hole Position

Fenders must be installed in correct position depending on tire size and tread width. Fender width is 400 mm (15.7 in). The following table indicates correct position for a given tire size, wheel, and rim disk position.

Explanation of Table Positions

D-2—Indicates which holes (1, 2, or 3 and A, B, C, or D) are bolted together.

NOTE: Every time bracket position is reversed, left-hand side bracket must be installed on right-hand side of tractor and the opposite way.

	Position of Adjustable Rims and Wheel Disks						
Tire Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**
320/85R24	N/A	N/A	A-3	A-3	A-3	A-3	A-3
340/85R24	N/A	N/A	B-3	A-3	A-3	A-3	A-3
380/85R24	N/A	N/A	C-3	A-3	A-3	A-3	A-3

LG70251,00019DD-19-20MAY19

Ballast

Plan for Maximum Productivity

Proper ballasting is an important factor in tractor performance. Maximum productivity can be achieved only if tractor weight is appropriate for the job.

John Deere provides additional information on performance ballasting in two of the manuals in the series “Fundamentals of Machine Operations”.

(See John Deere Service Literature Available in this manual.):

- “Tractors” provides information on determining correct tractor weight and ballast selection.
- “Machinery Management” provides information on implement matching and increasing productivity.
- An authorized John Deere dealer can assist you with information on these subjects.

CO00263,0001BFE-19-30NOV18

Select Ballast Carefully

Match amount of ballast needed for each job. What is right for one job is possibly wrong for another job. Ballast for traction and stability.

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
- Tire size

Ballast MFWD-Equipped Tractors

Ideal tire slippage for MFWD-equipped tractors is 8—12%. To reduce the wheel slip to this level, more weight is needed on the front than with two-wheel-drive tractors. The ideal weight split is 40% front, 60% rear, of total tractor weight.

Match Ballast to Work Load

Use no more ballast than necessary, and remove ballast when it is no longer needed.

Rather than weighing tractor down to pull heavy loads, try to reduce load. Pulling a lighter load at a higher speed is more economical and more efficient.

Too Little Ballast		Too Much Ballast	
1.	Excessive wheel slip	1.	Increased load
2.	Power loss due to churning soil	2.	Shortens transmission life
3.	Tire wear	3.	Power loss due to carrying extra weight
4.	Fuel waste	4.	Tire strain
5.	Lower productivity	5.	Soil compaction
		6.	Fuel waste
		6.	Lower productivity

Ballast Limitations

Ballast is limited by either tire capacity or tractor capacity. Do not exceed the load capacity for each tire (see Wheels and Tires Operation section). If more weight is required for traction, use a larger single tire.

Ballast can be added as either liquid or cast iron.

Check for Correct Ballast

The best way to check for correct ballast is to measure amount of travel reduction (slip) of the drive wheels. Under normal conditions, slip rate is 8—12% for MFWD tractors.

Place more weights if drive wheels continue slipping. Remove excess weight if the slip is below the minimum percentage.

NOTE: Available weights for tractors please refer to Ballasting Maintenance section.

CO00263,00009AE-19-16JAN18

Determine Maximum Rear Ballast

IMPORTANT: Do not overload tires. If maximum weight shown in chart is not enough for safety, reduce load or install heavier ply tires.

Too much ballast will cause excessive soil compaction and rolling resistance, and shorten drive train life. Ballast should never exceed the weight required to provide traction for continuous full power loads in third gear. Remove ballast if tractor engine labors when pulling heavy loads in the first three gears.

Rear wheel ballast should never be such that the engine cannot support full load at rated engine speed, while the tractor is moving at 7 km/h (4.3 mph). If the engine labors or stalls below 7 km/h (4.3 mph), this indicates there is too much ballast on the rear wheels.

Chart shows carrying capacity per tire.

Maximum Load Per Wheel	
Tire Size Bias Ply Tires	Capacity kg (lb)
16.9-34	2605 (5743 lb)
18.4-34	2990 (6592 lb)
18.4-38	3165 (6978 lb)
420/85R34	2650 (5842 lb)
460/85R34	3075 (6779 lb)
460/85R38	3250 (7165 lb)

CO00263,0001C30-19-11DEC18

Determine Maximum Front Ballast

Use appropriate front ballast for a particular operating condition. Remove ballast when it is no longer needed.

Chart shows carrying capacity per tire.

IMPORTANT: Do not overload tires. If maximum weight shown in chart is not enough for safety, reduce load or install tires with a higher load rating.

Maximum Load Per Wheel	
Tire Size	**Capacity kg (lb)**
12.4-24	1415 (3120 lb)
13.6-24	1545 (3406 lb)
14.9-24	1760 (3880 lb)
320/85R24	1500 (3306 lb)
340/85R24	1650 (3638 lb)
380/85R24	1950 (4299 lb)

CO00263,0001C31-19-11DEC18

Use Cast Iron Weights

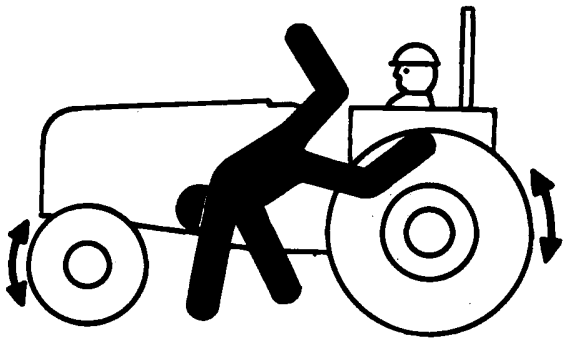
Cast iron weights are available for rear wheels. They can be installed on the inside or outside of wheel. See your an authorized John Deere dealer for more information and recommendations on weight use and placement.

Specification

Cast Iron Weights—Weight. . . . . 55 kg (121 lb)

CO00263,0001BFF-19-30NOV18

Keep Riders Off Machine



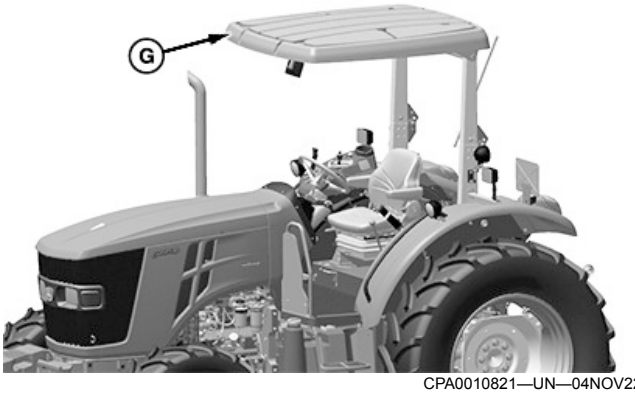
TS290—UN—23AUG88

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

Operating Foldable ROPS



CPA0010821—UN—04NOV22

ROPS with Canopy

CPA0007674—UN—02DEC18

ROPS without Canopy

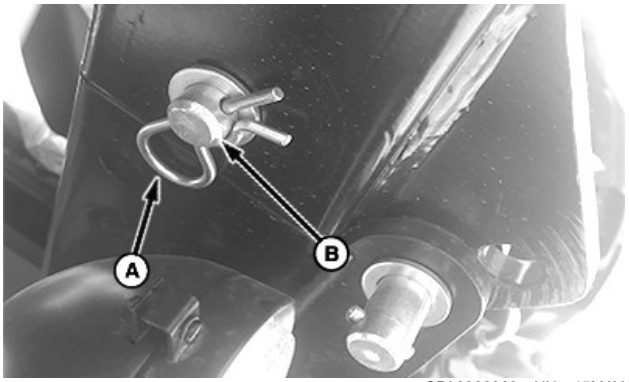
G—Canopy

CAUTION: Remove canopy (A) before operating roll-over protective structure (ROPS).

CAUTION: Make certain all parts are installed correctly if ROPS is loosened or removed for any reason. Tighten mounting bolts to proper torque.

CAUTION: Always keep the ROPS pinned in vertical position when operating tractor. Drive with extreme caution if tractor is operated with ROPS folded and DO NOT use seat belt.

Fold the ROPS up again as soon as the tractor is operated under normal conditions.



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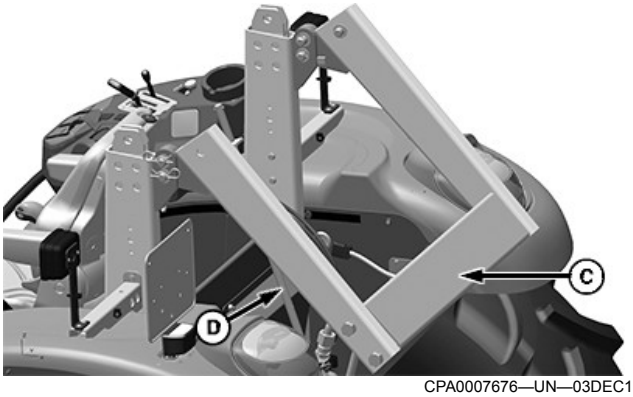

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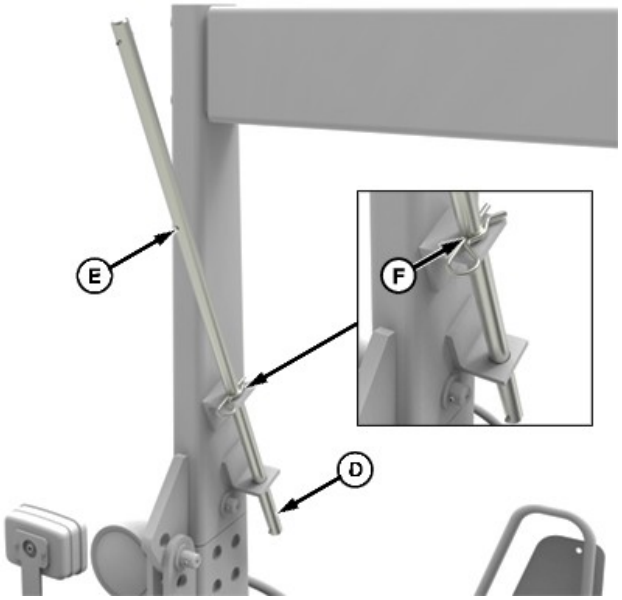
ROPS (folded position)



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ROPS (unfolded position)

A—Pin (2 used)
B—Locking Pin (2 used)
C—Crossbar
D—Rod
E—Position I
F—Position II

NOTE: The rod (D) is an auxiliary tool which helps to lower or raise the crossbar (C)

IMPORTANT: The rod (D) is always installed in the position II (F), regardless of the crossbar (C) in the folded position or unfolded position. Both the position I (E) and position II (F) have holes in the rod (D), but never fix the rod (D) in the position I (E).

Fold the ROPS:

1. Remove pins (A) and locking pins (B).
2. Fold the crossbar (C) to the stop by the rod (D).
3. Reinstall pins and locking pins in the palce to fix the crossbar

Unfold the ROPS:

1. Remove pins (A) and locking pins (B).
2. Unfold the crossbar (D) in the palce (operating position).
3. Reinstall pins and locking pins in the palce to fix the crossbar.

co00263,1667547183663-19-04NOV22

Use Seat Belt

CAUTION: There is a serious risk of injury due to collision, crushing or being thrown out during a collision or when tipping over.

When driving, always wear the seat belt.

CPA0007698—UN—12DEC18

A—Seat Belt

To retain the operator properly, seat belt (A) must fit snugly across abdomen. Seat belt (A) extends as necessary to fit comfortably.

Inspect seat belt (A) and mounting hardware annually. (See Operator's Station Maintenance section.)

CO00263,0001C51-19-18DEC18

Adjust Seat

CAUTION: Do not adjust the seat while driving.

NOTE: Use this instruction as a guideline to adjust the seat to the desired setting.

Adjust Seat (Option I)

CPA0007699—UN—13DEC18

Left Side of the Seat (option I)

CPA0007700—UN—13DEC18

Top View of the Seat (option I)

A—Fore/Aft Adjustment Handle
B—Weight Adjustment Knob
C—Height Adjustment Knob

Fore/Aft Adjustment:

Push the fore/aft adjustment handle (A) outward and move seat forward or backward to the desired position. Release the fore/aft adjustment handle and lock the seat in position.

Weight Adjustment:

Turn the weight adjustment knob (B) clockwise (decrease the seat weight capacity) or counterclockwise (increase the seat weight capacity) to the desired position.

Height Adjustment:

Loosen seat height adjusting knob (C). Adjust the seat to the desired height, then lock the height adjustment knob.

Adjust Seat (Option II)

CPA0007671—UN—02DEC18

Seat (option II)

A—Fore/Aft Adjustment Handle
B—Weight Adjustment Handle
C—Backrest Adjustment Knob

Fore/Aft Adjustment:

Push the fore/aft adjustment handle (A) outward and move seat forward or backward to the desired position. Release the fore/aft adjustment handle and lock the seat in position.

Weight Adjustment:

Turn the weight adjustment handle (B) clockwise (decrease the seat weight capacity) or counterclockwise (increase the seat weight capacity) to the desired position.

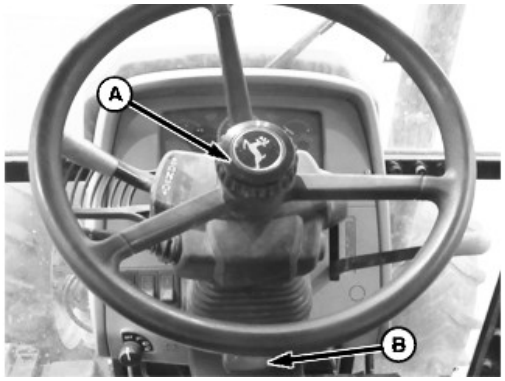
Backrest Adjustment:

Push or pull the backrest adjustment knob (C) and adjust the backrest to the desired angle. Release the backrest adjustment knob to lock.

CO00263,0001C3E-19-13DEC18

Adjust Steering Wheel

NOTE: The adjustable steering wheel is available for tiltable and telescopic steering wheel only.



CPA0005131—UN—16JAN18

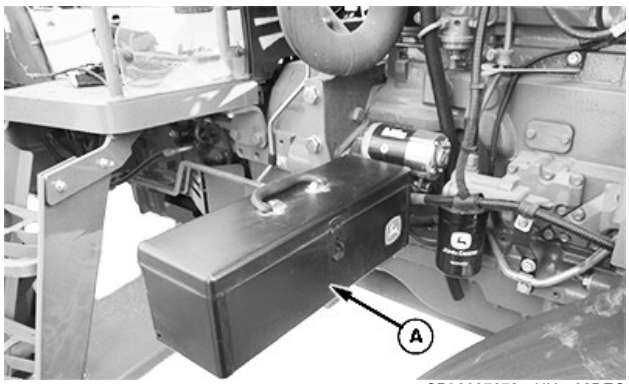
A—Telescope Release Knob
B—Tilt Release Lever

Tilt: Pull the tilt release lever (B) up and move steering wheel to desired position. Release the tilt release lever to lock.

Wheel Height (Telescope): Rotate the telescope release knob (A) counterclockwise. Extend or retract the steering wheel to desired position. Rotate the telescope release knob clockwise to lock.

CO00263,0001C04-19-03DEC18

Toolbox Location



CPA0007672—UN—02DEC18

A—Toolbox

Toolbox (A) is on the right side of the engine.

CO00263,0001C05-19-03DEC18

Operator Training Required

- Study Operating Engine section of this manual before operating tractor.
- Operate tractor in an open, unobstructed area under the direction of an experienced operator.
- Learn use of all controls.
- Operator experience is required to learn moving, stopping, turning, and other characteristics of tractor.

CO00263,000088B-19-12JAN18

Observe Maximum Travel Speeds

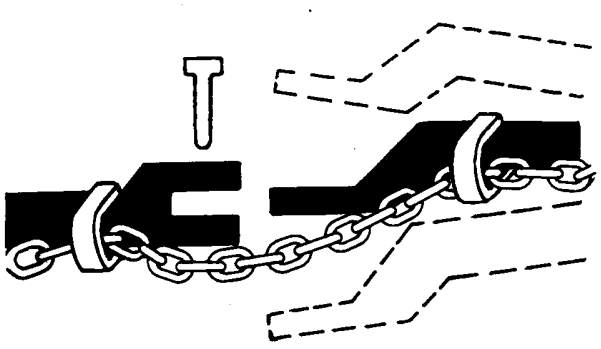
CAUTION: DO NOT exceed safe travel speeds under any circumstances. Always reduce speed when driving under adverse weather, slope, or surface conditions.

Maximum travel speed is 30 km/h (18.5 mph) for an unballasted, unloaded tractor, or when towing loads that weigh less than the tractor.

Reduce speed to 16 km/h (10 mph) when towing loads that weigh more than the tractor.

CO00263,000094A-19-15JAN18

Use a Safety Chain



TS217—UN—23AUG88

A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

Using the appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning.

See your John Deere dealer for a chain with a strength rating equal to or greater than the gross weight of the towed machine. Do not use safety chain for towing.

LG70251,000145D-19-05SEP18

Drive Tractor on Roads

CAUTION: Avoid personal injury or death from losing control of tractor. When driving tractor on roads:

- **Wear seat belt.**
- **Latch brake pedals together (see Steering and Brake Operation section).**
- **If equipped, use speed control pedal instead of the speed control lever.**
- **Ballast tractor correctly (see Ballast section).**
- **Avoid holes, ditches, sharp turn, hill sides, and obstructions which can cause tractor to roll over.**
- **Frequently check for traffic from the rear, especially in turns, and use turn signal lights (see Electrical and Lighting Operation section).**
- **Always operate flashing lights when traveling on a highway or public roads, except where prohibited by law.**

Lights:

Use headlight and turn signals day and night. Follow local regulations for the 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.

Brakes:

Disengage the differential lock and latch brakes pedals together before driving on a road. Avoid hard application of brakes.

MFWD:

Disengage MFWD when driving on roads or transporting tractor.

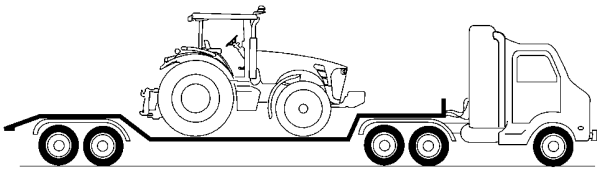
Rear Hitch:

Position hitch control levers appropriately to eliminate possibility of lowing an implement during transport. (See Hitch and Drawbar Operation section.)

LG70251,00019D7-19-20MAY19

Transport Tractor Safely

CAUTION: It is strongly recommended not to raise the tractor using safety chains. All loading operations should be carried out by the drive the tractor on the platform.



RXA0103709—UN—01JUL09

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.

LG70251,000145F-19-05SEP18

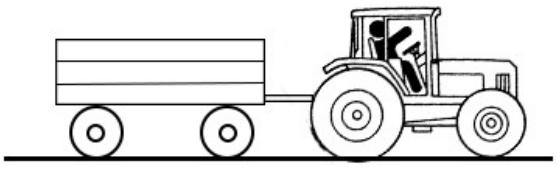
Complete Set

In negotiation with the customer, agreed in the contract for supply, tractor with equipped a braking system control for hydraulic or pneumatic system of brakes, can be equipped without trailer brake system. This tractor can safely be used for aggregation with the hitch-mounted implements for pushing, transportation or actuating of the working equipment in agricultural or forestry, and also for towing of trailers (implements) on the public roads with tow loads not more than 50% total permissible mass of the tractor and speed not faster than 40 km/h, or with the tow loads not more than total permissible mass of the tractor and speed not faster than 10 km/h.

LG70251,00014CB-19-26SEP18

Towed Mass

Tractor can be equipped without hydraulic or pneumatic trailer/implement system.



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Trailer/Implement Brake System	Maximum Permissible
Unbraked	2500 kg
Independently Braked	4000 kg
Inertia-Braked	3500 kg
Fitted with the assisted braking system (hydraulic or pneumatic)	32 000 kg

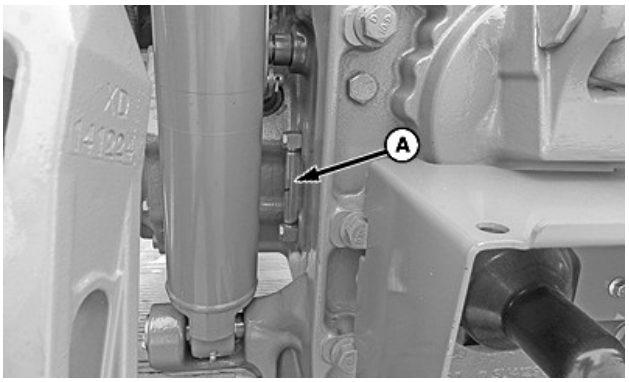
Trailer/implement brake systems determines maximum permissible towable mass.

LG70251,00014D4-19-28SEP18

Tow Tractor

IMPORTANT: To avoid transmission and drive train component damage, NEVER attempt to start tractor by towing. Engine will not start.

- **If possible, operate engine above 1250 rpm to provide lubrication, power steering, and power brakes. Have an operator steer and brake tractor.**
- **DO NOT tow a tractor faster than 8 km/h (5 mph). DO NOT exceed 3 km/h (2 mph) for the first 10 min in below freezing temperatures.**
- **Check transmission-hydraulic oil level. Add 1 L (1 qt) for each 90 mm (3-1/2 in) front wheels are raised off the ground. DO NOT raise wheels more than 305 mm (12 in). Drain excess oil after transporting.**



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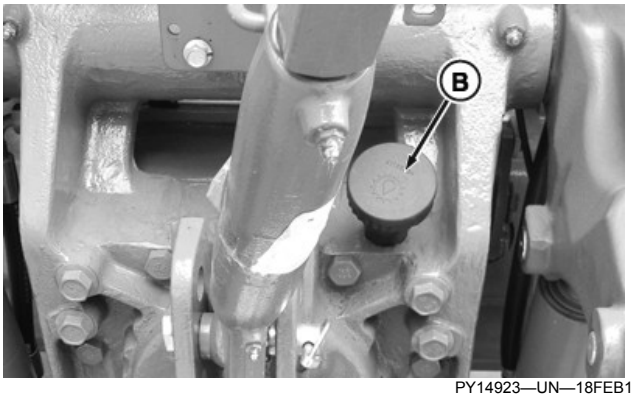


PY14923—UN—18FEB13

A—Transmission/Hydraulic System Sight Glass

B—Hydraulic Oil Fill Port

1. Be sure that transmission/hydraulic system oil is to the full level line on transmission/hydraulic system sight glass (A). If tractor is to be towed with front wheels raised, add 1 liter (1 qt) of oil to hydraulic oil fill port (B) for each 90 mm (3-1/2 in) the wheels are raised. DO NOT raise front wheels more than 305 mm (12 in) above ground.

NOTE: After transporting tractor, drain oil that was added for towing.

2. Tap brake pedals to make sure that differential lock is not engaged.
3. Make sure that PTO is disengaged.
4. Place gearshift lever in neutral.

After Towing

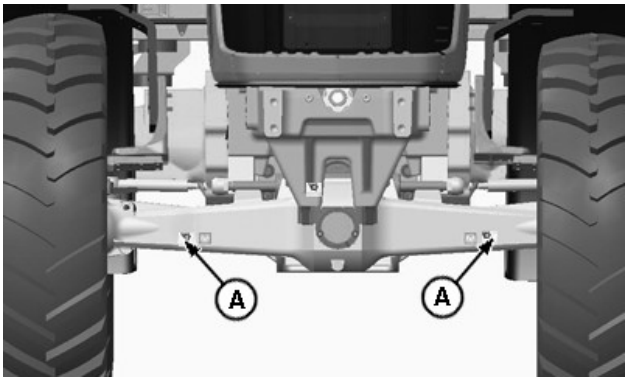
Drain excess transmission/hydraulic oil to lower level back to full.

CO00263,000088E-19-12JAN18

Transporting on Flat-Bed Carrier

CAUTION: To avoid accident or injury, securely chain the tractor to carrier. DO NOT chain to tractor components other than those areas listed. DRIVE CAREFULLY.

IMPORTANT: A disabled tractor should be hauled on a flat-bed carrier.



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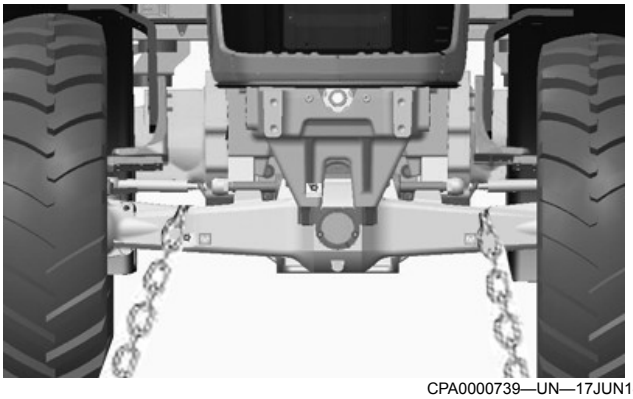

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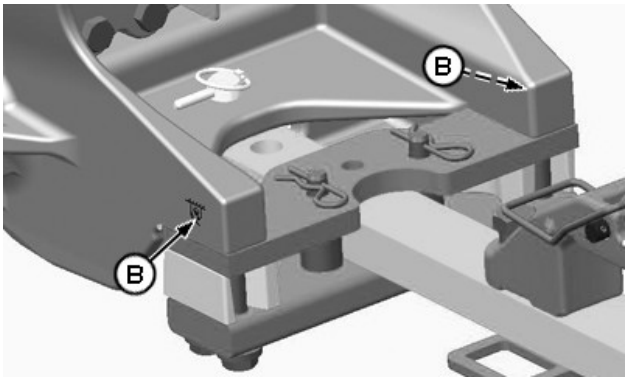

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CPA0000737—UN—17JUN14

Tie Down Point Decal

A—Front Axle Tie Down Point (2 used)
B—Rear Tie Down Point (2 used)

Engage PARK position.

NOTE: If park brake has been disengaged, engage park brake.

Wrap chain around front axle at front axle tie down points (A) and rear tie down points (B), secure to carrier.

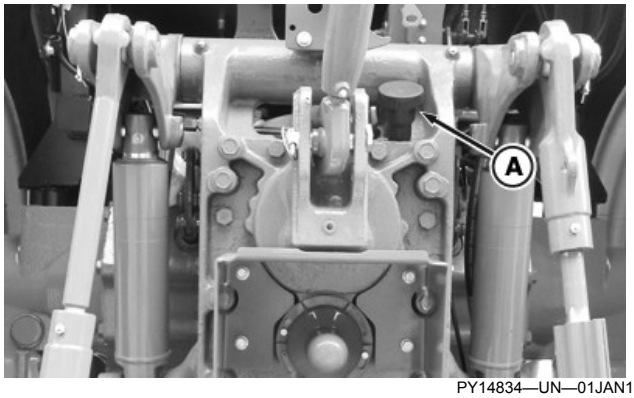
LG70251,0001462-19-05SEP18

Tractor Storage

IMPORTANT: Any time tractor does not use for several months, use this procedure to minimize corrosion and deterioration. Use an AR41785 Engine Storage Kit and an extra 0.95 L (1 qt) of AR41870 Corrosion Inhibitor.

1. Service air cleaner. (See Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)
2. If coolant has been in tractor for 2 years, flush cooling system. (See Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)

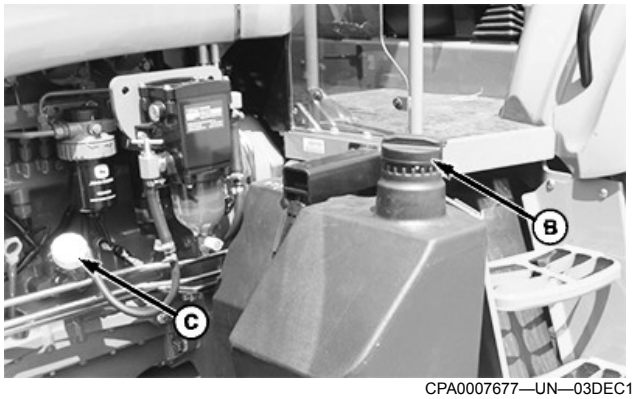
   Add 50% antifreeze water mixture. Test coolant for adequate cold-weather protection.
3. Change engine oil and filter. (See Engine Maintenance section.)
4. Drain fuel and add back 4 L (1 gal) of fuel. Then add 0.4 L (12 oz) corrosion inhibitor.



PY14834—UN—01JAN13

A—Transmission Oil Filler Cap

5. Remove transmission oil filler cap (A) and add 0.25 L (8 oz) of the corrosion inhibitor to the transmission/hydraulic system.
6. Depress clutch and start engine. Run engine until it reaches operating temperature. Also raise and lower rockshaft several times. Shut off engine.



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B—Fuel Tank Filler Cap
C—Engine Oil Filler Cap

7. Remove fuel tank filler cap (B) and add 0.5 L (16 oz) inhibitor into the fuel tank.
8. Remove engine oil filler cap (C) and add 0.5 L (16 oz) inhibitor to the engine crankcase.
9. Remove air intake hose at the manifold. Pour 0.1 L (3 oz) inhibitor into manifold and replace hose. Pull hand throttle back to low idle position. Crank engine only a few revolutions.
10. Loosen alternator/fan belt after it has cooled.
11. Remove and clean battery. Store in a cool, dry place. Keep it charged.[1]
12. Tie or block clutch pedal in the disengaged position.
13. If they are extended, coat exposed metal surfaces such as the adjustable front axles, with grease or a corrosion inhibitor.
14. Use tape to seal dust unload valve, exhaust pipe, crankcase filer/aspirator, fuel cap, and transmission/hydraulic system cap.
15. Cover dashboard with opaque material to prevent gauges from fading.
16. Raise tires off ground. Protect them from heat and sunlight.
17. Thoroughly clean tractor. Touch up any painted surfaces that are scratched or chipped.
18. If the tractor must be stored outside, cover it with a waterproof material.

CO00263,0001C09-19-04DEC18

Remove Tractor from Storage

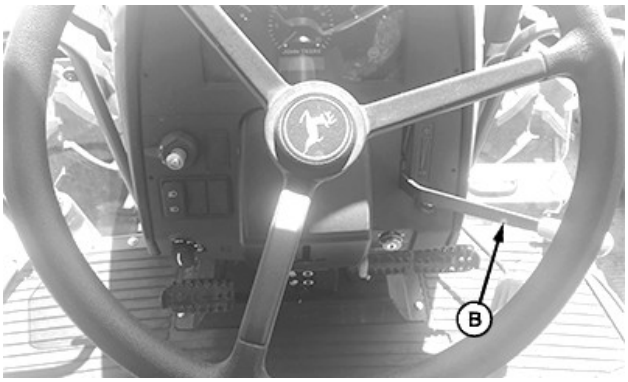
1. Lower tires to ground, check tire inflation pressure. (See Wheels, Tires, and Treads section.)
2. Unseal all openings sealed in tractor storage. (See Tractor Storage in this section.)

[1] Disconnect battery ground cable for short-term storage periods (20 to 90 days).

3. Install battery and connect cables.
4. Turn battery cut-off switch on.
5. Remove ties or block which secured clutch pedal down.
6. Check levels of engine oil, transmission/hydraulic oil, and engine coolant. Add fluids as needed.
7. Drain a small amount of fuel from the fuel tank to purge any moisture condensation that has collected.
8. Fill fuel tank.
9. Perform all daily or 10 hours service procedures and any other scheduled services as required. (See Maintenance Intervals section.)
10. Check instruments and indicators by turning key switch to RUN position.

CPA0007678—UN—04DEC18

Hand Throttle (PTE)



CPA0008370—UN—15MAY19

A—Hand Throttle
B—Hand Throttle

IMPORTANT: DO NOT operate starter more than 20 seconds at a time, and wait at least 2 minutes for starter to cool before trying again.

11. Pull hand throttle (A) backward to the end (turtle marker) or hand throttle (B) all the way down. Put the PTO control lever in disengaged position. Depress the clutch pedal and put the gearshift lever in neutral position.
12. Start and operate engine at the low idle for several minutes. Wait until engine reaches operating temperature and check all systems before placing tractor under load.

