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# **W150 Self-Propelled Windrower**

(Serial No. 390001 - )



**JOHN DEERE**

## **OPERATOR'S MANUAL**

### **W150 Self-Propelled Windrower**

**OMFH342437    ISSUE C2    (ENGLISH)**

**John Deere Ottumwa Works**

Worldwide

PRINTED IN U.S.A.

# Introduction

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## Foreword



E66723—UN—10AUG12

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

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

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

RIGHT-HAND AND LEFT-HAND sides are determined by the operator's station facing the direction of travel. The W150 operator's station may be turned to cab-forward or engine-forward operation. This manual uses terms right cab-forward, left cab-forward, right engine-forward and left engine-forward when referencing specific locations on the machine.

USE this manual in conjunction with your Platform Operator's Manual.

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

WARRANTY is provided as part of the John Deere support program for customers who operate and maintain their equipment as described in this manual.

The warranty is explained on the warranty certificate which you should have received from your dealer.

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied. Setting fuel delivery above specifications or otherwise overpowering machines will result in such action.

THE TIRE MANUFACTURER'S warranty supplied with your machine may not apply outside the U.S.

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

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GW44282,0000072-19-12MAR15

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*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.*

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# Safety

## Before Operating

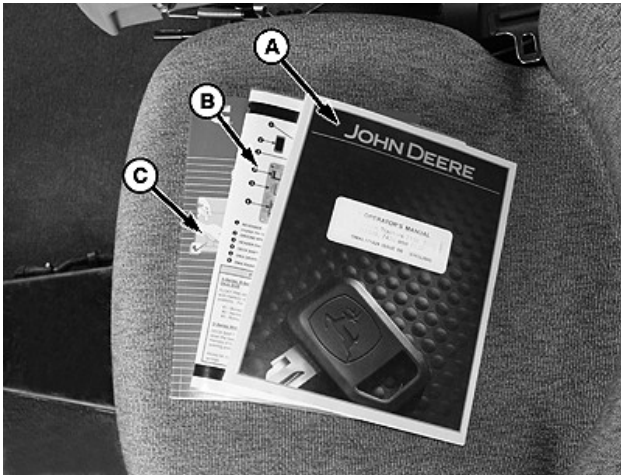


E66423—UN—10JUL12

*Operator's Manual*

### A—Operator's Manual

Become familiar with the machine decals and the safety section of this manual. The Operator's Manual (A) is stored in a dedicated storage compartment under the training seat.



E66535—UN—19JUL12

- A—Operator's Manual Supplement
- B—Quick Reference Guide
- C—Engine Manual

Also supplied with the Operator's Manual package is an Operator's Manual Supplement (A), Quick Reference Guide (B), and Engine Manual (C).

Remove foreign objects from the machine.

Keep dirt and debris off the steps, platforms, and hand holds.

Become familiar with all controls affecting the machine functions.

Make sure that everyone is clear of the machine before

starting the engine. Never allow riders on the machine or near the machine while it is running.

Be sure that the shields and guards are in place and in good condition before starting.

GW44282,0000A13-19-19DEC19

## 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-19-29SEP98

## Understand Signal Words



**⚠ WARNING**

**⚠ CAUTION**

TS187—19—30SEP88

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

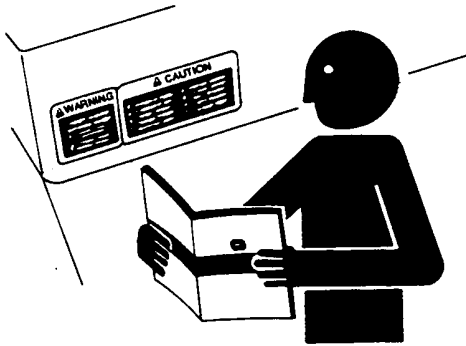
**WARNING;** The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

**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

## Replace Safety Signs



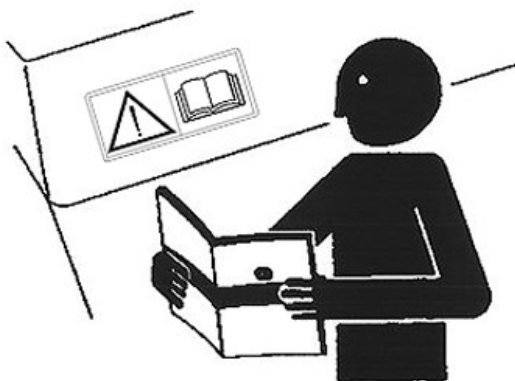
TS201—UN—15APR13

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

## Follow Safety Instructions



E66739—UN—10AUG12

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.

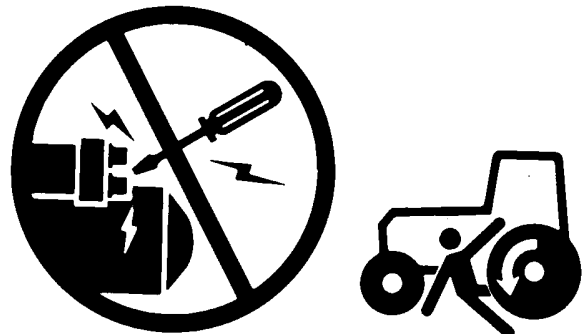
Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

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.

RC48509,00005D4-19-24JUN13

## Prevent Machine Runaway



TS177—UN—11JAN89

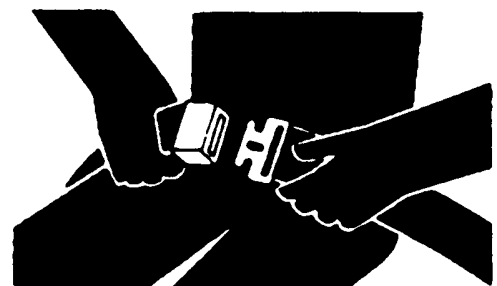
Avoid possible injury or death from machinery runaway.

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

## Use Seat Belts



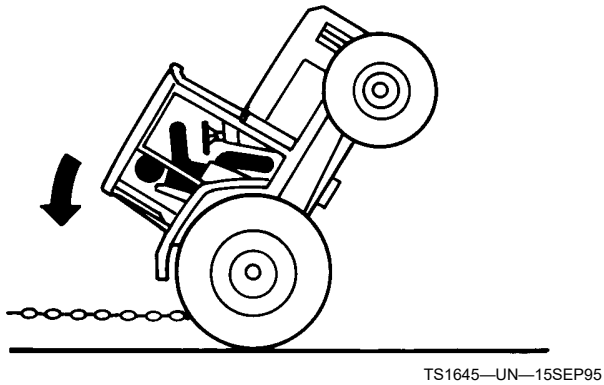
H47137

H47137—UN—25OCT95

Use the seat belt whenever you operate the windrower or ride as an observer.

AG,OUO6038,1003-19-21JUN13

## Freeing a Mired Machine



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

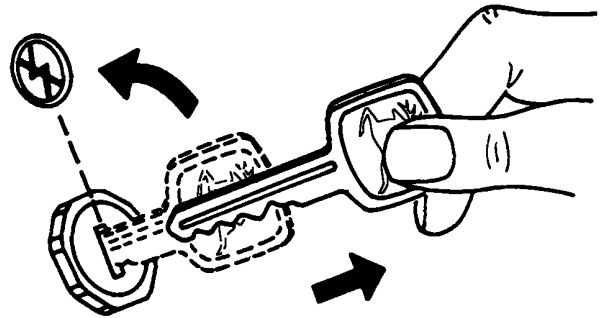
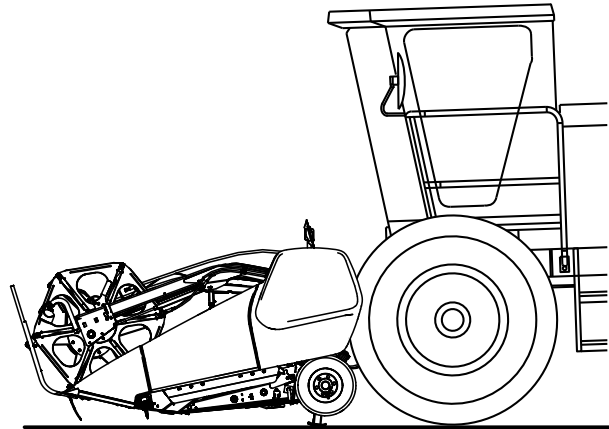
Back your tractor out if it gets mired down in mud. Unhitch any towed implements. Dig mud from behind the rear wheels. Place boards behind the wheels to provide a solid base and try to back out slowly. If necessary, dig mud from the front of all wheels and drive slowly ahead.

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

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

DX,MIREd-19-07JUL99

## Park Windrower Safely

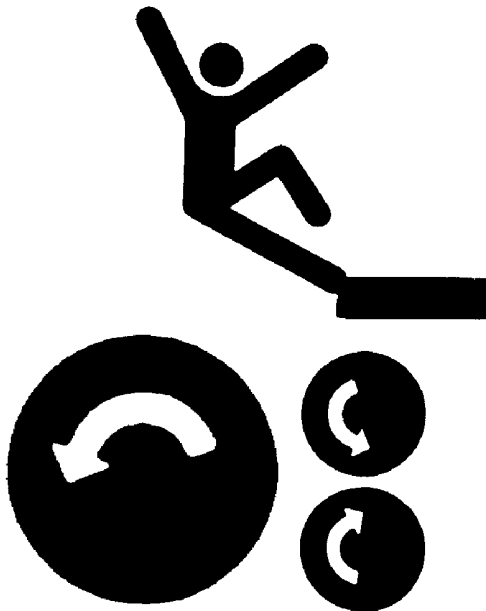


Before leaving the operators station:

- Park windrower on firm, level surface.
- Disengage platform drive.
- Wait until all moving parts have stopped.
- Check to see steering wheel is centered and locked.
- Put ground speed lever in neutral detent to activate park brake.
- Lower platform to the ground.
- Idle hot engine for three to five minutes prior to shut down.
- Turn off engine and remove key.
- Lock cab door.

Ouo6064,0001232-19-28JUL14

## Keep Riders Off Machine



E41748—UN—15NOV96

Keep riders off the machine.

Riders are subject to injury from being thrown off the machine into the platform or under the wheels.

Anyone riding must be in the training seat with seat belt fastened.

AG,OUO6038,1004-19-21JUN13

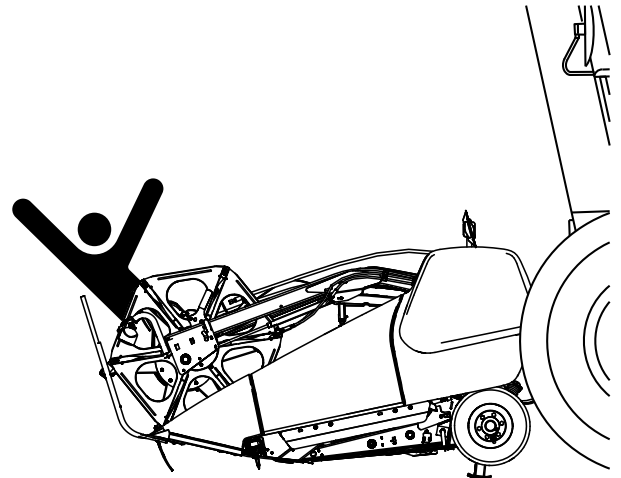
## Ballast for Safe Ground Contact

Operating, steering and braking performance of windrower can be considerably affected by the size of the platform used which alters the center of gravity of the windrower.

To maintain the proper ground contact, add ballast to the rear of the windrower as recommended for the platform in use.

RC48509,00003C5-19-21JUN13

## Stay Clear of Platform



E57580—UN—14JUL09

Many moving parts such as the platform reel, cutterbar, conditioner rolls and augers cannot be completely shielded due to their function.

Stay clear of these moving parts during operation!

Before servicing or manually unplugging the platform:

1. Park windrower on level surface.
2. Put hydrostatic drive lever in neutral park.
3. Check to see that the steering wheel is centered and locked.
4. Always disengage platform drive.
5. Wait until all moving parts have stopped.
6. Lower platform to the ground, or raise platform fully and engage platform lift lockout levers to prevent accidental lowering.
7. Idle hot engine for three to five minutes prior to shut down.
8. Turn off engine and remove key.
9. Block both sides of front tires or rear tires as required.
10. Release float pressure and remove battery ground as necessary.

OUO6043,00001F7-19-25JAN13

## Stay Clear of Rotating Driveline



TS1644—UN—22AUG95

Entanglement in a rotating driveline can cause serious injury or death.

Keep shields covering the conditioner and engine drivelines in place at all times.

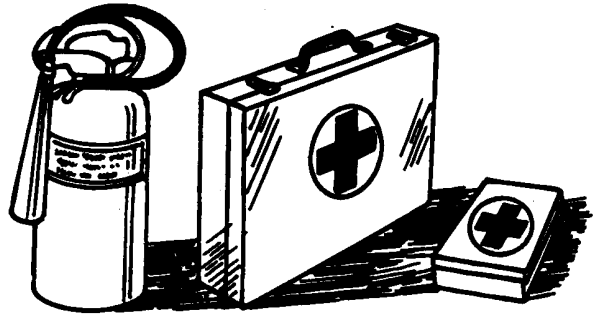
Wear close fitting clothing. Stop the engine, remove the keys and ensure drivelines have stopped before servicing or making any adjustments to the drivelines or in the general area of the drivelines.

GW44282,00000A3-19-05AUG13

flame, spark, or pilot light such as within a water heater or other appliance.

DX,FIRE1-19-12OCT11

## 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

## 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

## 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

## Do Not Open High-Pressure Fuel System



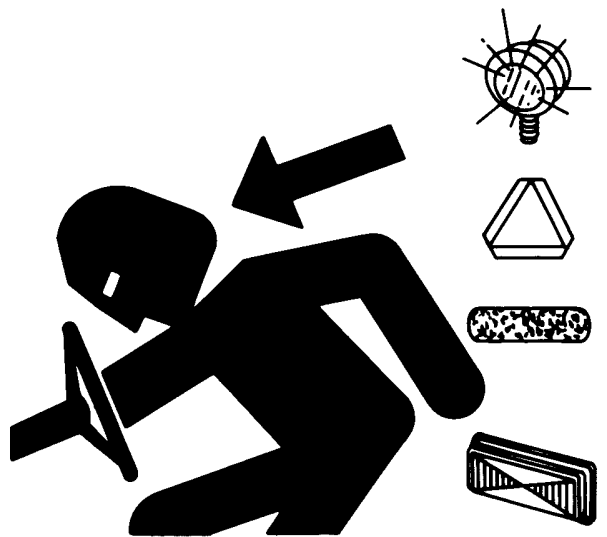
TS1343—UN—18MAR92

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

## Use Safety Lights and Devices



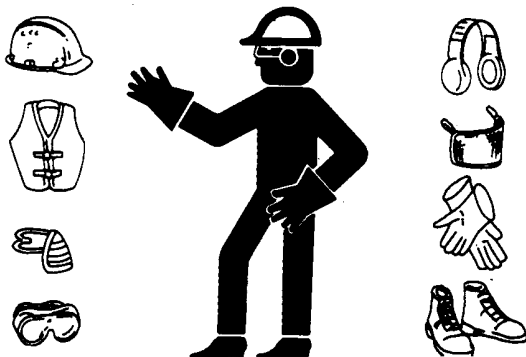
TS951—UN—12APR90

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

## Wear Protective Clothing



TS206—UN—15APR13

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

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

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

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

DX,WEAR-19-10SEP90

## Transport Windrower with Platform or Weight Box Attached

For proper ballast and steering control, always drive the windrower with a platform or weight box attached and properly ballasted.

Before transporting windrower, raise the platform or weight box and engage lift cylinder stops.

Before moving the windrower, check surrounding area for bystanders or obstructions. Use the horn as a warning immediately before starting the engine and then again when driving away.

OUO6064,0001233-19-28JUL14

## 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

## Remove Accumulated Crop Debris

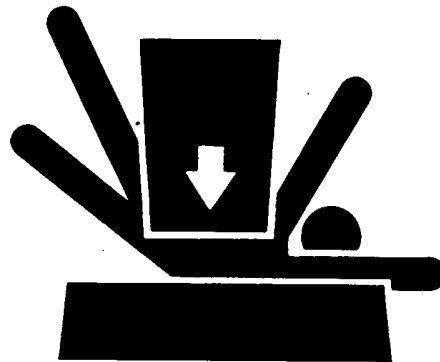


TS227—UN—15APR13

Build up of chaff and crop debris in engine compartment, on engine, on exhaust gas after treatment devices, and near moving parts is a fire hazard. Check and clean these areas frequently. Before performing any inspection or service, shut off engine, and remove key.

PP98408,000005D-19-09DEC13

## 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.

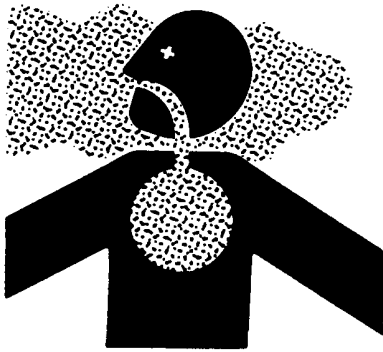
Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

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



## 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

**IMPORTANT:** Do not jump-start engines with arc welding equipment. Currents and voltages are too high and may cause permanent damage.

1. Disconnect the negative (-) battery cable(s).
2. Disconnect the positive (+) battery cable(s).
3. Connect the positive and negative cables together. Do not attach to vehicle frame.
4. Clear or move any wiring harness sections away from welding area.
5. Connect welder ground close to welding point and away from control units.
6. After welding, reverse Steps 1—5.

DX,VW,ECU02-19-14AUG09

## 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

## Welding Near Electronic Control Units



TS953—UN—15MAY90

## 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

## Service Accumulator Systems Safely



TS281—UN—15APR13

Escaping fluid or gas from pressurized hydraulic accumulator 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 hydraulic system before removing accumulator. Never attempt to relieve hydraulic system or accumulator pressure by loosening a fitting.

Accumulators cannot be repaired.

DX,WW,ACCLA-19-15APR03

## Use Proper Tools



TS779—UN—08NOV89

Use tools appropriate to the work. Makeshift tools and procedures can create safety hazards.

Use power tools only to loosen threaded parts and fasteners.

For loosening and tightening hardware, use the correct size tools. DO NOT use U.S. measurement tools on metric fasteners. Avoid bodily injury caused by slipping wrenches.

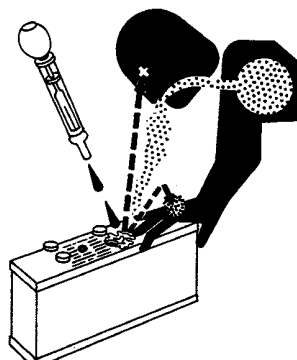
Use only service parts meeting John Deere specifications.

DX,REPAIR-19-17FEB99

## Handling Battery Safely



TS204—UN—15APR13



E51727—UN—15JUL02

**CAUTION:** Battery gas can explode. Keep sparks and flames away from battery. 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.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).

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

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

Avoid the hazard by:

1. Filling battery in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

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

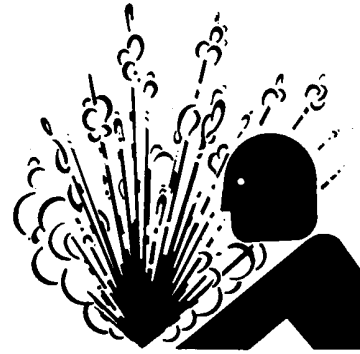
If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 quarts).
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.**

GW44282,00000A5-19-21JUN13

## 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 relieve pressure before removing completely.

RC48509,000041B-19-21JUN13

## 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

## Store Attachments Safely



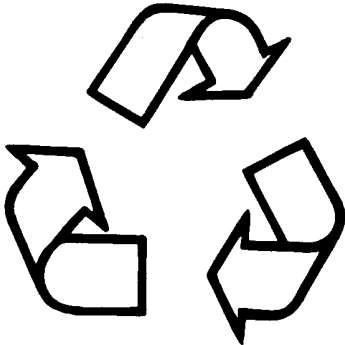
TS219—UN—23AUG88

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

## Practice Safe Service Procedures

**⚠ CAUTION:** To prevent bodily injury or damage to machine, do the following before servicing or repairing the windrower:

**IMPORTANT:** See directions on the decal for lock and unlock positions. Contact a dealer with any questions regarding the lift cylinder locks.

- Park on a firm and level surface.
- Ensure that the steering wheel is centered and locked.
- Place the ground speed lever (GSL) in the neutral-detent to activate the park brake.
- Disengage the platform drive.
- Wait until all moving parts have stopped.
- Lower the platform to the ground. If it is necessary to work under the platform, fully raise the platform and engage the platform lift cylinder stops to prevent accidental lowering.
- Idle a hot engine for 3—5 minutes before shutting down.
- Turn off the engine and remove the key.
- Block both sides of the drive tires or rear tires as required.
- Place the master battery disconnect switch to the off position.

- Disconnect the battery ground cable as required.

### Platform Lift Cylinder Stops

Lift cylinder stops are on the lift cylinders. **ALWAYS** engage the lift cylinder stops when working on or around a raised platform. It is not recommended to work under a raised platform. If it becomes necessary, the lift cylinder stops **MUST** be engaged to avoid death or serious injury.



E65093—UN—14JUN12

A—Platform Up Switch

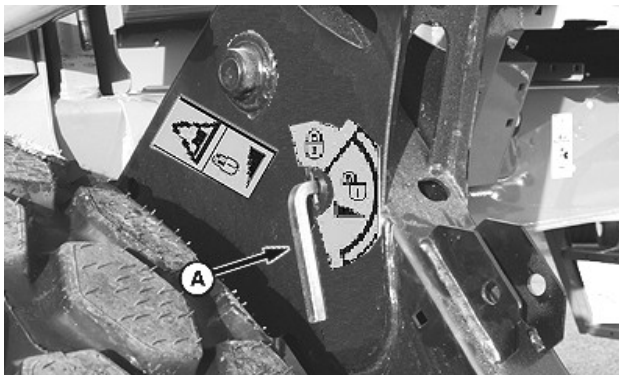
### To Engage the Platform Lift Cylinder Stops:

1. Press the platform up switch (A) to raise platform to maximum height.

If one end of the platform does not raise fully, the lift cylinders require rephasing.

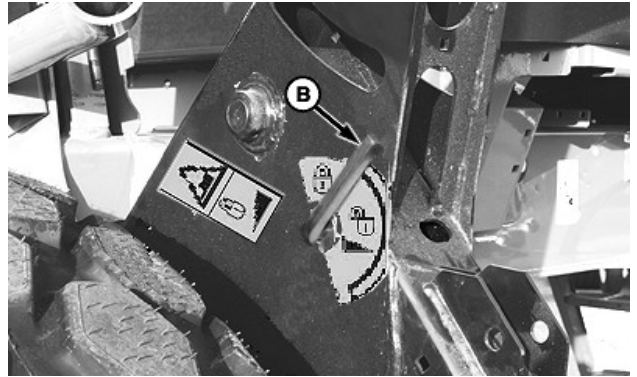
To rephase the cylinders:

- a. Press and hold the platform up switch (A) until both cylinders stop moving.
- b. Continue to hold the switch for 3—4 seconds. Cylinders are now phased.



E92510—UN—15OCT19

Lift Cylinder Unlocked



E92511—UN—15OCT19

Lift Cylinder Locked



E70528—UN—02AUG13

Cylinder Lock in Lock Position

- A—Lift Cylinder Unlocked
- B—Lift Cylinder Locked
- C—Cylinder Stop in Locked Position

2. To release and lower the cylinder stop (C), pull the cylinder lock lever (A) out and rotate towards the platform.

Cylinder lock lever is now in the locked position (B).

Repeat for the other lift cylinder.

GW44282,0000A1D-19-16DEC19

# Component Identification

## Components



*Left-Hand Side*

E92486—UN—09OCT19

A—Steps  
B—Operator and Maintenance Platform  
C—Hand Holds  
D—Lights

E—Operator Compartment  
F—Cab Door Latch Handle  
G—Engine Hood  
H—Tool Storage



E92487—UN—09OCT19

*Right-Hand Side*

A—StarFire™ 3000  
B—Field and Road Lights  
C—Hydraulic Center-Link  
D—Lift Arms  
E—Drive Wheel

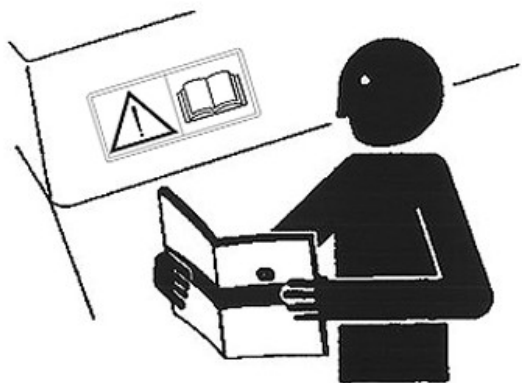
F—Maintenance Platform Steps  
G—Caster Wheel  
H—Maintenance Platform  
I—Maintenance Platform Hand Holds

GW44282,0000A14-19-16DEC19

# Safety Sign Location

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## Replace Safety Signs



E66739—UN—10AUG12

Replace missing or damaged safety signs. See Safety Sign Location in this manual for correct safety sign placement.

If panels or components with signs are replaced, order new signs from a dealer and install them in the appropriate positions.

There can be additional safety information contained on parts and components sourced from suppliers that are not reproduced in this Operator's Manual.

**IMPORTANT: Safety decals on the windrower are text-free. Confirm that all operators understand the meaning of these decals.**

GW44282,0000A20-19-06DEC19

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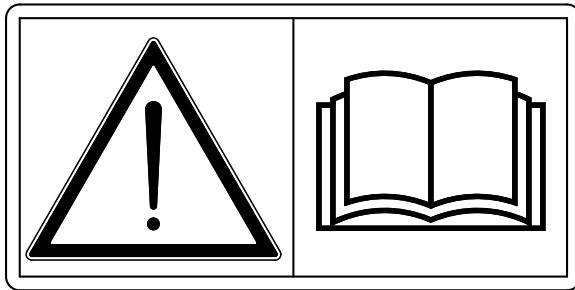
## Cab Door, Left-Hand Side



E66154—UN—27JUN12

- Use slow moving vehicle emblem and flashing warning lights when operating on roadways unless prohibited.

GW44282,0000A19-19-06DEC19



E66826—UN—19JUL12

Decal A

**(A) - Caution:** To avoid injury or death from improper or unsafe machine operation:

- Read the Operator's Manual and follow all safety instructions.
- Do not allow untrained persons to operate the machine.
- Review safety instructions with all operators every year.
- Ensure that all safety signs are installed and legible.
- Make certain that everyone is clear of the machine before starting the engine and during operation.
- Keep riders off the machine.
- Keep all shields in place and stay clear of moving parts.
- Disengage the platform drive, put the transmission in neutral, and wait for all movement to stop before leaving the operator's seat.
- Stop the engine and remove the key from the ignition before servicing, adjusting, lubricating, cleaning, or unplugging the machine.
- Engage platform cylinder stops to prevent lowering of platform or reel before servicing in the raised position.

## Cab, Right-Hand Side

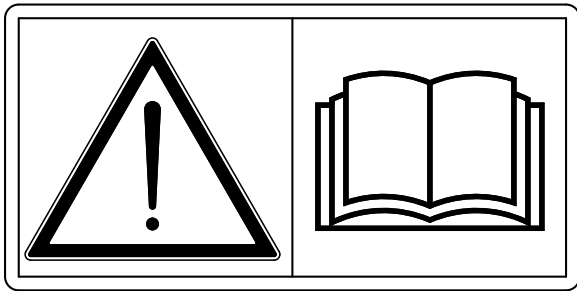


E66707—UN—20JUL12

*Cab (right-hand side)*

- Use slow moving vehicle emblem and flashing warning lights when operating on roadways unless prohibited.

GW44282,0000A1A-19-06DEC19



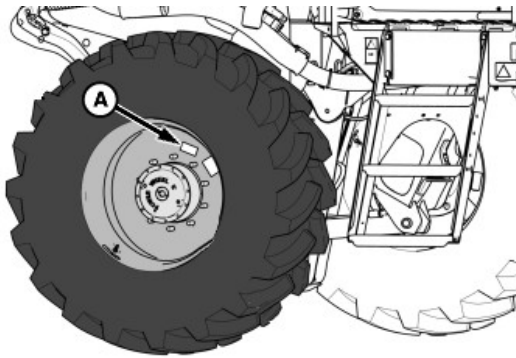
E66826—UN—19JUL12

*Decal A*

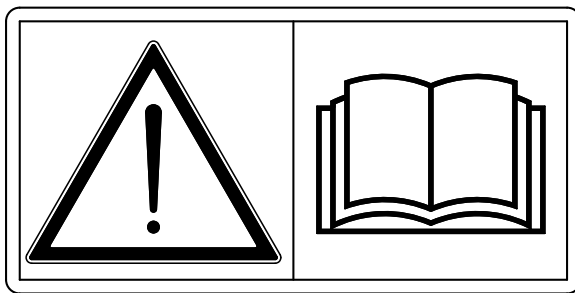
**(A) - Caution:** To avoid injury or death from improper or unsafe machine operation:

- Read the Operator's Manual and follow all safety instructions.
- Do not allow untrained persons to operate the machine.
- Review safety instructions with all operators every year.
- Ensure that all safety signs are installed and legible.
- Make certain that everyone is clear of the machine before starting the engine and during operation.
- Keep riders off the machine.
- Keep all shields in place and stay clear of moving parts.
- Disengage the platform drive, put the transmission in neutral, and wait for all movement to stop before leaving the operator's seat.
- Stop the engine and remove the key from the ignition before servicing, adjusting, lubricating, cleaning, or unplugging the machine.
- Engage platform cylinder stops to prevent lowering of platform or reel before servicing in the raised position.

## Drive Wheels, Both Sides



E92506—UN—15OCT19



E66826—UN—19JUL12

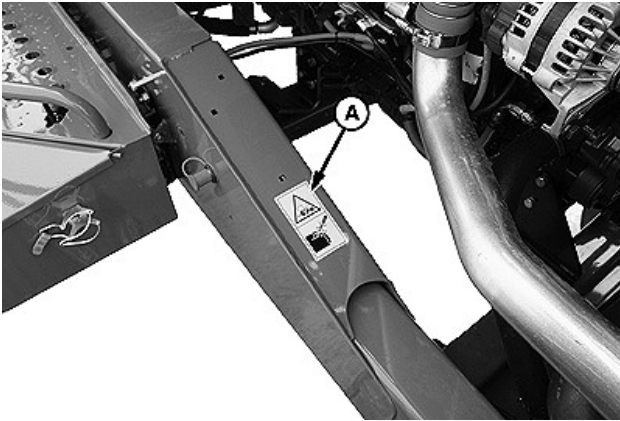
*Decal A*

**(A) - Caution:** To avoid injury or death from improper or unsafe machine operation:

- Read the Operator's Manual and follow all safety instructions.
- Do not allow untrained persons to operate the machine.
- Review safety instructions with all operators every year.
- Ensure that all safety signs are installed and legible.
- Make certain that everyone is clear of the machine before starting the engine and during operation.
- Keep riders off the machine.
- Keep all shields in place and stay clear of moving parts.
- Disengage the platform drive, put the transmission in neutral, and wait for all movement to stop before leaving the operator's seat.
- Stop the engine and remove the key from the ignition before servicing, adjusting, lubricating, cleaning, or unplugging the machine.
- Engage platform cylinder stops to prevent lowering of platform or reel before servicing in the raised position.
- Use slow moving vehicle emblem and flashing warning lights when operating on roadways unless prohibited.

GW44282,0000A1B-19-03DEC19

## Frame Rail, Left-Hand Side



E92507—UN—15OCT19

*Left-Hand Side Frame Rail*



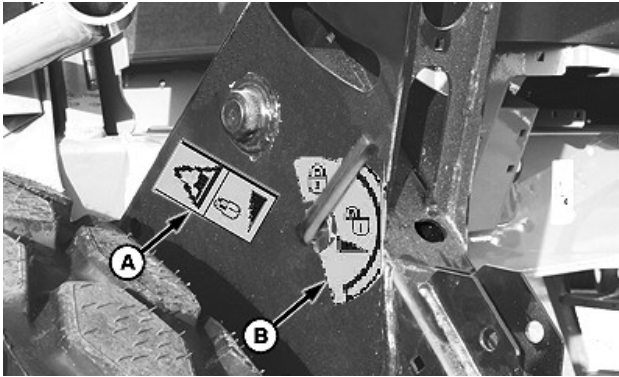
E92490—UN—11OCT19

*Decal A*

**(A) - Danger:** Start only from seat in park or neutral.  
Starting in gear can cause injury or death.

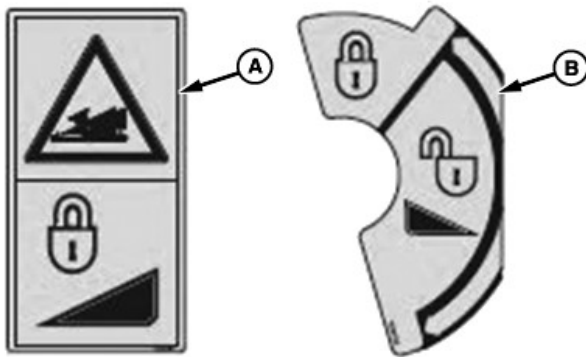
GW44282,0000A1C-19-06DEC19

## Lift Arm Cylinder Stops, Both Sides



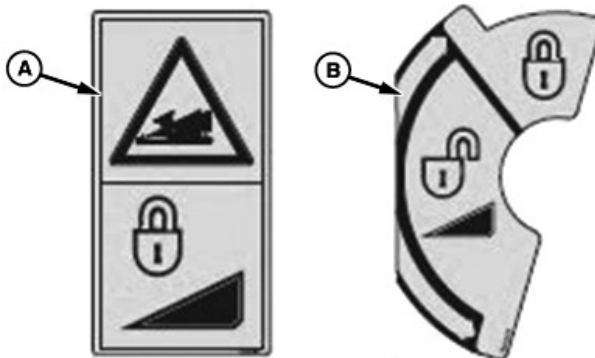
E92508—UN—15OCT19

Decals A and B (right-hand side shown)



E92500—UN—14OCT19

Right-Hand Side



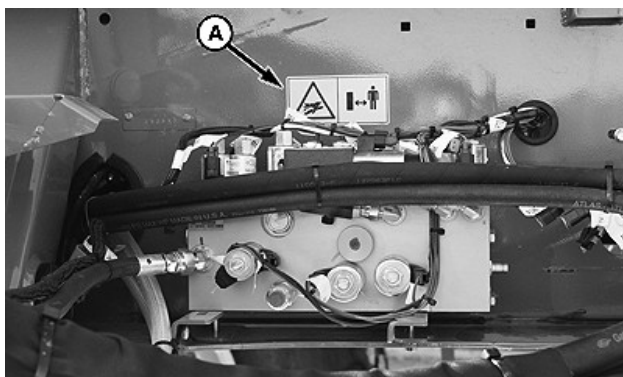
E92499—UN—14OCT19

Left-Hand Side

**(A and B) - Danger:** To avoid injury or death from the falling of a raised platform, fully raise the platform, stop the engine, remove the key, and engage the safety locks before going under the platform.

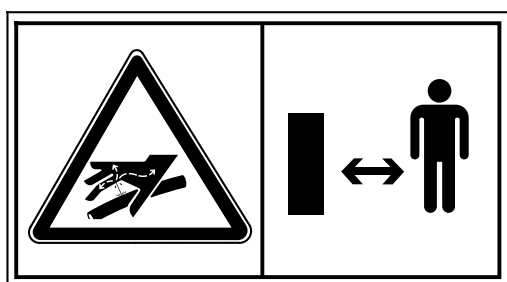
GW44282,0000A1E-19-13DEC19

## Hydraulic Pressure



E92512—UN—15OCT19

Hydraulic Valve Block



E66082—UN—21JUN12

Decal A



E66636—UN—13JUL12

Decal A



E66078—UN—21JUN12

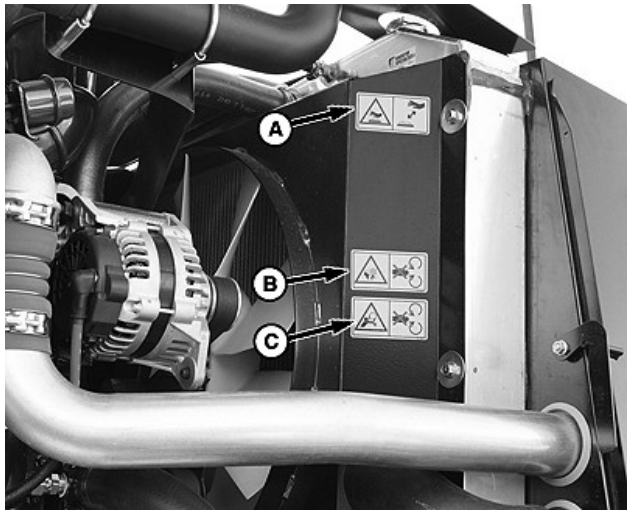
Hydraulic Oil Tank

### (A) - Warning: Do Not Go Near Leaks

- High-pressure oil easily punctures skin, causing serious injury, gangrene, or death.
- If injured, seek emergency medical help. Immediate surgery is required to remove oil.
- When checking for leaks, DO NOT use finger or skin.
- Lower load or relieve hydraulic pressure before loosening fittings.

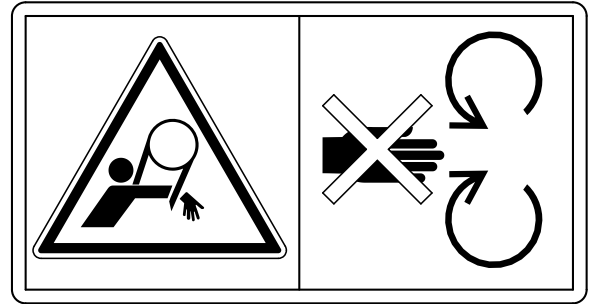
GW44282,0000A1F-19-06DEC19

## Engine Compartment



E66084—UN—21JUN12

Engine Compartment (left-hand side shown)



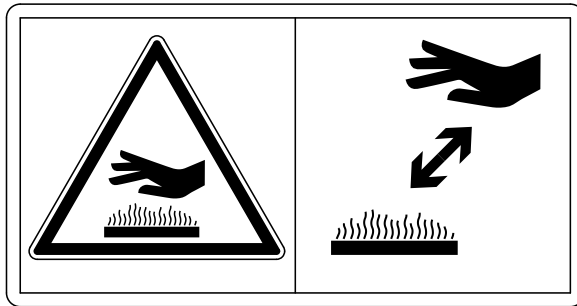
E66638—UN—13JUL12

Decal C

**(A) - Caution:** Hot surface. Surfaces and engine exhaust are hot.

**(B) - Warning:** Keep all shields in place. Keep hands and clothing away from rotating fan.

**(C) - Warning:** Rotating parts. Keep hands and clothing away from rotating parts. Stay clear when engine is running.



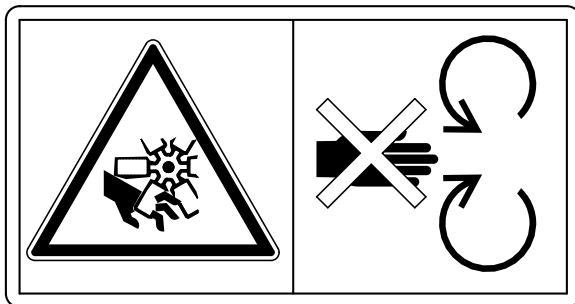
E66630—UN—13JUL12

Decal A



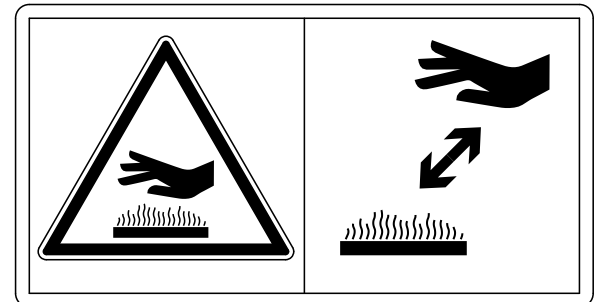
E66085—UN—21JUN12

Radiator



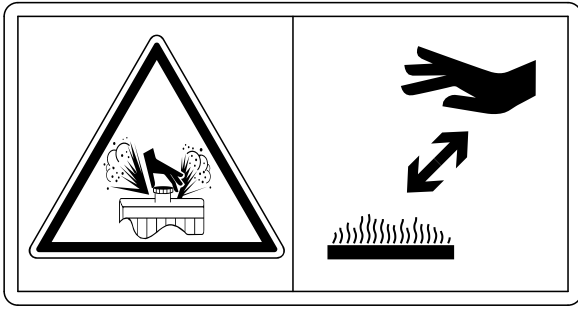
E66637—UN—13JUL12

Decal B



E66630—UN—13JUL12

Decal A



E66631—UN—13JUL12

*Decal B*

**(A) - Caution:** Hot surface. Surfaces and engine exhaust are hot.

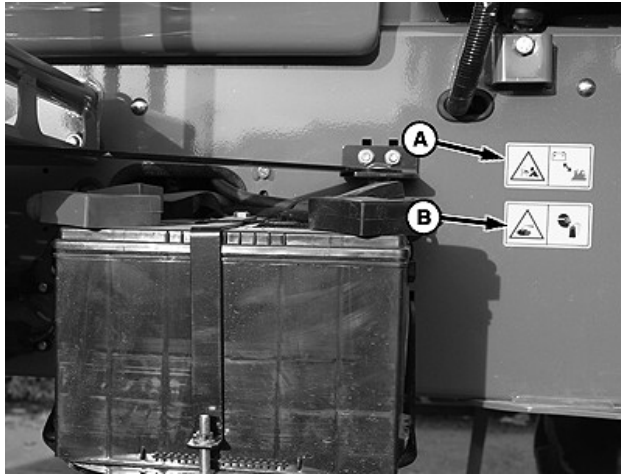
**(B) - Warning:** Coolant is under pressure and hot. Never remove radiator cap when engine is hot.

GW44282,0000A21-19-06DEC19

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## Batteries



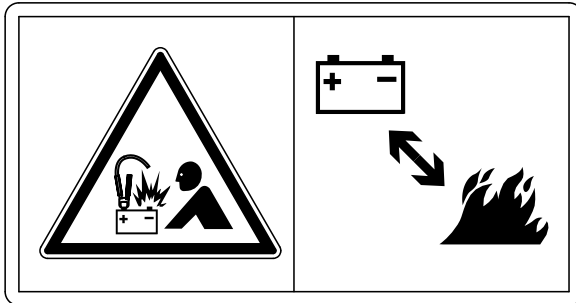
E66087—UN—21JUN12

Decals A and B

away from the battery. Refer to Operator's Manual for battery boosting and charging procedures.

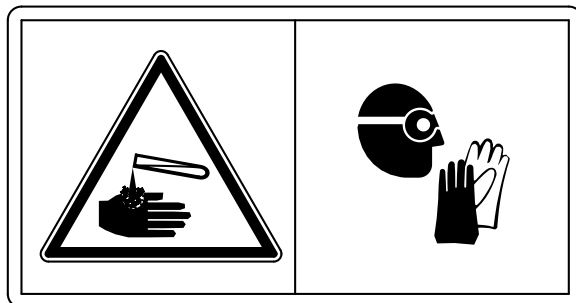
- **Corrosive and poisonous battery acid.** Acid severely burns your body and clothing.

GW44282,0000A22-19-06DEC19



E66634—UN—13JUL12

Decal A



E66635—UN—13JUL12

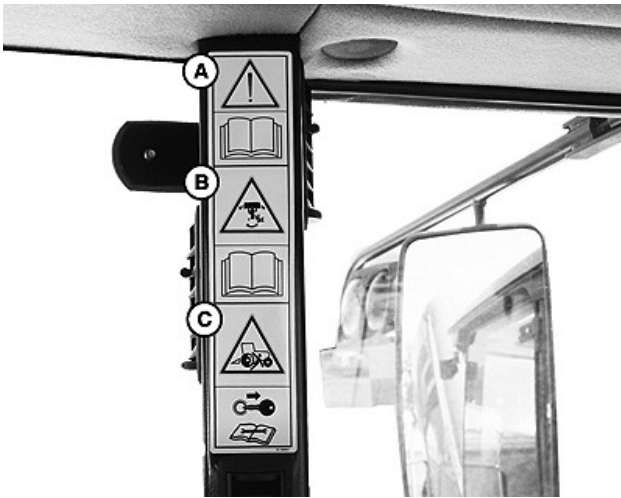
Decal B

**(A) - Warning:** Batteries contain acid and explosive gas. Explosions result from sparks, flames, or wrong cable connections. To connect jumper cables or charger, see manual for correct procedure. Failure to follow these instructions results in serious injury or death.

**(B) - Warning:** Prevent serious bodily injury caused by:

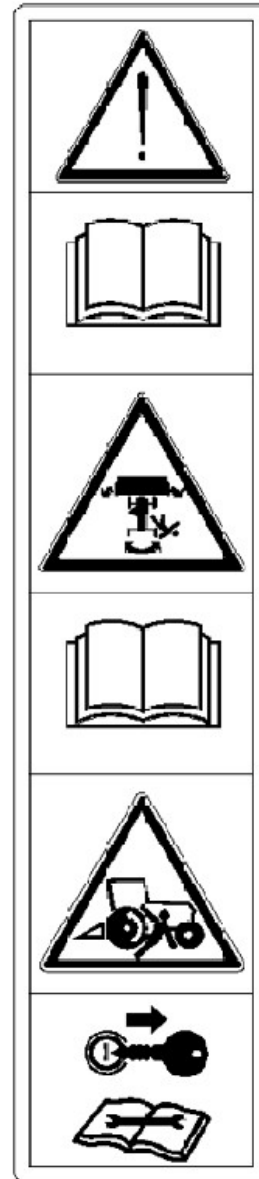
- **Explosive battery gases.** Keep sparks and flames

## Cab Interior Post, Left-Hand Side



E66081—UN—22JUN12

Cab Interior Post, Left-Hand Side



E92513—UN—15OCT19

Decals A, B, C

**(A) - Caution:** To avoid injury or death from improper or unsafe machine operation:

- Read the Operator's Manual and follow all safety instructions. If you do not have a manual, obtain one from a dealer.
- Operate the machine with trained persons only.
- Review safety instructions with all operators annually.
- Ensure that all safety signs are installed and legible.
- Make certain that everyone is clear of machine before starting the engine and during operation.
- Keep riders off the machine.
- Keep all shields in place and stay clear of moving parts.

- Before leaving the operator position, disengage the platform drive, activate the park brake by putting the ground speed lever in neutral-detent, and wait for all movement to stop.
- Use slow moving vehicle emblem and flashing warning lights when operating on roadways unless prohibited by law.

**(B) - Warning:** Machine moves sideways if steering wheel is turned while the engine is running, even if the ground speed control lever is in neutral. Be sure that everyone is clear of the machine before turning the wheel. Steering is opposite to normal when backing up. Turn the bottom of steering wheel in the direction you want to go.

**(C) - Danger:** To prevent machine runaway:

- Stop the engine before adjusting the steering linkage or neutral interlock.
- Disengage and shut off all engine power before servicing or unclogging machine.
- Do not rewire or misadjust the neutral interlock so the engine starts with the controls out of neutral.
- Do not try to start the engine with someone under or near the machine.
- Refer to the Operator's Manual for starting and adjustment procedures.

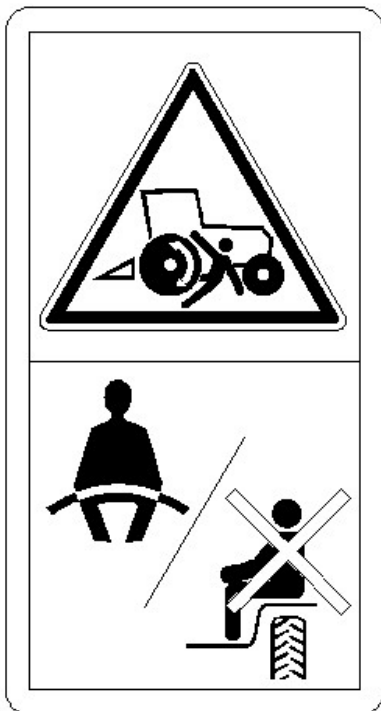
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GW44282,0000A23-19-13DEC19

## Cab Interior Post, Lower Left-Hand Side

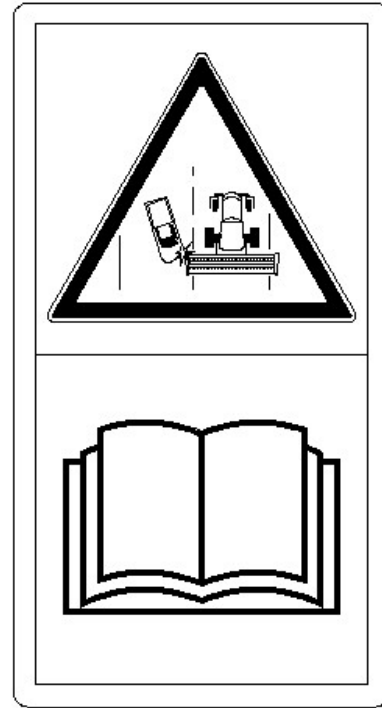


E66089—UN—27JUN12  
Cab Interior Post, Lower Left-Hand Side



Decal A

E66640—UN—19JUL12



Decal B

E66641—UN—19JUL12

**(A) - Warning:** The training seat is provided for an experienced operator of the machine when a new operator is being trained.

The training seat is not intended for passengers or for use by children.

Use the seat belt whenever operating the machine or riding as a trainer.

Keep all riders off the machine.

**(B) - Warning:** Collision between windrower and other vehicles results in injury or death.

### When driving windrower on public roadways:

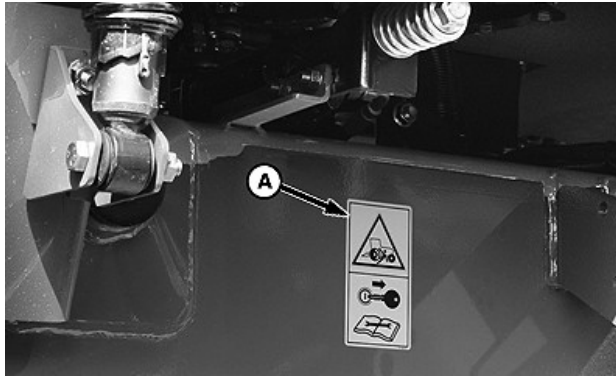
Obey all highway traffic regulations in your area. Use pilot vehicles in front and rear of the windrower if necessary by law.

Use slow moving vehicle emblem and flashing warning lights unless prohibited by law.

If width of attached platform impedes other vehicle traffic, remove the platform and install an approved weight box. Refer to the Operator's Manual for safely towing platform procedures.

GW44282,0000A24-19-06DEC19

## Frame, Under Cab



E92514—UN—15OCT19

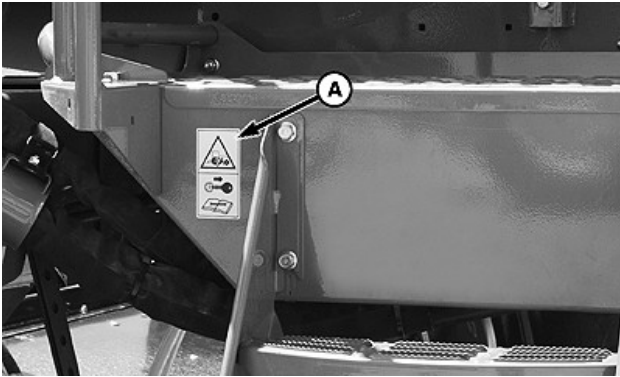
*Frame, Under Cab*

**(A) - DANGER:** To prevent machine runaway:

- Stop the engine before adjusting the steering linkage or neutral interlock.
- Disengage and shut off all engine and motor power before servicing or unclogging the machine.
- Do not rewire or misadjust the neutral interlock so engine starts with the controls out of neutral.
- Do not try to start the engine with someone under or near the machine.
- Refer to the Operator's Manual for starting and adjustment procedures.

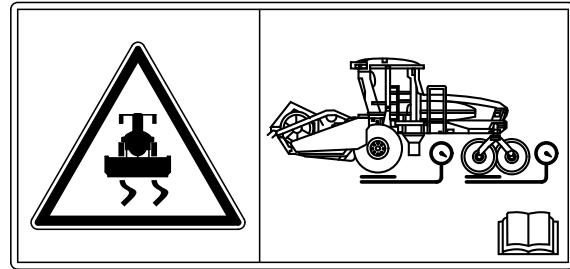
GW44282,0000A25-19-19DEC19

## Platform Steps, Left-Hand Side



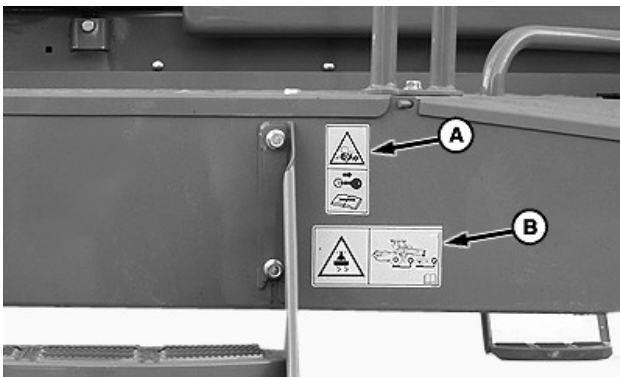
Decal A

E92515—UN—15OCT19



Decal B

E66629—UN—13JUL12



Decals A and B

E92516—UN—16OCT19

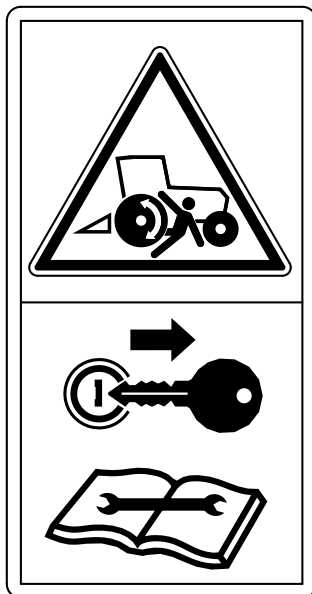
### (A) - Danger: To prevent machine runaway:

- Stop the engine before adjusting the steering linkage or neutral interlock.
- Disengage and turn off all engine and motor power before servicing or unclogging the machine.
- Do not rewire or misadjust the neutral interlock so engine starts with the controls out of neutral.
- Do not try to start the engine with someone under or near the machine.
- Refer to the Operator's Manual for starting and adjustment procedures.

### (B) - Caution: To prevent machine damage and or loss of control, ensure that machine is equipped with weights within the following limits:

Max GVW (includes mounted implements)		kg	lb
		9750	21 500
Max CGVW (includes towed and mounted implements)		10 480	23 100
Weight on Both Drive Wheels	Maximum	8500	18 750
	Minimum	4570	10 070
Max Weight on Both Caster Tires		2750	6050

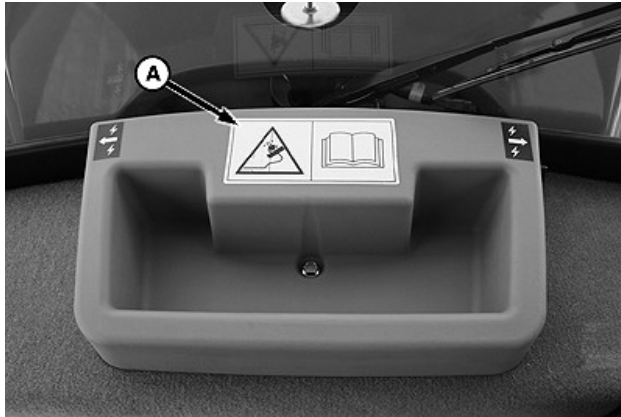
GW44282,0000A26-19-13DEC19



Decal A

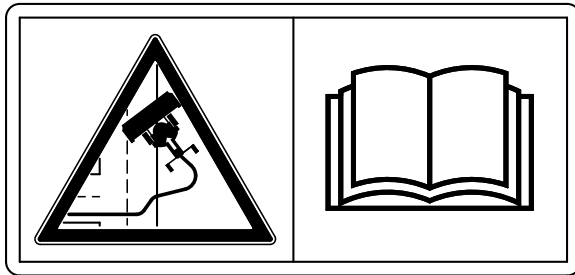
E66122—UN—22JUN12

## Storage Compartment



E66094—UN—27JUN12

Decal A



E66827—UN—19JUL12

Decal A

**(A) - Warning:** To avoid death or serious injury from loss of control:

- Do not make abrupt changes in steering direction.
- Anticipate turns by slowing down well in advance.
- Do not rapidly accelerate or decelerate while turning.
- Limit speed to maximum 32 km/h (20 mph) when towing a platform. To ensure steering control, refer to the Operator's Manual for adding weight to drive wheels.

### When traveling on steep slopes:

- 1.Reduce speed and lower the platform.
- 2.Move the ground speed lever to the slow end of range.
- 3.Shift the high-low speed control into low range.

With platform removed, steering control is reduced if weight is not added to the drive wheels.

### When traveling without a platform or weight system:

- 1.Operate in low speed range.
- 2.Avoid slopes.

- 3.Do not tow.

GW44282,0000A27-19-06DEC19

## Emergency Exit



E79571—UN—20JUL15

Decal A



E79525—UN—20JUL15

Decal A

To exit the machine via the secondary door, follow the arrow.

GW44282,0000A28-19-16OCT19

# Operating Symbols, Terms and Definitions

## Operating Symbols

**CAUTION:** It is the responsibility of the operator to read and understand this manual completely before operating the windrower. Contact a dealer if you have any questions about the operation or maintenance of the windrower.

## Symbol Definitions

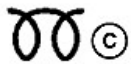
The following symbols are used to depict machine and component functions:



A



B



C



D



E



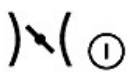
F



G



H



I



J



K



L



M

E61962—UN—15AUG12

### Engine Function Symbols

- A—Electrical Power Accessories
- B—Engine Coolant Temperature
- C—Engine Glow Plugs
- D—Engine Malfunction
- E—Engine RPM
- F—Engine Run
- G—Engine Start
- H—Engine Stop
- I—Engine Throttle
- J—Engine Urgent Stop
- K—Fast
- L—Slow
- M—Water in Fuel

Most of these symbols appear and display on the console display module, console, or operator's station.

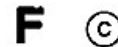
Learn the meaning of these symbols before operating the windrower.



A



B



C



D



E



F



G



H



I



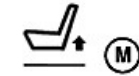
J



K



L



M



N



O



P



Q



R



S



T



U

E61963—UN—15AUG12

### Windrower Operating Symbols

- A—Turn Signals
- B—Hazard Warning Lights
- C—Forward
- D—Neutral
- E—Reverse
- F—Headlights Low Beam or Road Lights
- G—Headlights High Beam or Road Lights
- H—Work Light
- I—Lighter
- J—Fresh Air
- K—Blower
- L—Windshield Wiper
- M—Seat Height Up
- N—Seat Height Down
- O—Seat Fore and Aft
- P—Seat Fore and Aft Isolator
- Q—Seat Back Fore and Aft
- R—Seat Ride Damping
- S—Cab Temperature Control
- T—Air Conditioning
- U—Recirculate





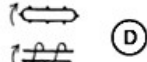
(A)



(B)



(C)



(D)



(E)



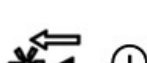
(F)



(G)



(H)



(I)



(J)



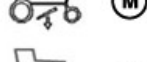
(K)



(L)



(M)



(N)



(O)



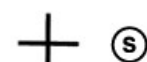
(P)



(Q)



(R)



(S)



(T)



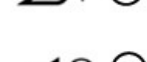
(U)



(V)



(W)



(X)



(Y)



(1)



(2)



(3)

G—Reel Speed  
H—Reel Down  
I—Reel Forward  
J—Reel Up  
K—Reel Rearward  
L—Display Select  
M—WMA Down  
N—WMA Draper Speed  
O—Platform Tilt Up  
P—Platform Down  
Q—Platform Up  
R—Platform Tilt Down  
S—Increase  
T—Decrease  
U—Deck Shift  
V—Float  
W—Platform Engage  
X—Platform Disengage  
Y—Push Down Platform Disengage  
1—Pull Up Platform Engage  
2—Platform Reverse  
3—WMA Up

GW44282,0000A7B-19-19DEC19

## Operating Definitions and Terms

### Before Operating:

Become familiar with the Operator's Manual, symbols, terms, machine decals, and the Safety section of this manual.

Remove foreign objects from machine.

Become familiar with all controls effecting machine functions.

Make sure that everyone is clear of the machine. Never allow riders on machine or near machine while it is running.

Be sure that shields and guards are in place and in good condition before starting.

These terms are used throughout this manual. Know and understand these terms and definitions before operating the windrower. If you do not understand a term or definition, contact your dealer BEFORE operation.

**CAUTION:** It is the responsibility of the operator to read and understand this manual completely before operating the windrower. Contact your dealer if you have any questions about the operation or maintenance of the windrower.

### Platform Function Symbols

A—Program  
B—Platform Index  
C—Return to Cut  
D—Conveyor or Auger Speed  
E—Float Left  
F—Float Right

TERM	DEFINITION
AFT	Rearward
API	American Petroleum Institute
APT	Articulating Power Tongue
ASTM	American Society Of Testing And Materials
Cab-Forward	Windrower operation with the operator's station facing the direction of travel.
CDM	Cab Display Module
Center-Link	A hydraulic cylinder or turnbuckle type link between platform and machine that tilts the platform.

## *Operating Symbols, Terms and Definitions*

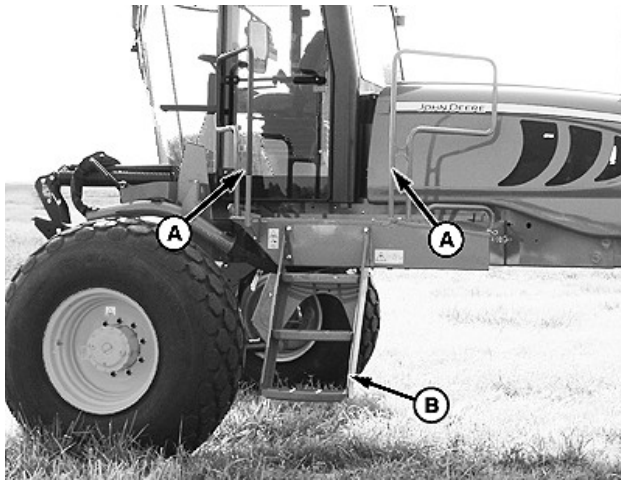
<b>TERM</b>	<b>DEFINITION</b>
Detent	A notch or position built into the control to HOLD the position or placement.
DK	Double Knife
ECM	Engine Control Module
GSL	Ground Speed Lever (referred to as hydrostatic drive lever or multi-function lever)
GVW	Gross Vehicle Weight
CGVW	Combined Gross Vehicle Weight
Platform	A machine that cuts and lays crop into a windrow and is attached to a self-propelled windrower.
ISC	Intermediate Speed Control
Mower Conditioner	A tractor drawn machine that cuts and conditions hay.
N·m	Newton-meter
N-Detent	The position of the GSL that locks the windrower into park.
PPM	Parts Per Million
PSI	Pounds Per Square Inch
PTO	Power Take-Off
RPM	Revolutions Per Minute
SAE	Society Of Automotive Engineers
SCA	Supplemental Coolant Additive
SK	Single Knife
SPM	Strokes Per Minute
Self-Propelled Windrower	Self-propelled machine consisting of a power unit with a platform or conditioner.
Windrower	Power unit of a self-propelled platform.
WCM	Windrower Control Module

OUC6064,0001237-19-28JUL14

# Controls and Instruments

## Operator's Station Entrance

**⚠ CAUTION:** Do not jump off the steps when exiting the windrower.



E76338—UN—12AUG14



E66156—UN—28JUN12



E66157—UN—28JUN12

A—Hand Holds  
B—Steps  
C—Cab Door Latch Handle  
D—Door Release Lever

To enter the cab, use the hand holds (A) and steps (B) to reach the platform.

Enter and exit the cab using a three point contact method.

When exiting the platform and steps, turn around so you are facing the machine and use the three point contact method. Do not jump off the steps.

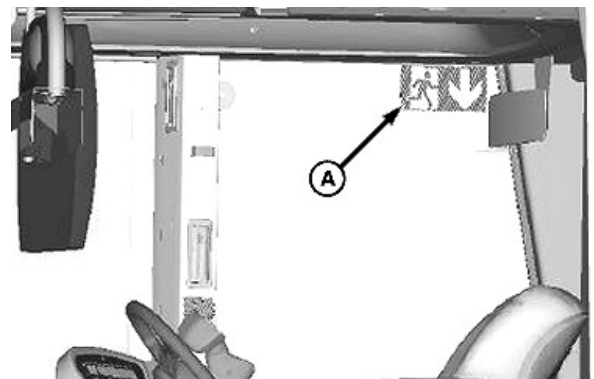
To enter the cab, grasp the door handle (C) and push the lock mechanism.

Use ignition key to lock cab.

To exit the cab or unlock the door from the full open position, pull up on the interior door release handle (D).

OUO6064,0001238-19-12AUG14

## Operator's Station Emergency Exit

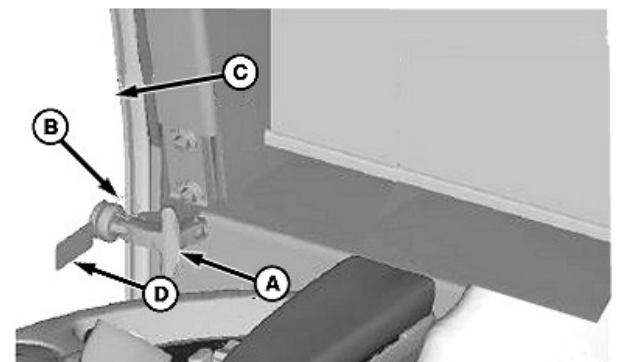


E79574—UN—23JUL15

### A—Safety Sign

Emergency exit is on the right-hand side of the cab. An emergency exit sign (A) is at top of window.

Open emergency exit window as follows:



E79627—UN—05AUG15

A—Window Latch  
B—Pin  
C—Window  
D—Instruction Decal

1. Release the window latch (A).
2. Remove pin (B).

3. Push the window (C) open.

GW44282,0000A82-19-16DEC19

## Header Controls

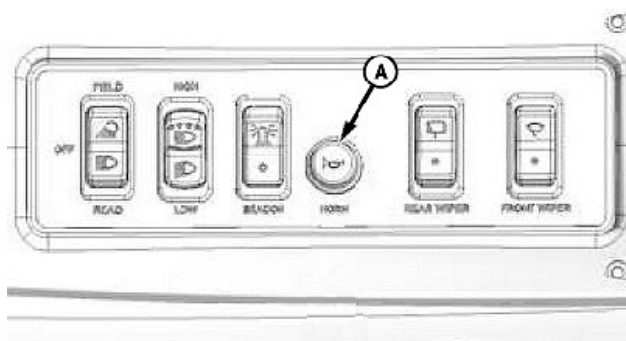
The Operator can control the header attached to the windrower by using the operator's console and the switches on the ground speed lever (GSL) handle.

*NOTE: Some features are only available when the certain optional equipment is installed. Some controls may be installed but it is nonfunctional for certain header models.*

Refer to operation section or instructions on operating specific header models.

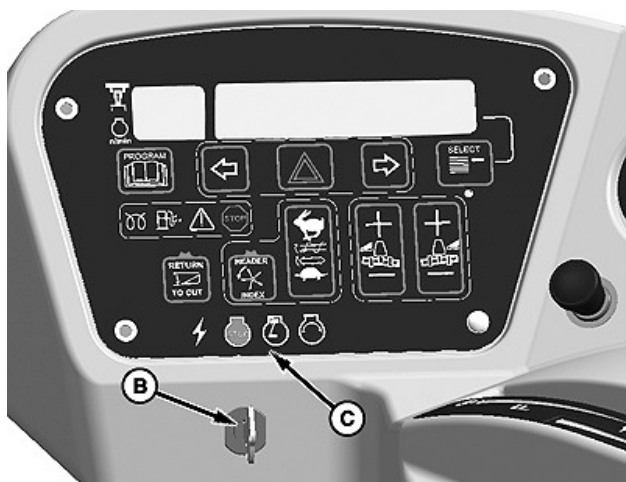
WKJQUWJ,0000D86-19-08MAR22

## Ignition Switch and Horn



E92706—UN—06NOV19

Overhead Control Panel



E61019—UN—19MAR12

Cab Display Module

- A—Horn Button
- B—Ignition Switch
- C—Ignition Switch Instructional Decal

**CAUTION:** To clear people away from the windrower, sound the horn before starting the engine.

### Horn

Horn is powered and functional as long as there is battery power. The ignition switch does not need to be on to sound the horn.

Press the horn button (A) to sound the horn.

### Ignition Switch

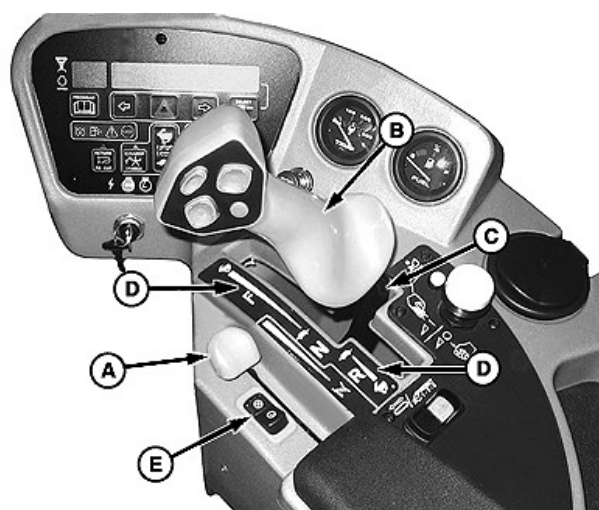
The ignition switch (B) is on the operator console just below the cab display module.

Instructional decal (C) for the ignition switch is located just above the switch.

*NOTE: The master disconnect switch must be on for the horn to be functional.*

GW44282,0000A16-19-16DEC19

## Ground Drive and Engine Speed Controls



E61020—UN—19MAR12

Throttle and Ground Speed Controls

- A—Throttle Lever
- B—Ground Speed Lever
- C—Ground Speed Lever in Neutral-Detent Position
- D—Ground Speed Instructional Decals
- E—Ground Speed Range Switch

Throttle - Controls engine rpm.

Full Throttle - Push lever forward.

Idle - Pull lever back.

Ground Speed Lever (GSL) - The GSL is used for machine direction, and the switches on the GSL control various platform functions.

F - Forward - Pull the lever out of neutral-detent and push forward for forward operation.

**N** - Neutral-Detent - Engages the neutral interlock and applies the park brake when the steering is locked in the center.

**R** - Reverse - Pull the GSL out of the neutral-detent and pull back for rearward operation. Always make sure that the area to the rear is clear of all personnel and objects before engaging in the reverse direction.

Ground Speed Range Switch - The two-position rocker switch shifts the transmission speed range.

**H** - 0—37 km/h (0—23 mph) Engine-Forward Only / 0—25.7 km/h (0—16 mph) Cab-Forward Only.

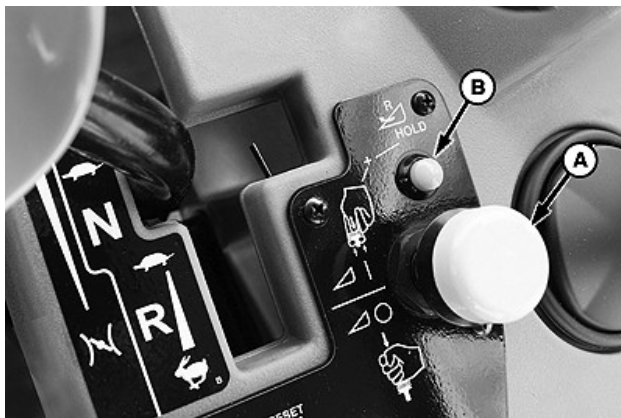
**L** - 0—17.7 km/h (0—11 mph).

GW44282,0000A17-19-16DEC19

## Platform Drive Switch

**CAUTION:** Always move the throttle lever back to idle before engaging the platform drive.

Do not engage the platform with the engine at full rpm.



E61022—UN—13JUN12

Platform Drive Switch

**A**—Platform Drive Switch

**B**—Platform Drive Reverse Switch

The platform drive switch (A) engages and disengages the platform.

To engage - Push the center and pull up.

To disengage - Push down.

**NOTE:** Operator must be in the seat to engage the platform drive. Platform drive disengages if the operator leaves the seat.

Platform drive disengages if the engine is started with the platform switch engaged. Disengage and then engage the switch to start the platform.

## Platform Reverse Option

To engage - Push and hold the reverse button switch (B), then engage the platform drive switch.

To disengage - Release the reverse button switch (B).

**NOTE:** The optional hydraulic reversing kit must be installed on draper platforms with a conditioner and on auger platforms.

GW44282,0000A29-19-16DEC19

## Ground Speed Lever Platform Controls

The ground speed lever (GSL) has switches designed in the handle to allow finger tip control of the platform functions.

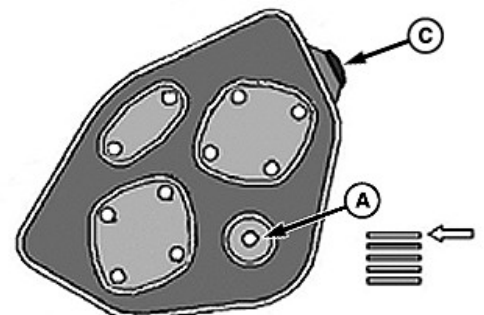
All switches are the momentary type.

A decal that identifies the switch function is on the right-hand side cab post above the operator console.

These switches control the following and are explained in this section:



E61002—UN—13MAR12



E76350—UN—25AUG14

**A**—Display Selector Switch

**B**—Cab Display Module Upper Line

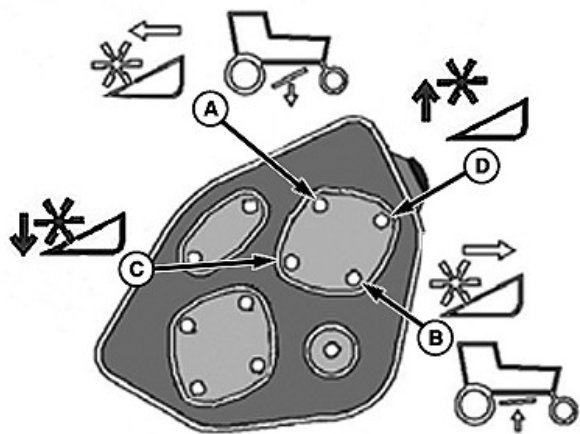
**C**—AutoTrac™ Resume Button

- Display Selector Switch

To view the display upper line (B), press the display selector switch (A) on the GSL.

- **AutoTrac™ Resume Button (If Equipped)**

AutoTrac™ resume button (C) activates or deactivates the AutoTrac™ system.



E61004—UN—15MAR12

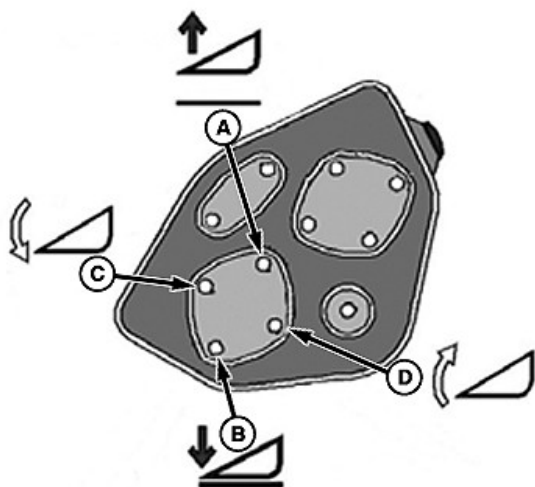
Reel Function Switches

- A—Reel Forward
- B—Reel Aft
- C—Reel Down
- D—Reel Up

- **Reel Position Switches**

To move the reel to the desired position, press and hold the appropriate switch. Release the switch at the desired position.

**NOTE:** Reel position switches function only on the draper platforms.

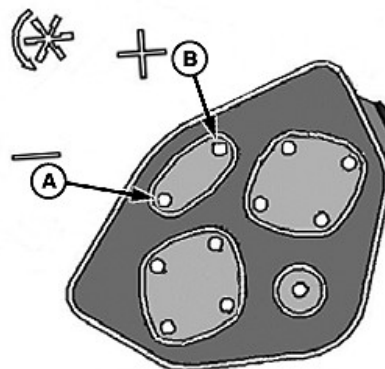


E61005—UN—15MAR12

- A—Platform Up
- B—Platform Down
- C—Platform Tilt Down
- D—Platform Tilt Up

**Platform Position Switches**

To move the platform to the desired position, press and hold the appropriate switch. Release the switch at the desired position.



E61007—UN—15MAR12

- A—Slow
- B—Fast

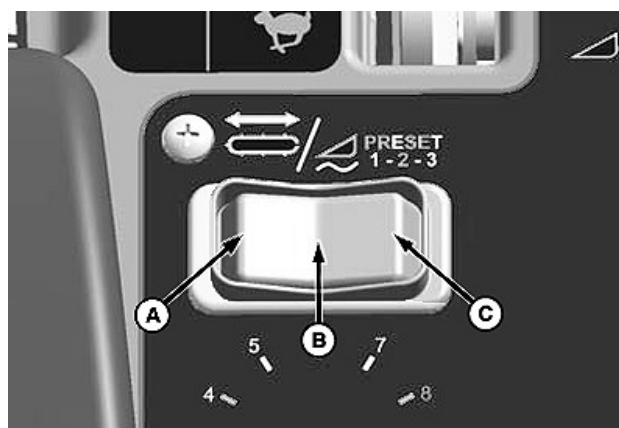
**Reel Speed Switches**

To change the reel speed, press and hold switch (A) for a slower speed or switch (B) for a faster speed. Release the switch at the desired speed.

GW44282,0000A2A-19-19DEC19

**Deck Shift Draper Platform Option**

The feature allows the operator to change the windrow opening of the platform from inside the cab. Windrowing to the left, center, or right can be controlled using this console switch.



E61009—UN—28JUN12

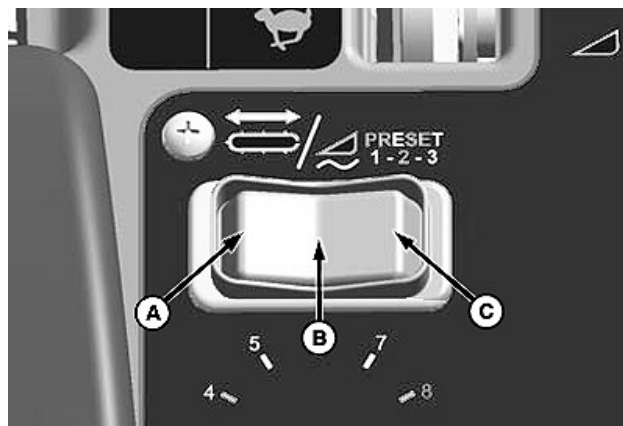
- A—Left Side Delivery
- B—Center Delivery
- C—Right Side Delivery

OUC06064,000123D-19-28JUL14

## Platform Float Pressure Adjust

To engage the float preset, use this switch and one of three settings .

(See Adjusting Platform Float in Operation Section.)



E61009—UN—28JUN12

- A—Float Preset 1
- B—Float Preset 2
- C—Float Preset 3

OUC6064,000123E-19-28JUL14

## Windrow Merger Attachment or Swath Roller Switch



E61010—UN—28JUN12

- A—Windrow Merger Attachment Down
- B—Windrow Merger Attachment Up
- C—Swath Roller Down
- D—Swath Roller Up

### Windrow Merger Attachment (WMA)

WMA deck is raised or lowered when switch is installed and programmed.

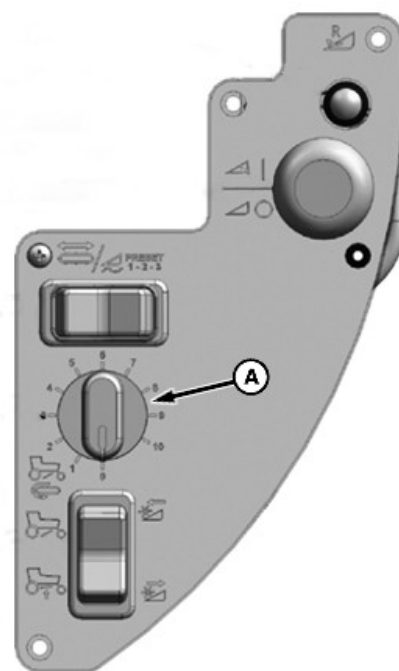
Use switch in lieu of the WMA switches on the ground speed lever.

## Swath Roller

Roller is raised or lowered when switch is pressed.

OUC6064,000123F-19-12AUG14

## Windrow Merger Attachment Draper Speed —If Equipped



E66159—UN—02JUL12

### A—Rotary Switch

Turn rotary switch (A) clockwise to increase speed or counter clockwise to decrease speed. Speed settings on dial are numerical from 1 to 10.

OUC6064,0001240-19-12AUG14

## Cab Display Module

The cab display module (CDM) allows the operator to control and view the engine, windrower, and platform functions.

For operation of functions and switches, see Operating Windrower and Display Screens and Programming sections in this manual.



CDM

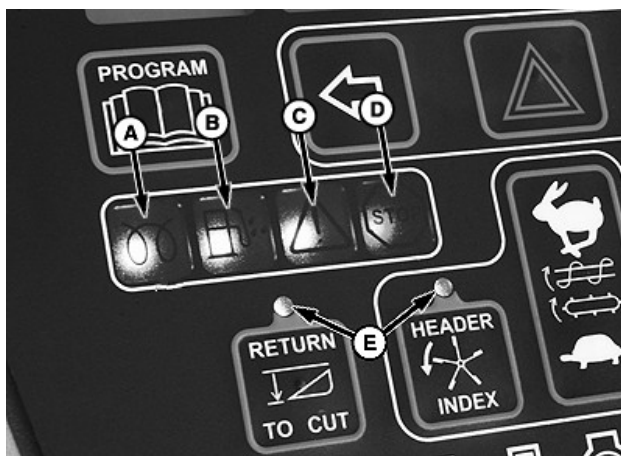
E92531—UN—24OCT19

- A—Display of Engine, Windrower, and Platform Functions  
 B—Upper Line Displays  
 C—Lower Line Displays  
 D—Right Turn Signal Switch and Select Menu Direction  
 E—Left Turn Signal Switch and Select Menu Direction  
 F—Left Float Selector Switch  
 G—Right Float Selector Switch

Other switches and functions of the CDM are discussed in this section.

GW44282,000A2B-19-17DEC19

## Engine Warning Lights



E77047—UN—16SEP14

- A—Engine Preheat  
 B—Water In Fuel  
 C—Caution  
 D—Stop  
 E—Platform Return To Cut and Platform Index

This portion of the Cab Display Module (CDM) displays engine warning lights.

the following chart is the keyed designation of the

warning light, color displayed and if an audible alarm is present;

*NOTE: Warning description is also displayed on the CDM screen.*

KEY	FUNCTION	COLOR	ALARM
(A)	Engine Preheat	Yellow	No
(B)	Water in Fuel	Yellow	Yes
(C)	Caution	Yellow	Yes
(D)	Stop	Red	Yes

When the key switch is turned to ON the four engine warning lights (A—D), Return To Cut, and Platform Index lights (E) illuminate briefly.

OUO6064,0001242-19-16SEP14

## Cab Display Module Select Switch



E61029—UN—22MAR12

- A—Cab Display Module Select Switch  
 B—Ground Speed Lever Display Switch

Use the cab display module select switch (A) to select and view lower line information on the display.

The ground speed lever switch (B) selects and views upper line information.

OUO6064,0001243-19-29JUL14

## Voltage Display

Cab display module (CDM) displays the electrical system voltage when this option is selected with the SELECT button on the ground speed lever (GSL) handle or the SELECT switch on the CDM.



Ignition State	Engine State	Reading (V)	Indicated Condition
ON	Running	13.8–15.0	The electrical system is working as expected.
		> 16.0	The regulator is out of adjustment.
		< 12.5	The alternator not working, or the regulator out of adjustment.
	Shut Down	12.0	The electrical system is working as expected.

WKJQUWJ,0000D7B-19-03MAR22

## Engine Warning Lights



E77047—UN—16SEP14

A—Engine Preheat

B—Water in Fuel

C—Caution

D—Stop

E—Platform Return-To-Cut and Platform Index

This portion of the cab display module (CDM) displays the engine warning lights.

The following chart indicates the keyed designation of warning light, color displayed, and if an audible alarm is present.

**NOTE:** Warning description is also displayed on the CDM module.

KEY	FUNCTION	COLOR	ALARM
(A)	Engine preheat	Yellow	No
(B)	Water in fuel	Yellow	Yes
(C)	Caution	Yellow	Yes
(D)	Stop	Red	Yes

When the key is turned to on, four engine warning lights (A—D) and return-to-cut, and platform index lights (E) briefly illuminate.

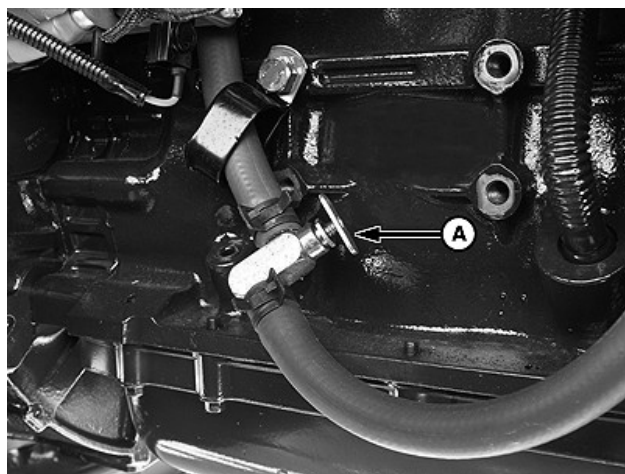
WKJQUWJ,0000D7C-19-03MAR22

## Cab Temperature Controls

A climate control system controls the cab environment and provides clean, air conditioned or heated air for the operator.

The heater, evaporator, and blower assemblies are located under the cab floorboard and are accessible from under the windrower.

### Heater Shutoff Valve



E61133—UN—07JUN12

Heater Shutoff Valve



E71380—UN—23SEP13

Air Vent

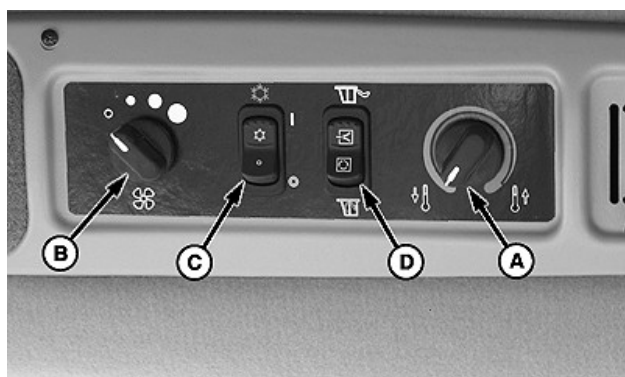
A—Heater Shutoff Valve  
B—Air Vent

Shutoff valve (A) at the engine allows the cab heater to be isolated from the engine coolant.

Valve must be open to provide heat to the cab. Close the valve for maximum cooling.

### Air Distribution

Cab air distribution is controlled through adjustable air vents (B) in the cab posts. The vents provide the windows and the operator ventilation.



Climate Panel

E61131—UN—07JUN12

- A—Temperature Control Switch
- B—Blower Switch
- C—Air Conditioning Switch
- D—Fresh Air Switch

**IMPORTANT:** To distribute the refrigerant oil throughout the air conditioning system, perform the following steps when starting the windrower after more than one week of storage.

1. Ensure that the heater shutoff valve at the engine is open.
2. Turn the blower switch (B) to the first position, turn the temperature control switch (A) to the maximum heating, and turn the air conditioning control (C) to off.
3. Start the engine and operate at a low idle until the engine is warm.
4. Click the air conditioning switch from off to on for 1 second, then back to off for 5—10 seconds. Repeat this step ten times.

### Air Conditioning Compressor Protection

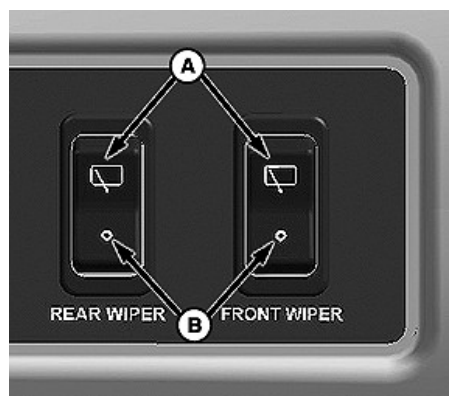
The compressor is protected from excessive low and high pressures by two switches that shut down the compressor to prevent damage to the system. If the system shuts down, locate the source of the problem and correct it before operating the system.

Have only certified professionals service the HVAC system. See a dealer for complete information.

GW44282,0000A2D-19-17DEC19

## Wiper Controls

### Windshield Wiper Switch



Wiper Switches

E61979—UN—10APR12

- A—Switch On
- B—Switch Off

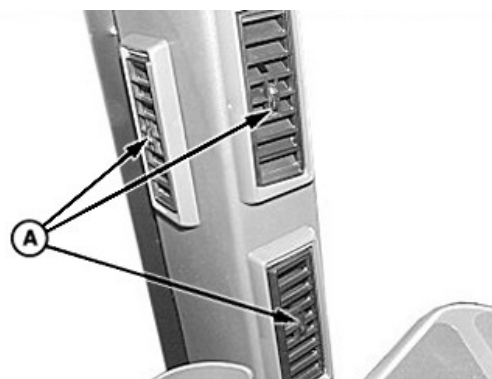
To operate the wipers, press the switch to the on position (A).

Windshield wiper stops on the left-hand side of machine when the switch is returned to the off position (B).

Operate the rear wiper switch, if equipped, the same way as the front wiper.

GW44282,000018A-19-17DEC19

## Air Louver Adjustment



E45005—UN—08OCT99

A—Tab

Adjust air louvers with tab (A) to prevent damage to louvers.

RC48509,000042A-19-18JUN13

## Turn Signals



E92532—UN—24OCT19

- A**—Left Turn Switch and Indicator  
**B**—Right Turn Switch and Indicator

Turn signals are operable whenever the key is in the run position.

Use the turn signals when operating the windrower on a road or highway.

Push the left turn signal (A) to activate the left turn lights.

Push the right turn signal (B) to activate the right turn lights.

**IMPORTANT:** Turn signals are not self-cancelling. The operator must push the turn signal switch again to cancel.

Amber lights on the platform and amber lights on machine flash in direction of the indicated turn.

Corresponding lights on the opposite side of the machine remain on (not flashing).

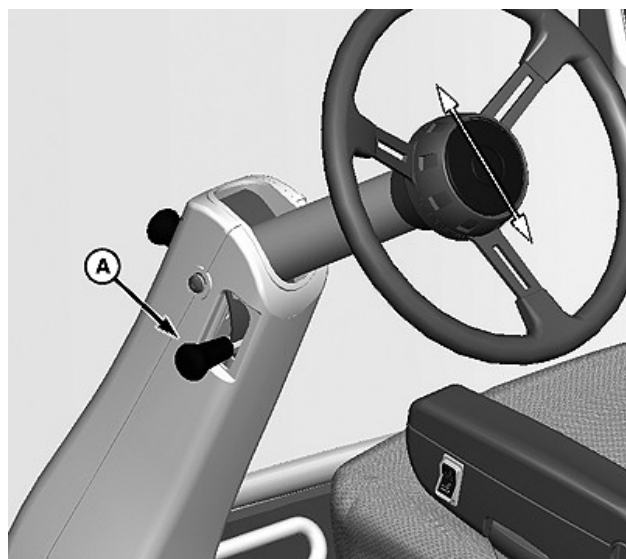
*NOTE: Left and right turn signal indicator lights blink individually in direction of indicated turn.*

GW44282,0000A6D-19-17DEC19

## Steering Column Adjustment

**CAUTION:** To prevent loss of control, adjust the steering wheel only when the windrower is stopped.

Adjust the steering column for easier entry and exit from the cab.



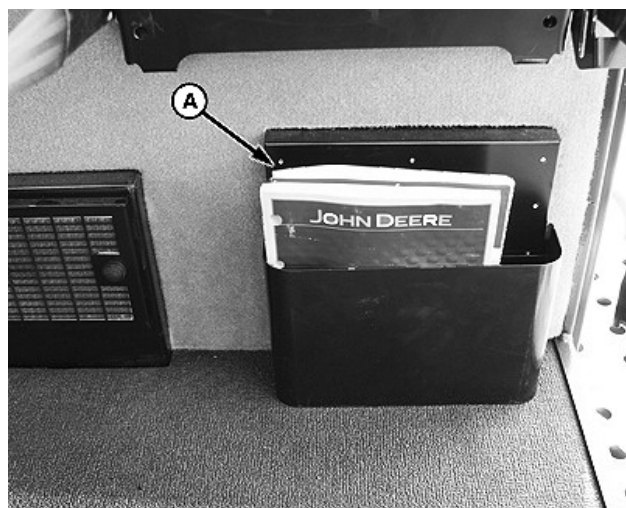
E61013—UN—16MAR12

### A—Steering Column Adjustment Lever

1. While holding the steering wheel, press down on the steering column adjustment lever (A) and move the steering wheel up or down to the desired position.
2. To lock the steering wheel in position, release the lever.

GW44282,0000A2F-19-17DEC19

## Manual Storage



E66423—UN—10JUL12

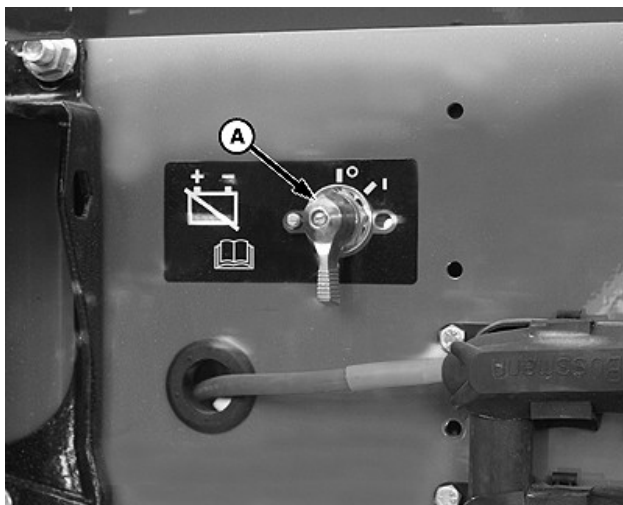
### Manual Storage

#### A—Manual Storage Compartment

Keep manuals in the manual storage compartment (A) under the training seat.

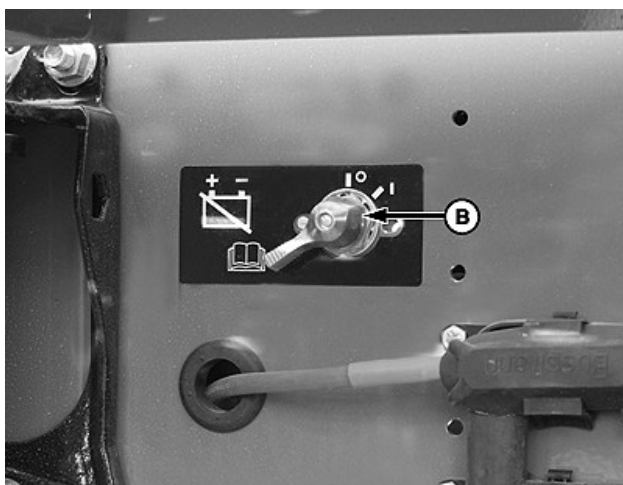
GW44282,0000A30-19-17DEC19

## Master Disconnect Switch



E61135—UN—19JUN12

*Master Disconnect Switch OFF*



E65105—UN—18JUN12

*Master Disconnect ON*

**A—Master Disconnect OFF**  
**B—Master Disconnect ON**

The windrower is equipped with a master disconnect switch. The on-off switch isolates the battery power from the windrower components.

The master disconnect switch is on the right-hand side frame rail, behind the maintenance platform, and can be accessed by moving the platform.

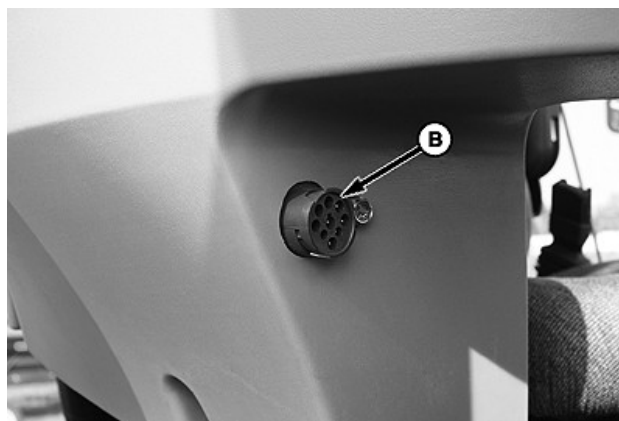
GW44282,0000A31-19-17DEC19

## Power Supply



E61112—UN—18JUN12

*Auxiliary Power*



E66153—UN—27JUN12

*Data Link Receptacle*

**A—12 V Auxiliary Power Source**  
**B—Data Link Receptacle**

A 12 V auxiliary power source (A) is located behind the seat.

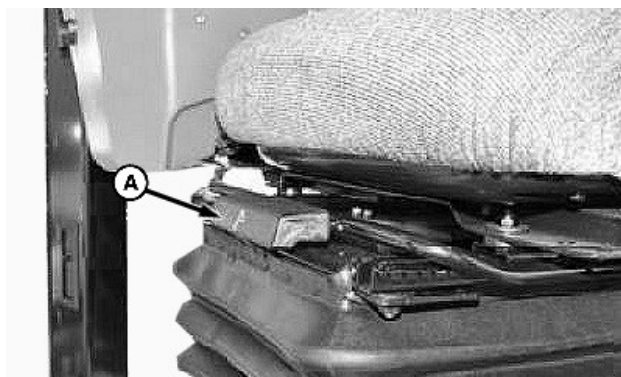
A data link receptacle (B) is on the front of the console.

GW44282,0000A32-19-03DEC19

## Operator's Seat Adjustment

The operator's seat has several adjustments. Always adjust the seat and secure the seat belt before operating the windrower. Refer to the following for the location and description of each adjustment.

### Adjust Fore/Aft Position

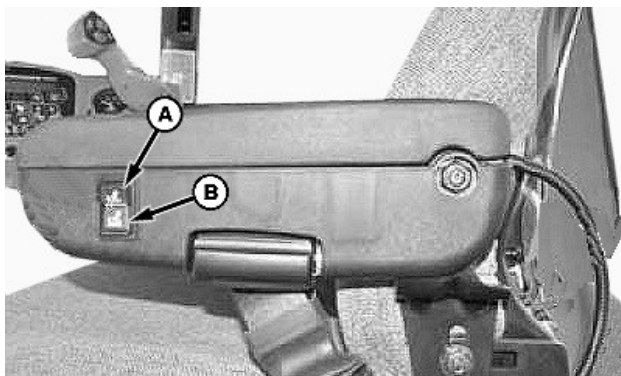


E92517—UN—17OCT19

A—Lever

1. Pull lever (A) up to release.
2. Move the seat forward or rearward to the desired position.
3. Release the lever (A).

### Adjust Seat Suspension and Height

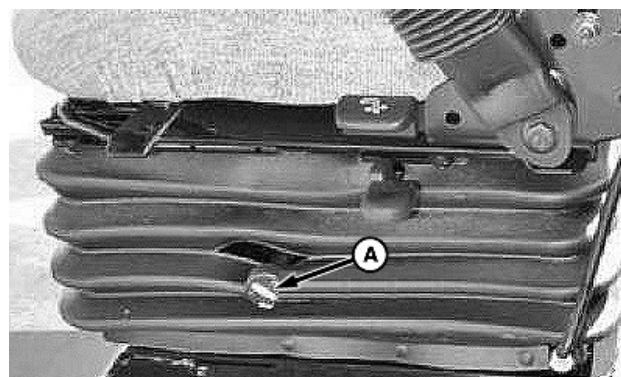


E92533—UN—24OCT19

A—Upper Switch  
B—Lower Switch

- Increase height: Press the upper switch (A).  
Decrease height: Press the lower switch (B).

### Adjust Vertical Dampener



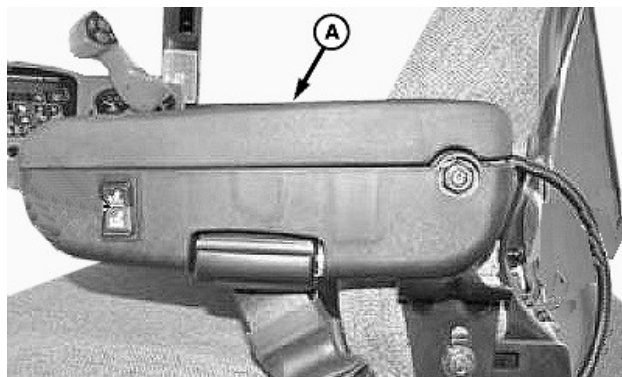
E92519—UN—17OCT19

A—Knob

Increase dampener: Turn the knob (A) counterclockwise.

Decrease dampener: Turn the knob (A) clockwise.

### Adjust Armrest

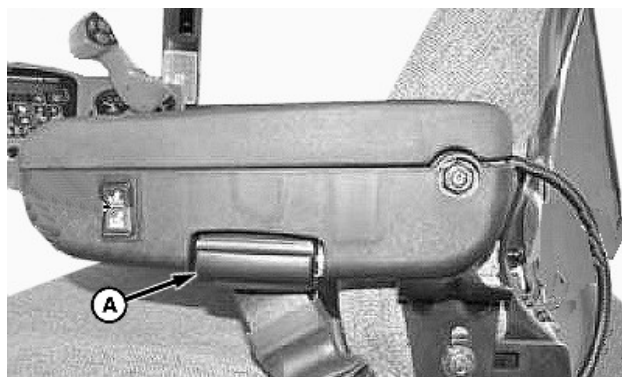


E92520—UN—17OCT19

A—Armrest

Raise the armrest (A) for easier access to the seat.  
Lower the armrest after the seat belt is buckled.

### Adjust Armrest Angle



E92523—UN—25OCT19

A—Knob

Increase: Rotate knob (A) clockwise.

Decrease: Rotate knob (A) counterclockwise.

### Adjust Fore/Aft Isolator Lock



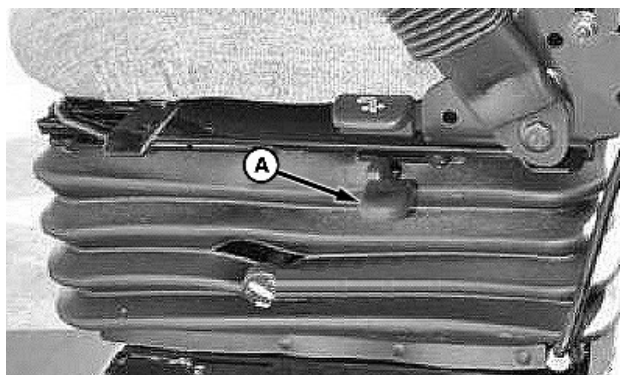
E92521—UN—17OCT19

A—Lever

Lock: Push lever (A) down.

Unlock: Pull lever (A) up.

### Adjust Seat Tilt

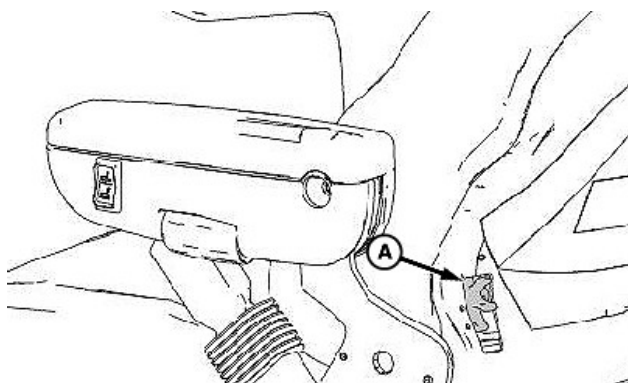


E92522—UN—17OCT19

A—Lever

1. Pull lever (A) up to release.
2. Position the back of the seat as desired.
3. Release lever (A).

### Adjust Lumbar Support



E92524—UN—17OCT19

A—Knob

Increase lumbar: Rotate knob (A) upward.

Decrease lumbar: Rotate knob (A) downward.

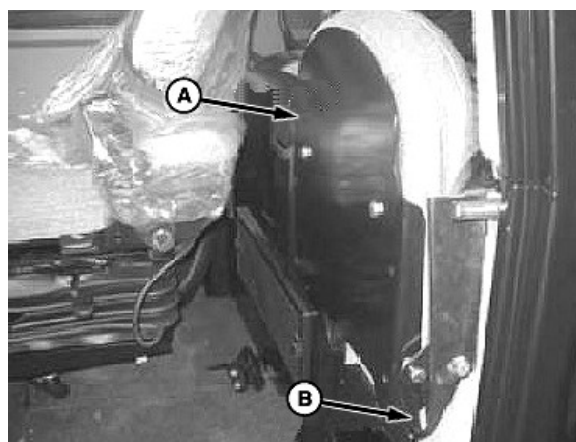
GW44282,0000A33-19-19DEC19

### Training Seat

A wall-mounted, fold-up training seat with a seat belt is provided.

**CAUTION:** Prevent injury or death. The training seat is provided for use by an experienced machine operator while training a new operator. The training seat is not intended as a passenger seat or for use by children. Use the seat belt whenever operating the machine or riding as a trainer. Keep all other riders off the machine.

For storage, lift seat (A) and secure with latch (B).



E92534—UN—24OCT19

A—Seat  
B—Latch



E92535—UN—25OCT19

A—Latch  
B—Seat

GW44282,0000A6E-19-14NOV19

### Checking Operator Presence System

The operator presence feature is designed to deactivate or alarm the selected systems when the operator leaves or is not in the seat.

The selected systems are:

- Platform Drive
- Engine
- Transmission

#### Platform Drive

- To engage the platform drive, the operator must be seated.
- Power is maintained to the platform drive for 5 seconds after the operator leaves the seat. After 5 seconds, the platform function stops.



- After the platform has stopped automatically, the platform drive switch must be cycled. Move the switch to the OFF position and back to ON to start.

### Engine and Transmission

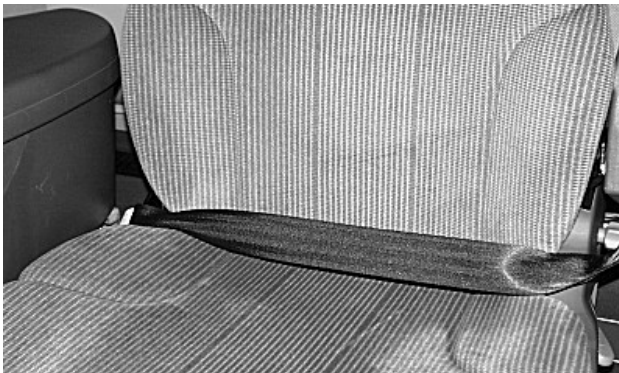
- The engine does not start when the platform drive switch is engaged.
- If the transmission is engaged, the engine does not start. The transmission must be in Neutral.
- The engine stops if the windrower is moving at 8 km/h (5.0 mph) or less and the operator leaves the seat and the transmission is not locked in Neutral. The cab display module (CDM) displays NO OPERATOR DETECTED and ENGINE SHUT DOWN 5...4...3...2...1 accompanied by a steady tone. At 0, the engine shuts down.
- If the operator leaves the seat and the transmission is not in Neutral, the lower display flashes NOT IN NEUTRAL and an audible alarm sounds after 5 seconds.
- If the windrower is moving faster than 8 km/h (5 mph) and the operator leaves the seat, an alarm sounds and the CDM displays NO OPERATOR after 2 seconds.
- When the seat is in between the cab-forward and engine-forward positions, the engine shuts down unless the transmission is locked in the Neutral position. The CDM displays LOCK SEAT BASE until the seat base is locked into position.

**IMPORTANT:** If the operator presence system fails to function properly, see a John Deere dealer.

Check the operator presence system every 500 hours of operation or if a component of the system has been serviced. (See 500 Hour or Each Season Service in the Lubrication and Maintenance section.)

SF04007,0001265-19-11DEC18

### Seat Belts



H67084—UN—02APR01

**CAUTION:** Inspect the seat belt and mounting hardware on your machine at least once a year. If the seat belt system, including mounting hardware, buckle, belt, or retractor shows any sign of damage such as cuts, fraying, extreme or unusual wear, discoloration or abrasion, replace the entire seat belt system immediately. For your safety, replace the belt system only with replacement parts approved for your machine. See your John Deere dealer.

Seat belts are standard equipment on both the operator and instructional seats. The lap type seat belts have push-button quick release and automatic belt retraction to allow unrestricted exiting and entering of the seats.

OUC0604,000124A-19-29JUL14

### Configuring Double Windrow Attachment Controls

Once the Double Windrow Attachment (DWA) is installed on the windrower, it must be configured to work with the windrower's controls. The DWA can be configured in the cab display module's (CDM) WINDROWER SETUP menu.

#### NOTE:

- The DWA cannot be activated if the swath compressor is enabled.
- This procedure is also applicable to the installation of drive manifold kit into the windrower.



EX533142—UN—08MAR22

A—PROGRAM  
B—Right Arrow  
C—SELECT

1. Turn the ignition key to the RUN position, or start the engine.
2. Press PROGRAM (A) and SELECT (C) simultaneously on the cab display module (CDM) to enter the programming mode.

- WINDROWER SETUP? Appears on the upper line.
  - NO/YES appears on the lower line.
- To select YES, press right arrow (B). Press SELECT (C).
  - SET KNIFE SPEED? Appears on the upper line.

A—PROGRAM  
B—Right Arrow  
C—SELECT

- To select YES, press right arrow (B). Press SELECT (C).

- DWA AUTO UP/DOWN? Appears on the upper line.
- NO/YES appears on the lower line.

*NOTE: If YES is selected, the DWA auto-up function is activated by the GSL reel fore/aft button.*

- To select YES, press right arrow (B). Press SELECT (C).
- Press PROGRAM (A) to exit programming mode or press SELECT (C) to proceed to the next windrower setup option.

SG77823,0000903-19-08MAR22



EX533143—UN—08MAR22

A—Right Arrow  
B—SELECT

- Press SELECT (B) until DWA INSTALLED? Appears on the upper line.
- NO/YES appears on the lower line.
- To select YES, press right arrow (A). Press SELECT (B).
- SWAP DWA CONTROLS? Appears on the upper line.
- NO/YES appears on the lower line.

*NOTE: This step is necessary to enable the ground speed lever's (GSL) reel fore/aft buttons to control the DWA.*



EX533144—UN—08MAR22



# Display Screens and Programming

## Programming Cab Display Module (CDM)

The monitoring system requires programming for each platform. The platform must be attached to the windrower.

Program the windrower with or without the engine running.

If the engine is running, the transmission must be in NEUTRAL. If the engine is not running, the ignition must be ON.

Exit the programming mode at any time by pressing the PROGRAM switch (F) or by turning the engine OFF.

Program the platform once at the beginning. Make more changes later if necessary.

**IMPORTANT: To calibrate the sensors, the engine must be running.**



E60922—UN—02JUL12

KEY	FUNCTION
A - Side Display	Displays software revision status. Upper line is for the CDM. Lower line is for the WCM.
B - Main Display	Displays menu item and selection. Upper line - Menu item. Lower line - Selection.
C - Select Switch	Places monitor into Program Mode while pressing PROGRAM switch at same time. Press to Accept Menu Item and Advance to the next item.
D - Menu Item Scroll Forward	Displays value under the menu item. Push to scroll forward. Keep depressed for a faster scroll when changing overload pressure settings or tire size.
E - Menu Item Scroll Backward	Displays the value under the menu item. Push to scroll backward. Keep depressed for a faster scroll when changing overload pressure settings or tire size.
F - Program Switch	Places monitor into Program Mode while pressing SELECT switch at same time. Press to exit program mode.

### To Program Cab Display Module:

1. Turn the ignition key to RUN or start engine.
2. Press and **HOLD** PROGRAM switch (F) and SELECT switch (C) at the same time on the CDM to enter the programming mode.
3. Press the SELECT switch. WINDROWER SETUP? is displayed on the upper line.
4. Press RIGHT ARROW (D) and SELECT HEADER TYPE? is displayed. DRAPER is flashing on the lower line.
5. Press LEFT ARROW (E) or RIGHT ARROW (D) to the change value on the lower line.
6. Press the SELECT switch. TILT CYL INSTALLED? is displayed.
7. Press LEFT ARROW (E) or RIGHT ARROW (D) to change the value on the lower line.
8. Press the SELECT switch to advance to the next L1 item and press the arrow keys to change the values.
9. Press the PROGRAM switch to exit the

Programming Mode when finished entering the desired values.

### Windrower Setup



E60926—UN—06SEP12

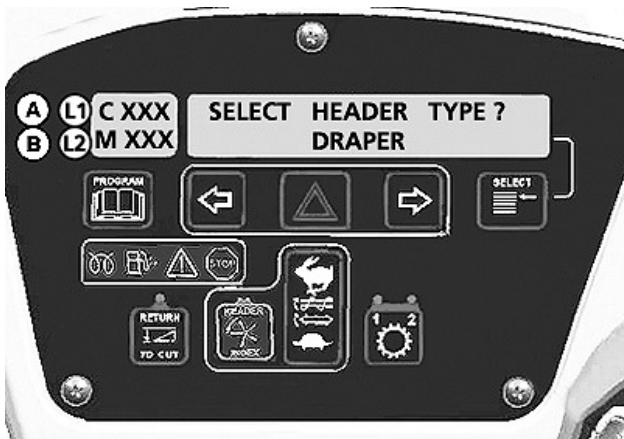
L1—Upper Line  
L2—Lower Line  
A—Program Switch  
B—Select Switch

Press and **HOLD** PROGRAM switch (A) and SELECT switch (B) at the same time to enter the programming mode.

WINDROWER SETUP? displays.

Press the LEFT ARROW. The menu moves to CAB DISPLAY SETUP. See Cab Display Setup later in this section.

Press the RIGHT ARROW and continue through WINDROWER SETUP.



E60927—UN—24OCT12

A—Line 1 - SELECT PLATFORM TYPE?  
B—Line 2 - DRAPER (default factory setting)

This screen allows the Operator to select the platform type. The selected platform flashes.

The factory default setting is DRAPER.



E60928—UN—12MAR12

L1—SELECT HEADER TYPE?  
L2—160A AUGER

If the 160A auger is selected, the reel speed is suppressed (as there is no reel speed sensor).



E60929—UN—12MAR12

L1—SELECT HEADER TYPE?  
L2—180A AUGER

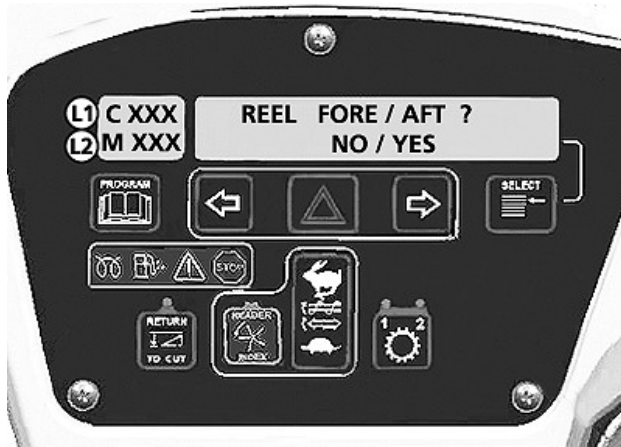
If a draper or 180A auger is selected, the reel speed is enabled (with an expansion module installed).



E60930—UN—12MAR12

L1—TILT CYLINDER INSTALLED?  
L2—NO/YES Choice

The TILT selection is made available even if the expansion module is not installed.



E60931—UN—12MAR12

L1—REEL FORE/AFT?  
L2—NO/YES Choice

Reel Fore/Aft selection screen.

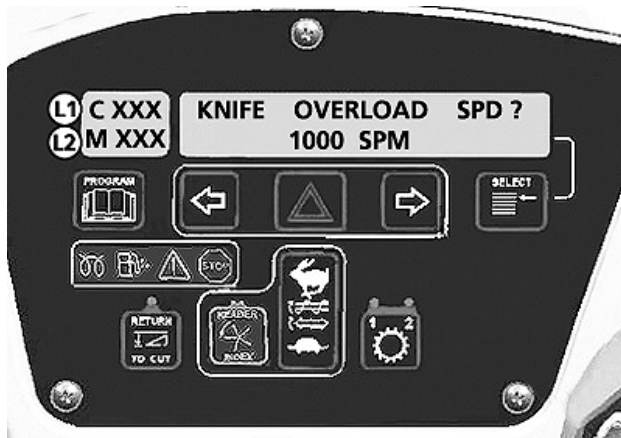
- AUGER SPEED
- KNIFE SPEED
- HEADER HEIGHT
- HEADER ANGLE
- L FLOAT R
- 38° F HYD OIL COLD
- 148° F HYD OIL TEMP
- 221° F HYD OIL HOT
- 230° F HYD OIL HOT

Metric Equivalent displays as necessary when metric is selected.

**DRAPER Platform** information displays like the auger platform information with two exceptions:

- Reel MPH instead of RPM displays.
- Draper speed instead of auger speed displays.

OUO6064.000124C-19-29JUL14



E60932—UN—12MAR12

L1—KNIFE OVERLOAD SPD?  
L2—1000 SPM (displays current SPM)

Knife overload speed is suppressed unless the expansion module is installed.

GW44282.0000B57-19-17DEC19

## Operating Information Screens

### Cab Display Module - Operating Information Screens

Scroll through the following screens during Auger Platform operation:

- ENGINE HRS
- HEADER HRS
- ACRES/HOUR
- SUB ACRES
- TOTAL ACRES
- REEL RPM



**A.** Line 1 - SET KNIFE SPEED?. Line 2 displays #### SPM.

**B.** Line 1 - KNIFE OVERLOAD SPD?. Line 2 displays #### SPM. -500—100 range offset from set point. -300 is default.

**C.** Line 1 - OVERLOAD PRESSURE?. Line 2 displays 4000 PSI.

**D.** Line 1 - HEADER INDEX MODE?. Line 2 displays REEL & CONVEYOR and REEL ONLY. For draper header only. 40A platforms have reel only.

**E.** Line 1 - RETURN TO CUT MODE?. Line 2 displays the HEIGHT & TILT and HEIGHT ONLY.

**F.** Line 1 - AUTO RAISE HEIGHT?. Line 2 displays 4.0 and OFF. Change auto raise setting from 4.0 minimum —9.5 maximum in 0.5 increments. 10 = OFF and disables the auto raise function.

**G.** Line 1 - DWA INSTALLED?. Line 2 displays NO/YES option.

If NO is selected from DWA INSTALLED?, menu moves to TILT CYL INSTALLED? (**R**).

If YES is selected from DWA INSTALLED?, menu moves to:

**H.** Line 1 - SWAP DWA CONTROLS?. Line 2 displays NO/YES option. Swaps the GSL reel fore/aft with the DWA console controls.

If NO is selected from SWAP DWA CONTROLS?, menu moves to TILT CYL INSTALLED?.

**I.** Line 1 - DWA AUTO UP / DOWN?. Line 2 displays NO/YES option. Enables the express up and down feature with the platform RTC.

If NO is selected from DWA AUTO UP / DOWN?, menu moves to TILT CYL INSTALLED?.

**J.** Line 1 - TILT CYL INSTALLED?. Line 2 - displays NO/YES option.

**K.** Line 1 - DISC BLK INSTALLED?. Line 2 displays NO/YES option.

To change values, use the turn signal arrow keys.

**L.** Line 1 - HEADER CUT WIDTH? 0101. Line 2 displays 20.5 FEET (cut width). To set the platform cut width, use the arrow keys. Header ID appears at the RHS.

**M.** Line 1 - HAY CONDITIONER?. Line 2 displays NO/YES option.

**N.** Line 1 - HEADER REEL SPD. Line 2 displays RPM/MPH or RPM/KPH.

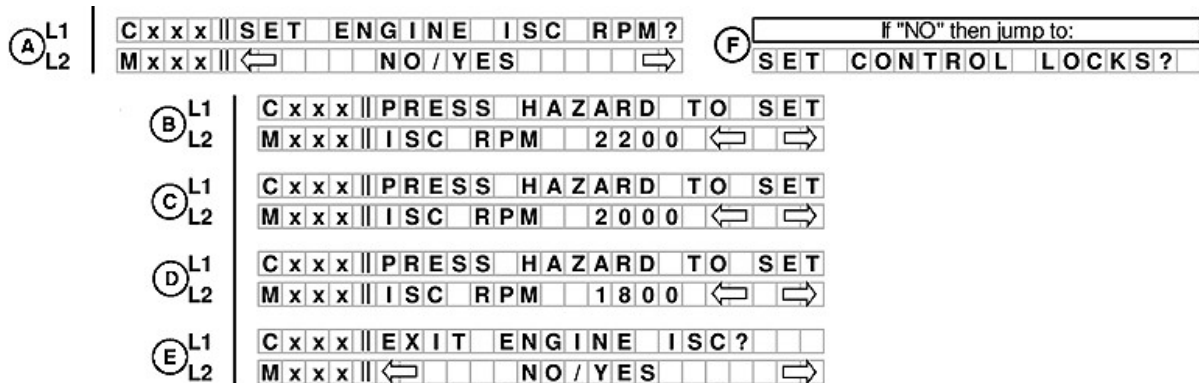
**O.** Line 1 - SET TIRE SIZE?. Line 2 displays tire options available.

To change values, use the left/right arrow keys.

**P.** Line 1 - SET ENGINE ISC RPM?

If NO is selected from SET ENGINE ISC RPM?, menu moves to SET CONTROL LOCKS? (**S**).

### Engine Intermediate Speed Control (ISC)



**A.** Line 1 - SET ENGINE ISC RPM?. Line 2 displays NO/YES option.

If NO is selected from SET ENGINE ISC RPM?, menu moves to SET CONTROL LOCKS? (**F**).

**B.** Line 1 - PRESS HAZARD TO SET. Line 2 displays ISC RPM 2200.

**C.** Line 1 - PRESS HAZARD TO SET. Line 2 displays ISC RPM 2000.

**D.** Line 1 - PRESS HAZARD TO SET. Line 2 displays ISC RPM 1800.

**E.** Line 1 - EXIT ENGINE ISC?. Line 2 displays NO/YES option.

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<p><b>A</b> L1 C x x x    VIEW CONTROL LOCKS?  L2 M x x x    <input type="checkbox"/> NO / YES <input type="checkbox"/> <input type="checkbox"/></p>	<p><b>J</b> If "NO" then jump to:  EXIT WINDRWR SETUP?</p>
<p><b>B</b> L1 C x x x    HEADER TILT <input type="checkbox"/> <input type="checkbox"/>  L2 M x x x    575.1 HRS ENABLED  L2 M x x x    648.6 HRS LOCKED</p>	
<p><b>C</b> L1 C x x x    HEADER FLOAT <input type="checkbox"/> <input type="checkbox"/>  L2 M x x x    575.1 HRS ENABLED  L2 M x x x    648.6 HRS LOCKED</p>	
<p><b>D</b> L1 C x x x    REEL FORE / AFT <input type="checkbox"/> <input type="checkbox"/>  L2 M x x x    575.1 HRS ENABLED  L2 M x x x    648.6 HRS LOCKED</p>	
<p><b>E</b> L1 C x x x    DRAPER SPEED <input type="checkbox"/> <input type="checkbox"/>  L2 M x x x    575.1 HRS ENABLED  L2 M x x x    648.6 HRS LOCKED</p>	
<p><b>F</b> L1 C x x x    AUGER SPEED <input type="checkbox"/> <input type="checkbox"/>  L2 M x x x    575.1 HRS ENABLED  L2 M x x x    648.6 HRS LOCKED</p>	
<p><b>G</b> L1 C x x x    KNIFE SPEED <input type="checkbox"/> <input type="checkbox"/>  L2 M x x x    575.1 HRS ENABLED  L2 M x x x    648.6 HRS LOCKED</p>	
<p><b>H</b> L1 C x x x    REEL SPEED <input type="checkbox"/> <input type="checkbox"/>  L2 M x x x    575.1 HRS ENABLED  L2 M x x x    648.6 HRS LOCKED</p>	
<p><b>I</b> L1 C x x x    EXIT VIEW LOCKOUTS?  L2 M x x x    <input type="checkbox"/> NO / YES <input type="checkbox"/> <input type="checkbox"/></p>	<p><b>K</b> If "NO" then jump to:  HEADER TILT <input type="checkbox"/> <input type="checkbox"/></p>

E69172—UN—14NOV12

When the control lock outs are viewed, line 2 shows the engine hours and either ENABLED or LOCKED to indicate the present status. Additionally, the engine hours at the time that the function was either ENABLED or LOCKED is shown.

**A.** Line 1 - VIEW CONTROL LOCKS?. Line 2 displays NO/YES option.

If NO is selected, menu moves to EXIT WINDRWR SETUP? (**K**).

**B.** Line 1 - HEADER TILT. Line 2 displays engine hours ENABLED or LOCKED.

**C.** Line 1 - HEADER FLOAT. Line 2 displays engine hours ENABLED or LOCKED.

**D.** Line 1 - REEL FORE/AFT. Line 2 displays engine hours ENABLED or LOCKED.

**E.** Line 1 - DRAPER SPEED. Line 2 displays engine hours ENABLED or LOCKED.

**F.** Line 1 - AUGER SPEED. Line 2 displays engine hours ENABLED or LOCKED.

**G.** Line 1 - KNIFE SPEED. Line 2 displays engine hours ENABLED or LOCKED.

**H.** Line 1 - REEL SPEED. Line 2 displays engine hours ENABLED or LOCKED.

**I.** Line 1 - EXIT VIEW LOCKOUTS?. Line 2 displays NO/YES option.

If NO is selected from EXIT VIEW LOCKOUTS?, menu moves back to HEADER TILT (**L**).

If YES is selected from EXIT VIEW LOCKOUTS?, menu moves to EXIT WINDRWR SETUP?.

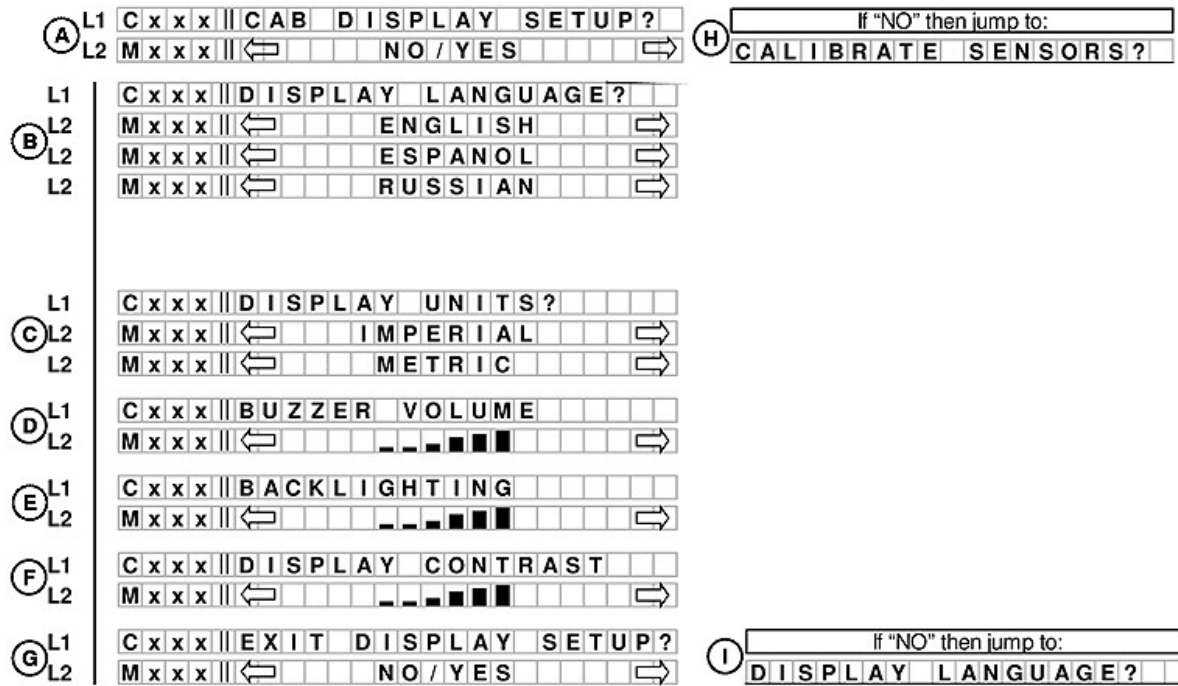
<p>L1 C x x x    EXIT WINDRWR SETUP?  L2 M x x x    <input type="checkbox"/> NO / YES <input type="checkbox"/> <input type="checkbox"/></p>	<p>If "NO" then jump to:  SELECT HEADER TYPE?</p>
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E68816—UN—23OCT12

If NO is selected from EXIT WINDRWR SETUP?, menu moves to SELECT HEADER TYPE?.

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## Cab Display Setup



E68817—UN—24OCT12

**A.** Line 1 - CAB DISPLAY SETUP?. Line 2 displays NO/ YES option.

If NO is selected from CAB DISPLAY SETUP?, menu moves to CALIBRATE SENSORS? (H).

**B.** Line 1 - DISPLAY LANGUAGE?. Line 2 displays optional languages available.

**C.** Line 1 - DISPLAY UNITS?. Line 2 displays IMPERIAL or METRIC for options.

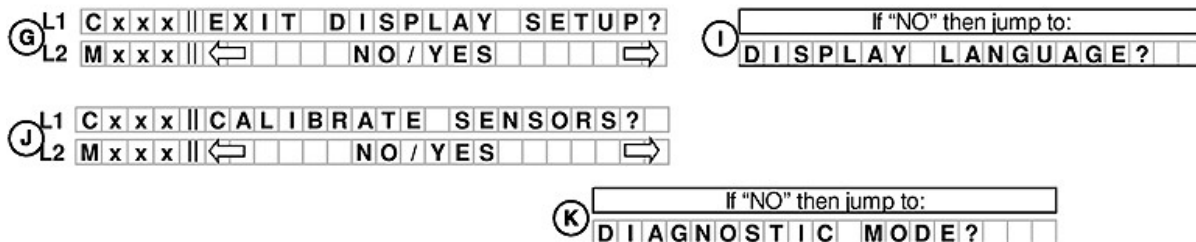
**D.** Line 1 - BUZZER VOLUME. Line 2 displays volume bars.

**E.** Line 1 - BACKLIGHTING. Line 2 displays backlight bars.

**F.** Line 1 - DISPLAY CONTRAST. Line 2 displays contrast bars.

**G.** Line 1 - EXIT DISPLAY SETUP?. Line 2 displays NO/ YES option.

If NO is selected from EXIT DISPLAY SETUP?, menu moves back to DISPLAY LANGUAGE? (I).



E68819—UN—24OCT12

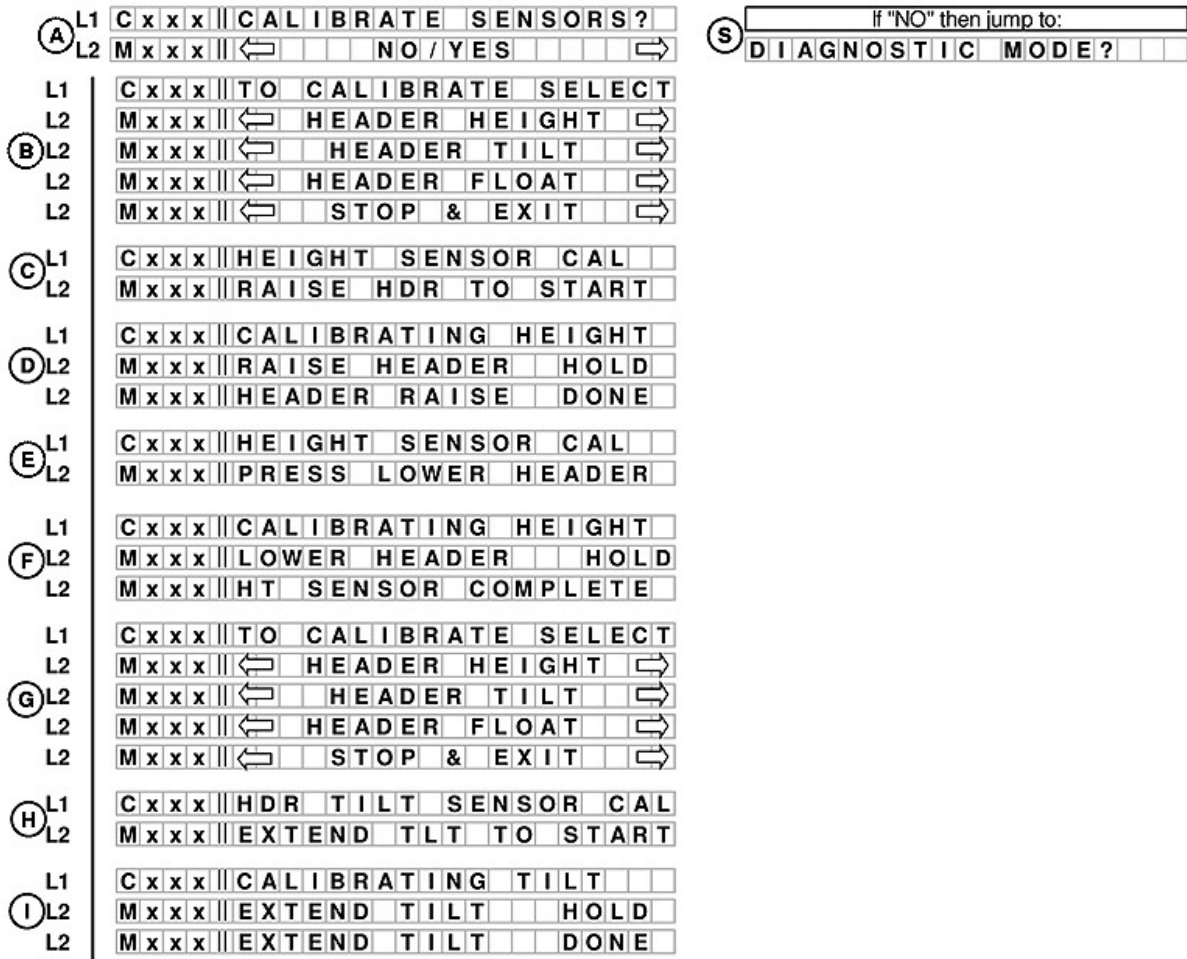
If YES is selected from EXIT DISPLAY SETUP? (G) and the engine is not running, the menu moves to DIAGNOSTIC MODE? (K).

If the engine is running and YES is selected, menu moves to CALIBRATE SENSORS? (J).

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## Calibrate Sensors



E68825—UN—25OCT12

Calibrating sensors menu is only available when the engine is running.

Select any of the items requiring calibration or STOP & EXIT to exit the menu.

When a function is activated, the display indicates the function being calibrated. HOLD flashes until the system has completed reading the signal with the platform fully raised.

**A.** Line 1 - CALIBRATE SENSORS?. Line 2 displays NO/YES option.

*NOTE: If the engine is off, the menu does not allow calibration.*

If NO is selected from CALIBRATE SENSORS?, the menu moves to DIAGNOSTIC MODE? menu (S).

**B.** Line 1 - TO CALIBRATE SELECT. Line 2 displays PLATFORM HEIGHT, PLATFORM TILT, PLATFORM FLOAT, and STOP & EXIT.

Select any of the three items requiring calibration, or exit the CALIBRATION menu by using the turn signal

switches to cycle through the options. Pressing SELECT takes the operator to the calibration menu for that particular sensor.

**C.** Line 1 - HEIGHT SENSOR CAL. Line 2 displays RAISE PLATFORM TO START.

The display indicates the sensor being calibrated. The operator is prompted to raise the platform and HOLD flashes until the system has completed reading the signal. HOLD changes to DONE and buzzer activates.

**D.** Line 1 - CALIBRATING HEIGHT. Line 2 displays RAISE PLATFORM HOLD and RAISE PLATFORM DONE.

**E.** Line 1 - HEIGHT SENSOR CAL. Line 2 displays PRESS LOWER PLATFORM.

**F.** Line 1 - CALIBRATING HEIGHT. Line 2 displays LOWER PLATFORM HOLD and HT SENSOR COMPLETE.

When the platform raise is done, the CDM prompts to lower the platform. COMPLETE flashes on the screen

for 2 seconds and buzzer activates when the calibration is finished.

**G.** Line 1 - TO CALIBRATE SELECT. Line 2 displays PLATFORM HEIGHT, PLATFORM TILT, PLATFORM FLOAT, and STOP & EXIT.

Select any of the three items requiring calibration, or exit the CALIBRATION menu by using the turn signal switches to cycle through the options. Pressing SELECT takes the operator to the calibration menu for that particular sensor.

**H.** Line 1 - PLATFORM TILT SENSOR CAL. Line 2 displays EXTEND TLT TO START.

**I.** Line 1 - CALIBRATING TILT. Line 2 displays EXTEND TILT HOLD and EXTEND TILT DONE.

The display indicates the sensor being calibrated. The operator is prompted to extend the platform tilt and HOLD flashes until the system has completed reading the signal. HOLD changes to DONE and buzzer activates.