LG70251,00019C4-19-09MAY19

Maintenance Intervals

Maintenance Interval Chart

Item	As Required	Every 10 Hours/ Daily	Every 50 Hours/ Weekly	First 100 Hours	Every 250 Hours	Every 500 Hours	Every 1000 Hours/ Annually	Every 2000 Hours/ Two Years	Every 5000 Hours/ Five Years
Inspect air intake system	•[a]								
Clean grille screens, radiator, oil cooler, radiator screen	•								
Bleed fuel system	•[b]								
Charge battery	•								
Replace headlight element	•								
Replace tail/stop/turn bulbs	•								
Replace worklight element	•								
Adjust headlights	•								
Warm transmission-hydraulic system oil	•								
Check selective control valve	•								
Check engine oil level		•							
Check coolant level		•							
Drain water and sediment from fuel filters and water separator		•							
Check transmission-hydraulic oil level		•							
Clean battery			•						
Check battery condition			•						
Lubricate MFWD front axle steering spindles			•[c]						
Lubricate front axle pivot pins			•[c]						
Lubricate MFWD front axle			•[c]						
Lubricate MFWD drive shaft			•						
Check and tighten ballast weight retaining blots			•						
Lubricate hitch components			•[c]						
Loose hardware inspection.					•				
Check MFWD axle wheel hub oil level					•				
Check MFWD axle housing oil level					•				
Drain water and sediment from fuel tank					•				
Check neutral start system					•				
Adjust brake pedal free travel					•				
Adjust clutch pedal free travel					•				
Service air cleaner					•[d]				
Check and Tighten Hydraulic Cylinders						•			
Replace fuel filters and water separator						•			
Tighten hose clamps						•			
Check cooling system for leaks						•			
Lubricate rear axle bearings						•[e]			

Item	As Required	Every 10 Hours/ Daily	Every 50 Hours/ Weekly	First 100 Hours	Every 250 Hours	Every 500 Hours	Every 1000 Hours/ Annually	Every 2000 Hours/ Two Years	Every 5000 Hours/ Five Years
Replace transmission-hydraulic oil filter				•		•			
Change engine oil and filter				•		•[f]			
Change MFWD axle wheel hub oil				•			•		
Change MFWD axle housing oil				•			•		
Change transmission-hydraulic oil							•		
Clean engine crankcase vent tube							•		
Replace air intake filters							•[d]		
Inspect seat belt							•		
Flush cooling system								•[gh]	
Adjust engine valve clearance								•[i]	
Test or replace thermostat									•[j]
Replace crankshaft vibration damper									•[j]

[a]*Service more often if operated in dusty conditions.*
[b]*See an authorized John Deere dealer for service.*
[c]*Daily / 10 Hours if operated in wet or muddy conditions*
[d]*Interval can vary according to operating conditions*
[e]*Weekly / 50 Hours if operated in wet or muddy conditions*
[f]*If PLUS-50 oil and a John Deere filter are not used, lower this service interval to 250 hours.*
[g]*5000 hours / 5 years If John Deere COOL-GUARD is used*
[h]*6000 hours / 6 years If John Deere COOL-GUARD II is used*
[i]*See an John Deere Authorized Dealer*
[j]*See an Authorized John Deere Dealer*

CO00263,00021F3-19-30NOV21

Service Tractor Safely

Disengage power to implements and stop engine before making any repairs or adjustments.

Do not overspeed engine.

Keep the vehicle and implements in good operating condition.

Keep safety devices in place and in working condition.

Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.

Before you work on any part of the engine, stop the engine and let it cool. Hot engine parts can burn skin on contact.

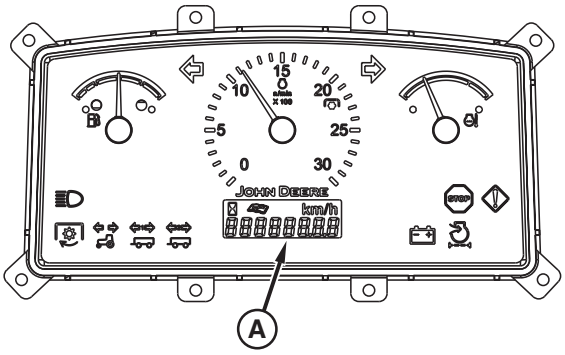
Never start engine unless gearshift lever is in neutral position.

Be careful to prevent clothing, jewelry, or long hair from getting caught in the fan blades, drive belts, or any other moving engine parts.

Unauthorized modifications to the machine can impair performance or safety and affect machine life.

CO00263,00009F8-19-24JAN18

Observe Service Intervals



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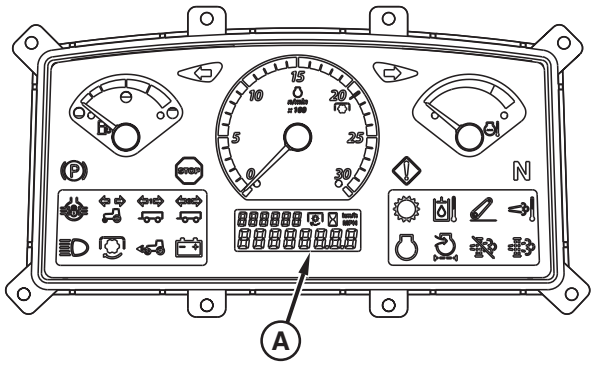
Instrument Cluster (dry clutch)



CPA0007681—UN—12DEC18

Instrument Cluster (wet clutch)

A—Hour Meter

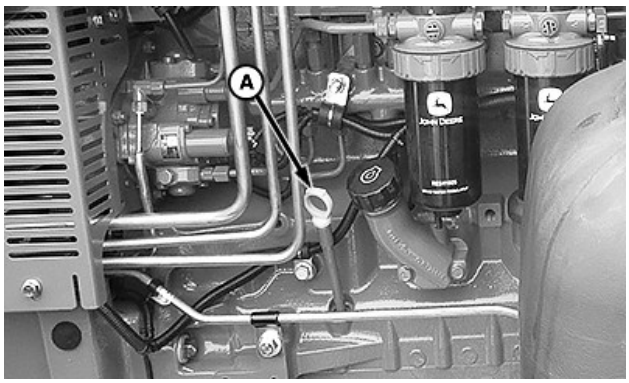
Use hour meter (A) as a guide, perform all services at the hourly intervals indicated on the following pages. Keep a service record on charts provided in the Lubrication and Maintenance Record Charts section.

IMPORTANT: Recommended service intervals are for average conditions. Service more often if tractor is operated under adverse conditions.

CO00263,0001C0C-19-04DEC18

Service Daily Before Start-Up

NOTE: Park tractor on level ground before checking.

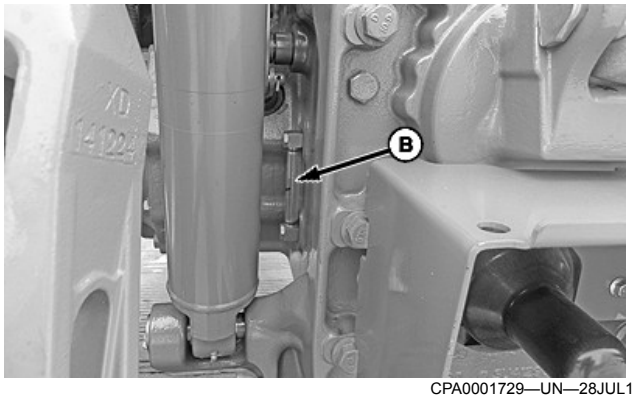


CPA0004346—UN—13SEP17

A—Engine Oil Level Dipstick

1. Check engine oil level. Clean the engine oil level dipstick (A) and reinsert fully. Withdraw it and check oil level. The safe engine oil lever is between the upper and lower marks of the dipstick. (See Engine Maintenance section.)

   Do not operate the engine if oil level is under minimum mark. In this case, add oil to maintain oil level. (See Fuels, Lubricants, and Coolants section.)



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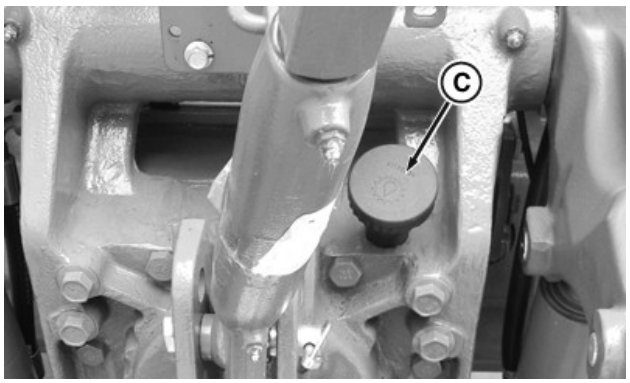


PY16727—UN—17NOV12

B—Transmission/Hydraulic Oil Level Sight Glass
C—Transmission/Hydraulic Oil Fill Port

2. Check hydraulic oil level through transmission/hydraulic oil level sight glass (B). If oil level is low, add oil through transmission/hydraulic oil fill port (C). (See Transmission Maintenance section.)

CPA0001719—UN—27JUL15

G—Surge Tank

3. Check coolant level in surge tank (G). (See Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)

IMPORTANT: If operating in extremely wet or muddy conditions, lubricate several additional components daily as well. (See Maintenance Intervals section.)

CO00263,0001C32-19-11DEC18

Additional Service Information

Operator's Manual is not a detailed service manual. It contains only information needed for operation and routine maintenance. Order a Technical Manual through an authorized John Deere dealer if more detailed service information is needed.

CO00263,0001C0D-19-04DEC18

Handle Fuel Safely—Avoid Fires

TS202—UN—23AUG88

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

Handle Fluids Safely—Avoid Fires

TS227—UN—15APR13

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.

DX,FLAME-19-29SEP98

Cold-Weather Operation

IMPORTANT: Viscosity grade selection is critical for cold-weather operation of the transmission. Preheat procedures are required when operating transmission at temperatures lower than the oil MINIMUM critical temperature.

NOTE: See Transmission and Hydraulic Oil in this section for MINIMUM viscosity grade for a given transmission operating temperature.

Warm-Up Procedures

Preheat transmission oil to MINIMUM temperature before operating if preheating transmission with auxiliary source.

As an alternate procedure, operate tractor with transmission in neutral for approximately 20 minutes, or until oil has warmed to MINIMUM temperature as recommended previously.

CO00263,0001C0E-19-04DEC18

Hot-Weather Operation

NOTE: See Transmission and Hydraulic Oil in this section for correct viscosity grade for a given transmission operating temperature.

Use higher than normal viscosity grade under following conditions:

- Ambient temperatures consistently above 30°C (86° F).
- Frequent stop-and-go driving in hot weather.
- Repeated climbing of high grades in hot weather.

CO00263,0001C0F-19-04DEC18

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, ASTM D975, or EN 15940 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.).

Cloud Point should be below the expected lowest ambient temperature or **Cold Filter Plugging Point** (CFPP) should be a maximum 10°C (18°F) below the fuel cloud point.

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).

Materials such as copper, lead, zinc, tin, brass and bronze should be avoided in fuel handling, distribution and storage equipment as these metals can catalyze fuel oxidation reactions which can lead to fuel system deposits and plugged fuel filters.

E-Diesel fuel

DO NOT use E-Diesel (Diesel fuel and ethanol blend). Use of E-Diesel fuel in any John Deere machine may void the machine warranty.

CAUTION: Avoid severe injury or death due to the fire and explosion risk from using E-Diesel fuel.

Sulfur Content for Interim Tier 4, Final Tier 4, Stage III B, Stage IV, and Stage V Engines Above 560 kW

- Use ONLY diesel fuel with a maximum of 500 mg/kg (500 ppm) sulfur content.

Sulfur Content for Interim Tier 4, Final Tier 4, Stage III B, Stage IV Engines, and Stage V 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.[1]
- 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,FUEL1-19-01NOV22

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] *See DX,ENOIL12,OEM, DX,ENOIL12,T2,STD, or DX,ENOIL12,T2, EXT for more information on Engine Oil and Filter Service Intervals.*

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 practical 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. Keeping the free water drained and treating the bulk fuel storage tank quarterly with a maintenance dose of a biocide will prevent microbial growth. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4-19-13JAN18

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 calculated cetane index, fuel type, sulfur content, water content, appearance, suitability for cold weather operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets ASTM D975 or equivalent specification.

Contact your John Deere dealer for more information on diesel fuel analysis.

DX,FUEL6-19-13JAN18

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 John Deere branded fluids or fluids that have been tested and/or approved for use in John Deere equipment.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER-19-13JAN18

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

Diesel Engine Break-In Oil — Non-Emissions Certified and Certified Tier 1, Tier 2, Tier 3, Stage I, Stage II, and Stage III

New engines are filled at the factory with either John Deere Break-In™ or John Deere Break-In Plus™ Engine Oil. During the break-in period, add John Deere Break-In™ or Break-In Plus™ Engine Oil, respectively, 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.

If John Deere Break-In™ Engine Oil is used during the initial operation of a new or rebuilt engine, change the oil and filter at a maximum of 100 hours.

If John Deere Break-In Plus™ Engine Oil is used, change the oil and filter at a minimum of 100 hours and a maximum equal to the interval specified for John Deere Plus-50™ II or Plus-50™ oil.

After engine overhaul, fill the engine with either John Deere Break-In™ or Break-In Plus™ Engine Oil.

Break-In is a trademark of Deere & Company.
Break-In Plus is a trademark of Deere & Company
Plus-50 is a trademark of Deere & Company.

If John Deere Break-In™ or Break-In Plus™ Engine Oil is not available, use an SAE 10W-30 viscosity grade diesel engine oil meeting one of the following and change the oil and filter at a maximum of 100 hours of operation:

- API Service Classification CE
- API Service Classification CD
- API Service Classification CC
- ACEA Oil Sequence E2
- ACEA Oil Sequence E1

IMPORTANT: Do not use Plus-50™ II, Plus-50™, or engine oils meeting any of the following for the initial break-in of a new or rebuilt engine:

API CK-4	**ACEA E9**
API CJ-4	**ACEA E7**
API CI-4 PLUS	**ACEA E6**
API CI-4	**ACEA E5**
API CH-4	**ACEA E4**
API CG-4	**ACEA E3**
API CF-4	
API CF-2	
API CF	

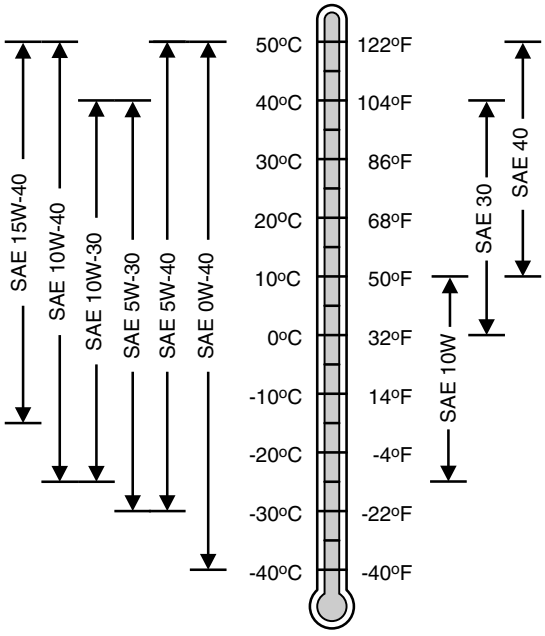
These oils do not allow the engine to break in properly.

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, John Deere Plus-50™, or other diesel engine oil as recommended in this manual.

DX,ENOIL4-19-02NOV16

Diesel Engine Oil — Tier 2 and Stage II



TS1743—UN—25APR19

Oil Viscosities for Air Temperature Ranges

Failure to follow applicable oil standards and drain intervals can result in severe engine damage that might not be covered under warranty. Warranties, including the emissions warranty, are not conditioned on the use of John Deere oils, parts, or service.

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere Plus-50™ II oil is preferred.

John Deere Plus-50™ is also recommended.

John Deere Torq-Gard™ is also allowed.

Other oils may be used if they meet one or more of the following standards:

- API Service Category CK-4
- API Service Category CJ-4
- API Service Category CI-4 PLUS
- API Service Category CI-4
- API Service Category CH-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E7
- ACEA Oil Sequence E6
- ACEA Oil Sequence E5
- ACEA Oil Sequence E4

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply

Plus-50 is a trademark of Deere & Company
Torq-Gard is a trademark of Deere & Company

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).

DX,ENOIL7-19-23APR19

Engine Oil and Filter Service Intervals — Tier 2 and Stage II 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 diesel fuel. Actual service intervals also depend on operation and maintenance practices.

Approved Oil Types:

- "Plus-50 Oils" include John Deere Plus-50 II and John Deere Plus-50
- "Other Oils" include John Deere Torq-Gard, API CK-4, API CJ-4, API CI-4 PLUS, API CI-4, API CH-4, ACEA E9, ACEA E7, ACEA E6, ACEA E5, and ACEA E4

Use oil analysis to evaluate the condition of the oil and to aid in the selection of the proper oil and filter service interval. Contact your John Deere dealer or other qualified service provider 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.

- 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 or qualified service provider

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 2000 mg/kg (2000 ppm)*
- *Use of John Deere Plus-50 II or John Deere Plus-50 oil*
- *Use of an approved John Deere oil filter*

Engine Oil and Filter Service Intervals	
Fuel Sulfur	Less than 2000 mg/kg (2000 ppm)
Plus-50 Oils	500 hours
Other Oils	250 hours
Fuel Sulfur	2000—5000 mg/kg (2000—5000 ppm)
Plus-50 Oils	400 hours
Other Oils	150 hours
Fuel Sulfur	5000—10 000 mg/kg (5000—10 000 ppm)
Plus-50 Oils	250 hours (see John Deere dealer)
Other Oils	125 hours (see John Deere dealer)
Oil analysis may extend the service interval of "Other Oils", to a maximum not to exceed the interval for Plus-50 Oils. Oil analysis means taking a series of oil samples at 50-hour increments beyond the normal service interval until either the data indicates the end of useful oil life or the maximum service interval of John Deere Plus-50 oils is reached.	

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**

DX,ENOIL12,T2,EXT(T)-19-04APR22

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

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

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 engines.

To protect the engine from debris and water, always change engine fuel filters as specified in this manual.

DX,FILT2-19-14APR11

Heavy Duty Diesel Engine Coolant

The engine cooling system is filled to provide year-round protection against corrosion and cylinder liner pitting, and winter freeze protection to -37°C (-34°F). If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

IMPORTANT: Avoid machine damage, DO NOT mix different coolants. Replace all system coolant when seriously lack of coolant. Could add distilled, deionized, or demineralized water when coolant lack is less than 1 L (0.26 gal).

The following engine coolants are preferred:

- John Deere COOL-GARD™ II Premix
- John Deere COOL-GARD II PG Premix

Use John Deere COOL-GARD II PG Premix when a non-toxic coolant formulation is required.

COOL-GARD is a trademark of Deere & Company

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.

John Deere COOL-GARD II Premix, COOL-GARD II PG Premix, and COOL-GARD II Concentrate coolants do not require use of supplemental coolant additives.

Other Coolants

John Deere COOL-GARD II and COOL-GARD II PG coolants might not be available in the geographical area where service is performed.

If these coolants are unavailable, use a coolant concentrate or prediluted coolant intended for use with heavy duty diesel engines and with a minimum of the following chemical and physical properties:

- Is formulated with a quality nitrite-free additive package.
- 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
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion

The additive package must be part of one of the following coolant mixtures:

- ethylene glycol or propylene glycol base prediluted (40—60%) heavy duty coolant
- ethylene glycol or propylene glycol base heavy duty coolant concentrate in a 40—60% mixture of concentrate with quality water

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.

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.

CO00263,000089B-19-12JAN18

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. 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:

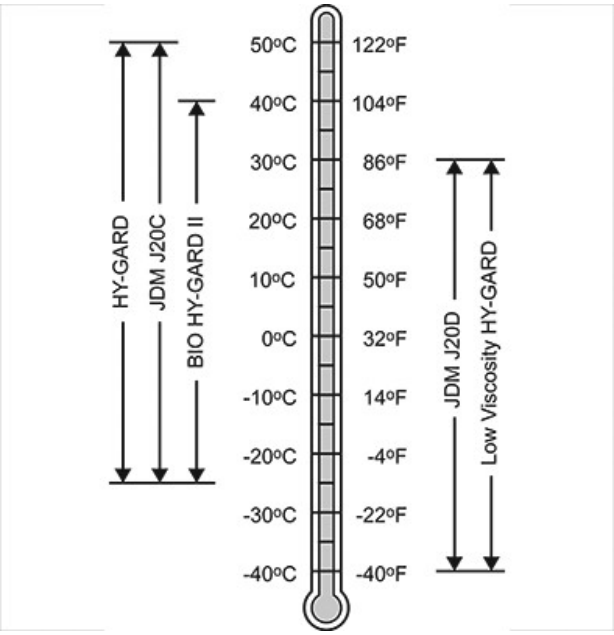
- **John Deere COOL-GARD II**
- **John Deere COOL-GARD II PG**

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

Transmission and Hydraulic Oil



RG30204—UN—08MAR18

Oils for Air Temperature Ranges

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
- John Deere Standard JDM J20D

Use John Deere Bio Hy-Gard™ II oil when a biodegradable fluid is required.[2]

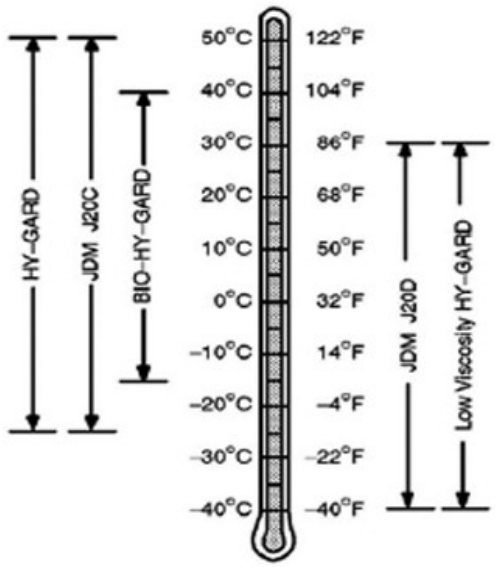
DX,ANTI-19-01JAN18

COOL-GARD is a trademark of Deere & Company

Hy-Gard is a trademark of Deere & Company
Bio Hy-Gard is a trademark of Deere & Company

[2] *Bio Hy-Gard II meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC-L-33-T-82 test method. Bio Hy-Gard II should not be mixed with mineral oils, because this reduces the biodegradability and makes proper oil recycling impossible.*

MFWD Front Axle Housing Oil



CPA0008317—UN—23MAY19

Depending upon the expected air temperature range during the drain interval, use proper oil viscosity.

The following oils are recommended:

- John Deere HY-GARD
- John Deere HY-GARD - LOW VISCOSITY

Greatwall Hydraulic/Transmission/Braking.

Other oils may be used if they meet one of the following:

- John Deere JDM J20C
- John Deere JDM J20D

LG70251,00019C5-19-09MAY19

MFWD Wheel Hub Oil

Depending upon the expected air temperature range during the drain interval, use proper oil viscosity.

The following oils are recommended:

- John Deere GL-5
- John Deere JDM J20C
- John Deere EXTREME-GARD

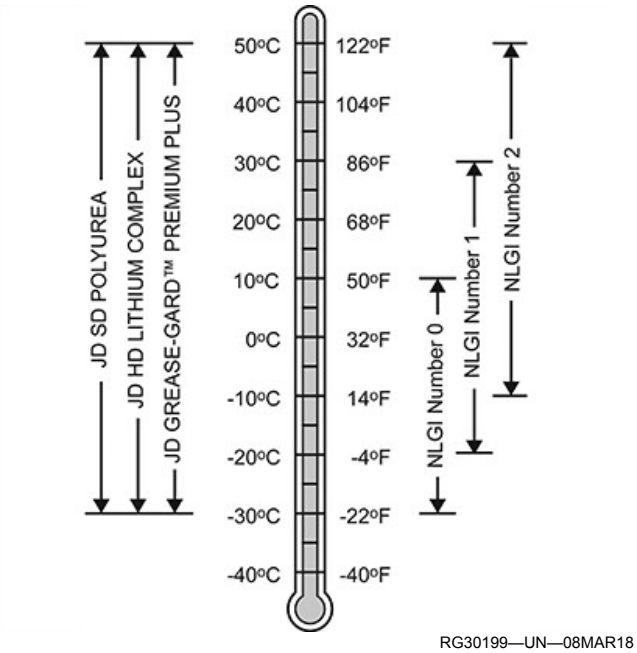
Greatwall Hydraulic/Transmission/Braking

Other GL-5 Service Classification oils that comply with API may also be used.

CP00606,00013E3-19-16MAY18

Multipurpose Extreme Pressure (EP) Grease

IMPORTANT: For automated lubrication systems different ambient air temperatures need to be considered.



RG30199—UN—08MAR18

Greases for Air Temperature Ranges

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 Grease-Gard™ Premium Plus

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB
- ISO-L-X-BDHB 2 or DIN KP 2 N-10 Lithium Complex, Non-Synthetic Base Oil (100 to 220 mm2/s @ 40°C)

IMPORTANT: Some types of thickeners, base oils, and additives used in greases are not compatible with others. Mixing greases should be avoided. Consult your grease supplier before mixing different types of grease.

DX,GREA1-19-13JAN18

Mixing of Lubricants

In general, avoid mixing different brands or types of oil.

Grease-Gard is a trademark of Deere & Company

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.

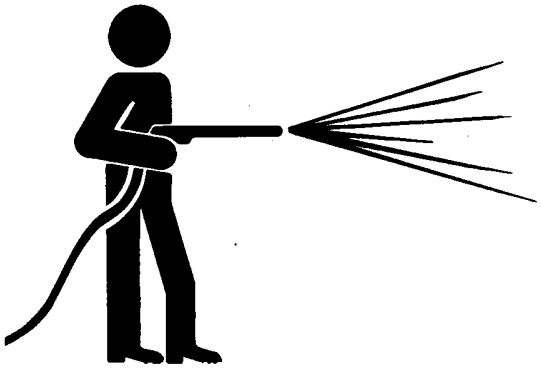
DX,LUBMIX-19-18MAR96

As Required Maintenance

Service machine for as required maintenance items refer to maintenance sections.	• Inspect Engine air intake system in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.
	• Clean grille screens, radiator, oil cooler, radiator screen in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.
	• Bleed fuel system in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.
	• Charge battery in Electrical and Lighting Maintenance section.
	• Replace headlight element in Electrical and Lighting Maintenance section.
	• Replace tail/stop/turn bulbs in Electrical and Lighting Maintenance section.
	• Replace worklight element in Electrical and Lighting Maintenance section.
	• Adjust headlights in Electrical and Lighting Maintenance section.
	• Warm transmission-hydraulic system oil in Hydraulics Maintenance section.
	• Check selective control valve in Selective Control Valve Maintenance section.

CO00263,0001C10-19-04DEC18

Wash Machine After Unloading



T6642EJ—UN—18OCT88

IMPORTANT: Reduce corrosion from road salt and sea salt. Promptly wash equipment delivered by truck during winter months or delivered by cargo ship.

Avoid malfunction or damage to machine components. Do not direct high-pressure spray at electronic or electrical components and connectors, bearings, hydraulic seals, fuel injection pumps, or other sensitive components. Reduce water pressure to wash sensitive components.

Avoid water penetration behind seals and similar components. Do not direct spray on these components at an angle less than 45°.

Avoid discoloration of machine paint. Do not use strong soaps, chemical detergents, or cleaning agents that contain acids, caustics, or abrasives. Do not allow cleaning agents to dry on machine. Promptly rinse machine after washing with a cleaning agent.

Use a top-to-bottom wash sequence. Wash behind panels and in hidden areas where salt can accumulate during transport.

If a cleaning agent is used, the agent must be the correct concentration. Do not allow cleaning agent to dry on machine, promptly rinse from top to bottom. Your John Deere dealer has cleaners which are compatible with your equipment and which are recommended to remove protective shipping coatings.

Incorrect detergent, excessive concentration, a delay in rinsing, or incomplete rinsing can discolor paint after delivery.

DX,WASH-19-14MAR14

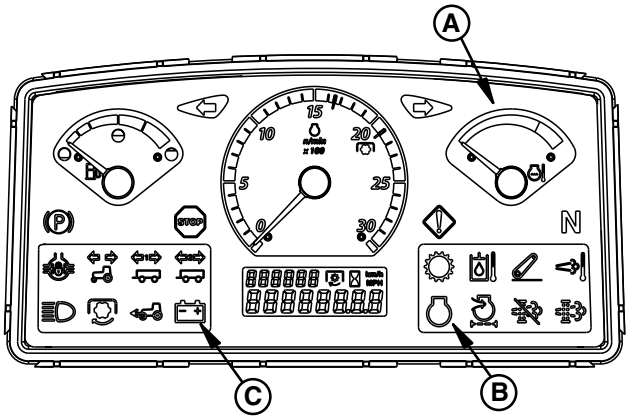
Controls and Instruments Maintenance

Service controls and instruments refer to Controls and Instruments section.

CO00263,000089F-19-12JAN18

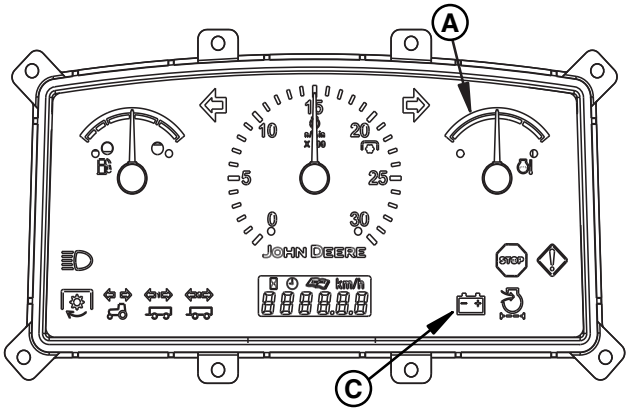
Engine Operation—Break-In Check

IMPORTANT: The engine is ready for normal operation. Be extra cautious during the first 100 hour, until you become thoroughly familiar with the sound and feel of your new tractor. Stay extra attentive and alert.



PY14900—UN—31JAN13

Instrument Cluster (wet clutch)



PY14909—UN—31JAN13

Instrument Cluster (dry clutch)

A—Coolant Temperature Gauge
B—Engine Information Indicator
C—Charging System Indicator

Warm up tractor carefully. Check charging system indicator (C), engine information indicator (B) , and coolant temperature gauge (A).

Avoid unnecessary engine idling (5 minutes).

Check engine oil, coolant, transmission/hydraulic, and the fluid levels of mechanical front wheel drive frequently. Watch for fluid leaks.

NOTE: If engine oil must be added, use seasonal viscosity grade oil. Use only lubricants meeting specifications given in the Fuels, Lubricants, and Coolant section.

N400041,0003A61-19-24JAN18

Break-In Service

IMPORTANT: Keep wheel hardware tight to avoid tractor damage. Check torque on wheel bolts before operating, twice during first 10 hours of operation, after 50 hours of operation, and periodically thereafter.

During the First 10 Hours of Operation:

- Use only John Deere ENGINE BREAK-IN OIL if needed. (See Fuels, Lubricants, and Coolants section.)
- Perform service listed for 10 hours in Maintenance Interval Chart in Maintenance Intervals section.
- Tighten wheel bolts. (See Wheels and Tires Operation section.)

After the First 50 Hours of Operation:

- Tighten wheel bolts. (See Wheels, Tires, and Treads section.)
- Check alternator/fan belt tension.
- Tighten air intake hose clamps. (See Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)
- Check cooling system hose clamps. (See Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)
- Check brake linkage and brake pedal adjustment. (See Steering and Brake Maintenance section.)
- Check clutch linkage and clutch pedal adjustment. (See Steering and Brake Maintenance section.)
- Perform service listed for 50 hours in Maintenance Interval Chart in Maintenance Intervals section.

After the First 100 Hours of Operation:

IMPORTANT: If tractor was used under light load conditions during first 100 hours, refill with only specified engine oil for an additional 100 hours to allow engine to break-in property. (See Diesel Engine Oil in Fuels, Lubricants, and Coolant section.)

- Change engine oil and filter. (See Engine Maintenance section.)
- Replace transmission/hydraulic oil filter element. (See Transmission Maintenance section.)
- Change MFWD axle oil. (See MFWD and Front Axle Maintenance section.)
- Change MFWD wheel hub oil. (See MFWD and Front Axle Maintenance section.)
- Perform service listed for 100 hours in Maintenance Interval Chart in Maintenance Intervals section.

CO00263,0001C3C-19-13DEC18

Open Hood

CPA0002043—UN—19OCT15

A—Latch Handle

Pull latch handle (A) and lift hood up.