J	L1	C x x x   HDR TILT SENSOR CAL
	L2	M x x x   PRESS RETRACT TILT
K	L1	C x x x   CALIBRATING TILT
	L2	M x x x   RETRACT TILT HOLD
L	L1	C x x x   HDR TILT COMPLETE
	L2	M x x x   TO CALIBRATE SELECT
M	L1	C x x x   PLATFORM HEIGHT
	L2	M x x x   PLATFORM TILT
N	L1	C x x x   PLATFORM FLOAT
	L2	M x x x   STOP & EXIT
O	L1	C x x x   CALIBRATING FLOAT
	L2	M x x x   PRESS FLT+ TO START
P	L1	C x x x   CALIBRATING FLOAT
	L2	M x x x   FLOAT (+) HOLD
Q	L1	C x x x   FLOAT (+) DONE
	L2	M x x x   FLOAT SENSOR CAL
R	L1	C x x x   PRESS FLOAT (-)
	L2	M x x x   CALIBRATING FLOAT
S	L1	C x x x   FLOAT (-) HOLD
	L2	M x x x   HDR FLOAT COMPLETE
T	L1	C x x x   TO CALIBRATE SELECT
	L2	M x x x   PLATFORM HEIGHT
U	L1	C x x x   PLATFORM TILT
	L2	M x x x   PLATFORM FLOAT
V	L1	C x x x   STOP & EXIT
	L2	M x x x   EXIT CAL? NO/YES
W	L1	C x x x   DIAGNOSTIC MODE?
	L2	M x x x   NO/YES

**J.** Line 1 - PLATFORM TILT SENSOR CAL. Line 2 displays PRESS RETRACT TILT.

When the platform tilt extend is done, the CDM prompts to press the platform tilt retract. COMPLETE flashes on the screen for 2 seconds and buzzer activates when the calibration is complete.

**K.** Line 1 - CALIBRATING TILT. Line 2 displays RETRACT TILT HOLD and PLATFORM TILT COMPLETE.

**L.** Line 1 - TO CALIBRATE SELECT. Line 2 displays PLATFORM HEIGHT, PLATFORM TILT, PLATFORM FLOAT, and STOP & EXIT.

Select any of the three items requiring calibration or exit

the CALIBRATION menu by using the turn signal switches to cycle through the options. Pressing SELECT takes the operator to the calibration menu for that particular sensor.

**M.** Line 1 - CALIBRATING FLOAT. Line 2 displays PRESS FLT+ TO START.

The display indicates the sensor being calibrated. The operator is prompted to press the float (+) and HOLD flashes until the system has completed reading the signal. HOLD changes to DONE, and buzzer activates.

**N.** Line 1 - CALIBRATING FLOAT. Line 2 displays FLOAT (+) HOLD and FLOAT (+) DONE.

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**O.** Line 1 - FLOAT SENSOR CAL. Line 2 displays PRESS FLOAT (-).

**P.** Line 1 CALIBRATING FLOAT. Line 2 displays FLOAT (-) HOLD and PLATFORM FLOAT COMPLETE.

**Q.** Line 1 TO CALIBRATE SELECT. Line 2 displays PLATFORM HEIGHT, PLATFORM TILT, PLATFORM FLOAT, and EXIT CAL? NO/YES option.

If YES is selected from EXIT CAL?, menu moves to DIAGNOSTIC MODE?.

If NO is selected from EXIT CAL?, menu moves to EXIT SETUP? (T).

GW44282,0000A37-19-06DEC19

## Diagnostic Mode

<p><b>A</b> L1 C x x x     DIAGNOSTIC MODE?      L2 M x x x     NO / YES    </p> <p><b>B</b> L1 C x x x     VIEW ERROR CODES?      L2 M x x x     NO / YES    </p> <p><b>C</b> L1 C x x x     VIEW WINDRWR CODES?      L2 M x x x     NO / YES    </p> <p><b>D</b> L1     1     1 2 3 4 . 5 HRS 1 2 3      L2 E 4 7     SENSOR VOLTS LOW    </p> <p><b>E</b> L1     2     1 2 3 0 . 5 HRS 1 2 3      L2 E 7 1     LOW HYDRAULIC OIL    </p> <p><b>F</b> L1 C x x x     EXIT WINDRWR CODES?      L2 M x x x     NO / YES    </p> <p><b>G</b> L1 C x x x     VIEW ENGINE CODES?      L2 M x x x     NO / YES    </p> <p><b>H</b> L1     1     PREVIOUS ENG. CODES      L2     ## ## S ## F ## C    </p> <p><b>I</b> L1 C x x x     EXIT ENGINE CODES?      L2 M x x x     NO / YES    </p> <p><b>J</b> L1 C x x x     EXIT ERROR CODES?      L2 M x x x     NO / YES    </p>	<p>If "NO" then jump to:  <b>K</b> EXIT SETUP?    </p> <p>If "NO" then jump to:  <b>L</b> ENTER SENSOR SETUP?    </p> <p>If "NO" then jump to:  <b>M</b> VIEW ENGINE CODES?    </p> <p>If "NO" then jump to:  <b>N</b> EXIT ERROR CODES?    </p> <p>If "NO" then jump to:  <b>O</b> VIEW WINDRWR CODES?    </p>
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**A.** Line 1 - DIAGNOSTIC MODE?. Line 2 displays NO/ YES option.

If NO is selected from DIAGNOSTIC MODE?, menu moves to EXIT SETUP? (K).

**B.** Line 1 - VIEW ERROR CODES?. Line 2 displays NO/ YES option.

If NO is selected from VIEW ERROR CODES?, menu moves to ENTER SENSOR SETUP? (L).

**C.** Line 1 - VIEW WINDRWR CODES?. Line 2 displays NO/YES option.

If NO is selected from VIEW WINDRWR CODES?, menu moves to EXIT ENGINE CODES? (M).

**D.** Line 1 - 1 1234.5 HRS 123. Line 2 displays E 47 SENSOR VOLTS LOW.

The last ten distinct error codes are stored, along with the code #. Exxx, engine hours, and number occurrences. The arrow keys are used to cycle between codes.

**E.** Lines 1 and 2-1230.5 HRS 123. Line 2 displays E 71 LOW HYDRAULIC OIL.

**F.** Line 1 - EXIT WINDRWR CODES?. Line 2 displays NO/YES option. If NO, menu scrolls to the initial error code displayed.

**G.** Line 1 - VIEW ENGINE CODES?. Line 2 displays NO/YES option.

If NO is selected from VIEW ENGINE CODES?, menu moves to EXIT ERROR CODES? (N).

**H.** Line 1 - 1 PREVIOUS ENG. CODES?. Line 2 displays ####S ##F ##C. The last ten distinct error codes are stored.

**I.** Line 1 - EXIT ENGINE CODES?. Line 2 displays NO/ YES option.

**J.** Line 1 - EXIT ERROR CODES?. Line 2 displays NO/ YES option.

If NO is selected from EXIT ERROR CODES?, menu moves to VIEW WINDRWR CODES? (O).

E68829—UN—26OCT12

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## Enable - Disable Sensors

L1	(A)	C x x x		ENTER	SENSOR	SETUP?
L2		M x x x		←	NO / YES	→

(B)	L1	C x x x		KNIFE	SPEED	SENSOR
	L2	M x x x		←	ENABLE / DISABLE	→

(C)	L1	C x x x		HEADER	HT	SENSOR
	L2	M x x x		←	ENABLE / DISABLE	→

(D)	L1	C x x x		HEADER	TILT	SENSOR
	L2	M x x x		←	ENABLE / DISABLE	→

(E)	L1	C x x x		HEADER	FLOAT	SENSOR
	L2	M x x x		←	ENABLE / DISABLE	→

(F)	L1	C x x x		OVERLOAD	PRESSURE	
	L2	M x x x		←	ENABLE / DISABLE	→

(G)	L1	C x x x		HYD	OIL	TEMP SENSOR
	L2	M x x x		←	ENABLE / DISABLE	→

(H)	L1	C x x x		EXIT	SENSOR	SETUP?
	L2	M x x x		←	NO / YES	→

### SENSOR SETUP SCREENS

E68808—UN—22OCT12

#### A. Line 1 - ENTER SENSOR SETUP?

Select YES to move to sensor selections. If NO is selected, menu moves to READ SENSOR INPUTS?.

B. Line 1 - KNIFE SPEED SENSOR. Line 2 displays ENABLE/DISABLE as the option.

C. Line 1 - HEADER HT SENSOR. Line 2 displays ENABLE/DISABLE as the option.

D. Line 1 - HEADER TILT SENSOR. Line 2 displays ENABLE/DISABLE as the option.

E. Line 1 - HEADER FLOAT SENSOR. Line 2 displays ENABLE/DISABLE as the option.

F. Line 1 - OVERLOAD PRESSURE. Line 2 displays ENABLE/DISABLE as the option.

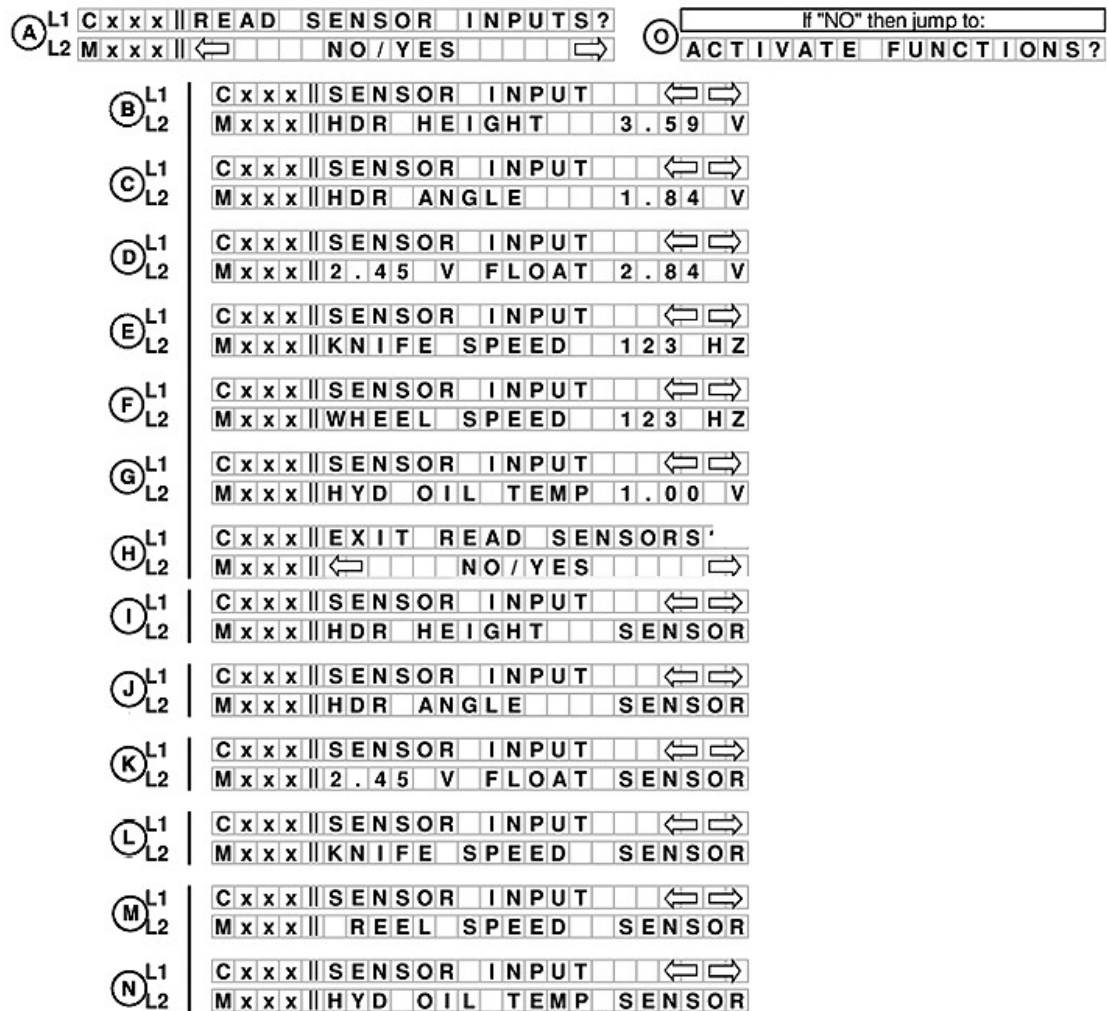
G. Line 1 - HYD OIL TEMP SENSOR. Line 2 displays ENABLE/DISABLE as the option.

H. Line 1 - EXIT SENSOR SETUP?. Line 2 displays NO/Yes as the option.

If NO is selected from EXIT SENSOR SETUP, menu moves to KNIFE SPEED SENSOR (B).

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## Sensor Input



E68812—UN—24OCT12

**A.** Line 1 - READ SENSOR INPUTS?. Line 2 displays NO/YES option.

If NO is selected from READ SENSOR INPUTS?, menu moves to ACTIVATE FUNCTIONS? (L).

**B.** Line 1 - SENSOR INPUT. Line 2 displays HEADER HEIGHT and voltage.

**C.** Line 1 - Sensor INPUT. Line 2 displays HEADER ANGLE and voltage.

**D.** Line 1 - SENSOR INPUT. Line 2 displays FLOAT and voltage.

**E.** Line 1 - SENSOR INPUT. Line 2 displays KNIFE SPEED and output.

**F.** Line 1 - SENSOR INPUT. Line 2 displays WHEEL SPEED and output. Adds a selection for wheel speed frequency.

**NOTE:** If a sensor has been disabled, the sensor flashes in the area where the reading would have been.

**G.** Line 1 - SENSOR INPUT. Line 2 displays HYD OIL TEMP and voltage.

**H.** Line 1 - EXIT READ SENSORS?. Line 2 displays NO/YES option.

**I.** Line 1 - SENSOR INPUT. Line 2 displays HDR HEIGHT SENSOR.

**J.** Line 1 - SENSOR INPUT. Line 2 displays HDR ANGLE SENSOR.

**K.** Line 1 - SENSOR INPUT. Line 2 displays voltage FLOAT SENSOR.

**L.** Line 1 - SENSOR INPUT. Line 2 displays KNIFE SPEED SENSOR.

**M.** Line 1 - SENSOR INPUT. Line 2 displays REEL SPEED SENSOR.

**N.** Line 1 - SENSOR INPUT. Line 2 displays HYD OIL TEMP SENSOR.

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## Activate Functions

For diagnostic purposes, each platform function is

activated by using the arrow keys on the CDM. When select is pressed, the program goes to the next function.

A	L1	C x x x    ACTIVATE FUNCTIONS?	Q	If "NO" then jump to:									
	L2	M x x x     NO / YES		FORCE HEADER TYPE?									
B	L1	C x x x    ACTIVATE HEADER HT											
	L2	M x x x     DOWN / UP											
C	L1	C x x x    ACTIVATE REEL HT											
	L2	M x x x     DOWN / UP											
D	L1	C x x x    ACTIVATE HDR TILT											
	L2	M x x x     IN / OUT											
E	L1	C x x x    KNIFE DRV SPD XXXX											
	L2	M x x x    D 0 P 0  -  +											
F	L1	C x x x    DRAPER DRV SPD XXXX											
	L2	M x x x    D 0 P 0  -  +											
G	L1	C x x x    REEL DRV SPD XXXX											
	L2	M x x x    D 0 P 0  -  +											
H	L1	C x x x    DISC DRV SPD XXXX											
	L2	M x x x    D 0 P 0  -  +											
I	L1	C x x x    ACTIVATE DWA DRV											
	L2	M x x x    D 0 P 0  -  +											
J	L1	C x x x    ACTIVATE REEL F / A											
	L2	M x x x     FORE / AFT											
K	L1	C x x x    ACTIVATE HYD PURGE?											
	L2	M x x x     NO / YES											
L	L1	C x x x    TO ACTIVATE PURGE											
	L2	M x x x    PRESS AND HOLD											
M	L1	C x x x    PURGE CYCLE STARTED											
	L2	M x x x    PRESS AND HOLD											
N	L1	C x x x    PURGE CYCLE ENDED											
	L2	M x x x											
O	L1	C x x x    PURGE CYCLE ENDED	R	If "NO" then jump to:									
	L2	M x x x     NO EXIT YES		TO ACTIVATE PURGE									
P	L1	C x x x    EXIT FUNCTION MENU?	S	If "NO" then jump to:									
	L2	M x x x     NO / YES		ACTIVATE HEADER HT									

E68828—UN—25OCT12

**A.** Line 1 - ACTIVATE FUNCTIONS?. Line 2 displays NO/YES option.

If NO is selected from ACTIVATE FUNCTIONS?, menu moves to FORCE HEADER TYPE? (Q).

**B.** Line 1 - ACTIVATE HEADER HT. Line 2 displays DOWN/UP option.

**C.** Line 1 - ACTIVATE REEL HT. Line 2 displays DOWN/UP option.

**D.** Line 1 - ACTIVATE HDR TILT. Line 2 displays IN/OUT option.

**E.** Line 1 - KNIFE DRV SPD XXXX. Line 2 displays D O P O - Δ +.

**F.** Line 1 - DRAPER DRV SPD XXXX. Line 2 displays D O P O - Δ +.

PWM OPERATION: If the HAZARD switch is pressed instead of the TURN SIGNAL switch, the GSL operates the PWM valve (HAZARD switch must be held) and the PWM value resets to zero when released.

**G.** Line 1 - REEL DRV SPD XXXX. Line 2 displays D O P O - Δ +.

**H.** Line 1 - DISC DRV SPD XXXX. Line 2 displays D O P O - Δ +.

Not applicable to the W150.

**I.** Line 1 - ACTIVATE DWA DRV. Line 2 displays D O P O - Δ +.

The DWA menu selection is only available if the DWA INSTALLED? is set to YES.

If NO is selected from ACTIVATE HYD PURGE?, menu moves to EXIT FUNCTION MENU? (P).

ACTIVATE HYD PURGE - Purge air from a new, changed, or containerized pump system.

Pressing and holding the right-hand arrow button activates a predetermined timed purge cycle.

Releasing pressure on the switch or a completed cycle (timed out) moves to the PURGE CYCLE ENDED menu selection.

**J.** Line 1 - ACTIVATE REEL: F/A. Line 2 displays FORE/ AFT option.

**K.** Line 1 - ACTIVATE HYD PURGE?. Line 2 displays NO/YES option.

Purge the air from a new or changed pump system or a machine shipped in container.

**L.** Line 1 - TO ACTIVATE HYD PURGE. Line 2 displays PRESS AND HOLD.

**M.** Line 1 - PURGE CYCLE STARTED. Line 2 displays PRESS AND HOLD.

Pressing and holding the right arrow key activates a predetermined timed purge cycle. Releasing pressure on the switch or a completed cycle (timed out) jumps to the PURGE CYCLE ENDED menu selection.

If NO is selected from PURGE CYCLE ENDED, menu moves back TO ACTIVATE PURGE (Q).

**N.** Line 1 - PURGE CYCLE ENDED. Line 2 display is blank.

**O.** Line 1 - PURGE CYCLE ENDED. Line 2 displays NO EXIT YES.

If NO is selected from PURGE CYCLE ENDED, menu moves to TO ACTIVATE PURGE (R).

**P.** Line 1 - EXIT FUNCTION MENU?. Line 2 displays NO/YES option.

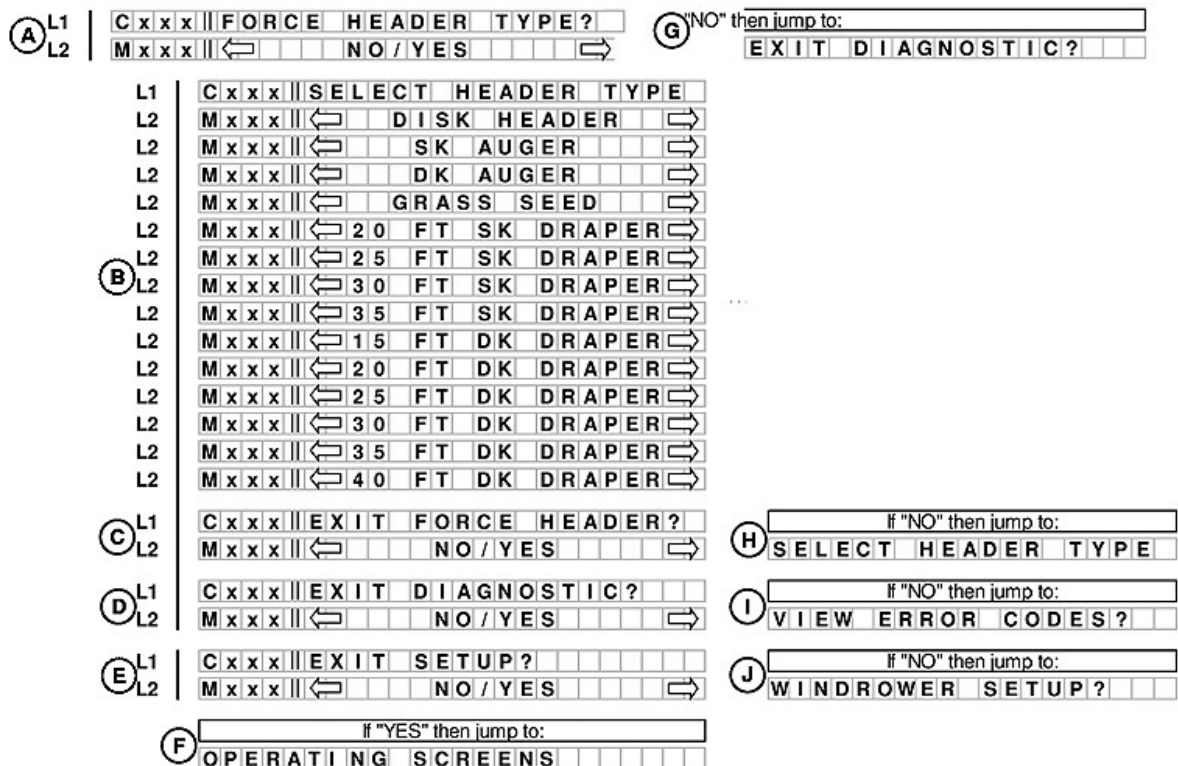
If NO is selected from EXIT FUNCTION MENU?, menu moves to ACTIVATE HEADER HT.

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## Force Header Type

This menu allows the operator to select or force a header ID configuration if NO HEADER ID is read. The header type reverts back to NO HEADER every time the ignition is cycled.

When SELECT is pressed, the program goes to the EXIT HEADER TYPE? menu selection.



**A.** Line 1 - FORCE HEADER TYPE?. Line 2 displays NO/YES option.

If NO is selected from FORCE HEADER TYPE?, menu moves to EXIT DIAGNOSTIC? (G).

**B.** Line 1 - SELECT HEADER TYPE. Line 2 displays the options.

**NOTE:** DISK HEADER, GRASS SEED, SK AUGER, and 20 FT SK DRAPER are not applicable to the W150 Windrower.

**B.** Selections are:

- DK AUGER
- 25 FT SK DRAPER
- 30 FT SK DRAPER
- 35 FT SK DRAPER
- 15 FT DK DRAPER
- 20 FT DK DRAPER
- 25 FT DK DRAPER
- 30 FT DK DRAPER
- 35 FT DK DRAPER
- 40 FT DK DRAPER

**C.** Line 1 - EXIT FORCE HEADER?. Line 2 displays NO/YES option.

If NO is selected from EXIT FORCE HEADER?, menu moves to SELECT HEADER TYPE (H).

**D.** Line 1 - EXIT DIAGNOSTIC?. Line 2 displays NO/YES option.

If NO is selected from EXIT DIAGNOSTIC?, menu moves to VIEW ERROR CODES? (I).

**E.** Line 1 - EXIT SETUP?. Line 2 displays NO/YES option.

If NO is selected from EXIT SETUP?, menu moves to WINDROWER SETUP? (J).

If YES is selected from EXIT SETUP?, menu moves to OPERATING SCREENS (F).

GW44282,0000B0A-19-04DEC19

## Operating Screens

The cab display provides information on functions for the engine, platform, and windrower.

Press button switches (D or E) to display or select the desired type of information to view or change.

Details on various information and operating modes are given in this section.



E60922—UN—02JUL12

- A—Side Display
- B—Main Display
- C—Cab Display Module Select Switch
- D—Menu Item Scroll Forward
- E—Menu Item Scroll Backward
- F—Program Switch

Ignition on With Engine Not Running	
Display (upper line) 2—3 seconds	Description
HEADER DISENGAGED	Indicates that HEADER DRIVE switch is off.
IN PARK	Indicates GSL in neutral-detent.
Engine Forward With Engine Running	
Scroll through the display with the CDM switch or MFH switch.	
Display	Description
ROAD GEAR (upper line)	Displays ground speed range switch in high range.
#####.# ENGINE HRS (upper or lower line)	Displays total engine operating time.
#####.# HEADER HRS	Displays total header operating time.
##### TOTAL ACRES (upper or lower line) ##### TOTAL HECT (metric)	Displays total area cut.
###.# HEADER HEIGHT (upper or lower line)	Distance setting (00.0—10.0) between cutterbar and ground.
###.# HEADER ANGLE (upper or lower line)	Angle setting (00.0—10.0) header relative to ground.
###.# HYD OIL TEMP	Hydraulic oil temperature in °C or °F.
###.# VOLTS	Displays engine electrical operating voltage.
SCROLL (lower line)	Displays items after 2—3 seconds. Press SELECT to cancel.
Cab Forward With Engine Running and Header Disengaged	



## Display Screens and Programming

Scroll through the display with the CDM switch or MFH Switch.	
Display (lower or upper line)	Description
#####.# ENGINE HRS	Displays total engine operating time.
#####.# HEADER HRS	Displays total header operating time.
###.# SUB ACRES ###.# SUB HECTARES (metric)	Area cut since last reset. To reset: Display SUB ACRES on the lower line and hold down the PROGRAM switch until display resets (5—7 seconds).
##### TOTAL ACRES ##### TOTAL HECT (metric)	Total area cut by machine.
##.# HEADER HEIGHT	Distance setting (0.0—10.0) between cutterbar and ground.
##.# HEADER ANGLE	Angle setting (0.0—10.0) header relative to ground.
##.# L FLOAT R ##.#	Displays float setting (0.0—10.0).
### HYD OIL TEMP	Displays hydraulic oil temperature in °C or °F.
##.# VOLTS	Displays engine electrical system operating voltage.
SCROLL (lower line)	Displays items after 2—3 seconds. Press SELECT to cancel.
<b>Cab Forward With Engine Running and Header Engaged—Auger Header With Index Switch Off</b>	
Scroll through the display with the CDM Switch or MFH Switch.	
Display (lower or upper line)	Description
#####.# ENGINE HRS	Displays total engine operating time.
#####.# HEADER HRS	Displays total header operating time.
##.# ACRES/HOUR ##.# HECTARES/HOUR (metric)	Displays an actual cutting rate in acres (hectares)/hour.
###.# SUB ACRES ###.# SUB HECTARES (metric)	Displays area cut since last reset. To reset: Display SUB ACRES on the lower line and hold down the PROGRAM switch until display resets (5—7 seconds).
##### TOTAL ACRES ##### TOTAL HECT (metric)	Displays total area cut by machine.
###.## REEL rpm ##.## REEL SENSOR (if sensor disabled)	Reel rotational speed. rpm and SENSOR FLASH alternately.
##.# AUGER SPEED	Displays auger rotational speed (4.7—9.9).
#### KNIFE SPEED #### KNIFE SENSOR (if sensor disabled)	Displays knife speed in strokes per minute. SPEED and SENSOR FLASH alternately.
##.# HEADER HEIGHT ##.# HEADER SENSOR (if sensor disabled)	Distance setting (00.0—10.0) between cutterbar and ground. If sensor disabled, HEIGHT and SENSOR FLASH alternately.
##.# HEADER ANGLE ##.# TILT SENSOR (if sensor disabled)	Angle setting (00.0—10.0) header relative to ground. If sensor disabled, ANGLE and SENSOR FLASH alternately.
##.# L FLOAT R ##.# FLOAT SENS DISABLED (if sensor disabled)	Left and right float setting (00.0—10.0). Does not FLASH if sensor disabled.
LOAD   ■ ■ ■ ■     ####	Displays bar graph representing hydraulic operating pressure. Full scale is pre-programmed overload pressure (2500—5000 psi). If sensor disabled, LOAD does not display. See note below.
### HYD OIL TEMP	Displays hydraulic oil temperature in °C or °F. If sensor disabled, OIL TEMP and SENSOR FLASH alternately.
##.# VOLTS	Engine electrical system operating voltage.
SCROLL Sub-Menu (lower line only) KNIFE SPEED HEADER HEIGHT LOAD   ■ ■ ■ ■   ■ ■ ■ ■   ####	Displays submenu after 2—3 seconds. Press SELECT to cancel. Scroll through the submenu display with the CDM switch.
Note: The LOAD sensor to monitor the knife or conditioner circuit pressure is factory installed. To monitor reel or auger circuit pressure, relocate sensor as per instruction from dealer.	
<b>Cab Forward With Engine Running and Header Engaged—Auger Header With Index Switch On</b>	
Scroll through the display with the CDM Switch or MFH Switch.	
Display (lower or upper line)	Description
#####.# ENGINE HRS	Displays total engine operating time.
#####.# HEADER HRS	Displays total header operating time.
##.# ACRES/HOUR ##.# HECTARES/HOUR (metric)	Displays actual cutting rate in acres (hectares)/hour.

## Display Screens and Programming

###.# SUB ACRES ###.# SUB HECTARES (metric)	Area cut since last reset. To reset: Display SUB ACRES on lower line and hold down PROGRAM switch until display resets (5—7 seconds).
##### TOTAL ACRES ##### TOTAL HECT (metric)	Displays total area cut by machine.
###.### REEL IND ###.### REEL SENSOR (sensor disabled)	Displays reel peripheral speed along with ground speed in mph or km/h.
###.# AUGER SPEED	Displays auger rotational speed (4.7—9.9).
#### KNIFE SPEED #### KNIFE SENSOR (if sensor disabled)	Knife speed in strokes per minute. SPEED and SENSOR FLASH alternately.
###.# HEADER HEIGHT ###.# HEIGHT SENSOR (if sensor disabled)	Distance setting (00.0—10.0) between cutterbar and ground. If sensor disabled, HEIGHT and SENSOR FLASH alternately.
###.# HEADER ANGLE ###.# TILT SENSOR (if sensor disabled)	Angle setting (00.0—10.0) header relative to ground. If sensor disabled, ANGLE and SENSOR FLASH alternately.
###.# L FLOAT R ###.# FLOAT SENS DISABLED (if sensor disabled)	Left and right float setting (00.0—10.0). Does not FLASH if the sensor is disabled.
LOAD   ■ ■ ■ ■     ##### (if metric)	Bar graph representing hydraulic operating pressure. Full scale is pre-programmed overload pressure (2500—5000 psi). If the sensor disabled, LOAD does not display. See note below.
Note: The LOAD sensor to monitor the knife or conditioner circuit pressure is factory installed. To monitor reel or auger circuit pressure, relocate sensor as per instruction from dealer.	
### HYD OIL TEMP	Displays hydraulic oil temperature in °C or °F.
###.# VOLTS	Displays engine electrical system operating voltage.
SCROLL Sub-Menu (lower line only) #### KNIFE SPEED ###.# HEADER HEIGHT LOAD   ■ ■ ■ ■     #####	Displays submenu after 2—3 seconds. Press SELECT to cancel. Scroll through submenu display with CDM switch.
<b>Cab Forward With Engine Running and Header Engaged—Draper Header With Index Switch Off</b>	
Scroll through the display with the CDM Switch or MFH Switch.	
DISPLAY (lower or upper line)	Description
#####.# ENGINE HRS	Displays total engine operating time.
#####.# HEADER HRS	Displays total header operating time.
###.# ACRES/HOUR ###.# HECTARES/HOUR (metric)	Displays actual cutting rate in acres (hectares)/hour.
###.# SUB ACRES ###.# SUB HECTARES (metric)	Displays area cut since last reset. To reset: Display SUB ACRES on lower line and hold down PROGRAM switch until display resets (5—7 seconds).
##### TOTAL ACRES ##### TOTAL HECT (metric)	Displays total area cut by machine.
###.### REEL mph ###.### REEL km/h (metric) ###.### REEL SENSOR (sensor disabled)	Displays reel peripheral speed.
###.# DRAPER SPEED	Displays draper speed (0.0—11.0).
#### KNIFE SPEED #### KNIFE SENSOR (sensor disabled)	Displays knife speed in strokes per minute. rpm and SENSOR FLASH alternately.
###.# HEADER HEIGHT ###.# HEADER SENSOR (sensor disabled)	Displays distance setting (00.0—10.0) between cutterbar and ground. If sensor disabled, HEIGHT and SENSOR FLASH alternately.
###.# HEADER ANGLE ###.# TILT SENSOR (sensor disabled)	Displays angle setting (00.0—10.0) header relative to ground. If sensor disabled, ANGLE and SENSOR FLASH alternately.
###.# L FLOAT R ###.# FLOAT SENS DISABLED (if sensor disabled)	Displays left and right float setting (0.0—10.0). Does not FLASH if the sensor is disabled.
LOAD   ■ ■ ■ ■     ##### (if metric)	Bar graph representing hydraulic operating pressure. Full scale is pre-programmed overload pressure (2500—5000 psi). If sensor disabled, LOAD does not display. See the note below.
Note: The LOAD sensor to monitor knife or conditioner circuit pressure is factory installed. To monitor reel or draper circuit pressure, relocate sensor as per instruction from dealer.	
### HYD OIL TEMP	Displays hydraulic oil temperature in °C or °F.
###.# VOLTS	Displays engine electrical system operating voltage.
SCROLL	Displays Sub-Menu after 2—3 seconds.

## Display Screens and Programming

Sub-Menu (lower line only) #### KNIFE SPEED (optional) ### HEADER HEIGHT LOAD  ■■■■ ■■■■ #### ### REEL mph ### DRAPER SPEED	Press SELECT to cancel. Scroll through submenu display with CDM switch.
<b>Cab Forward With Engine Running and Header Engaged—Draper Header With Index Switch On</b>	
Scroll through display with CDM or MFH switch.	
Display (lower or upper line)	Description
##### ENGINE HRS	Displays total engine operating time.
##### HEADER HRS	Displays total header operating time.
### ACRES/HOUR ### HECTARES/HOUR (metric)	Displays actual cutting rate in acres (hectares)/hour.
### SUB ACRES ### SUB HECTARES (metric)	Area cut since last reset. To reset: Display SUB ACRES on lower line and hold down PROGRAM switch until display resets (5—7 seconds).
##### TOTAL ACRES ##### TOTAL HECT (metric)	Displays total area cut by machine.
### REEL IND ### REEL SENSOR (sensor disabled)	Displays reel peripheral speed along with ground speed in mph or km/h.
### DRAP INDX	Displays draper speed along with ground speed in mph or km/h.
#### KNIFE SPEED #### KNIFE SENSOR (sensor disabled)	Displays knife speed in strokes per minute. SPEED and SENSOR FLASH alternately.
### HEADER HEIGHT ### HEIGHT SENSOR (sensor disabled)	Displays distance setting (00.0—10.0) between cutterbar and ground. If sensor disabled, HEIGHT and SENSOR FLASH alternately.
### HEADER ANGLE ### TILT SENSOR (sensor disabled)	Displays angle setting (00.0—10.0) header relative to ground. If sensor disabled, ANGLE and SENSOR FLASH alternately.
### L FLOAT R ### FLOAT SENS DISABLED (if sensor disabled)	Displays left and right float setting (0.0—10.0). Does not FLASH if the sensor is disabled.
LOAD  ■■■■ ■■■■ ####	Displays bar graph representing hydraulic operating pressure. Full scale is pre-programmed overload pressure (2500—5000 psi). If sensor disabled, LOAD does not display. See note below.
NOTE: The LOAD sensor to monitor knife or conditioner circuit pressure is factory installed. To monitor reel or draper circuit pressure, relocate sensor as per instruction from dealer.	
### HYD OIL TEMP	Displays hydraulic oil temperature in °C or °F.
### VOLTS	Displays engine electrical system operating voltage.
SCROLL SUB-MENU (lower line only) #### KNIFE SPEED ### HEADER HEIGHT LOAD  ■■■■ ■■■■ #### ### REEL IND ### DRAP INDX	Displays Sub-Menu after 2—3 seconds. Press SELECT to cancel. Scroll through submenu display with CDM switch.
### REEL MIN rpm (lower line)	Displays if reel speed drops under programmed set point.
MINIMUM (lower line)	Reel speed at zero ground speed.
<b>Cab Forward With Engine Running and Header Engaged—Rotary Header</b>	
Scroll through the display with the CDM or MFH Switch	
Display (lower or upper line)	Description
##### ENGINE HRS	Displays total engine operating time.
##### HEADER HRS	Displays total header operating time.
### ACRES/HOUR ### HECTARES/HOUR (metric)	Displays actual cutting rate in acres (hectares)/hour.
### SUB ACRES ### SUB HECTARES (metric)	Area cut since last reset. To reset: Display SUB ACRES on lower line and hold down PRORAM switch until display resets (5—7 seconds).
##### TOTAL ACRES ##### TOTAL HECT (Metric)	Displays total area cut by machine.
### HEADER HEIGHT ### HEIGHT SENSOR (if sensor disabled)	Displays distance setting (00.0—10.0) between cutterbar and ground. If sensor disabled, SPEED and SENSOR FLASH alternately.
### HEADER ANGLE ### TILT SENSOR (if sensor disabled)	Displays angle setting (00.0—10.0) header relative to ground. If sensor disabled, ANGLE and SENSOR FLASH alternately.

## Display Screens and Programming

##.# L FLOAT R ##.# FLOAT SENS DISABLED (if sensor disabled)	Displays left and right float setting (0.0—10.0). If sensor disabled, does not FLASH.	
LOAD   ■ ■ ■ ■     ##### (if metric)	Displays bar graph representing hydraulic operating pressure. Full scale is pre-programmed overload pressure (2500—5000 psi). If sensor disabled, LOAD does not display.	
### HYD OIL TEMP	Displays hydraulic oil temperature in °C or °F.	
##.# VOLTS	Displays engine electrical system operating voltage.	
SCROLL SUB-MENU (lower line only) ##### KNIFE SPEED ##.# HEADER HEIGHT LOAD  ■■■■ ■■■■  #####	Displays Sub-Menu after 2—3 seconds. Press SELECT to cancel. Scroll through Sub-Menu display with CDM switch.	
Miscellaneous Operational Information		
Display (upper line)	Description	
< LEFT TURN ■	Indicates left turn when left turn arrow is pressed on CDM. See NOTE 1	
■ RIGHT TURN >	Indicates right turn when right turn arrow is pressed on CDM. See NOTE 2	
■ HAZARD ■	Indicates that hazard warning lights are on when the hazard switch is pressed CDM	
HEADER REVERSE	Header drive engaged in reverse	
HEADER ENGAGED	Header drive engaged	
ROAD GEAR	Indicates that the windrower's transmission is in the HIGH range	
NOTE 1: If the road light kit is NOT installed, CDM displays E135 LEFT STOP LAMP as a malfunction in CAB FORWARD mode. NOTE 2: If the road light kit is NOT installed, CDM displays E134 RIGHT STOP LAMP as a malfunction in CAB FORWARD mode.		

WKJQUWJ,0000D71-19-01MAR22

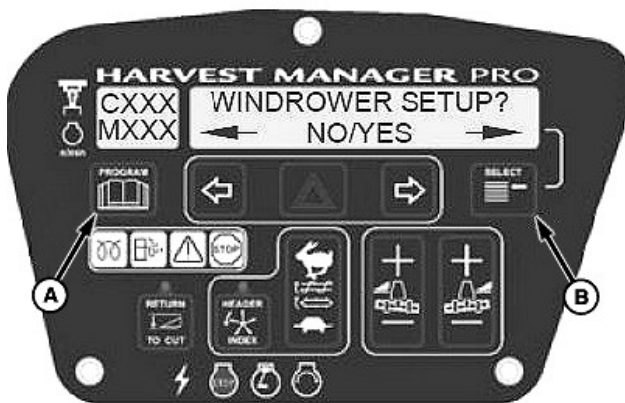
### Calibrate Swath Compressor Sensor (If Equipped)

To calibrate the swath compressor sensor, use the following steps:

1. Turn the key to the run position or start the engine.

(CDM). WINDROWER SETUP? is displayed on the upper line.

3. Press SELECT (B) until CALIBRATE SENSORS? is displayed on the upper line. NO/YES is displayed on the lower line.



E92536—UN—25OCT19

A—Program  
B—Select

2. To enter the programming mode, press PROGRAM (A) and SELECT (B) on the cab display module



E92537—UN—25OCT19

A—Right Arrow  
B—Select

4. Select YES, press the right arrow (A). Press SELECT (B). To CALIBRATE SELECT is displayed in the upper line.

5. To scroll through the choices until SWATH COMPR HT is displayed on the lower line, press right arrow (A). Press SELECT (B).
  - SWATH SENSOR CAL is displayed on the upper line.
  - SWATH UP TO START is displayed on the lower line.
6. To raise the swath compressor, press and hold button (B).
  - CALIBRATING SWATH is displayed on the upper line.
  - FORM UP and flashing HOLD is displayed on the lower line until the system has completed reading the signal with the swath compressor fully raised.
  - SWATH FORM UP DONE (with buzzer) is displayed on the lower line when complete.

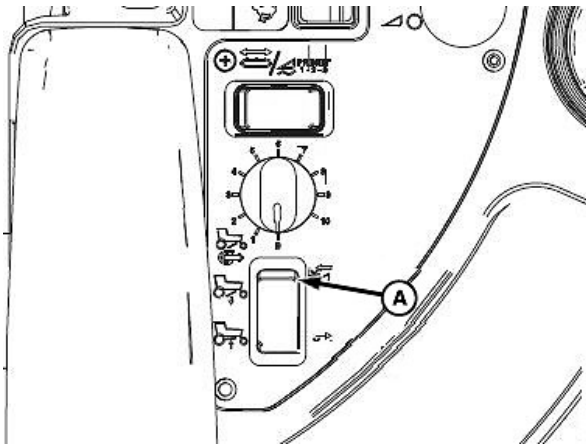
- CALIBRATING SWATH is displayed on the upper line.
- FORM DOWN and flashing HOLD is displayed on the lower line.
- SWATH FORM COMPLETE flashes for 2 seconds on the lower line (with buzzer) when the calibration is complete.

8. To exit programming mode, press PROGRAM.

GW44282,0000A6F-19-04DEC19

## Warning and Alarm Screens

Warnings display on the cab display module (CDM) (A). Alarms sound, and warning lights at location (B) also flash to help bring the condition to the attention of the operator. See the following table.



E92538—UN—25OCT19

A—Button



E65074—UN—31MAY12

A—Cab Display Module (CDM)  
B—Warning Lights Location

7. To lower the swath compressor, press and hold button (A).

Display Warnings and Alarms			
Display	Flashing	Alarm Tone	Description
BRAKE OFF	YES	Short beep with each flash.	Engine running, GSL in park, brake pressure switch fault, or brake switch relay fault.
BRAKE ON	YES	Short beep with each flash.	GSL out of neutral-detent, but interlock switch remains closed to apply the brake.
BRAKE SW FAILURE	YES	Short beep with each flash.	Ignition on, engine not running, brake switch, and relay closed.
CAB FORWARD SW ON / ENG FORWARD SW ON	YES	Messages flash alternately.	Both seat switches activated.
CENTER STEERING	NO	Beeps at two per second.	GSL or interlock switches not closed with the key on and engine off.
DISENGAGE HEADER RE-ENGAGE <1800 RPM>	YES	None	Engine rpm above 1800 when engaging header.
ENGINE AIR FILTER	YES	Single loud tone for 10 seconds. Repeats every 30 minutes until condition is corrected.	Engine air filter requires servicing.
ENGINE TEMPERATURE	YES	Intermittent moderate tone until temperature is below 102°C (215°F).	Engine temperature over 110°C (230°F).
HEADER DISENGAGED	NO	None	Normal
DISENGAGE HEADER	YES	None	Header switch is in on position when the ignition switch turned on.

## Display Screens and Programming

Display Warnings and Alarms			
Display	Flashing	Alarm Tone	Description
HEADER OIL PRESS	YES	Continuous loud tone until oil pressure regained.	Low header charge oil pressure. Header shuts down automatically. Header on switch must be moved to off position and then on position to restart the header.
HYDRAULIC FILTER	YES	Single loud tone for 10 seconds. Repeats every 15 minutes until condition is corrected.	Excessive pressure increase across the hydraulic oil filter.
HYD OIL COLD	YES	Tone sounds with each flash for 5 seconds and then stops for 1 minute. Flashing continues if oil is still cold after 1 minute, tone sounds again.	Hydraulic oil temperature < 10°C (50°F).
HYD OIL HOT	YES	Tone sounds with each flash at 105°C (220°F) for 5 seconds and then stops for 1 minute. Flashing continues if oil is still hot after 1 minute, tone sounds again. Flashing and steady tone at 110°C (230°F) and higher.	Hydraulic oil temperature > 105°C (220°F).
LOCK SEAT BASE	YES	None	Seat base not detected in cab- or engine- forward position.
LOW HYDRAULIC OIL	YES	Continuous loud tone for 5 seconds. If condition not rectified, single loud tone every 5 minutes.	Low hydraulic oil level. Header shuts down automatically. Header on switch must be moved to off position and then to on position to restart the header.
NO HEADER	NO	None	Header is not detected.
LOW VOLTS	YES	Single loud tone for 10 seconds.	Voltage below 11.5 V.
HIGH VOLTS	YES	Single loud tone for 10 seconds.	Voltage above 16 V.
IN PARK	YES	One short beep.	GSL in neutral-detent, steering wheel centered, and brakes engaged.
NOT IN PARK	YES	Short beep with each flash.	GSL or interlock switch not closed with the key on and engine off.
PLACE GSL INTO NEUTRAL	YES	Beeps at two per second until corrected.	Interlock switch not closed with the key on and engine off.
SLOW DOWN	YES	Short beep with each flash.	Ground speed is greater than or equal to 40 km/h (25 mph). Pull back on the GSL.
TRANS OIL PRESSURE	YES	Continuous loud tone until oil pressure is recovered.	Low transmission charge oil pressure.
KNIFE SPD OVERLOAD	YES	Short beep with each flash until condition is corrected.	Machine overload. Knife speed drops under programmed value.
NO OPERATOR ENGINE SHUT DOWN	NO	Continuous tone.	Engine shuts down when operator not detected in seat with machine moving under 4.8 km/h (3 mph).
NO OPERATOR	NO	Continuous tone.	Operator not detected in seat with header engaged or out of neutral-detent. Engine shutdown after 5 seconds.

GW44282,0000A6B-19-06DEC19

# Lights and Signals

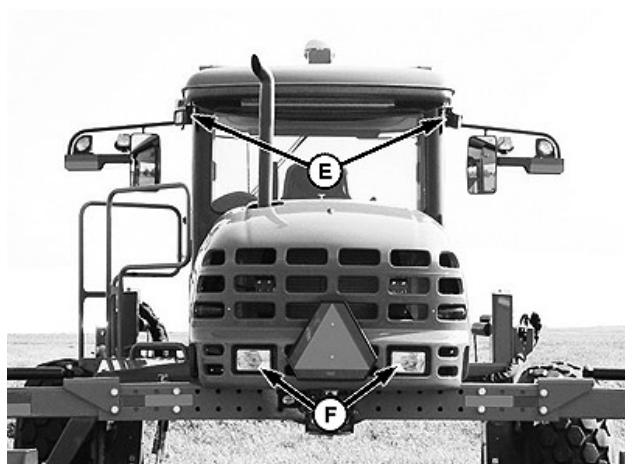
## Worklights, Road Lights, and Flood Lights

The cab headliner contains controls for operating lights, cab lights, windshield wipers, and radio (if equipped).

**NOTE:** Lighting is dependent upon the position of the operator's station (cab-forward or engine-forward). The worklights do not turn on if the auto road light feature is activated, the windrower is in the engine-forward or cab-forward mode, out of park, in the high range switch position, or the platform is off. The center portion of the switch is the off position.

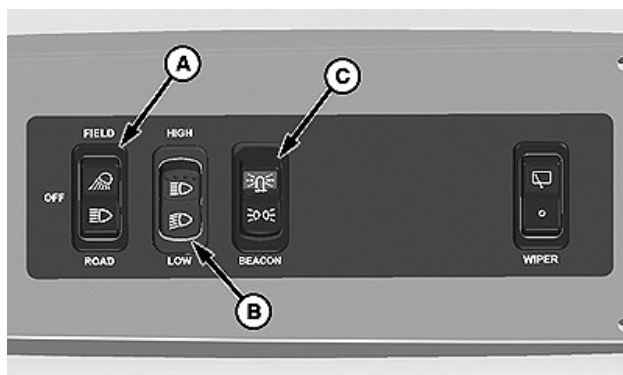
### Worklights

**NOTE:** When the engine is shut down, the rear worklights turn on for 60 seconds to illuminate the platform and stairs.



E66710—UN—30JUL12

Rear



E92707—UN—07NOV19

- A—Worklight and Road Light Switch
- B—High/Low Beam Switch
- C—Rotating Beacon Switch (if equipped)
- D—High/Low Worklight (7 used)
- E—Flood Light (2 used)
- F—High/Low Swath Light (2 used)



E66740—UN—10AUG12



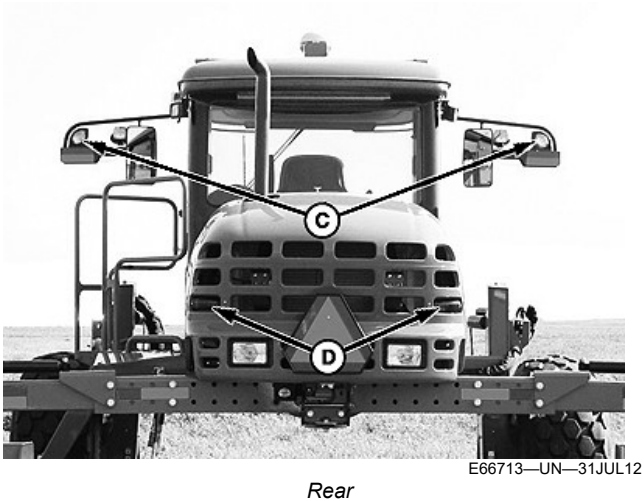
E66711—UN—10AUG12

Front



E66712—UN—10AUG12

Front



Rear

- A—Road Light Switch
- B—Road Light (4 used)
- C—Amber Turn Signal/Hazard (2 used)
- D—Red Tail Light (2 used)

#### Road Lights:

*NOTE: If a lighting and marking kit for cab-forward travel is not installed, activating the turn signal while in cab-forward mode triggers a fault code.*

GW44282,0000A3E-19-13DEC19

#### Cab Interior Lights

Two lights are installed in the cab headliner.

Interior light (A) is located in the headliner switch panel and is activated and deactivated by a button switch. Push-ON and Push-OFF.



E61981—UN—11APR12

- A—Cab Light
- B—Low Intensity LED Light

A low intensity LED light (B) is located directly overhead to provide additional light. This light functions only when the road/field light switch is ON. This light is activated by an ON-OFF switch located on the light.

RC48509,000044B-19-21JUN13

#### Turn Signals



E92539—UN—25OCT19

- A—Left Turn Switch and Indicator
- B—Right Turn Switch and Indicator

Turn signals are operable whenever the key is in the run position.

When operating the windrower on the road or highway, use the turn signals when turning the windrower.

Push the left turn signal (A) to activate the left turn lights.

Push the right turn signal (B) to activate the right turn lights.

**IMPORTANT: Turn signals are not self-canceling. The operator must push the turn signal switch again to cancel.**

Amber lights on platform and amber lights on machine flash in direction of indicated turn.

Corresponding lights on the opposite side of the machine remain on (not flashing).

*NOTE: Left and right turn signal indicator lights blink individually in direction of indicated turn.*

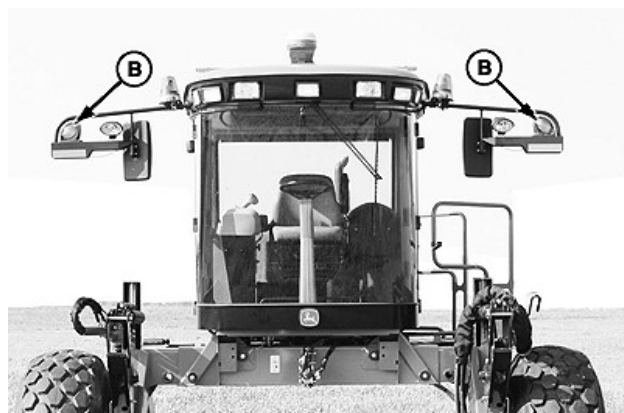
GW44282,0000A70-19-13DEC19



## Hazard Lights



E92540—UN—25OCT19



E66715—UN—31JUL12

Front Hazard Light



E66714—UN—31JUL12

Rear Engine-Forward Hazard Light

- A—Hazard Light Switch
- B—Front Hazard Light
- C—Rear Hazard Light

The flashing hazard lights (B and C) warn the operators of other vehicles of your presence.

To activate the hazard lights, push the switch (A). Push the switch again to turn off the lights.

When the windrower is disabled on the roadside, use the hazard light switch to enable the hazard lights.

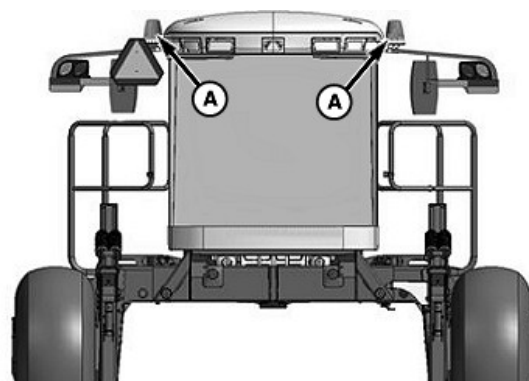
**NOTE:** Hazard lights flash on both the front and rear of each machine.

Pressing the hazard switch cancels a turn signal.

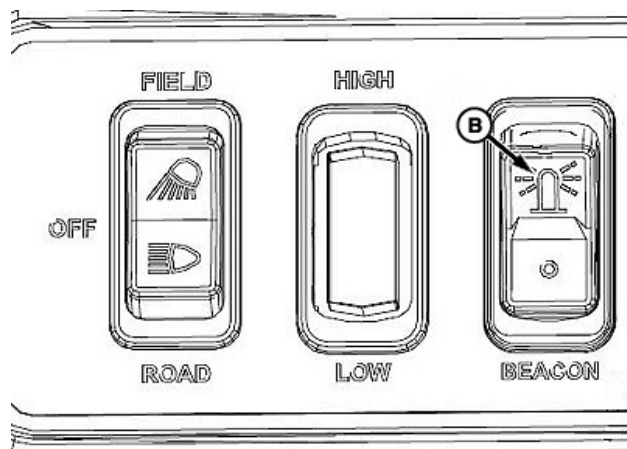
Hazard lights turn on automatically when engine is running, platform is disengaged, and transmission is in mid or high range. Hazard lights must be turned off manually.

GW44282,0000A71-19-04DEC19

## Beacon Lights



E81618—UN—13OCT16



E81619—UN—13OCT16

- A—Beacon Lights
- B—Beacon Switch

Beacon lights (A) are functional when the key and the beacon light switch (B) are ON.

**NOTE:** Beacon lights turn on automatically when engine is running, platform is disengaged, and transmission is in high or mid-range. Beacon lights must be turned off manually.

Beacon lights are standard equipment on export windrowers.

GW44282,0000A7F-19-19DEC19

# Break-In

## Machine Break-In Service

Hours	Item	Check
At 1 h	Drive Wheel Nuts	Torque: 510 N·m (375 lb·ft) Repeat checks at 1 h intervals until torque stabilizes at two consecutive checks.
At 5 h	Air Conditioner Belt	Tension
	Caster Wheel Nuts	Torque: 163 N·m (120 lb·ft)
	Caster Wheel Anti-Shimmy Dampener Bolts	Inboard torque: 135 N·m (100 lb·ft) Outboard torque: 115 N·m (85 lb·ft)
	Walking Beam Width Adjustment Bolts	Torque: 448 N·m (330 lb·ft)
At 10 h	Walking Beam Width Adjustment Bolts	Torque: 448 N·m (330 lb·ft)
	Drive Wheel Nuts	Torque: 510 N·m (375 lb·ft) Repeat checks at 20 and 30 h.
	Neutral	Dealer Adjust
At 50 h	Hose Clamps—Air Intake, Radiator, Heater, and Hydraulic Hose	Hand-tighten - visual inspection unless otherwise noted.
	Walking Beam Width Adjustment Bolts	Torque: 448 N·m (330 lb·ft)
	Caster Wheel Anti-Shimmy Dampener Bolts	Inboard torque: 135 N·m (100 lb·ft) Outboard torque: 115 N·m (85 lb·ft)
	Drive Wheel Nuts	Torque: 510 N·m (375 lb·ft) Repeat checks until torque stabilizes.
	Drive Wheel Lubricant	Replace
	Main Gear Box Oil	
	Charge System Hydraulic Oil Filter	
	Manifold Oil Filter	
	Engine Oil	



- A—Cab Display Module  
B—Cab Display Module Selector Switch  
C—Ground Speed Lever Display Selector Switch

The windrower is ready for normal operation. However, there are several items to check and watch out for during the first 150 hours.

Engine and platform hours are displayed on the cab display module (CDM).

The engine is ready for normal operation. However, use special care during the first 50 hours of operation.

To monitor the service intervals, watch the engine hours on the CDM display screen.

**During the first 20 hours, avoid sustained maximum load operation.**

1. Work the engine as soon as possible to promote good ring seating and prevent cylinder wall glazing. Avoid unnecessary idling. Turn off the engine if windrower must be idled longer than 5 minutes.

**IMPORTANT: Normal engine operating temperature range is 82—107°C (180—225°F).**

*NOTE: Before taking the ground speed lever (GSL) out of park, let the hydraulic oil warm up to 32°C (90°F).*

2. Watch coolant temperature closely. View the gauge on the console. If temperature exceeds 110°C (230°F), slow ground speed to reduce load.

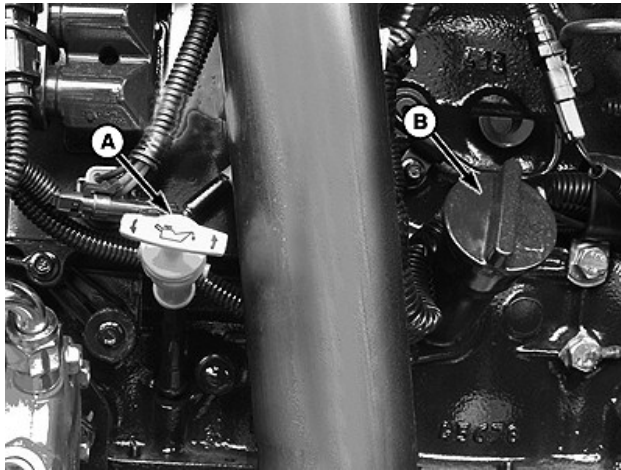
**IMPORTANT: Do not allow the fuel tank to run dry.**

3. Monitor fuel frequently by viewing the fuel gauge.

**IMPORTANT: Check engine oil and coolant levels frequently. After starting the engine, do not accelerate or apply a load until the oil pressure warning light is out. Let the engine idle at least 1—3 minutes before stopping the engine. Refer to Fuels, Coolants, and Lubricants section for types of fluids and oils to use.**

4. This engine is factory-filled with SAE 15W-40 API

Class SJ/CH-4 oil. Operate the engine at heavy loads with minimal idling during the break-in period.



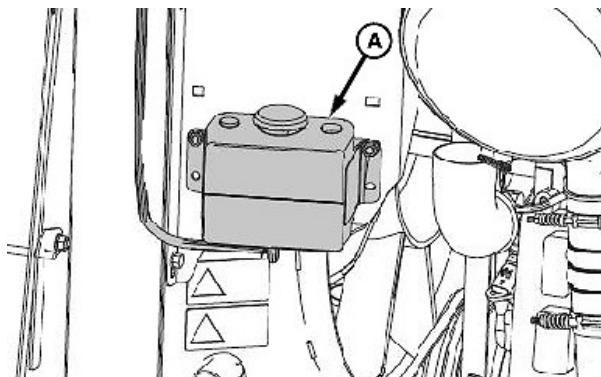
E63265—UN—18JUN12



E65099—UN—20JUL12

A—Engine Oil Dipstick  
B—Engine Oil Fill Cap

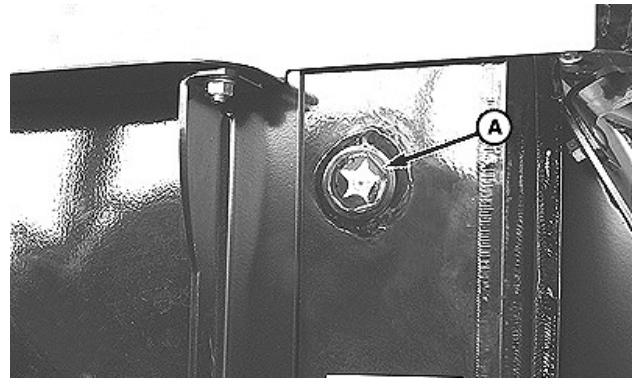
5. Check the engine oil level with dipstick (A) more frequently during the engine break-in period. Keep the engine oil between the lines as shown. If necessary, add oil at fill cap location (B).
6. After the first 50 hours (maximum), change the engine oil and replace the oil filter.



E92634—UN—06NOV19

A—Coolant Tank

7. Check coolant level in the coolant tank (A). Keep the coolant tank half full. Add coolant if necessary.
8. Follow fluid recommendations. (See Fuels, Coolants, and Lubricants section.)



E92708—UN—07NOV19

A—Sight Glass

9. Check the hydraulic oil level in the sight glass (A). Sight glass and hydraulic tank are on the left-hand side, cab-forward.
10. Maintain hydraulic oil between the low and full marks.
11. Follow fluid recommendations. (See Fuels, Coolants, and Lubricants section.)

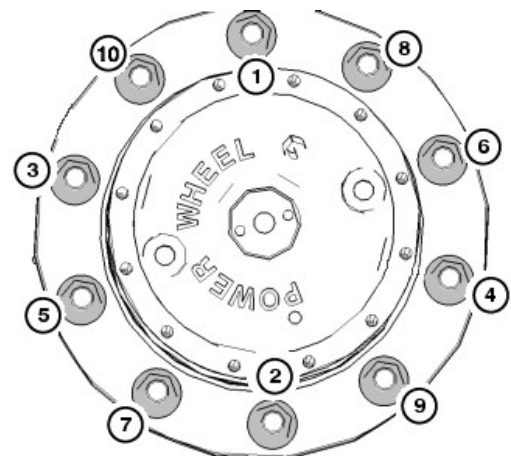
GW44282,0000A3F-19-13DEC19

## After One Hour of Operation

Check drive wheel nuts every hour of operation.

Torque nuts following sequence shown.

Repeat check until two consecutive checks produce no movement of the nuts.



E76341—UN—12AUG14

**IMPORTANT: Check torque on drive wheel nuts.**

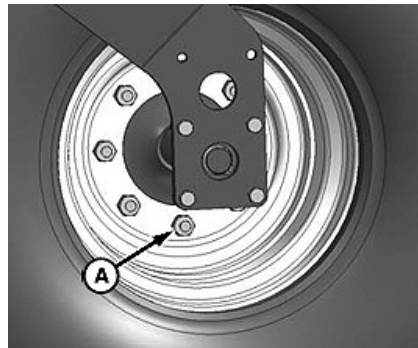
**Check every hour until torque stabilizes at two consecutive checks.**

**Check torque after every 50 hours of operation for routine service interval after torque is maintained.**

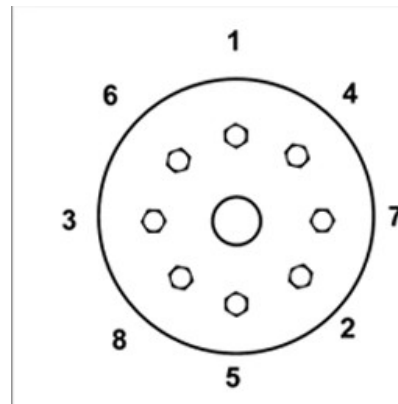
### Specification

Drive Wheel Nuts—Torque. . . . . 510 N·m  
(375 lb.-ft.)  
OUO6064,000125C-19-15SEP14

### Caster Wheel Nuts

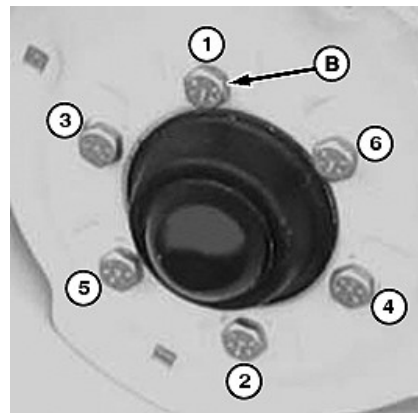


E63274—UN—19APR12



Forked Caster

E63273—UN—19APR12

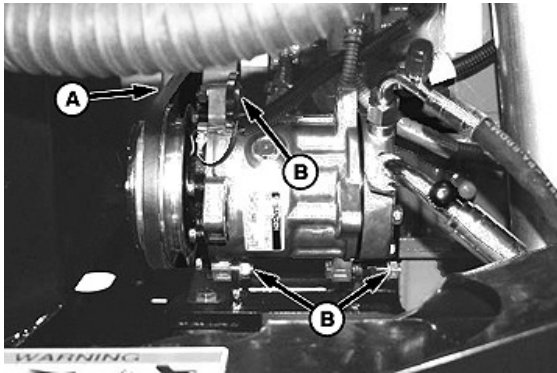


Formed Caster

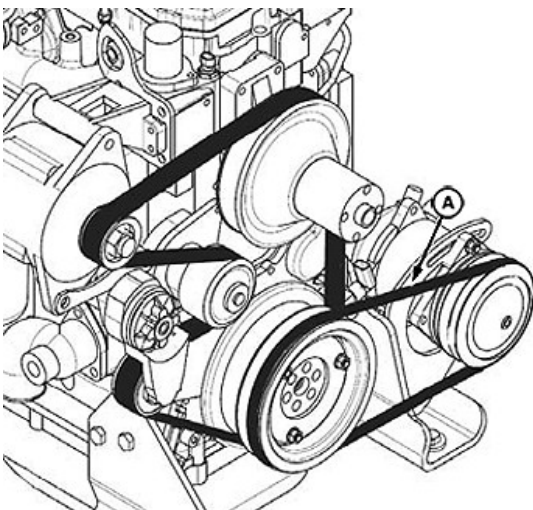
E63272—UN—19APR12

## After Five Hours of Operation

### Air Conditioner Belt Check



E63283—UN—19JUN12



E63284—UN—23APR12

A—Air Compressor Belt  
B—Compressor Hardware

After the first 5 hours of operation check the tension of the air-conditioning compressor belt.

With the engine off and the key removed, open the engine hood to the lowest position.

Loosen the compressor mounting hardware (B).

Pry compressor away from engine until belt tension and deflection (at mid-span) are within specifications.

### Specification

Air Conditioning Compressor  
Belt—Force. . . . . 35—55 N  
(8—12 lb.)  
—Deflection. . . . . 5 mm  
(3/16 in.)

Tighten hardware.

A—Forked Caster Wheel Nut (8-used)  
B—Formed Caster Wheel Bolt (6-used)

Check forked caster wheel nuts (A) and formed caster wheel bolts (B) every 5 hours of operation.

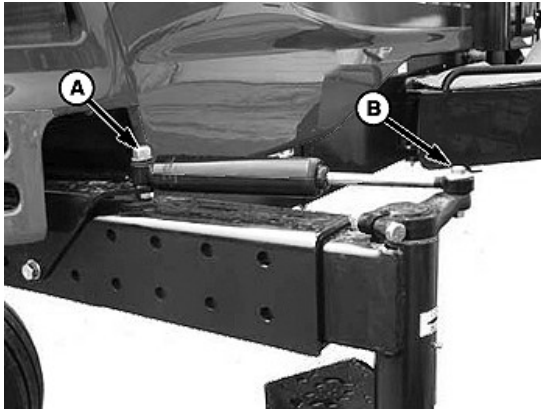
Torque the nuts and bolts by following sequence shown.

Repeat checks until torque stabilizes.

### Specification

Forked Caster Nut—Torque. . . . . 163 N·m  
(120 lb.-ft.)

## Caster Wheel Dampener Bolts



E63275—UN—20APR12

**A—Inboard Dampener Cylinder End Bolt**  
**B—Outboard Dampener Rod End Bolt**

Check the caster wheel anti-shimmy dampener bolts after the first 5 hours of operation.

Inboard bolt (A) at cylinder end and outboard bolt (B) at the rod end of dampener have different torques.

**IMPORTANT: Torque values vary from inboard to outboard.**

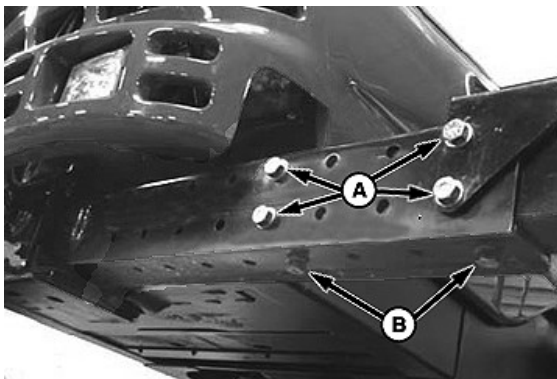
### Specification

Inboard Bolt—Torque. . . . . 135 N·m  
(100 lb.-ft.)

### Specification

Outboard Bolt—Torque. . . . . 115 N·m  
(85 lb.-ft.)

## Walking Beam Bolts



E63276—UN—20APR12

*Walking Beam Bolts*

**A—Upper Walking Beam Bolts (4 each side)**  
**B—Lower Walking Beam Bolts (2 each side)**

Torque the walking beam bolts after 5 hours of operation.

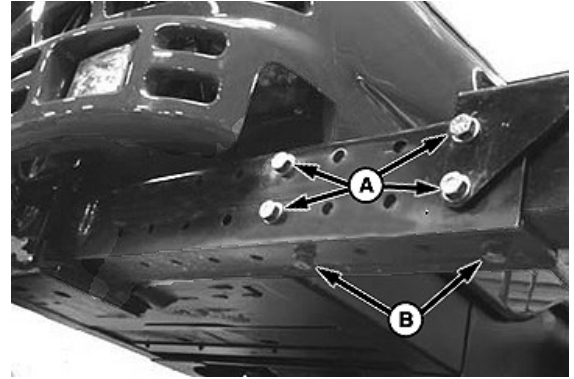
### Specification

Walking Beam Bolts—Torque. . . . . 448 N·m  
(330 lb.-ft.)

OUO6064,000125D-19-30JUL14

## After 10 Hours of Operation

### Walking Beam Adjustment Bolts



E63276—UN—20APR12

*Walking Beam Bolts*

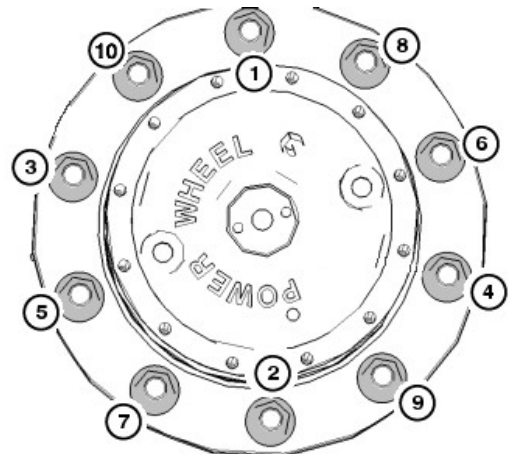
**A—Upper Walking Beam Bolts (4 each side)**  
**B—Lower Walking Beam Bolts (2 each side)**

Check the torque of the walking beam adjustment bolts every 10 hours of operation.

### Specification

Walking Beam Bolts—Torque. . . . . 448 N·m  
(330 lb.-ft.)

## Drive Wheel Nuts



E76341—UN—12AUG14

Check the torque of the drive wheel nuts every 10 hours of operation.

Torque nuts to specification following sequence shown.

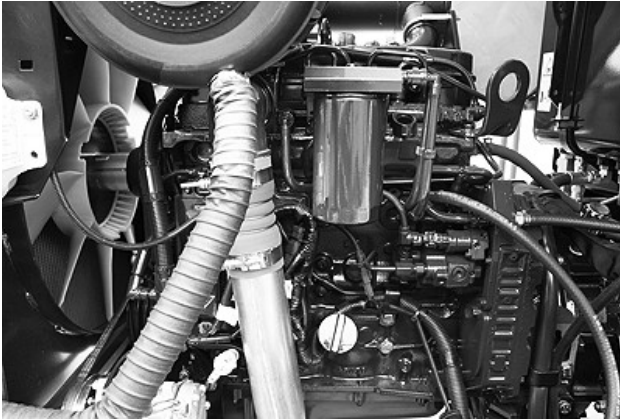
### Specification

Drive Wheel Nuts—Torque. . . . . 510 N·m  
(375 lb.-ft.)

OUO6064,000125E-19-15SEP14

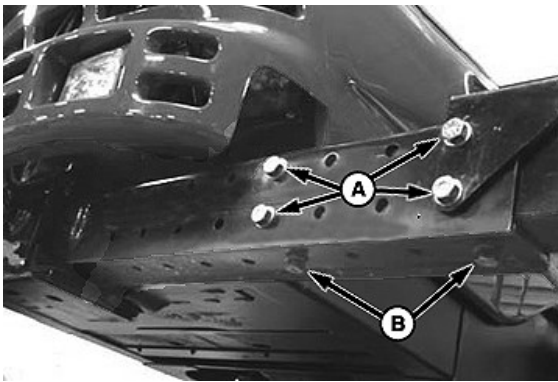
## After 50 Hours of Operation

### Hose Clamps, Hoses, Hardware, and Connections



After first 50 hours of operation, check hose clamps, hoses, hardware, and connections. Look for leaks or loose hardware. Tighten as necessary.

### Walking Beam Bolts



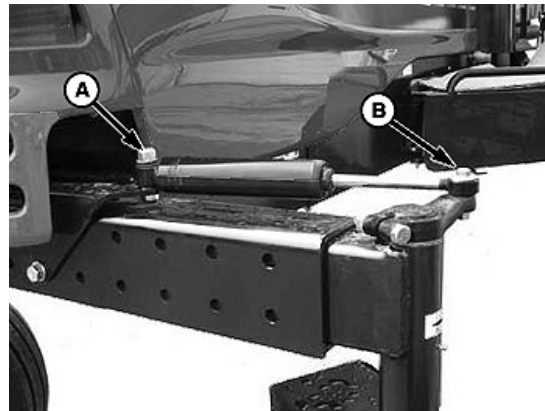
A—Upper Bolt (4 each side)  
B—Lower Bolt (2 each side)

Check the torque of the walking beam bolts (A and B) after first 50 hours of operation.

#### Specification

Walking Beam Bolts—Torque. . . . . 448 N·m  
(330 lb·ft)

### Caster Wheel Anti-Shimmy Bolts



A—Inboard Dampener Bolt (1 each side)  
B—Outboard Dampener Bolt (1 each side)

Check torque of anti-shimmy dampener bolts after 50 hours of operation.

Inboard bolt (A) at the cylinder end and outboard bolt (B) at the rod end of dampener have different torque values.

**IMPORTANT: Torque values vary from inboard to outboard.**

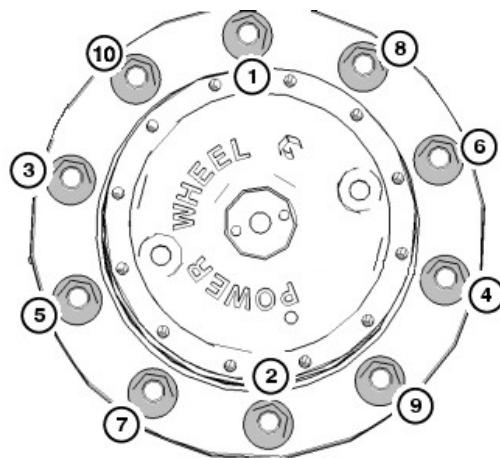
#### Specification

Inboard Bolt—Torque. . . . . 135 N·m  
(100 lb·ft)

#### Specification

Outboard Bolt—Torque. . . . . 115 N·m  
(85 lb·ft)

### Drive Wheel Nuts



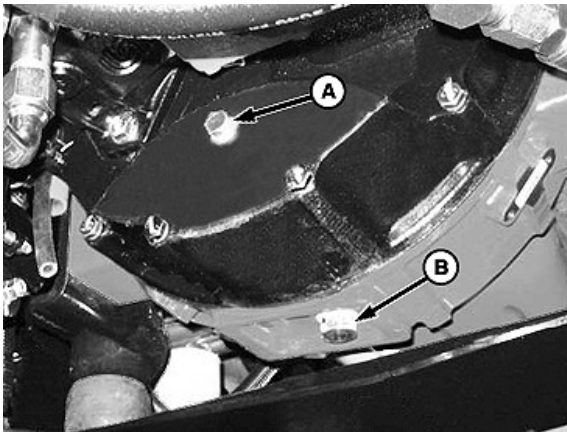
Check the torque of the drive wheel nuts every 50 hours of operation.

Torque nuts to specification following sequence shown.

#### Specification

Drive Wheel Nut—Torque. . . . . 510 N·m  
(375 lb·ft)

## Gear Case Oil



E63279—UN—23APR12



E70492—UN—31JUL13

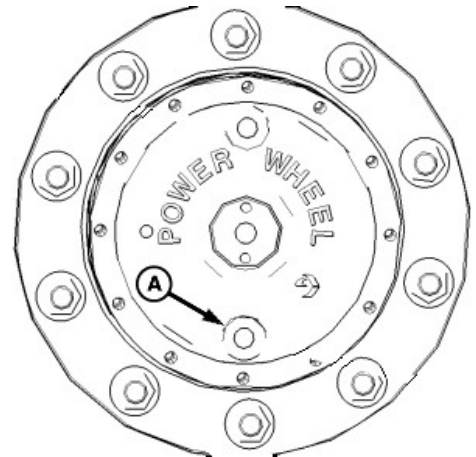
A—Check Plug  
B—Drain Plug  
C—Breather/Fill Cap

Change the gear case oil after the first 50 hours of operation.

To change the gear case oil:

1. Park the windrower on firm, level ground.
2. Turn off the engine and remove the key.
3. Remove check plug (A). Oil should be visible through the check plug hole or slightly running out.
4. Remove drain plug (B) and allow oil to drain.
5. Install drain plug (B).
6. Fill oil through the breather cap (C).
7. Once oil is up to or starting to run out of the check plug (A), reinstall the plug.
8. Operate engine at low idle and check for leaks at the check and drain plugs.

## Final Drive Oil



E76342—UN—12AUG14

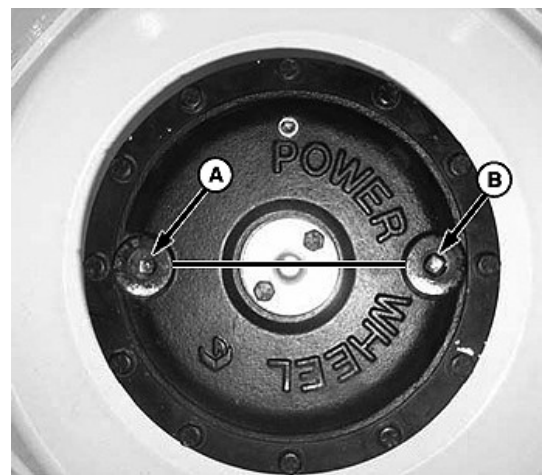
A—Plug (2 used)

Drain and refill the final drive oil after initial 50 hours of operation.

1. Park the windrower on a flat, level surface. Position the wheel so plug (A) is at the bottom center position or bottom drain position as shown.
2. Lower the platform.
3. Turn off the engine and remove the key.
4. Remove plug (A) and drain the oil. Drain the oil at the end of the work day while warm and allow to drain overnight. Inspect the magnetic plug for metallic particles.

**NOTE:** Some particles on the magnet are expected and are considered normal.

*Inspect the plug O-ring and replace if damaged.*



E63278—UN—23APR12

A—Plug  
B—Plug

5. Rotate wheel to bring the plugs to the horizontal position shown.



6. Fill the final drive with clean oil until the oil level is at the same level as bottom of plug (B).

Use only SAE 75W-90 API-GL5 Synthetic oil after initial break-in period.

**NOTE:** Final drive oil specification is per side.

7. Clean and reinstall plugs (A and B). Tighten to specification.
8. Repeat on the opposite side final drive.

#### Specification

Final Drive Oil—Capacity. . . . . 1.4 L  
(1.5 qt)

### Hydraulic Oil Filters



Hydraulic Filters

A—Hydraulic Charge Filter  
B—Hydraulic Return Filter

Remove and replace the hydraulic oil filters after the first 50 hours of operation.

1. Park the windrower on a firm, level surface.
2. Turn off the engine and remove the key.
3. Clean the areas around the filters and filter heads.
4. Remove the filters and dispose in accordance with regulations.
5. Clean the gasket surface of the filter head.
6. Apply a thin film of clean oil to the new filter gasket.
7. Tighten a new filter onto the mount until gasket contacts the filter head.
8. Tighten the filter with an additional 1/2 turn by hand.

**IMPORTANT:** Do not use a filter wrench for installing a new oil filter. Overtightening damages the gasket and filter.

9. Start the engine and run the windrower for a few minutes to circulate the hydraulic fluid.

10. Stop the engine and remove the key.
11. Check the hydraulic fluid level and add if necessary.

GW44282,0000A40-19-19DEC19

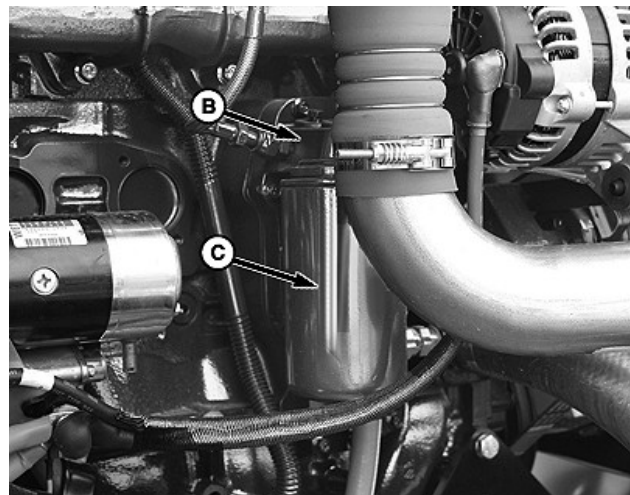
### Initial Engine Oil and Filter Change

Change engine oil and filter after the first 100 hours of operation.

1. Park windrower on a firm, flat surface, and lower platform.
2. Turn off engine and remove key.

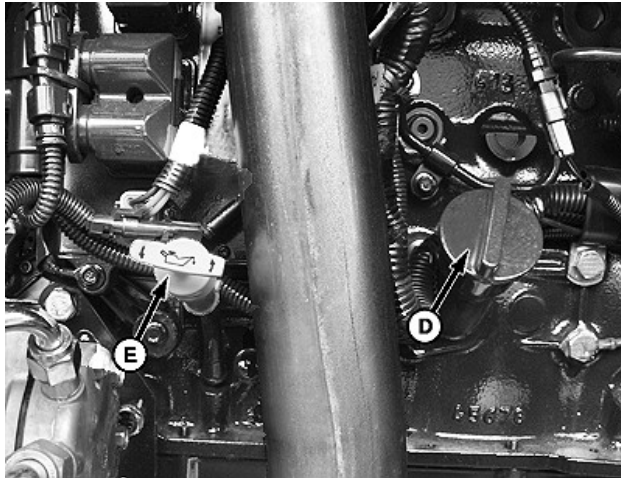


E63285—UN—18JUN12



E63286—UN—11JUL12





E63287—UN—25JUN12

- A—Oil Pan Drain
- B—Engine Oil Filter Head
- C—Engine Oil Filter
- D—Engine Oil Fill Cap
- E—Engine Oil Dipstick

3. Remove oil drain plug (A) and drain oil into a suitable container.

**IMPORTANT: Dispose of waste oil and filter in accordance with all local and regional environmental regulations.**

4. After oil has drained, clean and install drain plug.
5. Clean area around oil filter head (B) and remove filter (C).
6. Apply a thin film of clean engine oil to new filter gasket and mating surface of oil filter base.
7. Install new oil filter onto base. Do not overtighten oil filter.

Tighten oil filter by hand approximately one turn after gasket contacts base.

8. Add new oil to engine through engine oil filler cap (D). Oil capacity with filter is approximately 11.9 L (12.6 qt.)

Use proper oil and viscosity based on expected temperature range windrower operates in. (See Diesel Engine Oil in the Fuels, Coolants, and Lubricants section of this manual.)

Questions about fuels, coolants, or lubricants for windrower, contact your John Deere Dealer.

**IMPORTANT: Do not overfill engine oil level.**

9. After filling engine with new oil, operate engine for a few minutes, allowing oil filter to fill up.
10. Stop engine, remove key.
11. Allow oil to drain into pan before checking.

12. Check engine oil with engine oil dipstick (E) and top off as necessary.

**IMPORTANT: Check engine oil every 10 hours of operation.**

See Every 100 Hours in Lubrication and Maintenance section of this manual and perform all required service for this interval.

OUO6064,0001260-19-30JUL14

# Operating Engine

## Starting Procedure After Extended Shutdown or Oil Change

Follow the normal starting procedures described in this section. Engine will not start until the minimum cranking oil pressure is detected by the Engine Control Module (ECM). It can take more cranking time to start the engine after an extended shut down period or oil change.

OUO6043,00001F4-19-19JUN13

## Checking Warning Lights



E70493—UN—31JUL13

- A—Stop Engine Immediately
- B—Caution
- C—Water In Fuel
- D—Engine Preheat
- E—Return to Cut and Platform Index

With the master disconnect switch turned to ON, check windrower warning lamps.

Turn ignition switch to accessories or run position. The warning lamps (A-D) and Return to Cut and Platform Index (E) will briefly glow.

Familiarize yourself with location and color of warning lamps. Some lamps will trigger a warning sound, also.

GW44282,000018F-19-14JAN15

## Engine Warm-Up Period

Do not run the engine at top rpm or place the windrower under full load until the engine is properly warmed up.

To warm up the engine, leave the engine speed at a low idle until the engine warms up.

Normal engine operating temperature range is 82—104°C (180—220°F). If the engine temperature exceeds 104°C (220°F), an ongoing intermittent tone is heard and the CDM flashes ENGINE TEMP.

Before taking the GSL out of park, let the hydraulic oil warm up to 32°C (90°F).

If the engine overheats, stop the engine immediately and determine the cause. The tone stops and the CDM returns to normal when the temperature drops below 102°C (215°F).

GW44282,0000A72-19-14NOV19

## Starting the Engine

**CAUTION:** Avoid possible death or serious injury from runaway machinery.

Do not start the engine by shorting across the starter or starter solenoid terminals. If normal starting circuitry is bypassed, the machine starts and moves with the ground speed lever (GSL) in forward or reverse or with the steering wheel not centered.

Before starting the engine, the following conditions must be met:

- Operator must be in seat with the seat belt fastened.
- Steering wheel must be centered.
- GSL must be in Neutral-Detent position.
- Platform drive switch must be in OFF position.



E61975—UN—19JUN12

- A—Ground Speed Lever
- B—Neutral Park Position
- C—Platform Drive Switch

Before starting the engine, be sure that the area is ventilated.

**NOTE:** The GSL (A) must be at rest to the right in the neutral park position (neutral-detent).

1. To alert anyone in the area of your intentions, sound the horn.
2. Turn the ignition switch to ON and monitor the engine preheat light. If the light glows, wait until it goes out before turning the switch to start. If the light does not glow after the switch has been turned to ON, continue with the next step.

3. Turn the ignition switch to the start position until the engine starts.

**IMPORTANT: Do not operate the starter more than 15 seconds at a time. If engine does not start, wait at least two minutes before trying again.**

**If engine does not start in four attempts, refer to Troubleshooting section.**

4. Release the switch.
5. Monitor the console display monitor and confirm that machine functions are normal.

*NOTE: (See Display Screens and Programming section) of this manual for the detailed engine warnings and displays.*

**A—Oil Pressure Display**  
**B—Engine Warning Lamps**

1. Check display screen area (A) as soon as engine starts. If necessary, appropriate warning displays and sounds to alert operator.
2. Relative warning lights also signal, as necessary at area (B).
3. Leave engine speed at slow idle until engine warms up.
4. Confirm that engine and platform systems are normal for operation by monitoring displays and gauges.

See more information concerning display and warning screens in the Display Screens and Programming section of this manual.

OUO6064,0001262-19-30JUL14

GW44282,0000A80-19-19DEC19

## After Engine Starts



E65074—UN—31MAY12

## Stopping Engine



E65107—UN—19JUN12

A—Ground Speed Lever  
B—Neutral Position  
C—Neutral-Detent Position

D—Steering Wheel  
E—Engine Speed Lever

**NOTE:** To engage the neutral start switch, GSL (A) must be at rest, to the right, in the neutral-detent position.

Steering is locked and the park brake is applied while the neutral start switch is engaged.

1. Move the ground speed lever (GSL) (A) to neutral (B) and then to neutral-detent (C).
2. Turn the steering wheel (D) until it locks.
3. Place the engine speed switch (E) to low speed. Allow the engine to operate at low rpm for 1—3 minutes.
4. Lower the platform to the ground.

**IMPORTANT:** After the engine has stopped, remove the key to prevent unauthorized operation or tampering.

Key cannot be removed unless switch is in the off position.

5. Turn off the engine and remove the key.

GW44282,0000A65-19-04DEC19

When temperatures drop below freezing, keep the batteries fully charged.



E70494—UN—31JUL13

A—Battery (2 used)

Always keep batteries and terminals clear of debris and dirt when operating the windrower.

GW44282,0000A66-19-04DEC19

## Battery

**CAUTION:** Avoid possible injury or death from electrocution. If a booster battery is required, see Electrical System section.

Two 12 V batteries (A) are standard. The batteries are under the cab platform on the right-hand side.

## Hot-Weather Operation

**IMPORTANT:** Liquid coolant conditioner is not an antifreeze or a cooling system sealer.

Protect the engine cooling system against corrosive action by using 50% antifreeze (ethylene glycol type without a stop-leak additive) and 50% clean, soft water.

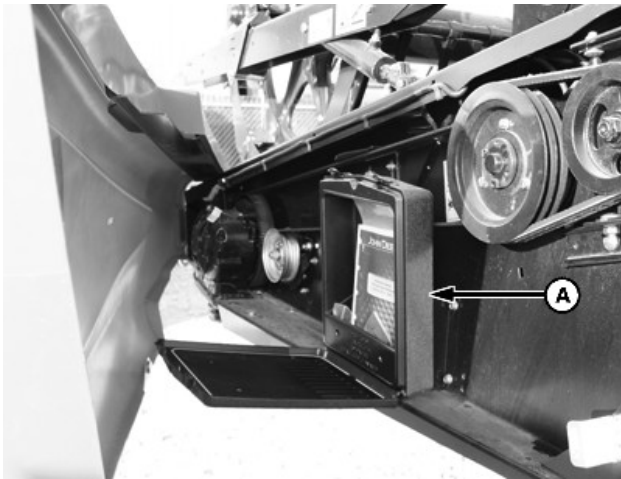
**Do not** use a high silicate automotive grade antifreeze.  
(See Fuels, Coolants, and Lubricants section.)

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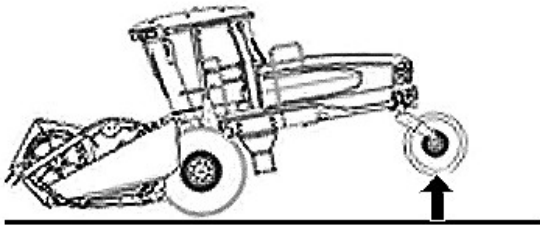
GW44282,0000099-19-26NOV19

# Attach and Detach Platform

## Attach Platform



E70290—UN—21JUN13



### A—OM Storage

E65075—UN—31AUG12

**CAUTION:** To prevent bodily injury and machine damage, read this manual and the platform Operator's Manual to familiarize yourself with the operation of the windrower and platform. When attaching a platform to the windrower, check windrower ballast to ensure that proper ballast weight is used for the platform.

**IMPORTANT:** Depending on the platform size and configuration, install a light platform kit (if necessary).

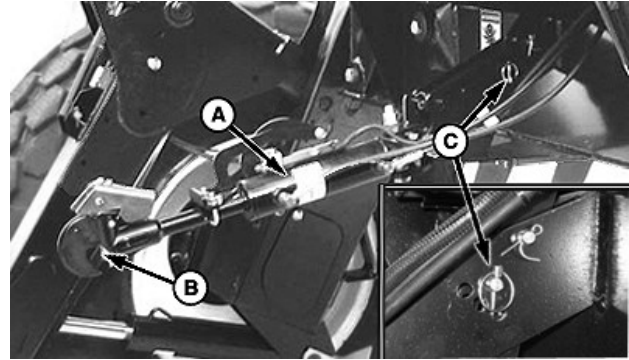
Size of the platform affects operating, steering, and braking performance, and alters the center of gravity of the windrower.

To maintain the proper ground contact, add ballast to the rear of the windrower as recommended for the platform in use.

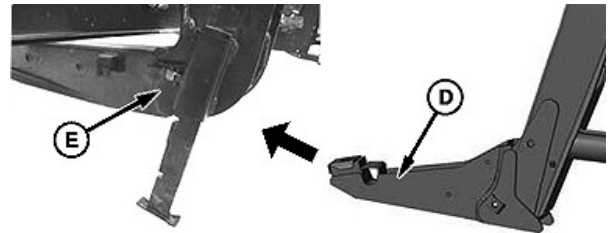
Operating in engine-forward transport mode in high range also requires ballast modification. A weight box is available for this operation. Contact a dealer for more information.

**CAUTION:** Turn off the engine and remove the key before adjusting machine. A child or a pet could engage the drive.

Check to confirm that bystanders have cleared the area.



E64621—UN—17MAY12



E64622—UN—17MAY12

A—Hydraulic Center Link  
B—Hook  
C—Pin  
D—Boot  
E—Platform Leg

1. If necessary, adjust the position of the center link (A) so that hook (B) is on top of the attachment pin on the platform by one of the following methods:

**Method 1 (without self-alignment kit):** Relocate pin (C) at the frame linkage as required to raise the center link.

**Method 2 (with self-alignment kit installed):** Start the engine and activate the REEL UP switch on the ground speed lever (GSL) to raise center link.

2. Drive the windrower forward so boots (D) enter the platform legs (E). Continue to drive forward until the lift linkages contact the support plates in the platform legs and the platform nudges forward.
3. Confirm that lift linkages are properly engaged in platform legs and are contacting the support plates.
4. Connect the center link.

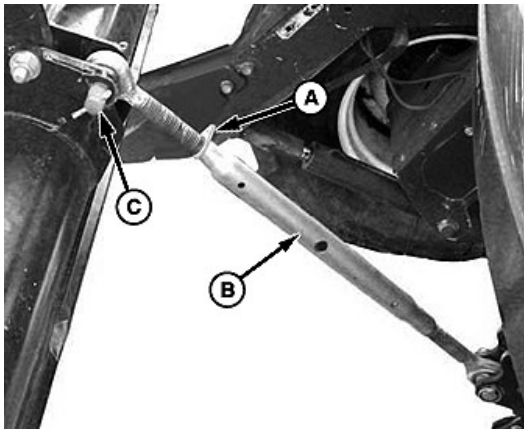
### Hydraulic Center Link

1. To extend or retract the cylinder so the hook lines-up with the platform attachment pin, activate the platform tilt cylinder switches on GSL.
2. Turn off the engine and remove the key.

3. Push down on the rod end of the cylinder until the hook engages pin on the platform and is locked.
4. Verify that the hydraulic center link is locked onto the platform by pulling upward on the rod end of the cylinder.

**IMPORTANT:** Hook release must be down to enable self-locking mechanism. If the release is open (UP), manually push it down after hook engages platform pin.

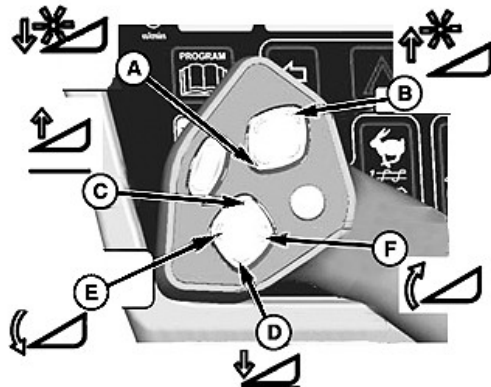
### Mechanical Center Link



E64625—UN—17MAY12

A—Lock Nut  
B—Barrel  
C—Pin

1. Turn off the engine and remove the key.
2. Loosen lock nut (A) and rotate barrel (B) to adjust the length so the link lines-up with the platform bracket.
3. Install pin (C) and secure with cotter pin.
4. Adjust the link to the required length for the proper platform angle by rotating barrel (B). Tighten nut (A) against the barrel. A slight tap with a hammer is sufficient.



E64620—UN—16MAY12

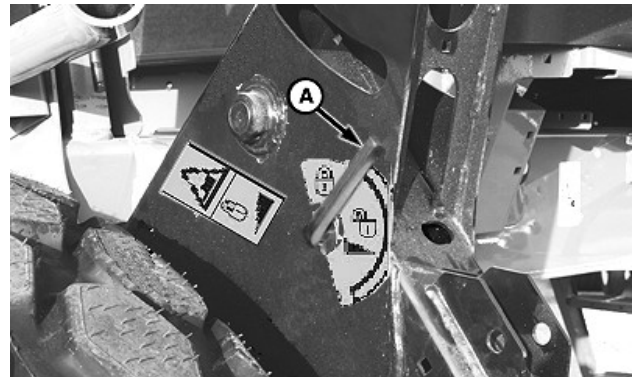
A—Reel Down  
B—Reel Up  
C—Platform Up  
D—Platform Down

E—Platform Tilt Down  
F—Platform Tilt Up

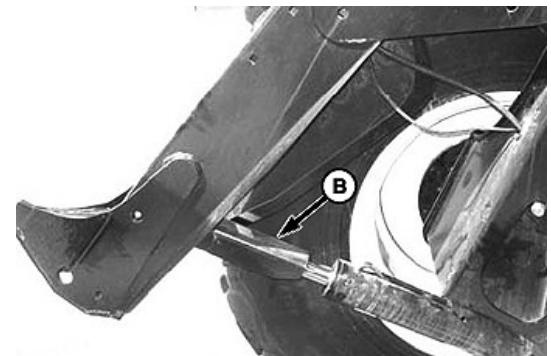
5. Start the engine and press the platform up switch (C) on the GSL to raise the platform to maximum height.

*NOTE: If one end of the platform does not raise fully, the lift cylinders require rephasing. Proceed as follows:*

6. Press and hold up on the platform switch until both cylinders stop moving.
7. Continue to hold the switch for 3—4 seconds.
8. Cylinders are phased.



E92525—UN—17OCT19



E64628—UN—18MAY12

A—Cylinder Stop Lever  
B—Cylinder Stop

Cylinder stops are on both platform lift cylinders on the windrower. Engage lift cylinder stops on both lift cylinders as follows:

1. Turn off the engine and remove the key.
2. To release and lower the cylinder stop (B) onto the cylinder, pull lever (A) and rotate toward the platform.
3. Repeat for the opposite lift cylinder.

### Detach Platform

To detach a platform, perform the previous steps in the reverse order.

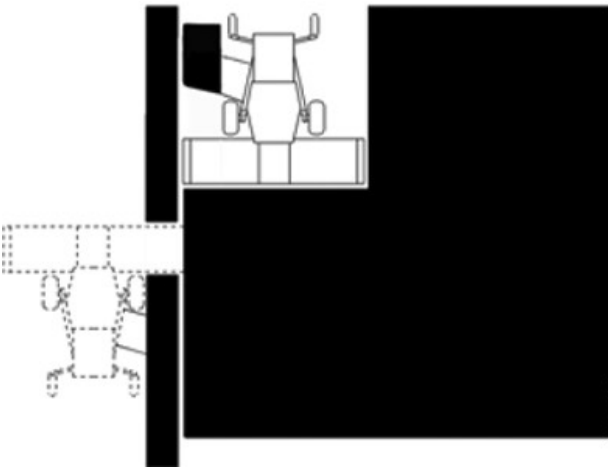
GW44282,0000A43-19-19DEC19

## Double Windrow Attachment



EX530531—UN—02MAR22

*DWA Installed on Windrower*



EX530532—UN—02MAR22

*Double Windrowing Diagram*

1. The double windrow attachment (DWA) allows the windrower to deposit two windrows of cut material close together into a single large windrow. Using the double windrow attachment (DWA) halves the number of passes must collect the crop once it has dried.
2. The double windrow attachment system is compatible with windrowers paired with an A Series Auger Header, an R Series Rotary Disc Header, or with a D65 Draper Header with the HC10 Hay conditioner installed.
3. Raising the side delivery system shuts off the draper and allows the crop to be deposited between the windrower wheels as it would be without the double windrow attachment installed.
4. Refer to the W Series Windrower double windrow attachment Manual for the operating and maintenance instructions.
5. When the double windrow attachment is active, cut crop is deposited onto the side delivery system

draper and delivered to the side of the windrower, as shown. To feed into the same windrow, the second cutting pass must be made in the opposite direction of the first.

### Engaging and Disengaging Double Windrow Attachment

The double windrow attachment (DWA) system can be engaged or disengaged using the DWA controls on the ground speed lever (GSL) or the DWA rocker switch on the operator's console.



EX530533—UN—04MAR22

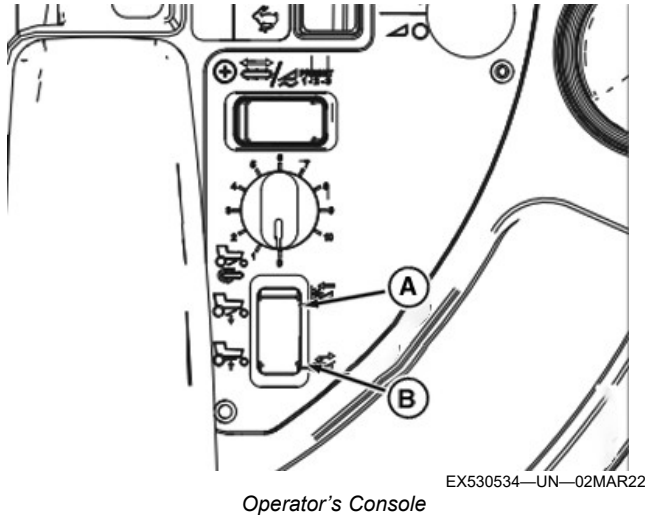
*Ground Speed Lever (GSL)*

- A—DWA Up Button
- B—DWA Down Button

1. The double windrow attachment (DWA) is disengaged when it is fully raised, and engaged when it is fully lowered.
2. To raise or lower the double windrow attachment (DWA) deck by pressing DWA down button (B) or DWA up button (A) on the ground speed lever (GSL) or by using the rocker switch on the operator's console.
3. The DWA should have been configured to work with one or the other of these controls when it was installed, but the configuration can be changed at any time. Refer to Configuring Double Windrow Attachment Controls, in this manual on how to change the DWA control configuration.

**NOTE:** The same controls are used for raising and lowering the swath compressor if it is installed.

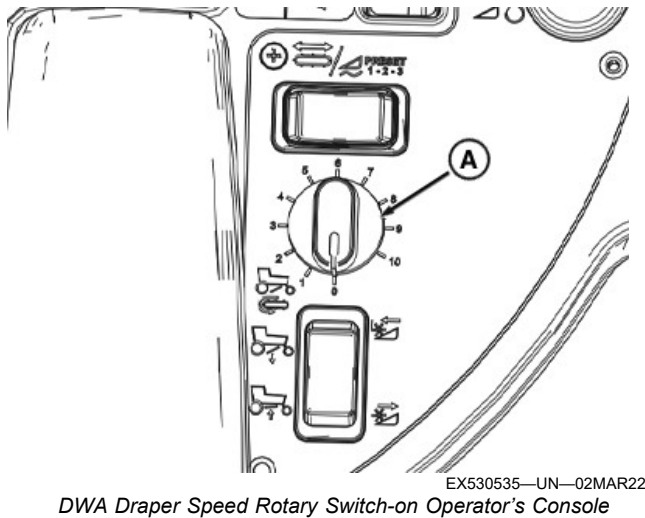




A—Rocker  
B—Rocker

1. The DWA can also be raised or lowered using the rocker switch on the operator's console, which must have been installed when the DWA was installed on the windrower.
2. The DWA can be lowered by pressing rocker (A), and raised by pressing rocker (B).

#### Adjusting Double Windrow Attachment Draper Speed



A—Rotary Switch

1. The double windrow attachment's (DWA) draper speed can be changed by using the rotary switch on the operator's console. This switch must have been installed when the DWA was installed on the windrower.
2. The DWA's draper speed can be controlled using rotary switch (A) on the operator's console.

WKJQUWJ,0000D7A-19-04MAR22

# Operating Windrower

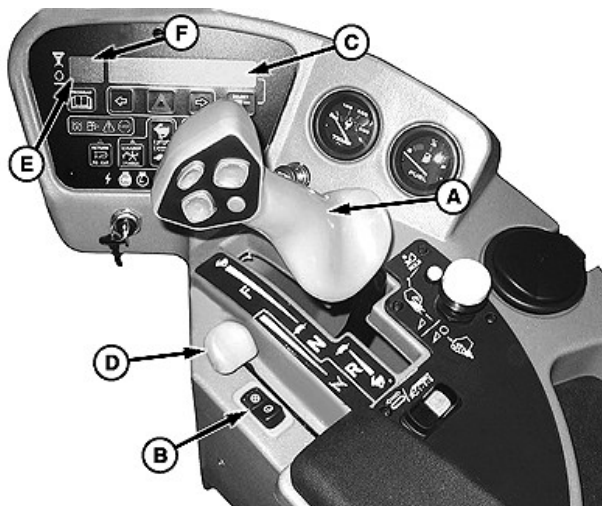
## Cab-Forward Operation

**CAUTION:** Confirm that the operating area is clear of bystanders, animals, or obstructions.

To avoid the common tendency of new operators to oversteer, operate the steering wheel and ground speed lever (GSL) slowly for familiarization.



E61139—UN—27JUL12  
Direction of Travel (cab forward)



E61138—UN—26MAR12  
Console

- A—Ground Speed Lever
- B—Ground Speed Range Switch
- C—Cab Display Module
- D—Throttle Lever
- E—Cab Display Module
- F—Cab Display Module

The following instructions are for cab-forward operation with the seat facing the platform.

1. Adjust the seat so that it is comfortable and all controls are easily reached and moved through entire range of movement. (See Controls and Instruments section in this manual.)
2. Adjust the steering column height to a comfortable position. (See Controls and Instruments section in this manual.)
3. Place the GSL (A) in neutral.
4. Fasten the seat belt.

5. Sound the horn and start the engine.
6. Set the ground speed range switch (B) to the appropriate position.  
L for field speed or H for road speed.  
The cab display module (CDM) (C) displays the engine status.
7. Push throttle (D) to full forward (operating speed). CDM (E) displays engine rpm.
8. Move the GSL (A) out of neutral and move it forward to desired speed, which is displayed on the CDM (F).

GW44282,0000A44-19-13DEC19

## Reverse in Cab-Forward Operation

**CAUTION:** Back up slowly. Steering is opposite to normal when reversing. While holding the steering wheel at the bottom, turn wheel in direction you want the rear of the machine to travel.

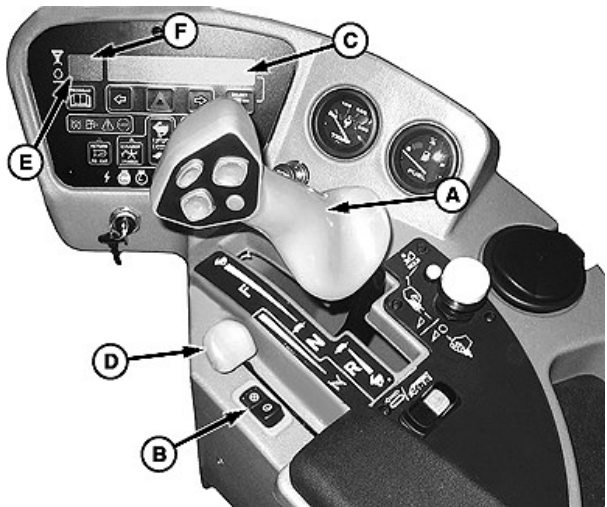
To avoid the common tendency of new operators to oversteer, operate the steering wheel and ground speed lever (GSL) slowly for familiarization.

Before engaging the GSL into reverse, confirm that the area is clear of bystanders, animals, and obstructions.

The following instructions are for cab-forward reverse operation with the seat facing the platform.

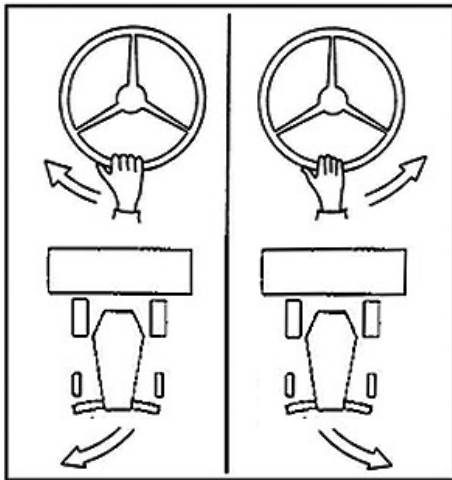
Reversing in the low speed range and at reduced engine speed is recommended since steering is less sensitive than higher speed settings.

**IMPORTANT:** The windrower operator's station rotates to face the engine. Although the operator's station is turned, the steering procedure is the same.



Console

E61138—UN—26MAR12



Cab-Forward Reverse Steer

E61141—UN—27JUL12

- A—Ground Speed Lever
- B—Ground Speed Range Switch
- C—Cab Display Module
- D—Throttle Lever
- E—Cab Display Module
- F—Cab Display Module

1. Set the ground speed range switch (B) to position L for field speed. The engine status is displayed on the cab display module (CDM) (C).
2. Push the throttle (D) to mid-range. Engine rpm is displayed on the CDM (E).
3. Move the GSL (A) out of neutral and move it rearward to the desired speed displayed on the CDM (F).

GW44282,0000A45-19-13DEC19

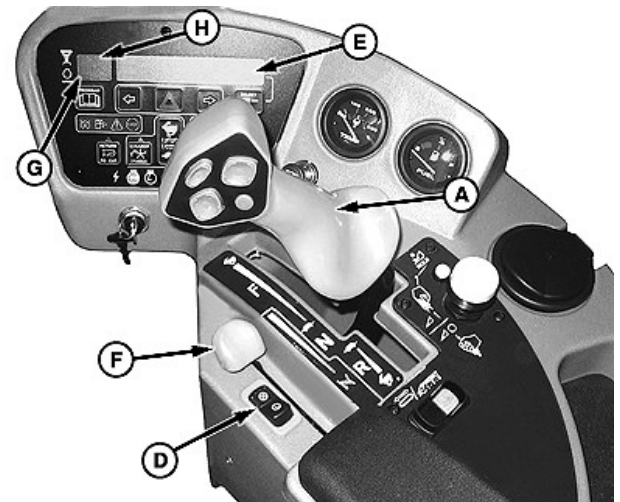
## Engine-Forward Operation



E61140—UN—27JUL12



E61941—UN—30MAR12



Console

E61946—UN—31MAR12

- A—Ground Speed Lever
- B—Operator's Station Swivel Release Knob
- C—Operator's Station Position Latch
- D—Ground Speed Switch
- E—Cab Display Module (CDM)
- F—Throttle Lever
- G—Cab Display Module
- H—Cab Display Module

**NOTE:** AutoTrac™ is not operational when the windrower is in the engine-forward configuration.

The following instructions are for engine-forward

AutoTrac is a trademark of Deere & Company

operation with the seat facing the engine direction of travel.

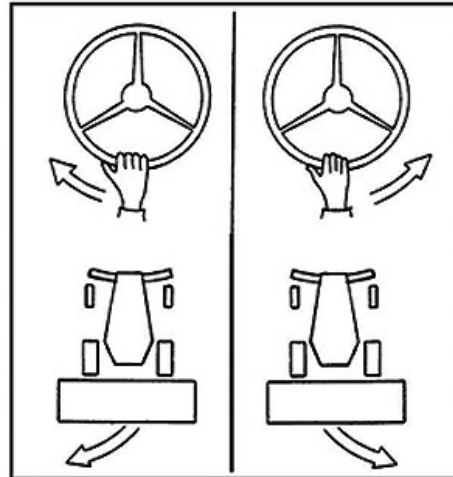
To swivel the operator's station into the engine-forward position from cab-forward, do the following:

1. Place ground speed lever (GSL) (A) in neutral and lock the steering wheel. Engine can be running.

**IMPORTANT: If GSL is not in neutral, damage to the GSL cable results when swiveling operator's station.**

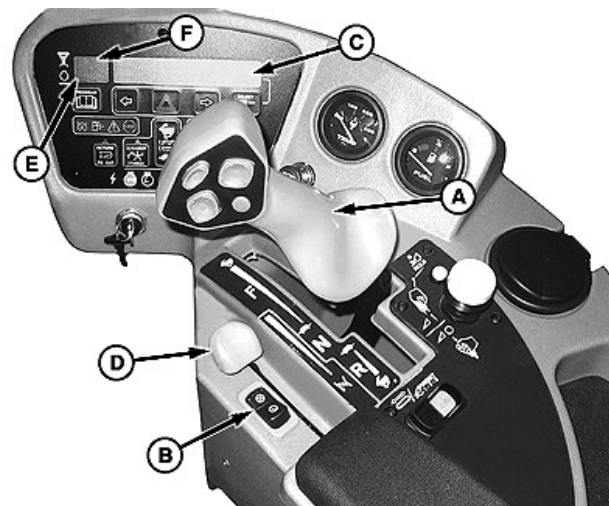
2. To release the latch at the base of the steering column, pull up on knob (B) and hold.
3. To pivot the operator's station counterclockwise 180°, turn the steering wheel clockwise until the pin engages latch (C). Ensure that the seat belt is fastened.
4. Start the engine if not running.
5. Set the ground speed switch (D) to H for road speed. The cab display module (CDM) (E) displays ROAD GEAR and an alarm sounds.
6. Push throttle (F) to full forward. CDM (H) displays 2320—2350 rpm. CDM (E) displays the engine status.

GW44282,0000A46-19-13DEC19



E61142—UN—27JUL12

Engine-Forward Reverse Steer



E61138—UN—26MAR12

Console

## Reverse in Engine-Forward Operation

**CAUTION:** Before engaging the ground speed lever (GSL) into reverse, confirm that the area is clear of bystanders, animals, and obstructions.

**Back up slowly. Steering is opposite of normal when reversing. Hold the steering wheel at the bottom and turn the wheel in the direction you want the rear of the machine to travel.**

**To avoid the common tendency of new operators to oversteer, operate the steering wheel and ground speed lever (GSL) slowly for familiarization.**

The following instructions are for engine-forward reverse operation with the seat facing the engine direction of travel.

Reversing in the low speed range and at reduced engine speed is recommended since steering is less sensitive than higher speed settings.

**NOTE:** The operator's station rotates to face the engine. Instructions for this type of reverse operation follow in this section.

- A—Ground Speed Lever
- B—Ground Speed Range Switch
- C—Cab Display Module (CDM)
- D—Throttle Lever
- E—Cab Display Module
- F—Cab Display Module

1. Adjust the seat so that it is comfortable and all controls are easily reached and moved through entire range of movement. (See Controls and Instruments section.)
2. Adjust the steering column height to a comfortable position. (See Controls and Instruments section.)
3. Place the GSL (A) in neutral.
4. Fasten the seat belt.
5. Sound the horn and start the engine.
6. Set ground speed range switch (B) to position 1 for field. The engine status is displayed on the CDM (C).
7. Push throttle (D) to mid-range. CDM (E) displays engine rpm.

8. Move the GSL (A) out of neutral and move it rearward to the desired speed that is displayed on the CDM (F).

GW44282,0000A47-19-13DEC19

## Spin Turn

**CAUTION:** Confirm that the area is clear before making turns. Although the windrower pivots on the spot, the ends of platform travel faster and in a large arc.

Hydrostatic steering gives the operator pivot turn capability.



E92526—UN—17OCT19

A—Ground Speed Lever

1. Move the ground speed lever (GSL) (A) out of neutral towards the seat and hold.
2. Turn the steering wheel in the desired direction. The windrower pivots between drive wheels.
3. To stop, turn the steering wheel back to its centered position.
4. To increase the turn radius, move the GSL away from neutral. This increases the ground speed.
5. To stop, turn the steering wheel back to its centered position.

GW44282,0000A48-19-04DEC19

## Stopping

**CAUTION:** To avoid the operator being thrown forward from a sudden stop, do not move the ground speed lever (GSL) back to neutral rapidly. Always wear seat belt when operating.



E61144—UN—03APR12

A—Ground Speed Lever at Neutral-Detent

B—Throttle at Low Idle

C—Ignition Key

1. Return the GSL to neutral and into the neutral-detent (A).
2. Turn the steering wheel until it locks.
3. Move the throttle lever to low idle (B).
4. Brakes are automatically engaged when steering wheel is locked in neutral.
5. Turn the key (C) to OFF.

GW44282,0000A49-19-13DEC19

## Adjust Caster Tread Width

**CAUTION:** Lifting device must have a lifting capacity of 2270 kg (5000 lb.).

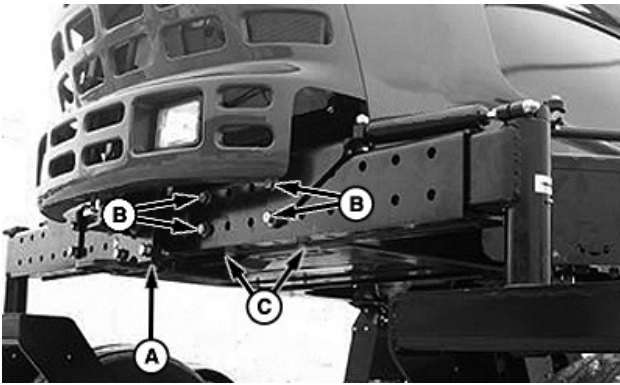
To allow loading and shipping without having to remove casters, adjust rear casters to a narrow tread width .

A narrow tread width also suits smaller platforms by allowing more space to the uncut crop, and provides more maneuverability around poles, irrigation inlets, or other obstacles.

A wider tread width is useful in heavy crops that produce large windrows so run over is reduced.

Adjust caster tread width as follows:

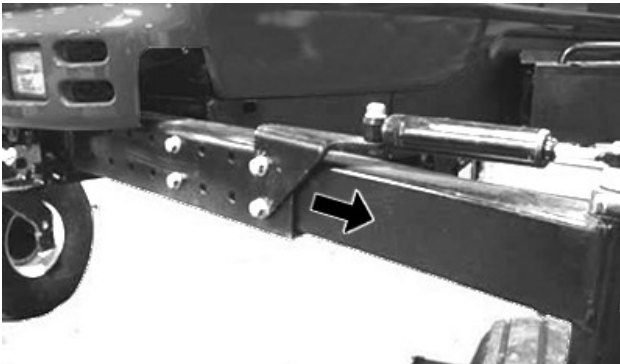
1. Park windrower on a firm, level surface. Lower platform to the ground. Place ground speed lever in Neutral-Detent and lock steering wheel.
2. Stop engine and remove key.
3. Using a jack or other suitable lifting device under frame at location (A) as shown, lift rear of windrower so weight is off casters.



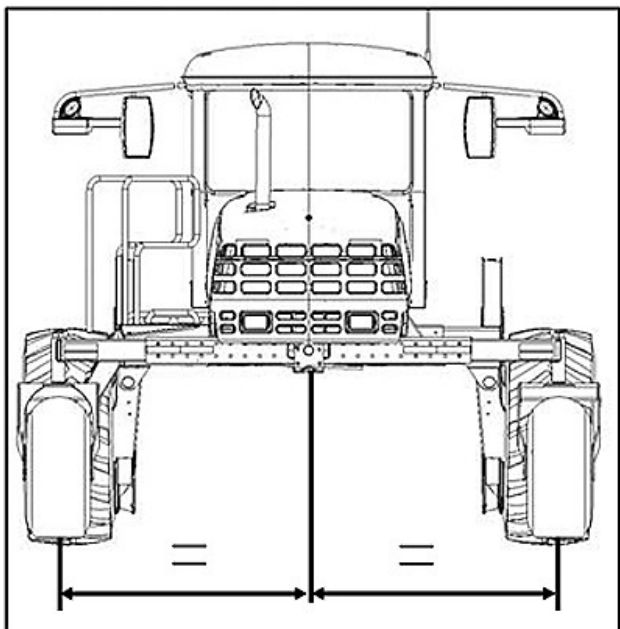
E70525—UN—01AUG13

A—Lift Point  
B—Cap Screw (4 used)  
C—Cap Screw (2 used)

4. Remove cap screws (B), and washers from left-hand and right-hand side of walking beam.
5. Remove cap screws (C) and washers.



E61146—UN—15MAY12



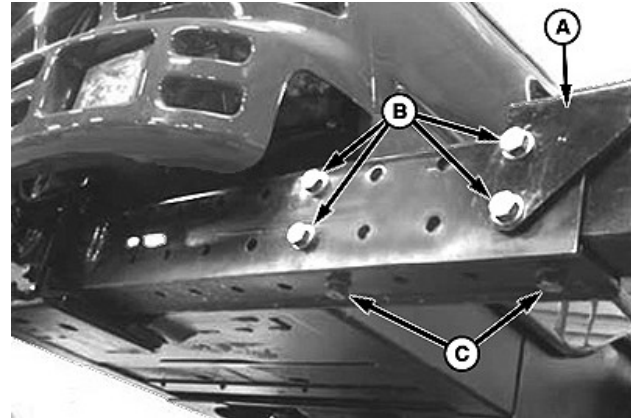
E61148—UN—27JUL12

WIDEST TREAD WIDTH SHOWN

6. Slide extensions inboard or outboard in equal amounts and align holes at desired location.

**NOTE:** To assist moving axle, rotate caster wheels so wheels are parallel to axle.

**NOTE:** The two shorter cap screws are installed at the back inboard locations.



E61147—UN—28MAR12

A—Bracket  
B—Cap Screws (4 used)  
C—Cap Screws (2 used)

7. Position bracket (A) and install cap screws (B).
8. Install bottom cap screws (C). Tighten cap screws to specification.

#### Specification

Cap Screw (B and C)—Torque. . . . . 447 N·m  
(330 lb.-ft.)

9. Lower windrower to the ground.

**IMPORTANT:** Retorque bolts after first 5 and 10 hours of operation.

OUC6064,000126D-19-31JUL14

## Platform Flotation and Adjustment

Float is intended for cutting crops that require the cutterbar to be in contact with the ground.

Optimum float is for the cutterbar to maintain contact with the ground with minimum bouncing, scooping, or pushing of soil.

The machine performs best with minimum extra weight on the platform.

**IMPORTANT:** To avoid frequent breakage of sickle components, scooping soil, or soil buildup at cutterbar in wet conditions, set platform float as light as possible without causing excessive bouncing.

To avoid excessive bouncing and leaving a ragged cut when float setting is light, use a slower ground speed.

The stabilizer wheels are designed to minimize bouncing at platform ends and not float platform. (See platform Operator's Manual for adjustment details.)

### Float Operating Guidelines

When working with cutterbar on ground:

- Set center link to mid-range. Refer to Platform Angle.
- In rocky fields, adjust skid shoes down when operating at the flattest platform angle to minimize scooping rocks.
- To minimize pushing soil, adjust platform height or adjust platform angle.

### Float Adjustment

The windrower is equipped with primary (coarse) float adjustment systems. The primary adjustment uses draw bolts to change tension on lift linkages. The windrower also has a secondary (fine) adjustment that uses hydraulic cylinders to change tension on the lift linkages.

Check the platform float as follows:



E63086—UN—02JUL12

- A—Cab Display Module (CDM)
- B—Left Float Switch
- C—Right Float Switch
- D—Platform Tilt Down Switch
- E—Platform Tilt Up Switch
- F—Platform Down Switch

1. Start the engine.
2. Use the platform tilt switches to set the center link to mid-range, 05.0, on the CDM display (A).
3. Using the platform down switch (F), lower the platform fully with the lift cylinders fully retracted.
  - a. Using the float selector switch (B), push (+) to increase float or (-) to decrease float on the left side of the platform. The CDM display (A)

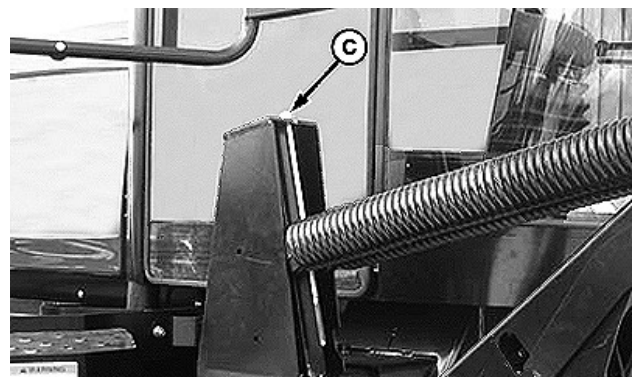
indicates the selected float for the left side (for example, 5.0 L FLOAT RXX.X).

- b. Repeat for the right side float with switch (C). Display indicates float for both sides (for example, 5.0 L FLOAT R 5.0).
4. Set left and right float fine adjustments on the CDM to approximately 5.0 as follows:
  5. Turn off the engine and remove the key.
  6. Grasp the divider rod and lift. The force to lift is as noted in the following table and is approximately the same at both ends.

Platform	Force to lift cutterbar at ends with lift cylinder fully retracted.
Auger	335—380 N (75—85 lbf)
Draper	335—380 N (75—85 lbf)



E61960—UN—02APR12



E92527—UN—17OCT19

- A—Platform Up Switch
- B—Platform Down Switch
- C—Draw Bolt

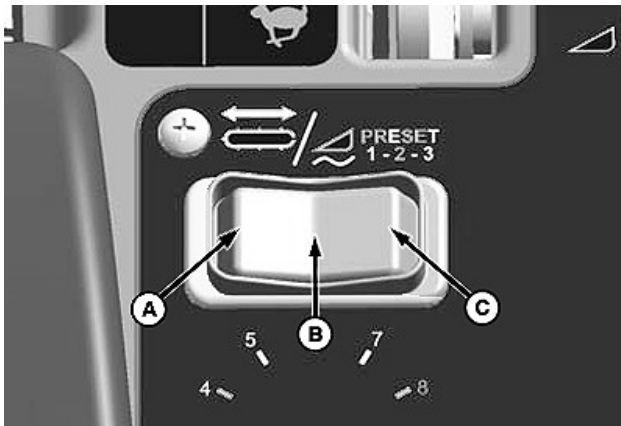
If necessary, coarse adjust the float with draw bolts as follows:

1. Start the engine.
2. Using the platform up switch (A) on GSL, raise the platform fully.
3. Turn off the engine and remove the key.
4. Turn the draw bolt (C) clockwise to increase float or counterclockwise to decrease float.

Clockwise to increase the float makes platform lighter.

Counterclockwise to decrease the float makes platform heavier.

5. Recheck the float as previously described.



E61009—UN—28JUN12

### Float Options

For draper platforms without the deck shift option, and auger platforms, the float can be programmed for three types of windrowing conditions. For example:

- (A) Position 1 - Border
- (B) Position 2 - Normal
- (C) Position 3 - Rocky

Set float presets as follows:

1. Engage platform by pulling up on the platform drive switch.
2. Push float preset switch to position 1 (A).



E63087—UN—02JUL12

- A—Display  
B—Platform Tilt Up  
C—Platform Tilt Down

3. Using the platform tilt switches (B) and (C), set the center link to mid-range position, 05.0 on the display (A).



E63088—UN—02JUL12

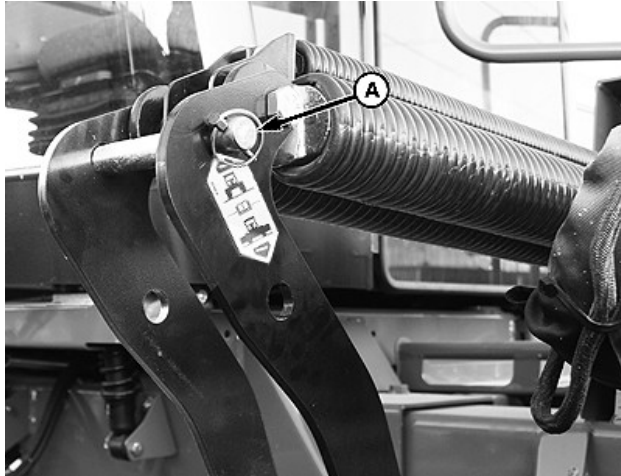
- A—Display  
B—Left Float Increase Switch  
C—Right Float Increase Switch  
D—Left Float Decrease Switch  
E—Right Float Decrease Switch  
F—Platform Down Switch

4. Using the platform down switch (F), lower the platform fully with the lift cylinders fully retracted.
5. Using the left float switch, push plus (+) (B) to increase float or minus (-) (D) to decrease float on the left side of platform. The display (A) indicates the selected float for the left side (for example, 8.0 L FLOAT R 3.0).
6. Repeat for the right side float with right switch. The display indicates the float for both sides (for example, 8.0 L FLOAT R 3.0).
7. Select a second preset with the float preset switch.
8. Repeat steps (5 and 6) to set the float.
9. Select a third preset with the float preset switch.
10. Repeat steps (5 and 6) to set the float.



11. Operate the windrower.

**NOTE:** For draper platforms with the deck shift option, the float can be programmed to compensate for weight distribution when the decks are shifted.



A—Float Pin Storage

**Leveling**

The windrower linkages are factory set to provide the proper level for the platform and do not normally require adjustment.

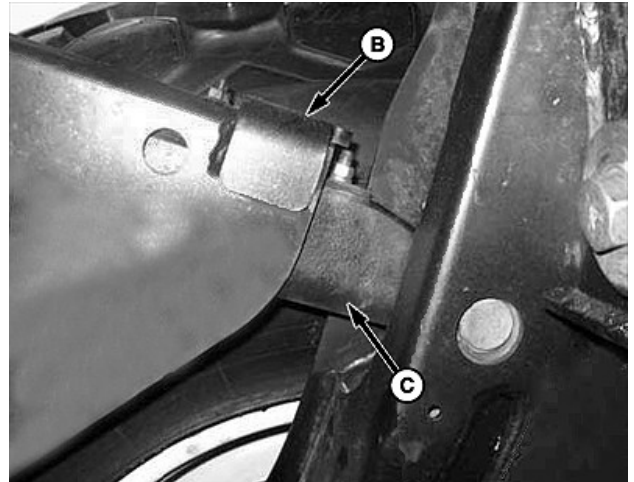
If the platform is not level, perform the following checks before adjusting the leveling linkages. The float springs are not used to level the platform.

- Raise platform to full height and keep the platform up switch depressed to ensure that the lift cylinders are phased.
- Check the drive wheel tire pressures.
- Check and set the float adjustment as in the previous instruction.

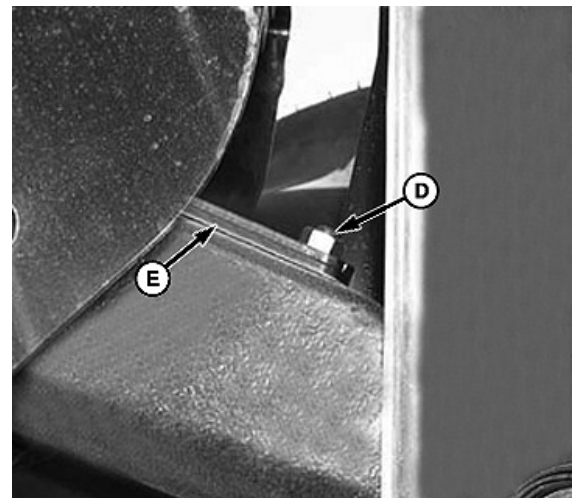
**If platform is not level after these checks, adjust as follows:**

1. Place the float pins in the storage location (A).
2. Park the windrower on level ground.

**NOTE:** Notice the high and low end of platform.



E63074—UN—13APR12



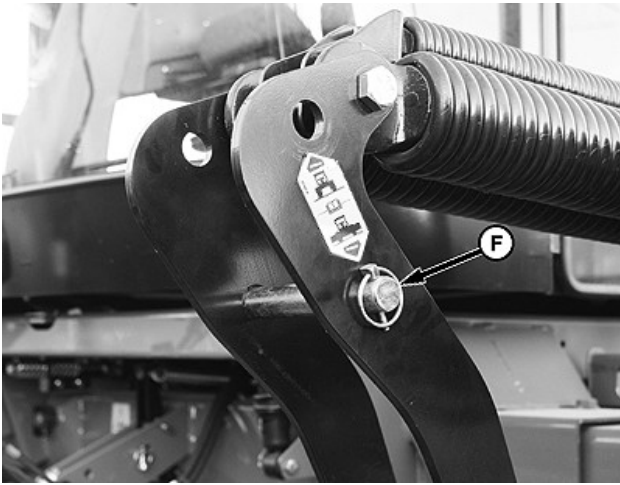
E63076—UN—13APR12

B—Member  
C—Link  
D—Shim Hardware  
E—Shims

3. Set the platform approximately 150 mm (6 in) off the ground and check that member (B) is on link (C) as shown.
4. Place blocks under the platform cutterbar and legs.
5. Lower the platform onto the blocks so that members (B) lift off links (C).
6. Turn off the engine.
7. On the high side, remove the nut, washer, and bolt (D) that attaches the shims (E) to the link.
8. Remove one or both shims (E) and reinstall hardware (D).
9. Start the engine and raise the platform. Check the level of the platform. If more leveling is required, install the previously removed shim on the opposite linkage.

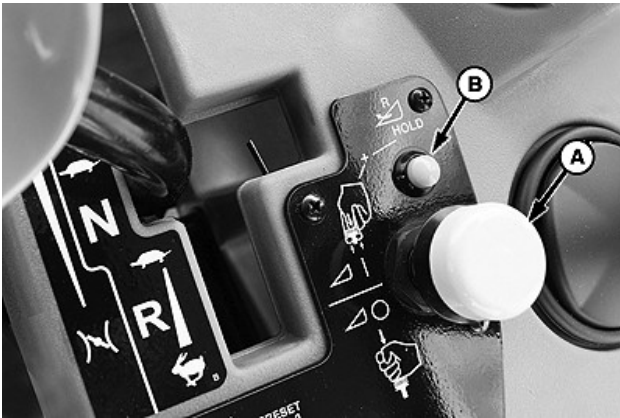
**NOTE:** If necessary, shims are available from a dealer.

10. Once the platform is level, return the float pins to their engaged location (F).



F—Float Pin Engaged Position

E76345—UN—12AUG14



A—Platform Drive Switch  
B—Platform Reverse Switch

E61022—UN—13JUN12

**Platform Drive:** Platforms are hydraulically driven and controlled from the windrower with no mechanical driveshafts.

One hydraulic piston pump on the windrower provides fluid power to the knife, drapers or auger, reel, lift positioning systems, and optional attachments.

#### To Engage Platform:

**CAUTION:** Always move the throttle lever back to idle before engaging the platform drive. Do not engage the platform with the engine at full rpm.

1. Move the throttle to adjust the engine speed to idle.
2. Push down on the yellow knob and pull up on the black ring at the base of switch.

A slight delay between switch-on and operating speed is normal.

#### To Disengage Platform:

- Push the yellow knob down.

#### Platform Angle

Platform angle is defined as the angle between the ground and the drapers or cutterbar and is adjustable to accommodate crop conditions and soil types.

Refer to the appropriate platform Operator's Manual for range of adjustment and recommended settings for your particular platform.

**IMPORTANT:** Changing platform angle affects flotation because it makes the platform lighter or heavier.

To prevent excessive guard breakage when conditions are not suited to heavier float (rocky or wet), do not use the tilt control on the go. Instead, use the platform height switch.

The platform angle is hydraulically adjusted from the cab without shutting down the windrower. A display on the CDM allows the operator to establish settings for each crop condition. This feature requires that an optional module has been installed, either at the factory or by a dealer.

GW44282,0000A4A-19-19DEC19

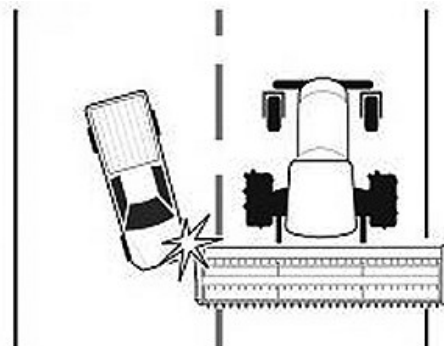
#### Transporting on Roadway

**CAUTION:** Check local laws for regulations and requirements before transporting on roads.

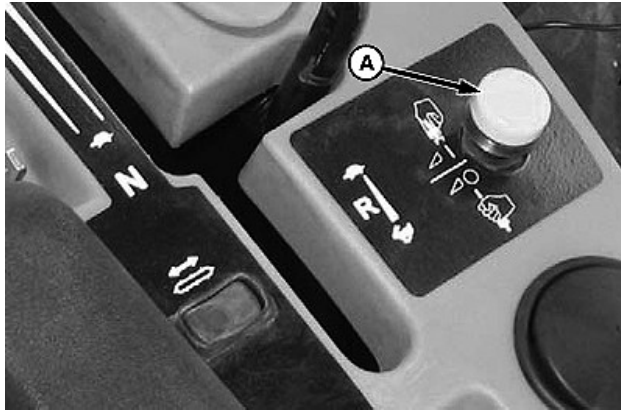
The construction of this implement does not meet all local or national requirements for operation on a public roadway.

In regions or countries that have national certification requirements for roadway operation, it may be impossible for this implement to be approved for such roadway operation.

The operator is responsible for understanding and complying with all local, regional, and national requirements regarding roadway operation.