N400041,0003A62-19-24JAN18

Use Correct Lubricant

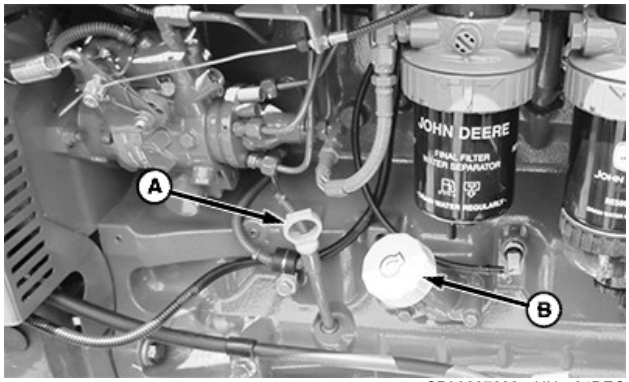
IMPORTANT: Use only lubricants meeting specifications outlined in Fuels, Lubricants, and Coolants section when performing tractor service.

CO00263,00008A3-19-12JAN18

Check Engine Oil Level

Service Interval — Daily or 10 Hours

1. Start and operate engine at the low idle for 2—3 minutes. Stop engine and wait 2—3 minutes for oil to drain back into the oil sump.



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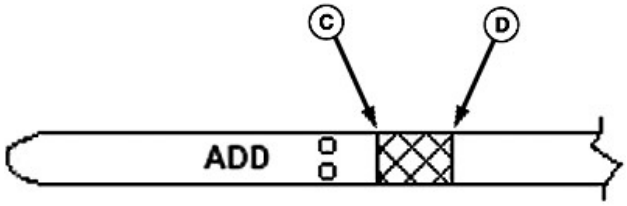


CPA0002115—UN—26OCT15

Engine Oil Dipstick

PUC1885—UN—13FEB09

Engine Oil Dipstick

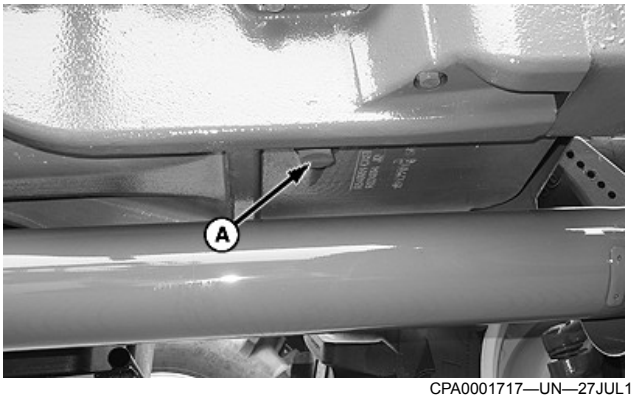
A—Engine Oil Dipstick
B—Engine Oil Filler Cap
C—Low-Level Mark
D—High-Level Mark

2. Check engine oil level. Remove and wipe off engine oil dipstick (A), and reinsert it fully. Pull out the engine oil dipstick (A) and check the oil level.
3. Safe operating range is between the low-level mark (C) and high-level mark (D) on dipstick. Do not operate engine when oil level is below the low-level mark (C).
4. Remove the engine oil filter cap (B) and add seasonal viscosity grade oil. (See Fuels, Lubricants, and Coolant section for oil specifications.)

CO00263,0001C11-19-04DEC18

Change Engine Oil and Filter

SERVICE INTERVAL
Initial — 100 Hours
Regular — 250 Hours*
Regular — 500 Hours
* If PLUS 50 oil and a John Deere filter are not used, lower this service interval to 250 hours



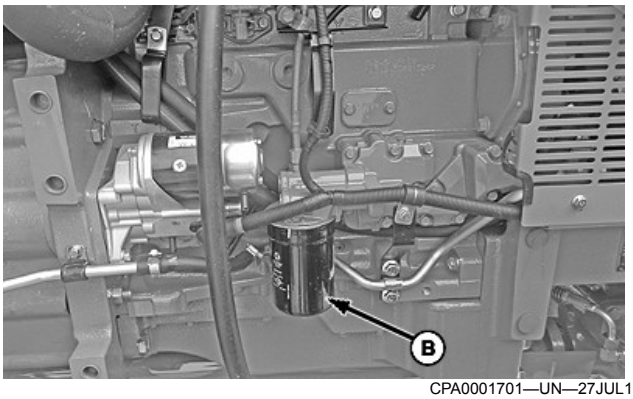
CPA0001717—UN—27JUL15

Bottom View

A—Drain Plug

1. Run engine to heat oil. Turn off engine.
2. Remove drain plug (A) and drain oil.

NOTE: Embossment of the oil filter gasket should match the groove of the filter seat.



CPA0001701—UN—27JUL15

Right-Hand Side

B—Engine Oil Filter

3. Replace engine oil filter (B) when changing oil. Check oil filter gasket and replace it as necessary. Apply a film of oil on the oil filter gasket and install filter. Hand tighten plus 1/2 turn.
4. Install and tighten drain plug.
5. Add seasonal viscosity grade oil. (See Fuels, Lubricants, and Coolant section.)

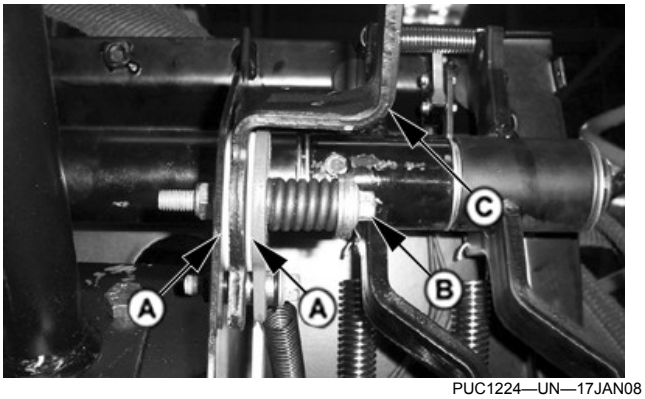
Specification

Engine Crankcase
Oil—Capacity. . . . . 15 L (3.96 gal)

CO00263,0001C12-19-04DEC18

Adjust Hand Throttle Friction

Service Interval —As Required



PUC1224—UN—17JAN08

A—Friction Plates
B—Lock Nut
C—Hand Throttle Lever

- When the throttle lever becomes too loose and fails to keep constant engine speed, friction plates (A) need to be adjusted.
- Tighten lock nut (B) until hand throttle lever (C) moves easily but stays in place throughout range of travel.
- Linkage is located under dashboard, right of the steering column.

N400041,0003A65-19-24JAN18

Break-In Service

During the First 10 Hours of Operation:

IMPORTANT: Keep wheel hardware tight to avoid tractor damage. Check torque on wheel bolts before operating, twice during first 10 hours of operation, after 50 hours of operation, and periodically thereafter.

Use engine oil meeting John Deere specifications. (See Diesel Engine Oil in Fuels, Lubricants, and Coolants section.)

Perform service listed for 10 hours in the service interval chart. (See Maintenance Intervals section.)

Tighten wheel bolts. (See Wheels and Tires Operation section.)

LG70251,00014C8-19-26SEP18

After the First 50 Hours of Operation:

Tighten wheel bolts. (See Wheels and Tires Operation section.)

Check alternator/fan belt tension.

Tighten air intake hose clamps. (See Check Air Intake System, in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)

Check cooling system hose clamps. (See Check Hoses and Hose Clamps for Tightness, in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)

Check brake linkage and brake pedal adjustment. (See Adjust Brake Pedal Free Play in Steering and Brake Maintenance section.)

Check clutch linkage and clutch pedal adjustment. (See Adjust Clutch Pedal Free Play, in Steering and Brake Maintenance section.)

Check PTO clutch linkage. (See Adjust PTO Clutch Operating Rod, in Power Take-off (PTO) Operation section.)

Perform service listed for 50 hours and 10 hours in Service Interval Chart. (See Maintenance Intervals section.)

LG70251,00014C9-19-26SEP18

After the First 100 Hours of Operation:

IMPORTANT: If the tractor was used under light load conditions during first 100 hours, refill with only specified engine oil for an additional 100 hours to allow engine to break in property. (See Diesel Engine Oil in Fuels, Lubricants, and Coolant section.)

Replace transmission/hydraulic oil filter element. (See Replace Transmission/Hydraulic Oil Filter, in Transmission Maintenance section.)

Change engine oil and filter. (See Change Engine Oil and Filter, in Engine Maintenance section.)

Change MFWD axle oil. (See Check MFWD Front Axle Housing Oil, in MFWD and Front Axle Maintenance section.)

Change MFWD wheel hub oil. (See Change MFWD Wheel Hub Oil, in MFWD and Front Axle Maintenance section.)

Perform 100 hours Service, 10 hours Service, and 50 hours Service.

LG70251,00014CA-19-26SEP18

Service Air Cleaner (PTM)

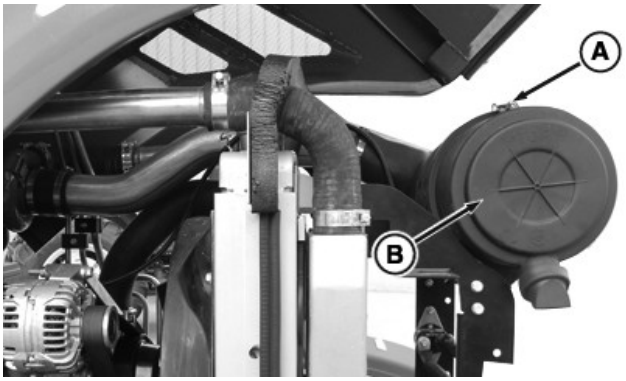
Service Interval—250 Hours

A dual element air cleaner is standard. A dirty primary element is indicated when air filter restriction indicator on the instrument panel illuminates. A dirty element can result in loss of power or excessive smoke.

Clean primary element when indicator on the instrument panel illuminates or every 250 hours.

Replace both elements at the same time annually, regardless of condition.

1. Raise Hood.



PY14865—UN—07JAN13

A—Locking Clips
B—Cover

2. Release locking clips (A).
3. Remove cover (B).

PY14866—UN—07JAN13

C—Primary Filter Element

4. Remove and clean primary filter element (C).

PY14867—UN—07JAN13

D—Secondary Filter Element

5. Clean out any dirt in canister. Check the secondary filter element (D) condition, replace as necessary.

IMPORTANT: Remove secondary (inner) element only if replacement is necessary. DO NOT attempt to clean secondary element.

After secondary element is removed, install new element immediately to prevent dust from entering the air intake system.

6. Reinstall secondary filter element, primary filter element, and cover. Lock the cover by the locking clips.

NOTE: Be sure that dust unloader valve faces downward after cover is installed.

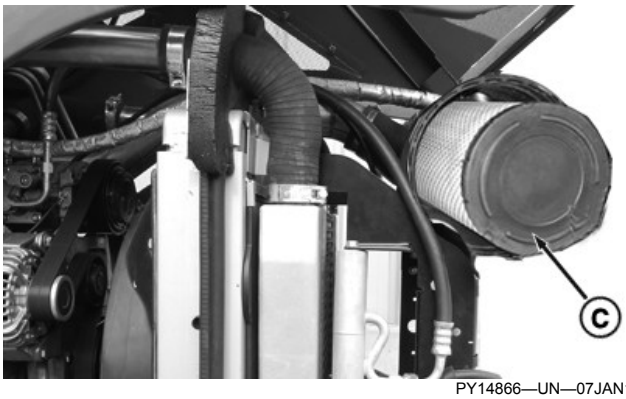
7. Lower hood.

CO00263,0001C3B-19-13DEC18

Replace Air Cleaner Elements (PTM)

Service Interval—Annually*
** Interval can vary according to operating conditions*

1. Raise Hood.

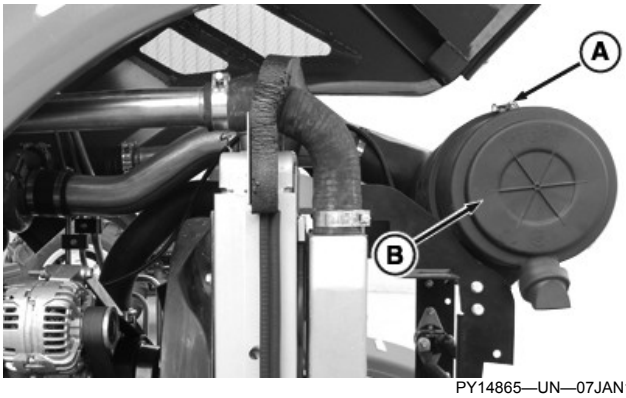


PY14866—UN—07JAN13

PY14867—UN—07JAN13

C—Primary Filter Element
D—Secondary Filter Element

2. Remove both primary filter element (C) and secondary filter element (D). (See Service Air Cleaner (PTM) in this section.)



PY14865—UN—07JAN13

A—Locking Clips
B—Cover

3. Reinstall new secondary filter element and primary filter element, and cover (B). Lock the cover by the locking clips (A).
4. Install and lock the cover by the locking clips.

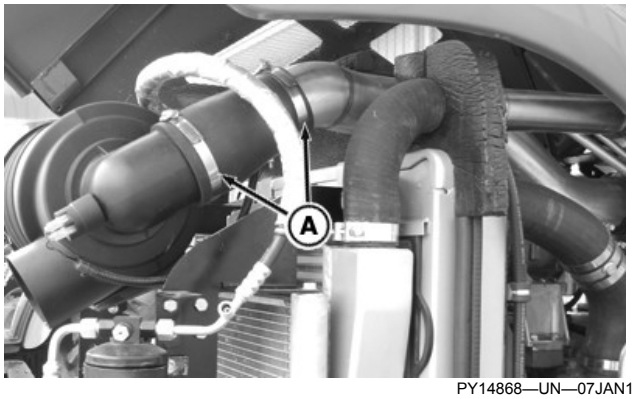
NOTE: Be sure that dust unloader valve faces downward after cover is installed.

5. Lower hood.

CO00263,0001C3A-19-13DEC18

Check Air Intake System (PTM)

Service Interval —As Required



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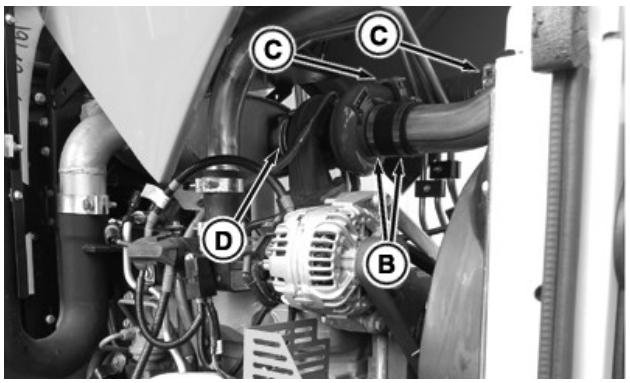

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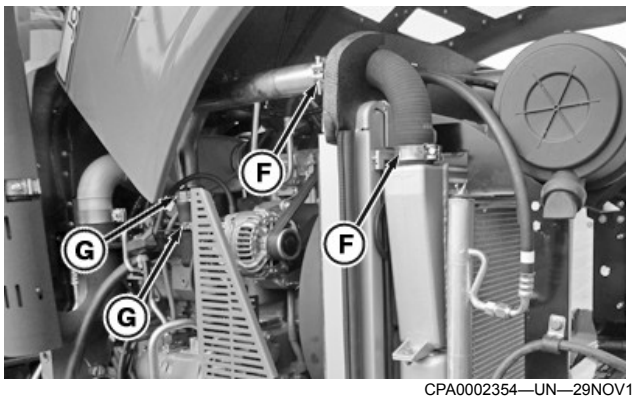
PY14870—UN—07JAN13



CPA0002354—UN—29NOV15

A—Clamps (2 used)
B—Clamps (2 used)
C—Clamps (2 used)
D—Clamp
E—Clamps (2 used)
F—Clamps (2 used)
G—Clamps (2 used)

Check all clamps (shown in figures) in the air intake system for tightness.

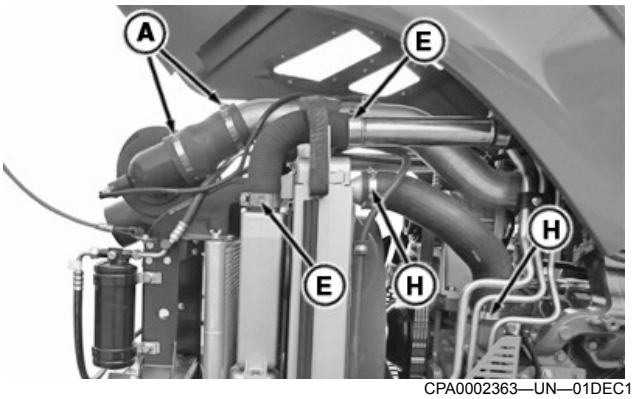
CO00263,0001C19-19-05DEC18

Check Hoses and Hose Clamps for Tightness (PTM)

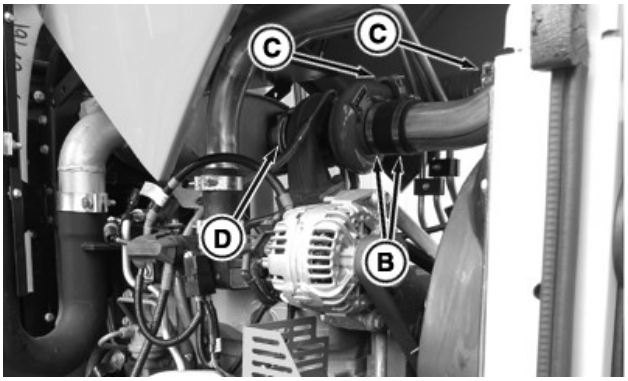
Service Interval—500 Hours

Check the following system hose clamps for tightness:

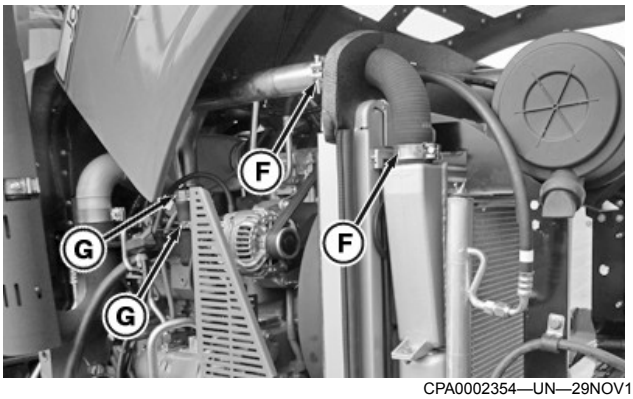
- Engine Air Induction System
- Engine Cooling System
- Hydraulic System
- Fuel System



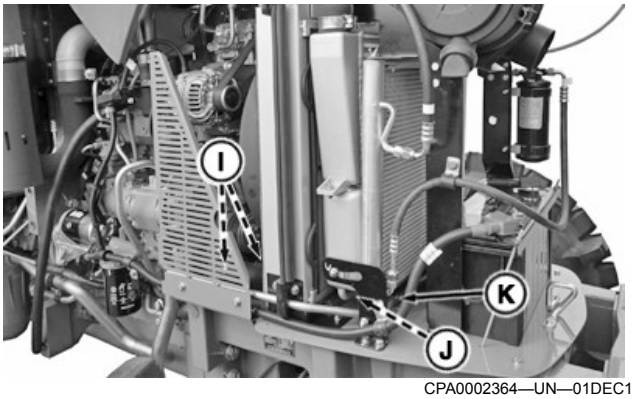
CPA0002363—UN—01DEC15



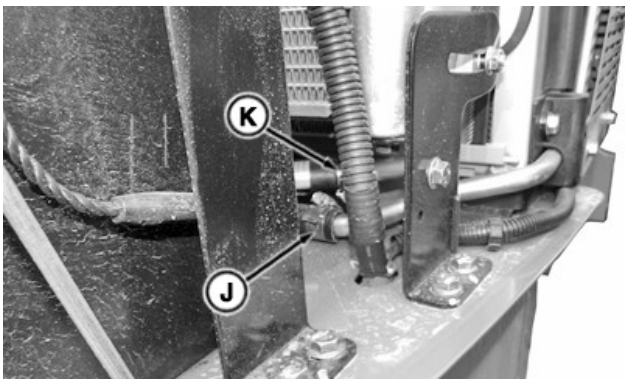
PY14869—UN—07JAN13



CPA0002354—UN—29NOV15



CPA0002364—UN—01DEC15



CPA0002365—UN—01DEC15

A—Clamps (2 used)
B—Clamps (2 used)
C—Clamps (2 used)
D—Clamp
E—Clamps (2 used)
F—Clamps (2 used)
G—Clamps (2 used)
H—Clamps (2 used)
I—Clamps (2 used)
J—Clamps (2 used)
K—Clamps (2 used)

Check all hoses for cracks which can cause leaks or possible failure. Replace as necessary.

CO00263,0001C1B-19-07DEC18

Service Air Cleaner (PTE)

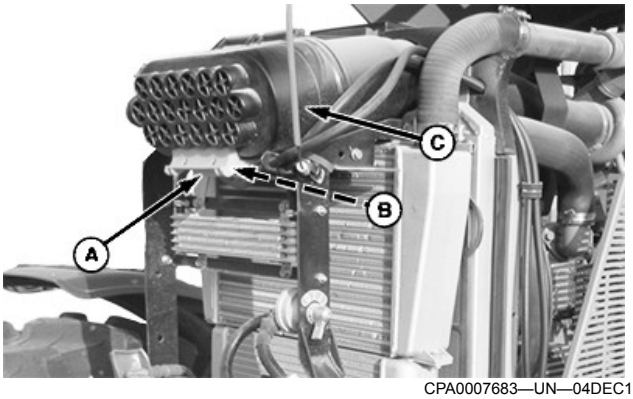
Service Interval—250 Hours

A dual element air cleaner is standard. A dirty primary element is indicated when air filter restriction indicator on the instrument panel illuminates. A dirty element can result in loss of power or excessive smoke.

Clean primary element when indicator on the instrument panel illuminates or every 250 hours.

CAUTION: Wear appropriate personal protective equipment including, but not limited to, eye, ear, and respiratory protection during any cleaning operation.

1. Raise hood.



CPA0007683—UN—04DEC18

Air Cleaner

CQ274950—UN—03JUL06

A—Lock
B—Handle
C—Cover

2. Pull lock (A) and push handle (B) downwards.
3. Push cover (C) upwards.

CQ294107—UN—08AUG12

4. Pull out primary filter element. Do not use excessive force.
5. Place the primary filter element with the dirty end down.
6. Working from the top down, clap and rotate the primary filter.
7. Repeat the clapping sequence for about ten times or until it is obvious that most of the dust has been removed.
8. Check the rubber seal around filter element for cracks and holes. Replace if the element shows any imperfections.

IMPORTANT: Never clean a dirty secondary filter element.

9. Secondary filter element only be removed when being replaced. If it looks dirty or damaged do not attempt to clean, replace it.

CQ294107—UN—08AUG12

10. Reinstall primary element with the rubber seal first (arrows on label pointing into the filter housing). Push in all the way.

IMPORTANT: If primary filter is not damaged and indicator on the instrument panel remains illuminated, replace both filters.

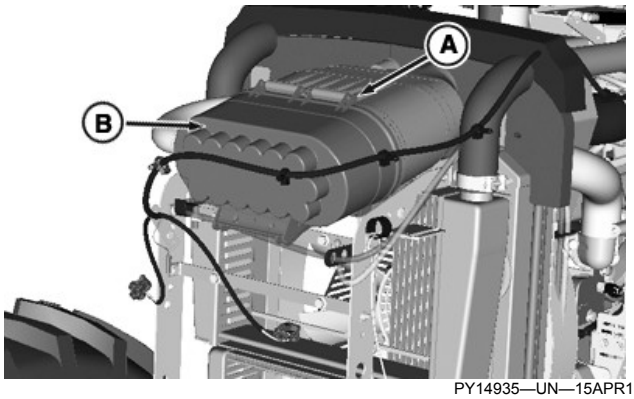
11. Close cover and lock handle.
12. Lower hood.

LG70251,000246F-19-05AUG21

Replace Primary Elements of Air Cleaner (PTE)

Service Interval—1500 Hours or Six Times Cleaning Whichever comes first.

1. Raise the hood.



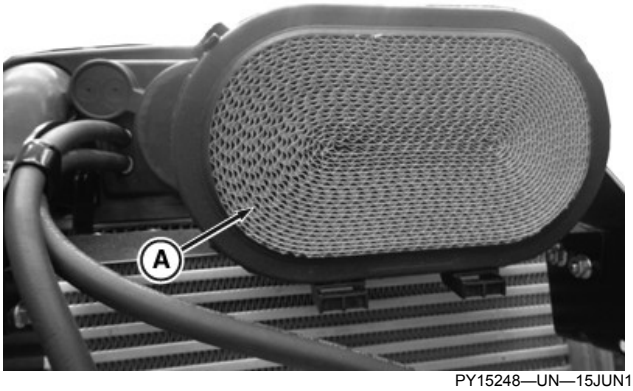
PY14935—UN—15APR13

A—Latch

B—Cover

2. Loosen latch (A) and remove cover (B).

IMPORTANT: Filter maintenance is required when the indicator illustrates. Replace primary filter element after six times cleaning or after 1500 hours, whichever comes first.



PY15248—UN—15JUN12

Primary Element

A—Primary Filter Element

3. Pull out the primary filter element (A). Do not use excessive force.

PY15250—UN—15JUN12

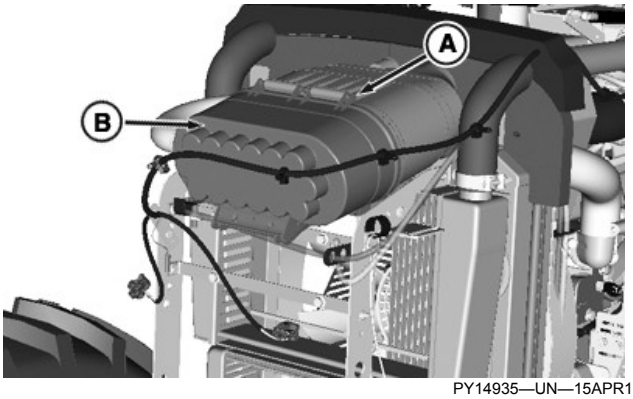
4. Install the new primary element with rubber seal first (arrows on label pointing into filter housing). Push in all the way.
5. Close cover and raise catch.
6. Lower hood.

LG70251,0002471-19-05AUG21

Replace Secondary Elements of Air Cleaner (PTE)

Service Interval—4500 Hours or Every Fourth Replacement of Primary Filter Element Whichever comes first.

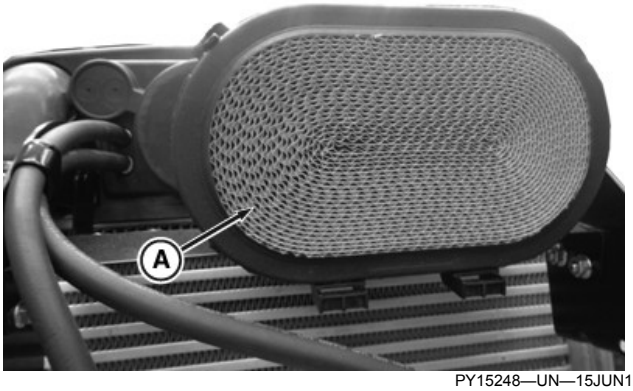
1. Raise the hood.



PY14935—UN—15APR13

A—Latch
B—Cover

2. Loosen latch (A) and remove cover (B).



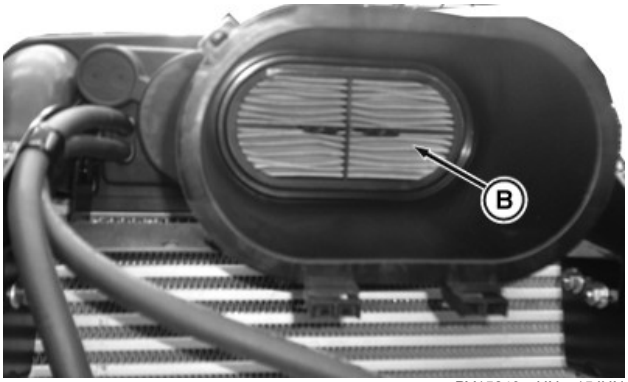
PY15248—UN—15JUN12

Primary Element

A—Primary Filter Element

3. Pull out the primary filter element (A). Do not use excessive force.

IMPORTANT: Never clean the secondary filter element. Replace the secondary filter element at every fourth replacement of primary filter element or every 4500 hours, whichever comes first.



PY15249—UN—15JUN12

Secondary Filter Element

B—Secondary Filter Element

4. Pull out the secondary element (B) using handle on the filter's frame.
5. Install the new secondary element. Push in all the way.

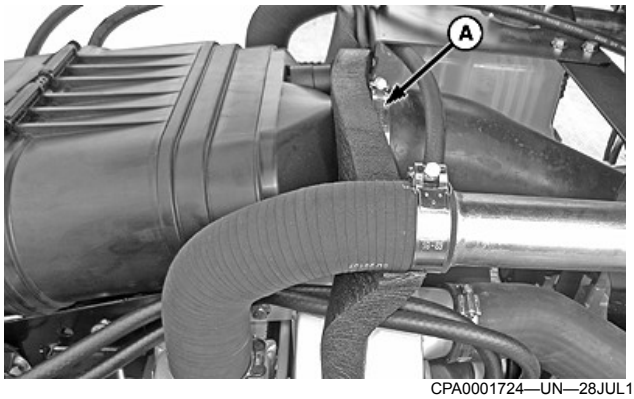
PY15250—UN—15JUN12

6. Install the primary element with rubber seal first (arrows on label pointing into filter housing). Push in all the way.
7. Close cover and raise catch.
8. Lower hood.

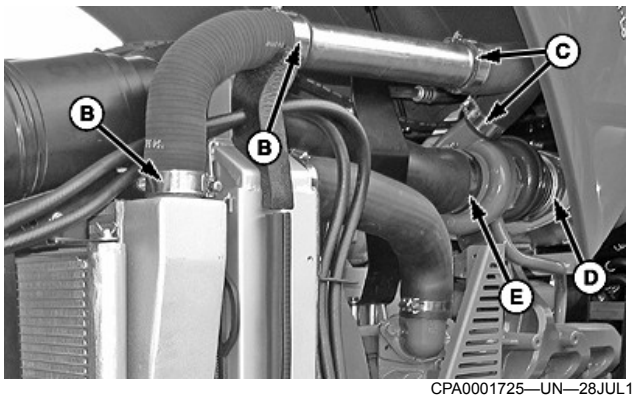
LG70251,0002472-19-05AUG21

Check Air Intake System (PTE)

Service Interval—As Required



CPA0001724—UN—28JUL15



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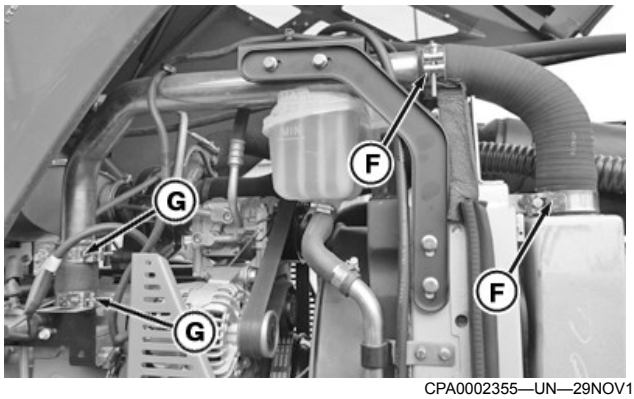


CPA0002355—UN—29NOV15

A—Clamp
B—Clamps (2 used)
C—Clamps (2 used)
D—Clamp
E—Clamp
F—Clamps (2 used)
G—Clamps (2 used)

Check all clamps (shown in figures) in the air intake system for tightness.