E61149—UN—29MAR12



E61021—UN—02JUL12



E66736—UN—08AUG12

- A—Platform Drive Switch
- B—Road Light Switch
- C—High/Low Switch
- D—Beacon Light Switch

Before operating on a roadway:

**Clean flashing amber lights, red tail lights, and headlights. Confirm that all lights work correctly.**

**Clean all reflective surfaces and SMV sign.**

**Adjust and clean all windows and mirrors.**

1. Ensure that the platform drive switch (A) is pushed to OFF.
2. To activate the lights, push the road light switch (B).
3. Use high/low lights (C) as required when other vehicles are approaching.
4. To activate beacon lights, if equipped, push beacon light switch (D) to ON.

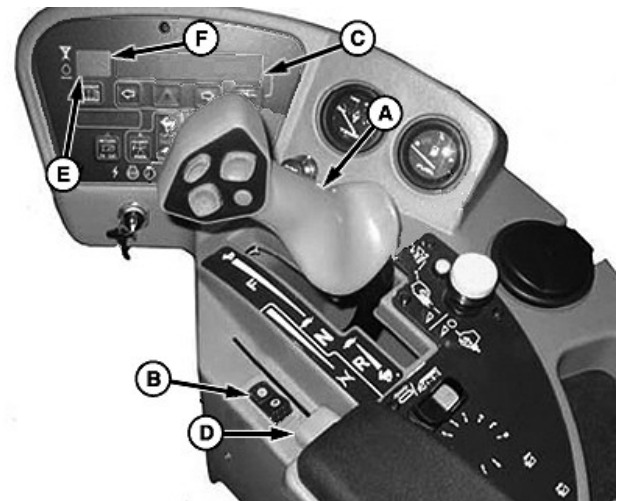


E70495—UN—31JUL13

A—Hazard Light Switch

5. Press hazard light switch (A).

**CAUTION:** Park on a firm, flat, and level surface. Lower the platform to the ground. Ensure that the GSL is in the neutral-detent position and that the steering wheel is locked.

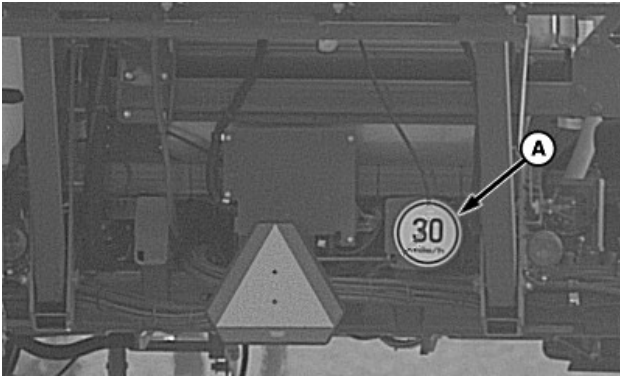


E92632—UN—01NOV19

- A—Ground Speed Lever (GSL)
- B—Ground Speed Range Switch
- C—Cab Display Module
- D—Throttle Lever
- E—Engine Display
- F—Engine Display

6. Set the ground speed range switch (B) for road speed. The cab display module (CDM) (C) displays ROAD GEAR.
7. Push throttle (D) to the operating speed (full forward). The engine display (E) displays 2270—2330 rpm.
8. Move the ground speed lever (GSL) (A) forward until the desired speed displays on engine display (F).
9. If towing a platform, see Towing Platform with Windrower in this section.

## Speed Limit Decal



N88452—UN—12MAY10

Speed Limit Decal

### A—Speed Limit Decal

The speed limit decal (A) is used to designate the maximum ground speed for which a machine has been designed to operate or can be driven on public roads. Know your local or national maximum transport speed limit before transporting the machine.

OUO6092,0000370-19-19JUN13

## Towing Platform with Windrower

**CAUTION:** It is not recommended to tow platforms without a weight box installed.

Before each towing trip, a pre-trip inspection must be conducted to verify that all signal lighting and safety equipment is installed and functioning properly.

Tongue weight must not exceed 227 kg (500 lb).

Windrower can be used to tow a platform with the slow speed transport option installed, provided that the weight box option is installed on either the windrower or an approved platform transporter with weight transfer to the lift arms.

**IMPORTANT:** Never exceed specified combined gross vehicle weight (CGVW). Contact a dealer if you have any questions about the towing or operation capability of the windrower.

		kg	lb
<b>MAX GVW</b> (includes mounted implements)		9750	21 500
<b>MAX CGVW</b> (includes towed and mounted implements)		10 480	23 100
<b>Weight on Both Drive Wheels</b>	<b>Maximum</b>	8500	18 750
	<b>Minimum</b>	4570	10 070

<b>Max Weight on Both Caster Tires</b>	2750	6050
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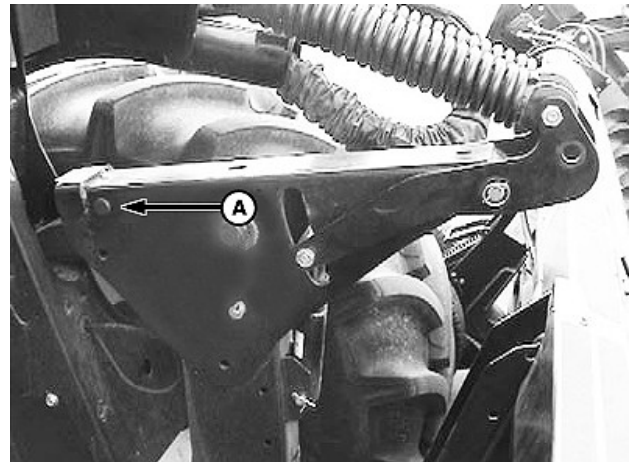
GW44282,0000A4B-19-04DEC19

## Field to Transport

**CAUTION:** Turn off the engine and remove the key before leaving the operator's seat for any reason.

To avoid bodily injury from a raised platform falling, always engage the platform lift cylinder stops when working on or around a raised platform.

1. Lower the platform to the ground.
2. Disconnect hydraulic and electrical connections.
3. Store the left-hand side hydraulic hoses and electrical cable into the storage position. (See platform Operator's Manual.)
4. Release the right-hand side multi-link and place into storage on the windrower. (See platform Operator's Manual.)



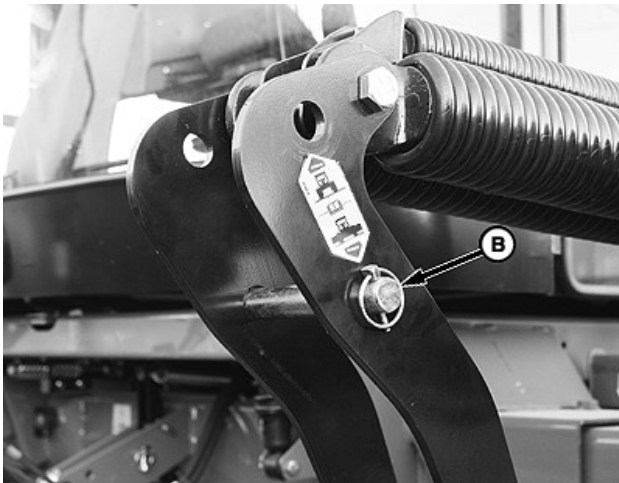
E61947—UN—02APR12

### A—Temporary Lift Pin

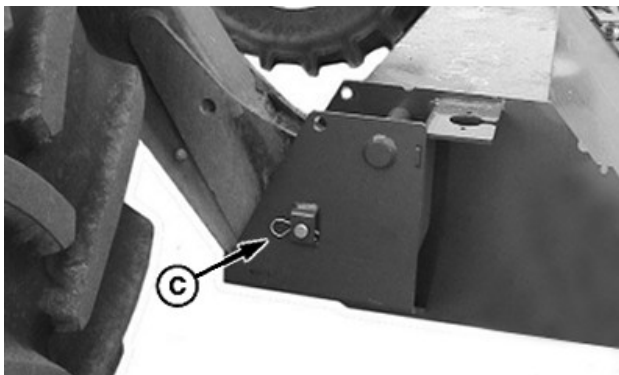
5. Locate the temporary lift pin (A) from the storage location on the weight box. Install the lift pin into the rear hole at the top of the lift arms for more height for wheel deployment.
6. Start the engine and raise the platform to full height.
7. Stop the engine and engage the safety locks on the lift cylinders.
8. Deploy the platform slow speed transport system. (See platform Operator's Manual.)



E76344—UN—12AUG14



E76346—UN—12AUG14



E70330—UN—26JUN13

**A—Float Pin Storage**  
**B—Float Pin Engaged**  
**C—Lower Lift Pin**

9. Remove the float pin from engaged position (B) and insert the pin into the storage location (A). Secure with a quick-lock pin.

*NOTE: Pins (C) are also used to secure the weight box to the windrower linkage.*

10. Remove pins (C) from lower end of the lift linkages.
11. Release the safety lock on the platform lift cylinders.

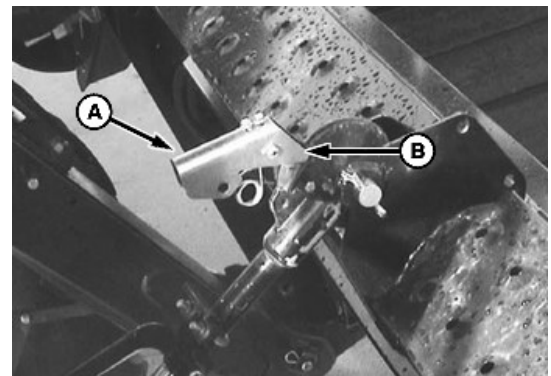
12. Start the engine and lower the platform down onto the transport wheels.



E70337—UN—27JUN13

**A—Platform Tilt Down**  
**B—Platform Tilt Up**

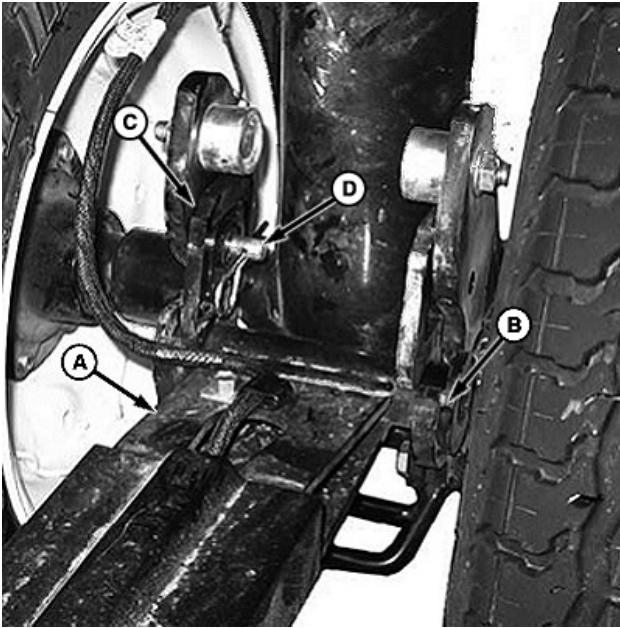
13. If necessary to release the load on the cylinder, use the platform switch.
14. Turn off the engine and remove the key.



E70294—UN—25JUN13

**A—Latch**  
**B—Notch**

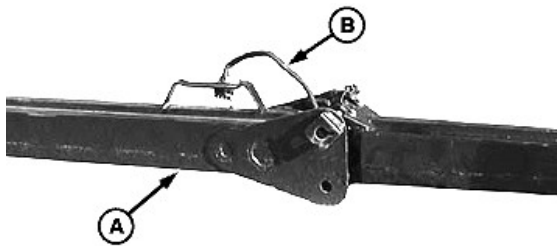
15. To unlock the center link, pull up on latch (A) and position the latch into notch (B) on top of the hook.
16. Lift the center link off the platform pin.
17. Back the windrower away from the platform, turn off the engine, and remove the key.
18. Attach the transport hitch to the platform.



E70338—UN—27JUN13

A—Transport Hitch  
B—Tow Hook  
C—Latch  
D—Latch Pin

19. Position transport hitch (A) in tow hook (B).
20. Position latch (C) over tow hook (B).
21. Secure the latch with the latch pin (D).

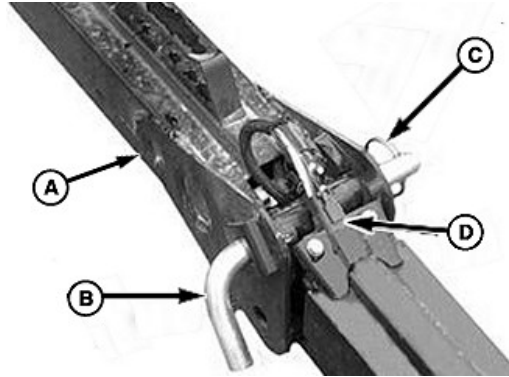


E70370—UN—28JUN13

*Transport Hitch Side View*

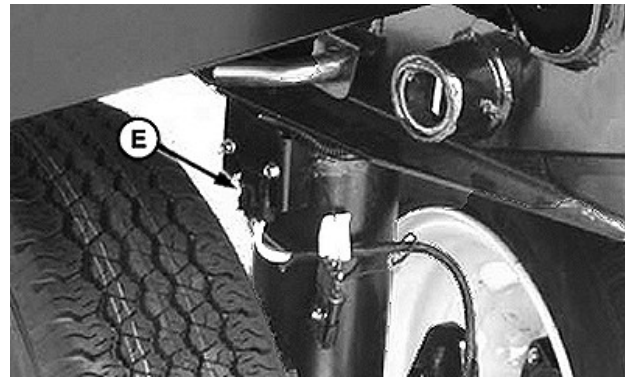
A—Transport Hitch  
B—Wiring Harness

22. Position the transport hitch (A) as shown.



E70369—UN—01JUL13

*Transport Hitch Top View*



E70371—UN—01JUL13

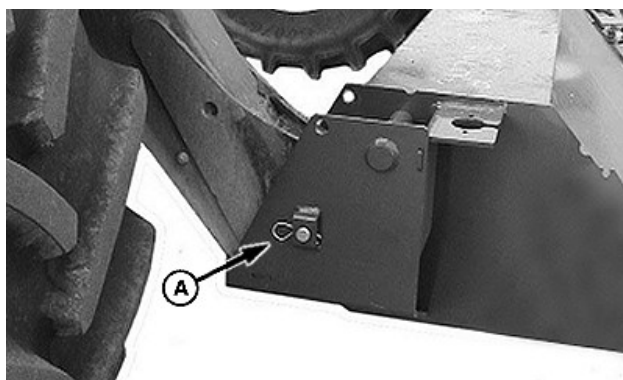
A—Transport Hitch  
B—Pin  
C—Quick-Lock Pin  
D—Electrical Connector  
E—Electrical Connector

23. Install pin (B) through the holes in the hitch (A). Secure with the quick-lock pin (C).
24. Connect the electrical connector (D) as shown.
25. Connect the electrical connector (E) at the platform wheel as shown.

**IMPORTANT:** To prevent damage to the lift system without a platform or weight box attached, ensure that float engagement pins are installed in the storage location.

**NOTE:** Pins were previously removed from the platform lift linkage lower end.

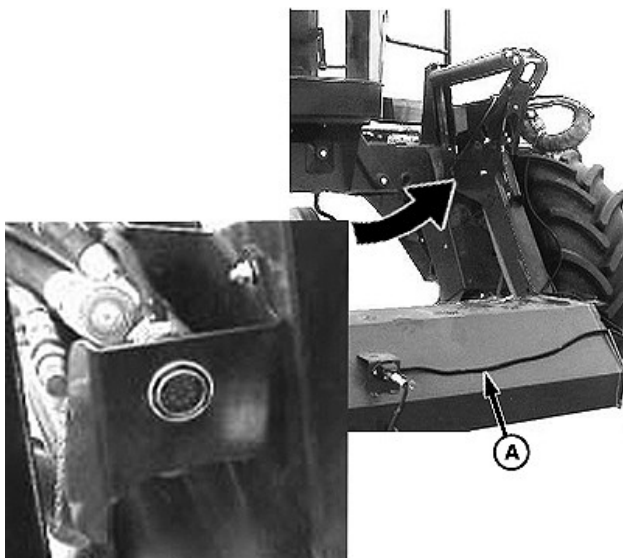




E70372—UN—01JUL13

**A—Lower Lock Pins**

26. Position the windrower lift arms into the weight box pockets.
27. Raise the lift arms and install locking pins (A) into the pockets and through the windrower platform lift linkages. Secure with retaining pin.



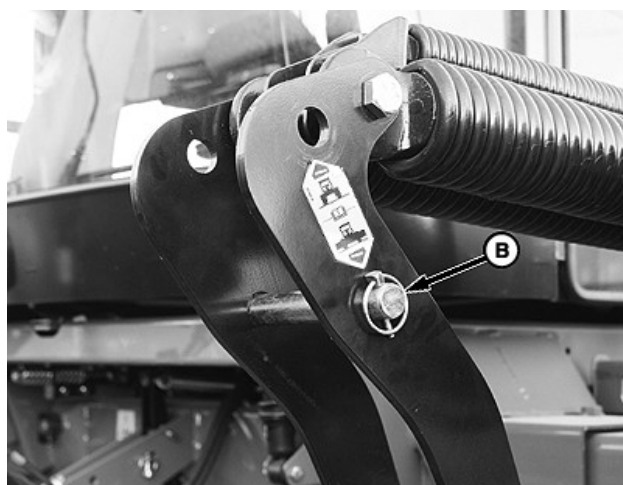
E70373—UN—01JUL13

**A—Wiring Harness**

28. Route the weight box harness (A) to the electrical connector at the left-hand side lift linkage and connect the harness to the connector.
29. Raise the lift arms, turn off the engine, and remove the key.



E76344—UN—12AUG14



E76346—UN—12AUG14

**A—Float Pin Storage  
B—Float Pin Engaged**

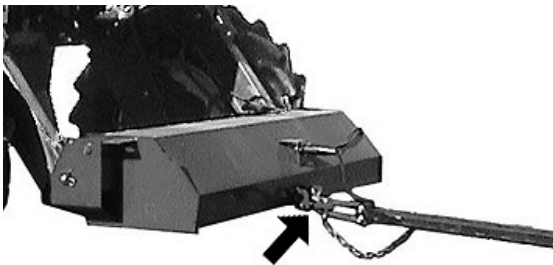
30. Move the float pins from the storage location (A) to the engaged position (B).



A—Platform Up Switch  
B—Platform Down Switch

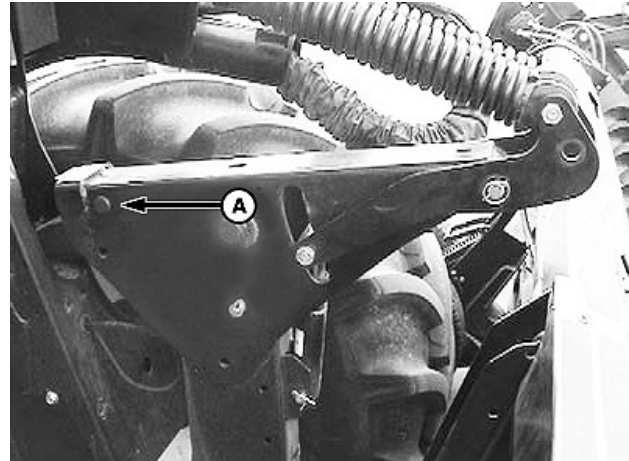
E61960—UN—02APR12

31. Start the engine and press platform down switch (B) on the ground speed lever to lower the lift arms until the lift arms move away from the linkage at the rear of the lift arm.



E61961—UN—03APR12

32. Attach the slow speed transport hitch to the weight box tongue with drawbar pin. Secure with retaining pin and attach the safety chain.
33. Connect the hitch harness to the electrical socket at the front of the weight box.



E61947—UN—02APR12

A—Lift Pin

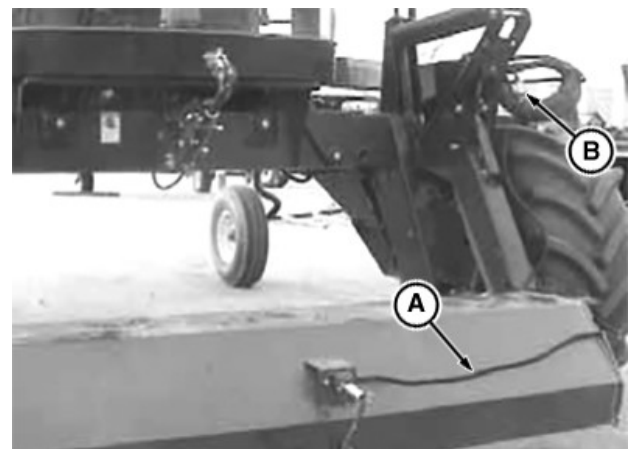
34. Remove the temporary lift pins (A). Pins are loose in the lift arm. Place the pins in the storage holes on the weight box.

GW44282,0000A4D-19-19DEC19

## Transport to Field Conversion

**CAUTION:** To avoid bodily injury from fall of a raised platform, always engage the platform lift cylinder stops when working on or around a raised platform.

Stop the engine and remove key before leaving the operator's seat for any reason.

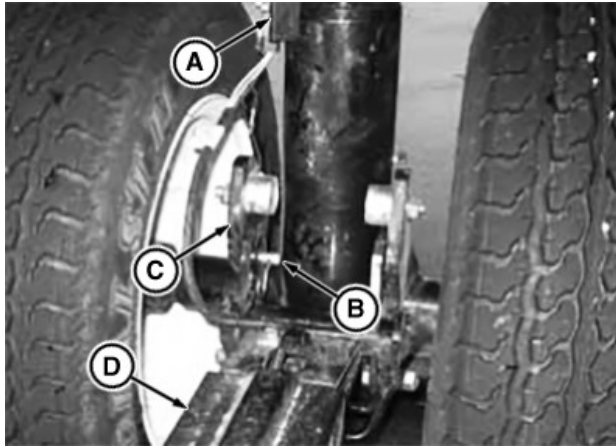


APY66569—UN—22FEB22

A—Harness  
B—Connector

1. Stop the engine and remove the key from the ignition.
2. Disconnect the electrical harness at connector (B) from the windrower. Store harness (A) on the weight box.



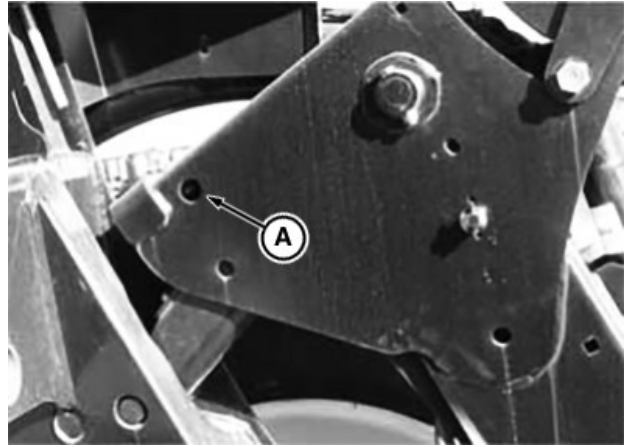


APY66570—UN—22FEB22

A—Connector  
B—Clevis Pin  
C—Latch  
D—Tow-Bar

3. Disconnect wiring connector (A) at the front wheel.
4. Remove clevis pin (B).
5. Push latch (C) and lift tow-bar (D) from the hook. Release the latch and replace the clevis pin.
6. Unhook the tow-bar from the weight box.
7. Start the engine. Lower the lift arms until the rear of the lift arms floats up and away from the lift arm mechanism.

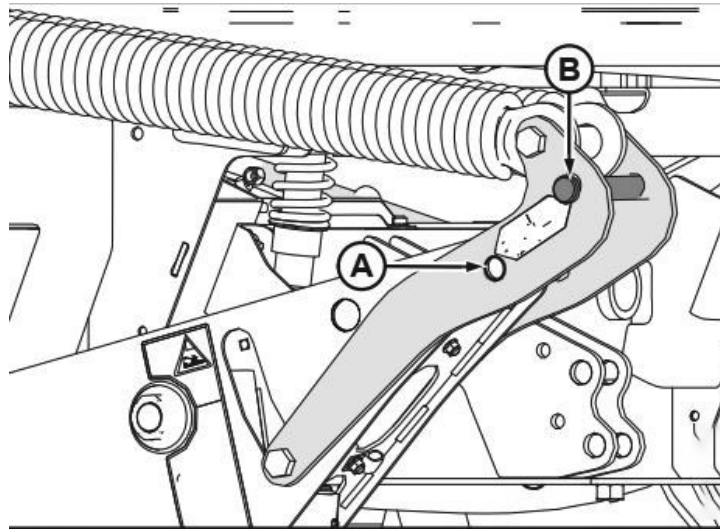
8. Stop the engine, and remove the key from the ignition.



APY66571—UN—22FEB22

A—Lift Pin

9. Remove temporary lift pins (A) from the weight box. Install the pins into the holes at the rear of the lift arms.
10. Start the engine. Raise the lift arms to their maximum height.
11. Stop the engine, and remove the key from the ignition.



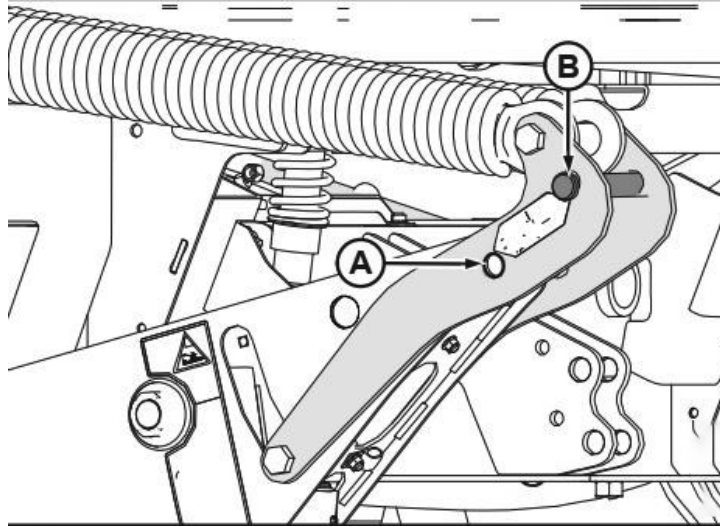
APY66572—UN—22FEB22

A—Hole Location

12. Engage the lift cylinder safety props.
13. Disengage the float. Store the pins at storage hole location (B). Move the float pins from working hole location (A).

B—Hole Location

**IMPORTANT:** To prevent damage to the lift system when lowering the header lift linkages without a header or weight box attached to the windrower, ensure that the float engagement pin is installed in the storage hole location and NOT in the working hole location.



APY66572—UN—22FEB22

A—Pin

14. Remove pins (A) securing the lift linkages to the weight box. Retain the pins so they can be used to attach the header to the windrower.
15. Disengage the lift cylinder safety props.
16. Start the engine. Lower the weight box onto blocks, and back the windrower away.
17. Attach the header to the windrower.
18. Convert the header to field position. Refer to the header operator's manual for instructions.

WKJQUWJ,0000D79-19-02MAR22

2. Cab display module displays PLATFORM REVERSE.
3. Push down platform on/off switch (B) after platform has been cleared.
4. Release reverse button (A).

**IMPORTANT:** To prevent damage and improper operation, if switching between A Series auger platforms and D series draper platforms with reverser kit installed, the hydraulic plumbing to the reverser valve must be changed.

This function will:

- Reverse knife and conditioner on D series draper platforms.
- Reverses reel, auger, knife, and conditioner on A series auger platforms.

OUO6064,0001273-19-01AUG14

## Reversing Platform

With optional hydraulic reversing kit installed, the platform drive can be reversed to clear the platform.



E70374—UN—02JUL13

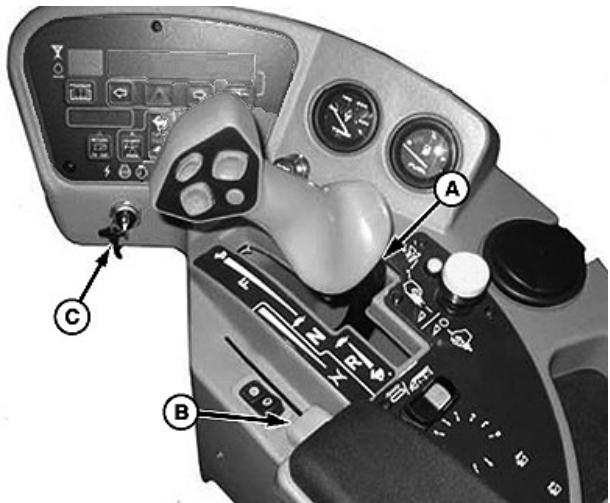
A—Platform Reverse Button  
B—Platform On/Off Switch

1. Push down and HOLD platform reverse button (A) and pull up platform on/off switch (B).

## Parking Windrower

**CAUTION:** Park on a firm, level surface. Lower the platform onto the surface. Place the ground speed lever (GSL) in neutral-detent and lock the steering wheel.

Stop and park the windrower after allowing the engine to sit idle for 3—5 minutes, allowing the engine, engine components, and turbo to cool.



Console

A—Ground Speed Lever  
B—Throttle Lever  
C—Ignition Key

1. Slowly return the GSL (A) to neutral and into the neutral-detent.
2. Turn the steering wheel until it locks.
3. Move the throttle lever (B) to low idle.

Park brakes are automatically engaged when steering wheel is locked in neutral.

4. Turn off the engine and remove the key (C).

**IMPORTANT:** To prevent damage to the linkage and controls, do not force the GSL or steering wheel while in the locked position.

GW44282,0000A4E-19-05DEC19

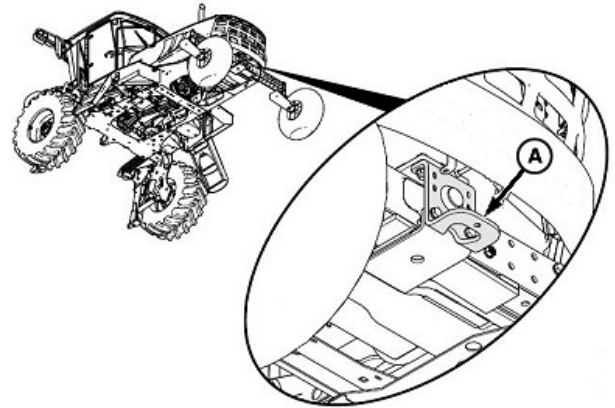
## Towing Windrower

**CAUTION:** A proper towing apparatus is critical for safe towing.

Do not attach directly from the hitch to the walking beam. Slope of tow bar does not provide proper transfer of braking force to the windrower, causing loss of control.

Attach the tow bar at same height as the towing vehicle hitch.

To avoid interference with the windrow, remove towing apparatus for field operation.



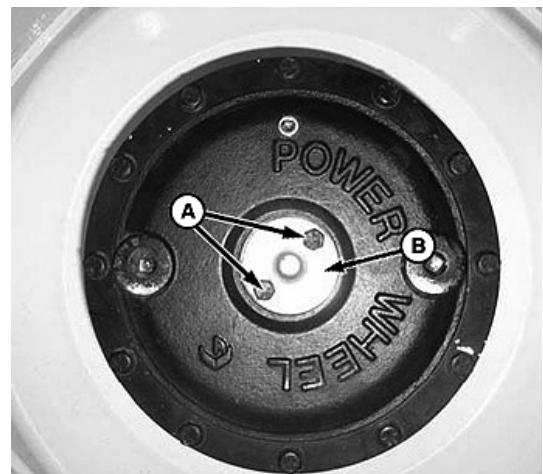
E81620—UN—13OCT16

### A—Attachment Point

Avoid towing a windrower. In emergency situations and if certain conditions are met, a windrower can be towed. Use attachment point (A) to tow the windrower out of a field or into a shop without a trailer. Towing is possible provided that precautions are taken.

**IMPORTANT:** Final drives must be disengaged to tow or the transmission is damaged. Do not exceed 26 km/h (16 mph) when towing the windrower.

Even with final drives disengaged, rolling speeds in excess of 26 km/h (16 mph) damage final drive gears.



E66750—UN—29AUG12

A—Hex Bolt (2 used)  
B—Cap

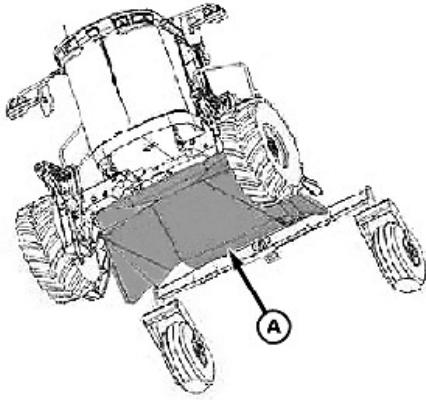
### Disengage Final Drives

1. Remove the two hex bolts (A) at the center of the drive wheel.
2. Remove cap (B) and flip over so dished side faces in. The cap depresses a pin that disengages the final drive.
3. After towing, reverse cover to engage final drives.

Ensure that the plunger at the center of the wheel pops out to engage the final drive.

GW44282,0000A7A-19-13DEC19

## Swath Compressor (if equipped)

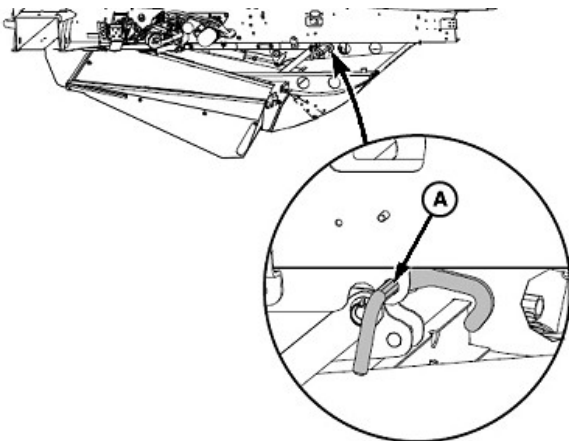


A—Swath Compressor

**CAUTION:** Prevent possible injury or death. Ensure that all bystanders are clear of the area.

The swath compressor (A) is designed to shape the windrow and anchor it into the stubble behind the platform, minimizing shelling in ripe conditions. It is used for cutting canola and replaces the conventional roller-type system. The swath compressor has adjustments for shaping the windrow for optimal drying and protection from wind damage.

1. To use the swath compressor:

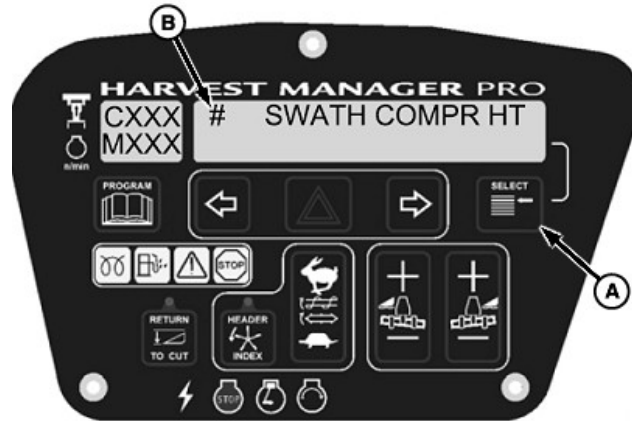


A—Handle

E89931—UN—10SEP18

**IMPORTANT:** The lock prevents the swath compressor from lowering inadvertently when not in use, due to operator error or loss of hydraulic pressure. Engage the lock when operating in the engine-forward mode. Disengage the lock before using the swath compressor.

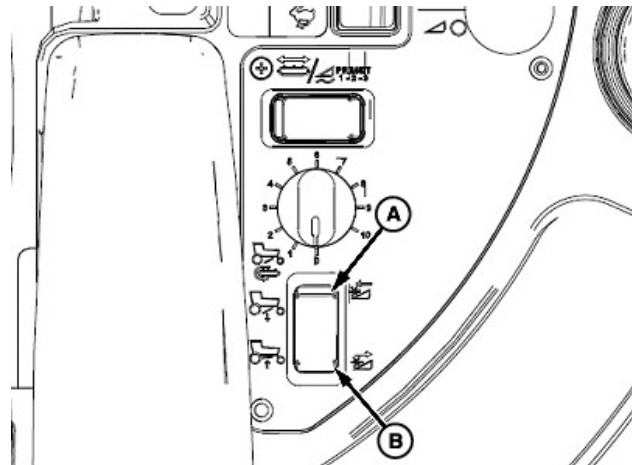
To disengage the lock, rotate handle (A) counterclockwise on the left-hand side of the rear support.



A—SELECT Button  
B—Height

E89932—UN—10SEP18

2. Start the windrower in the cab-forward mode.
3. To show SWATH COMPR HT on the cab display module (CDM), press the SELECT button (A). The height (B) displays using an arbitrary scale of 0—10.0. Fully raised is 10.0.



A—Button  
B—Button

E89933—UN—10SEP18

4. Lower the swath compressor by pressing button (A), and raise it by pressing button (B). To stop the movement at a desired height, release the button.

**NOTE:** The last position set with the console buttons becomes the target height. When an adjustment is made, the CDM display shows the target value. The system immediately adjusts to attain the target position. After the last adjustment, the display shows the target value for 5 seconds, then the display reverts to the previous screen.

The swath compressor automated functions are the Platform Engaged mode and the Cab-Forward mode.

- When ground speed higher than 2.5 km/h (1.6 mph) is detected, the swath compressor lowers to the target height.
- When the ground speed transitions through 1.6 km/h (1 mph) during deceleration, the swath compressor is fully raised.
- When the ground speed is faster than 1.6 km/h (1 mph) and the platform engage switch is OFF, the swath compressor raises fully.
- The swath compressor remains inactive in the engine-forward mode.

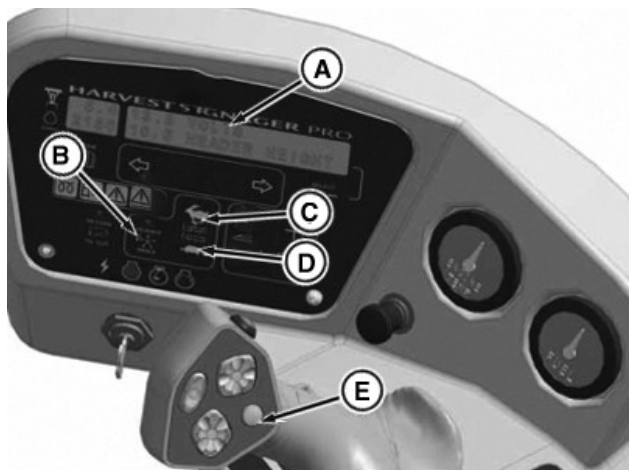
GW44282,0000A4F-19-13DEC19

## Auger Speed

The options for setting the header's auger speed differ depending on the model of header.

### Setting Auger Speed on 100 A Auger Headers

The speed of the auger on 100 A Auger Headers is directly related to the speed of the reel. However, the auger speed can be controlled independently of the reel.



EX530537—UN—04MAR22

Operator Console

- A—Display
- B—Header Index Switch
- C—Fast Button
- D—Slow Button
- E—Display Selector Switch

**CAUTION:** Ensure that all bystanders have cleared the area.

The speed of the auger on 100 A Auger Headers is directly related to the speed of the reel. However, the auger speed can be controlled independently of the reel.

1. Start the engine. Engage the platform.
2. Set header index switch (B) to OFF.
3. Set the reel speed setting to the minimum possible value.
4. Press display selector switch (E) on the ground speed lever (GSL) or press the fast button (C) or slow button (D) on the cab display module (CDM) until the message **### AUGER SPEED** appears at location (A). The displayed value represents the speed of the auger.

**NOTE:** Changes to the reel speed directly affects the speed of the auger. However, when the reel speed is adjusted, the auger speed value displayed on the CDM will not change.

5. Press the fast button (C) or slow button (D) on the cab display module (CDM) until the desired auger speed is achieved.

WKJQUWJ,0000D80-19-04MAR22

## Reel Speed

The ability to control or monitor the header's reel speed differs depending on the particular model of auger header attached to the windrower.

### Reel Speed – 100A Auger Headers

The 100A auger header features a hydraulic direct drive reel with an operating speed range of 15–85 rpm. The Operator can control the reel speed using the cab display module (CDM) and the ground speed lever (GSL).

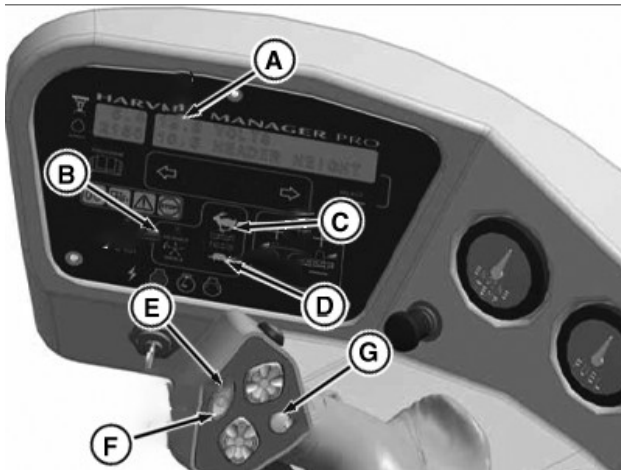
The reel drive motor and the auger drive motor are connected in series but a separate line to the auger allows the reel speed to change independently from the auger speed. Switches on the GSL are used to adjust the reel speed that is displayed on the CDM display. The reel speed can be set by three methods:

- Reel Only (only reel speed changes)
- Reel On-the-Go (reel and auger speeds change)
- Reel to Ground (indexed)

**NOTE:** Adjusting the reel speed results in change to the auger speed unless the auger speed has been preset.

WKJQUWJ,0000D7F-19-04MAR22

## Adjusting Reel Speed



EX530529—UN—02MAR22

Operator Console

- A—Display
- B—Header Index
- C—Auger Fast
- D—Auger Slow
- E—Fast Button
- F—Slow Button
- G—Display Selector

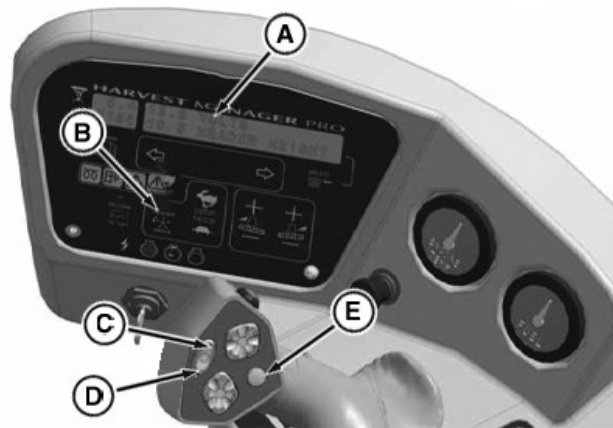
The 100 A Auger Header's reel is hydraulically driven. Adjusting the reel speed also changes the auger speed, unless the auger speed is initially set to a predetermined value. Follow this procedure to set the auger speed so that subsequent reel speed adjustment affects the reel.

**NOTE:** Once the reel speed has been configured, subsequent adjustments to the reel speed Do NOT affect the auger speed.

1. Start the engine.
2. Engage the platform.
3. Set header index switch (B) to OFF.
4. On the ground speed lever (GSL), press reel SLOW switch (F) until a beep is heard. The message ###.## REEL rpm appears at location (A).
5. Press auger slow button (D) or fast button (C) to set the desired auger speed. The message ###.# auger speed appears at location (A).
6. On the Ground Speed Lever (GSL), press reel slow button (F) or fast button (E) to set the desired reel speed. The message ###.## REEL rpm appears at location (A).

WKJQUWJ,0000D75-19-08MAR22

## Adjusting Reel Speed without Indexing



EX530530—UN—02MAR22

Operator Console

- A—Cab Display Module
- B—Header Index
- C—Reel Fast Button
- D—Reel Slow Button
- E—Display Selector

**CAUTION:** Ensure that all bystanders have cleared the area.

1. Set header index (B) to OFF.
2. Press reel fast button (C) or reel slow button (D) on the ground speed lever (GSL) until the cab display module (A) displays the message ###.## REEL mph. Adjust the reel speed value until your preferred setting appears.

WKJQUWJ,0000D76-19-04MAR22

## Knife Speeds

1. The windrower's knife speed must be set that so that the crop is cut cleanly. The Operator must choose knife speed which suits the type of crop being cut and the operating conditions.
2. When the header is first attached to the windrower, the windrower control module (WCM) receives code from the header that determines the knife speed range and the minimum speed.
3. However, the Operator can configure their own speed setting in the cab display module (CDM). This setting is stored in the WCM's memory so that the knife operates at the new setting each time the header is detached and reattached to the windrower.
4. If no header code is detected, the CDM displays NO HEADER and the knife speed reverts to the operator's selection, which ranges 800—1000 strokes per minute.
5. Refer to the header operator's manual for the

suggested knife speed for different crops and cutting conditions.

**NOTE:** The knife speed cannot be programmed outside the range specified for each model of header.

**NOTE:** The knife speed can be adjusted without shutting down the windrower; however, the windrower must be topped before adjusting cab display module (CDM) settings.

Refer to the following table for the minimum and maximum knife speed settings on various types of draper platform.

Header		Knife Speed			
Type	Width	Minimum Speed		Maximum Speed	
		rpm <sup>a</sup>	SPM <sup>b</sup>	rpm <sup>c</sup>	SPM <sup>b</sup>
Draper with Double Knife	4.6 m (15 ft)	750	1500	950	1900
Draper with Double Knife	6.1 and 7.6 m (20 and 25 ft)	700	1400	850	1700
Draper with double knife	9.1 m (30 ft)	600	1200	800	1600
Draper with Double Knife	10.6 m (35 ft)	600	1200	700	1400
Draper with Double Knife	12.2 m (40 ft)	550	1100	700	1400
Draper with Single Knife	6.1 and 7.6 m (20 and 25 ft)	600	1200	750	1500
Draper with Single Knife	9.1 m (30 ft)	600	1200	700	1400
Draper with Single Knife	10.6 m (35 ft)	550	1100	700	1400
Draper with Single Knife	12.2 m (40 ft)	525	1050	600	1200

Draper Platform Knife Speed Ranges for W Series Self-Propelled Windrowers

<sup>a</sup>The reel speed can also be displayed in km/h or rpm, depending on the CDM's display settings. The values specified in this column refer to the speed of the knife drive box's pulley.

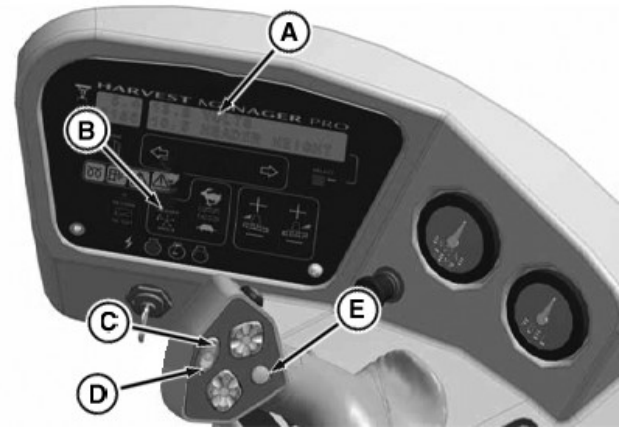
<sup>b</sup>Knife strokes per minute (rpm x 2).

<sup>c</sup>The values specified in this column refer to the speed of the knife drive box's pulley.

## Disc Speed

The disc speed must be set by using the controls on the ground speed lever (GSL).

### Setting Disc Speed



EX530530—UN—02MAR22

Operator Console

- A—Cab Display Module
- B—Header Index Switch
- C—Reel Fast Button
- D—Reel Slow Button
- E—Display Selector

**CAUTION:** Ensure that all bystanders have cleared the area.

The disc speed can be set by using the controls on the ground speed lever (GSL).

1. Start the engine.
2. Engage the header.
3. Set header index switch (B) to OFF.
4. Press the fast button (C) or slow button (D) on the ground speed lever (GSL). The message ##### DISC rpm appears. The displayed value (#####) represents the disc speed in rpm.
5. Press the fast button (C) or slow button (D) until the desired disc speed is achieved.

WKJQUWJ.0000D78-19-04MAR22

WKJQUWJ.0000D77-19-04MAR22

# Fuels, Coolants, and Lubricants

## Filling Fuel Tank



TS202—UN—23AUG88

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

Always turn off 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.

Do Not overfill fuel tank. Fill fuel tank within 25 mm (1 in.) from top of fuel tank. Bodily injury results from fuel splash back. Leakage results from expansion of fuel. If tank is filled too full, then left in direct sunlight or if temperature gets too hot, tank will overflow.

### To Fuel:

**NOTE:** To help prevent condensation in the tank, fill fuel tank daily, preferably at the end of the days operation.

1. Shut off engine and remove key.
2. Allow the windrower and components to cool.
3. Stand on platform to access the fuel tank filler pipe.
4. Clean the area around filler cap.
5. Turn cap handle counter clockwise until loose, then remove cap.
6. Fill tank with approved fuel, allowing room for expansion.

**IMPORTANT:** Do NOT fill tank completely. Space is required for expansion. A tank filled too high overflows if exposed to a rise in temperature, such as direct sunlight.

7. Replace fuel tank cap and turn cap handle clockwise until snug.

**IMPORTANT:** Do NOT allow tank to empty. Running out of fuel causes air locks and contamination of the fuel system.

OUC6064,000127A-19-01AUG14

## Diesel Fuel Storage

**IMPORTANT:** Buy good quality, clean fuel from a reputable supplier.

Proper fuel storage is critically important. Use clean storage and transfer tanks. Periodically drain water and sediment from bottom of tank. Store fuel in a convenient place away from buildings.

DO NOT store diesel fuel in galvanized containers. Diesel fuel stored in galvanized containers reacts with zinc coating on container to form zinc flakes. If fuel contains water, a zinc gel will also form. The gel and flakes will quickly plug fuel filters, damage injection nozzles and injection pump.

DO NOT use brass-coated containers for fuel storage. Brass is an alloy of copper and zinc.

Store diesel fuel in plastic, aluminum, and steel containers specially coated for diesel fuel storage.

Avoid storing fuel over long periods of time. If fuel is stored for more than a month prior to use, or there is a slow turnover in fuel tank or supply tank, add a fuel conditioner such as John Deere PREMIUM DIESEL FUEL CONDITIONER or equivalent to stabilize the fuel and prevent water condensation. John Deere PREMIUM DIESEL FUEL CONDITIONER is available in winter and summer formulas. Fuel conditioner also reduces fuel gelling and controls wax separation during cold weather.

Consult your John Deere dealer for recommendations and local availability. Always follow manufacturers directions on label.

RC48509,000055D-19-02JUL13

## Heavy Duty Diesel Engine Coolant

**IMPORTANT:** This machine is NOT filled with John Deere COOL-GARD™ products from the factory. If coolant must be added, use coolants meeting ASTM4985 (GM6038M) or ASTM D6210 criteria. At first coolant flush interval, John Deere recommends refilling the system with the following COOL-GARD products.

The engine cooling system is filled to provide year-round protection against corrosion and cylinder liner

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pitting, and winter freeze protection to -37°C (-34°F). If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

**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.

### 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.**

OUO6043.0000206-19-12FEB13

## Supplemental Coolant Additives

**IMPORTANT: This machine is NOT filled with John Deere COOL-GARD™ products from the factory. Do not use John Deere Coolant Conditioner until after initial flush and refill with John Deere coolant.**

Some coolant additives will gradually deplete during engine operation. For nitrite-containing coolants, replenish coolant additives between drain intervals by adding a supplemental coolant additive as determined necessary by coolant testing.

John Deere Liquid Coolant Conditioner is recommended as a supplemental coolant additive for nitrite-containing coolants.

John Deere Liquid Coolant Conditioner is not designed for use with John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, or COOL-GARD II Concentrate.

**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

If other coolants are used, consult the coolant supplier and follow the manufacturer's recommendation for use of supplemental coolant additives.

The use of non-recommended supplemental coolant additives may result in additive drop-out and gelation of the coolant.

Add the manufacturer's recommended concentration of supplemental coolant additive. DO NOT add more than the recommended amount.

OUO6043.0000207-19-19JUN13

## Additional Information About Diesel Engine Coolants and John Deere COOL-GARD™ II Coolant Extender

**IMPORTANT:** This machine is **NOT** filled with John Deere COOL-GARD™ products from the factory. Do not use John Deere coolant products until after initial flush and refill with John Deere coolant.

Engine coolants are a combination of three chemical components: ethylene glycol (EG) or propylene glycol (PG) antifreeze, inhibiting coolant additives, and quality water.

### Coolant Specifications

John Deere COOL-GARD™ II Premix either EG or PG, are fully formulated coolants that contain all three components in their correct concentrations. DO NOT add an initial charge of John Deere COOL-GARD II Coolant Extender to COOL-GARD II Premix. DO NOT add any other supplemental coolant additive or water to COOL-GARD II Premix.

John Deere COOL-GARD II Concentrate contains both ethylene glycol and inhibiting coolant additives. Mix this product with quality water, but DO NOT add an initial charge of John Deere COOL-GARD II Coolant Extender or any other supplemental coolant additive.

### Replenish Coolant Additives

Some coolant additives will gradually deplete during engine operation. Periodic replenishment of inhibitors is required, even when John Deere COOL-GARD II Premix or COOL-GARD II Concentrate is used. Follow the recommendations in this manual for the use of John Deere COOL-GARD II Coolant Extender.

### Why use John Deere COOL-GARD II Coolant Extender?

Operating without proper coolant additives will result in increased corrosion, cylinder liner erosion and pitting, and other damage to the engine and cooling system. A simple mixture of ethylene glycol or propylene glycol and water will not give adequate protection.

John Deere COOL-GARD II Coolant Extender is a chemically matched additive system designed to fortify the proprietary additives used in John Deere COOL-GARD II Premix and COOL-GARD II Concentrate and to provide optimum protection for up to six years or 6000 hours of operation.

### Avoid Automotive-type Coolants

Never use automotive-type coolants (such as those meeting ASTM D3306). These coolants do not contain the correct additives to protect heavy-duty diesel engines. Do not treat an automotive engine coolant with

supplemental coolant additives because the high concentration of additives can result in additive fallout.

### 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. All water used in the cooling system should meet the following minimum specifications for quality:

Chlorides	<40 mg/L
Sulfates	<100 mg/L
Total dissolved solids	<340 mg/L
Total hardness	<170 mg/L
pH	5.5 to 9.0

### Freeze Protection

The relative concentrations of glycol and water in the engine coolant determine its freeze protection limit.

Ethylene Glycol	Freeze Protection Limit
40%	-24°C (-12°F)
50%	-37°C (-34°F)
60%	-52°C (-62°F)
Propylene Glycol	Freeze Protection Limit
40%	-21°C (-6°F)
50%	-33°C (-27°F)
60%	-49°C (-56°F)

DO NOT use a coolant-water mixture greater than 60% ethylene glycol or 60% propylene glycol.

OUO6043.0000208-19-12FEB13

## Testing Diesel Engine Coolant

**IMPORTANT:** This machine is **NOT** filled with John Deere COOL-GARD™ products from the factory. Do not use John Deere coolant products until after initial flush and refill with John Deere coolant.

Maintaining adequate concentrations of glycol and inhibiting additives in the coolant is critical to protect the engine and cooling system against freezing, corrosion, and cylinder liner erosion and pitting.

Test the coolant solution at intervals of 12 months or less and whenever excessive coolant is lost through leaks or overheating.

### Coolant Test Strips

Coolant test strips are available from your John Deere dealer. These test strips provide a simple, effective method to check the freeze point and additive levels of your engine coolant.

### When Using John Deere COOL-GARD II

John Deere COOL-GARD II Premix™, COOL-GARD II PG Premix and COOL-GARD II Concentrate are maintenance free coolants for up to six years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix or COOL-GARD II PG premix. Test the coolant condition annually with coolant test strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II Coolant Extender as directed.

Add only the recommended concentration of John Deere COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

### When Using Nitrite-Containing Coolants

Compare the test strip results to the supplemental coolant additive (SCA) chart to determine the amount of inhibiting additives in your coolant and whether more John Deere Liquid Coolant Conditioner should be added.

Add only the recommended concentration of John Deere Liquid Coolant Conditioner. DO NOT add more than the recommended amount.

### Coolant Analysis

For a more thorough evaluation of your coolant, perform a coolant analysis. The coolant analysis can provide critical data such as freezing point, antifreeze level, pH, alkalinity, nitrite content (cavitation control additive), molybdate content (rust inhibitor additive), silicate content, corrosion metals, and visual assessment.

Contact your John Deere dealer for more information on coolant analysis.

OUO6043.0000209-19-12FEB13

### Drain Intervals for Diesel Engine Coolant

**IMPORTANT:** This machine is NOT filled with John Deere COOL-GARD™ products from the factory. Do not use John Deere coolant products until after initial flush and refill with John Deere coolant.

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix and COOL-GARD II Concentrate are maintenance free coolants for up to six years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix or COOL-GARD II PG Premix.

Test the coolant condition annually with Coolant Test

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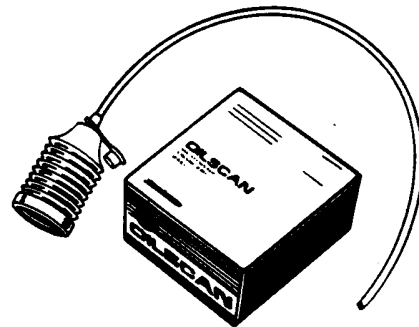
Strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II Coolant Extender as directed.

If John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, or COOL-GARD II Concentrate is used, but the coolant is not tested OR additives are not replenished by adding John Deere COOL-GARD II Coolant Extender, the drain interval is four years or 4000 hours of operation. This drain interval only applies to COOL-GARD II coolants that have been maintained within a 40—60% mixture of concentrate with quality water.

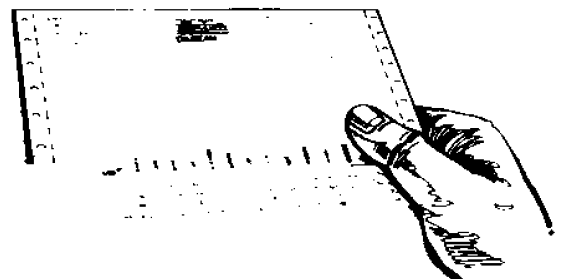
If a coolant other than COOL-GARD II, or COOL-GARD II PG is used, reduce the drain interval to two years or 2000 hours of operation.

OUO6043.000020E-19-05MAR13

### Oilscan™ and CoolScan™



T6828AB—UN—15JUN89



T6829AB—UN—26AUG11

Oilscan™ and CoolScan™ are John Deere sampling programs to help you monitor machine performance and identify potential problems before they cause serious damage.

Oil and coolant samples should be taken from each system before its recommended change interval.

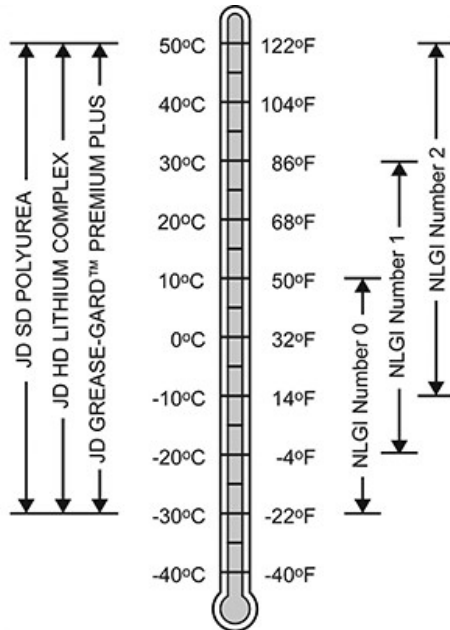
Oilscan is a trademark of Deere & Company  
CoolScan is a trademark of Deere & Company

Check with your John Deere dealer for the availability of Oilscan™ and CoolScan™ kits.

DX,OILSCAN-19-13SEP11

## 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 mm<sup>2</sup>/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

## Lubricants

LUBRICANT	SPECIFICATION / DESCRIPTION	USE
Grease	SAE Multi-Purpose / High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base.	As Required Unless Otherwise Specified
Engine Oil	SAE 15W-40 SAE Compliant Specification for API CH-4 , SJ Engine Oil	Engine Crankcase
Hydraulic Oil	SAE 15W-40 SAE Compliant Specification for API CH-4 , SJ Engine Oil	Windrower Drive. Platform Drive.
Gear Lubricant	SAE 85W-140 API Service Class GL-5 Extreme Pressure Gear Lubricant	Drive Wheel Gears Before Initial Change
	SAE 75W-90 API Service Class GL-5 Fully Synthetic Gear Lubricant SAE J2360 Preferred	Gearbox Drive Wheel Gears After Initial Change

OUO6064,0001923-19-05JAN17

## Fluids

FLUID	SPECIFICATION / DESCRIPTION	USE
Antifreeze	COOL-GARD™ John Deere Cool-Gard II Premix, COOL-GARD™ Cool-Gard II PG Premix, Cool-ConcentrateCOOL-GARD™	Equal Parts with Water and Engine Coolant
Air Conditioning Refrigerant	R134A / Refrigerant	Cab Air Conditioning System
Air Conditioning Compressor Oil	SP-15 PAG / Compressor Oil	Cab Air Conditioning Compressor Lubricant

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COOL-GARD is a trademark of Deere & Company  
COOL-GARD is a trademark of Deere & Company

RC48509,000055B-19-02JUL13

## Capacities

Fuel Tank	367 L (97.0 U.S. gal.)
Cooling System	24.0 L (8.75 U.S. gal.)
Engine Crankcase	11.0 L (11.6 qt.) (does not include filter)
Final Drives Planetary (each side)	1.4 L (1.5 U.S. qt.)
Hydraulic Reservoir	65.0 L (17.2 U.S. gal.)
Pump Drive Gear Case (Gear Box)	2.1 L (2.2 U.S. qt.)
Air Conditioning Refrigerant	2.27 kg 5.0 lb.)
Air Conditioning Compressor Oil	240 cc (8.1 fl. oz.)

OUO6064,00012DF-19-15SEP14

## 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

## **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.

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DX,ALTER-19-13JAN18

# Lubrication and Maintenance

## Required Emission-Related Information

### Service Provider

A qualified repair shop or person of the owner's choosing may maintain, replace, or repair emission control devices and systems with original or equivalent replacement parts. However, warranty, recall, and all other services paid for by John Deere must be performed at an authorized John Deere service center.

DX,EMISSIONS,REQINFO-19-12JUN15

## Perform Lubrication and Maintenance

**CAUTION:** To prevent injury, never lubricate or service windrower or engine while it is running. Lower platform to the ground or raise platform and engage platform lift lock out. Engine must be off and key removed.

**IMPORTANT:** The service intervals are for average conditions. Service more often if windrower is used in extreme or adverse conditions.

This Lubrication and Maintenance Section is not a detailed service manual. It contains information meant primarily for routine operation maintenance. For more detailed service information, order a Technical Manual through your John Deere dealer.

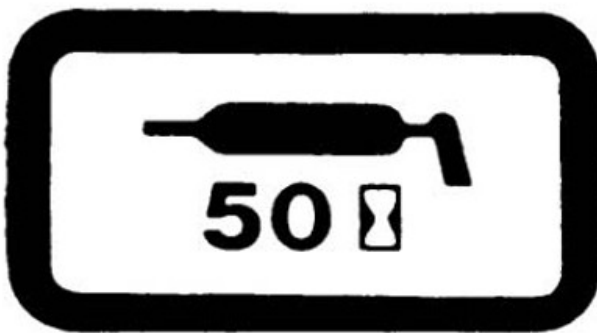
Perform each lubrication and service illustrated in this section both at the beginning of the season, and at the end of the season.

Clean grease fittings before using grease gun. Replace any lost or broken fittings immediately. If a new fitting fails to take grease, remove and check for failure of adjoining parts.

If you have any questions about the lubrication and maintenance of the windrower that is not covered in this manual contact your John Deere dealer.

OOU6064,000127B-19-01AUG14

## Observe Lubrication Symbols



Grease Symbol

E61538—UN—18APR12

Greasing points are marked on the windrower by decals showing a grease gun and grease interval in hours of operation. Follow the hourly interval on the symbol.

Grease intervals on the windrower are at 50 hours and 200/250 hours.

Lubricate with John Deere SD POLYUREA grease or equivalent SAE multipurpose grease (unless otherwise specified). See Grease in FUELS, COOLANTS, AND LUBRICANTS section of this manual.

RC48509,000058E-19-02JUL13

## Service Interval Display



E63264—UN—18APR12

A—Cab Display Module Selector Switch  
B—Ground Speed Lever Selector Switch

Use operating hours display as a guide when performing the required service interval on the windrower.

Use the selector switch on the cab display module (A) or ground speed lever (B) to display the windrower engine hours.

OOU6064,000127C-19-01AUG14





## Lubrication and Maintenance

Hour Meter Reading																			
Date																			
Serviced By (initial)																			
Check Drive Wheel Lubricant																			
Check Wheel Nut Torque																			
<b>Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently.</b>																			

### Some service and maintenance safety precautions:

- Never service the windrower while it is running.
- Allow components to cool to the touch if the windrower has been running and is up to operating temperature.
- Allow enough space for the service procedure and tools.
- Place the windrower on a firm, level surface.
- Confirm that the windrower is in neutral-detent position with the steering wheel centered before servicing.

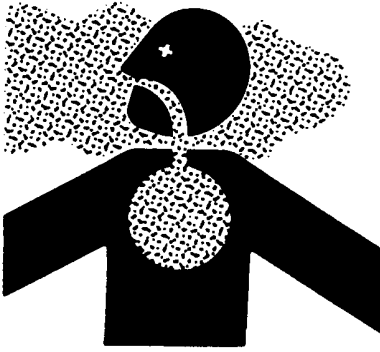
- Always remove the key from the ignition before servicing.
- To warn others that the windrower is being serviced, place a mark-out tag or sign on the steering wheel.
- To keep the windrower from moving during power train, wheel, and tire procedures, block the wheels.

These precautions are not all inclusive but intended as a reminder. Contact a dealer if you have any questions concerning service or maintenance of your machine.

Hour Meter Reading																			
Date																			
Serviced By (initial)																			
<b>EVERY 500 HOURS</b>																			
Change Engine Oil and Filter																			
Change Fuel Filters																			
Change Gearbox Lubricant																			
Change Hydraulic Oil Filters																			
Check Safety Systems (check annually)																			
<b>1000 HOURS</b>																			
Change Drive Wheel Lubricant																			
<b>EVERY 1500 HOURS OR BI-ANNUALLY</b>																			
Change Hydraulic Oil																			
<b>EVERY 2000 HOURS OR BI-ANNUALLY</b>																			
Change Engine Coolant																			
Check General Machine Condition																			
<b>EVERY 5000 HOURS OR BI-ANNUALLY</b>																			
Check Engine Valves																			
<b>Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently.</b>																			

GW44282,0000A81-19-05DEC19

## Work In Ventilated Area



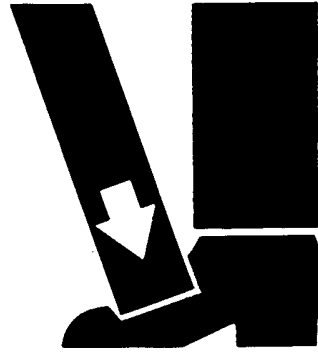
TS220—UN—15APR13

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.

RC48509,000058A-19-19JUN13

## Use Proper Lifting Equipment



TS226—UN—23AUG88

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.

RC48509,0000589-19-19JUN13

## Annual Service



E76347—UN—12AUG14

Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
	Air Conditioning Blower		Inspect Function	
	A/C Evaporator Core Cleaning		Clean Dirt & Debris From Evaporator Core	
	Coolant Concentration		Check Condition	
	Battery Charge		Check	
	Battery Fluid Level		Check	
	Steering Linkages		Check Condition	
	Fuel Tank Vent Line Filter		Replace	
<b>Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently.</b>				

OOU6064,000127E-19-12AUG14

## HVAC Blower

Check and service the HVAC system blower each season or annually.

The cab environment is controlled by a climate-control system that provides clean air-conditioned or heated air for the operator.

To distribute oil throughout the system, perform the following steps whenever the machine is first started after storage for more than one week or at the beginning of the season:

1. Confirm that the heater shut-off valve at engine is open.
2. Turn blower switch to the first position, turn temperature control switch to maximum heating and A/C control to off.
3. After confirming that all bystanders are clear sound the horn a start the engine. Operate at low idle until engine is warm.
4. Switch A/C from OFF to ON for one second and then back to OFF for 5 to 10 seconds.
5. Repeat step ten times.

The A/C compressor is protected from excessive low or high pressure by two switches that shut down the compressor to prevent damage to the system.

If the A/C shuts down by either switch or while performing checks contact your dealer.

RC48509,0000587-19-19JUN13

## Air Conditioner Evaporator Service

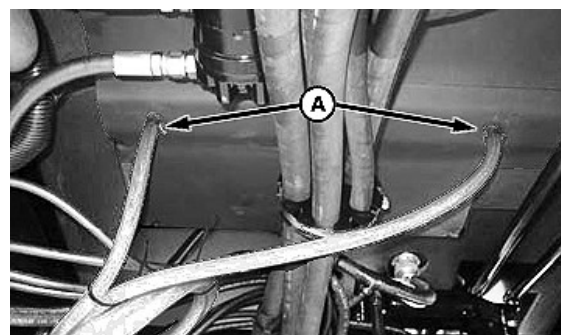
**CAUTION:** Turn off the engine and remove the key before leaving the seat for any reason. A child or a pet could engage an idling machine.

Check the air conditioner evaporator annually for cleanliness. If the air conditioning system produces insufficient cooling, a possible cause is clogged

evaporator fins. Fins clog up from the side opposite of the blowers.

The evaporator is located inside the heating and air conditioning unit under the cab.

To clean the evaporator, proceed as follows:

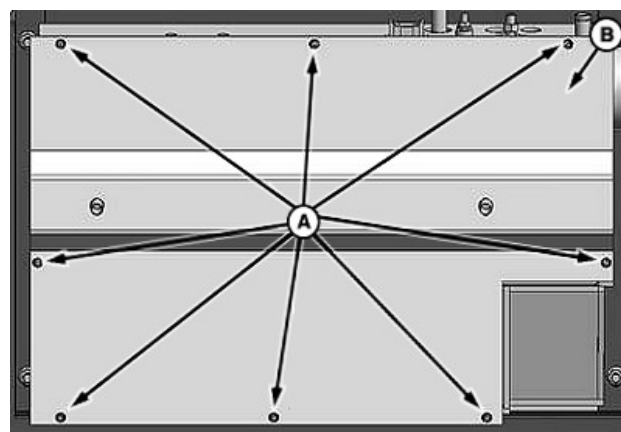


E67669—UN—10SEP12

Drain Hose Clamps

**A—Drain Hose Clamp (2 used)**

1. Loosen clamps (A) on the two drain hoses and pull off the hoses from the drain tubes.

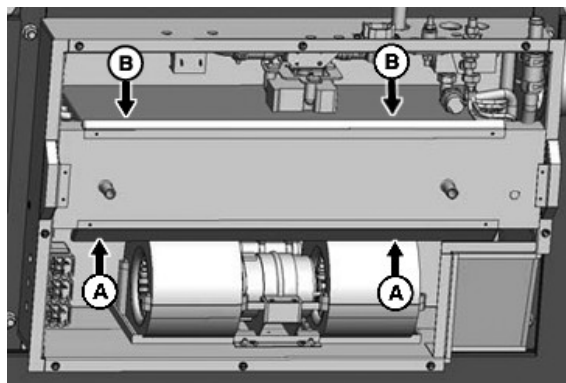


E70375—UN—05JUL13

Evaporator Access Door

**A—Cap Screw (8 used)**  
**B—Access Door**

- Remove the eight cap screws (A) on the access door (B).



E70377—UN—03JUL13

Access Door Removed

A—Blower Side  
B—Opposite Blower Side

- Blow compressed air through the evaporator fins from the blower side (A) first as shown. Direct air straight into the evaporator to prevent fin damage. A nozzle extension makes the procedure easier.
- Repeat this step from the opposite side (B).
- If dirt is still present, soak evaporator with water to loosen dirt and blow out with compressed air.
- To replace cover and drain hoses, reverse the procedure.

GW44282,000A50-19-15NOV19

## Coolant Concentration

Check the condition and concentration of the engine coolant annually.

### Coolant Test Strips

Coolant test strips are available from your John Deere dealer. These test strips provide a simple, effective method to check the freeze point and additive levels of your engine coolant.

Operating without proper coolant additives can result in increased corrosion, cylinder liner erosion, pitting, and other damage to the engine and cooling system.

The quality of water used with coolants and additives 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.

The relative concentrations of glycol and water in the engine coolant determine its freeze protection limit.

Ethylene Glycol	Freeze Protection Limit
40%	- 24 °C (-12 °F)
50%	- 37 °C (- 34 °F)

60%	- 52 °C (- 52 °F)
<b>Propylene Glycol</b>	<b>Freeze Protection Limit</b>
40%	- 21 °C (- 6 °F)
50%	- 33 °C (- 27 °F)
60%	- 49 °C (- 56 °F)

DO NOT use a coolant-water mixture greater than 60% ethylene glycol or 60% propylene glycol.

RC48509,0000586-19-05JUL13

## Battery Charge

Check the battery charge once a year or more often if operating in cold weather.

**CAUTION:** Do not attempt to service battery unless you have the proper equipment and experience to perform the job. Have the procedure performed by your dealer.

Hydrometer readings should be 1.260 to 1.300.

Readings below 1.250 indicate charging is required.

### Routine Battery Maintenance

- Keep batteries clean as possible and wipe with a damp cloth.
- Keep all connections clean and tight. Remove any corrosion and wash terminals with a solution of baking soda and water. A light coating of grease on terminals, after cables are attached, to prevent corrosion.
- To prolong battery life, store batteries fully charged and at -7 °C to + 26 °C (+ 20 °F to + 80 °F). Check voltage after storage and recharge as needed and according to battery and charger manufacturer recommendations.
- Do NOT stack storage batteries on top of each other.

RC48509,0000585-19-05JUL13

## Battery Fluid Level

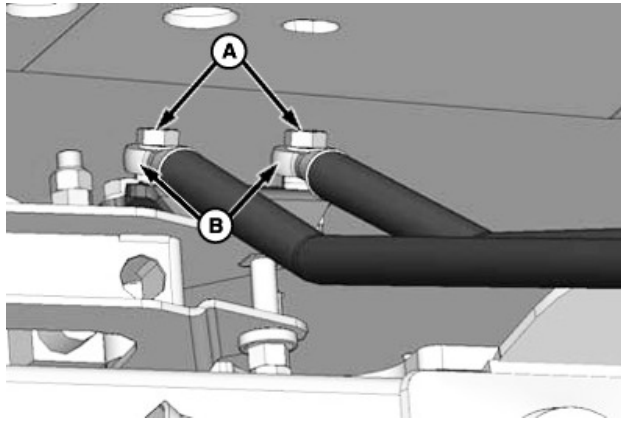
Check battery electrolyte level once a year or more if operating in extreme heat and cold.

If battery is installed in windrower, park on a firm, level surface, shut engine off and remove key.

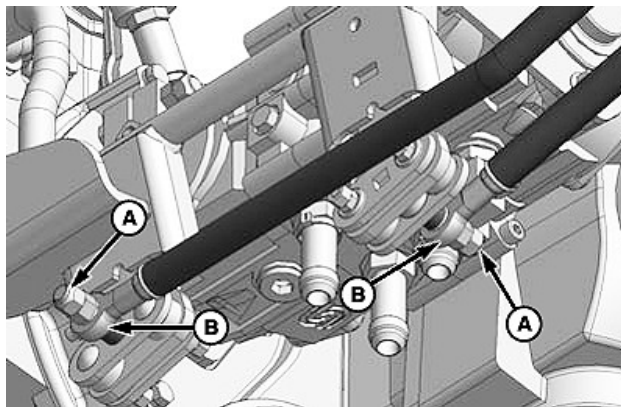
Add electrolyte in accordance with battery manufacturers instructions. Contact your dealer if you have any questions about adding electrolyte.

RC48509,0000584-19-05JUL13

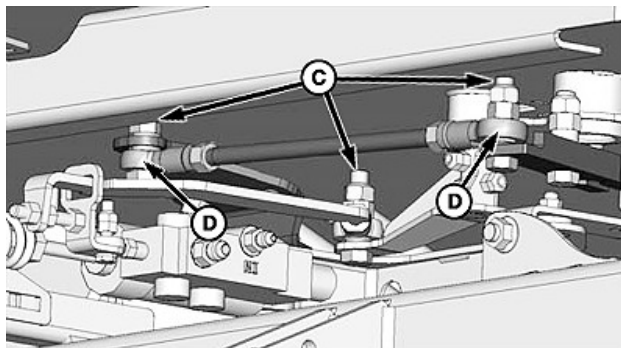
## Steering Linkage



E63604—UN—27APR12



E63605—UN—27APR12



E63606—UN—27APR12

- A—Steering Rod Bolts
- B—Steering Linkage Ball Joints
- C—Steering Link Bolts
- D—Steering Link Ball Joints

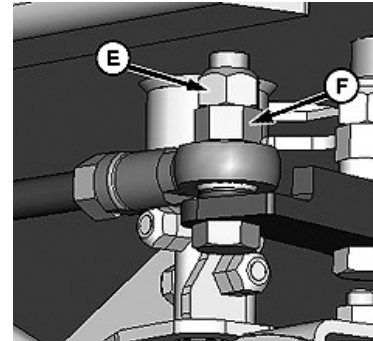
### Steering Linkage Adjustment

Check the condition and torque of the steering link pivots and bolts every year or seasonally. Steering linkage components are found under the cab-forward rear area of the windrower, between the caster wheels.

Park the windrower on firm, level ground. Turn off the engine and remove the key. Perform the following:

1. Inspect the linkage, components, lines, hoses, and moving parts for interference.

2. Check steering rod bolts (A) for looseness and ball joints (B) for excessive play or movement.
3. Check steering link bolts (C) for looseness and ball joints (D) for excessive play or movement.



E63607—UN—27APR12

- E—Nut
- F—Inside Nut

If bolts are loose:

1. Loosen lock nut (E).
2. Tighten the inside nut (F) to specification.

#### Specification

Inside Nut—Torque. . . . . 95—108 N·m  
(70—80 lb·ft)

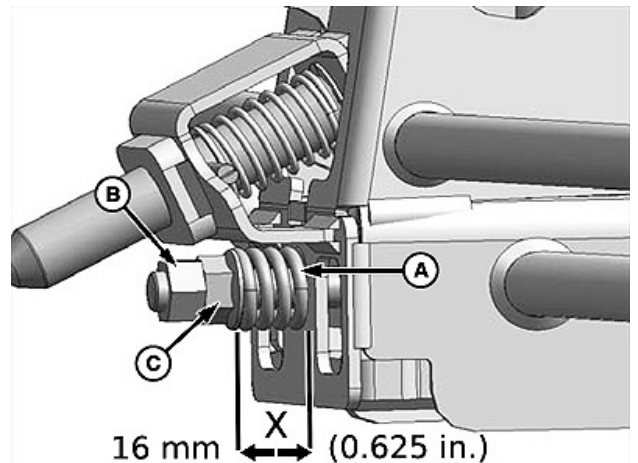
3. Hold the inside nut (F) and tighten lock nut (E) to specification.

#### Specification

Lock Nut—Torque. . . . . 81—95 N·m  
(60—70 lb·ft)

If steering linkage ball joints (B) or steering rod link ball joints (D) are loose, they must be replaced. See a dealer or refer to the Technical Manual for replacement procedures.

If parts have been replaced or adjustments have been made, perform the checks for the neutral interlock and steering lock.



E63608—UN—27APR12

- A—Spring

B—Lock Nut  
C—Adjusting Nut

### Steering Chain Tension

Check steering for binding or excessive play, which results from the steering chain being too tight or too loose.

If chain tension requires adjustment, proceed as follows:

1. Swivel the operator's station to position the steering column close to the door.
2. Check dimension at the base of the steering column. Dimension X at spring (A) must be 16 mm (0.625 in).

Adjust as follows:

1. Loosen lock nut (B) and turn adjusting nut (C) to achieve 16 mm (0.625 in) dimension.
2. Tighten lock nut (B) against adjusting nut (C).
3. Check that the steering chain is taut and the steering shaft is free to rotate.

### Park Brake

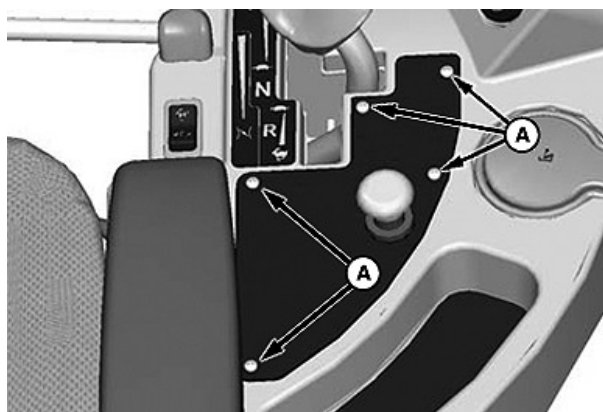
Brake is applied when the interlock is fully engaged. To engage the interlock and brake, the GSL must be in the neutral-detent position and steering wheel centered.

### Interlock Switch Adjustment

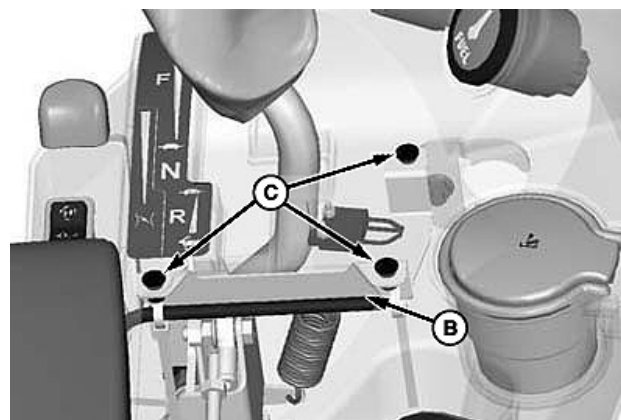
The GSL switch is located inside the console but is easily removed for adjustment or replacement. Verify that the GSL contacts the switch lever and plunger.

Adjust switch as follows:

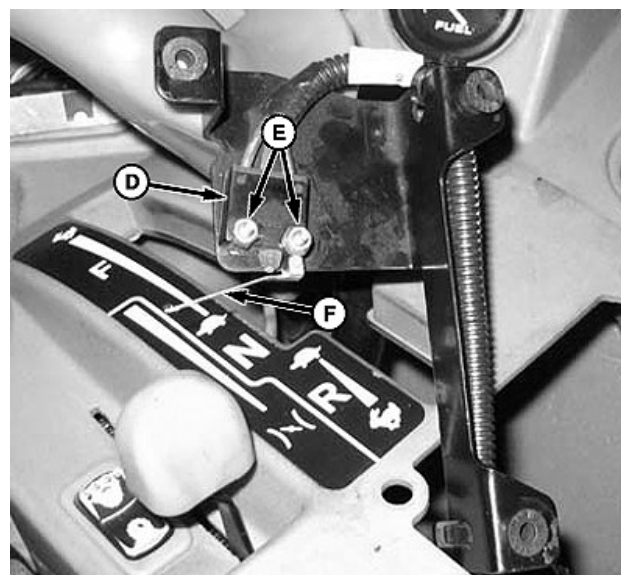
1. Place the GSL in the neutral-detent.
2. Turn off the engine and remove the key.



E63870—UN—04MAY12



E63871—UN—04MAY12



E63873—UN—04MAY12

A—Screw (5 used)  
B—Switch Support  
C—Rubber Retaining Nuts  
D—Interlock Switch  
E—Cap Screws  
F—Switch Lever

3. Remove the five screws (A) securing the cover on the console.
4. Pull the switch support (B) so the rubber retaining nuts (C) pull out of the mounting holes and remove switch (D) from the console.
5. Loosen cap screws (E) and rotate the switch on the support so the GSL contacts the switch lever (F) and pushes the plunger.
6. Tighten the cap screws (E).
7. Reverse the procedure and replace components.

### Interlock Switch Replacement

1. Follow previous procedure to step 4.
2. Disconnect the wiring harness at the connector.
3. Cut the tie bands.
4. Remove screws (E) and remove switch (D).

5. Install the new switch onto the support with screws.
6. Secure the harness to the support with tie bands.
7. Connect the harness to the console wiring.
8. Install the switch support inside the console and secure the panel cover.

GW44282,0000A51-19-13DEC19

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## Fuel Tank Vent Filter

Replace fuel tank vent filter annually or each season.

The fuel tank is vented by a hose, connected to the filler tube.

Filter is on vent line against hydraulic oil reservoir.

Replace filter as follows:



E76348—UN—12AUG14

### A—Fuel Vent Filter

1. Park the windrower on firm, level ground, shut off engine and remove key.
2. Open engine compartment hood to highest position.
3. Release hose clamps and slide away from filter (A) with hoses.

**IMPORTANT:** If filter has an arrow instead of an IN marking, arrow points up.

4. Install new filter through hole in frame and attach top hose onto filter. IN marking faces down.
5. Attach lower hose to filter, then secure both hoses with hose clamps.

OUO6064,0001281-19-12AUG14

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## Every 10 Hour Service



E76347—UN—12AUG14

Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
	Tire Inflation		Check Tire Inflation	
	Engine Oil		Check Engine Oil Level	
	Engine Coolant		Check Level At Coolant Bottle	
	Check Engine Belts		Check Condition and Tension	
	Engine, Hydraulic, A/C and Charge Coolers		Clean Coolers of Debris	
	Hydraulic Oil Level		Check Level of Hydraulic Oil	
	Engine Fuel Filter		Drain Water From Water Separator and Secondary Fuel Filter	
	Crankcase Breather Tube		Check For Sludge, Debris or Ice Buildup	
<b>Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently.</b>				

OUC6064,0001282-19-12AUG14

### Check Tire Inflation

**CAUTION:** Explosive separation of a tire and rim parts 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 correct tire pressure. Do not inflate tires above recommended pressure. Never weld or heat a wheel and tire assembly. The heat causes 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.

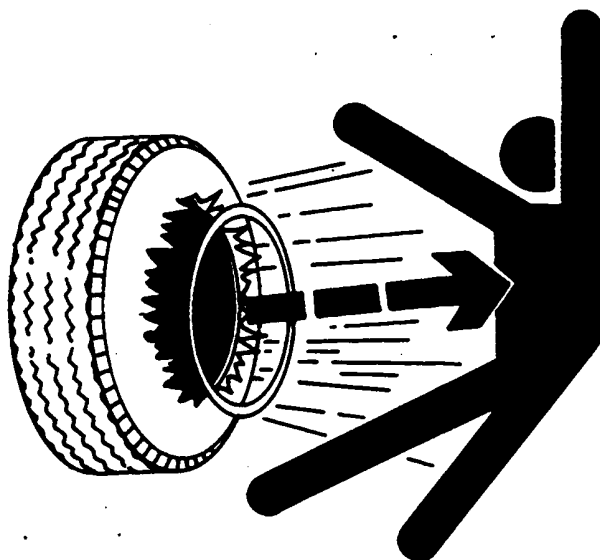
Check wheels for low pressure, cuts, bubbles, damaged rims, or missing lug bolts and nuts.

Stored attachments such as dual wheels, cage wheels, and loaders fall and cause serious injury or death. Securely store attachments and implements to prevent falling. Keep playing children and bystanders away from storage area.

Visually check daily that tires have not lost pressure. Improper inflation causes premature wear.

Check pressure with a tire gauge as often as necessary to maintain proper inflation.

Tire Pressures					
Drive Tires	18.4 - 26 Bar	600 - 65 R28 Bar	18-4 - 26 Turf	23.1 - 26 Turf	580 / 70 R26 Turf
	221 kPa (32 psi)	179 kPa (26 psi)	241 kPa (35 psi)	138 kPa (20 psi)	165 kPa (24 psi)
Rear Tires	ALL rear tire pressures are: 69 kPa (10 psi) Formed Caster : 7.5 - 16SL Single Rib, 10 - 16 Front Steer Tire Forked Caster: 16.5L - 16.1 Rib Implement Flotation, 10 - 16 Front Steer Tire				



TS211—UN—15APR13

At first use or when a wheel is removed, check drive wheel nut torque at 1 hour intervals until torque has stabilized for two consecutive checks.

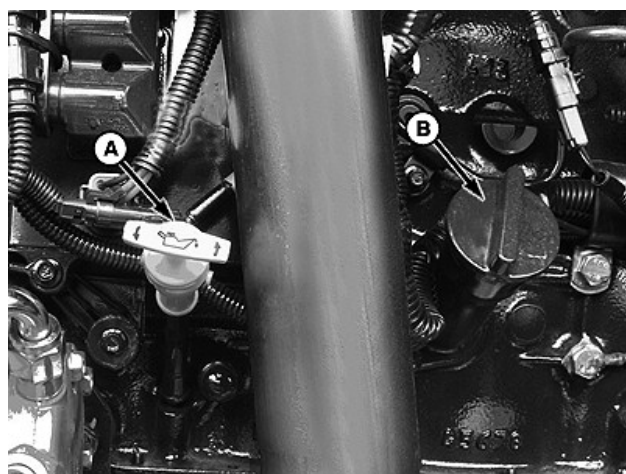
Return to the Break- In Service procedures in this manual and follow those procedures until proper torque is maintained.

OOU6064,0001283-19-04AUG14

## Check Engine Oil Level

Check engine oil level every 10 hours of operation.

To get an accurate read of the engine oil level, allow the oil to drain back into the engine crankcase after running the engine.



E63265—UN—18JUN12



E65099—UN—20JUL12

A—Dipstick  
B—Engine Oil Fill Cap

1. Before starting engine check engine oil level. Do not

operate engine when oil level is under the add mark on the dipstick.

2. Pull dipstick (A) out and wipe off oil.
3. Insert dipstick and make sure it seats into tube.
4. Remove dipstick and check oil level. Keep engine oil level within crosshatched area of dipstick.
5. To add oil, if necessary, remove oil fill cap (B) to add oil. Do not overfill.
6. Verify correct oil level.
7. Install cap.

**IMPORTANT: Proper oil level is between Full and Add.**

OUO6064,0001284-19-04AUG14

## Check Engine Coolant

**CAUTION:** Explosive release of coolant from a pressurized cooling system can cause serious burns.

Remove coolant tank fill cap only when cool enough to touch with bare hands and with the engine stopped.

Do not remove the fill cap until all system pressure is relieved. To relieve the pressure, slowly loosen the cap before removing completely.



TS281—UN—15APR13

**IMPORTANT:** If there is excessive coolant loss, never pour cold water into a hot engine.

**Never operate the engine without coolant.**

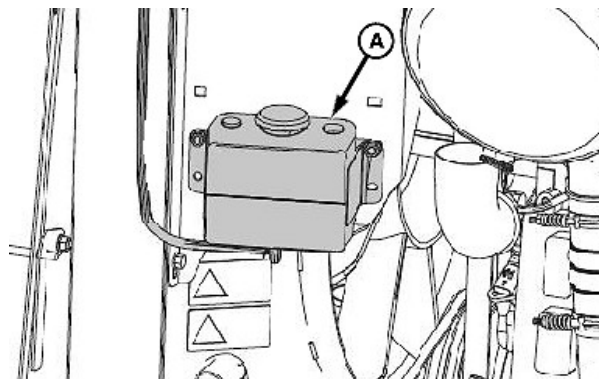
**Never fill the radiator when the engine is overheated.**

**Never use high silicate automotive coolant.**

**NOTE:** Fill the system with specified coolant that contains a coolant conditioner. (See Heavy Duty Diesel Engine Coolant in Fuels, Coolants, and Lubricants section.)

Check the engine coolant level at the coolant tank daily.

1. Turn off the engine and remove the key.
2. Open the hood to the highest position.
3. Move the platform on the left-hand side of the machine, cab-forward, to the open position.



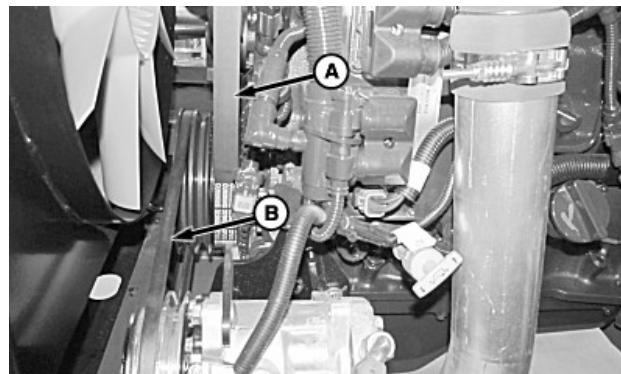
E92634—UN—06NOV19

A—Coolant Tank

4. Ensure the coolant tank (A) is half full.
5. Add coolant to the coolant tank as needed.
6. Close the platform.
7. Close the hood.

GW44282,0000A7C-19-05DEC19

## Check Engine Belts



E69372—UN—29JAN13

A—Serpentine Belt

B—Air Conditioning Compressor Belt

Check belts (A and B) daily for general condition and tension. (See Check Engine Belts—Replace as Required in the Engine section for procedures on belt replacement.)

GW44282,0000A52-19-05DEC19

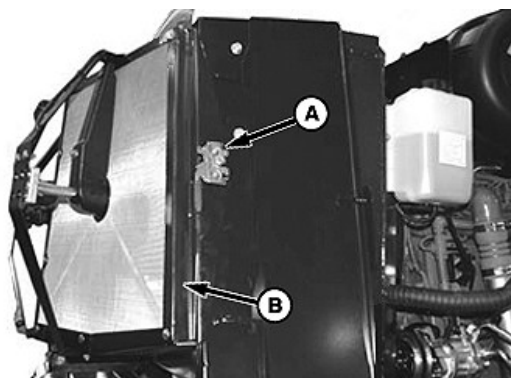
## Cooler Service And Cleaning

**CAUTION:** To prevent injury, never service windrower while it is running. Engine must be off and key removed.

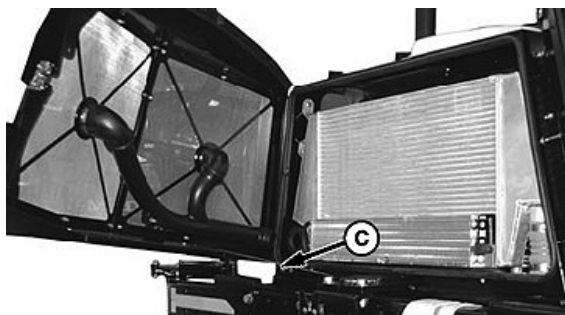
Clean the coolers and surrounding areas of dirt, debris, and buildup daily. Make maintenance to the radiator, air conditioning condenser, hydraulic oil cooler, and charge air cooler part of everyday routine.

To eliminate buildup from crop debris and chaff, clean the area around the engine at this same time.

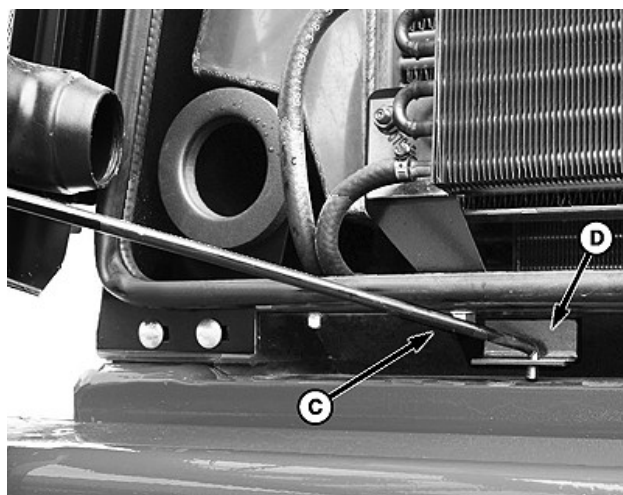
1. Turn off engine and remove key.
2. Raise engine hood.



E63289—UN—24APR12



E63290—UN—24APR12

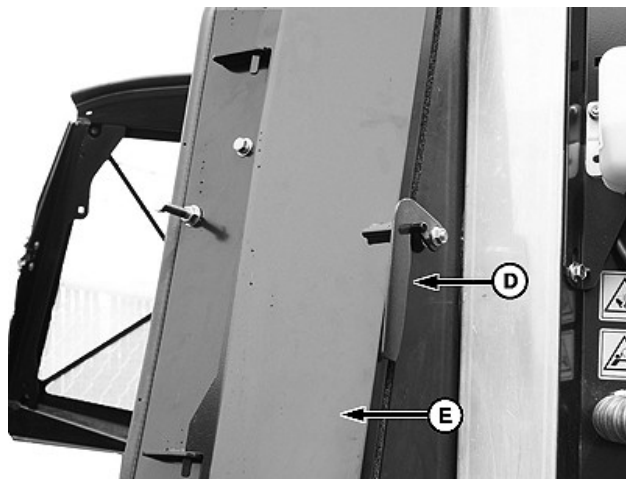


E65110—UN—20JUN12

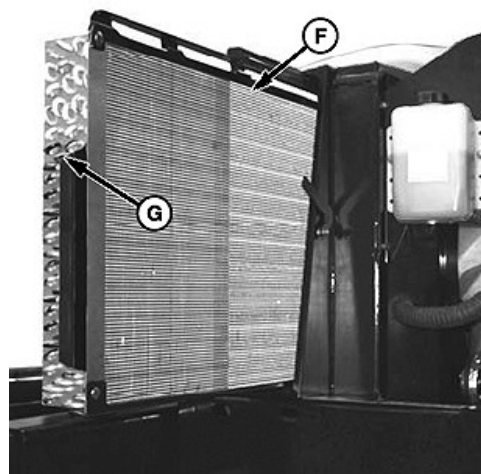
A—Door Latch Rod  
B—Air Screen

C—Door Latch Rod  
D—Door Latch

3. Push latch (A) and open screen assembly access door (B). Secure with rod (C) stored inside the screen door.



E63570—UN—20JUN12



E63571—UN—24APR12

D—Door Lever  
E—Access Door  
F—Oil and Air Conditioning Cooler  
G—Handle

4. Lift lever (D) and pull open access door (E).
5. Slide out the oil cooler, air conditioning condenser assembly (F) with handle (G).

**IMPORTANT:** When using high-pressure air or water, be careful of fin damage to coolers. To straighten bent fins, use a fin comb. Bent fins decrease cooler performance.



E63572—UN—20JUN12

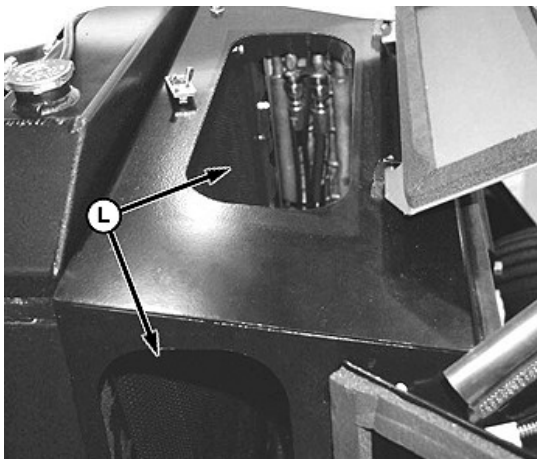
H—Latch  
I—Left Side Cooling Shroud

6. Lift latch (H) and open access door (I) at left side of cooling box.

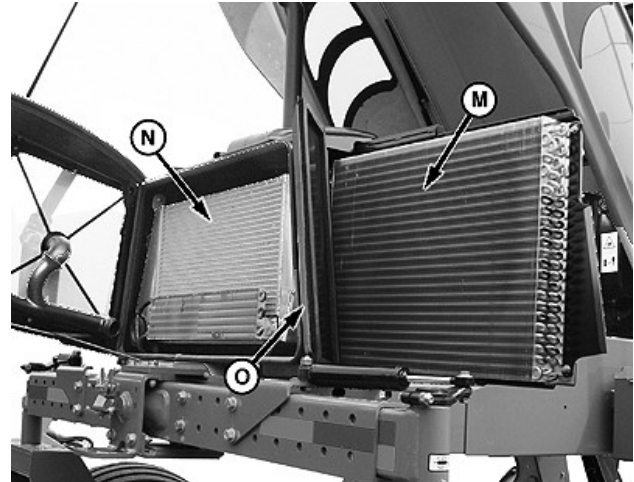
**CAUTION:** Wear eye protection and preferably full face protection when using compressed air.



E63573—UN—20JUN12



E63574—UN—24APR12

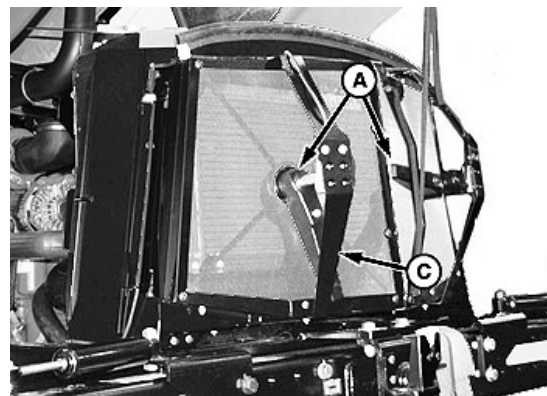


E63575—UN—20JUN12

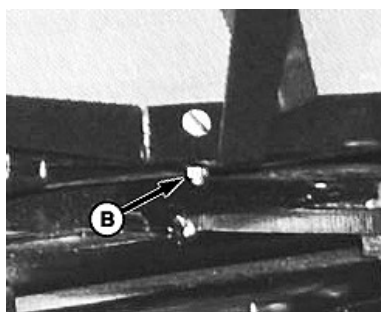
J—Access Door  
K—Access Door Wing Nut  
L—Radiator Access  
M—Oil and Air Conditioning Cooler  
N—Charge Air Cooler  
O—Cooling Box

7. Remove wing-nut (K) and open access door (J) at top of cooling box.
8. Clean radiator through access holes (L) in cooling box with compressed air.
9. Clean oil cooler, air conditioning condenser (M), charge air cooler (N), and cooling box (O) with compressed air.
10. Inspect all lines and coolers for evidence of leaks and damage.
11. After cleaning, reverse these steps to close and secure coolers.

### Cooling Box Screen



E63881—UN—07MAY12



E63880—UN—07MAY12

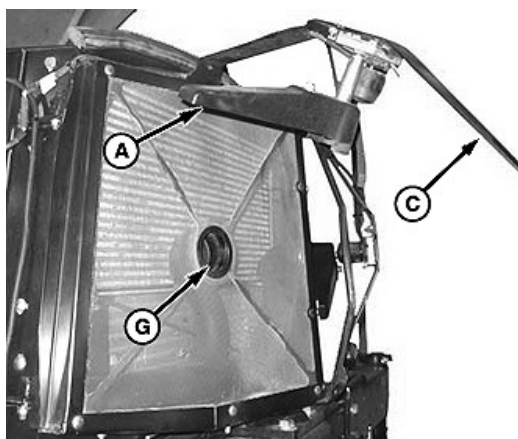
A—Rotors  
B—Retaining Nut

The cooling box screen is equipped with an automatic cleaning device that vacuums the screen with two rotors. They only operate when the engine is running. The rotors are electrically driven, and the suction is created using the engine cooling fan.

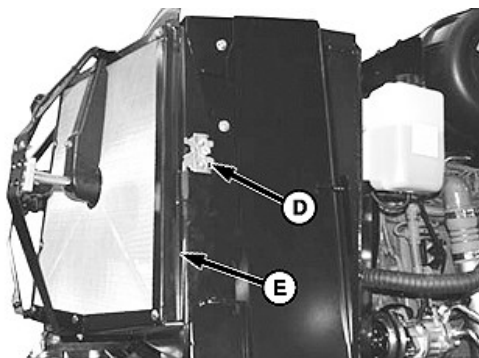
If the screens are not being cleaned the rotors plug.

If rotors (A) are plugged, clean screen as follows:

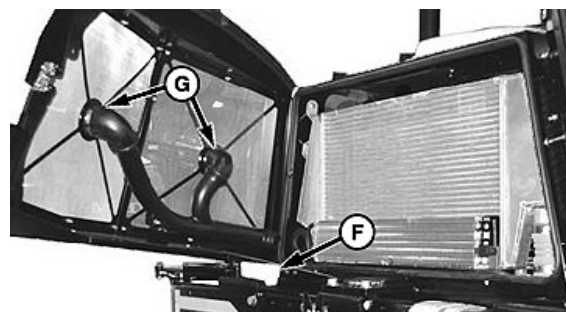
1. Park the windrower on a firm, level surface.
2. Stop engine and remove key.
3. Raise engine compartment hood.
4. Remove retaining nut (B) at the center bottom of cooler box.



E63882—UN—07MAY12



E63883—UN—07MAY12



E63884—UN—07MAY12

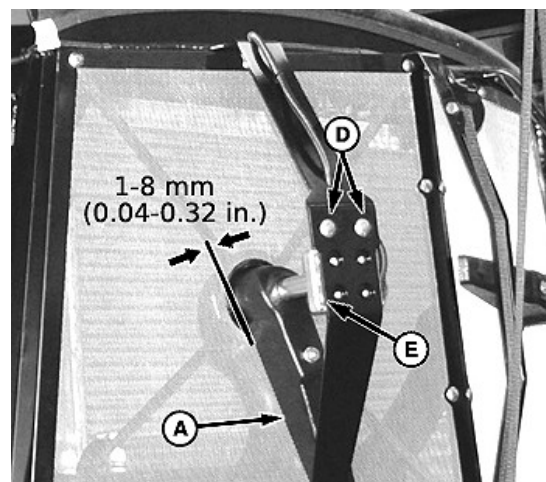
C—Rotor Assembly  
D—Screen Assembly Latch  
E—Screen Access Door  
F—Rod  
G—Air Ducts

5. Pivot rotor assembly (C) away from screen.
6. Blow out debris from rotors (A) with compressed air.

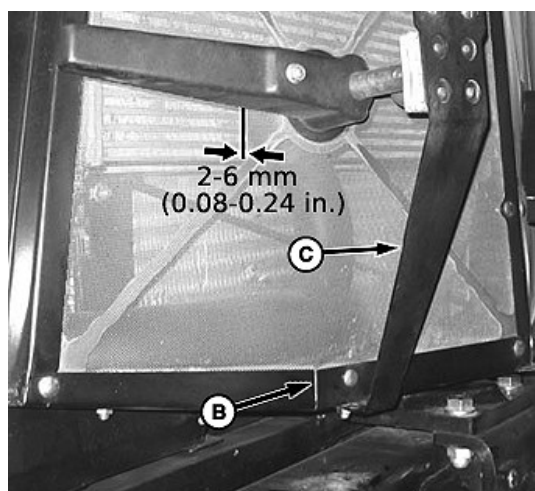
**IMPORTANT: Always wear eye protection and preferably full face coverage before using compressed air.**

7. Push screen assembly latch (D) and open screen assembly access door. Secure with rod (F) stored inside screen door (E).
8. If air ducts (G) are plugged blow out debris with compressed air.
9. Clean screen with compressed air.
10. Reposition rotor assembly (C) and secure with bolt and nut (B).
11. Close screen access door (E) and engage latch (D).

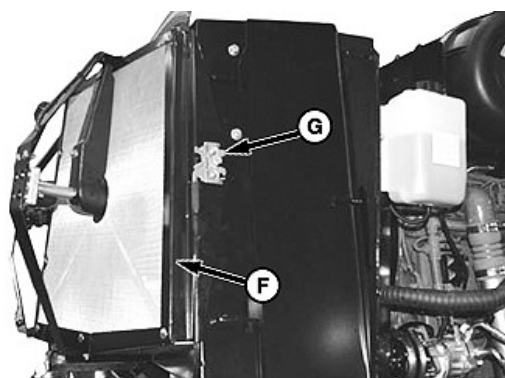
#### Rotor to Screen Clearance and Adjustment



E63885—UN—07MAY12



E63886—UN—07MAY12



E63887—UN—07MAY12

- A—Rotor Trailing Edge
- B—Retaining Nut
- C—Motor Support
- D—Motor Mount Bolts
- E—Motor and Duct Assembly
- F—Screen Access Door
- G—Screen Assembly Latch

Check rotor clearance between trailing edge of rotor (A) and the screen. It is 1—8 mm (.04—.32 in.) at all locations when rotating.

If necessary, adjust clearance as follows:

1. Loosen retaining nut (B) on motor support (C).
2. Move support in or out until duct is 2—6 mm (0.08—0.24 in.) from screen near the center.
3. Retighten nut (B).
4. Loosen the two motor mount bolts (D).
5. Move motor and duct assembly (E) to obtain 1—8 mm (0.04—0.32 in.) gap to screen at full rotation of the duct.
6. Retighten nuts (D) on motor mount.
7. Close screen access door (F) and engage latch (G).
8. Lower engine compartment hood.

OUO6064,0001285-19-04AUG14

## Checking Hydraulic Oil Level

Check hydraulic oil level every 10 hours of operation.

Check oil or any fluids with the windrower on level ground. If the windrower has been working, allow enough time after shutdown for the oil or fluid to run to the bottom of the tank or pan.

Lower platform to the ground to check hydraulic oil level.

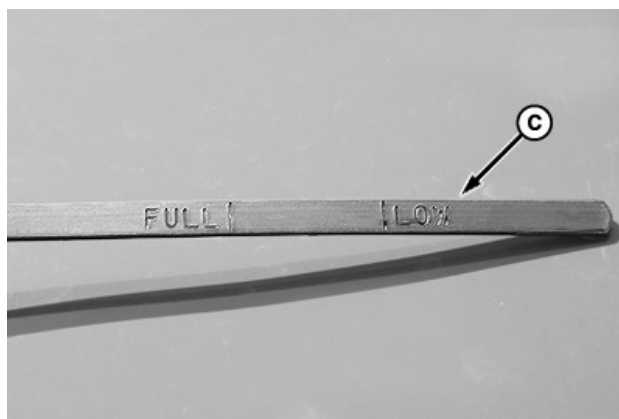
Stop the engine and remove the key.



E66103—UN—25JUN12



E66104—UN—25JUN12



E63577—UN—20JUL12

- A—Hydraulic Oil Sight Glass
- B—Hydraulic Oil Fill Cap

#### C—Hydraulic Oil Dipstick

The hydraulic oil sight tube (A) allows operator to check oil level at a glance.

*NOTE: Check hydraulic oil level with the platform down and oil cool.*

For a more accurate check of the hydraulic oil or to add oil, remove hydraulic tank oil cap (B).

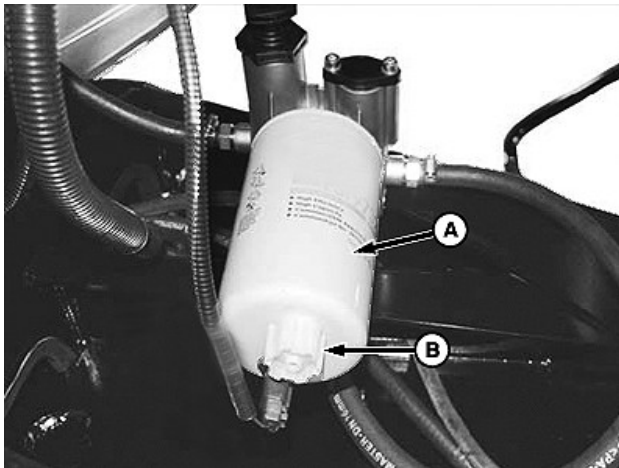
Use the hydraulic oil dipstick (C), attached to the cap, for accurately monitoring oil level.

OUO6064,0001286-19-04AUG14

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### Draining Water from Primary Fuel Filter

**⚠ CAUTION: Dispose of contaminated water and fuel in accordance with local and regional environmental regulations.**



E63579—UN—25APR12

#### A—Primary Fuel Filter

#### B—Primary Fuel Filter Drain

Drain water from filters every 10 hours of operation.

**IMPORTANT: Drain water as needed based on daily visual inspection. If water is found in primary filter, check fuel tank for water by draining a quantity into a container and make a visual inspection.**

*NOTE: Drain water into a suitable container and dispose of properly.*

Primary fuel filter has a water drain (B) on the bottom.

1. Open filter drain (B) until fuel starts running out.
2. Close filter drain.

If water has been found in filter, check fuel tank for water also.

OUO6064,0001287-19-04AUG14

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Every 50 Hour Service



E76347—UN—12AUG14

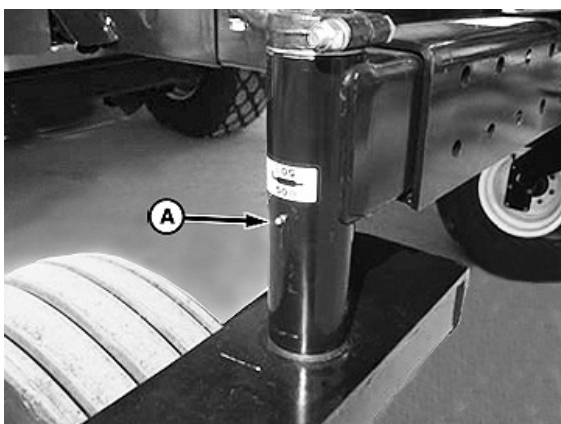
Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
	Caster Pivots and Top Lift Link Pivots		Grease	
	Forked Caster Spindle Bearings		Grease	
	Cab Fresh Air Intake		Inspect and Clean	
	Gearbox Oil		Check Oil Level	
Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently				

OUC6064,00019B3-19-09JAN17

50 Hour Grease Fittings

Grease these fittings every 50 hours of operation.





E63580—UN—25APR12

Caster Pivot (1 each side)



E63582—UN—25APR12

Top Lift Link Pivot (2 fittings each side)



E63583—UN—25APR12

Forked Caster Spindle Bearing (2 fittings each side)

A—Caster Pivot  
C—Top Lift Link Pivot  
D—Forked Caster Spindle Bearing

High Temperature Extreme Pressure EP2 grease is recommended.

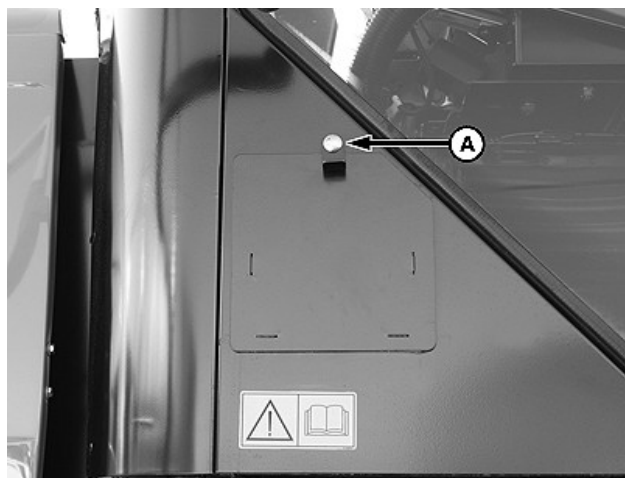
OUC6064,00019B4-19-09JAN17

## Cab Fresh Air Intake Filter

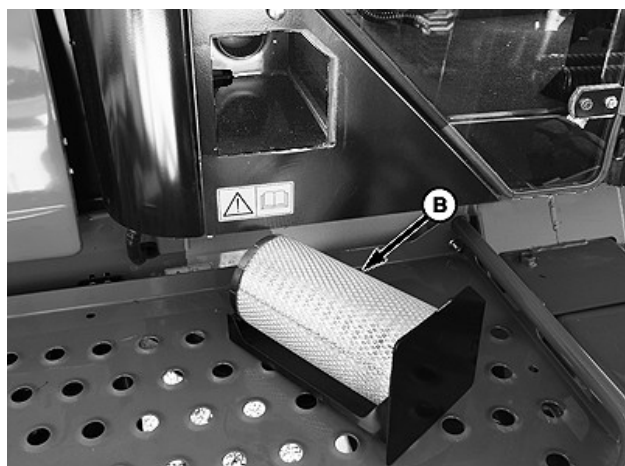
**CAUTION:** To clean the filter, wear eye protection before using compressed air.

Every 50 hours of operation, clean the cab fresh air intake filter.

To clean the fresh air filter, use the following procedure.



E63586—UN—26JUN12



E63587—UN—26JUN12

A—Latch  
B—Filter

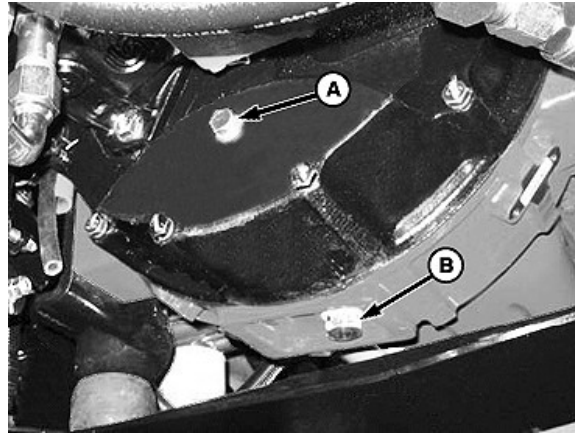
1. Rotate latch (A) and pull out the filter tray.
2. Pull filter (B) out of the tray.
3. Tap the filter gently on a flat surface, dirty side down.
4. Do not tap on a tire, as treads damage pleats.
5. Inspect the filter by holding a bright light on one side of the element.
6. Keep air pressure no higher than 420 kPa (4 bar) (60 psi).
7. Using compressed air, blow against the inside of the element. Blowing air in the wrong direction forces air into the inside of the filter.

8. Look for holes, tears, and check the condition of the gasket.
9. Reinstall the filter and make sure the flow arrows point toward the cab.

GW44282,0000A53-19-19DEC19

### Check Gear Case Oil Level

Check the oil level of the gear case oil every 50 hours of operation.



E63279—UN—23APR12

- A—Gear Case Oil Inspection Plug
- B—Drain Plug
- C—Gear Case Breather/Fill Cap

1. Clean area around the inspection plug (A) to help eliminate possibility of contamination.
2. Remove inspection plug (A). Oil level must be visible at the bottom of the inspection plug hole.
3. To add oil, remove cap (C).
4. Add oil as needed. Do not overfill.
5. Reinstall inspection plug and fill cap.

GW44282,00000B2-19-13DEC19



E70492—UN—31JUL13

**Every 100 Hour Service**

E76347—UN—12AUG14

Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
	Cab Air Return Filter		Inspect and Clean	
	Cab Suspension Limit Straps		Inspect	
<b>Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently.</b>				

OUO6064,0001924-19-14OCT16

**Clean Cab Air Return Filter**

**⚠ CAUTION:** Wear eye protection and preferably full face protection before using compressed air.

Clean and inspect the air return filter (A) every 100 hours of operation.

The return air filter is located behind the operator's seat on the cab wall.



Cab Filter

E66424—UN—10JUL12

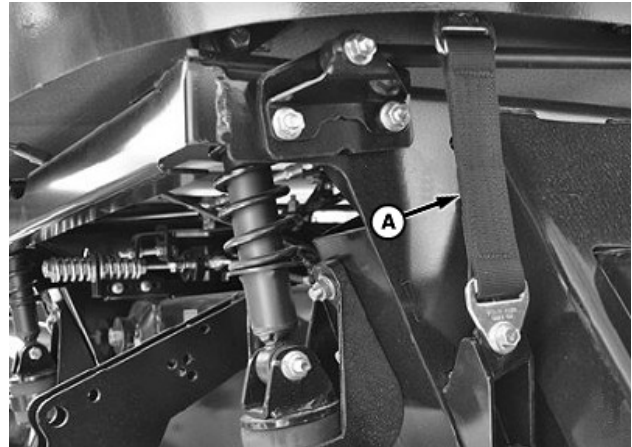
**A—Cab Air Return Filter**

1. Remove and retain the two knobs that attach the filter cover and pull off the cover and filter.
2. Separate the filter from the cover.
3. Using a suitable container, soak the filter for a few minutes in a solution of warm water and detergent.
4. Agitate to flush out the dirt.
5. Rinse with clean water and dry with compressed air.
6. Inspect the filter for damage, separation, and holes. Replace if necessary.

7. Assemble the filter, cover, and replace in the cab location.
8. Reinstall the filter assembly with the two previously removed knobs.

GW44282,0000A54-19-13DEC19

**Inspect Cab Suspension Limit Straps**



E81621—UN—13OCT16

**A—Cab Suspension Limit Strap (2 used)**

Inspect strap (A) for fraying or tearing every 100 hours of operation.

Replace if necessary.

OUC6064,0001925-19-14OCT16

Every 250 Hour or Each Season Service

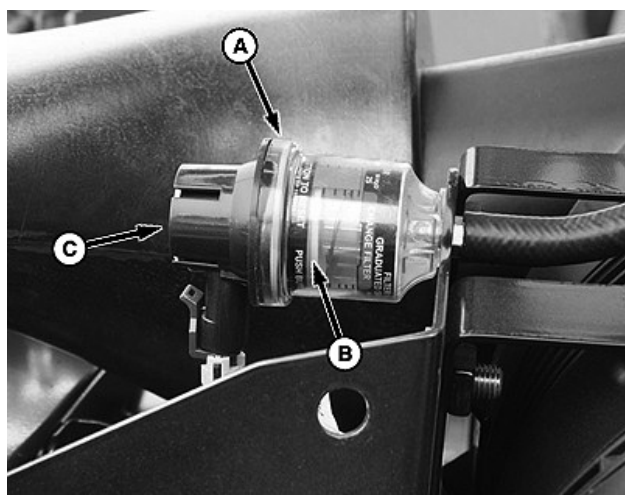


E76347—UN—12AUG14

Item	Item Description	Point-s	Lubrication / Maintenance Description	Approved Material
	Primary Engine Air Filter		Replace	
	Engine Oil and Filter		Replace	
	Formed Caster Wheel Hub Bearing		Grease	
	Drive Wheel Oil		Check	
	Wheel Nut Torque		Check	
Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently.				

OUC6064.000128D-19-30JUL15

## Engine Air Filter Service



E66717—UN—06SEP12

Air Restriction Indicator

- A—Air Restriction Indicator
- B—Air Filter Indicator
- C—Reset Button

The windrower monitors the air filter system with an air filter restriction indicator (A). The indicator alerts the operator to service the air filters. The air filter indicator is mounted on the top left side of the air filter canister.

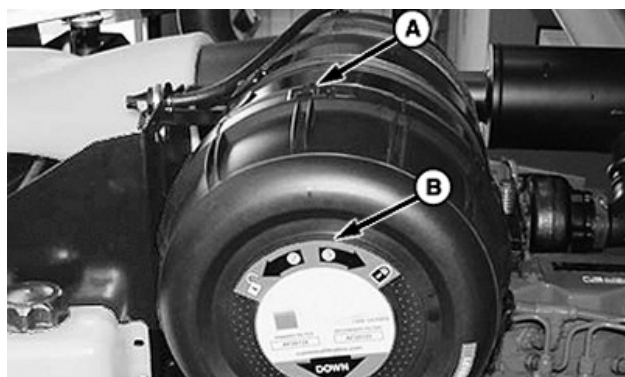
The air filter indicator (B) displays the highest restriction the air intake system has reached. The air filter indicator stays in that position even with the engine off. As filters accumulate contamination, restriction increases. Once the scale reaches 2.5, the view window turns red, indicating that filters require service.

After air filters have been serviced and the canister cleaned, push the reset button (C) at the end of the air filter indicator.

An alarm sounds and the cab display module displays a warning message to service the filters.

After servicing the filters and cleaning the canister, push the reset button (C).

### Replace Air Filters



E70685—UN—09AUG13



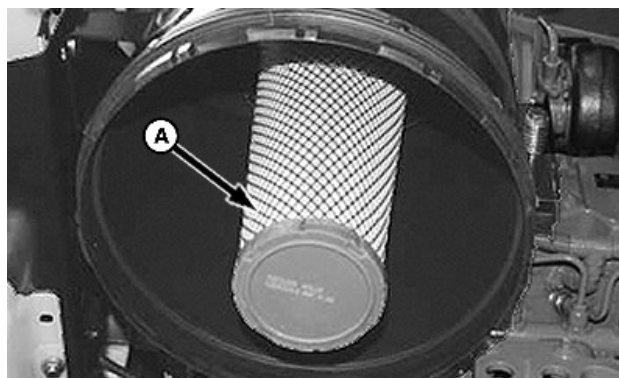
E70683—UN—09AUG13

- A—Guide Arrow
- B—Decal
- C—Primary Air Filter

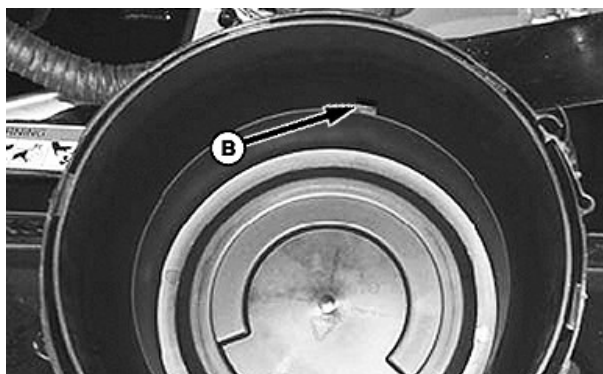
1. Lift the latch on the side of the air canister and rotate the end cap counterclockwise as shown on decal (B).
2. Arrow at location (A) lines up in the appropriate position shown on decal (B).
3. Pull off the end cap.
4. Pull out the primary filter (C) and dispose.

**NOTE:** If replacing secondary air filter, proceed to step 6.

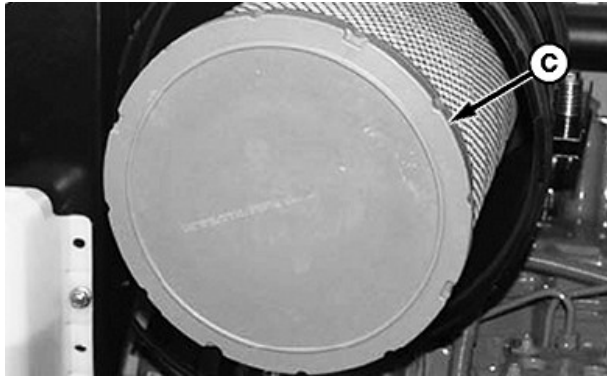
5. Replace the primary element and reverse the previous procedure.



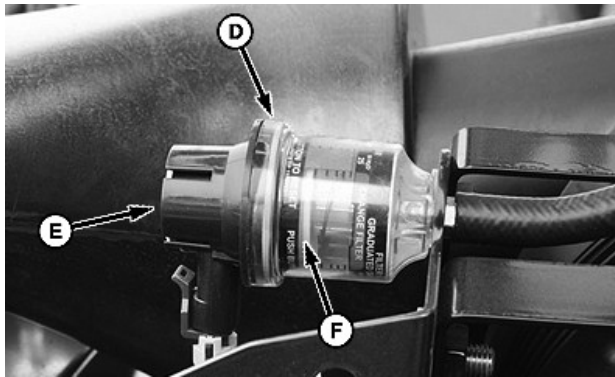
E70682—UN—12AUG13



E70684—UN—09AUG13



E70683—UN—09AUG13



E70678—UN—12AUG13

- A—Secondary Air Filter
- B—Aspirator Duct Opening
- C—Primary Air Filter
- D—Air Restriction Indicator
- E—Reset Button
- F—Yellow View Indicator

6. Remove the secondary air filter (A) and discard.
7. Check the aspirator duct opening (B) for obstructions.
8. Clean the duct opening and the inside of canister.
9. Replace the secondary filter (A) first and verify that it is seated inside the canister.
10. Install the new primary filter (C) over the secondary filter and push into place. Verify that the filter is seated into the canister.
11. Position the end cap onto the filter housing with the aspirator pointing downward.
12. Align the arrow to the unlock position on the end cap and push the end cap fully into the housing.
13. Rotate the end cap clockwise until the latch engages the housing.
14. Engage the latch.
15. After replacing the secondary filter and servicing, the canister reset button (E) on the air filter restriction indicator (D) must be reset.
16. The air filter restriction indicator is on top and to the left of the air canister.

## Filter Element Cleaning

Air filter element cleaning is not recommended due to the possible degradation of the element material.

If cleaning is performed, there are several risks involved and the following procedures must be followed.

1. Hold a bright light inside the element and check carefully for holes. Discard any element with damage or holes.
2. Confirm that the outer screen is not dented. Vibration would quickly wear a hole in the filter.
3. Confirm that the filter gasket is in good condition. If the gasket is damaged or missing, replace the element.
4. If the element displays oil or soot, replace the element.
5. If dirt or contamination is visible on the secondary element, replace both elements.

**IMPORTANT: The primary air cleaner (outer) filter element must be replaced after three cleanings.**

**The secondary (inner) element must be replaced every third time the primary element is changed.**

6. Clean the element with compressed air and a dry element cleaner gun. Air pressure must not exceed 400 kPa (4 bar) (60 psi). Do not direct air against the outside of element, as dirt or contamination would be forced through to the inside.

GW44282,0000A55-19-05DEC19

## Engine Oil and Filter Change

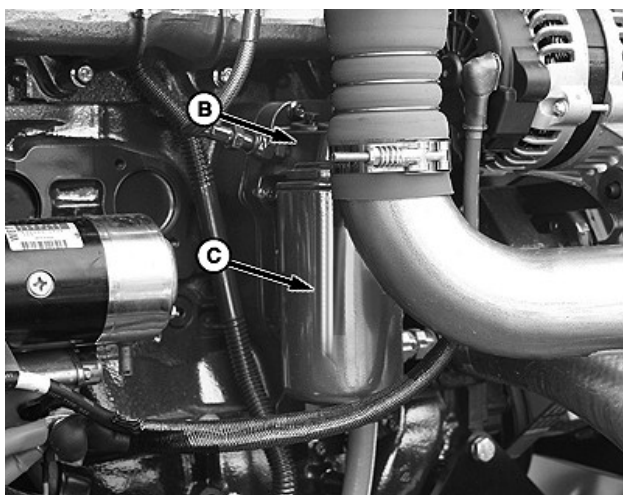
Change engine oil and filter after 250 hours of operation.

1. Park the windrower on a firm, flat surface, and lower the platform.
2. Turn off engine and remove key.

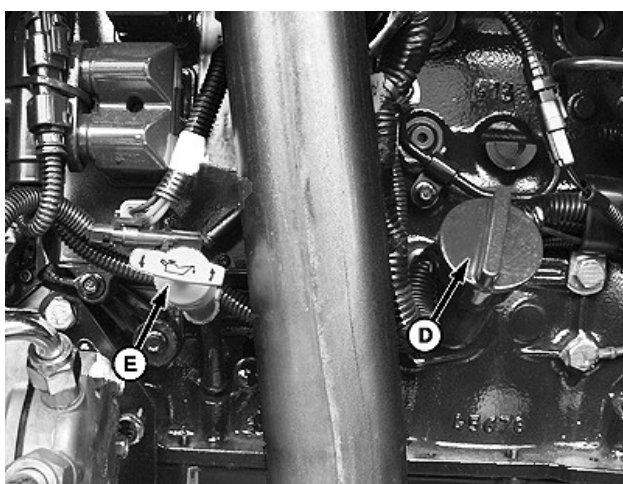


E63285—UN—18JUN12





E63286—UN—11JUL12



E63287—UN—25JUN12

- A—Oil Pan Drain
- B—Engine Oil Filter Head
- C—Engine Oil Filter
- D—Engine Oil Fill Cap
- E—Engine Oil Dipstick

3. Remove oil drain plug (A) and drain oil into a suitable container.

**IMPORTANT: Dispose of waste oil and filter in accordance with all local and regional environmental regulations.**

4. After oil has drained, clean and install drain plug.
5. Clean the area around the oil filter head (B) and then remove filter (C).
6. Apply a thin film of clean engine oil to new filter gasket and mating surface of oil filter base.
7. Install new oil filter onto base. Do not overtighten oil filter.

Tighten oil filter by hand approximately one turn after gasket contacts base.

8. Add new oil to engine.

#### Specification

Engine Oil—Capacity. . . . . 11.9 L  
(12.6 qt.)

Use proper oil and viscosity based on expected temperature range the windrower is operating in.

If you have any question about fuels, coolants or lubricants for the windrower contact your John Deere Dealer.

**IMPORTANT: Do not overfill engine oil level.**

*NOTE: Follow normal starting procedures. Until the engine control module detects the minimum cranking oil pressure, engine does not start. It takes more cranking time to start the engine after an oil change.*

9. After filling engine with new oil, operate engine for a few minutes, allowing oil filter to fill up.
10. Stop engine, remove key, and allow oil to drain down into the pan before checking.
11. After oil has drained down into the pan check and top off as necessary.

**IMPORTANT: Check engine oil every 10 hours of operation.**

OUO6064,000128F-19-05AUG14

#### Formed Caster Wheel Bearing Grease

Grease formed caster wheel bearings after 250 hours of operation.



E63584—UN—25APR12

**E—Grease Fitting**

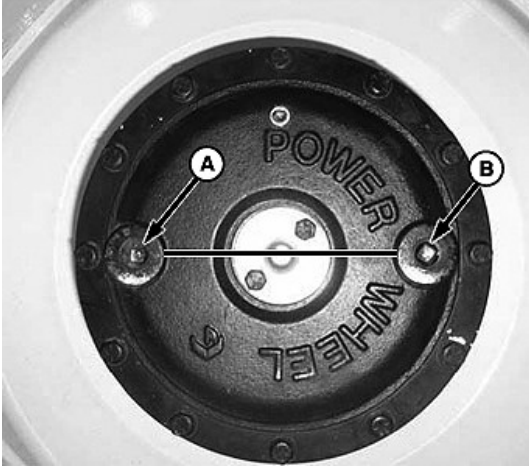
GW44282,00000B7-19-19JAN15



## Final Drive Oil Check

**NOTE:** SAE 75W-90 API-GL5 Synthetic oil is the only lubricant for windrower final drives.

1. Check final drive oil every 250 hours of operation.



E63278—UN—23APR12

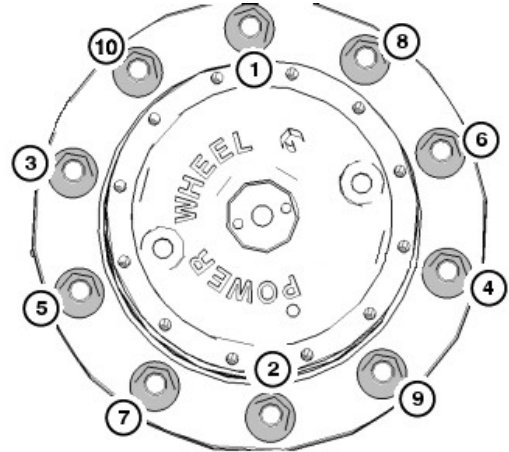
**A—Inspection Plug**  
**B—Inspection Plug**

2. Park the windrower on firm, level ground so inspection and fill plugs (A) and (B) are horizontal, as shown.
3. Shut engine off and remove key.
4. Remove either plug. Oil must be visible at bottom of inspection hole.
5. If oil is needed, remove other plug and add oil until visible at bottom of inspection hole.

6. Install inspection plugs and repeat procedure for other side.

OUO6064,0001290-19-05AUG14

## Wheel Nut Torque



E76341—UN—12AUG14

Check torque of drive wheel nuts every 250 hours of operation.

Torque nuts to specification in a cross pattern following sequence shown.

**IMPORTANT: To avoid damage to rims, do not over-tighten wheel nuts.**

### Specification

Drive Wheel Nuts—Torque. . . . . 510 N·m  
(375 lb.-ft.)

OUO6064,0001291-19-15SEP14

## Every 500 Hour or Each Season Service



E76347—UN—12AUG14

Item	Item Description	Points		Approved Material
	Engine Oil and Filter		Change Engine Oil and Replace Filter	
	Fuel Filters		Change Primary and Secondary Fuel Filter	
	Gearbox Lubricant		Replace Oil	
	Hydraulic Oil Filters		Replace Charge and Return Filter	
	Safety Systems		Check and Inspect	
<b>Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently.</b>				

OUC6064,0001292-19-30JUL15

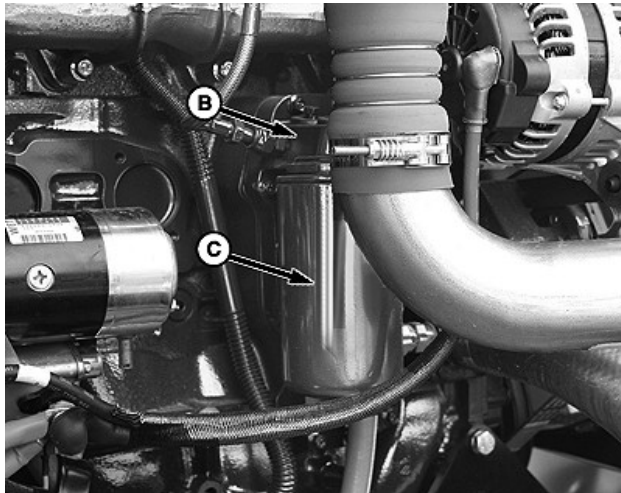
## Engine Oil and Filter Change

Change engine oil and filter after 250 hours of operation.

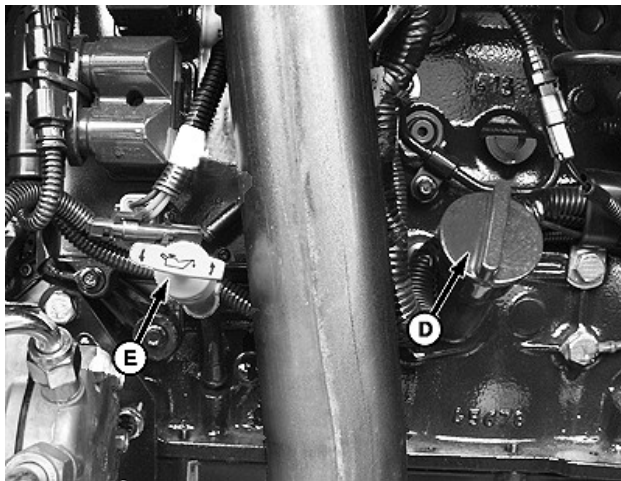
1. Park the windrower on a firm, flat surface, and lower the platform.
2. Turn off engine and remove key.