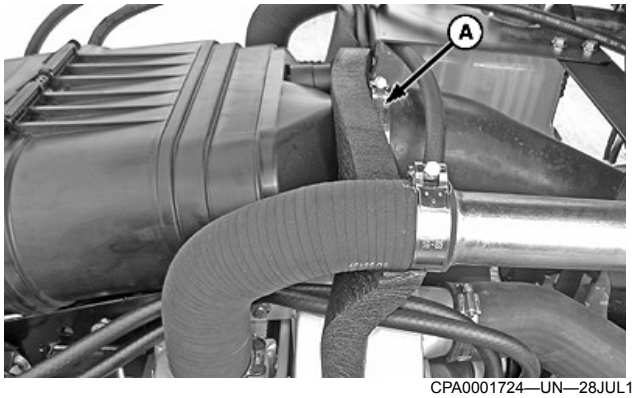
CO00263,0001C17-19-05DEC18

Check Hoses and Hose Clamps for Tightness (PTE)

Service Interval—500 Hours

Check the following system hose clamps for tightness:

- Engine Air Induction System
- Engine Cooling System
- Hydraulic System
- Fuel System



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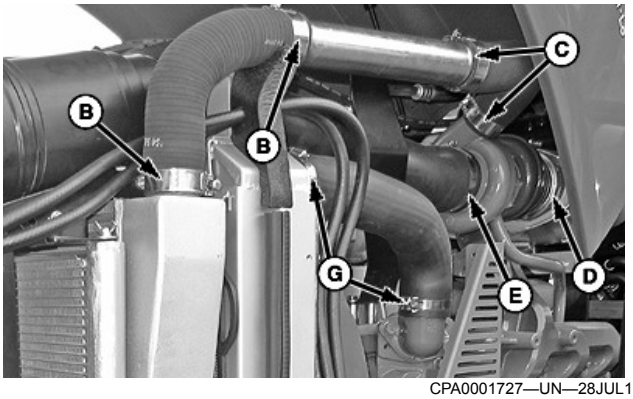
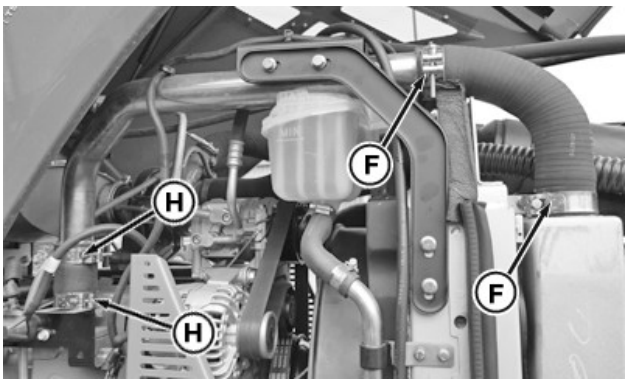
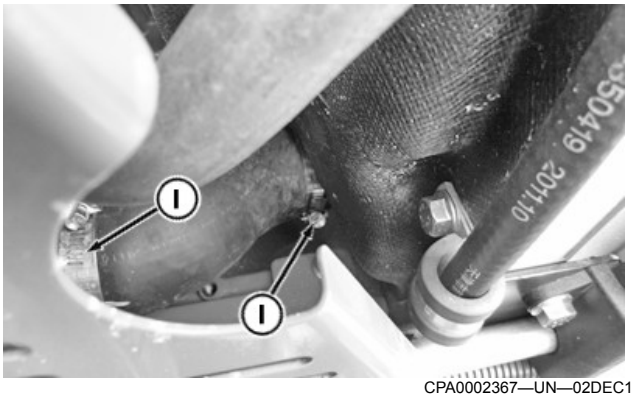


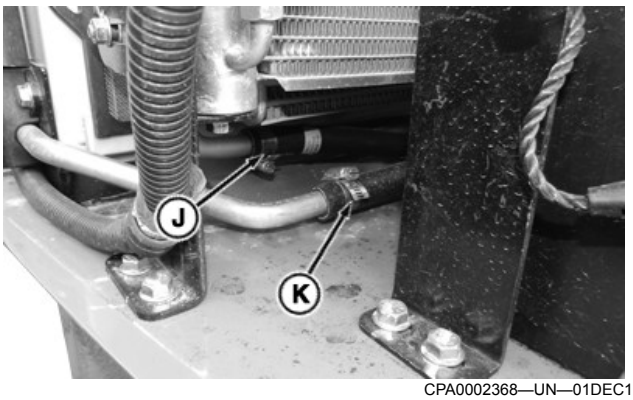
CPA0001727—UN—28JUL15



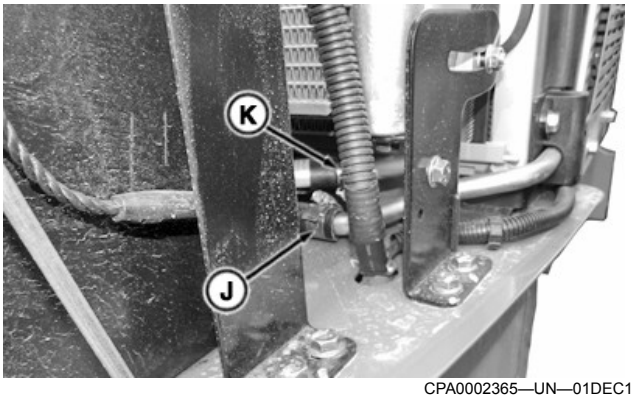
CPA0002366—UN—01DEC15



CPA0002367—UN—02DEC15



CPA0002368—UN—01DEC15



CPA0002365—UN—01DEC15

A—Clamp
B—Clamps (2 used)
C—Clamps (2 used)
D—Clamp
E—Clamp
F—Clamps (2 used)
G—Clamps (2 used)
H—Clamps (2 used)
I—Clamps (2 used)
J—Clamps (2 used)
K—Clamps (2 used)

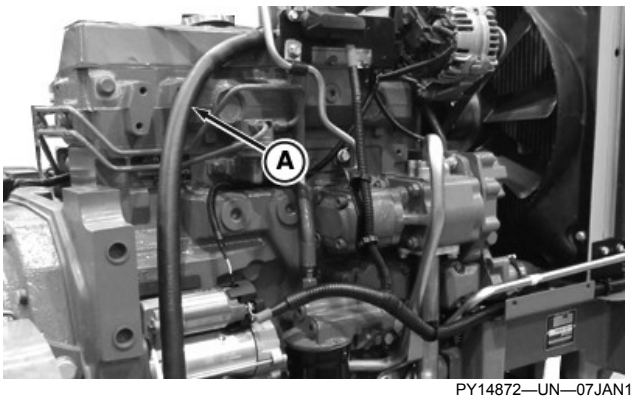
Check all hoses for cracks which could cause leaks or possible failure. Replace as necessary.

CO00263,0001C33-19-11DEC18

Clean Engine Crankcase Vent Tube

Service Interval—1000 Hours

CAUTION: Reduce compressed air to less than 210 kPa (2 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment, including eye protection.



PY14872—UN—07JAN13

Right-Hand Side

A—Crankcase Vent Tube

- Remove crankcase vent tube (A) from engine. Wash in solvent or blow clean with compressed air.

- Install breather cap of vent tube to the engine. Be sure that the vent tube is not kinked or pinched.

CO00263,0001C36-19-11DEC18

Do Not Modify Fuel System

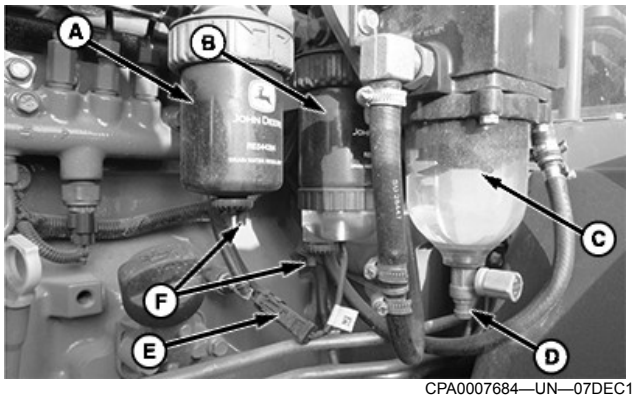
IMPORTANT: Modification or alteration of the injection pump, the injection pump timing, or the fuel injectors in ways not recommended by the manufacturer terminates the warranty obligation to the purchaser. (See warranty information inside front cover.)

DO NOT attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. (See an authorized John Deere dealer.)

CO00263,0001C1D-19-07DEC18

Drain Water and Sediment from Fuel Filters and Water Separator

Service Interval—Daily / 10 Hours



CPA0007684—UN—07DEC18

A—Secondary Fuel Filter
B—Primary Fuel Filter
C—Water Separator (PTM optional)
D—Drain Port
E—Wiring Harness
F—Drain Ports (2 used)

1. Disconnect wiring harness (E).
2. Connect a small hoses to end of drain port (D) drain ports (F).
3. Place a suitable container under drain ports.
4. Open drain ports to drain moisture and sediment.
5. Close drain ports when fuel runs clear.
6. Remove drain hoses and connect wiring harness.

LG70251,000191B-19-29MAR19

Drain Water and Sediment from Fuel Tank

Service Interval—250 Hours

PY17087—UN—09OCT12

Bottom of Fuel Tank

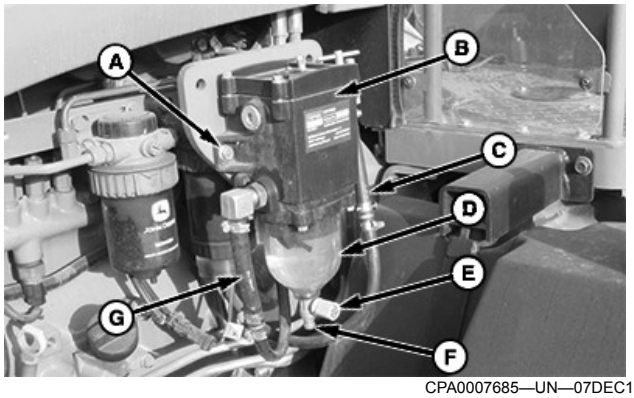
A—Drain Plug

- Locate drain plug (A) in left front corner of fuel tank, at the bottom.
- Place suitable container under drain plug and loosen plug. When fuel starts to run clear, tighten drain plug.

CO00263,0001C34-19-11DEC18

Replace Water Separator

Service Interval—As Required



CPA0007685—UN—07DEC18

A—Cap Screw (2 used)
B—Water Separator
C—Fuel Outlet Hose
D—Water Separator Bowl
E—Drain Valve
F—Drain Port
G—Fuel Inlet Hose

1. Connect a drain line to drain valve (E) and place a suitable container under the drain line.
2. Open drain valve (D) and drain fuel from the water separator (B).
3. Loosen fuel outlet hose (C) and fuel inlet hose (G)

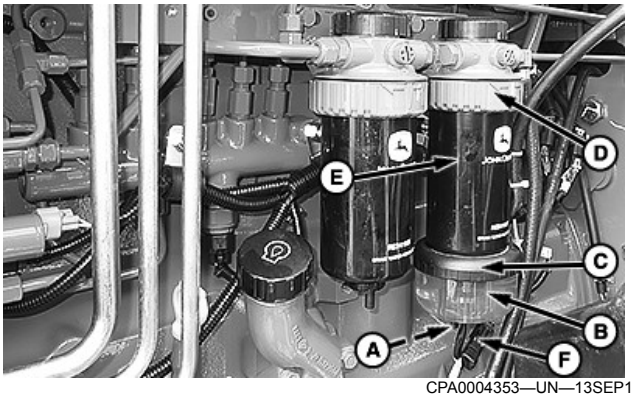
on the end of the water separator (B), remove cap screws (A), and remove water separator (B).

4. Inspect fuel hoses for cracks, breaks, or other signs of leaking. Replace as necessary.
5. Remove, inspect, clean, and dry water separator bowl (D). Replace as necessary.
6. Discard old water separator.
7. Install water separator bowl on the new water separator.
8. Install new water separator on the machine. Tighten cap screws.
9. Connect fuel outlet hose and fuel inlet hose.
10. Bleed fuel system. (See Bleed Fuel System in this section.)

LG70251,00019DE-19-20MAY19

Replace Primary Fuel Filter

Service Interval—500 Hours



CPA0004353—UN—13SEP17

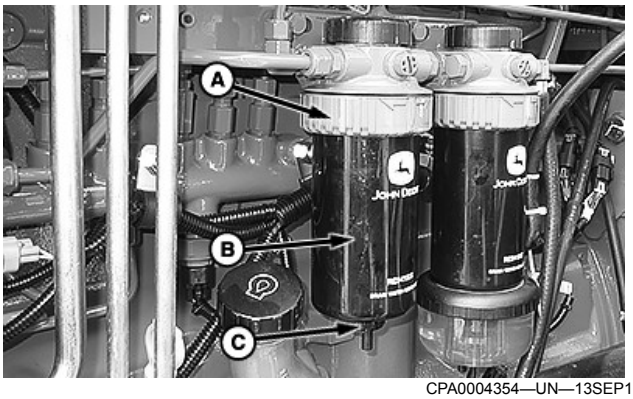
A—Drain Port
B—Water Separator Bowl
C—Bottom Retaining Ring
D—Top Retaining Ring
E—Primary Fuel Filter
F—Wiring Harness

1. Connect a drain line to drain port (A) and place a suitable container under drain.
2. Open drain port (A) and drain fuel from filter.
3. Loosen bottom retaining ring (C). Remove water separator bowl (B). Disconnect wiring harness (F).
4. Loosen top retaining ring (D) and remove primary fuel filter (E) and filter seal.
5. Discard old filter. Inspect filter seal for cracks, breaks, or other signs of leaking. Replace as necessary.
6. Clean and dry water separator bowl. Replace as necessary.
7. Install water separator bowl on the new primary fuel filter. Tighten retaining ring until it snaps into place. Do not overtighten.
8. Install new primary fuel filter and filter seal on machine. Tighten retaining ring until it snaps into place. Do not overtighten.
9. Connect wiring harness.
10. Bleed fuel system. (See Bleed Fuel System in this section.)

N400041,0003A5B-19-24JAN18

Replace Secondary Fuel Filter

Service Interval—500 Hours



CPA0004354—UN—13SEP17

A—Retaining Ring
B—Secondary Fuel Filter
C—Drain Port

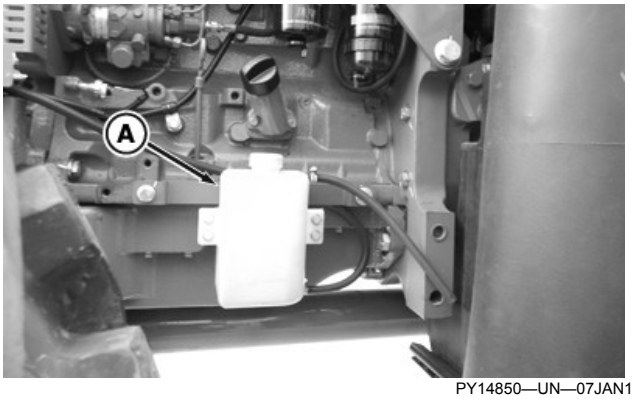
1. Connect a drain line to drain port (C) and place a suitable container under drain.
2. Open drain port (C) and drain fuel from filter.
3. Loosen retaining ring (A), remove secondary fuel filter (B) and filter seal.
4. Discard old filter. Inspect filter seal for cracks, breaks, or other signs of leaking. Replace as necessary.
5. Install new filter and seal. Tighten retaining ring until it snaps into place. Do not overtighten.
6. Bleed fuel system. (See Bleed Fuel System in this section.)

N400041,0003A5C-19-24JAN18

Check Coolant Level

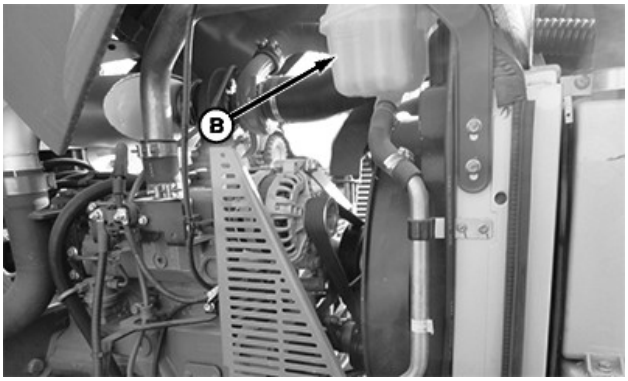
Service Interval—10 Hours

CAUTION: DO NOT remove tank cap until coolant is cold. Always remove tank cap slowly to relieve any excess pressure.



PY14850—UN—07JAN13

Coolant Overflow Tank (PTM)



CPA0007686—UN—07DEC18

Surge Tank (PTE)

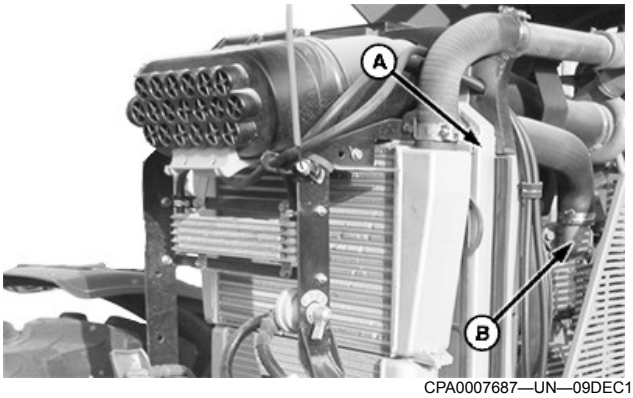
A—Coolant Overflow Tank
B—Surge Tank

Check and be sure that coolant level is between HIGH (MAX) and LOW (MIN) marks on tank. If coolant level is below LOW (MIN) mark, add coolant to surge tank (A) to bring level up to HIGH (MAX) mark. (See Fuels, Lubricants, and Coolant section.)

CO00263,0001C20-19-07DEC18

Check Cooling System for Leaks

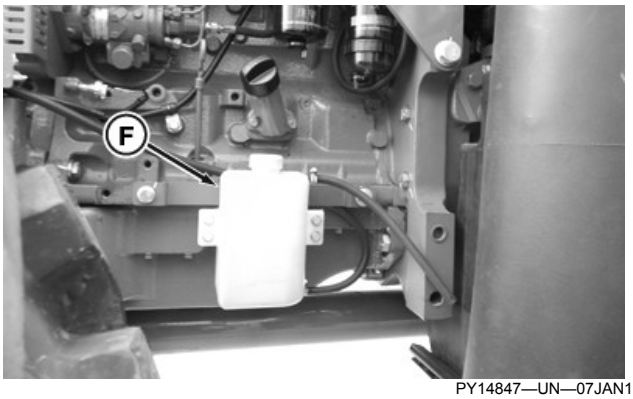
Service Interval—500 Hours



CPA0007687—UN—09DEC18

A—Radiator
B—Thermostat Housing Gasket

1. Check all around the base of radiator (A) for pinholes or any area where coolant is likely to leak.
2. Inspect area around the thermostat housing gasket (B) for any sign of coolant leakage.



PY14847—UN—07JAN13

PTM Engine

CPA0001720—UN—27JUL15

PTE Engine

C—Surge Tank
F—Coolant Overflow Tank

3. Inspect surge tank (C) and coolant overflow tank (F) for possible cracks or any sign of coolant leakage.

CO00263,0001C21-19-10DEC18

Flush Cooling System

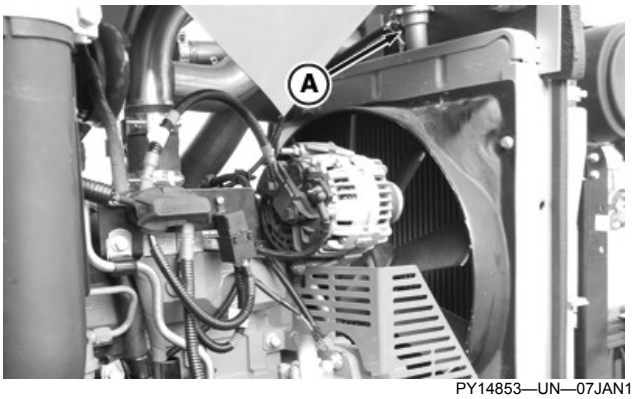
Service Interval—Every 2 Years or 2000 Hours[ab]

[a] Check coolant every year as required, can be extended to 5000 hours or 5 years if John Deere Cool-Gard is used.
[b] Check coolant every year as required, can be extended to 6000 hours or 6 years if John Deere Cool-Gard II is used.

CAUTION: DO NOT remove radiator cap or drain coolant until coolant is cold. Always loosen radiator cap slowly to relieve any excess pressure.

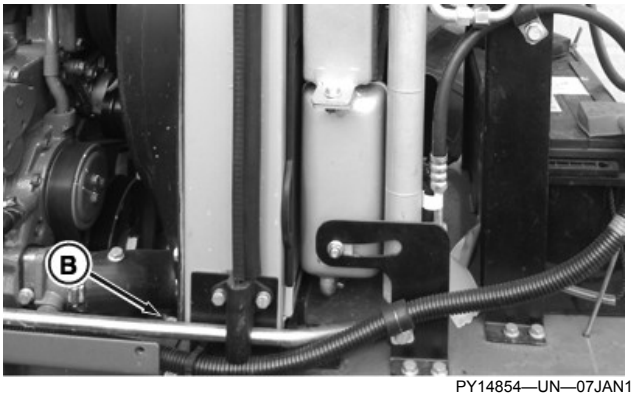
For efficient operation, drain old coolant, flush the entire

system, and fill with clean antifreeze solution at least once every 2 years.

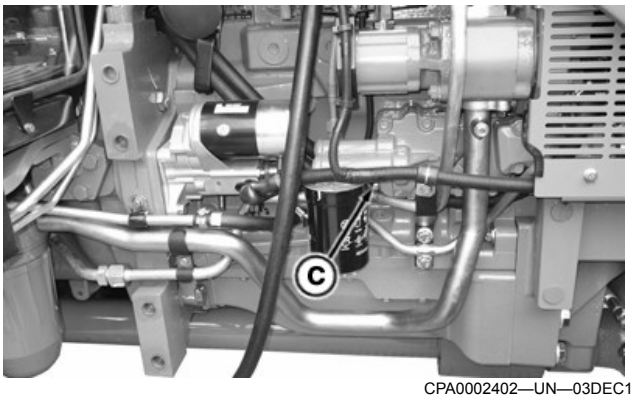


PY14853—UN—07JAN13

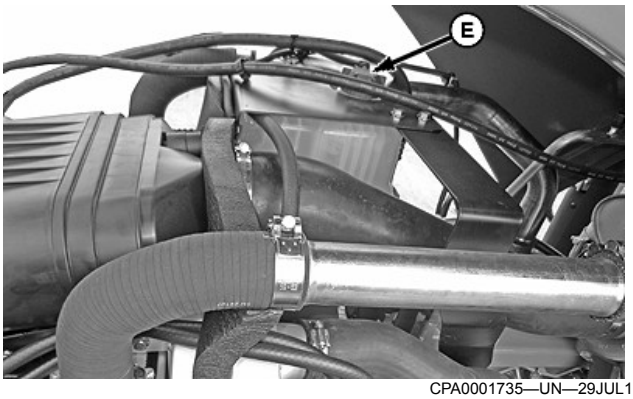
PTM Engine



PY14854—UN—07JAN13

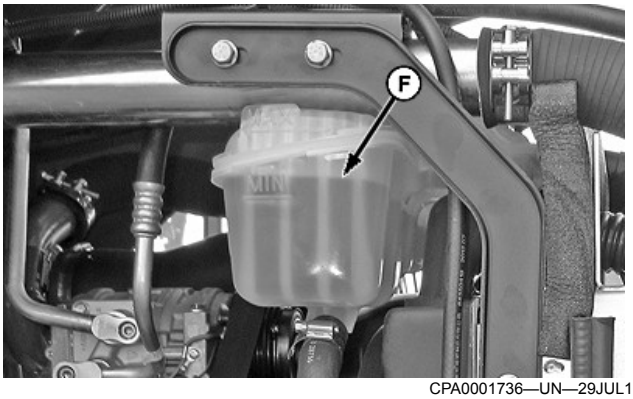


CPA0002402—UN—03DEC15



CPA0001735—UN—29JUL15

PTE Engine



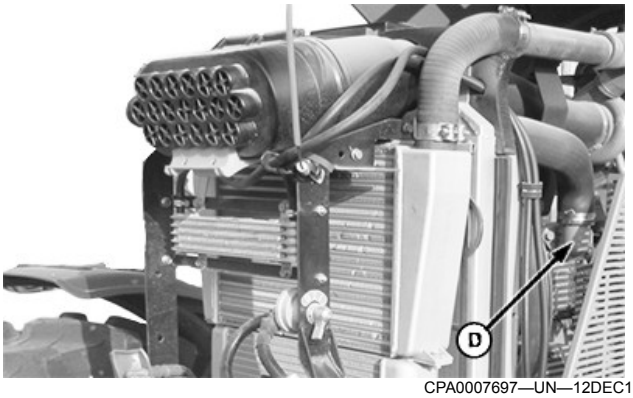
CPA0001736—UN—29JUL15

PTE Engine

A—Radiator Cap
B—Radiator Drain Valve
C—Engine Drain Valve
E—Surge Tank Cap
F—Coolant Level

1. **Drain Coolant**

   Remove radiator cap (A) or surge tank cap (E). Open radiator drain valve (B) on radiator and attach a drain hose. Route hose to container and drain coolant from radiator. Drain coolant from the engine block by opening engine drain valve (C).



CPA0007697—UN—12DEC18

D—Thermostat Housing

IMPORTANT: Remove thermostat for a through flash.

2. Remove thermostat housing (D), remove thermostat, and install thermostat housing (without thermostat). Tighten thermostat housing bolts to specification.

Specification	
Thermostat Housing Bolts—Torque	70 N·m (52 lb·ft)

3. **Flush System with Water**

   Close all drain valves/plugs and fill system with clean water. Stir up possible rust or sediment by running engine about 10 minutes. Stop engine and drain water from system before rust and sediment settle.

4. **Flush System with Radiator Cleaner**

Close all drain valve/plugs and fill the cooling system with a good commercial radiator cleaner and water. Follow instructions provided with cleaner. Stop engine and immediately drain system.

5. **Flush System with Water**

   Before flushing the system, close all drain valves/plugs and fill with clean water. Run the engine about 10 minutes, then drain out flushing water.

6. Remove thermostat housing and clean off the gasket material. Apply gasket sealant to the new gasket and install thermostat housing. Tighten thermostat housing bolts to specification.

Specification

Thermostat Housing
Bolts—Torque. . . . . 70 N·m (52 lb·ft)

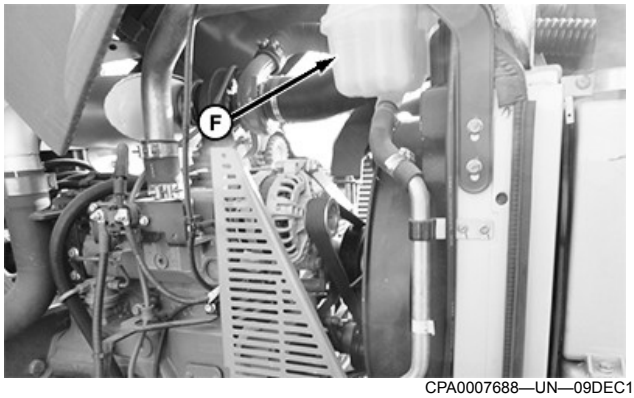
7. **Fill with Fresh Coolant**

   Close all drain valves/plugs and fill with a mixture of antifreeze, soft water, and coolant conditioner as specified in Fuels, Lubricants, and Coolant section.

8. **Check Coolant Level (PTM)**

   Fill radiator to the top of the filler neck. Run the engine until operating temperature is reached. Let the engine cool (preferably overnight) and recheck the coolant level. Coolant level with a cold engine is at the bottom of the filler neck.

   Check Coolant Level (PTE)



CPA0007688—UN—09DEC18

PTE Engine

F—Coolant Level

Fill radiator until coolant level (F) is between MAX and MIN marks on the surge tank. Run the engine until operating temperature is reached. Let the engine cool (preferably overnight) and recheck the coolant level. Coolant level with a cold engine is at the MIN mark on the surge tank.

9. When filling the cooling system, it needs several operating/cooling periods to stabilize the coolant level in the system. Fill coolant to the correct level by adding additional coolant as necessary.

CO00263,0001C38-19-12DEC18

Deaerate Cooling System

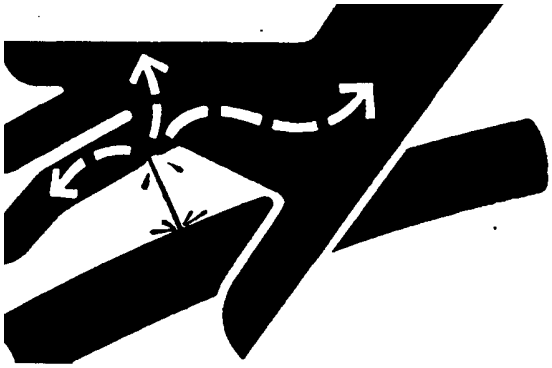
Machine leads massive air into cooling system after user change coolant or open cooling system for reasons. In order to protect engine, deaerate cooling system as following instruction:

1. Fill system up to the MAX mark with prescribed coolant. (Coolant level at the surge tank or overflow tank)
2. Start engine and run it for 5 minutes.
3. Shut off engine and check the coolant level. Add coolant up to the MAX level, if necessary.
4. Start engine and run coolant up to 98~100℃ by using hydraulic or mechanic engine load. After reaching this temperature shut-down the engine.
5. Let engine and cooling system cool until coolant temperature is equal to ambient temperature.
6. Check coolant level and fill up to the MAX mark if necessary.

N400041,0003A6A-19-29JAN18

Bleed Fuel System

Service Interval—As Required



X9811—UN—23AUG88

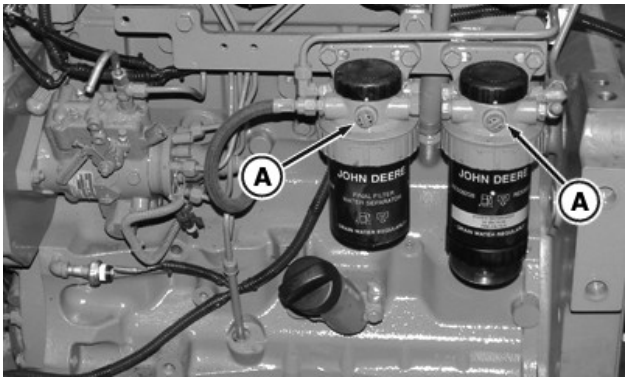
CAUTION: Escaping fluid under pressure can penetrate the skin and cause serious injury. Avoid the hazard by relieving system pressure before disconnecting pressurized lines. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. It is necessary to remove any fluid injected into the skin by a surgical operation within a few hours or gangrene can result. Doctors unfamiliar with this type of injury ought to refer to a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.

Any time the fuel system has been opened up for

service (lines disconnected or filters removed), bleed air from the system.

Bleed Fuel System:

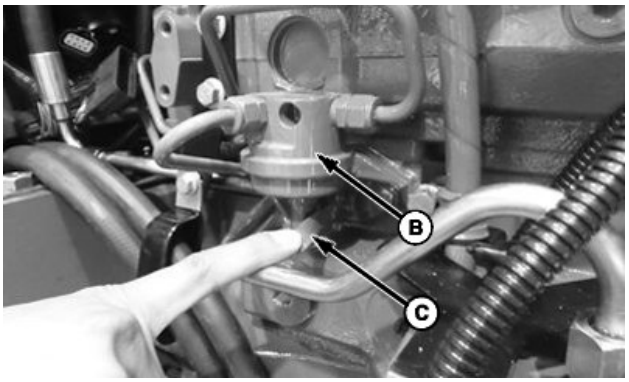


PY14857—UN—07JAN13

PTM Engine Shown (PTE engine is similar)

A—Bleed Vent Screws (2 used)

1. Loosen bleed vent screws (A) in filter and turn two full turns by hand on the fuel filter bases.



CPA0007689—UN—10DEC18

Righ-Side of The Engine

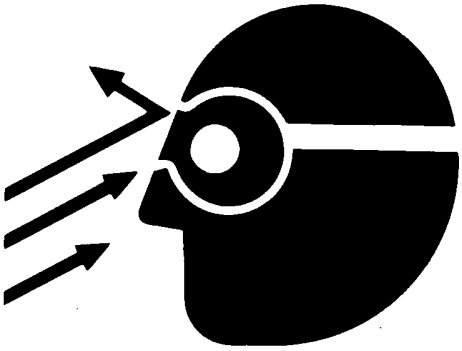
B—Mechanical Fuel Transfer Pump
C—Primer Lever

2. Operate the primer lever (C) until fuel flows out of bleed vent screws.
3. Tighten the bleed vent screws (clockwise) securely.
4. Continue pumping primer lever until pumping action is not felt.
5. Start engine and check for leaks.