E63285—UN—18JUN12



E63286—UN—11JUL12



E63287—UN—25JUN12

- A—Oil Pan Drain
- B—Engine Oil Filter Head
- C—Engine Oil Filter
- D—Engine Oil Fill Cap
- E—Engine Oil Dipstick

3. Remove oil drain plug (A) and drain oil into a suitable container.

**IMPORTANT:** Dispose of waste oil and filter in accordance with all local and regional environmental regulations.

4. After oil has drained, clean and install drain plug.
5. Clean the area around the oil filter head (B) and then remove filter (C).
6. Apply a thin film of clean engine oil to new filter gasket and mating surface of oil filter base.
7. Install new oil filter onto base. Do not overtighten oil filter.  
Tighten oil filter by hand approximately one turn after gasket contacts base.
8. Add new oil to engine.

#### Specification

Engine Oil—Capacity. . . . . 11.9 L  
(12.6 qt.)

Use proper oil and viscosity based on expected temperature range the windrower is operating in.

If you have any question about fuels, coolants or lubricants for the windrower contact your John Deere Dealer.

**IMPORTANT:** Do not overfill engine oil level.

*NOTE:* Follow normal starting procedures. Until the engine control module detects the minimum cranking oil pressure, engine does not start. It takes more cranking time to start the engine after an oil change.

9. After filling engine with new oil, operate engine for a few minutes, allowing oil filter to fill up.
10. Stop engine, remove key, and allow oil to drain down into the pan before checking.
11. After oil has drained down into the pan check and top off as necessary.

**IMPORTANT:** Check engine oil every 10 hours of operation.

OUC6064,000128F-19-05AUG14

## Bleeding Fuel System



High-Pressure Fuel Lines  
TS1343—UN—18MAR92



High Pressure Fluids  
X9811—UN—23AUG88

**CAUTION:** 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.)

Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid hazards 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 can result. Doctors unfamiliar with this type of injury can call the Deere & Company Medical Department in Moline, Illinois, or other knowledgeable medical source.

Any time fuel system has been opened up for service (lines disconnected or filters removed), it is necessary to bleed air from system.

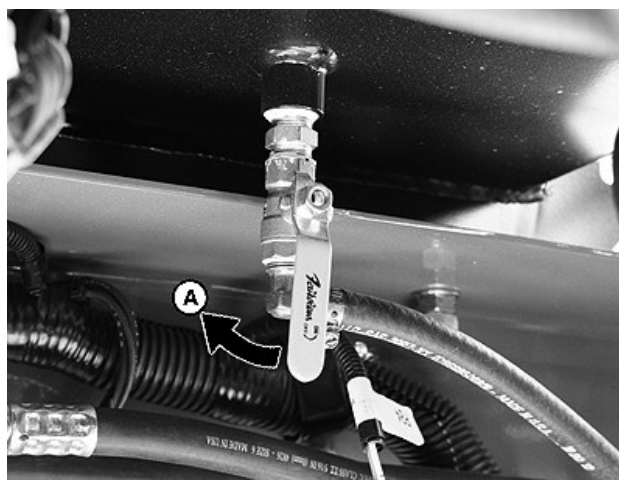
**IMPORTANT:** Prevent fuel contamination. Do not crack any fuel lines to bleed or prime fuel system.

RC48509.000056C-19-05JUL13

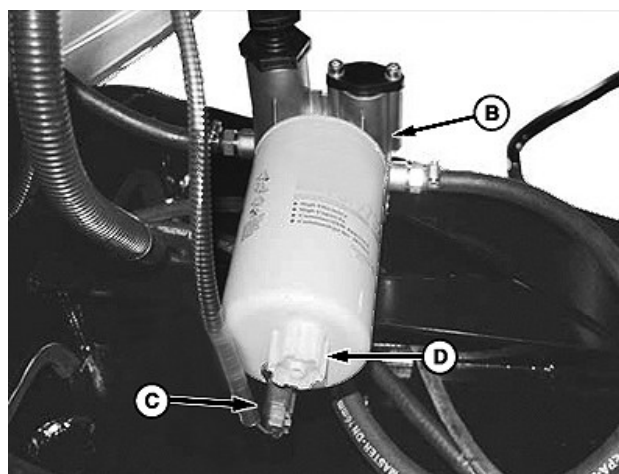
## Change Fuel Filters

Every 500 hours of operation or each season fuel filters must be replaced.

**IMPORTANT:** Clean area thoroughly before removing filters. Dirt allowed to enter the fuel system when changing the filters (dirt washed into injection system) damages injection pump and nozzles.

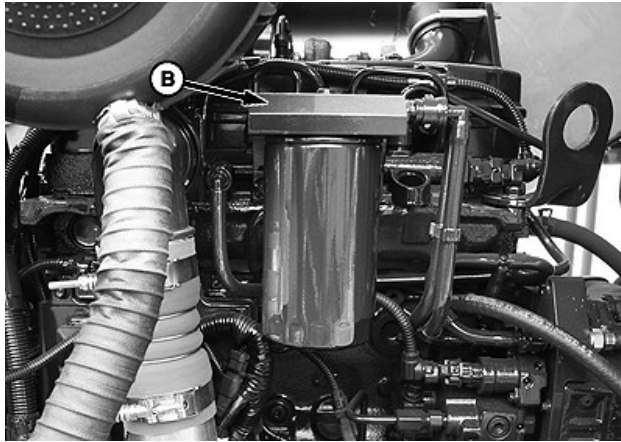


E63844—UN—11JUL12



E63842—UN—30APR12

Primary Fuel Filter



E63843—UN—11JUL12

**Secondary Fuel Filter**

- A—Fuel Tank Shut Off Valve
- B—Filter Head Area
- C—Primary Fuel Filter Water In Fuel Sensor
- D—Primary Filter Drain Valve

1. Close fuel supply valve (A) under tank.
2. To avoid contaminating the fuel system, clean area around both filter heads (B) and any other areas near filters.
3. Disconnect the Water In Fuel (WIF) sensor (C) from bottom of primary filter.
4. Place a suitable container under primary filter drain valve (D) and turn counter clockwise until fuel is drained from filter.

**IMPORTANT: Dispose of fuel filters in accordance with local and regional regulations.**

5. Remove filter. Use a filter wrench, if necessary. Clean gasket mating surface.
6. Install new filter onto filter mount until gasket contacts filter head.
7. Tighten filter an additional 1/2 to 3/4 turn by hand.
8. Reconnect WIF sensor.
9. Place suitable container under the secondary filter and remove filter.
10. Clean gasket mating surface.
11. Install new filter onto filter mount until gasket contacts filter head.
12. Tighten filter an additional 1/2 to 3/4 turn by hand.
13. Open fuel valve under tank and prime fuel system. See the following procedure.



E63841—UN—30APR12

**A—Priming Knob**

### Prime Fuel System

Controlled venting of air is provided at injection pump through fuel drain manifold.

Small amounts of air introduced by changing filters or injection pump supply line are vented automatically.

Manual priming of the fuel system is required when:

- Fuel filters are replaced.
- Injection pump is replaced.
- High-pressure fuel lines are replaced.
- Engine is run until fuel tank is empty.

Prime fuel system as follows:

1. Stop engine and remove key.
2. Open engine compartment hood to lowest position.
3. Turn priming knob (A) counter clockwise to unlock plunger on primary filter head.
4. Pump approximately 120 times to pressurize fuel system.
5. Lock plunger by turning knob clockwise until snug.
6. Try starting engine. If engine does not start, repeat priming.

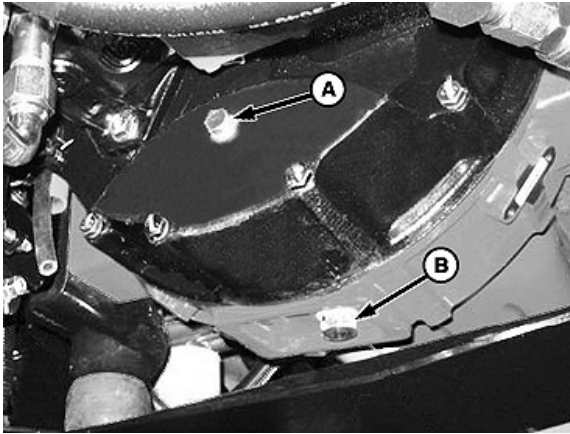
OUC6064,0001294-19-05AUG14

### Gear Case Oil Change

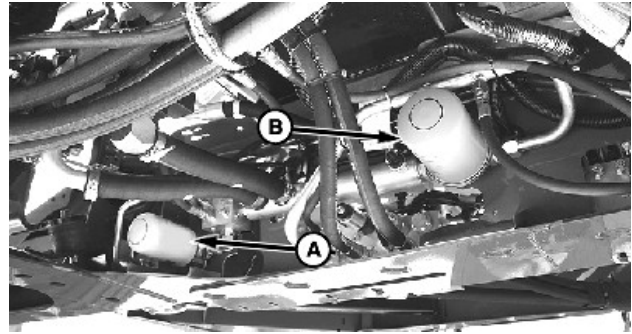
Change gear case oil after first 500 hours of operation.

To change gear case oil:

1. Park the windrower on firm, level ground.
2. Turn off the engine and remove the key.



E63279—UN—23APR12



E92723—UN—18NOV19

A—Hydraulic Oil Filter  
B—Hydraulic Oil Filter

To replace hydraulic oil filters:

1. Park the windrower on firm, level ground.
2. Turn off the engine and remove the key.

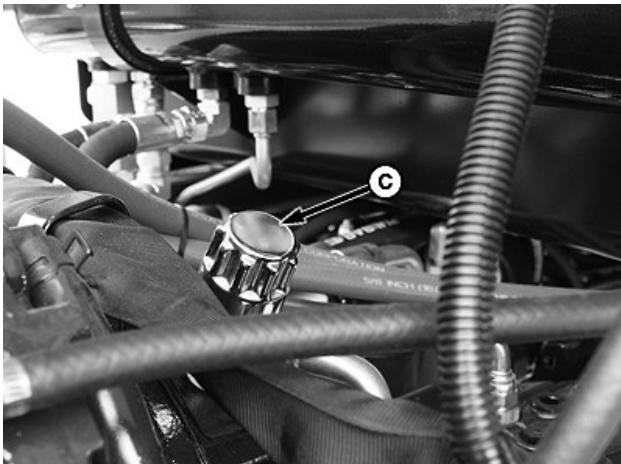
**IMPORTANT: Dispose of oil and filters in accordance with local and regional regulations.**

3. To help eliminate the possibility of contamination, clean the area around the filter heads and lines. Keep the filters upright as they are removed.
4. Remove filters (A and B). A filter wrench can be used.
5. Clean the gasket surface of filter heads.
6. Fill new filters with clean oil and apply a thin film of clean oil to filter gaskets.
7. Install the new filters onto the mount until the gasket contacts the filter head.

**IMPORTANT: Do not use a filter wrench to install the oil filter. Overtightening can damage gasket and filter.**

8. Tighten the filters with an additional 1/2 turn by hand.
9. Start and run the windrower for a few minutes. Cycle hydraulics a few times.
10. Turn off the engine and remove the key.
11. To confirm that there are no leaks, inspect the area around filter heads and lines.
12. Verify that the hydraulic oil level is correct.

GW44282,0000BB-19-05DEC19



E70492—UN—31JUL13

A—Check Plug  
B—Drain Plug  
C—Breather and Fill Cap

3. Remove drain plug (B) and allow the oil to drain.
4. Reinstall drain plug (B).
5. Remove check plug (A).
6. Refill the gear case through the breather cap (C).
7. Once the oil is up to or starting to run out of the check plug hole, reinstall check plug (A).
8. Operate the engine at low idle and check for leaks at the check plug and drain plug.

GW44282,0000A56-19-05DEC19

## Replace Hydraulic Oil Filters

Replace hydraulic oil filters every 500 hours of operation.

## Safety Systems

Inspect and check the systems that have been designed for operator protection every 500 hours of service or each season.

Inspect operator seat, seat belt system, operator presence system, doors, lights, platforms, and steps for

wear, torque value of hardware and adjusted, repaired or replaced, as necessary

Check all safety decals and warnings. Confirm that all these labels and warnings are readable and clear as originally designed. Replace any safety signs that have been worn or damaged.

Contact your dealer for any replacement parts necessary and if you have any questions about the windrower operator protection systems.

### **Operator Presence System**

With the windrower engine running, place the Ground Speed Lever (GSL) in NEUTRAL and turn steering wheel until it locks.

With everyone clear of machine, engage PLATFORM DRIVE switch:

1. With platform drives running, stand up out of seat. In approximately 5 seconds the platform stops.
2. If NOT, the Operator Presence System requires adjustment. See your dealer.

*NOTE: To restart the platform, move the PLATFORM DRIVE switch to OFF and then to ON.*

1. With the windrower moving at less than 8 km/h (5 mph), stand up out of seat.
  2. The Cab Display Module (CDM) flashes NO OPERATOR on the upper line and ENGINE SHUT DOWN 5 . . . 4 . . . 3 . . . on the lower line along with by a steady tone. At 0, engine shuts off.
  3. If the engine does NOT shut off the Operator Presence System requires adjustment. See your dealer.
1. With the windrower moving at more than 8 km/h (5 mph).

2. Stand up out of seat.
3. The CDM beeps once and displays NO OPERATOR on the lower line.
4. If NOT, the Operator Presence System requires adjustment. See your dealer.

### **Engine Interlock**

With engine off and the PLATFORM DRIVE switch engaged, try to start engine. If engine turns over, the system requires adjustment. See your dealer.

With engine off, steering wheel NOT centered and the GSL in NEUTRAL but not in Neutral-Detent, try to start engine. The CDM flashes NOT IN NEUTRAL on the display upper line and CENTER STEERING WHEEL on the lower line. A short beep sounds with each flash and engine does not turn over. If engine turns over, the system requires adjustment. See your dealer.

A properly functioning system operates as follows. If your system does NOT, see your dealer before operating the windrower:

- The starter engages ONLY when the GSL is in Neutral-Detent, steering wheel is locked in the CENTER position, and the PLATFORM DRIVE switch is OFF.
- Brake will engage and machine will not move after engine start-up.
- The steering wheel does not lock with engine running and GSL out of Neutral-Detent.
- The machine does not move with engine running and with steering wheel still centered when GSL is pulled straight out of Neutral-Detent. (not in forward or reverse)

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OUO6064,0001296-19-05AUG14

## Every 1000 Hours



E76347—UN—12AUG14

Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
2	Final Drives	2	Replace Oil	SAE 85W-140 API-GL5 or SAE 85W-140 API-GL5 (Synthetic)

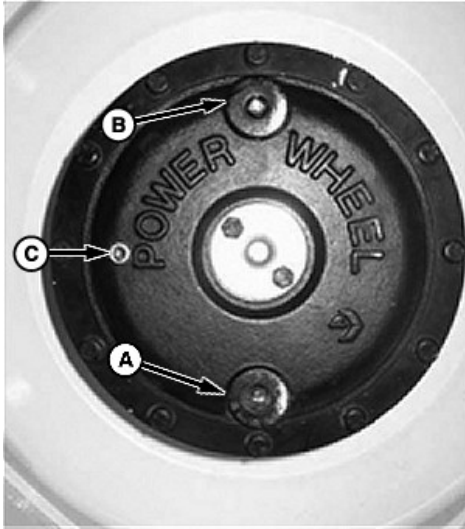
**Note:** Operating conditions vary. Under certain conditions, inspect and service components more frequently.

OUC6064,0001297-19-30JUL15

## Drain and Replace Final Drive Oil

Every 1000 hours of operation or each season drain and replace final drive oil.





E70378—UN—08JUL13

A—Drain Plug  
B—Fill Plug  
C—Inspection Plug

1. Park the windrower on flat level surface. Position drive wheel so drain plug (A) is at the bottom-center, and fill plug (B) is at top-center.
2. Lower platform. Turn off engine and remove key.
3. Remove drain plug (A) and drain oil. Inspect plug for metallic particles.

*NOTE: Small metal particles on drain plug are considered normal.*

4. Remove fill plug (B). Inspect plug for metallic particles.

*NOTE: Small metal particles on drain plug are considered normal.*

**IMPORTANT: Inspect plug O-ring and replace if damaged.**

5. Install drain plug (A).
6. Remove inspection plug (C).
7. Fill final drive with clean oil in fill plug (B) until oil level is at same level as bottom of inspection hole (C).

John Deere SAE 75W-90 API-GL5 synthetic is required. See Final Drive Oil in Fuels, Coolants, and Lubricants section.

8. Install inspection plug (C).

**IMPORTANT: Inspect plug O-ring and replace if damaged.**

9. Install fill plug (B).
10. Repeat Steps 1—9 on opposite side of machine final drive.

OUO6064,0001298-19-05AUG14

Every 1500 Hours



E76347—UN—12AUG14

Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
	Hydraulic Oil	2	Replace Oil	

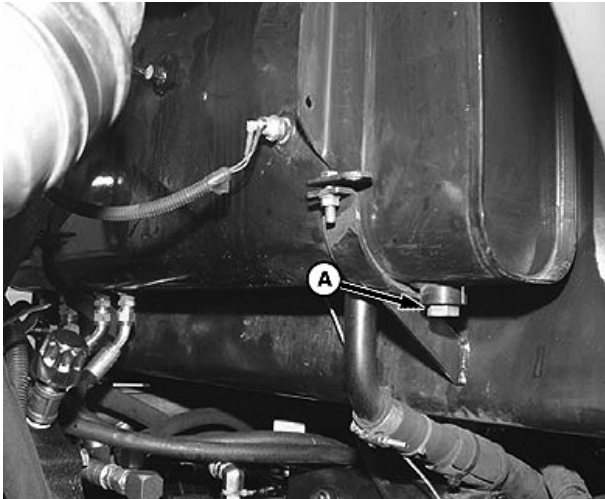
**Note:** Operating conditions vary. Under certain conditions, inspect and service components more frequently.

OUO6064,0001299-19-30JUL15

Hydraulic Oil Change

Drain and replace hydraulic oil every 1500 hours of service or bi-annually.

Park the windrower on a firm, level surface, shut engine off and remove key.



E63845—UN—23MAY12

**A—Drain Plug**

1. Open engine compartment hood to highest position.
2. Place a suitable container under hydraulic reservoir drain.
3. Remove drain plug (A) from bottom of hydraulic oil reservoir and allow to drain.
4. Clean off any metal debris that has accumulated on magnetic drain plug.
5. Install and tighten drain plug (A).
6. Refill hydraulic reservoir to the required level through filler pipe.

OJ06064,000129A-19-05AUG14

**Every 2000 Hours or Bi-Annually**



E76347—UN—12AUG14

Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
9	Engine Valve Clearance	1	Check and Adjust (See your John Deere Dealer)	
14	Engine Coolant <sup>a</sup>	1	Pressure Test, Flush Cooling System and Replace Coolant (See Fuels, Coolants, and Lubricants Section)	
17	Hydrostat Oil	1	Replace Oil and Clean Fill Cap and Strainer	SAE 15W-40

Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
				SAE Compliant Specification for API CH-4, SJ Engine Oil

**Note: Operating conditions vary. Under extreme conditions, inspect and service components more frequently.**

<sup>a</sup>Initial change interval is 6 years or 6000 hours provided cooling system is topped off using only John Deere Cool Guard II premix and coolant is tested at recommended intervals. After initial service, next scheduled interval (2 years or 2000 hours) can be extended up to 6 years or 6000 hours depending on coolant used and if coolant is tested at recommended intervals. See Operators manual.

OUC6064,000129B-19-05JAN17

## General Inspection

Every 2000 hours or bi-annually check general condition of machine and components.

RC48509,0000562-19-09JUL13

## Flush Cooling System

**CAUTION:** Explosive release of coolant from the pressurized cooling system causes serious burns.

Remove the filler cap only when the cap is cool enough to touch with bare hands and with the engine stopped.

Do not remove the filler cap until all system pressure is relieved. Relieve pressure by slowly loosening the cap before removing the cap completely.

Never pour cold water or coolant into a hot engine. Engine and components must cool completely.

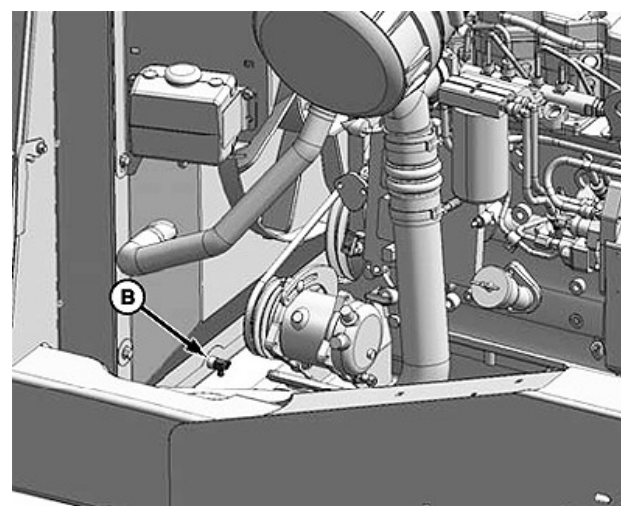
Every 2000 hours or every 2 years, flush the cooling system and replace coolant.



TS281—UN—15APR13



E63609—UN—20JUL12



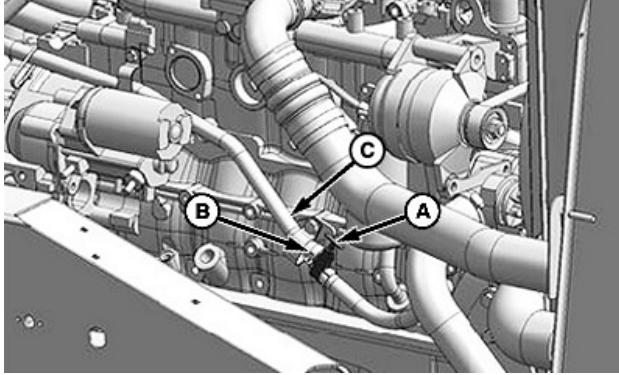
E63610—UN—27APR12

A—Radiator Fill Cap  
B—Radiator Drain

1. Turn off the engine and remove the key. Allow all components to cool.
2. Move the right-hand, cab-forward, platform to the rearward position. Confirm that the platform is locked into the service position.
3. Raise the engine compartment hood to the lowest position.
4. Before removing the radiator cap (A), turn the cap to the first notch to relieve pressure.
5. Place a suitable container under the radiator drain (B).
6. Remove radiator cap (A) and open the radiator drain valve (B) on the engine side of the radiator. To

prevent coolant from running onto the frame, use a deflector or a hose.

**NOTE:** The frame has been removed from the illustration for the sake of clarity.



E70406—UN—09JUL13

**A—Heater Shutoff Valve**  
**B—Hose Clamp**  
**C—Hose**

7. Close the heater shutoff valve (A).
8. Loosen clamp (B) and remove the heater valve hose (C) from the shutoff.
9. Open the heater shutoff valve to drain the block.
10. When the system has drained, replace the heater valve hose (C).
11. Close the radiator drain.
12. Fill the system through the radiator with clean water and replace the radiator cap.
13. Start the engine and turn the temperature control knob to high. Run the engine until it reaches operating temperature.

**Specification**

Engine—Temperature. . . . . 82—107°C  
(180—225°F)

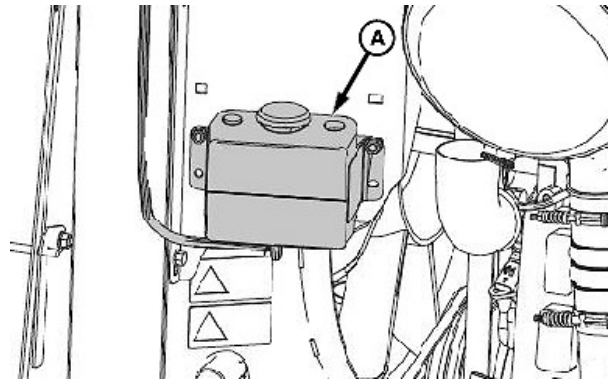
**IMPORTANT:** Make sure that the engine reaches operating temperature before shutting off the engine and draining the system. If the engine does not reach operating temperature, the system does not flush properly.

14. Turn off the engine and remove the key.
15. Drain the cooling system.

16. Close the radiator drain and fill the system with clean water and coolant system cleaner. Follow instructions provided with cleaner.
17. After using the cleaner solution, flush the system with clean water.

**NOTE:** Drain the water from the cooling system as quickly as possible after the engine has been turned off to prevent rust flakes or other sediment from settling.

18. Inspect the radiator, hoses, and fittings for leaks.
19. Close the drain valves and fill the system through the radiator. Use Ethylene Glycol with Supplemental Coolant Additive in equal parts, according to supplier instructions with high quality de-ionized soft water or distilled water.
20. Close the radiator cap tightly.



E92634—UN—06NOV19

**A—Coolant Tank**

21. Remove the cap from the coolant tank (A) and add coolant until the tank is half full.
22. Move the maintenance platform to the operating position and close the hood.

WKJQUWJ,0000D74-19-02MAR22

## 5000 Hours or Bi-Annually

<sup>1</sup>

Every 5000 hours or bi-annually have your dealer adjust engine valves..

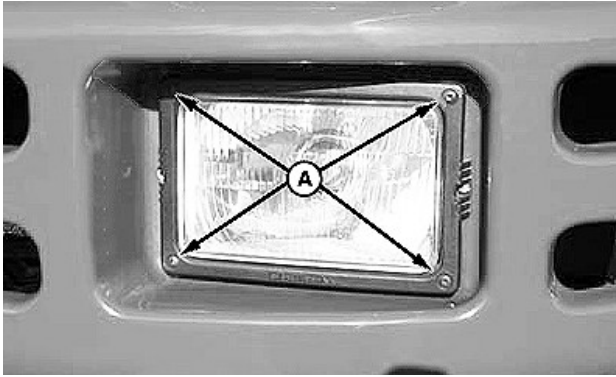
Item	Item Description	Points	Lubrication / Maintenance Description	Approved Material
	Engine Valve Train	1	See your John Deere dealer	

GW44282,00000A1-19-22OCT15

<sup>1</sup> Whichever comes first

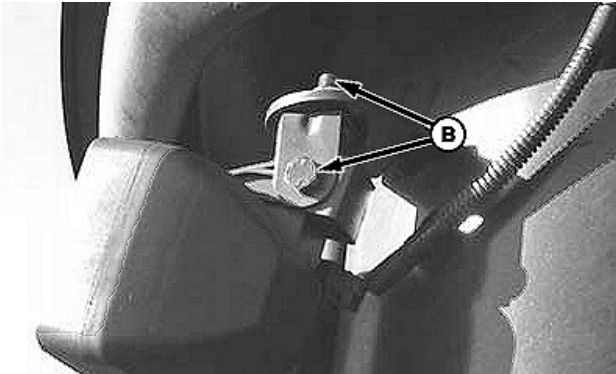
## Light Adjustment and Maintenance

### Adjust Headlights



E92709—UN—08NOV19

Headlight (engine-forward)



E92712—UN—08NOV19

A—Adjustment Screw (4 used)  
B—Bolt (2 used)

Headlights, worklights, and the rear flood lights are best adjusted with the windrower in the field and to the operator's preference.

To adjust the headlights and worklights, adjust the screws (A) in or out to move the light up, down, left, or right.

To adjust the rear worklights, loosen bolts (B). Adjust the light to the desired position and tighten the bolts.

**NOTE:** The forward floodlights are fixed and not adjustable.

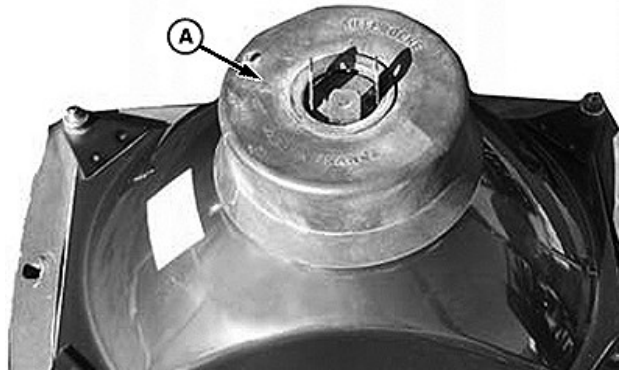
### Headlight Bulb Replacement



E92710—UN—08NOV19

A—Screw (2 used)

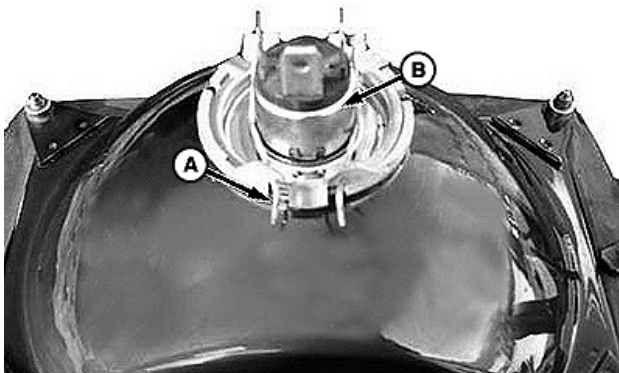
1. Remove and retain the two outside middle retaining screws (A).
2. Pull out the light assembly and remove the electrical connector.



E92713—UN—08NOV19

A—Boot

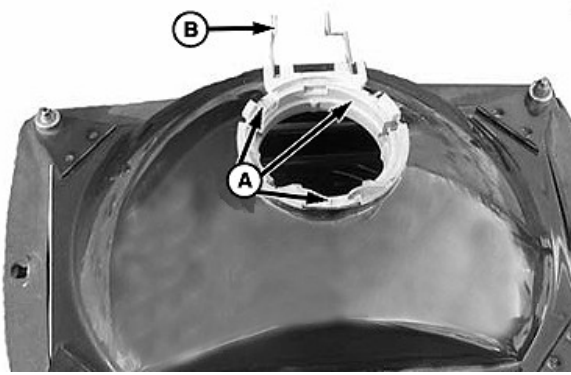
3. Remove and retain the rubber insulator boot (A).



E92714—UN—08NOV19

A—Wire Retainer  
B—Bulb

4. Pinch the wire retainer (A) and lift it away from the hooks.
5. Remove the bulb (B).

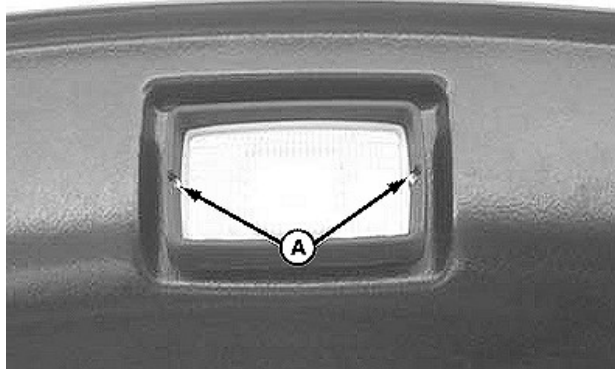


E92715—UN—08NOV19

A—Slots  
B—Wire Retainer

6. Align the lugs on the new bulb with slots (A) in the light assembly and push into place.
7. Retain the bulb using the wire retainer (B).
8. Reinstall the rubber boot and reinstall the light assembly.
9. Connect the electrical connector.

#### Front Flood Light Bulb Replacement

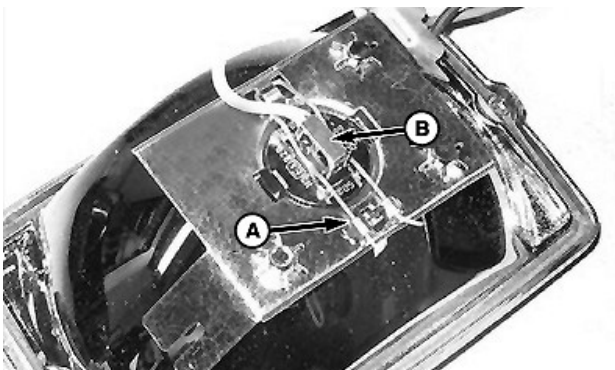


E92716—UN—08NOV19

Front Flood Light

A—Screw (2 used)

1. Remove and retain the two retaining screws (A) and remove the light bezel.
2. Remove the light from the receptacle.

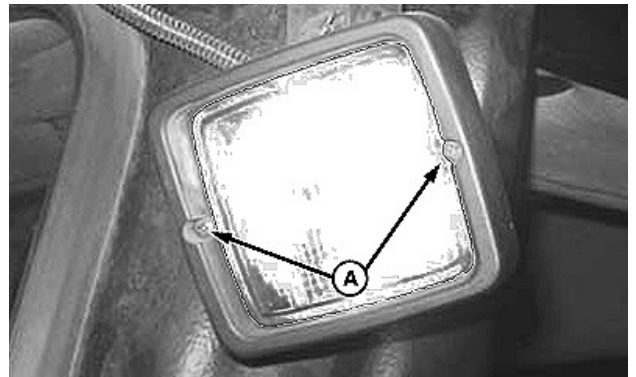


E92717—UN—08NOV19

A—Wire Retainer  
B—Bulb

3. Pinch the wire retainer (A) and lift away from the hooks.
4. Remove bulb (B) and disconnect the bulb from the electrical connector.
5. Align the slots on the new bulb with the lugs in the assembly and insert the new bulb.
6. Secure the bulb with the wire retainer (A).
7. Connect the electrical connector to the new bulb.

#### Rear Flood Light Bulb Replacement

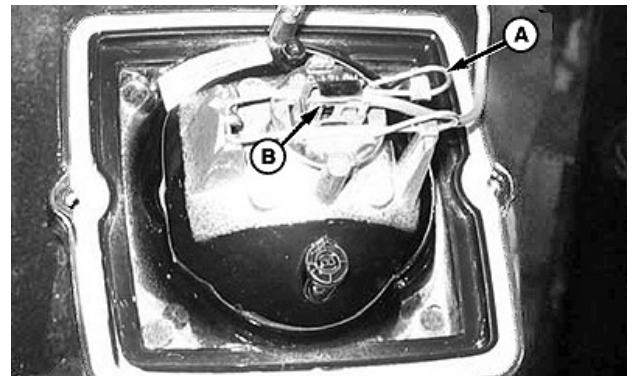


E92718—UN—08NOV19

Rear Flood Light

A—Screw (2 used)

1. Remove and retain the two retaining screws (A) and remove the light bezel.
2. Remove the light from the receptacle.



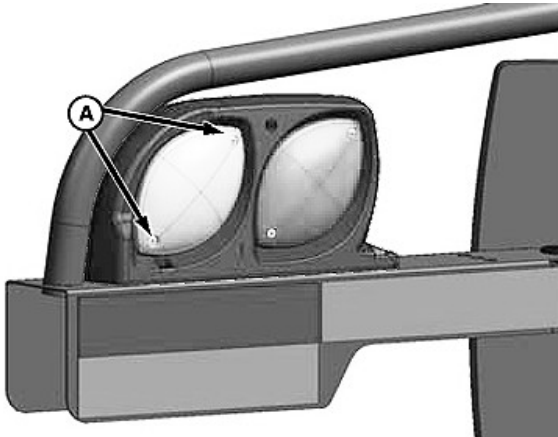
E92719—UN—08NOV19

A—Wire Retainer  
B—Bulb

3. Pinch the wire retainer (A) and lift away from the hooks.
4. Remove bulb (B) and disconnect the bulb from the electrical connector.
5. Align the slots on the new bulb with the lugs in the assembly and insert the new bulb.
6. Secure the bulb with the wire retainer (A).

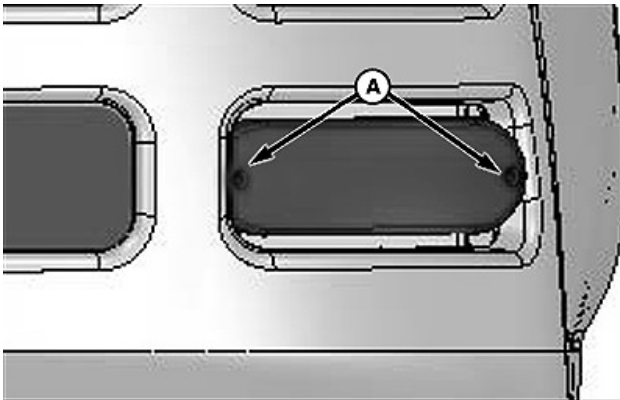
7. Connect the electrical connector to the new bulb.

### Red, Amber, and Tail Light Replacement



E63858—UN—01MAY12

*Red and Amber Lights*



E63859—UN—01MAY12

*Tail Light*

**A—Screw (2 used each lens)**

1. Remove and retain the two screws (A) that hold the lens in place and remove the lens.
2. To remove from the bulb, push in and twist the bulb counterclockwise.
3. To install the new bulb, push in and twist the bulb clockwise.
4. Reinstall the lens and secure with the screws.

GW44282,0000A67-19-13DEC19

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# Engine

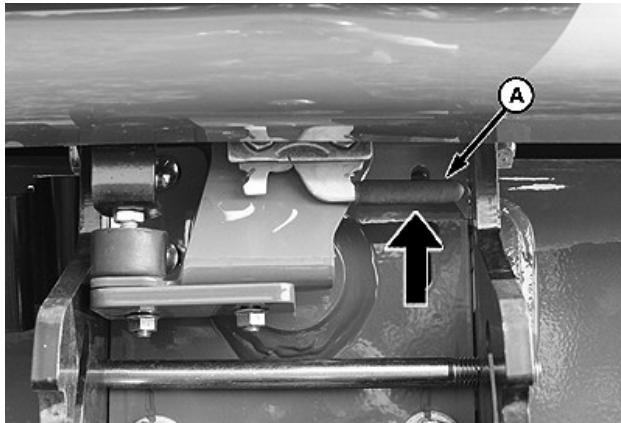
## Engine Compartment Door

Engine compartment is accessible from both sides of windrower.

The engine hood has two open positions.

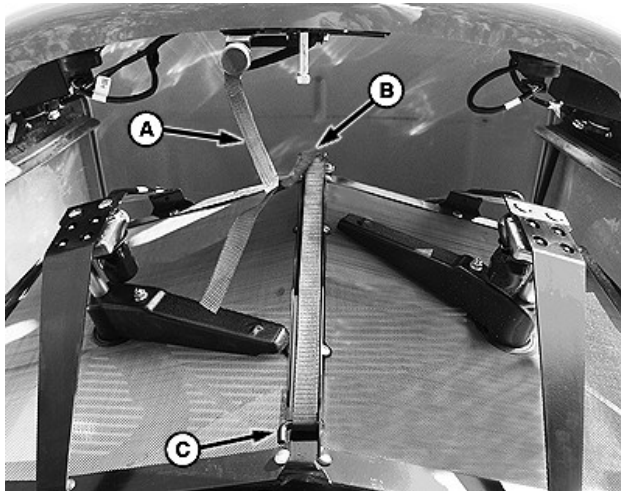
- The lowest position is for general maintenance such as checking and adding fluid, servicing cooling box, etc.
- The highest position accommodates full access to engine bay.

Open engine hood to lowest position as follows:



A—Hood Latch

1. Locate hood latch (A) behind grill and lift to release hood.



A—Strap  
B—Strap Hook  
C—Strap Hook

2. Raise hood until strap (A) which should be looped under hooks (B) and (C) stops it at approximately a 40 degree angle.
3. Remove strap from hook (B) and allow hood to raise slightly further.

To close hood:

1. Grasp strap at (A) and loop under upper hook (B).

**IMPORTANT: Failure to hook strap may result in it becoming entangled with screen cleaners or the latch.**

2. Pull down on strap (A), grasp hood when within reach and lower until hood engages latch.

**IMPORTANT: Always hold strap securely when opening and closing. Do not release the strap until hood is in appropriate and safe position.**

Open engine hood to highest position as follows:

1. Open hood to lowest position.
2. Remove strap from hooks (B) and (C) and allow hood to raise fully to approximately a 65 degree angle.

To close hood:

1. Grasp strap (A) and loop under upper hook (B).
2. Pull down on strap and loop under lower hook (C).
3. Pull down on strap, grasp hood when within reach and lower until hood engages latch.

Left side of engine compartment allows access to:

- Engine oil check and fill
- Engine primary, secondary fuel filters and primer pump
- Radiator drain
- Coolant surge bottle
- Engine block drain
- Engine air filters and dust cup
- Alternator screen

Right side engine compartment allows access to:

- Pump drive gear case fill and check
- Starter
- Air conditioning compressor

GW44282,0000191-19-19JAN15

## Cleaning Engine Compartment

**CAUTION: A combination of dirt, oil, and chaff in the engine compartment is a fire hazard. Do not clean engine compartment with engine running.**

Make a visual inspection of the engine compartment and coolers a part of the prestart routine.

Look for a buildup of debris, chaff, and obstructions or fire hazards. Clean the area as necessary.

Clean the engine compartment during the same interval as coolers.



E66105—UN—26JUN12

Right Side Engine Compartment



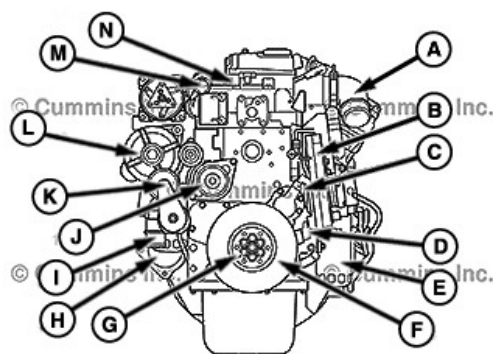
E66106—UN—26JUN12

Left Side Engine Compartment

Raise the engine hood to its highest position for engine compartment cleaning. Pay close attention for chaff and debris buildup around exhaust components.

OUC6064,000129E-19-05AUG14

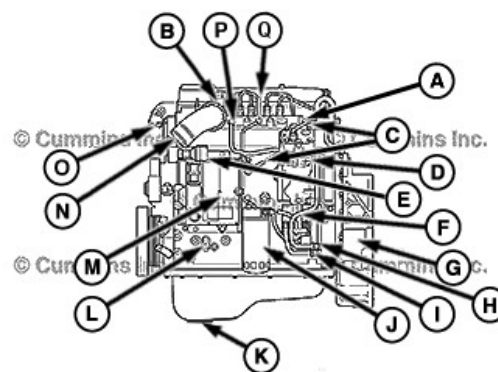
## Engine Component Identification



E69362—UN—30JAN13

Front View

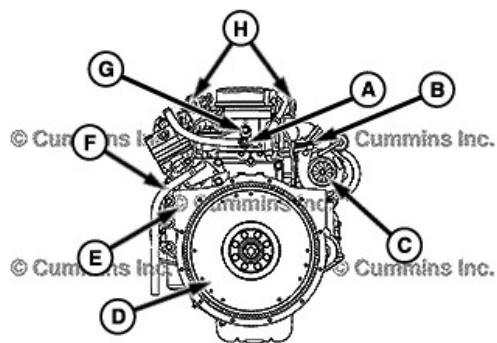
- A—Air Inlet
- B—Electronic Control Module
- C—Engine Speed Sensor (Camshaft)
- D—Engine Speed Sensor (Crankshaft)
- E—Fuel Filter
- F—Vibration Damper
- G—Fan or PTO Drive Flange Mounting
- H—Starter Mounting Location
- I—Coolant Inlet
- J—Water Pump
- K—Belt Tensioner
- L—Alternator
- M—Coolant Outlet
- N—Coolant Temperature Sensor



E69363—UN—30JAN13

Left-hand Side View

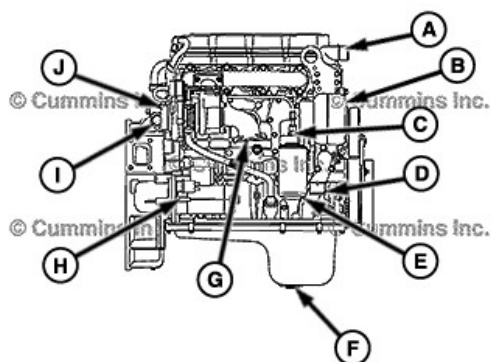
- A—Fuel Rail Pressure Sensor
- B—Intake Manifold Pressure/Temperature Sensor
- C—Air Compressor Coolant Pipes (If Equipped)
- D—Air Compressor (If Equipped)
- E—Ambient Air Pressure Sensor
- F—Fuel Pump
- G—Flywheel Housing
- H—Fuel Return
- I—Fuel Inlet
- J—Fuel Filter
- K—Oil Pan Drain Plug
- L—Dipstick/Oil Level Sensor
- M—Electronic Control Module
- N—Air Intake Inlet
- O—Coolant Outlet
- P—Fuel Rail Pressure Relief Valve
- Q—Fuel Rail



Rear View

E69364—UN—30JAN13

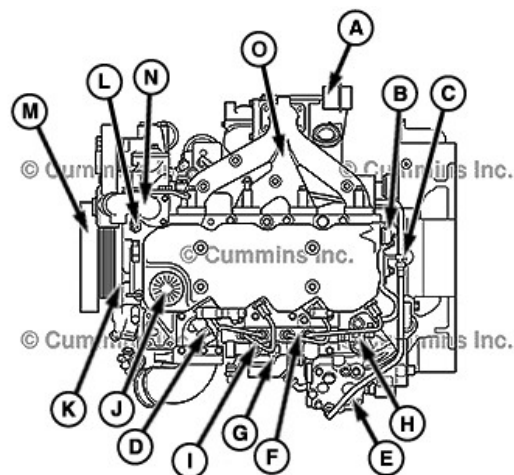
- A—Coolant Connection For Air Compressor (If Equipped)
- B—Air Outlet From Turbocharger
- C—Air Inlet to Turbocharger
- D—Flywheel
- E—Flywheel Housing
- F—Crankcase Breather Tube
- G—Fuel Return Line
- H—Engine Lifting Brackets



Right-hand Side View

E69365—UN—30JAN13

- A—Coolant Outlet
- B—Alternator
- C—Oil Cooler
- D—Coolant Inlet
- E—Oil Filter
- F—Oil Drain Plug
- G—Turbocharger Exhaust Outlet
- H—Starter
- I—Flywheel Housing
- J—Turbocharger Compressor Inlet



Top View

E69366—UN—30JAN13

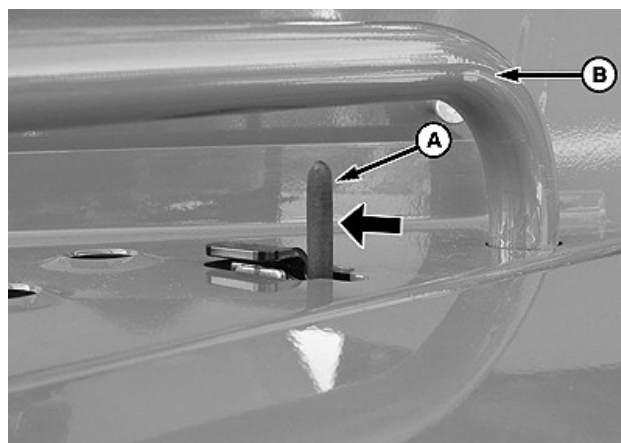
- A—Turbocharger Waste Gate Actuator
- B—Crankcase Breather
- C—Air Compressor Coolant Connection (If Equipped)
- D—Intake Manifold Pressure/Temperature Sensor
- E—Air Compressor (If Equipped)
- F—Fuel Rail
- G—High-pressure Supply Line (Pump to Rail)
- H—Fuel Rail Pressure Sensor
- I—High-pressure Fuel Lines
- J—Oil Fill Cap
- K—Tone Wheel
- L—Coolant Temperature Sensor
- M—Vibration Damper (Optional)
- N—Coolant Outlet
- O—Exhaust Manifold

OUC6043.0000200-19-14FEB13

## Maintenance Platforms

Swing-away platforms and stairs are on both sides of the windrower. The platforms and stairs are used for service and access to major components.

## Opening and Closing Platforms



E66108—UN—26JUN12



E66110—UN—26JUN12

A—Platform Release Latch  
B—Handle  
C—Platform

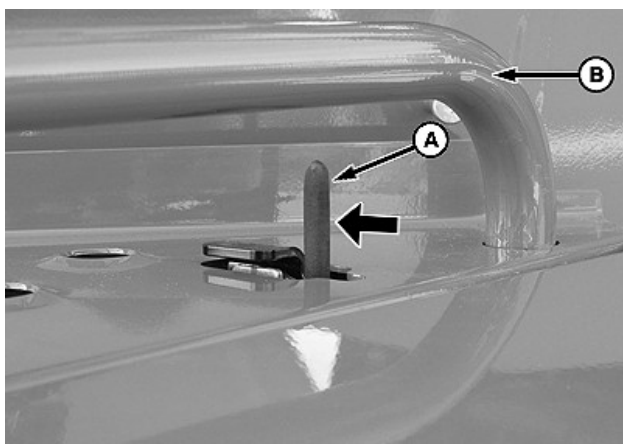
1. To open the platform, push the release latch (A) inward, grasp the handle (B), and pull the platform (C) toward the walking beam until the latch engages.
2. To close the platform, push the release latch (A), grasp handle (B), and move the platform (C) forward until the latch engages.

### Opening and Closing Platforms for Major Servicing

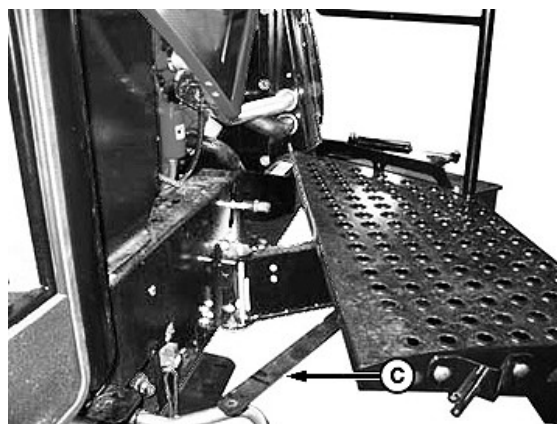
**IMPORTANT:** Failure to open the hood results in damage to the hood when the platform is repositioned.

To improve access to the hydraulics plumbing or battery, the platforms swing away from the windrower.

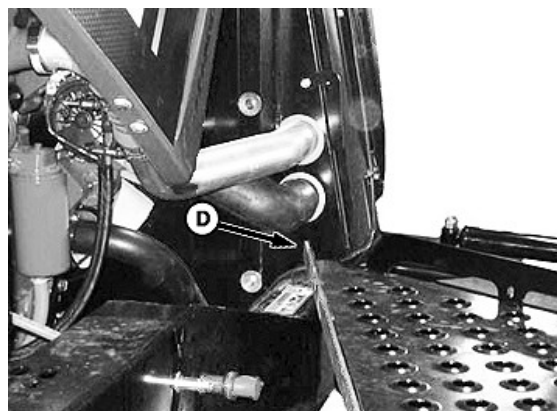
1. Open the engine compartment hood to the lowest position.



E66108—UN—26JUN12



E66741—UN—15AUG12



E66742—UN—15AUG12

A—Platform Release Latch  
B—Handle  
C—Swing Link  
D—Platform Corner

2. Unlock latch (A), grasp handle (B), and move the platform toward the open position but do not lock in the fully open position.
3. Remove and retain the nut and bolt at the frame and swing the link (C) clear of the valve block and battery.
4. At the same time, pull the front end of the platform away from the frame while moving it towards the walking beam. The rear corner (D) of the platform projects into engine compartment when the optimum opening is reached.

Close the platform as follows:

1. Swing the link (C) all the way forward.
2. Move the front of the platform inboard while moving it away from the walking beam.
3. Position link (C) on bracket and reinstall the bolt and nut. Tighten so the link still swivels on the bracket.
4. Move the platform to the closed position, ensuring that it is locked.
5. Close the engine compartment hood.

GW44282,0000A57-19-05DEC19

## Fueling

**⚠ CAUTION:** Handle fuel carefully. Do not refuel the machine while smoking. Turn off engine and remove key before refueling windrower.

Do Not overfill fuel tank. Bodily injury results from fuel splash back. Leakage results from expansion of fuel. If the tank is filled too full, then left in direct sunlight or if temperature gets too hot, the tank will overflow.



E63862—UN—26JUN12

A—Fuel Cap

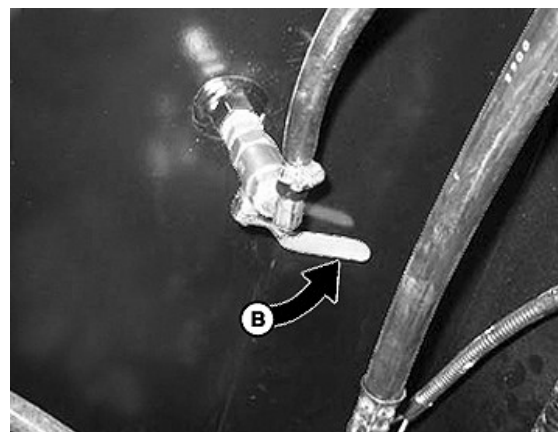
1. Always stop the windrower and remove the key before fueling.
2. Stand on the platform to access the fuel filler pipe.
3. Clean the area around the fuel cap (A).
4. Turn the cap handle counter clockwise until loosened then remove cap.
5. Fill tank with diesel fuel.
6. Replace fuel tank cap (A) and turn cap handle clockwise until snug.

OUO6064,00012A0-19-05AUG14

## Shutting Off Fuel Supply



E63594—UN—03MAY12



E63595—UN—03MAY12

A—Fuel Shutoff Valve On  
B—Fuel Shutoff Valve Off

The fuel shutoff valve is located under the fuel tank.

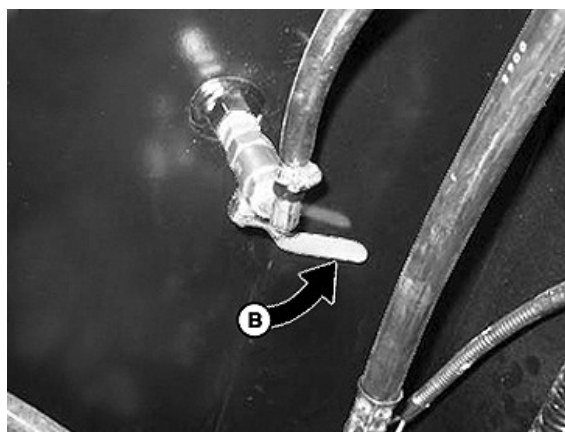
Close fuel shutoff valve before servicing the fuel delivery system.

RC48509,0000595-19-14AUG12

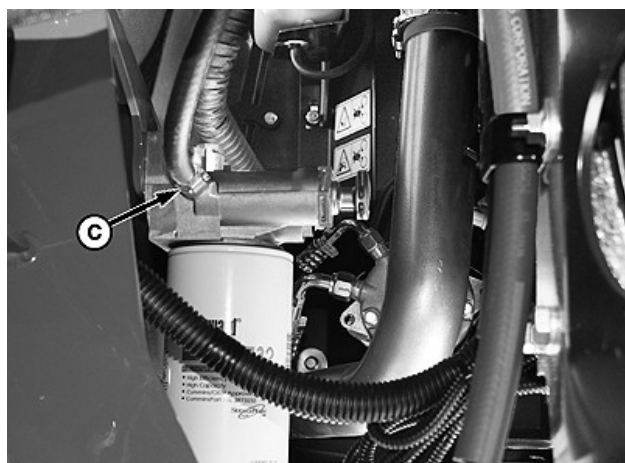
## Draining Fuel Tank

**⚠ CAUTION:** Dispose of contaminated fuels properly. Handle fuel carefully. Do not smoke while handling fuels. Keep trouble lights away from fuels. Turn off engine and remove key before draining fuel.

Prevent fuel from contacting skin or painted surfaces. Fuel contact with skin irritates the skin causing blistering.



E63595—UN—03MAY12



E63863—UN—26JUN12



E63594—UN—03MAY12

A—Fuel Supply Valve Open  
B—Fuel Supply Valve Closed  
C—Fuel Supply Hose

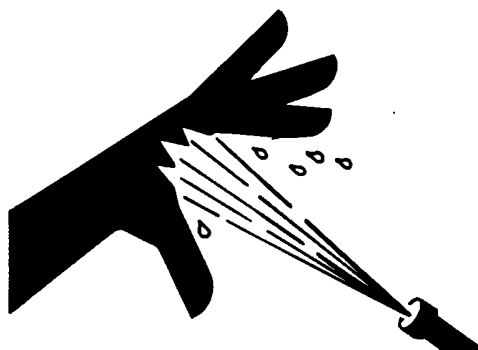
To drain the fuel tank, remove old or contaminated fuel, perform the following:

1. Stop engine and remove key.
2. Have a suitable container ready. Try to capture the first portion of fuel in a glass container for inspection.
3. Open engine compartment hood to lowest position.

4. Confirm that all components are cool to the touch.
5. Close fuel supply valve (B).
6. Place container under fuel supply hose (C).
7. Loosen clamp and remove hose from fitting.
8. Route hose to container and open valve (A).
9. If necessary, add some clean fuel to tank to flush.
10. Reattach hose to fitting and install clamp.

OUC6064,00012A1-19-05AUG14

## Do Not Modify Fuel System



TS1343—UN—18MAR92

**CAUTION:** To avoid serious personal injury, do not open high-pressure lines.

Do not disconnect or attempt to repair fuel lines, sensors, or any other components between the fuel pump and nozzles on engines with a high-pressure common rail fuel system.

Have only technicians familiar with this type of system perform repairs. (See your John Deere Dealer.)

**IMPORTANT:** Never clean with steam or pour cold water on a warm high-pressure pump. To do so causes seizure of pump parts.

Modification or alteration of the high-pressure fuel pump, injection timing, or fuel injectors outside of the manufacturer's specifications terminates the warranty obligation to the purchaser.

In addition, tampering with fuel system which alters emission-related equipment on engines results in fines or other penalties, per EPA regulations or other local emission laws.

Do not attempt to service high-pressure pump or fuel injectors yourself. Special training and tools are required. (See your authorized servicing dealer or engine distributor.)

OUC6064,00012A2-19-05AUG14

## Fill Coolant Tank



TS281—UN—15APR13

**CAUTION:** Explosive release of coolant from a pressurized cooling system causes serious burns.

Only remove the coolant tank filler cap when cool enough to touch with bare hands.

Do not remove the filler cap until all of the system pressure is relieved. Relieve pressure by slowly loosening the cap before removing completely.

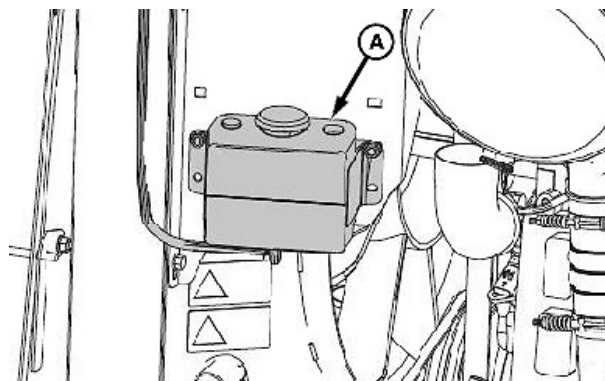
**IMPORTANT:** To avoid cracking the engine cylinder block or head, never pour cold water into a hot engine.

Never operate, even for a few minutes, engine without coolant.

Never fill the radiator when the engine is overheated.

Never use high silicate automotive coolant.

*NOTE: Fill the system with specified coolant that contains coolant conditioner. (See Diesel Engine Coolant in Fuels, Coolants, and Lubricants section.)*



E92634—UN—06NOV19

A—Coolant Tank

1. Check the level of coolant in the coolant tank (A). If the coolant is under half full, add coolant.

2. Add coolant through the filler cap on the tank until half full.

*NOTE: Cooling system capacity is approximately 24.0 L (6.3 gal).*

3. Turn on the heater, start the engine, and run for several minutes with the filler cap off.
4. Turn off the engine and remove the key.
5. Let the system cool.
6. Check the coolant level.
7. Add coolant as needed.
8. Install the coolant tank cap.

GW44282,0000A7E-19-13DEC19

## Winterizing Cooling System



TS281—UN—15APR13

**CAUTION:** Explosive release of coolant from pressurized cooling system can cause serious burns.

Remove filler cap only when cool enough to touch with bare hands and with engine stopped.

Do not remove filler cap until all system pressure is relieved. Relieve pressure by slowly loosening cap to relieve pressure before removing completely.

**IMPORTANT:** Do not drain cooling system to protect against freezing. The heater does not drain completely, so damage would result.

Do not use a high silicate automotive coolant.

After testing, if it is determined there is insufficient antifreeze to protect the system against freezing, do the following:

- Use specified coolant with conditioner. (See DIESEL ENGINE COOLANT in Fuels, Coolants, and Lubricants section.)
- After adding antifreeze (see FILLING RADIATOR in this section), run engine until it reaches operating

temperature. This mixes the solution and circulates it through the system.

- Allow engine to cool and test coolant mixture to determine level of protection. Adjust as needed.

RC48509.0000591-19-21JUN13

## Inspect or Replace Thermostat

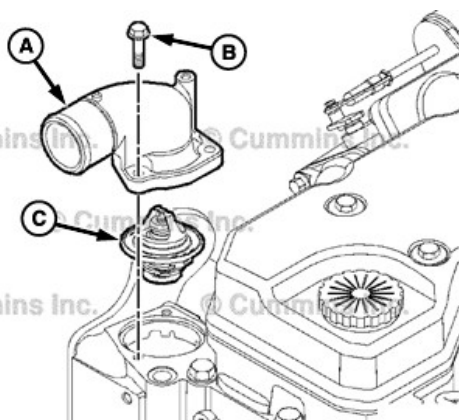
### Coolant Thermostat General Information

**IMPORTANT:** Never operate engine without a thermostat installed. Without a thermostat installed, coolant will follow the path of least resistance through the bypass back to the water pump inlet causing engine to overheat.

Only replace thermostat with one of the same part number. Thermostats may look similar and can physically fit but are application specific. Installing the incorrect thermostat can cause engine to run too hot or too cold causing engine damage.

The thermostat controls the engine coolant temperature. When coolant temperature is below operating range, coolant is bypassed back to the water pump inlet. When coolant temperature reaches operating range, thermostat opens sealing off the bypass forcing coolant to flow to the radiator.

### Removing Thermostat

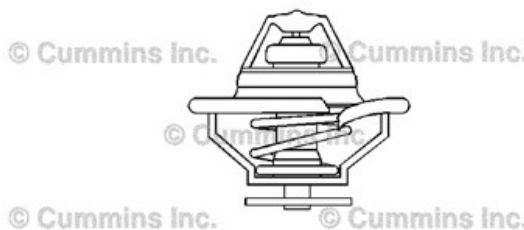


E69383—UN—14FEB13

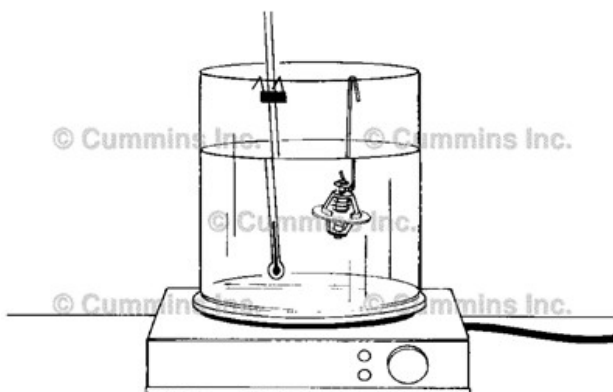
A—Water Outlet Connection  
B—Cap Screws (3 Used)  
C—Thermostat

1. Shut off engine and remove key.
2. Allow engine to cool and relieve pressure in cooling system.
3. Drain engine coolant into an appropriate container until level is below upper water outlet connection (A).
4. Remove cap screws (B) and water outlet.
5. Lift thermostat (C) from engine block.

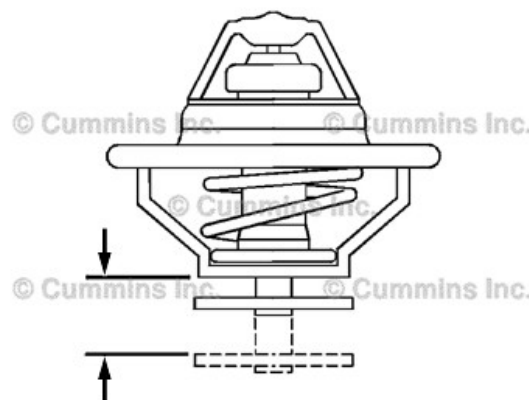
### Inspecting Thermostat



E69384—UN—14FEB13



E69385—UN—14FEB13



E69386—UN—14FEB13

1. Inspect thermostat for external damage such as cracks, embedded debris, missing check balls or a damaged seat.
2. If no external damage is found, check for proper operation using the following procedure:
  - a. Note nominal operating temperature stamped on the thermostat.

**NOTE:** Be sure thermostat does not contact container during test.

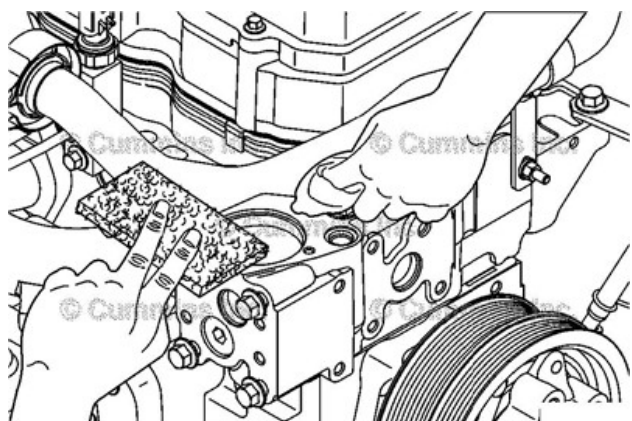
- b. Hang thermostat and a proper thermometer in a container of water.
- c. Heat water and check temperature when



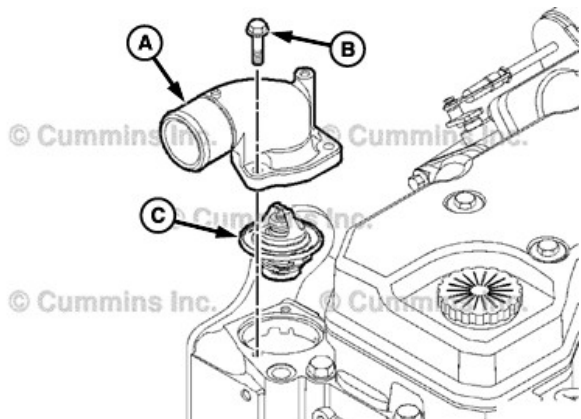
thermostat begins to open and when it reaches fully open position. Replace thermostat if **not** within the following specifications.

82° C (180 ° F) Nominal Temperature Thermostat		
	° C	° F
Initial Opening Minimum	79	175
Initial Opening Maximum	83	182
Fully Opened	94	202
88° C (190 ° F) Nominal Temperature Thermostat		
Initial Opening Minimum	86	186
Initial Opening Maximum	89	193
Fully Opened	97	207

### Install Thermostat



E69387—UN—14FEB13



E69383—UN—14FEB13

A—Water Outlet  
B—Cap Screws  
C—Thermostat

**IMPORTANT:** Debris falling into thermostat opening when removing gasket or seal material can cause damage to cooling system and engine. Place a rag in the opening or use an old thermostat as a plug when removing old material.

**Only replace thermostat with one of the same part number. Thermostats may look similar and can physically fit but are application specific. Installing the incorrect thermostat can cause engine to run too hot or too cold causing engine damage.**

**If a previously installed thermostat is being used, make sure to install a new seal.**

1. Clean the mating surfaces of the engine and water outlet using an abrasive pad and a clean cloth.
2. Align thermostat (C) into housing.
3. Install water outlet (A) using previously removed cap screws (B). Tighten cap screws to specification.

#### Specification

Water Outlet Cap

Screws—Torque. . . . . 10 N·m  
89 lb.-in.

4. Refill coolant.
5. Operate engine to remove air from cooling system and top off with coolant meeting proper specifications.

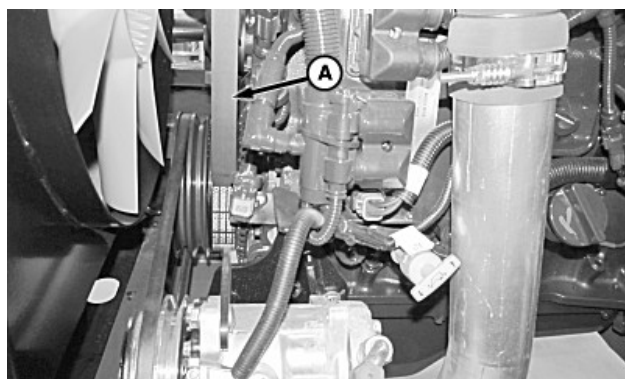
OUO6043.0000204-19-21JUN13

### Check Engine Belts—Replace as Required

**CAUTION:** Turn off the engine and remove the key before inspecting or replacing the belt.

Many daily inspections do not require the removal of the shields or guards.

### Inspect Serpentine Belt



E69367—UN—28JAN13

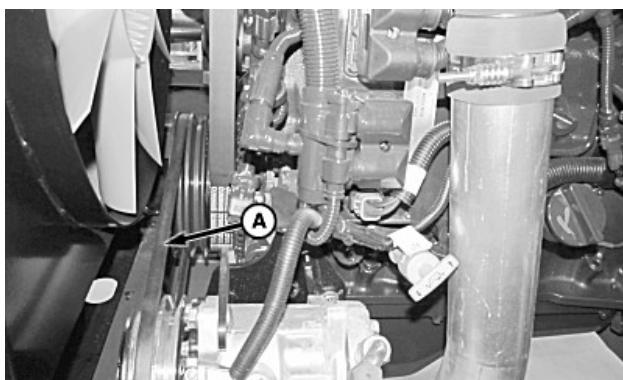
A—Serpentine Belt

Inspect the serpentine belt (A) daily for intersecting cracks. Traverse (across the belt width) cracks are acceptable. Longitudinal (direction of belt length) cracks that intersect with traverse cracks are not acceptable. Replace the belt if it is frayed or pieces of material are missing.