CO00263,0001C35-19-11DEC18

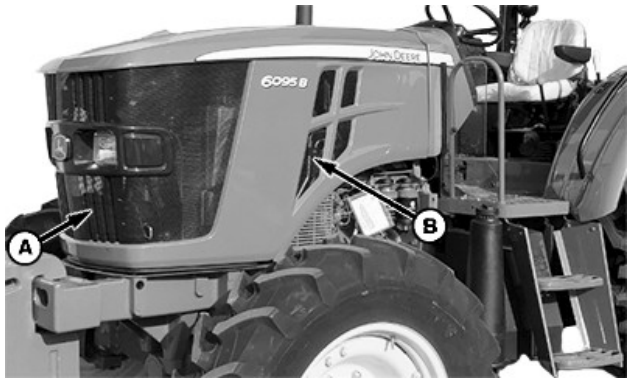
Front Grille, Side Screens, Radiator, and Oil Cooler Cleaning

Service Interval—As Required



TS266—UN—23AUG88

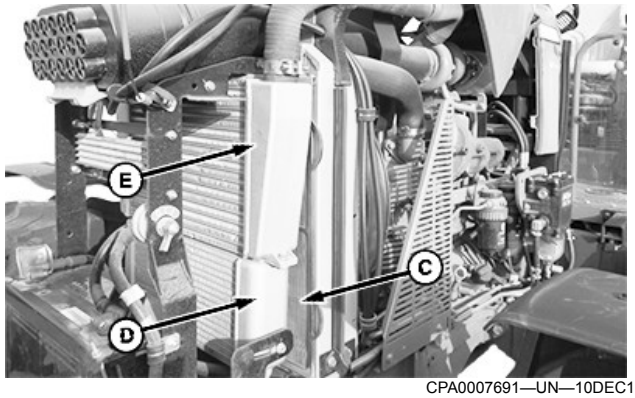
CAUTION: Reduce compressed air to less than 210 kPa (2 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment, including eye protection.



CPA0007690—UN—10DEC18

A—Front Grille
B—Side Screen (2 used)

1. Whenever trash builds up on the front grille (A) or side screens (B), stop engine and brush clean.



CPA0007691—UN—10DEC18

C—Radiator Cleaning Screen
D—Transmission Oil Cooler
E—Intercooler

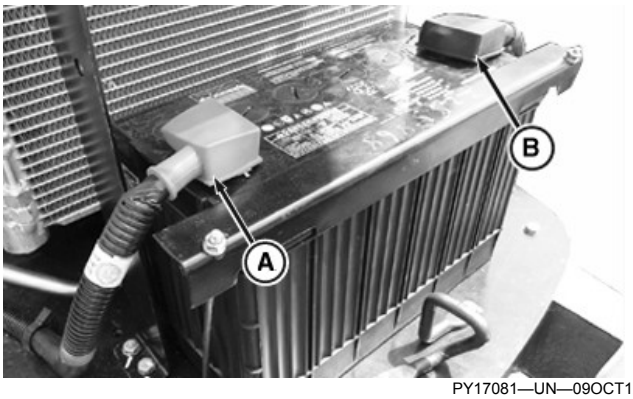
2. Raise engine hood and see if trash has built up on cooling system. If so, carefully remove and clean radiator cleaning screen (C) using a brush or compressed air.

3. Clean transmission oil cooler (D) and intercooler (E) as necessary.
4. If a more thorough cleaning is necessary, clean radiator from behind with compressed air or water. Straighten any bent fins.

CO00263,0001C26-19-10DEC18

Electrical Service Precautions

TS204—UN—15APR13



PY17081—UN—09OCT12

A—Positive (+) Battery Cable
B—Negative (-) Battery Cable

CAUTION: Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive. When using a booster battery, follow instructions in Operating the Engine section.

To avoid shocks and burns, disconnect negative (-) battery cable (B) before servicing any part of the electrical system, then remove positive (+) battery cable (A) if removing battery.

Keep all electrical shields in place.

If need disconnect battery power for whole machine power-off protection or repair operation, need to wait for 30 seconds after key switch is turned off, to ensure the data storage of ECU.

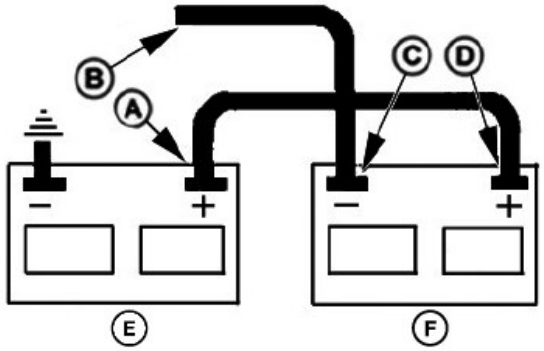
N400041,0003A45-19-24JAN18

Use Booster Battery

CAUTION: Battery gas is explosive:

- **DO NOT smoke while charging battery**
- **Keep all flames and sparks away**
- **DO NOT charge a frozen battery**
- **DO NOT connect booster battery negative cable to negative (-) terminal on vehicle you are trying to start. Instead, use clean ground spot the on engine or tractor structural member.**

1. Access battery.



CPA0008316—UN—15MAY19

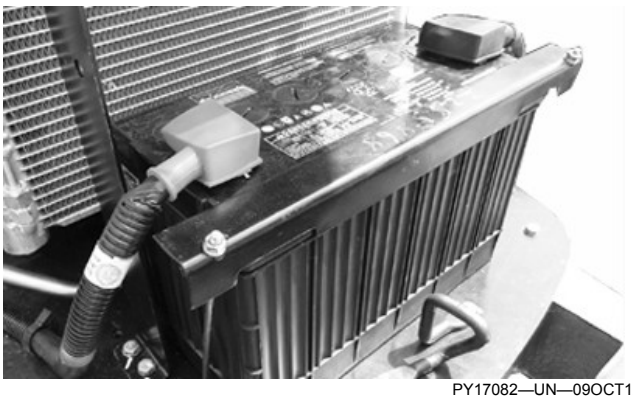
A—Tractor Battery Positive (+) Post
B—Engine Ground
C—Booster Battery Negative (-) Post
D—Booster Battery Positive (+) Post
E—Vehicle Battery
F—Booster Battery

2. Connect positive (+) booster cable to the booster battery positive (+) post (D).
3. Connect the other end of positive (+) booster cable to the tractor battery positive (+) post (A).
4. Connect negative (-) booster cable to the booster battery negative (-) post (C).
5. Connect the other end of negative (-) booster cable to engine ground (B), away from battery and starter.

LG70251,00019D1-19-15MAY19

Clean Battery

Service Interval—50 Hours



PY17082—UN—09OCT12

To access battery, see procedure in this section.

Put gear shift lever in neutral, “N”, lock brake pedals together. Depress brake pedals and set parking brake.

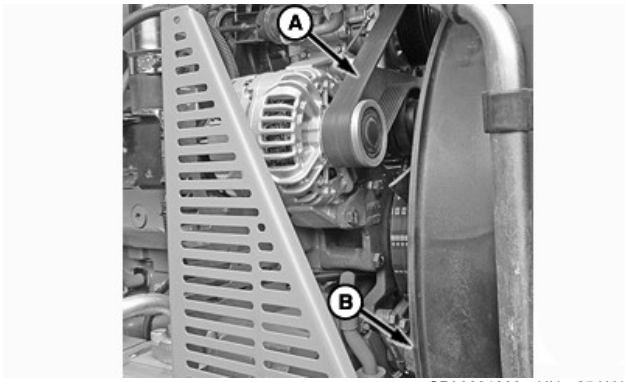
Pull hand throttle all the way down and allow engine to idle for 1 to 2 min. Turn engine off.

Wipe battery with a damp cloth. Clean and tighten connections, if needed.

CO00263,00008BB-19-12JAN18

Replace Alternator/Fan Belt

1. Raise hood.
2. Disconnect negative (-) cable at battery.



CPA0001809—UN—25JAN18

A—Belt
B—Tensioner

3. Use a wrench to turn the tensioner (B) clockwise to loosen belt (A).
4. Remove belt from drive pulley. Belt can be pulled around the fan to remove.
5. Install new belt in reverse order of removal.

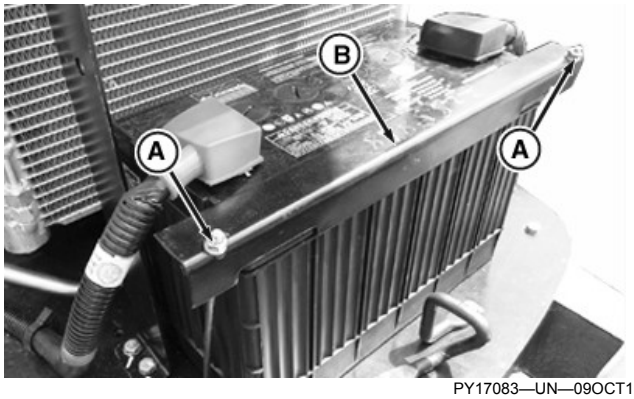
N400041,0003A48-19-29JAN18

Remove Battery

1. Gain access to battery.

⚠ CAUTION: To avoid sparks, disconnect negative (ground) cable first and connect it last.

2. Disconnect negative (-) battery cable, then positive (+) battery cable.



PY17083—UN—09OCT12

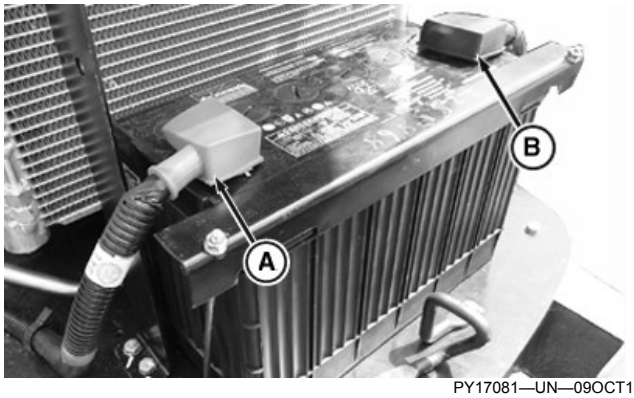
A—Nuts (2 used)
B—Hold-Down Bracket

3. Loosen nuts (A) and rotate hold-down bracket (B) downward, freeing battery.
4. Lift and slide battery from machine.

N400041,0003A49-19-29JAN18

Service Battery

Service Interval—As Required



PY17081—UN—09OCT12

A—Positive (+) Battery Terminal
B—Negative (-) Battery Terminal

1. Keep battery clean by wiping with a damp cloth. Keep terminals (A and B) clean and tight. To remove any corrosion, wash terminals with a solution of four parts water to one part baking soda.

⚠ CAUTION: To avoid sparks, disconnect negative (ground) cable first and connect it last.

2. Keep battery fully charged, especially during cold weather. If a battery charger is connected, attach positive cable to positive (+) battery terminal (A). Connect the negative (-) battery charger cable to a good ground on the tractor frame.
3. Coat terminals with a small amount of grease.

N400041,0003A4A-19-24JAN18

Battery Replacement Specifications

When replacing battery, use John Deere battery or equivalent. See your John Deere dealer.

Specification	
Battery—Volts	12 V
Cold Cranking Amps at -18 °C (0 °F)	960 A

CO00263,00008BF-19-12JAN18

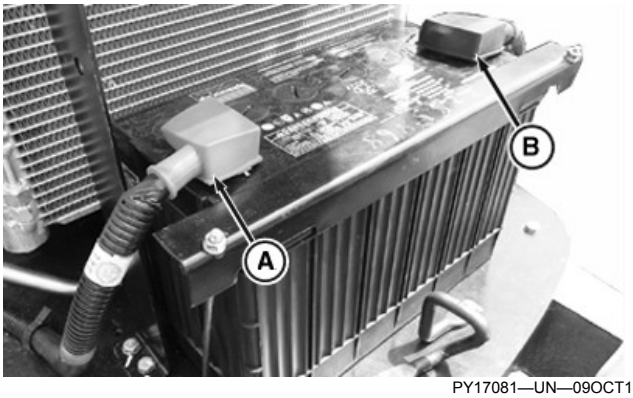
Charge Battery

Service Interval—As Required

Keep battery fully charged, especially during cold weather.

CAUTION: Gas given off by battery is explosive. Keep sparks and flames away from battery. Before connecting or disconnecting a battery charger, turn off charger. Make last connection and disconnection at a point away from battery.

TS204—UN—15APR13



PY17081—UN—09OCT12

A—Positive (+) Battery Terminal
B—Negative (-) Battery Terminal

1. With charger OFF, attach positive battery charger lead to positive (+) battery terminal (A). Attach negative charger lead to the tractor frame, away from the battery.
2. Turn charger ON and recharge the battery, following instructions of the battery manufacturer for using charger. Check battery condition as described.
3. To disconnect the battery charger, turn charger OFF. Remove negative charger lead first, then positive lead.

N400041,0003A4B-19-29JAN18

Check Battery Condition

Service Interval—50 Hours

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

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

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

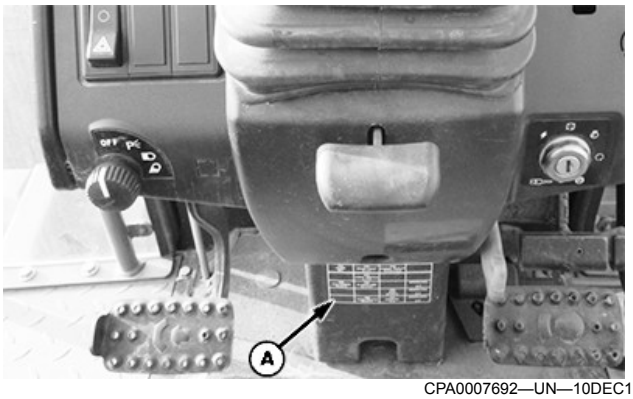
TS204—UN—15APR13

1. Use a battery hydrometer to check specific gravity of the electrolyte in each cell. Charge battery if reading is below 1.215. Replace battery if difference between cells is more than 0.050 or if battery will not charge above 1.225.
2. Always correct specific gravity reading for electrolyte temperature variation. Add 0.004 to the reading obtained in step 1 for every 10°F above 80°F (add 0.007 to the reading for every 10° above 27°C). Subtract at same rate if electrolyte temperature is below 80°F (27°C). Correct specific gravity of a fully charged battery is 1.265 to 1.280.
3. A battery is considered fully charged when three consecutive hydrometer readings taken at hourly intervals show no rise in specific gravity.

N400041,0003A4C-19-24JAN18

Access Fuses and Relays

Fuses



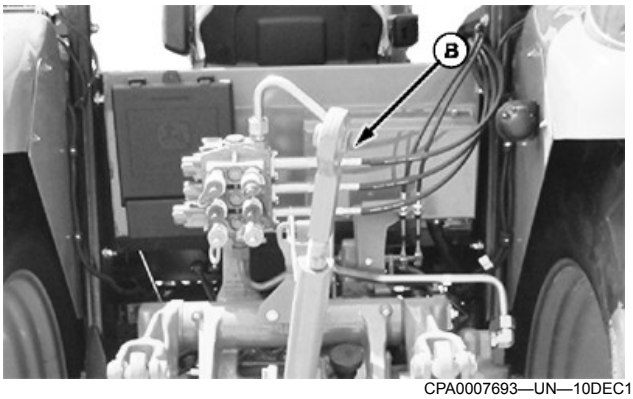
CPA0007692—UN—10DEC18

A—Fuse Box

Fuse Rating	Color
5 A	Brown
10 A	Red
15 A	Blue
20 A	Yellow
30 A	Green

IMPORTANT: DO NOT replace the original fuse with the higher rated fuse or machine damage occurs. Check the electrical system by an authorized John Deere dealer if the original size fuse cannot carry electrical load and continues to blow.

Relays



CPA0007693—UN—10DEC18

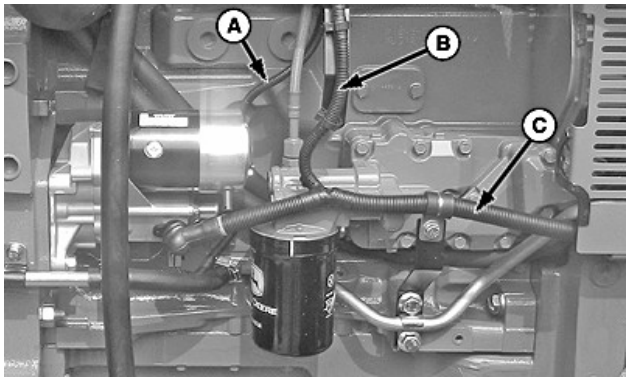
B—Electrical Control Unit Box

Relays are in the electrical control box (B).

CO00263,0001C2F-19-11DEC18

Starter Wiring Connections

IMPORTANT: Disconnect battery negative (ground) cable before servicing any part of the electrical system. Restore all other connections before connecting ground cable.



CPA0001715—UN—27JUL15

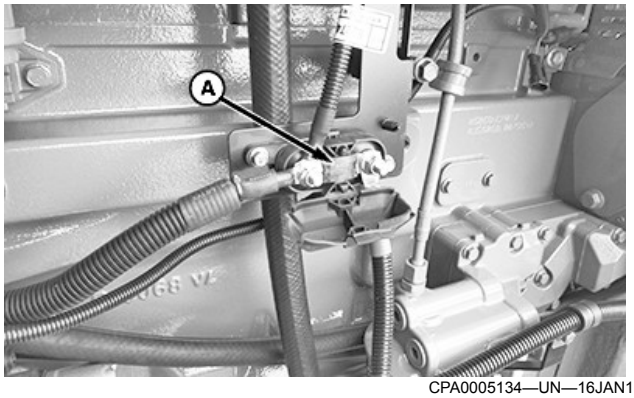
A—Solenoid Wire
B—Alternator Cable
C—Large Battery Cable

1. Connect large battery cable (C) and alternator cable (B) to large solenoid post.
2. Connect solenoid wire (A) to the small solenoid terminal.

N400041,0003A4E-19-29JAN18

Fusible Link Location

Electrical circuits are protected by a fusible link.



CPA0005134—UN—16JAN18

A—Fusible Link

Raise hood. Fusible link (A) is on the right-hand side of engine.

N400041,0003A4F-19-24JAN18

Fuse Size and Function

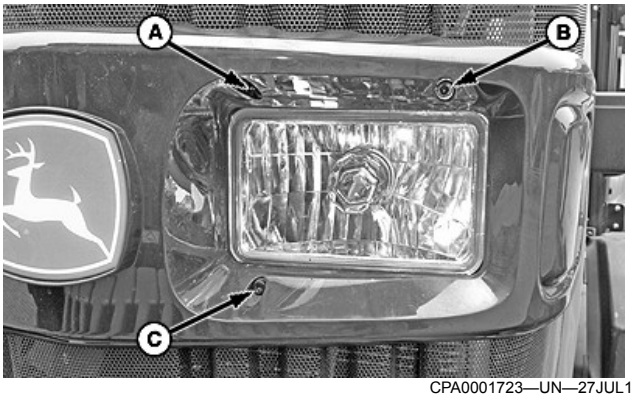
DIODE V01	10A EHC	10A SENSOR	
DIODE V02		15A BRAKE LIGHT	
20A KEY SWITCH	10A DISPLAY	20A FLASHER	
10A HORN	15A HEADLIGHT	15A POWER OUTLET	
	20A LIGHT SWITCH		
10A TCU POWER	15A WORKLIGHT		SPARE (10A)
		10A ECU	SPARE (15A)
	10A TURN SWITCH	10A DISPLAY	SPARE (20A)

CO00263,0001C2E-19-11DEC18

Adjust Headlights

Service Interval—As Required

IMPORTANT: Apply penetrating spray lubricant to the threads of top and bottom adjusting screws before starting procedure. If this is not done, it will be hard to turn adjusting screws in either direction.



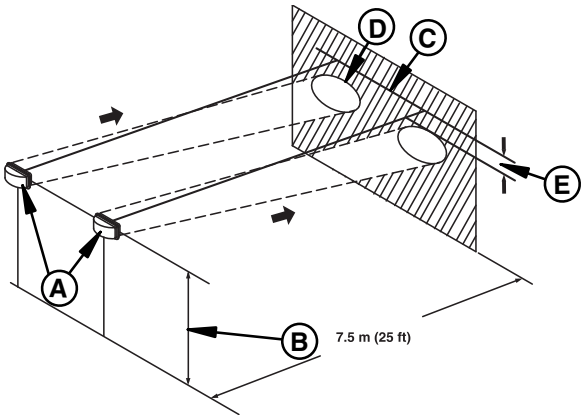
CPA0001723—UN—27JUL15

A—Headlight Mounting Screw
B—Headlight Mounting Screw
C—Headlight Mounting Screw

1. Turn headlight mounting screws (A and B) clockwise to the lower beam or counterclockwise to raise beam.
2. To adjust beam in toward center of tractor, turn headlight mounting screw (B) clockwise and headlight mounting screws (A and C) counterclockwise an equal number of turns on each screw.
3. To adjust beam out from center of tractor, turn headlight mounting screws (A and C) clockwise and headlight mounting screw (B) counterclockwise an equal number of turns on each screw.

CO00263,0000A2D-19-29JAN18

Aim Headlights



PY49023—UN—27OCT17

A— Headlights (2 used)
B— Distance from Center of Headlight to Ground
C— Horizontal Line on Wall
D— Border of Bright Area
E— 10% of Distance

1. Park tractor on a level surface with headlights (A) 7.5 meters (25 ft) from a vertical wall.
2. Measure the distance (B) from the center of a headlight to the ground.
3. Mark a horizontal line (C) on the wall, the same distance from the ground as (B).

4. Set headlights on low beam and observe bright areas on the wall.
5. Adjust headlights so the upper border of bright area (D) is at least 10% of distance (B) below line (C).
6. To adjust headlights, see Adjust Headlights in this section.

CO00263,0000B71-19-26APR18

Replace Headlight Bulbs

Service Interval—As Required

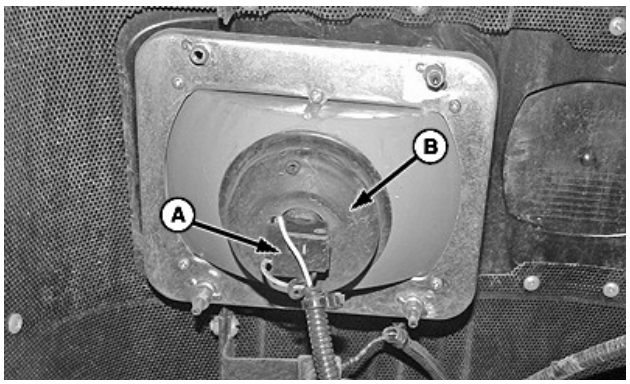
CAUTION: A halogen bulb is pressurized and may shatter. Protect bulb against abrasions and scratches.

To guard against personal injury, wear protective eyeglasses and clothing when handling bulb. Turn power off when installing and before removing bulb. Dispose of the bulb with care.

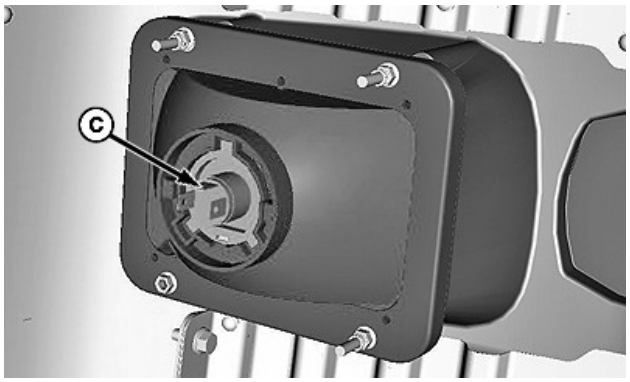
Allow bulb to cool before removing.

Read and follow all bulb manufacturer's installation instructions.

1. Open engine hood.



CPA0002080—UN—20OCT15



CPA0002081—UN—20OCT15

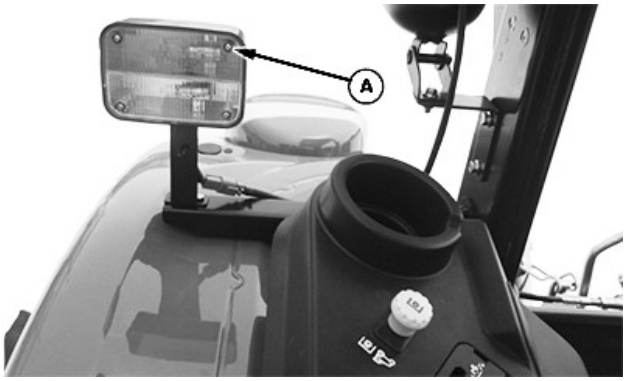
A—Connector
B—Seal
C—Bulb

2. Disconnect connector (A).
3. Remove seal (B).
4. Remove bulb (C) and replace with new bulb.
5. Connect connector and close engine hood.

CO00263,00008C9-19-29JAN18

Replace Front Position/Turn Bulb

Service Interval—As Required



CPA0007694—UN—10DEC18

A—Screw (4 used)

1. Remove screws (A) and light cover.
2. Remove bulbs from socket.
3. Mount new bulbs as necessary.
4. Mount light cover and tighten screws.

CO00263,0001C2A-19-10DEC18

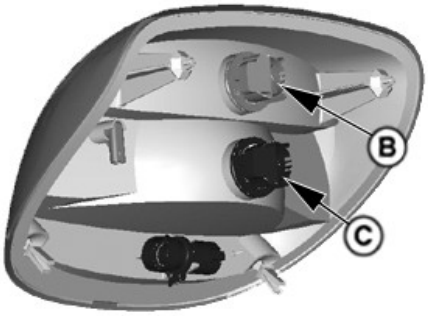
Replace Rear Tail/Stop/Turn Bulb

Service Interval—As Required

CPA0007695—UN—10DEC18

A—Screw (2 used)

1. Remove screws (A) and lens.

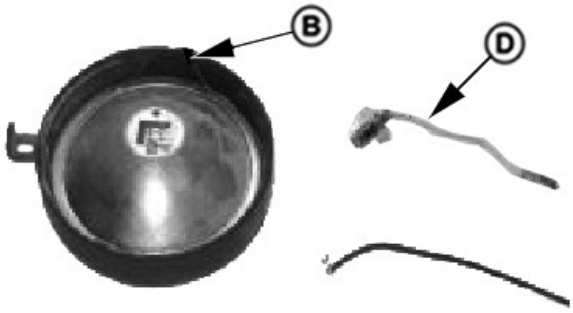


PUC1599—UN—01APR08

B—Turn Light Bulb
C—Tail/Stop Light Bulb

2. Remove turn light bulb (B).
3. Remove tail/stop light bulb (C).
4. Install new bulbs as necessary.
5. Install lens and screws.

CO00263,0001C2D-19-11DEC18



PUC1523—UN—02NOV07

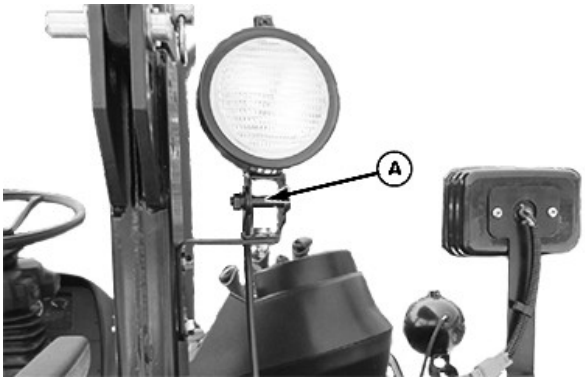
B—Retaining Ring
C—Screw
D—Bulb Assembly

2. Open retaining ring (B), disconnect connector and remove screw (C).
3. Remove bulb assembly (D) and install new bulb.
4. Reinstall in reverse order.

CO00263,0001C2C-19-11DEC18

Replace Worklight Bulb

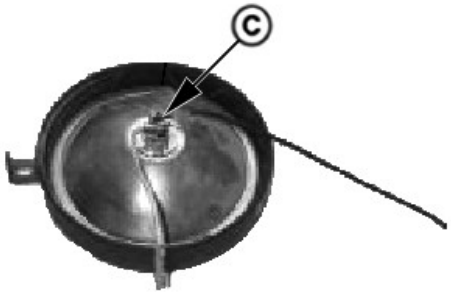
Service Interval—As Required



CPA0007696—UN—12DEC18

A—Screw

1. Remove screw (A).



PUC1522—UN—02NOV07

Use Correct Transmission/Hydraulic Filter Element

To protect systems, replace transmission/hydraulic oil filter with a John Deere service filter element. Minimum and maximum performance specifications are printed on John Deere filters. Other filters may be used if they meet these performance specifications.

See Lubrication and Maintenance section for recommended filter change intervals.

CO00263,00008D0-19-12JAN18

Check Neutral Start System

Service Interval—250 Hours

Your John Deere tractor is equipped with interlocks to prevent inadvertent movement when engine is started. Different setting of the neutral start system exists on machines with different configuration. Select test process based on your machine configuration.

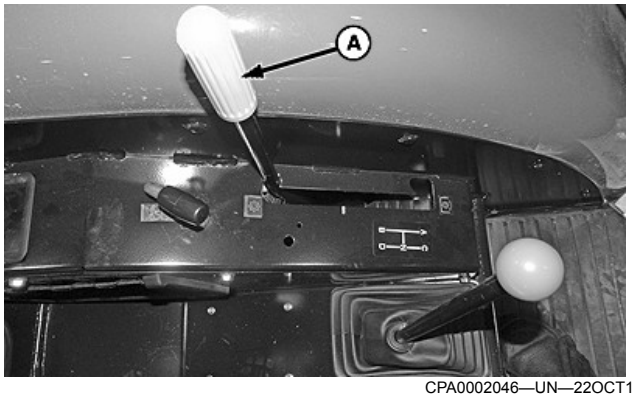
CAUTION: Unexpected movement of machine happens during test and can cause injury to others and machine. Avoid possible injury or death from a machine runaway.

CAUTION: Set park brake before starting the engine.

IMPORTANT: Do not start the engine at full throttle.

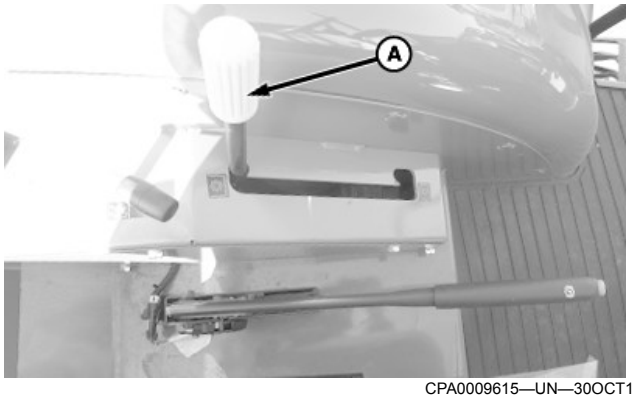
Dry Clutch Transmission:

1. Park the tractor on level ground and apply park brake. Stop the engine.
2. Check all around the tractor. Avoid possible injury or death from a machine runaway.



CPA0002046—UN—22OCT15

PTO Control Lever (dry clutch)

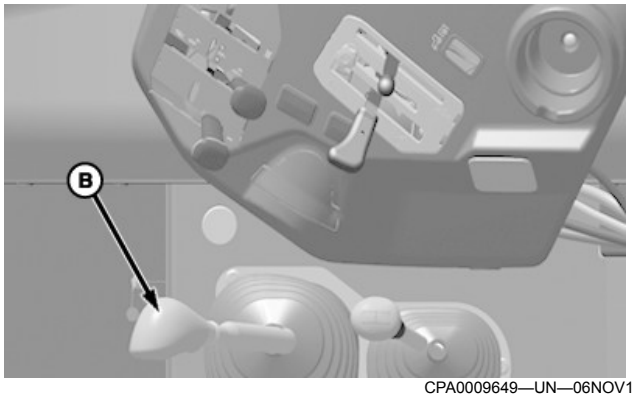


CPA0009615—UN—30OCT19

PTO Control Lever (dry clutch, option)

CPA0008371—UN—15MAY19

12F/4R Transmission



CPA0009649—UN—06NOV19

12F/4R Transmission (option)

A—PTO Control Lever (dry clutch)
B—Gearshift Lever

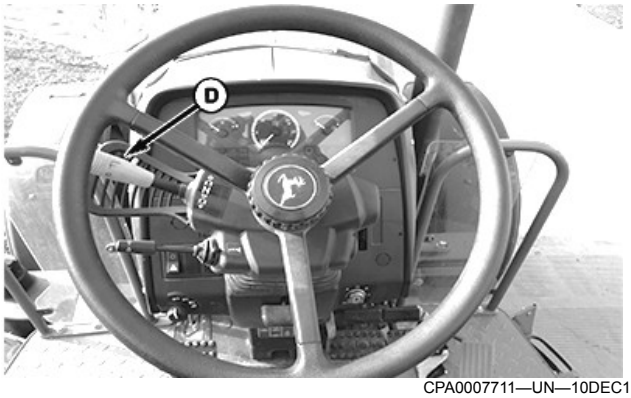
3. Move PTO control lever (A) to engaged (front) position. Set gearshift lever (B) in gear position. Try to start the engine. The engine must not start.
4. Keep the PTO control lever (A) in engaged (front) position. Set gearshift lever (B) in neutral position. Try to start the engine. The engine must not start.
5. Move the PTO control lever (A) to disengaged (rear) position. Set the gearshift lever (B) in gear position. Try to start the engine. The engine must not start.
6. Keep the PTO control lever (A) in disengaged (rear)

position. Set the gearshift lever (B) in neutral position. Try to start the engine. The engine starts.

7. If the tractor reacts in an unexpected way, contact an authorized John Deere dealer and repair the neutral start system.
8. Stop engine.

Wet Clutch Transmission with Power Reverser:

1. Park the tractor on level ground and apply park brake. Stop the engine.
2. Check all around the tractor. Avoid possible injury or death from a machine runaway.



CPA0007711—UN—10DEC18

24F/12R Transmission

D—Power Reverser Lever

3. Set the power reverser lever (D) in forward or reverse (not in neutral) position. Try to start engine. The engine cannot start.
4. Set the power reverser lever (D) in neutral position. Try to start engine. The engine starts.
5. If the tractor reacts in an unexpected way, contact an authorized John Deere dealer and repair the neutral start system.
6. Stop engine.

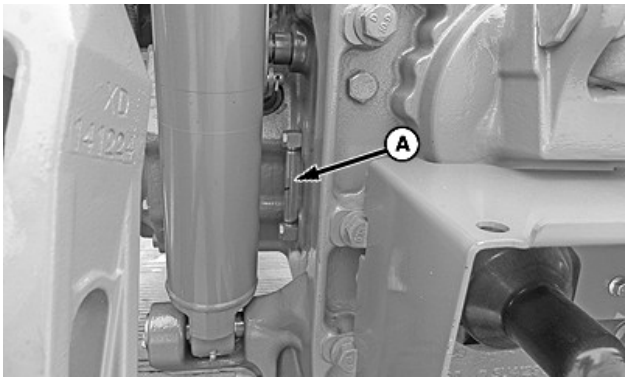
N400041,00047C2-19-06NOV19

Check Transmission/Hydraulic System Oil Level

Check oil level at sight glass, daily.

IMPORTANT: Routine checks prevent downtime. The operator can aid in preventive maintenance by documenting all leak and malfunction problems. Since the transmission operates in oil and by means of oil, it is important to keep oil clean and at the correct level at all times.

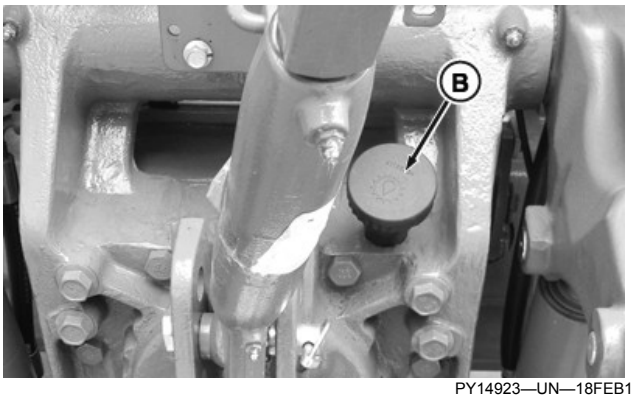
1. Park on level ground. Put gearshift lever in neutral “N”, lock brake pedals together. Depress pedals and set park brake.
2. Make sure that rockshaft is positioned all the way down. (See Hitch and Drawbar Operation section.)
3. Pull hand throttle all the way and allow engine to idle for 5 min. Turn off engine.
4. Wait a minimum of 5 min for oil to settle.



CPA0001698—UN—27JUL15

A—Hydraulic Oil Sight Glass

5. Check level at hydraulic oil sight glass (A). Level should be between upper and lower lines on the sight glass.



PY14923—UN—18FEB13

B—Hydraulic Oil Fill Port

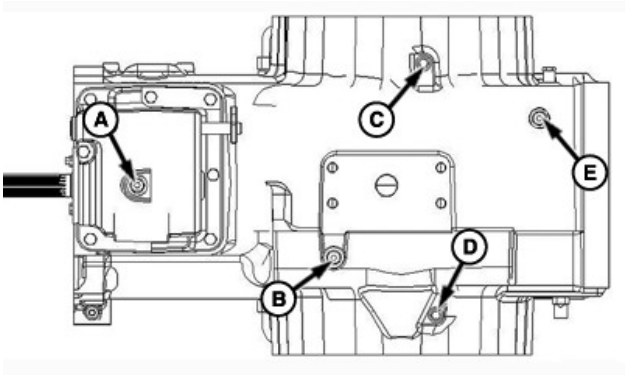
6. Add oil to the hydraulic oil fill port (B) if level is low. (See Transmission and Hydraulic Oil in Fuels, Lubricants, and Coolant section.)
7. Inspect and thoroughly clean fill port cap vents before installing cap.

CO00263,0000A20-19-29JAN18

Change Transmission/Hydraulic System Oil

Service Interval—1000 Hours

1. Move rockshaft lever full forward to lower hitch all the way down.



CPA0005198—UN—25JAN18

View From Below

A—MFWD Axle Drop Gear Box Drain Plug
B—Transmission Main Case Drain Plug
C—Left-Side Final Drive Drain Plug
D—Right-Side Final Drive Drain Plug
E—PTO Case Drain Plug

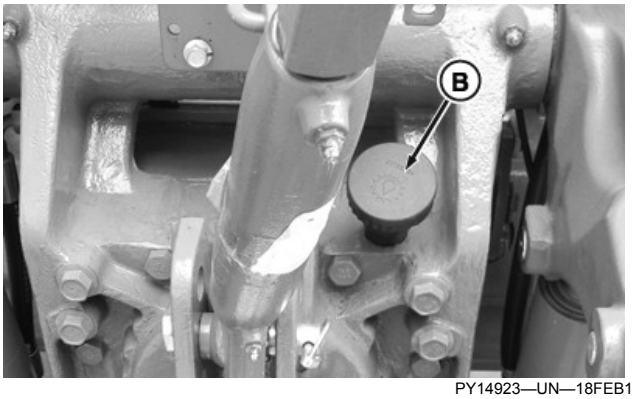
2. Remove drain plugs (A—E).
3. Replace transmission-hydraulic oil filter. (See Replace Transmission/Hydraulic Oil Filter section.)

NOTE: Always dispose of used oil in accordance with applicable laws and regulations.

4. Install all plugs to specification.

Specification	
Plug (A)—Torque	58.6-79.4 N·m (518.6-702.7 lb·ft)
Plugs (B and E)—Torque	43-52 N·m (381-460 lb·ft)
Plugs (C and D)—Torque	16-24 N·m (142-212 lb·ft)

IMPORTANT: Do not overfill transmission. This will cause overheating and result in transmission damage.



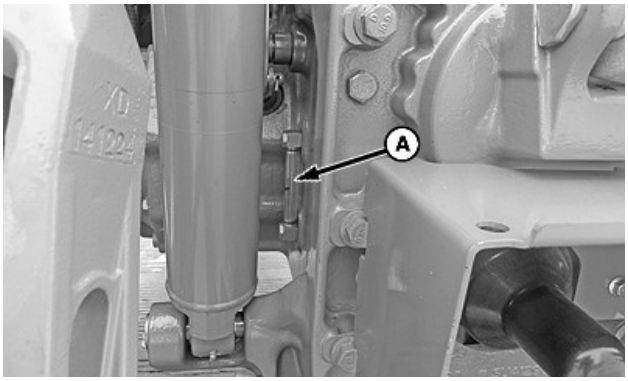
PY14923—UN—18FEB13

B—Filler Cap

5. Remove filler cap (B) and fill system with oil as specified in Fuels, Lubricants, and Coolant section.

Specification

Transmission-Hydraulic Oil—Capacity. . . . . 60 L (15.85 gal)



CPA0001698—UN—27JUL15

A—Sight Glass

6. Check oil level at sight glass (A) after filling.
7. Install filler cap.
8. Start engine and operate for five minutes.
9. Shut off engine and check oil level. Add oil if necessary.

XL68979,00018E2-19-27APR22

Replace Transmission/Hydraulic Oil Filter

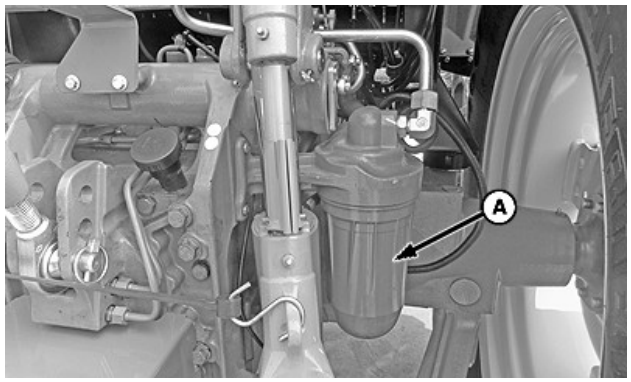
Service Interval—500 Hours Inital, First 100 Hours

NOTE: Hydraulic oil filter is on the right-hand side or rear of tractor.

Replace hydraulic filter housing and filter as a complete assembly.

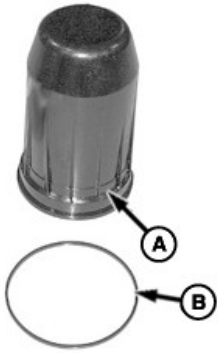
CPA0008367—UN—15MAY19

Transmission/Hydraulic Oil Filter (dry clutch)



CPA0001700—UN—27JUL15

Transmission/Hydraulic Oil Filter (wet clutch)



CPA0005199—UN—25JAN18

A—Filter Housing Assembly
B—Filter O-Ring Seal

1. Remove filter housing assembly (A) and filter O-ring seal (B).
2. Discard filter housing assembly (A) and filter O-ring seal (B).
3. Inspect new filter housing assembly and filter O-ring seal for any possible damage.
4. Apply hydraulic oil to the new filter O-ring seal (B) and install on filter housing assembly.
5. Install new filter housing assembly and tighten to specification.

Specification	
Filter Housing Assembly—Torque	24 N·m (212 lb·in)

6. Run engine for five minutes.
7. Shut off engine and check oil level. Add hydraulic oil as required. (See Check Transmission-Hydraulic Oil Level in this section.)

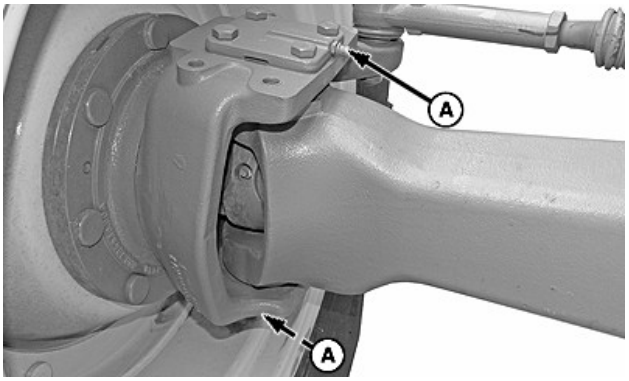
LG70251,00019CF-19-10MAY19

Lubricate MFWD Front Axle Steering Spindles

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

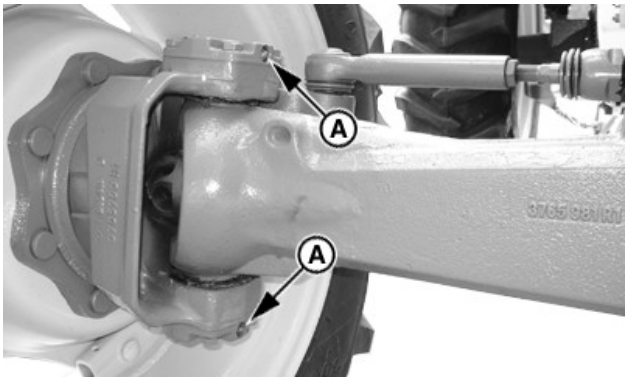
Thoroughly clean all grease fittings prior to greasing. Replace damaged grease fittings immediately.

Service Interval—50 Hours
Extremely Wet or Muddy Conditions—10 Hours



CPA0002087—UN—21OCT15

For 6120B,6135B Tractors



PUC2545—UN—08OCT09

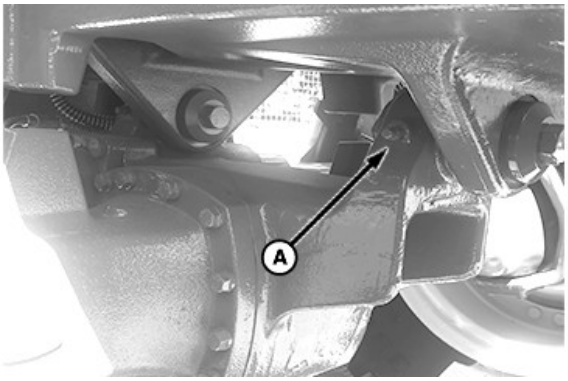
For 6095B,6110B Tractors

A—Lube Fittings (4 used)

Apply several pumps of grease to steering spindle lube fittings (A), on both left and right sides.

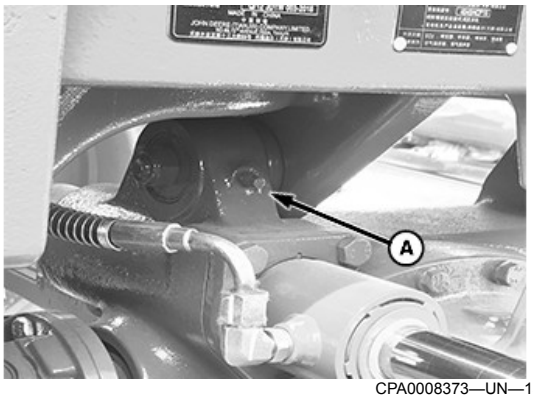
LG70251,000178A-19-14DEC18

Service Interval—50 Hours
Extremely Wet or Muddy Conditions—10 Hours



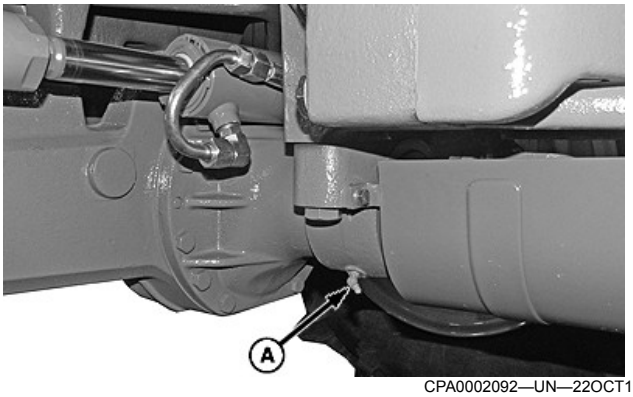
CPA0008372—UN—15MAY19

For 6120B, 6135B Tractors



CPA0008373—UN—15MAY19

For 6120B, 6135B Tractors



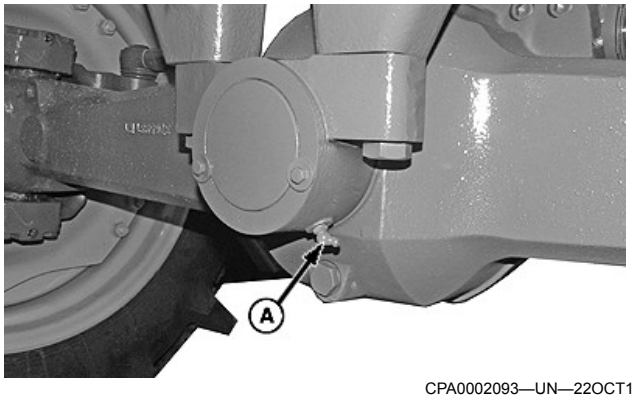
CPA0002092—UN—22OCT15

For 6095B, 6110B Tractors

Lubricate MFWD Front Axle Pivot Pins

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Thoroughly clean all grease fittings prior to greasing. Replace damaged grease fittings immediately.



CPA0002093—UN—22OCT15

For 6095B, 6110B Tractors

A—Lube Fitting

MFWD front axle has two separate pivot pins. Use appropriate grease on lube fittings (A). (See Fuels, Lubricants, and Coolant section.)

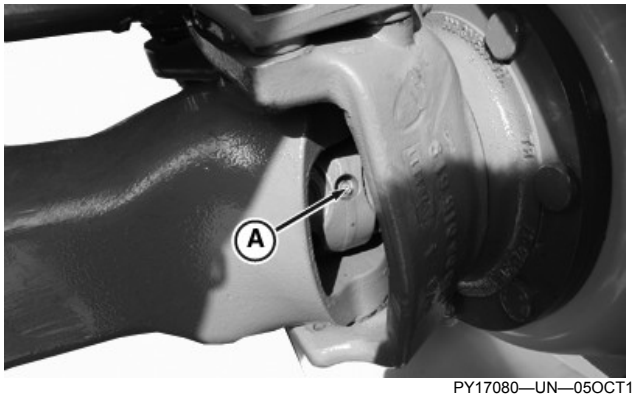
LG70251,00019C9-19-10MAY19

Lubricate MFWD Front Axle

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Thoroughly clean all grease fittings prior to greasing. Replace damaged grease fittings immediately.

Service Interval—50 Hours
Extremely Wet or Muddy Conditions—10 Hours



PY17080—UN—05OCT12

For 6120B, 6135B Tractors

A—Lube Fitting (2 used)

1. Apply several pumps of grease to lube fittings (A) on the front axle universal joint, both left and right sides.
2. Each lube fitting can only be accessed from the front by turning wheels until fitting is exposed.
3. When one fitting is exposed the opposite side fitting is not accessible, so after lubricating one side, wheels must be turned all the way opposite to access lube fitting on the other side. (See Fuels, Lubricants, and Coolant section.)

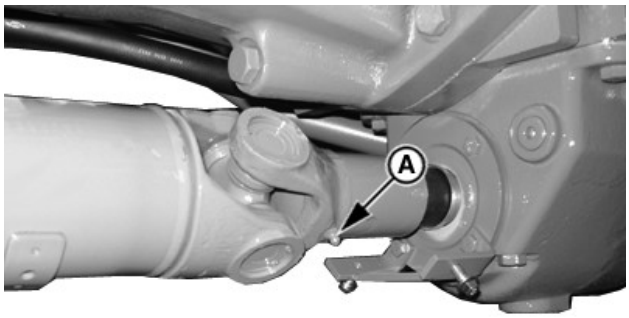
LG70251,000178B-19-14DEC18

Lubricate MFWD Drive Shaft

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Thoroughly clean all grease fittings prior to greasing. Replace damaged grease fittings immediately.

Service Interval—50 Hours



PUC2549—UN—08OCT09

Shield Removed

A—Lube Fitting

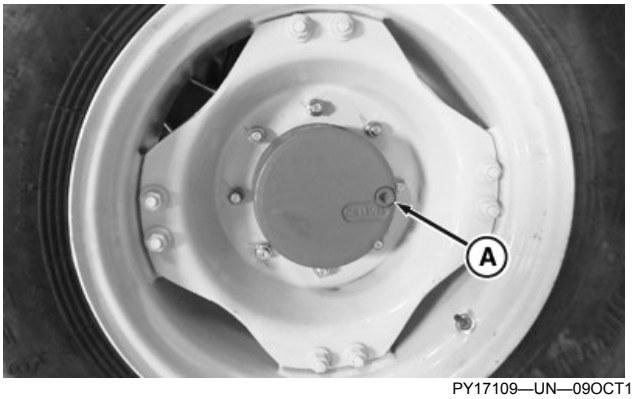
Apply several pumps of grease to lube fitting (A) on MFWD shaft U-joint.

LG70251,000178D-19-14DEC18

Check MFWD Wheel Hub Oil Level

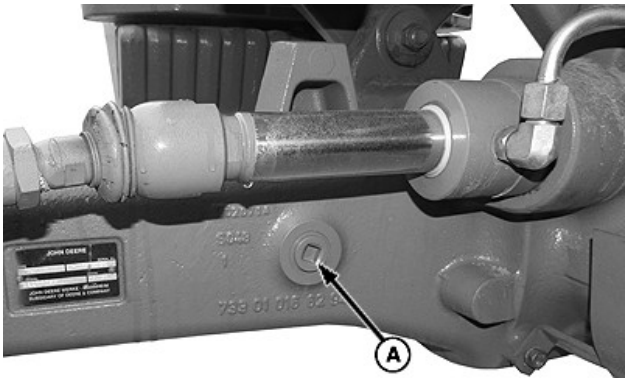
Service Interval—250 Hours

1. Move tractor to the level surface.
2. Drive tractor forward until the words “OIL LEVEL” are horizontal.



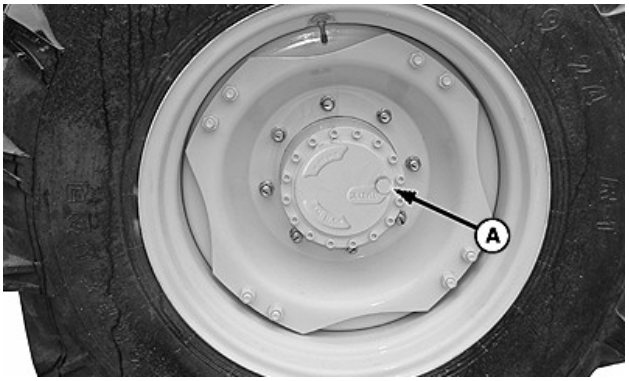
PY17109—UN—09OCT12

For 6120B, 6135B Tractors



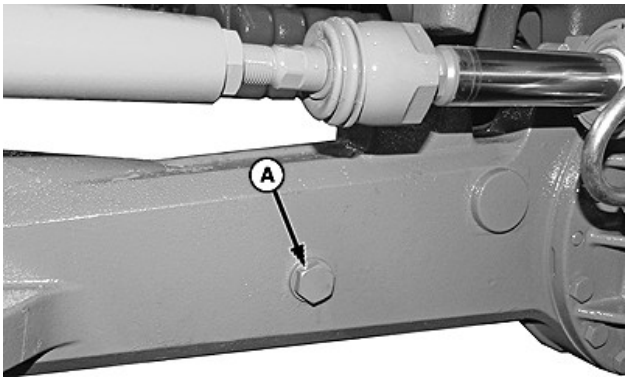
CPA0002088—UN—21OCT15

For 6120B, 6135B Tractors



CPA0002094—UN—22OCT15

For 6095B, 6110B Tractors



CPA0002089—UN—22OCT15

For 6095B, 6110B Tractors

A—Wheel Hub Oil Plug

3. Remove wheel hub oil plug (A). Make sure that oil level is just below the plug hole.
4. If oil level is low, add oil through the same hole. (See MFWD Axle and Wheel Hub Oil in Fuels, Lubricants, and Coolant section.)

LG70251,0001779-19-13DEC18

A—Oil Check Plug

2. Remove oil check plug (A) to check oil level in the axle housing. Make sure that oil level is just below the plug hole.
3. If oil level is low, add oil. (See Fuels, Lubricants, and Coolant section.)
4. If oil level is low, add oil through the same hole. (See Fuels, Lubricants, and Coolant section.)

LG70251,000175B-19-10DEC18

Check MFWD Axle Housing Oil Level

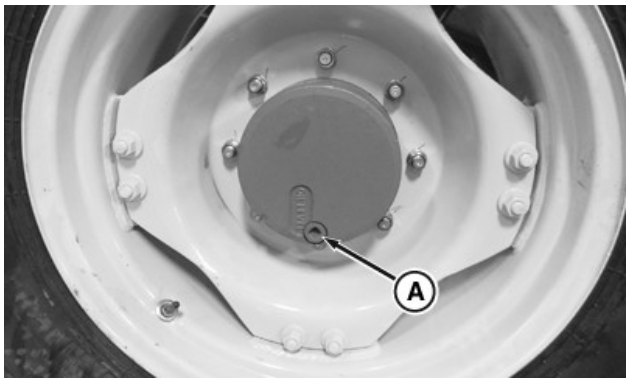
Service Interval—250 Hours

1. Park tractor on the level surface.

Change MFWD Wheel Hub Oil

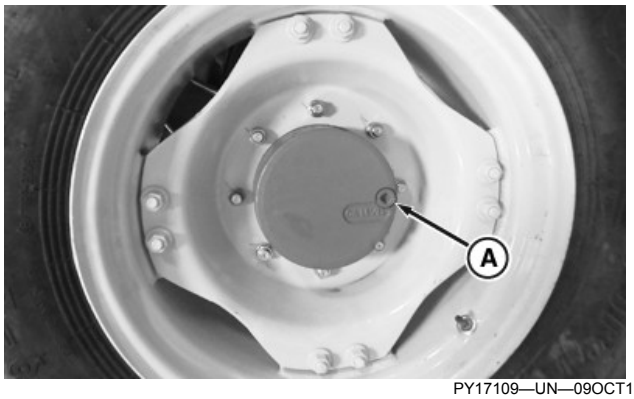
Service Interval—1000 Hours
Initial, First 100 Hours

1. Move tractor to the level surface.



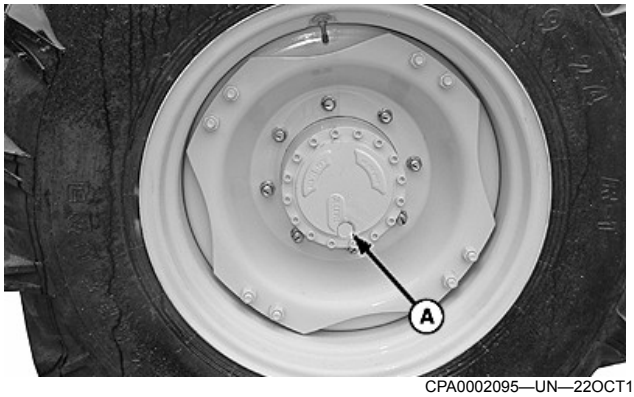
PY17108—UN—09OCT12

Position to Drain (for 6120B, 6135B tractors)



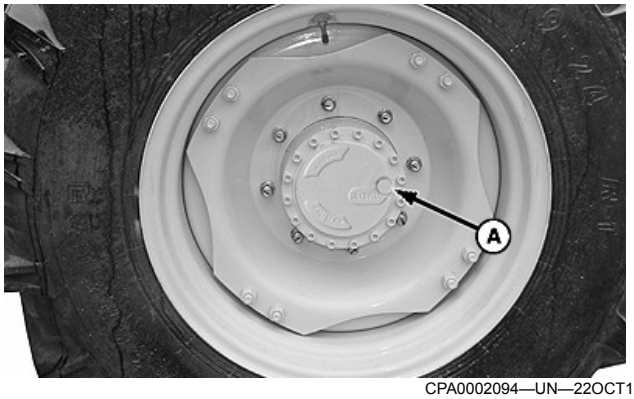
PY17109—UN—09OCT12

Position to Fill (for 6120B, 6135B tractors)



CPA0002095—UN—22OCT15

Position to Drain (for 6095B, 6110B tractors)



CPA0002094—UN—22OCT15

Position to Fill (for 6095B, 6110B tractors)

A—Drain/Fill Plug

2. Drive tractor forward until the drain/fill plug (A) is at the lowest point (position to drain). Remove plug and allow hub oil to drain completely.
3. Drive tractor back until the drain/fill plug (A) is positioned horizontally and words OIL LEVEL parallel to ground (position to fill).
4. Add MFWD wheel hub oil through the fill hole until oil level is just below the edge of hole. Install plug and tighten to specification. (See Fuels, Lubricants, and Coolant section.)
5. Repeat procedure on the opposite wheel hub.

MFWD Wheel Hub — Specification

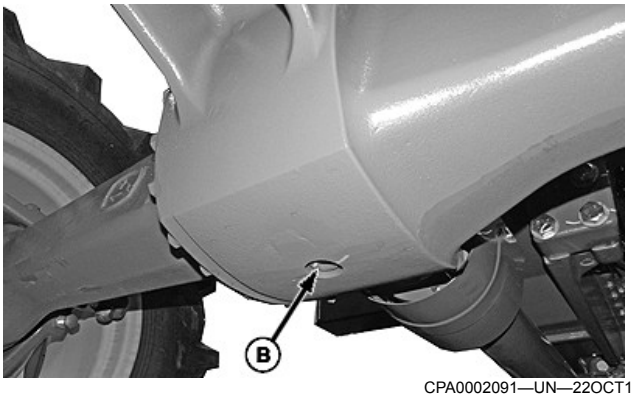
Oil—Capacity	1.1 L (37 oz) for 6095B, 6110B Tractors 0.8 L (27 oz) for 6120B, 6135B Tractor
Drain/Fill Plug—Torque	150 N·m (110 lb·ft)

LG70251,000175C-19-10DEC18

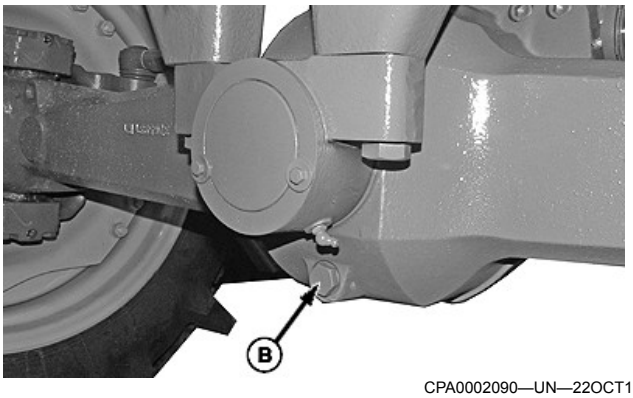
Change MFWD Front Axle Housing Oil

Service Interval—1000 Hours
Inital, First 100 Hours

1. Park tractor on the level surface, lock brake pedals together. Depress brake pedals and set park brake.



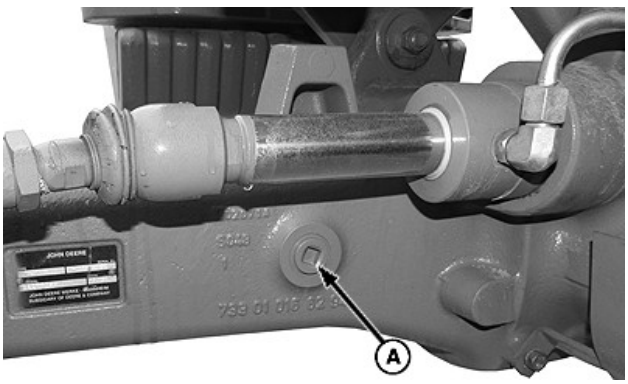
CPA0002091—UN—22OCT15
For 6120B, 6135B Tractors



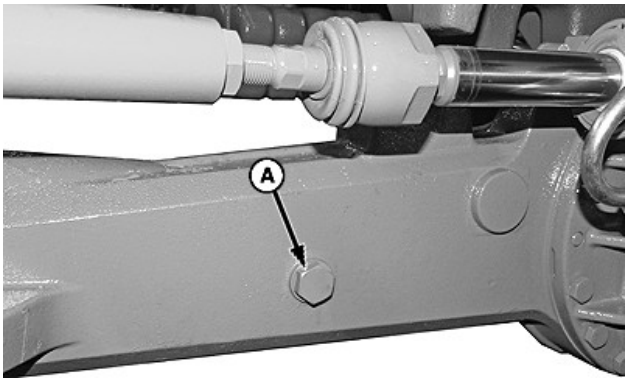
CPA0002090—UN—22OCT15
For 6095B, 6110B Tractors

A—Inspection/Fill Plug
B—Drain Plug

2. Remove housing drain plug (B). Allow oil to drain. Install drain plug and tighten to specification.



CPA0002088—UN—21OCT15
For 6120B, 6135B Tractors



CPA0002089—UN—22OCT15
For 6095B, 6110B Tractors

A—Inspection/Fill Plug
B—Drain Plug

3. Remove inspection/fill plug (A).
4. Add MFWD axle oil through the fill hole until oil level becomes even with the lower edge of hole. (See Fuels, Lubricants, and Coolant section.)
5. Install the fill plug and tighten to specification.

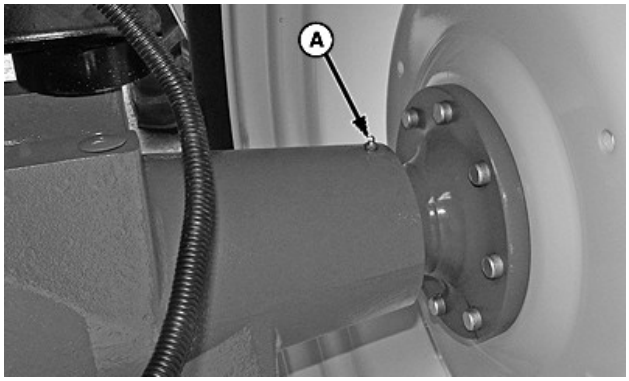
MFWD Axle — Specification

Oil—Capacity	5.5 L (1.45 gal) for 6095B, 6110B Tractors 5 L (1.32 gal) for 6120B, 6135B Tractor
Fill and Drain Plugs—Torque	150 N·m (110 lb·ft)

LG70251,000175D-19-10DEC18

Lubricate Rear Axle Bearings

Service Interval—500 Hours
Extremely Wet or Muddy Conditions—50 Hours



CPA0002096—UN—22OCT15

A—Rear Axle Lube Fitting (2 used)

Lubricate rear axle lube fittings (A), both sides, with several shots of grease. (See Fuels, Lubricants, and Coolant section.)

N400041,0003A3C-19-24JAN18

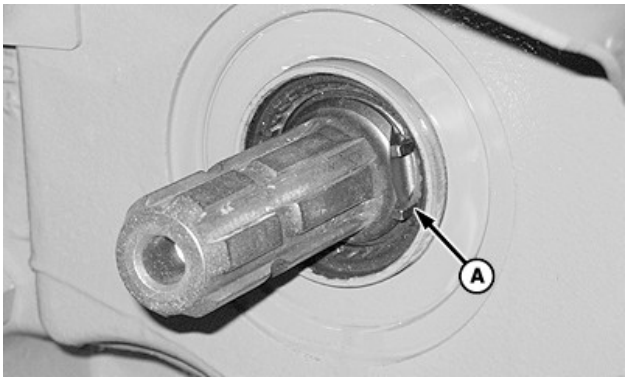
Lubricate PTO Stub Shaft

1. Place tractor in PARK position and SHUT OFF engine. Remove key.

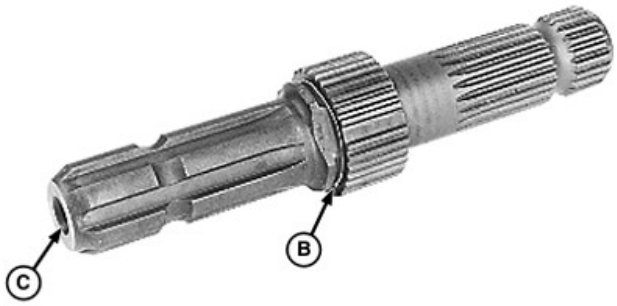
IMPORTANT: If the 21-splined end (1000 rpm) needs to face out, the snap ring can be assembled after the PTO shaft is inserted PTO housing.

If the 21-splined end (1000 rpm) needs to face out, the snap ring can be assembled after the PTO shaft is inserted PTO housing.

TS1644—UN—22AUG95



P15236—UN—06FEB08



LV12604—UN—26APR05

A—Snap Ring
B—Stub Shaft
C—Bore

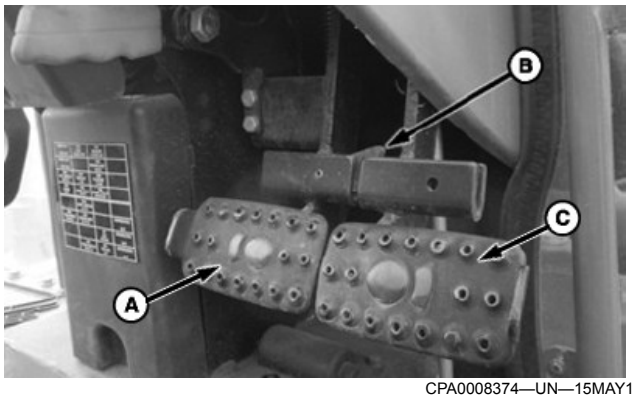
2. Remove the snap ring (A) with the PTO shaft (B). If the 6-splined end is facing out, align the snap ring ends with the access flat first.
3. Clean PTO shaft thoroughly and coat with grease. Make sure the end bore (C) is clean.
4. Insert PTO shaft back into the PTO housing:
   - If the 6-splined end (540 rpm) needs to face out, put the snap ring in the groove of the shaft. Align the ends to the access flat before the shaft is in the PTO housing. Move the shaft with the snap ring in the PTO housing until the snap ring snaps into the groove.
   - If the 21-splined end (1000 rpm) needs to face out, the snap ring can be assembled after the PTO shaft is inserted PTO housing.

N400041,0003A3B-19-29JAN18

Check Brake Pedal

IMPORTANT: Any noticeable pedals drift downward from initial point of resistance (solid pedal) indicates brake leakage. See your John Deere dealer.

1. Machine must be in the park with the engine shutoff to check brakes for correct function.



CPA0008374—UN—15MAY19

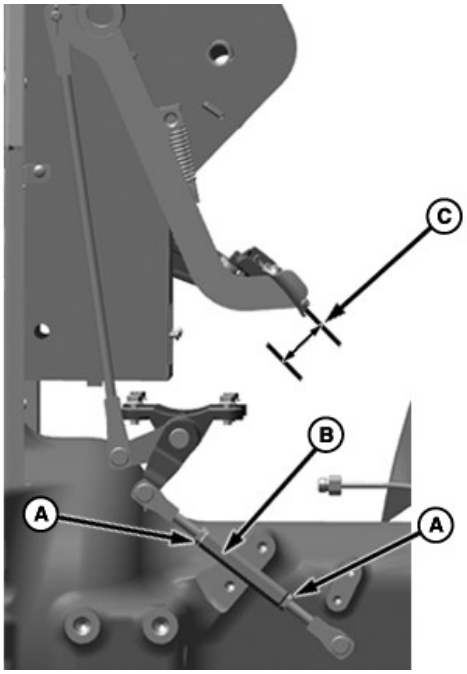
A—Left Brake Pedal
B—Latch Bar
C—Right Brake Pedal

2. Position latch bar (B) to allow brake pedals to operate separately.
3. Pump the left brake pedal (A) and right brake pedal (C) individually. Pedals have a solid feel. If pedals do not feel solid, see your John Deere dealer.
4. Check to make sure that pedals do not settle to end of stroke within 10 seconds after being applied. If leakage exceeds this rate, or if one pedal settles faster than the other, see your John Deere dealer.

LG70251,00019CA-19-10MAY19

Adjust Clutch Pedal Free Travel

Service Interval —250 Hours



N4A0004856—UN—26MAR18

A—Lock Nuts (2 Used)
B—Turnbuckle
C—Clutch Pedal Free Play

Measure clutch pedal free play (C) before clutch engagement is felt. Adjust linkage to specification.

Specification

Clutch Pedal Free Travel—Distance. . . . . 15 — 25 mm (0.59 — 0.98 in)

To adjust linkage, loosen both lock nuts (A) and rotate turnbuckle (B) to increase or decrease free travel. When free travel is correct, tighten lock nuts (A).

N400041,0003A3A-19-20MAR18

Hydraulics Maintenance

Use Transmission Maintenance section for servicing hydraulic oil and filters.

CO00263,00008E1-19-15JAN18

Warm Transmission-Hydraulic System Oil

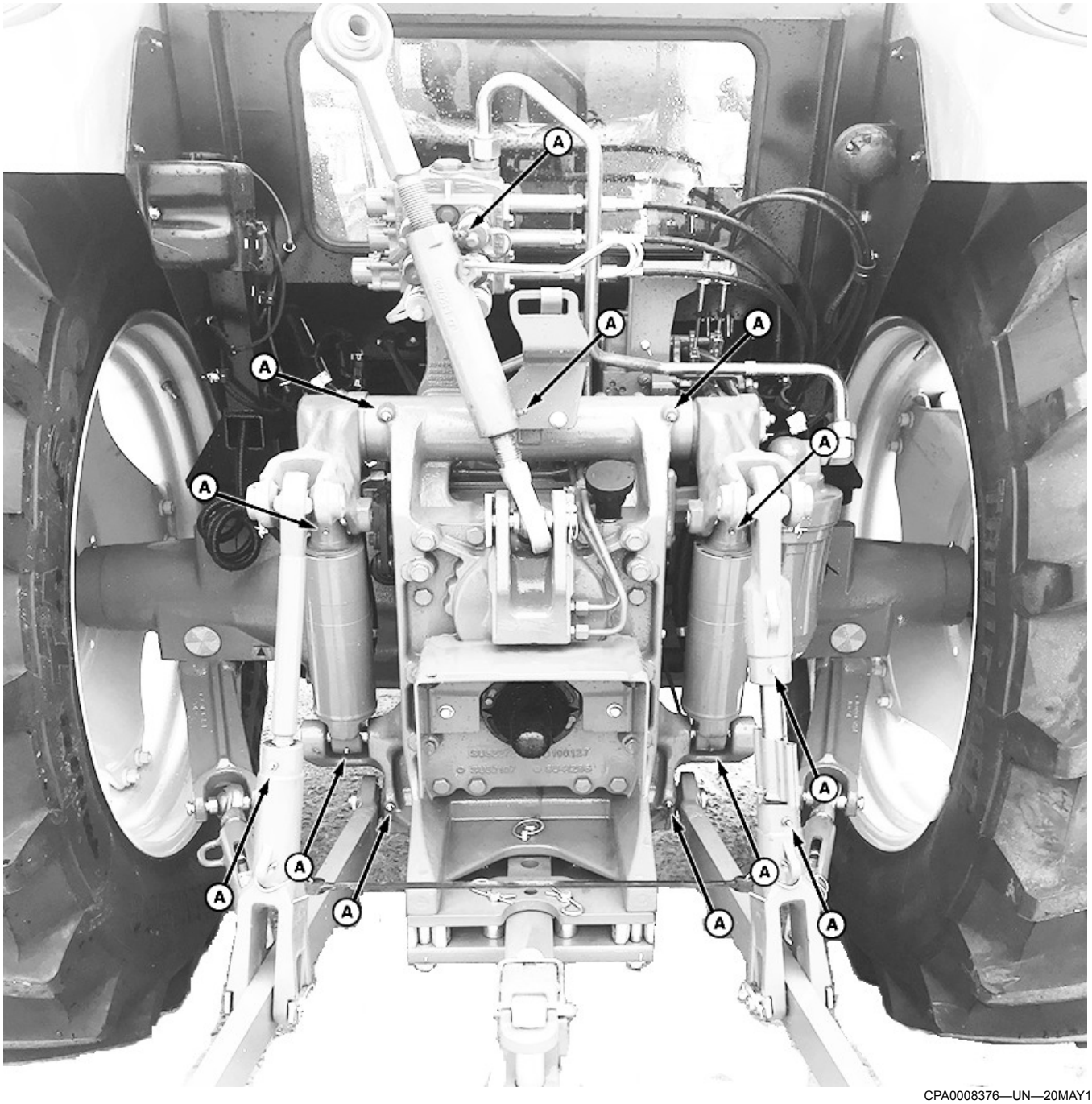
Service Interval—As Required

Warm hydraulic system oil. (See Warm Transmission-Hydraulic System Oil in Hydraulics Operation section.)

CO00263,00008E2-19-15JAN18

Lubricate 3-Point Hitch Components

Service Interval—50 Hours
Extremely Wet or Muddy Conditions—10 hours



CPA0008376—UN—20MAY19

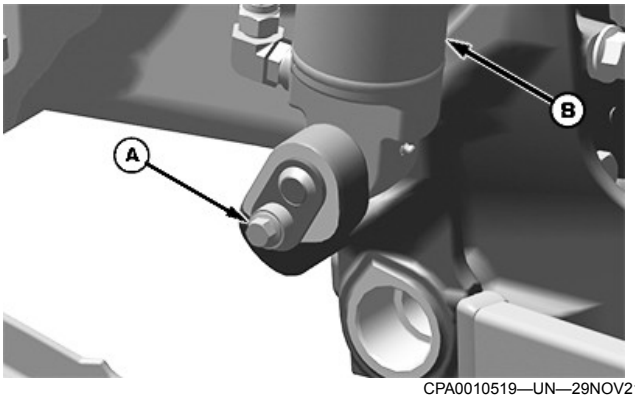
A—Lube Fittings (13 used)

Lubricate 3-point hitch links at lube fittings (A) with several pumps of grease. (See Fuels, Lubricants, and Coolants section.)

LG70251,00019D2-19-15MAY19

Check and Tighten Hydraulic Cylinders

Service Interval—Every 500 Hours



CPA0010519—UN—29NOV21

Tighten Hydraulic Cylinder (left-hand side shown, right-hand side is similar)

A—Screw (2 used)
B—Hydraulic Cylinder (2 used)

Check hydraulic cylinders (B) and tighten screws (A) to specification:

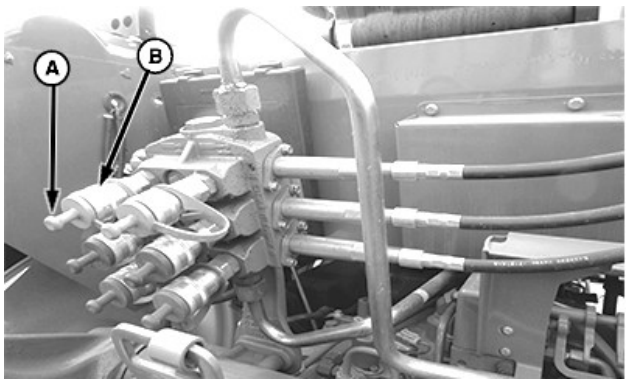
	Specification
Screw to Hydraulic Cylinder—Torque	76 N·m (56 lb·ft)

CO00263,00021EE-19-30NOV21

Selective Control Valve Maintenance

Check Selective Control Valve

Service Interval—As Required



CPA0007712—UN—10DEC18

A—Dust Cover (6 used)
B—Quick-Coupler (6 used)

- Check dust covers (A) for damage, replace as needed.
- Clean quick-couplers (B).
- Check coupler receptacles for oil leakage. Consult your dealer if this problem occurs.

LG70251,0001766-19-11DEC18

Wheels and Tires Maintenance

Loose Hardware Inspection

Service Interval— Every 250 Hours

Item	Measurement	Specification
MFWD Axle Rim-to-Disk Bolts	Torque	290 N·m (214 lb·ft)
MFWD Axle Disk-to-Flange Bolts	Torque	310 N·m (229 lb·ft)
Multi-Position Rear Wheels Rim-to-Disk Bolts	Torque	310 N·m (229 lb·ft)
Multi-Position Rear Wheels Disk-to-Flange Bolts	Torque	530 N·m (391 lb·ft)

CO00263,00021E7-19-24NOV21

Inspect Tires

Service Interval—50 Hours

1. Check tires daily for damage or noticeably low pressure.
2. Have any cuts or breaks repaired as soon as possible.
3. Protect tires from exposure to sunlight, petroleum products, and chemicals.
4. Drive carefully. Try to avoid rocks and sharp objects.

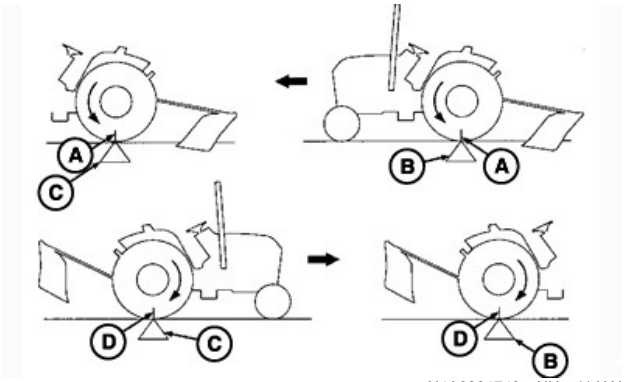
IMPORTANT: Minimum pressures may be used only for light loads and only if tractor has no added weight. If you install ballast or mounted implements, or if you pull heavy loads, increase pressure.

5. Check tires with an accurate gauge having 10 kPa (0.1 bar) (1 psi) graduations. If tires contain liquid ballast, use a special air-water gauge and measure with valve stem positioned toward bottom.

   Refer to Tire Inflation Pressure Chart in Wheels, Tires, and Treads section.

N400041,0003A1F-19-16JAN18

Measure Rear Wheel Slip—Manually



N4A0004749—UN—11JAN18

A—Initial Tire Mark
B—Ground Starting Point
C—10 Revolutions Ground Mark
D—Second Tire Mark

1. Place initial tire mark (A) on a rear tire which is easily observed (a chalk mark is recommended).
2. With tractor working and implement lowered, mark ground starting point (B) on the ground at the place where initial tire mark (A) meets the ground.
3. Mark the ground again where initial tire mark (A) completes 10 revolutions ground remark (C).
4. With implement raised, return in the opposite direction. At the second mark on 10 revolutions ground remark (C), mark second tire mark (D).
5. While driving the tractor along the same path (implement raised), count the tire revolutions required to reach ground starting point (B).
6. Use the non-loaded wheel revolutions count in “Wheel Slippage Chart”, to determine slippage.

NOTE: Ideal wheel slippage is 8-12 % for MFWD tractors.

7. Adjust ballast or load to give correct slippage.

NOTE: Available horsepower is greatly reduced when wheel slip drops below minimum percentage.

WHEEL SLIPPAGE CHART		
Non-Loaded Wheel Revolutions (Step 5)	Estimated % Slip	Recommended Action
10	0	Remove Ballast
9-1/2	5	Remove Ballast
9	10	CORRECT BALLAST
8-1/2	15	CORRECT BALLAST
8	20	Add Ballast
7-1/2	25	Add Ballast
7	30	Add Ballast

N400041,0003A34-19-25JAN18

Ballast Front End for Transport

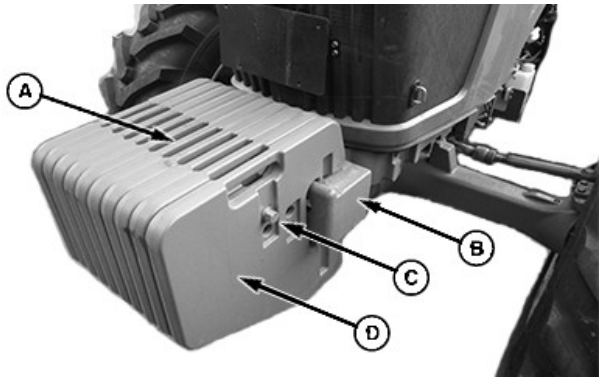
CAUTION: Additional front ballast is needed for transporting rear-mounted implements. When implement is raised, drive slowly over rough ground, regardless of how much ballast is used.

Weights are heavy. Use proper lifting equipment.

Specification

Additional Weight —Weight. . . . . 50 kg (110.23 lb)

- One basic weight (front ballast bracket) and up to 6 additional weights can be installed on 6095B tractor.
- One basic weight (front ballast bracket) and up to 12 additional weights can be installed on 6110B, 6120B, and 6135B tractors.



CPA0007717—UN—17DEC18

A—Ballast Center
B—Front Ballast Bracket
C—Ballast Retaining Bolt (2 used)
D—Additional Weight

1. Install weights in pairs, one on each side of the ballast center (A).
2. To hold weights in place, install ballast retaining bolts (C) through holes from side-to-side. Tighten to proper torque as specified.

Specification

Ballast Retaining Bolt—Torque. . . . . 230 N·m (170 lb·ft)

LG70251,000178F-19-17DEC18

Install Rear Cast Iron Weights

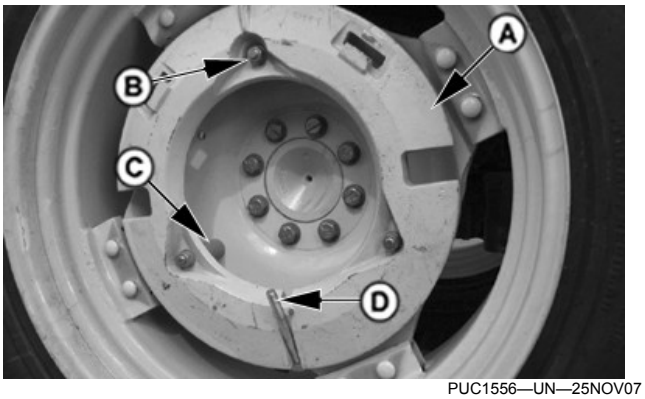
CAUTION: Rear weights weigh 55 kg (121 lb) each. Handle with care! Use appropriate equipment or have the job done by your John Deere dealer.

When installing or removing additional weights, always adjust wheels with one retainer jaw on the top. It prevents weights from falling when retaining bolt is removed.

IMPORTANT: For 6095B tractors, maximum number of weights that can be installed on rear is one on each side wheel.

For 6110B, 6120B and 6135B tractors, maximum number of weights that can be installed on rear is four on each side wheel.

NOTE: Spacers are required only when weights fit into rim dish. If weights do fit, spacers are optional.



PUC1556—UN—25NOV07

A—First Weight
B—First Weight Retaining Bolts, Washers, and Nuts (3 sets used)
C—Spacers (3 used per weight)
D—Additional Weight Retaining Bolt, Washer, and Nut

1. Attach first weight (A) to wheel disk, use three spacers (C) if necessary, with first weight retaining bolts, washers, and nuts (B). Install bolts through the first weight and the rim. Install washers and nuts tighten onto the rim. Installing hardware with this procedure makes it easy to check regularly for tightness.
2. To install additional weights, position wheel such that one of the retainer jaws is at the top. Hang next weight in retainer jaw, secure with additional weight retaining bolt, washer, and nut (D) as shown. Proceed in similar fashion with any additional weights, up to the maximum allowable limit.
3. Tighten all bolt retaining nuts to specification. Tighten again after a few hours of service. Check tightness regularly.

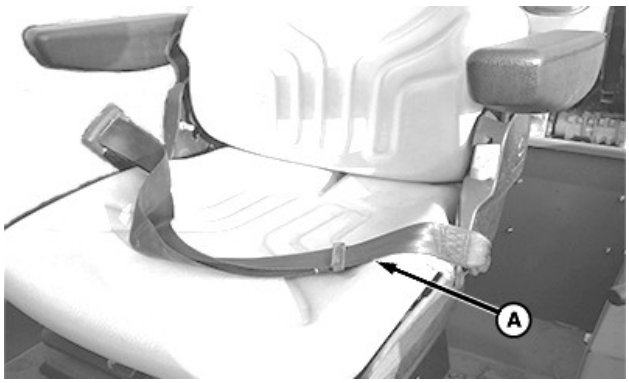
Specification

Retaining Bolts—Torque. . . . . 230 N·m (170 lb·ft)

LG70251,0001769-19-11DEC18

Inspect Seat Belt

Service Interval—Annually



CPA0007714—UN—13DEC18

A—Seat Belt

1. Inspect seat belt (A) and mounting hardware in your machine at least once a year.
2. If the belt shows signs of cuts, fraying, extreme or unusual wear, discoloration, abrasion, or damage to the buckle or retractor, the entire seat belt should be replaced immediately.
3. For your safety, replace belt system only with replacement parts approved for your machine, obtained from an authorized John Deere dealer.

LG70251,0001790-19-17DEC18

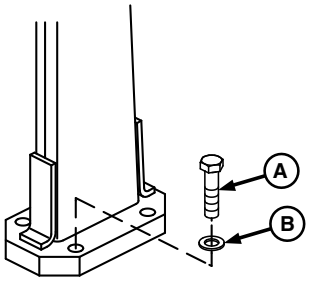
Roll Over Protective Structure (ROPS) Maintenance or Replacement

Service Interval—Every 250 Hours

CAUTION: Make certain all parts are installed correctly if ROPS is loosened or removed for any reason. Tighten mounting bolts to proper torque.

The protection offered by ROPS will be impaired if ROPS is subjected to structural damage, as in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS should be replaced, not reused. Any alteration to the ROPS must be approved by the manufacturer.

When installation of equipment on a machine requires loosening or removing ROPS, mounting bolts (A) with washers (B) should be tightened to specification upon re-installation.



P10072—UN—05FEB01

Tighten Bolts

A—Mounting Bolt (8 used)
B—Flat Washer (8 used)

Specification

ROPS Mounting Bolts—Torque. . . . . 610 N·m (450 lb·ft)

Inspect ROPS mounting hardware every 250 hours for proper torque.

LG70251,0001791-19-17DEC18

Engine Troubleshooting

Symptom	Problem	Solution
Engine cannot start (starter cranks)	No fuel	Check fuel tank
	Air in the fuel tank	Bleed fuel tank
	Fuel pump hand primer left raised	Push primer down
	Battery voltage is too low	Check and charge battery
	Crankcase oil too heavy	Use oil of proper viscosity
	Improper type of fuel	Consult fuel supplier; use proper type fuel for operating conditions
	Water, dirt, or air in the fuel system	Drain, flush, fill, and bleed system
	Clogged fuel filter	Replace filter element
	Dirty or faulty injectors	See an authorized John Deere dealer
	Air filter jammed	Check and repair air filter
	ECU failure	See an authorized John Deere dealer
	Low ambient temperature	Use start aid
	Injector circuit failure	Check wiring harness connector on the engine.
		See an authorized John Deere dealer if you cannot determine the root cause
Engine cannot start (starter does not crank)	Neutral start system failure	Check starting procedure
		Check start neutral start system
		See an authorized John Deere dealer if you cannot determine the cause
	Starter jammed or failed	See an authorized John Deere dealer
	Electrical system failure	Check cable connections on starter, alternator, and starter relay
		Check fuse conditions
		See an authorized John Deere dealer if you cannot determine the cause
	Battery voltage is too low	Check and charge battery
Engine knocks	Insufficient oil	Add oil

Symptom	Problem	Solution
	Incorrect injection pump timing	See an authorized John Deere dealer
	Low coolant temperature	See an authorized John Deere dealer
	Engine overheating	See “Engine Overheats”
Engine runs irregularly or stalls frequently	Low coolant temperature	See an authorized John Deere dealer
	Clogged fuel filter	Replace filter element
	Water, dirt, or air in the fuel system	Drain, flush, fill, and bleed system
	Dirty or faulty injectors	Have John Deere dealer check injectors
	Improper type of fuel	Use proper fuel
Below normal engine temperature	Defective temperature gauge or sender	Check gauge and sender
Lack of power	Engine overloaded	Reduce load or shift to lower gear
	Low high idle speed	See an authorized John Deere dealer
	Intake air restriction	Service air cleaner
	Clogged fuel filter	Replace filter element
	Improper type of fuel	Use proper fuel
	Overheated engine	See “Engine Overheats”
	Below normal engine temperature	See an authorized John Deere dealer
	Improper valve clearance	See an authorized John Deere dealer
	Dirty or faulty injectors	Have John Deere dealer check injectors
	Incorrect injection pump timing	See an authorized John Deere dealer
	Turbocharger not functioning	See an authorized John Deere dealer
	Restricted fuel line	See an authorized John Deere dealer
	Restricted return line	See an authorized John Deere dealer
	Improper ballast	Adjust ballast to load
Low oil pressure	Low oil level	Add oil

Symptom	Problem	Solution
	Improper type of oil	Drain, fill crankcase with oil of proper viscosity and quality
High oil consumption	Crankcase oil too light	Use proper viscosity oil
	Oil leaks	Check for leaks in lines, around gaskets and drain plugs
	Restricted crankcase vent tube	Clean vent tube
Engine emits black or gray exhaust smoke	Improper type of fuel	Use proper fuel
	Clogged or dirty air cleaner	Service air cleaner
	Engine overloaded	Reduce load or shift to a low gear
	Injection nozzles dirty	See an authorized John Deere dealer
	Defective turbocharger	See an authorized John Deere dealer
	Incorrect engine timing	See an authorized John Deere dealer
Engine emits white smoke	Improper type fuel	Use proper fuel
	Engine out of time	See an authorized John Deere dealer
	Defective thermostat	Replace thermostat
	Defective injection nozzles	See an authorized John Deere dealer
	Turbocharger not functioning	See an authorized John Deere dealer
	Cold start advance or light load advance not functioning	See an authorized John Deere dealer
	Cold engine	Bring engine to operating temperature
Engine overheats	Dirty radiator core 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 the proper level, check radiator, and hoses for loose connection or leaks
	Faulty radiator cap	Replace cap
	Loose or defective fan belt	Adjust belt tension
	Cooling system needs flushing	Flush cooling system

Symptom	Problem	Solution
	Defective thermostat	See an authorized John Deere dealer
	Defective temperature gauge or sender	See an authorized John Deere dealer
High fuel consumption	Improper type of fuel	Use the proper fuel type
	Incorrect grade of fuel	Use correct grade of fuel
	Clogged or dirty air cleaner	Service air cleaner
	Engine overloaded	Reduce load or shift to a lower gear
	Improper valve clearance	See an authorized John Deere dealer
	Injection nozzles dirty	See an authorized John Deere dealer
	Incorrect engine timing	See an authorized John Deere dealer
	Implement improperly adjusted	See implement operator's manual
	Low engine temperature	See an authorized John Deere dealer
	Excessive ballast	Adjust ballast to load
	Restricted air intake system	Check system
	Plugged crankcase vent tube	Clean vent tube
	Defective turbocharger	See an authorized John Deere dealer

LG70251,000177D-19-13DEC18

Transmission Troubleshooting

Symptom	Problem	Solution
Transmission oil overheats	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic oil filter	Replace filter
	Internal hydraulic leak	See an authorized John Deere dealer
	Dirty or clogged oil cooler	Clean or flush oil cooler
Low transmission oil pressure	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic oil filter	Replace filter
	Failed pressure relief valve	Check valve, replace if necessary

Symptom	Problem	Solution
Transmission stuck in neutral or it is hard to shift ant gear	Speed shift linkage stuck or rusty	Clean or lubricate the speed shift lever linkages
	Interlock cable misadjusted	Adjust interlock cable per technical repair manual

LG70251,000177E-19-13DEC18

Hydraulic System Troubleshooting

Symptom	Problem	Solution
Entire hydraulic system fails to function	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic filter	Replace filter
	High-pressure internal leak	See an authorized John Deere dealer
	Hydraulic pump not plumbed correctly	See an authorized John Deere dealer
Hydraulic oil overheats	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic oil filter	Replace filter
	Internal hydraulic leak	See an authorized John Deere dealer
	Hitch feedback linkage improperly adjusted	Reset linkage. See your John Deere dealer
	Dirty or clogged oil cooler	Clean or flush oil cooler

LG70251,000177F-19-13DEC18

Brakes Troubleshooting

Symptom	Problem	Solution
No solid pedal feel	Pedals adjusted incorrectly	See an authorized John Deere dealer
Pedal settles	Rear brake piston seal leaking	See an authorized John Deere dealer
Excessive pedal travel	Pedals adjusted incorrectly	See an authorized John Deere dealer
Brakes drag during transport	Brakes out of adjustment	See an authorized John Deere dealer

LG70251,0001780-19-13DEC18

Rockshaft and 3-Point Hitch Troubleshooting

Symptom	Problem	Solution
Insufficient transport clearance	Center link too long	Adjust center link

Symptom	Problem	Solution
	Lift links too long	Adjust lift links
	Implement not level	Level implement
	Implement not properly adjusted	See implement operator's manual
	Front of center link in upper holes	Move center link to lower holes
	Sway chains adjusted too short	Lengthen sway chains
Hitch drops slowly	Rockshaft rate-of-drop control not properly set	Adjust rate-of-drop control knob
Hitch fails to lift or lifts slowly	Excessive load on hitch	Reduce load
	Low oil level	Fill system with proper oil
	Hydraulic oil too cold	Allow oil to warm
	Transmission/hydraulic oil filter clogged	Replace filter
Implement will not operate at desired depth	Lift links too short	Adjust lift links
	Lack of penetration	See implement operator's manual
	Improper setting of limit stop	Reset limit stop
	Improper setting of draft control knob	See Rockshaft and 3-Point Hitch section
Insufficient or no hitch response to draft load	Front attachment of center link in upper holes	Move center link attachment to lower bracket holes
	Draft control knob in “Min” position	Push knob down
	Lift links too short	Adjust lift links
	Lack of penetration	See implement operator's manual
	Rate-of-drop too slow	Adjust rate-of-drop control knob
Hitch too responsive	Front attachment on center link in lower bracket holes	Move center link attachment to upper bracket holes
	Improper draft sensing adjustment	Pull knob upward
Hitch drops too fast	Rate-of-drop set too fast	Adjust rate-of-drop control knob

Symptom	Problem	Solution
Rockshaft control levers "drift" Levers too loose.	Friction disks are loose	Adjust rockshaft control lever friction. See procedures in "Rockshaft and 3-Point Hitch" section or see your John Deere dealer

JL31334,0000CB6-19-24NOV15

Hydraulic Cylinders Troubleshooting

Symptom	Problem	Solution
Direction of cylinder travel is reversed	Improper hose connections	Reverse hose connections
Hoses will not couple	Improper hose male tips	Replace tip with ISO standard tips
Cylinder will not lift load	Excessive load	Reduce load
	Hoses not completely installed	Attach hoses correctly
	Incorrect remote cylinder size	Use correct size cylinder
Direction of travel reverses on II SCV	SCV lever moved to regenerate position	Reverse hose couplings

CP00613,000066C-19-08JUN13

Electrical System Troubleshooting

Symptom	Problem	Solution
Battery will not charge	Loose or corroded connections	Clean and tighten connections
	Sulfated or worn-out battery	Check electrolyte level and specific gravity
	Loose or defective alternator/fan belt	Adjust belt tension or replace belt
Charging system indicator glows with engine running	Low engine speed	Increase speed
	Defective battery	Check electrolyte level and specific gravity
	Defective alternator	See an authorized John Deere dealer
	Slipping alternator/fan belt	Adjust belt tension
Starter inoperative	Shift lever in gear	Move shift lever to neutral
	PTO lever in engaged position	Move PTO lever to disengaged position
	Low battery output	See an authorized John Deere dealer

Symptom	Problem	Solution
	Blown fuse	Replace fuse
Starter cranks slowly	Low battery output	Check electrolyte level and specific gravity
	Crankcase oil too heavy	Use proper viscosity oil
	Loose or corroded connections	Clean and tighten battery connection
Light system does not function; rest of electrical system functions	Blown fuse	Replace fuse
Entire electrical system does not function	Fusible link blown	See an authorized John Deere dealer
	Faulty battery connections	Clean and tighten connections
	Sulfated or worn-out battery	Check electrolyte level and specific gravity
	Blown fuse	Replace fuse
Relays sticking or nonfunctional; repeated failures	Failed diodes	See an authorized John Deere dealer

LG70251,0001781-19-13DEC18

Clutch Troubleshooting

Symptom	Problem	Solution
Clutch slipping	Oil on friction plate or pressure plate	Clean with fuel
	Friction plate wear	Replace friction plate
	Spring force reducing	Replace spring
	Clutch pedal free play is small or no free play	Adjust clutch pedal free play
Clutch separation is not completely, noise during shifting	Clutch pedal free play is too large.	Adjust clutch pedal free play
	End of the three clutch fingers are not at same plane	Adjust clutch fingers
	Clutch driven disc end play is large	Replace driven disc assembly

CP00612,000207E-19-04NOV14

Steering System Troubleshooting

Symptom	Problem	Solution
Oil Leakage	Cap screws at mounting surface are looseness	Tighten cap screws

Symptom	Problem	Solution
	Seal rings wear	Replace seal rings
	Washers wear	Replace washers
Hard steering	Non-return flap valve in steering valve is locked by mass	Clean steering valve
	Air in steering system	Bleed air
	Steering cylinder leakage or steering system leakage	Check and repair leakage
Steering failures	Leaf springs wear	Replace leaf springs
	Pin or universal driving shaft opening wear	Replace pin or universal driving shaft
	Rotor and universal driving shaft relative position is wrong	Reassemble
No handed steering	Gap between rotor and stator is large	Replace rotor and stator

CP00612,000207F-19-04NOV14

Front and Rear Axle Troubleshooting

Symptom	Problem	Solution
Middle drive of front axle is noisy	Driving bevel gear bearing end play is too large	Adjust end play
	Gear engagement is abnormal	Adjust gear engagement
	Differential shaft wear	Replace differential shaft
	Planetary gears or washers wear	Replace planetary gears or washers
	Differential bearing wear	Replace differential bearing
Front drive axle final drive is noisy	Final drive gear engagement is not good	Adjust gear engagement
	Bearing wear	Replace bearing
Front drive axle leakage	Seal ring wear	Replace seal wear
Rear axle final drive is noisy	Gear surface wear	Replace gear
	Bearing wear	Replace bearing

CP00612,0002080-19-04NOV14

Specifications

Machine Dimensions and Weights

NOTE: Specifications and design subject to change without notice.

Tractor Model	6095B (OOS)	6110B (OOS)	6120B (OOS)	6135B (OOS)
VEHICLE DIMENSIONS				
Overall Length, mm (in)	4650 (183.07)	4800 (188.97)		
Overall Width, mm (in)	2200 (86.61)		2300 (90.55)	
Overall Height (to Top of Canopy), mm (in)	2920 (114.96)	2950 (116.14)	2990 (117.71)	
Wheelbase, mm (in)	2310 (90.94)	2560 (100.79)		
GROUND CLEARANCE				
MFWD Differential Bottom, mm (in)	350 (13.77)	375(14.76)	480 (18.89)	
Drawbar Pin Bottom, mm (in)	330 (12.99)	360 (14.17)	410 (16.14)	
WEIGHT AND BALLAST				
Minimum Operating Weight, kg (lb)	4165 (9182)	4400 (9700)	4630 (10207)	
Maximum Front Ballasts, kg (lb)	300 (661)	600 (1322)		
Maximum Rear Ballasts, kg (lb)	220 (485)	440 (970)		
TURNING RADIUS (Disengage Brakes)				
MFWD ON, Minimum, m (ft)	4.5 (14.76)	5.5 (18.04)		
MFWD OFF, Minimum, m (ft)	4 (13.12)	5 (16.4)		
DRAIN AND REFILL CAPACITIES				
Fuel Tank L (gal)	150 (39.62)	220 (58.11)		
Transmission Case, L (gal)	60 (15.65)			
Crankcase, including Filter, L (gal)	15 (3.96)			
MFWD Axle Housing, L (gal)	5.5 (1.45)		5 (1.32)	
MFWD Wheel Hub, L (gal)	1.1 (0.29), Each Side		0.8 (0.21), Each Side	
Cooling System, L (gal)	18 (4.76)			
Air conditioning System , g	1800, R-134a			
TRACTION PROPERTIES				
Maximum Drawbar Force, kN	≥ 31	≥ 36	≥ 39	≥ 42
Maximum Drawbar Power, kW	≥ 53	≥ 61	≥ 66.5	≥ 75

LG70251,00019DF-19-20MAY19

Machine Specifications

NOTE: Specifications and design subject to change without notice.

Tractor Model	6095B(OOS)	6110B(OOS)	6120B(OOS)	6135B(OOS)
ENGINE AND ENGINE AUXILIARIES				
Engine Type	Inline, Mechanical	Inline, High-Pressure Common Rail		
Engine Model	4045HCP04	4045HCP05	4045HCP10	4045HCP11
Air Inlet Type	Turbocharged Inter-cooled			
Cooling Type	Circulating Water Cooling			
Number of Cylinders	4			
Bore x Stroke, mm x mm (in x in)	106.5 x 127 (4.19 x 5)			
Displacement, L	4.5			
Engine Power at Rated Speed, kW (hp)	69.9 (95)	80.9 (110)	88.2 (120)	99.3 (135)
Rated Engine Speed, rpm	2200			
Maximum Engine Torque, N·m (lb·ft)	375 (276)	452 (333)	493 (363)	552 (407)
Speed at Maximum Torque, rpm	1600	1400—1600	1600	

Tractor Model	6095B(OOS)	6110B(OOS)	6120B(OOS)	6135B(OOS)
Slow Idle, rpm	850—900			
Fast Idle, rpm	2350—2400	2325—2375		
Air Cleaner Type	Dry Type with Safety Element			
ELECTRICAL SYSTEM				
Battery Voltage (V)	12			
Alternator Amperage	90			
Safety Start Type	Neutral Start			
STEERING AND BRAKING SYSTEM				
Steering System Type	Hydraulic Steering			
Steering Pump Type	Open Center and Non-reaction			
Braking System Type	Mechanical			
TRANSMISSION				
Gears Forward / Gears Reverse (Option 1)	12F/4R			
Gears Forward / Gears Reverse (Option 2)	24F/12R			
HYDRAULIC SYSTEM				
Type	Open Center , Separated			
Hydraulic Pump	Gear Pump			
System Pressure, MPa	19 - 20			
Control Modes	Position control, Draft sensing control, Rate of drop			
Hydraulic Output Device	Dual SCV or Triple SCV			
Hitch Type	Rear Hitch Valve			
POWER TAKE-OFF (PTO)				
Type	Independent			
Outer Spline Specifications, mm (in)	6/21 Spline: φ35 (1.38)			
Speed, rpm	540/1000			
Transmission Ratio	(112:29)/(95:46)			
PTO Output Power, kW	≥59.4	≥68.8	≥72	≥84.4
THREE-POINT HITCH				
Hitch Type	Category II			
Lower Link Type	Fixed Ball Type			
Lateral Sway Control	Stabilizer Bar			
Lift Capacity@610mm, kN	≥24	≥30	≥30	≥30
Drawbar Type	Category II			

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Ground Speeds

NOTE: Ground speeds for engine speed at 2200 rpm.

12F/4R		30K					
		16.9-34 or 420/85R34 Tires		18.4-34 or 460/85R34 Tires		18.4-38 or 460/85R38Tires	
Range	**Range**	**km/h**	**mph**	**km/h**	**mph**	**km/h**	**mph**
A	**1**	2.7	1.68	2.9	1.80	3.1	1.93
A	**2**	3.9	2.42	4.2	2.61	4.4	2.73
A	**3**	5.2	3.23	5.6	3.48	5.8	3.60
B	**1**	5.6	3.48	6.0	3.73	6.3	3.91
B	**2**	7.9	4.91	8.6	5.34	9.0	5.59
B	**3**	10.6	6.59	11.4	7.08	12.0	7.46
C	**1**	9.4	5.84	10.1	6.28	10.6	6.59
C	**2**	13.4	8.33	14.4	8.95	15.2	9.44

12F/4R		30K					
		16.9-34 or 420/85R34 Tires		18.4-34 or 460/85R34 Tires		18.4-38 or 460/85R38Tires	
Range	**Range**	**km/h**	**mph**	**km/h**	**mph**	**km/h**	**mph**
C	**3**	17.8	11.06	19.2	11.93	20.2	12.55
D	**1**	14.4	8.95	15.5	9.63	16.3	10.13
D	**2**	20.5	12.74	22.1	13.73	23.2	14.42
D	**3**	27.3	16.96	29.4	18.27	30.9	19.20
A	**R**	-5.3	-3.29	-5.7	-3.54	-6.0	-3.73
B	**R**	-10.9	-6.77	-11.7	-7.27	-12.3	-7.64
C	**R**	-18.4	-11.43	-19.8	-12.30	-20.8	-12.92
D	**R**	-28.1	-17.46	-30.3	-18.83	-31.9	-19.82

24F/12R		30K					
		16.9-34 or 420/85R34 Tires		18.4-34 or 460/85R34 Tires		18.4-38 or 460/85R38 Tires	
Range	**Range**	**km/h**	**mph**	**km/h**	**mph**	**km/h**	**mph**
A	**1 L**	2.3	1.43	2.4	1.49	2.6	1.62
A	**1H**	2.7	1.68	2.9	1.80	3.0	1.86
A	**2 L**	3.3	2.05	3.5	2.17	3.6	2.24
A	**2H**	3.9	2.42	4.1	2.55	4.3	2.67
A	**3 L**	4.4	2.73	4.6	2.86	4.8	2.98
A	**3H**	5.2	3.23	5.5	3.42	5.7	3.54
B	**1 L**	4.7	2.92	5.0	3.11	5.2	3.23
B	**1H**	5.6	3.48	5.9	3.67	6.2	3.85
B	**2 L**	6.7	4.16	7.1	4.41	7.4	4.60
B	**2H**	7.9	4.91	8.5	5.28	8.8	4.47
B	**3 L**	8.9	5.53	9.5	5.90	9.9	6.15
B	**3H**	10.6	6.59	11.2	6.96	11.7	7.27
C	**1 L**	7.9	4.91	8.4	5.22	8.8	5.47
C	**1H**	9.4	5.84	10.0	6.21	10.4	6.46
C	**2 L**	11.3	7.02	12.0	7.46	12.5	7.77
C	**2H**	13.4	8.33	14.3	8.89	14.9	9.26
C	**3 L**	15.0	9.32	16.0	9.94	16.7	10.38
C	**3H**	17.8	11.06	18.9	11.74	19.7	12.24
D	**1 L**	12.1	7.52	12.9	8.02	13.5	8.39
D	**1H**	14.4	8.95	15.3	9.51	16.0	9.94
D	**2 L**	17.3	10.75	18.4	11.43	19.2	11.93
D	**2H**	20.5	12.74	21.8	13.55	22.8	14.17
D	**3 L**	23.0	14.29	24.5	15.22	25.5	15.84
D	**3H**	27.3	16.96	29.0	18.02	30.2	18.77
A	**R1**	-2.5	-1.55	-2.6	-1.62	-2.8	-1.74
A	**R2**	-3.5	-2.17	-3.8	-2.36	-4.0	-2.49
A	**R3**	-4.7	-2.92	-5.0	-3.11	-5.3	-3.29
B	**R1**	-5.1	-3.17	-5.4	-3.36	-5.8	-3.60
B	**R2**	-7.3	-4.54	-7.7	-4.78	-8.2	-5.10
B	**R3**	-9.6	-5.97	-10.2	-6.34	-10.9	-6.77
C	**R1**	-8.6	-5.34	-9.1	-5.65	-9.7	-6.03
C	**R2**	-12.2	-7.58	-13.0	-8.08	-13.8	-8.57
C	**R3**	-16.2	-10.07	-17.3	-10.75	-18.4	-11.43
D	**R1**	-13.1	-8.14	-14.0	-8.70	-14.9	-9.26
D	**R2**	-18.7	-11.62	-19.9	-12.37	-21.2	-13.17

24F/12R		30K					
		16.9-34 or 420/85R34 Tires		18.4-34 or 460/85R34 Tires		18.4-38 or 460/85R38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
D	R3	-24.9	-15.47	-26.5	-16.47	-28.2	-17.52

24F/12R		40K					
		16.9-34 or 420/85R34 Tires		18.4-34 or 460/85R34 Tires		18.4-38 or 460/85R38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
A	1 L	2.2	1.36	2.3	1.43	2.5	1.55
A	1H	2.6	1.62	2.8	1.74	2.9	1.80
A	2 L	3.3	2.05	3.5	2.55	3.7	2.30
A	2H	3.9	2.42	4.1	2.55	4.4	2.73
A	3 L	4.5	2.80	4.8	2.98	5.1	3.17
A	3H	5.3	3.30	5.6	3.48	6.0	3.72
B	1 L	5.3	3.30	5.6	3.48	6.0	3.72
B	1H	6.3	3.91	6.7	4.16	7.1	4.41
B	2 L	7.9	4.91	8.4	5.22	9.0	5.60
B	2H	9.4	5.84	10.0	6.21	10.6	6.59
B	3 L	10.8	6.71	11.5	7.15	12.2	7.58
B	3H	12.8	7.95	13.6	8.45	14.5	9.01
C	1 L	9.0	5.59	9.6	5.97	10.2	6.34
C	1H	10.7	6.65	11.4	7.08	12.1	7.52
C	2 L	13.5	8.39	14.4	8.95	15.3	9.51
C	2H	16.0	9.94	17.0	10.56	18.1	11.25
C	3 L	18.4	11.43	19.6	12.18	20.8	12.92
C	3H	21.8	13.55	23.2	14.42	24.7	15.35
D	1 L	14.1	8.76	15.0	9.32	16.0	9.94
D	1H	16.7	10.38	17.8	11.06	18.9	11.74
D	2 L	21.2	13.17	22.5	13.98	24.0	14.91
D	2H	25.1	15.60	26.7	16.59	28.4	17.65
D	3 L	21.8	13.55	30.6	19.01	32.6	20.26
D	3H	28.8	17.90	36.3	22.56	38.7	24.04
A	R1	-2.4	-1.50	-2.5	-1.55	-2.7	-1.68
A	R2	-3.6	-2.24	-3.8	-2.36	-4.0	-2.49
A	R3	-4.8	-2.98	-5.1	-3.17	-5.5	-3.42
B	R1	-5.7	-3.54	-6.1	-3.79	-6.5	-4.04
B	R2	-8.6	5.34	-9.1	-5.65	-9.7	-6.03
B	R3	-11.7	-7.27	-12.4	-7.71	-13.2	-8.20
C	R1	-9.7	-6.03	-10.4	-6.46	-11.0	-6.84
C	R2	-14.6	-9.07	-15.5	-9.63	-16.6	-10.31
C	R3	-19.9	-12.37	-21.2	-13.17	-22.5	-13.98
D	R1	-15.3	-9.51	-16.2	-10.07	-17.3	-10.75
D	R2	-22.9	-14.23	-24.3	-15.10	-25.9	-16.10
D	R3	-31.1	-19.32	-33.1	-20.57	-35.3	-21.93

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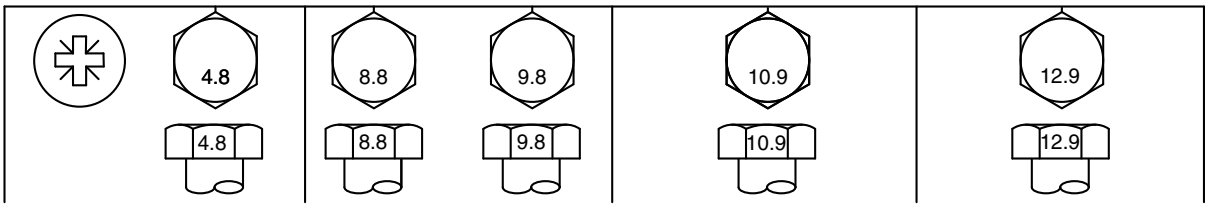
Metric Bolt and Screw Torque Values



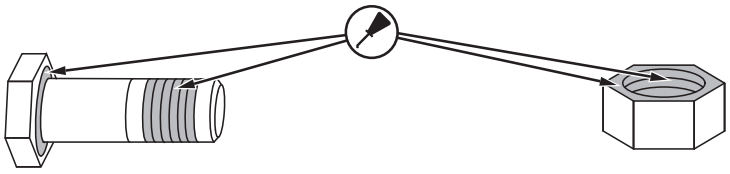
TS1742—UN—31MAY18

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[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	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench.
DO NOT use these values if a different torque value or tightening procedure is given for a specific application.
For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

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 that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.

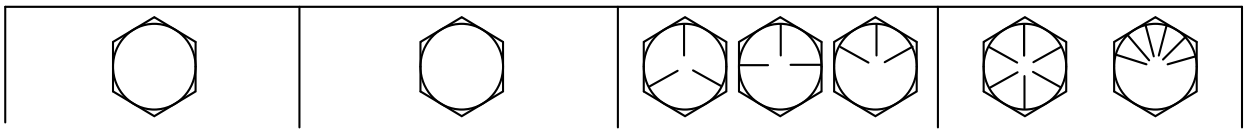


TS1741—UN—22MAY18

[a] *Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.*
[b] *Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.*

DX,TORQ2-19-09MAY22

Unified Inch Bolt and Screw Torque Values



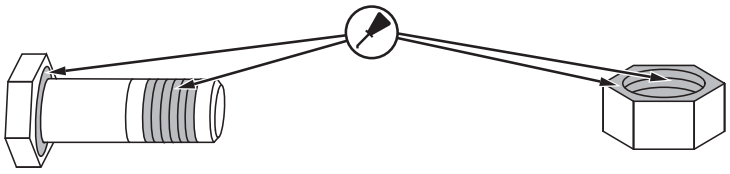
TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1[a]				SAE Grade 2[b]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]	
	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	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
													N·m	lb·ft	N·m	lb·ft
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
									N·m	lb·ft	N·m	lb·ft				
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
					N·m	lb·ft	N·m	lb·ft								
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
	N·m	lb·ft	N·m	lb·ft												
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench.
DO NOT use these values if a different torque value or tightening procedure is given for a specific application.
For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

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 that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

[a]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]Grade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.
[c]Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[d]Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1-19-09MAY22

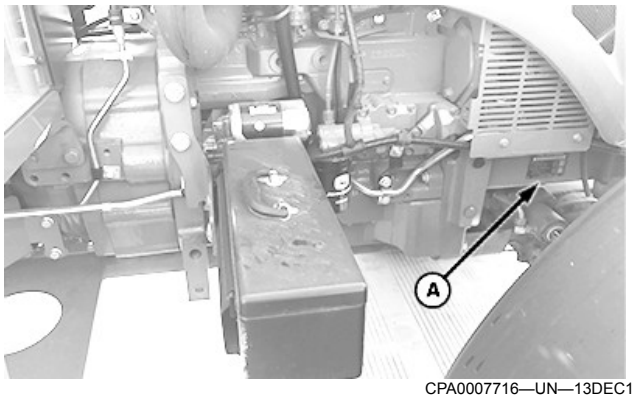
Identification Numbers

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 program. They are also needed for law enforcement to trace your tractor if it is ever stolen. ACCURATELY record these characters in the spaces provided next to each of the following photographs.

CP00613,0000675-19-08JUN13

Record Tractor Serial Number



CPA0007716—UN—13DEC18

A—Tractor Serial Number Plate

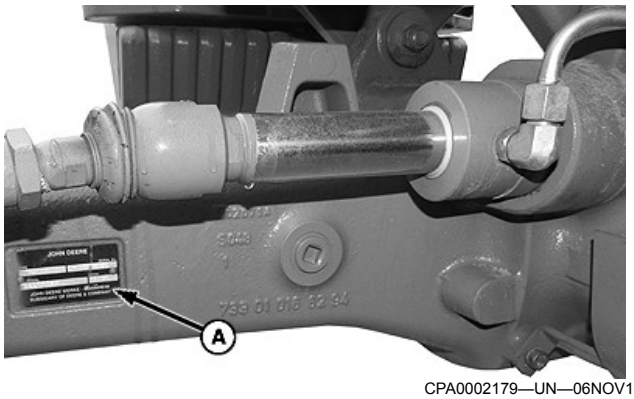
Tractor serial number plate (A) is on the right side of the front support member of the tractor.

Tractor serial number is also stamped on the left-front side of front support.

Tractor Serial Number:

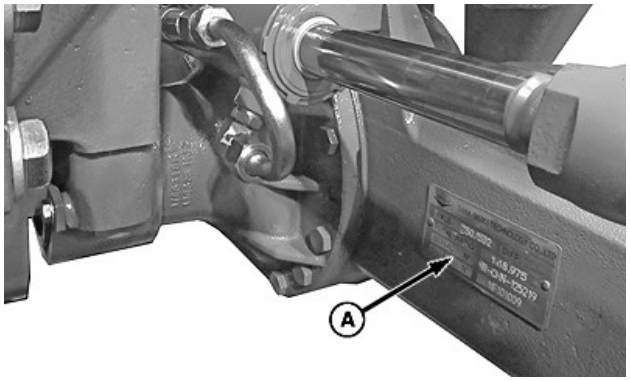
LG70251,0001792-19-17DEC18

Record MFWD Front Axle Serial Number



CPA0002179—UN—06NOV15

For 6120B, 6135B Tractors



CPA0002180—UN—06NOV15

For 6095B, 6110B Tractors

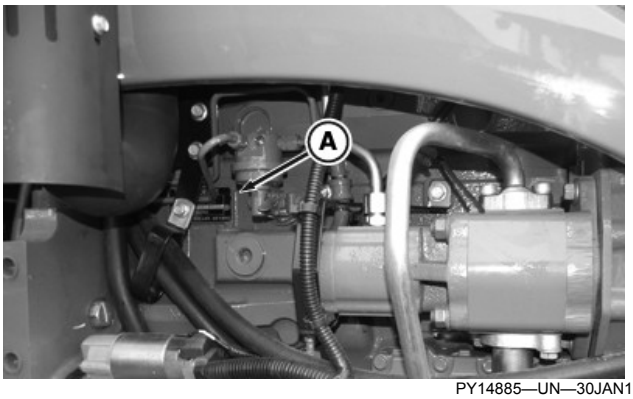
A—Front Axle Serial Number Plate

The MFWD front axle serial number plate (A) is on the right rear side of the axle housing.

Front Axle Serial Number:

LG70251,000176D-19-11DEC18

Record Engine Serial Number



PY14885—UN—30JAN13

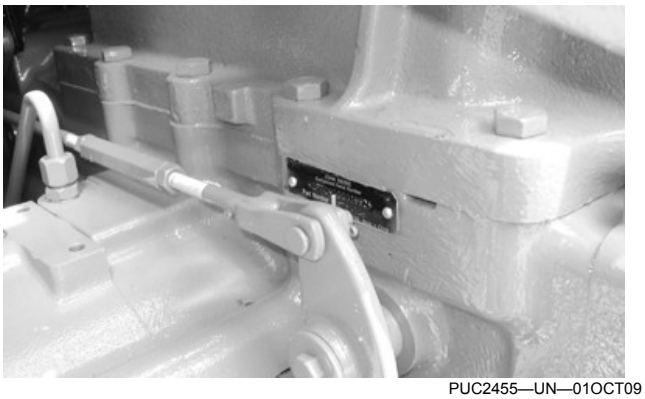
A—Engine Serial Number Plate

The engine serial number plate is on the left-hand side of the engine, on the air intake manifold.

Engine Serial Number:

N400041,0003A2E-19-26JAN18

Record Transmission Serial Number



PUC2455—UN—01OCT09

Transmission serial number plate is located on the transmission housing, above left-hand side rear axle.

Transmission Serial Number:

N400041,0003A2F-19-24JAN18

Service Records

As Required, Daily or 10 Hour, and Every 50 Hour Service Chart

Service as Required

- Check air intake system
- Adjust hand throttle friction
- Front grille, side Screens, radiator and oil cooler cleaning
- Bleed fuel system
- Charge battery
- Service battery
- Adjust headlights
- Replace bulb: headlights, worklights, front turn signal lights, tail/rear turn signal/brake lights
- Check and adjust transmission[1]
- Check and adjust front, rear drive axle[1]
- Check and adjust differential[1]

Daily or 10 Hours

- Check engine oil level
- Check transmission / hydraulic system oil level
- Check coolant level
- Drain water and Sediment from fuel filters and water separator

Every 50 Hours

- Inspect tractor for loose hardware
- Inspect tires
- Lubricate steering spindles[2]
- Lubricate MFWD front axle[2]
- Lubricate MFWD front axle pivot pins[2]
- Lubricate MFWD drive shaft
- Clean battery
- Check battery condition
- Lubricate 3-point hitch links[2]

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LG70251,0001918-19-29MAR19

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[1] *See your John Deere dealer for service.*

[2] *Necessary to perform daily or 10 hr in wet or muddy conditions.*

Every 250 Hour Service Chart

Every 250 Hours

- Service air cleaner
- Adjust brake pedal free play
- Adjust clutch pedal free play
- Check neutral start system
- Check MFWD axle housing oil level
- Check MFWD wheel hub oil level
- Drain water and sediment from fuel tank

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LG70251,0001A87-19-04JUL19

Every 500 Hour, 1000 Hour or Annual, Every Two Year or 2000 Hour Service Chart

Every 500 Hours

- Check engine idle speeds
- Check hoses and hose clamps for tightness
- Change engine oil and filter[3]
- Replace transmission/hydraulic oil filter[4]
- Lubricate rear axle bearings[4]
- Check cooling system for leaks
- Replace water separator
- Replace primary fuel filter
- Replace secondary fuel filter

Every 1000 Hours or Annual

- Clean engine crankcase vent tube
- Change transmission/hydraulic system oil
- Change MFWD front axle housing oil[5]
- Change MFWD wheel hub oil[5]
- Replace primary and secondary elements[6]
- Inspect seat belt

Every Two Years or 2000 Hours (Whichever Comes First)

- Flush cooling system[7]

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[3] If PLUS 50 oil and a John Deere filter are not used, lower this service interval to 250 hours

[4] Necessary to perform 50 hr in wet or muddy conditions

[6] Interval can vary according to operating conditions

[7] Can be extended to 5000 hours or 5 years if John Deere COOL-GARD is used.

[5] Necessary to perform 50 hr in wet or muddy conditions.

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N400041,00039EF-19-16JAN18

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John Deere Service Literature Available

Technical Information

Technical information can be purchased from John Deere. Publications are available in print or CD-ROM format.

Orders can be made using one of the following:

- John Deere Technical Information Store: **www.JohnDeere.com/TechInfoStore**
- Call 1-800-522-7448
- Contact your John Deere dealer

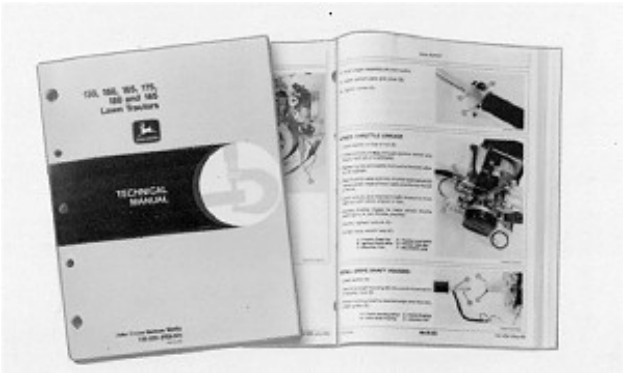
Available information includes:

TS189—UN—17JAN89

PARTS CATALOGS list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.

TS191—UN—02DEC88

OPERATOR'S MANUALS providing safety, operating, maintenance, and service information.



TS224—UN—17JAN89

TECHNICAL MANUALS outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in a separate component technical manual.

TS1663—UN—10OCT97

EDUCATIONAL CURRICULUM including five comprehensive series of books detailing basic information regardless of manufacturer:

- Agricultural Primer series covers technology in farming and ranching.
- Farm Business Management series examines "real-world" problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
- Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
- Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.
- Fundamentals of Compact Equipment manuals provide instruction in servicing and maintaining equipment up to 40 PTO horsepower.

DX,SERVLIT-19-07DEC16

John Deere Service Keeps You On The Job

John Deere Parts

TS100—UN—23AUG88

We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

That's why we maintain a large and varied inventory—to stay a jump ahead of your needs.

DX,IBC,A-19-04JUN90

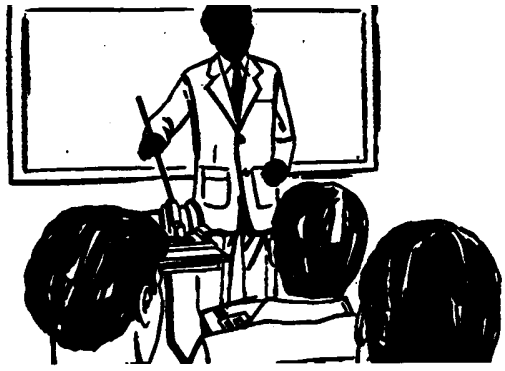
The Right Tools

TS101—UN—23AUG88

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly . . . to save you time and money.

DX,IBC,B-19-04JUN90

Well-Trained Technicians



TS102—UN—23AUG88

School is never out for John Deere service technicians.

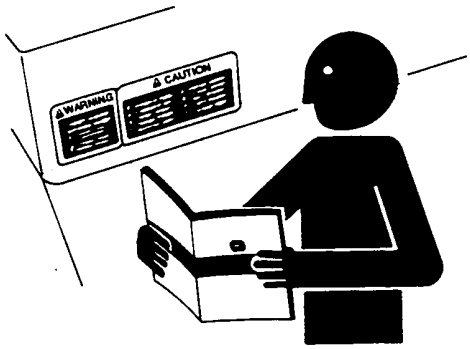
Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result?

Experience you can count on!

DX,IBC,C-19-04JUN90

John Deere Is At Your Service



TS201—UN—15APR13

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

–Maintenance and service parts to support your equipment.

–Trained service technicians and the necessary diagnostic and repair tools to service your equipment.

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

–Machine model and product identification number

–Date of purchase

–Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance. Or contact the Ag Customer

Assistance Center at 1-866-99DEERE (866-993-3373) or e-mail us at www.deere.com/en_US/ag/contactus/.

Company Address: No. 89, 13th Avenue, TEDA, Tianjin , China
Zip Code: 300457; Fax: 86-22-59822005
Sales Hotline: 400-6576-555
Service Hotline: 400-6576-555
Website: www.johndeere.com.cn

CP00613,0000683-19-10MAR20