The following are the main causes of belt damage:

- Incorrect tension
- Incorrect size or length
- Pulley misalignment
- Incorrect installation
- Severe operating environment
- Oil or grease on belt

### Inspect Air Conditioning Compressor Belt

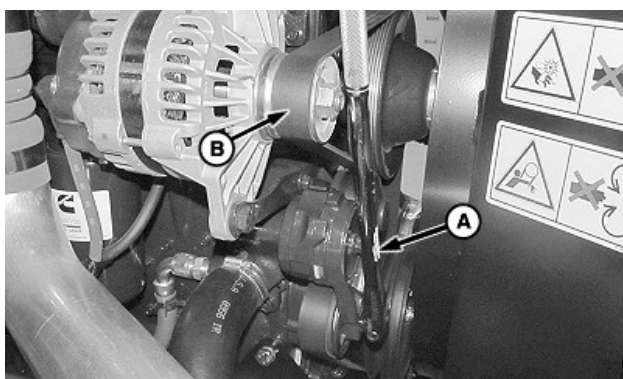


E69368—UN—30JAN13

**A—Air Conditioning Compressor Belt**

Inspect the compressor belt (A) daily for cracks, fraying, and proper alignment. Replace as required. (See Remove and Replace Air Conditioner Compressor Belt in this section.)

### Remove and Install Serpentine Belt



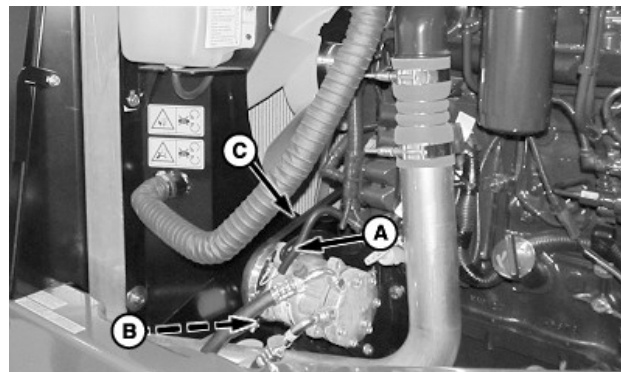
E69370—UN—28JAN13

**A—Breaker Bar  
B—Belt**

1. Turn off the engine and remove the key.
2. Raise the hood.
3. Remove the air conditioner compressor belt. (See Remove and Replace Air Conditioner Compressor Belt in this section.)
4. Rotate the belt tensioner using a 1/2-in breaker bar (A) and remove belt (B) from around pulleys and fan.
5. Install the replacement belt in the reverse order of removal.

6. Verify that the belt is seated in the pulley.
7. Install the compressor belt in reverse order of removal.

### Remove and Replace Air Conditioner Compressor Belt



E69369—UN—28JAN13

**A—Cap Screw  
B—Cap Screw  
C—Belt**

1. Turn off the engine and remove the key.
2. Raise the hood.
3. Loosen cap screws (A and B).
4. To relieve tension on the belt, rotate the compressor.
5. Remove the belt from the pulley.
6. Install replacement belt.
7. Pry the compressor away from the engine until belt tension and deflection (at mid-span) are within specification.

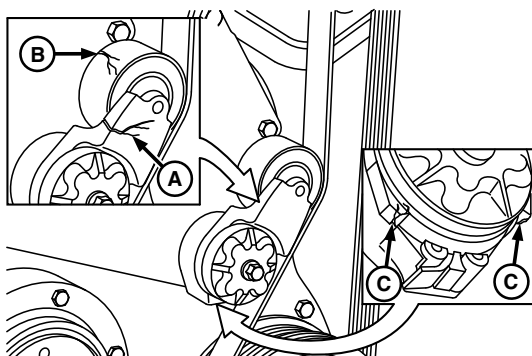
#### Specification

Air Conditioning Compressor	
Belt—Force. . . . .	35—55 N (8—12 lbf)
Air Conditioning Compressor	
Belt Deflection—Length. . . . .	5 mm (3/16 in)

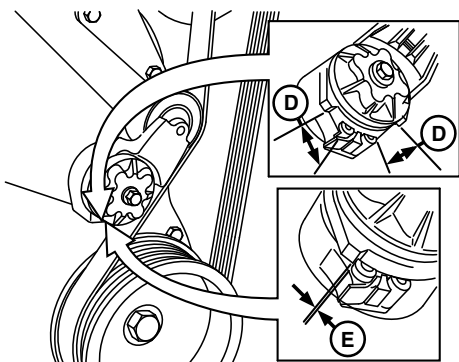
8. Tighten the compressor mounting hardware.

GW44282,0000A58-19-13DEC19

## Inspect Cooling Fan Belt Tensioner



E69402—UN—18FEB13



E69403—UN—18FEB13

A—Tensioner Arm  
B—Tensioner Arm Pulley  
C—Tensioner Arm Stops  
D—Correct Clearance  
E—Incorrect Clearance

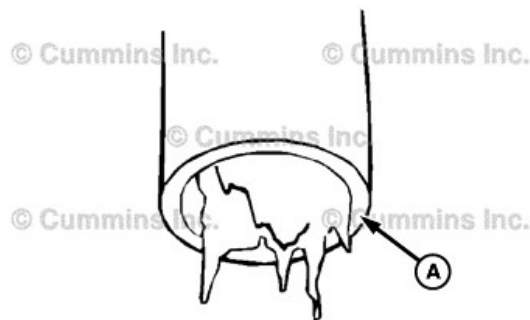
**IMPORTANT:** If any cracks are found on tensioning arm, pulley or stops, tensioning arm must be replaced.

1. Stop engine. Remove key.
2. Remove cooling fan belt.
3. Inspect belt tensioner arm (A) for cracks and damage.
4. Inspect tensioner arm stops (C) for cracks and damage.
5. Inspect belt tensioner arm pulley (B) for cracks and damage.
6. Verify that correct cooling fan belt is being installed.
7. Reinstall cooling fan belt.
8. Verify that tensioner arm stops are not contacting tensioner arm case stops as shown after installing cooling fan belt. If stops are touching, verify that correct belt number is installed. If correct belt number is installed and stops are touching, replace belt.
9. Install new belt. If tensioner arm stops are touching

tensioner case stops after installing new belt replace belt tensioner.

OUO6064,00012A6-19-05AUG14

## Inspect and Clean Crankcase Breather Tube



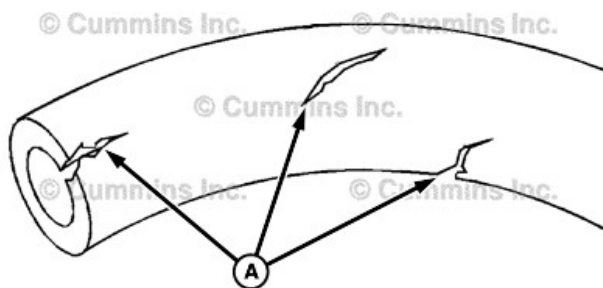
E69404—UN—19FEB13

A—Debris

1. Inspect crankcase breather tube for sludge, debris, or ice buildup inside tube.

**NOTE:** In extreme operating conditions more frequent inspections are required.

2. If sludge, debris, or ice is found in tube clean with detergent and warm water or solvent.
3. Dry crankcase breather tube with compressed air.



E69405—UN—19FEB13

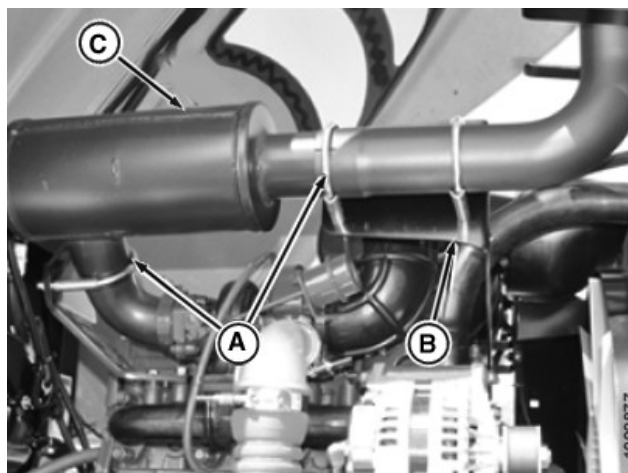
A —Cracks

4. Inspect crankcase breather tube for internal and external cracks. Replace tube if any cracks are found.

OUO6064,00012A5-19-05AUG14

## Inspecting Exhaust System

**⚠ CAUTION:** The engine exhaust stack may be hot. To avoid burns, Do NOT touch the exhaust canister while the engine is running. Allow the exhaust stack to cool before attempting to service it.



EX530538—UN—04MAR22

Exhaust System

A—Clamps  
B—Brackets  
C—Muffler

Follow given steps to inspect the exhaust system:

1. Open the hood to its highest position.
2. Inspect the area around clamps (A) for breakage, cracks, and rust-through. In addition to being noisy, a leaky exhaust system may allow exhaust gases to escape to the cab, which presents air quality hazard for the Operator.
3. Check the exhaust tubing for dents or crushed areas. Dents or crushed portions of any tubing create exhaust flow restriction and increase back pressure. Even relatively small dents cause decreased fuel economy and increased wear on the turbocharger. If the dents are relatively large, increased bearing and cylinder wear occur due to increased exhaust temperatures.
4. Ensure that the exhaust system is properly secured. Brackets (B) must fit securely to muffler (C) and to the engine.

**IMPORTANT:** Do NOT change the muffler type, piping sizes, or the exhaust configuration. See nearest dealer for the replacement of the parts.

WKJQUWJ,0000D81-19-04MAR22

operation, since the quality of lubrication directly determines the efficiency and lifespan of the windrower's engine. If oil pressure is too low or too high, the engine's performance and longevity can be adversely affected. Oil pressure warnings may trigger the lighting up of the symbols on the operator's console and messages on the cab display module (CDM).

2. The nominal engine oil pressure is 69 kPa (10 psi) at low idle and 380 kPa (55.1 psi) at the maximum rated speed.
3. If the oil pressure drops below 52 kPa (7.5 psi), the error code and error message appear on the CDM.
4. If the STOP engine symbol lights up, stop the engine immediately and investigate.

**IMPORTANT:** Attempting to operate the engine when the STOP engine symbol is lit can result in the permanent damage to the engine.

If the yellow caution symbol lights up, the windrower can continue to be operated safely. However, it is recommended that the Operator continue to monitor the engine carefully.

WKJQUWJ,0000D82-19-04MAR22

## Engine Oil Pressure

1. Oil pressure is a critical parameter of engine

# Electrical System

## Batteries

**⚠ CAUTION:** Battery gas is explosive. Keep sparks and flames away from the batteries. To check the battery electrolyte levels, use a flashlight.

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

Reduce the possibility of an electrical spark when disconnecting the batteries by:

- Ensure that the key and all accessories are turned off.
- Turning the master disconnect to off before servicing the batteries or electrical components.
- Disconnecting the negative (-) battery cable first and connecting it last.

**IMPORTANT:** Always disconnect the negative terminal, then the positive terminal before working on the electrical system or welding on the machine. Battery terminals are identified as black (-) for negative and red (+) for positive.

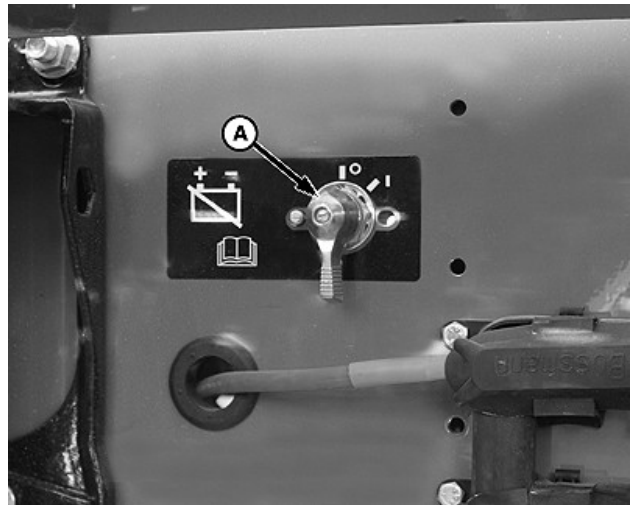


*Batteries*

E66102—UN—25JUN12

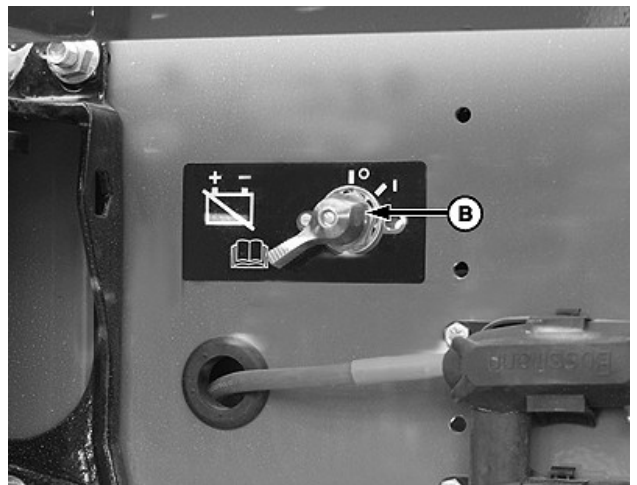
The batteries are on the right-hand side, cab-forward.

To access batteries on the windrower, move the right-hand side platform, cab-forward, to the service position.



E61135—UN—19JUN12

*Master Disconnect Off*



E65105—UN—18JUN12

*Master Disconnect On*

**A—Master Disconnect Off**  
**B—Master Disconnect On**

Battery master disconnect:

Always turn the master disconnect (A) to off before servicing electrical system components or if the machine is not used for periods longer than 24 hours.

GW44282,0000A59-19-13DEC19

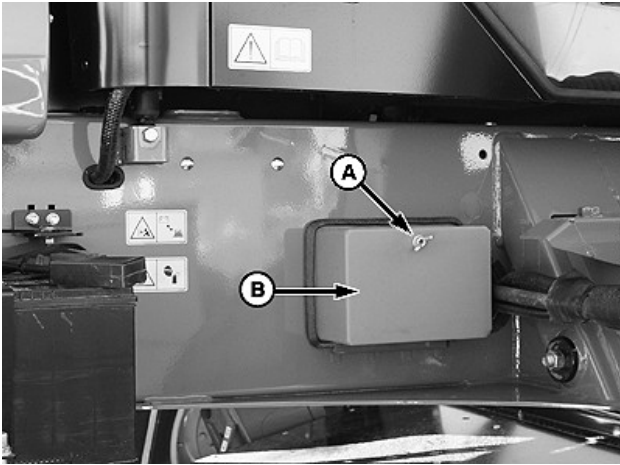
## Fuses, Circuit Breakers, and Relays

Fuses, circuit breakers, and relays are located inside the fuse box that is mounted under the right-hand side platform.

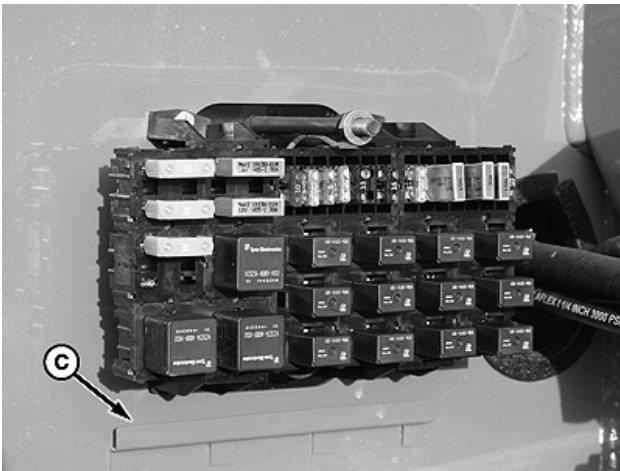
The circuit breakers automatically reset, and the fuses are the plastic blade type.

Access the fuses and breakers as follows:

1. Turn off the engine and remove the key.
2. Move the right-hand side platform rearward.



E66097—UN—25JUN12



E66098—UN—25JUN12

A—Wing Nut  
B—Cover  
C—Retaining Channel

3. Remove and retain wing nut (A).
4. Remove and retain cover (B).
5. To replace the fuses, circuit breakers, or relays, pull out of the receptacle and hold it up to light source. If the fuse is damaged, the wire inside will be broken. If you see broken wire, the fuse must be replaced.
6. If the fuse is damaged, insert a new fuse into the receptacle. If the fuse is undamaged, insert the removed fuse back into its receptacle.

**IMPORTANT: Replacement fuses must match the current rating on the decal. Refer to Fuse Box Decal, for more information.**

7. Install a fuse, circuit breaker, or relay into the receptacle with the required amperage rating.
8. Replace the cover by placing the bottom of the cover into the retaining channel (C) and then securing with the wing nut.

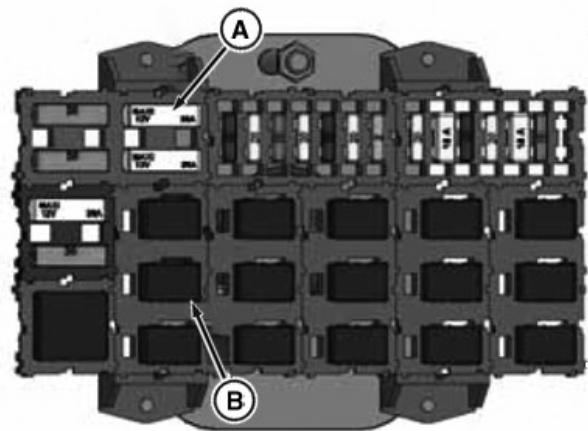
**IMPORTANT:** Confirm that the bottom of the box is in the retaining channel before securing with the wing nut.

### Replacing Circuit Breakers and Relays

**CAUTION:** To prevent bodily injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

If a circuit breaker or relay in the windrower's main fuse box is nonfunctional, it must be replaced.

Replace breakers and relays as follows:



EX530536—UN—03MAR22

Relays and Breakers

A—Circuit Breaker  
B—Relay

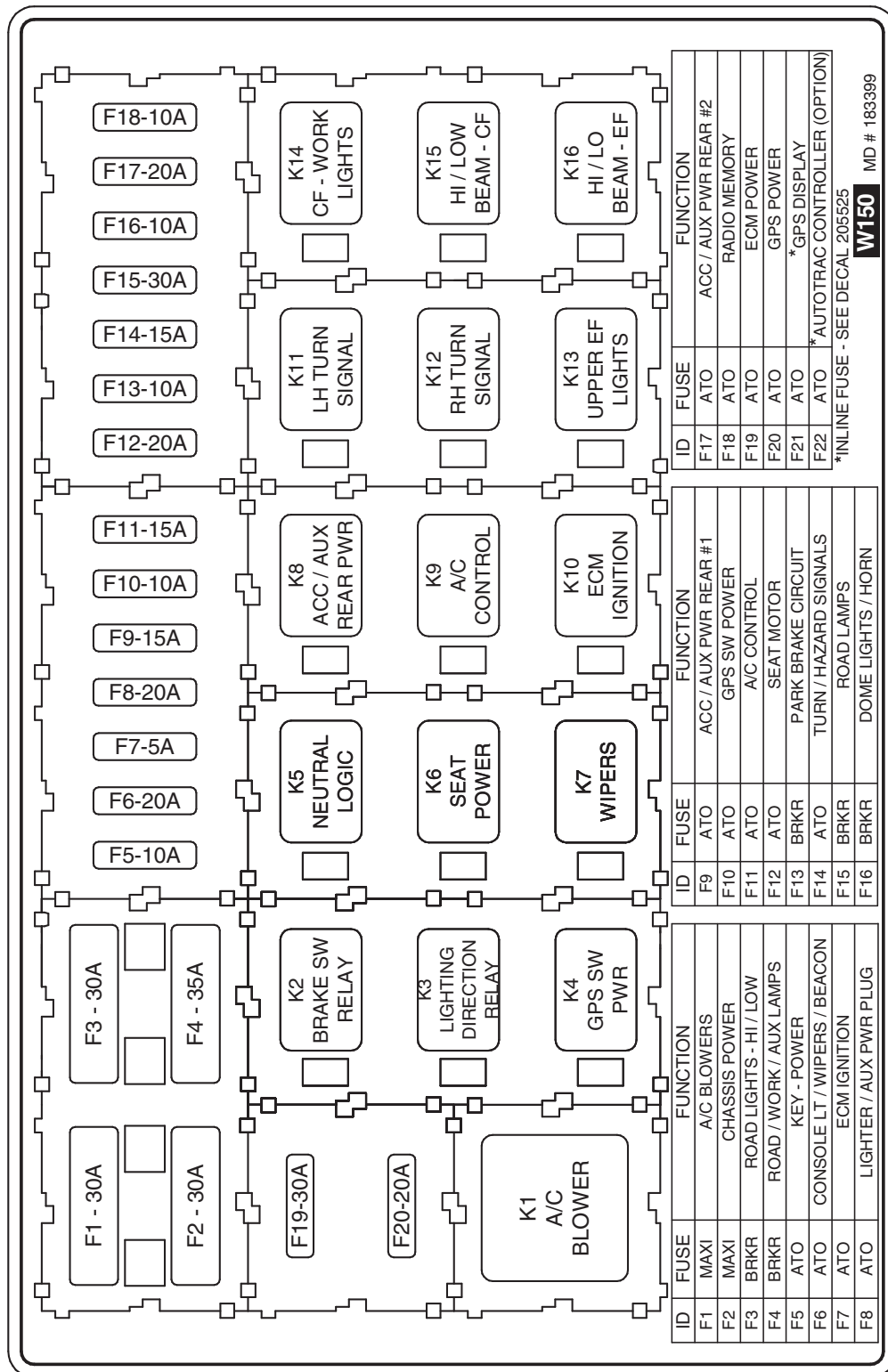
1. Stop the engine, and remove the key from the ignition.
2. Move the right cab-forward platform rearward.
3. Remove the fuse box cover.
4. To replace circuit breaker (A), pull the breaker out of its receptacle. Replace the removed circuit breaker with the new circuit breaker.
5. To replace relay (B), pull the relay out of its receptacle. Replace the removed relay with the new relay.
6. Reinstall the fuse box cover. Secure it with the wing nut.

WKJQUWJ,0000D7E-19-03MAR22

### Fuse, Circuit Breaker, and Relay Decal

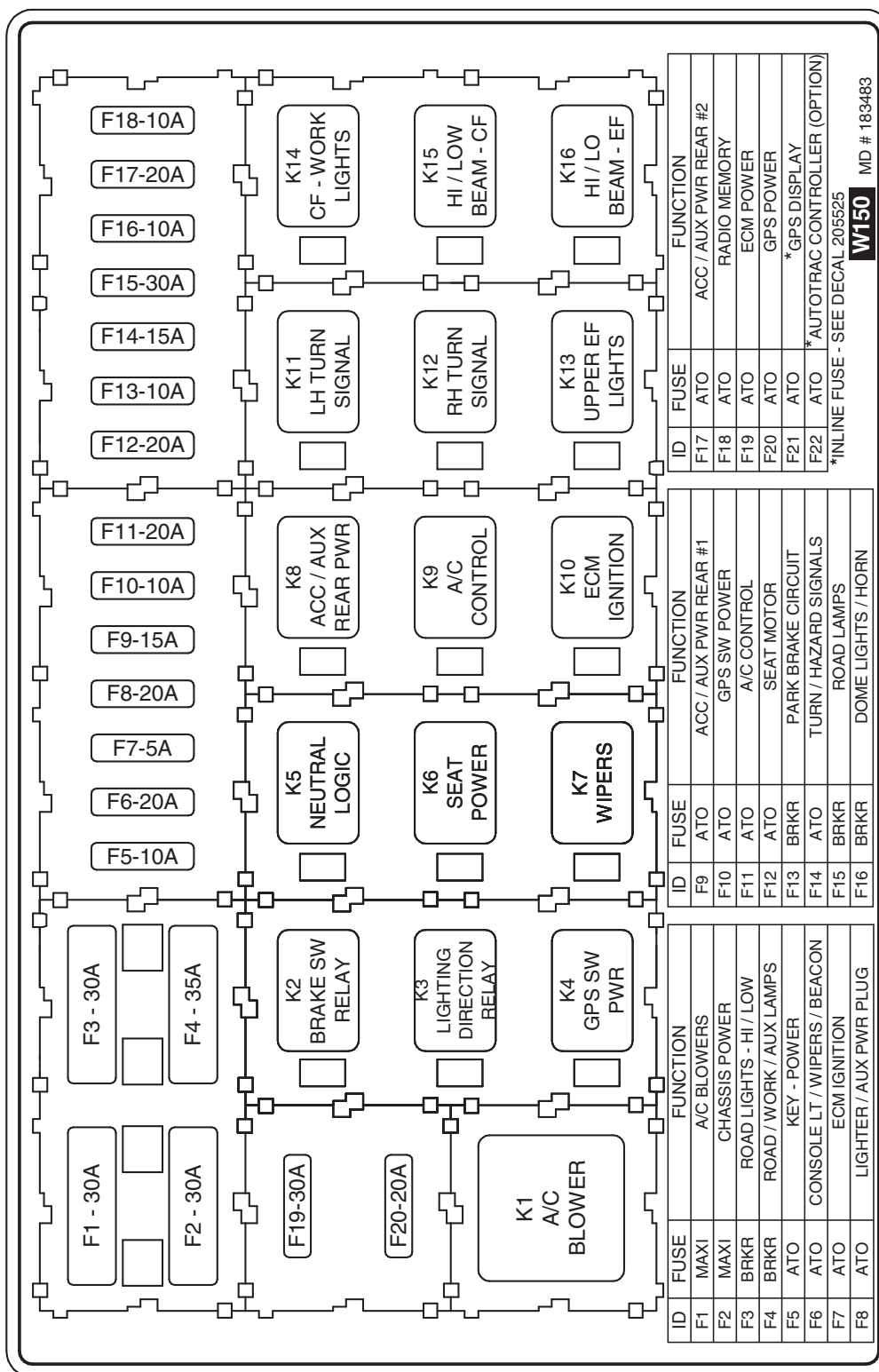
The fuse, circuit breaker, and relay decal is located behind the lid of the box.

It is intended as a reference guide.



MY 2014 and Prior

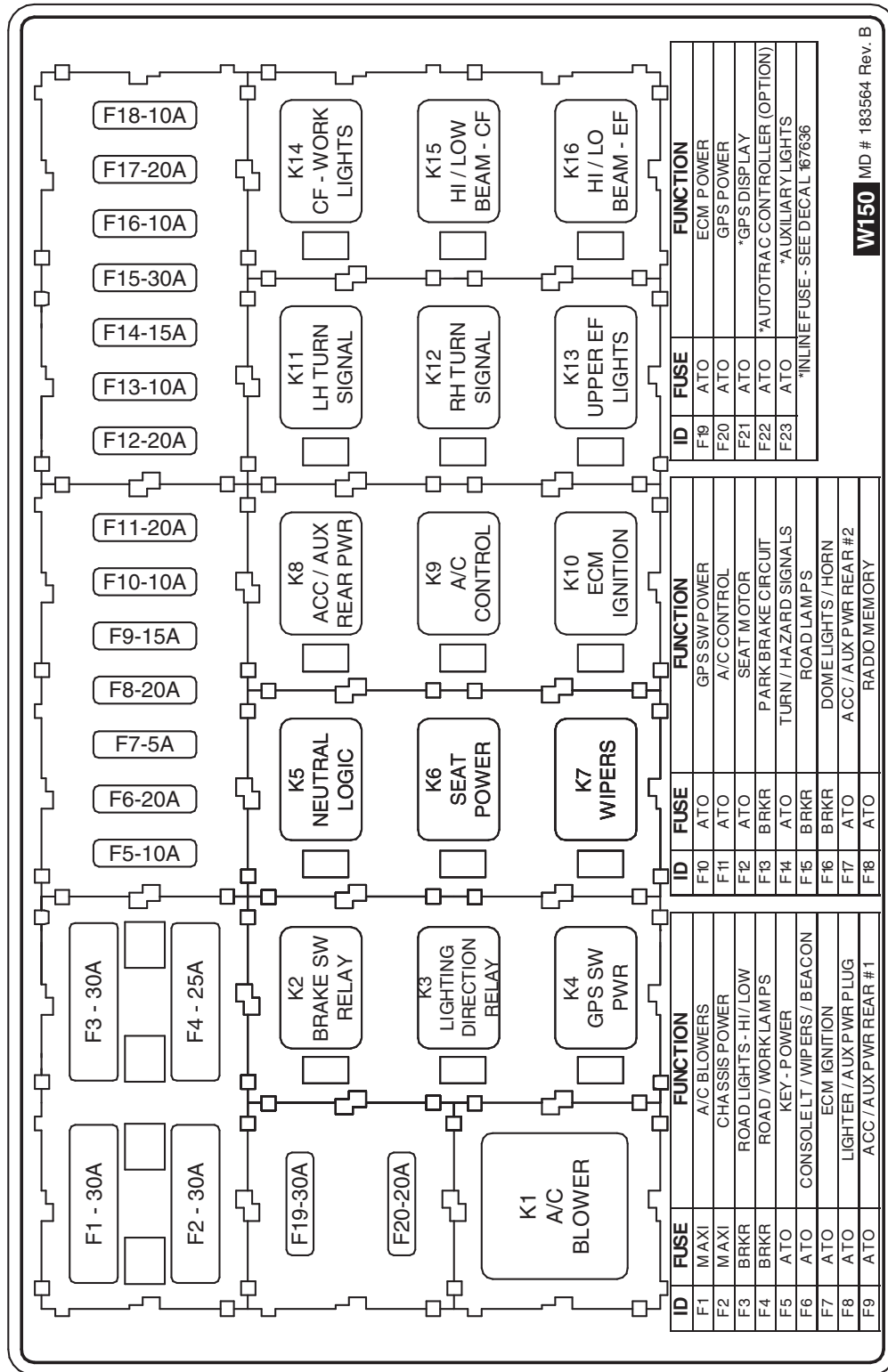
E79759—UN—13AUG15



MY 2015

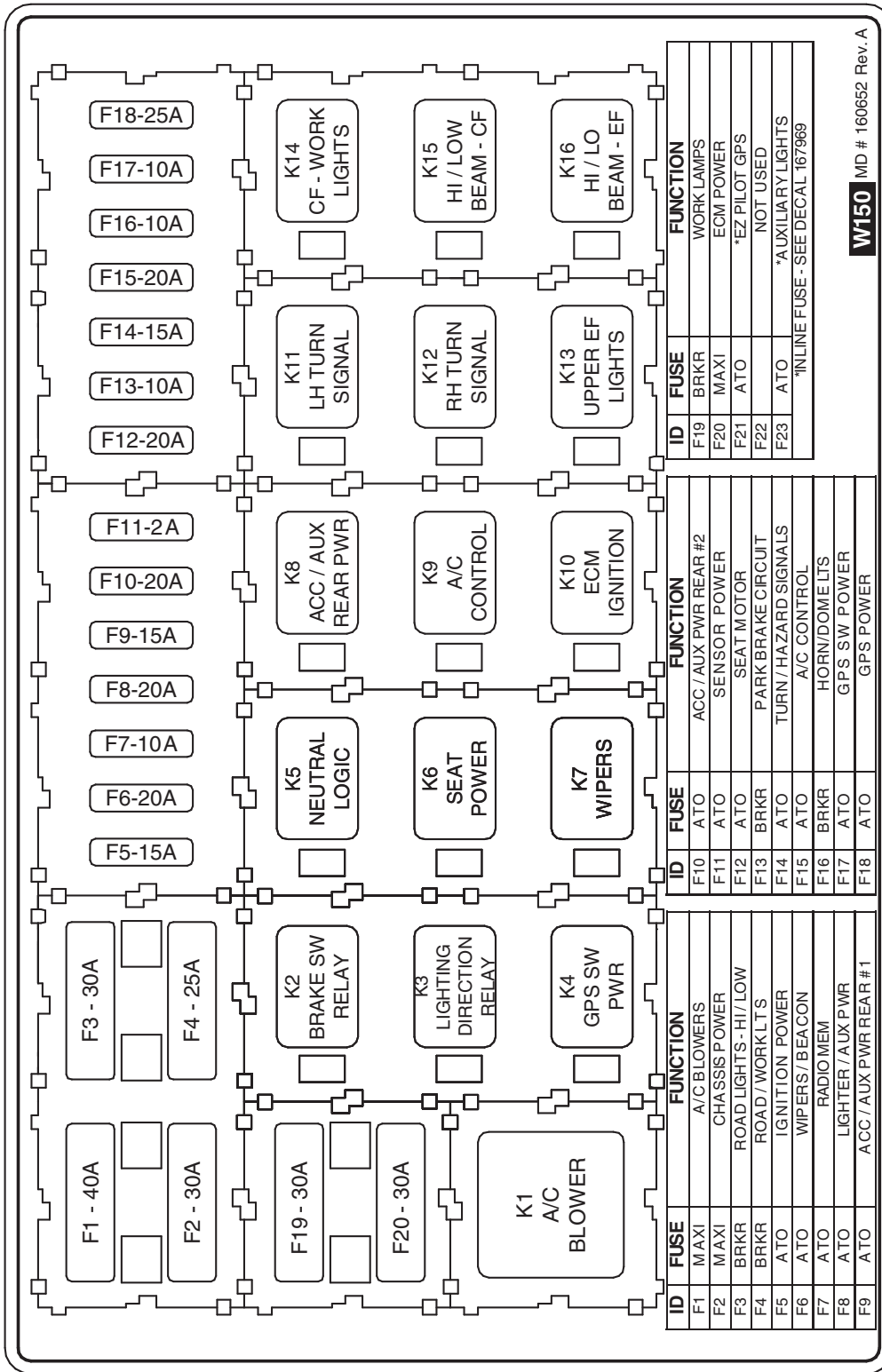
E79757—UN—13AUG15





MY 2016—2019

E79758—UN—13AUG15



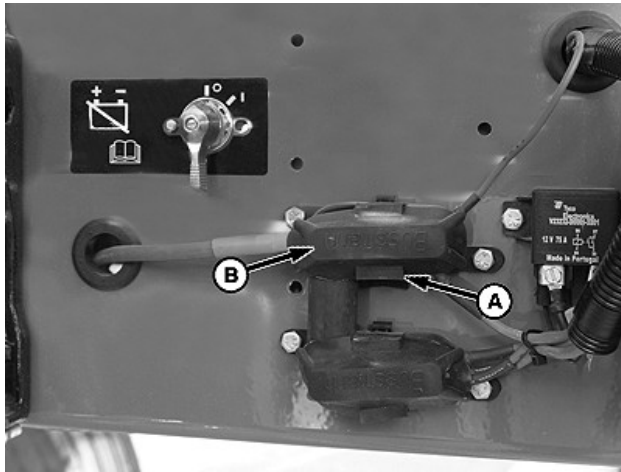
MY 2020

E92720—UN—14NOV19

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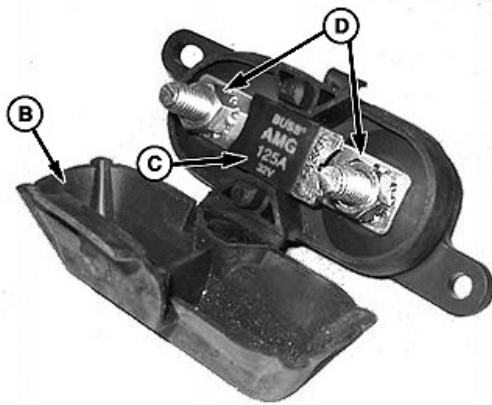
## System Main Fuse

The 125 A main fuse holders are on the frame under the right-hand side platform beside the battery.



Main Fuse

E66096—UN—25JUN12



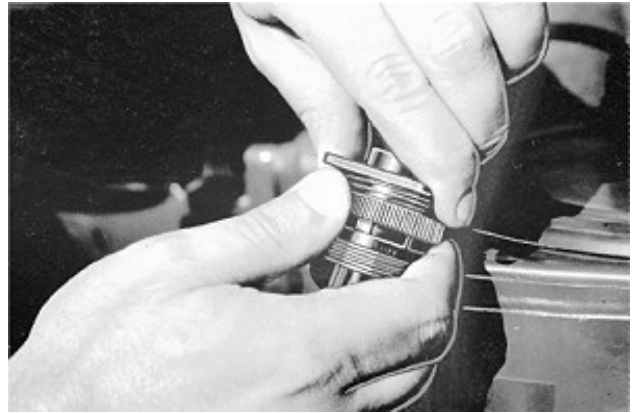
E63869—UN—03MAY12

- A—Cover Tab
- B—Main Fuse Cover
- C—Main Fuse
- D—Nut (2 used)

1. To check the condition of the fuse, pull the tab (A) and open cover (B).
2. Visually examine the fuse (C) for indication of heat and melting.
3. To remove the fuse (C), remove and retain the two nuts (D) and pull the fuse from holder. Pull off any existing wiring from the stud first.
4. Install new fuse on the studs and any existing wiring that was removed.
5. To secure the main fuse, reverse the procedure.

GW44282,0000A5A-19-13DEC19

## Electrical Connector Handling



H37083—UN—01FEB89

Electrical connectors must not be forcibly mated or unmated. All are designed to be mated easily. If you have to use tools, you may be doing something wrong. Prying or forcing connectors may cause permanent damage to the locking mechanism, contacts, or both.

When working on connectors, make sure you are working on the correct terminal. Remember that male and female halves are mirror images of one and other. Look for the terminal number on the connector body. The connection of improper electrical circuits can cause unusual electrical symptoms.

When an electrical connector is repaired, it is important that the proper terminals are used. In some of these connectors, different terminals are used to carry different currents. If contacts of different materials are mated, corrosion may develop that could affect performance.

When removing terminals from a connector, it is very important to use the correct extraction tool and gently remove the terminal. The connector body can be damaged if terminals are just "jerked" out of it. The damage caused will prevent the new terminal from staying in the connector and cause replacement of the connector body.

When installing a new terminal on a wire, make sure the insulation crimp and wire crimp are both made properly. Each part of the terminal crimps is designed for a specific purpose. Failure to properly crimp the wire contact area can result in poor or no electrical contact. Failure to crimp the insulation support properly can result in problems getting the terminal into the connector body, thus causing premature failure.

RC48509,0000A6-19-15AUG12

## Basic Electrical Component Handling / Precautions for Vehicles Equipped with Computer Controlled Systems

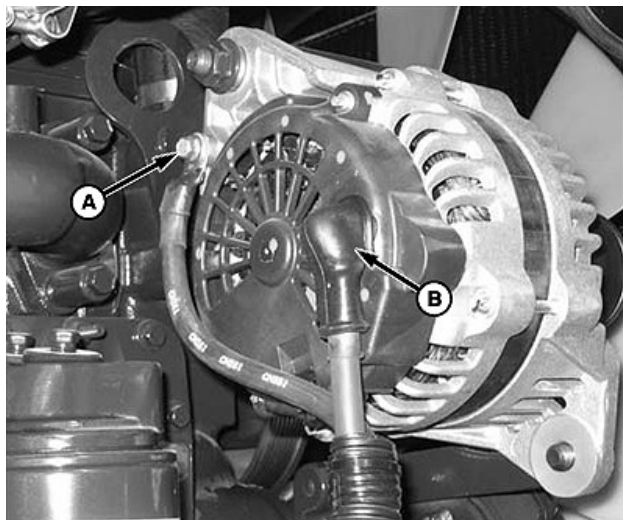
- Never disconnect the batteries while the key switch is on and the engine is running. Why: This can cause

electrical voltage spikes that can damage electronic components.

- Do not connect jumper cables while the key switch is on. Why: This can cause electrical voltage spikes that can damage electronic components.
- Disconnect batteries prior to recharging (if possible) Why: Electrical loads in the machine can slow the recharging process. Battery chargers can cause electrical voltage spikes that can damage electronic components.
- Never jump start the machine with a voltage higher than the machine is designed to operate on Why: This can damage electronic components
- Do not connect or disconnect electrical connectors while the key switch is on or the machine is running. Why: This can cause computer system errors from interrupting a computer program while it is running and electrical voltage spikes that are produced can damage electronic components.
- Do not apply power or ground to any component as a test unless specifically instructed to do so. Why: Connecting the wrong voltage to the wrong point of an electronic system can cause electronic component failures.
- When welding on the machine, make sure to connect ground lead to the parts being welded. For maximum protection disconnect all electronic controllers before welding. Why: The high currents associated with welding can damage wiring harnesses that are involved in the ground path. Welding can also cause electrical voltage spikes that can damage electronic components.

RC48509,00005A5-19-15AUG12

## Alternator and Voltage Regulator



E63865—UN—03MAY12

A—Ground Terminal  
B—Red Positive Terminal

Always disconnect battery ground cable and battery master disconnect before working on alternator or regulator. Machine is equipped with a 130 amp alternator. Never attempt to polarize alternator or regulator. Never ground a terminal or connect a jumper wire to any alternator terminals. Never connect or disconnect alternator wires with batteries connected or alternator operating.

RC48509,00005A4-19-15AUG12

## Replacing Bulbs

If all lights fail in a particular system at the same time, check for an open fuse.

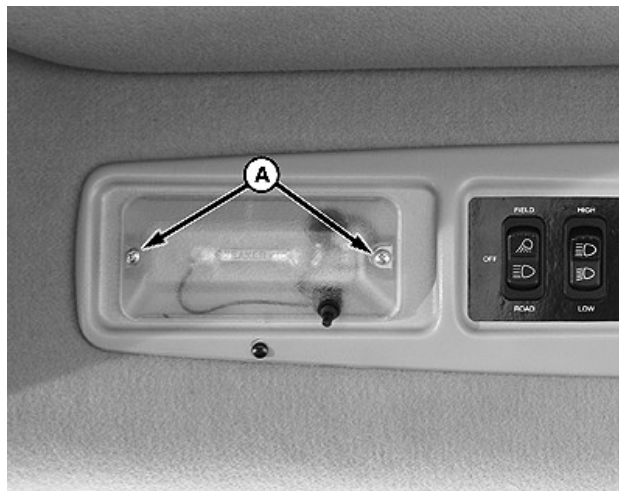
If a single light fails, bulb may be burned out. A diagnostic trouble code will appear on monitor.

If problem is other than a fuse, relay, or bulb, see your John Deere dealer.

RC48509,00005A3-19-15AUG12

## Dome Light Replacement

To replace the dome light:



E66150—UN—26JUN12

### A—Dome Light Cover Screws

1. Remove and retain two screws (A) from plastic lens. Remove and retain lens.
2. Disconnect old dome light assembly from wiring harness.
3. Connect the new dome light assembly to the wiring harness.
4. Replace lens cover and secure with two screws.

OUC6064,00012AA-19-25AUG14

## Preventing Battery Explosions



TS204—UN—15APR13

**CAUTION:** Battery gas can explode. Keep sparks and flames away from battery. 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.

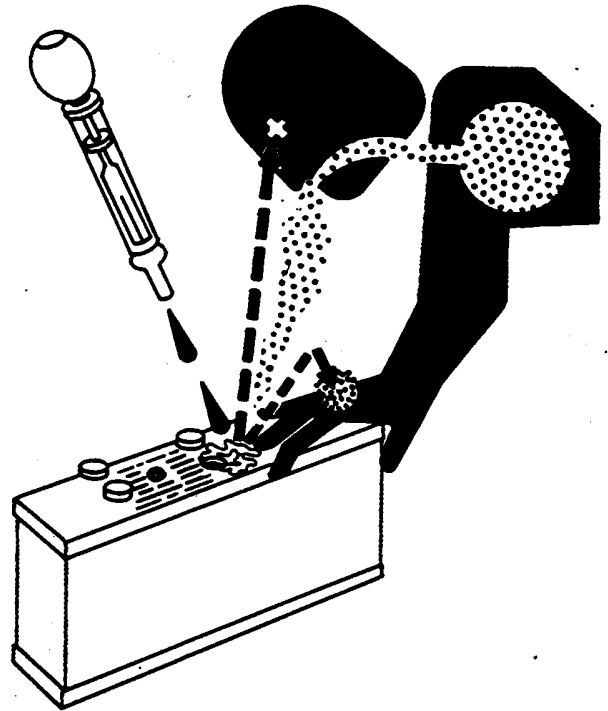
Reduce the possibility of an electrical spark when disconnecting battery by:

- Ensuring key switch and all accessories are turned off.
- Disconnecting negative (—) battery cable first and connecting it last.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).

RC48509,00005A1-19-15AUG12

## Preventing Acid Burns



TS203—UN—23AUG88

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

Avoid the hazard by:

1. Filling battery in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your 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 quarts).
3. Get medical attention immediately.

RC48509,00005A0-19-15AUG12

## Prevent Damage to Electrical Systems



TS204—UN—15APR13

**CAUTION:** Battery gas can explode. Keep sparks and flames away from battery. 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.

Reduce the possibility of an electrical spark when disconnecting battery by:

- Turn the battery master disconnect off.
- Ensuring key switch and all accessories are turned off.
- Disconnecting negative (—) battery cable (A) first and connecting it last.

*NOTE: Always keep cover (C) on battery when operating the windrower.*

To prevent damage to electrical system components, always observe these precautions:

Never disconnect the battery with the key switch on or the engine running.

Never connect jumper cables with the key switch on.

Disconnect battery when charging. (See CHARGING BATTERY in this section.)

The windrower should be jump started by 12 volts only.

Always charge the battery with a charger for 12 volts.

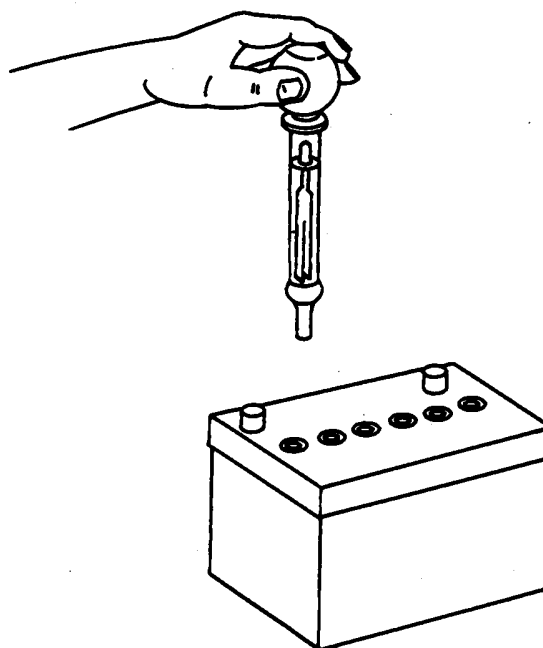
Never connect or disconnect wiring harness connectors with the key switch on.

Route negative (—) cable (A) away from positive (+) cable (B) when connecting battery to system.

Do not apply power or ground to any component as a test, unless instructed.

RC48509,000059F-19-15AUG12

## Checking Specific Gravity



TS182—UN—23AUG88

**CAUTION:** Batteries must be on a flat surface to accurately check fluid levels. Battery fluid level should be visible at the top of each fill port covering the plates in each cell.

**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.**

Check specific gravity of electrolyte in each cell with a battery hydrometer to determine battery condition. Charge battery if reading is below 1.25. Replace battery if difference between cells is more than 0.050.

Always correct specific gravity reading for electrolyte temperature variation. Add 0.004 for every 10°F above 80°F. (Add 0.007 for every 10°C above 27°C.) Subtract at same rate if electrolyte temperature is below 80°F (27°C). Corrected specific gravity of a fully charged battery is 1.260.

RC48509,000059E-19-19JUN13

## Connecting Battery Cables



TS204—UN—15APR13

**CAUTION:** Battery gas can explode. Keep sparks and flames away from battery.

Reduce the possibility of an electrical spark when disconnecting battery by:

- Turn power off at battery master disconnect.
- Ensuring key switch and all accessories are turned off.
- Disconnecting negative (—) battery cable (A) first and connecting it last.

**BATTERY IS NEGATIVE GROUNDED ONLY.**

Always connect battery ground strap to negative (—) post of battery. Connect starter cable to positive (+) post of battery.

Reversed polarity in battery or alternator connections results in permanent damage to electrical system. Connect ground strap to negative (—) terminal last.

*NOTE: Always keep cover (C) on battery when operating the windrower.*

When connecting battery:

- Turn off all switches and accessories.
- Clean battery posts and terminals.
- Connect positive (+) cable (B) in position shown.
- QUICKLY TOUCH ground strap to negative post. Arcing must not occur. If arcing occurs, DO NOT MAKE CONNECTION. Check to see if battery position is reversed. If arcing still occurs, make sure all switches and accessories are off. Look for shorts, broken wires, and loose or corroded connections, then recheck.
- Connect negative (—) battery cable (A) last.

RC48509,000059D-19-15AUG12

## Charging Battery



TS204—UN—15APR13

**CAUTION:** Battery gas is explosive. Keep sparks and flames away from battery. To check battery electrolyte level, use a flashlight.

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

Reduce the possibility of an electrical spark when disconnecting battery by:

- Turn the battery master disconnect off.
- Ensuring key switch and all accessories are turned off.
- Disconnecting negative (—) battery cable (A) first and connecting it last.

Never charge a frozen battery. Thaw at room temperature before connecting to battery charger. Only charge battery in a ventilated area. Disconnect cables from battery terminals when charging battery.

Keep batteries fully charged, especially during cold weather.

1. Disconnect negative (—) battery ground cable (A) first and then the positive (+) cable (B).
2. Connect charger positive cable to "+" terminal and charger negative cable to "—" terminal.
3. Follow instructions provided with charger. Always charge battery with a 12 V charger.
4. Connect battery cables. (See CONNECTING BATTERY CABLES in this section.)

*NOTE: Replace cover (C) on battery before operating the windrower.*

OUC6064,00012AB-19-05AUG14

## Connect Booster Battery

**CAUTION:** Battery gas can explode. Keep sparks and flames away from the battery. 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.

Reduce the possibility of an electrical spark when disconnecting battery by:

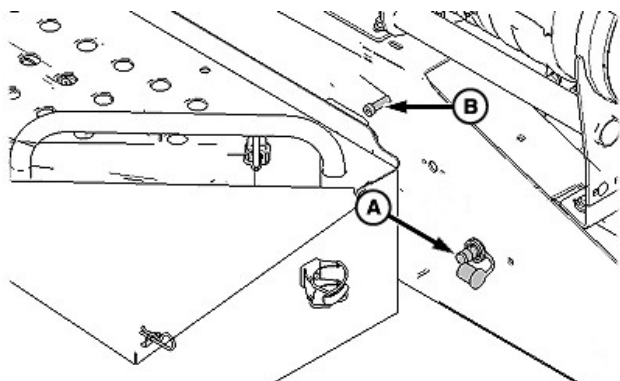
- Ensuring that key and all accessories are turned off.
- Disconnecting negative (—) battery cable first and connecting it last.



TS204—UN—15APR13

**IMPORTANT:** The machine electrical system is a 12-volt negative (—) ground. Use only a 12-volt booster battery.

When connecting the booster battery to the discharged battery, always connect positive (+) to positive (+) and negative (—) to negative (—). If the polarity is reversed, damage to the battery and/or the electrical system results.



E77044—UN—25AUG14

A—Boost Post  
B—Ground Post

1. Remove the red rubber cover from the boost post

(A). Connect one end of the positive (+) booster cable to the positive (+) terminal of the booster battery. Connect the opposite end of the same cable to the boost post (A).

2. Connect one end of the negative (—) booster cable to the negative (—) terminal of the booster battery. Connect the opposite end of the same cable to the ground post (B). Stand clear.
3. Start the machine.
4. Disconnect the negative (—) booster connection first. Remove the booster cables in reverse order of connection.

GW44282,0000A5C-19-05DEC19

## Battery Replacement



TS204—UN—15APR13

**CAUTION:** Battery gas can explode. Keep sparks and flames away from battery. 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.

Reduce the possibility of an electrical spark when disconnecting battery by:

- Turn the battery master disconnect to off.
- Ensuring key switch and all accessories are turned off.
- Disconnecting negative (—) battery cable (A) first and connecting it last.

When replacing battery, use a John Deere battery or equivalent. (See CONNECTING BATTERY CABLES in this section.)

**NOTE:** Always replace cover (C) on battery before operating the windrower.



*Electrical System*

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Volts	John Deere Part No.
12	TY25879

RC48509,000059A-19-15AUG12

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# Hydraulic System

## Hydraulic System

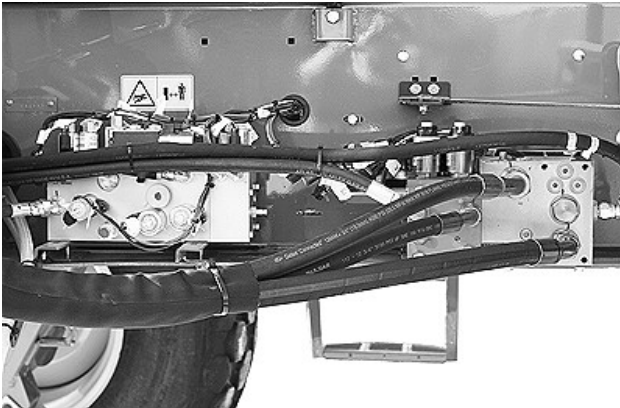
The windrower hydraulic system provides oil for the drive, platform lift, and drive systems.

**IMPORTANT:** The components in this system are built to exact tolerances and have been adjusted at the factory. Do not attempt to service or adjust these components, except to maintain correct oil level and to change oil and filter. See a John Deere dealer for all other service.

Dirt, dust, water, and foreign material are the major causes of trouble developing in the hydraulic system.

If the hydraulic system is disconnected for service, protect the ends of hoses, tubing, and ports of components from contamination with clean, lint-free towels or clean plastic bags.

### Flow Control Blocks



E67763—UN—11SEP12

Flow Control Blocks

Hydraulic valve blocks with multiple cartridges are used for the windrower functions and controlled using the windrower control module according to the inputs from the operator.

The valve blocks are located behind the left cab-forward side platform.

The valve blocks do not require any scheduled maintenance other than to check for leaking fittings or loose electrical connections.

### Platform and Reel Hydraulics

#### Pressure Compensator Valve

The pressure compensator valve is preset to be sufficient for all platform sizes and options.

When the system operating pressure approaches the compensator valve setting, a warning tone sounds on the cab display, indicating a potential overload on the platform drive.

If operation continues and the pressure reaches the setting, the compensator valve is activated. The platform drive begins to slow down to avoid overheating the drive pumps.

To maintain the correct system load and platform drive operation, reduce ground speed.

*NOTE: The warning tone is only heard if a load sensor is installed. The warning tone is normal when the operating pressure is very close to the compensator valve pressure setting.*

If lift and drive capacity problems develop, the pressure compensator valve requires adjusting. Contact a dealer or refer to the Technical Manual for your windrower.

Platform Model	Application/System	Suggested Overload Warning Setting kPa (psi)	Windrower Pressure Differential Relief Setting kPa (psi)
D—Series	Reel/Draper Pressure	20 684 (3000)	22 063 (3200)
A—Series	Knife/Conditioner Pressure	27 579 (4000)	28 958 (4200)

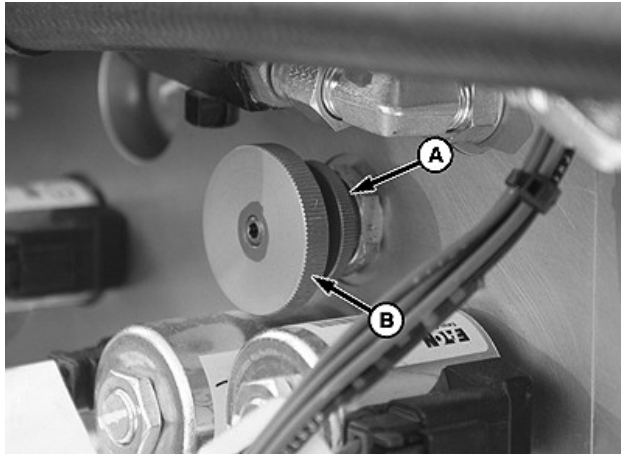
GW44282,0000A5D-19-13DEC19

## Platform Drop Rate

The platform lowers gradually when the PLATFORM DOWN switch is pressed. Lowering from full height to the ground takes approximately 3.5 seconds.

Adjust as follows:

1. Lower the platform to ground, stop engine and remove key.
2. Move left cab-forward platform rearward.



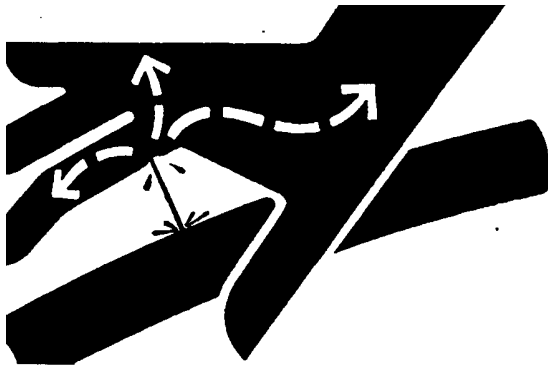
E63261—UN—25JUN12

A—Nut  
B—Adjustment Knob

3. Loosen nut (A) on needle valve and then turn adjustment knob (B).
4. Tighten nut (A).
5. Close platform and engine compartment hood.
6. Check drop rate and adjust as required.

OOU6064,00012AE-19-25AUG14

## Hydraulic System Cleanliness



X9811—UN—23AUG88

**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. 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 may call the Deere & Company Medical Department in Moline, Illinois, or other knowledgeable medical source.

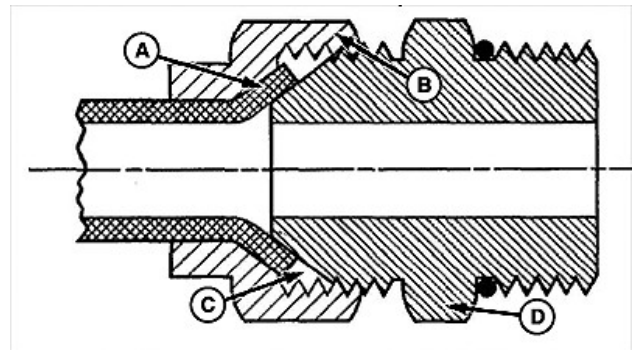
## CLEANLINESS

If the hydraulic system should be disconnected for service, protect the ends of hoses, tubing and ports of components from contamination with clean, lint-free towels or clean plastic bags.

Before installing any replacement hose, flush the inside with unused diesel fuel or unused commercial petroleum cleaning solvent for ten seconds minimum. Do not use water, water soluble cleaners or compressed air.

RC48509,00005AB-19-20JUN13

## Hydraulic Fittings



E64585—UN—11MAY12

A—Flare  
B—Nut  
C—Flareseat  
D—Body

Types of hydraulic fittings used on the windrower.

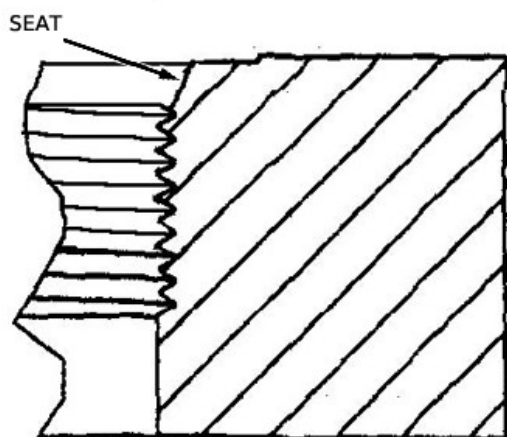
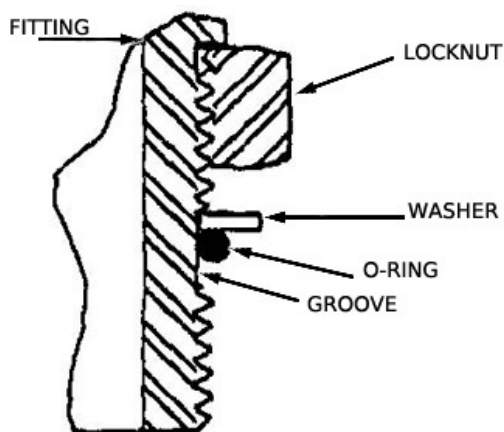
## Flare Type Hydraulic Fittings

SAE No.	Tube Size OD (in)	Thd Size (in)	Nut Size Across Flats (in)	Torque Value		Recommended Turns to Tighten (after finger tightening)	
				lb·ft	N·m	FLATS	TURNS
3	3/16	3/8	7/16	6	8	1	1/6
4	1/4	7/16	9/16	9	12	1	1/6
5	5/16	1/2	5/8	12	16	1	1/6
6	3/8	9/16	11/16	18	24	1	1/6

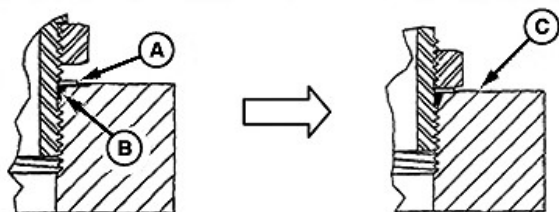
8	1/2	3/4	7/8	34	46	1	1/6
10	5/8	7/8	1	46	62	1	1/6
12	3/4	1-1/16	1-1/4	75	102	3/4	1/8
14	7/8	1-3/8	1-3/8	90	122	3/4	1/8
16	1	1-5/16	1-1/2	105	142	3/4	1/8

**NOTE:** Torque values shown are based on lubricated connections as in reassembly.

- Check flare and flare seat for defects.
- Align tube with the fitting before tightening.
- Lubricate connection and hand-tighten the swivel nut.
- To prevent twisting the tubes, use two wrenches. Place one wrench on the connector body and with the second, tighten the swivel nut to specifications.



E64586—UN—14MAY12



E64587—UN—11MAY12

A—Washer  
B—Groove  
C—Part Face

### O-Ring Boss (ORB) Hydraulic Fittings

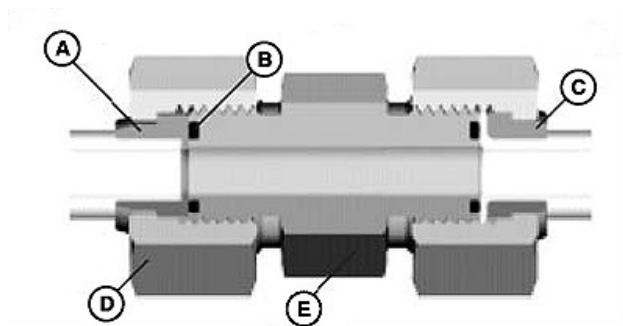
SA-E No.	Thd Size (in)	Nut Size Across Flats (in)	Torque Value		Recommended Turns to Tighten (After Finger Tightening)	
			lb-ft	N-m	FLATS	TURN
3	3/8	7/16	6	8	1	1/6
4	7/16	9/16	9	12	1	1/6
5	1/2	5/8	12	16	1	1/6
6	9/16	11/16	18	24	1	1/6
8	3/4	7/8	34	46	1	1/6
10	7/8	1	46	62	1	1/6
12	1-1/16	1-1/4	75	102	3/4	1/8
14	1-3/8	1-3/8	90	122	3/4	1/8
16	1-5/16	1-1/2	105	142	3/4	1/8
20	1-5/8	1-7/8	140	190	3/4	1/8
24	1-7/8	2-1/8	160	217	1/2	1/12

**NOTE:** Torque values shown are based on lubricated connections as in reassembly.

- Inspect O-ring and seat for dirt or obvious defects.
- On angle fittings, back off the lock nut until washer (A) bottoms out at top of groove (B) in fitting.
- Hand-tighten fitting until washer (A) or washer face (if straight fitting) bottoms on the part face (C) and O-ring is seated.
- Position angle fittings by unscrewing no more than one turn.
- Tighten straight fittings to torque shown.
- Tighten angle fittings to torque shown in the following table, while holding body of the fitting with a wrench.



E61530—UN—11MAY12



E64588—UN—11MAY12

SAE NO.	THD SIZE (in.)	TUBE O.D. (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)**	
			ft-lbf	N·m	Tube Nuts	Swivel & Hose
3	***	3/16	---	---	---	---
4	9/16	1/4	11 - 12	14 - 16	1/4 - 1/2	1/2 - 3/4
5	***	5/16	---	---	---	---
6	11/16	3/8	18 - 20	24 - 27	1/4 - 1/2	1/2 - 3/4
8	13/16	1/2	32 - 35	43 - 47		1/3 - 1/2
10	1	5/8	45 - 51	60 - 68		
12	1-3/16	3/4	67 - 71	90 - 95		
14	1-3/16	7/8	67 - 71	90 - 95		
16	1-7/16	1	93 - 100	125 - 135		
20	1-11/16	1-1/4	126 - 141	170 - 190		
24	2	1-1/2	148 - 167	200 - 225	---	---
32	2-1/2	2	---	---		

\* Torque values and angles shown are based on lubricated connection, as in re-assembly.

\*\* Always default to the torque value for evaluation of adequate torque.

\*\*\* O-ring face seal type end not defined for this tube size.

E64591—UN—11MAY12

A—Brazed Sleeve  
B—O-Ring  
C—Two Piece Sleeve

D—Nut  
E—Fitting Body

### O-Ring Face Seal (ORFS) Hydraulic Fittings

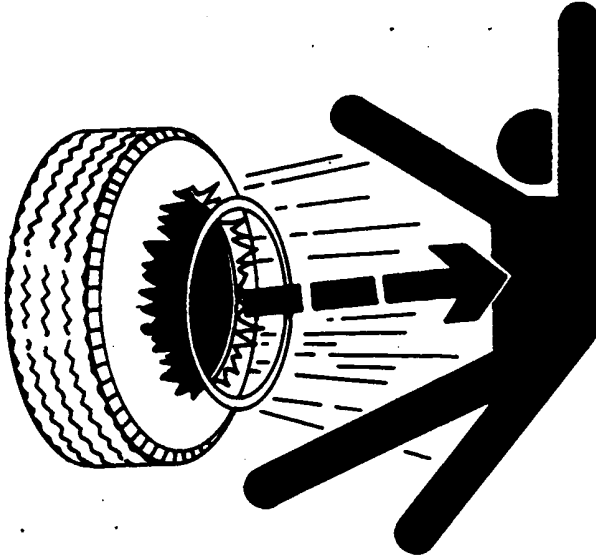
- Check components to ensure that the sealing surfaces and fitting threads are free of burrs, nicks, and scratches or any foreign material.
- Apply lubricant (typically petroleum jelly) to O-ring and threads. If the O-ring is not already installed, install O-ring. Align the tube or hose assembly.
- Ensure that the flat face of the mating flange comes in full contact with the O-ring.
- Thread tube or hose nut until hand-tight. The nut should turn freely until it is bottomed out. Torque fitting further to the specified number of F.F.F.T (Flats From Finger Tight), or to a given torque value in the table shown in the opposite column.
- When assembling unions or two hoses together, three wrenches are required.

*NOTE: If available, always hold the hex on the fitting body to prevent unwanted rotation of the fitting body and hose when tightening the fitting nut.*

GW44282,0000A68-19-19DEC19

# Wheels, Tires, and Rear Axle

## 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.

RC48509,00005B5-19-20JUN13

## Tire Inflation Pressures

**IMPORTANT:** Never operate windrower with tires at shipping pressure. Keep valve caps screwed down finger tight on valve stems to prevent foreign material from accumulating in the valve core.

Check tire pressure with cold tires before operating windrower.

Check tire pressure frequently and inflate or deflate, both front and rear tires, to obtain proper pressure.

TIRE	INFLATION PRESSURE
Drive—18.4 x 26 Bar	221 kPa (32 psi)
Drive—600 x 65 R28 Bar	179 kPa (26 psi)
Drive—18.4 x 26 Bar	241 kPa (35 psi)
Drive—23.1 x 26 Bar	138 kPa (20 psi)
Drive—580/70 R26 Turf	165 kPa (24 psi)
Caster Formed Caster: 7.5 x 16SL Single Rib, 10 x 16 Front Steer Tire Forked Caster: 16.5L x 16.1 Rib Implement Flotation, 10 x 16 Front Steer Tire	All Rear Tire Pressures Are: 69 kPa (10 psi)

RC48509,00005B4-19-03OCT13

## Checking Wheels



E62056—UN—04MAY12

**IMPORTANT:** Maintain proper torque on wheel hardware according to specifications.

Whenever a wheel is removed, check torque after every hour of operation. Thereafter, check torque every 50 hours until torque is maintained and stabilizes.

### Specification

Front Wheel Nuts—Torque. . . . . 510 N·m  
(375 lb.-ft.)

Rear Wheel Cap  
Screws—Torque. . . . . 163 N·m  
(120 lb.-ft.)

OUC6064,00012DE-19-15SEP14

## Adjust Caster Tread Width

**CAUTION:** To avoid personal injury use a lifting device when maneuvering a wheel assembly. Use a lifting device with at least 2270 kg (5000 lb.) of lifting capacity.

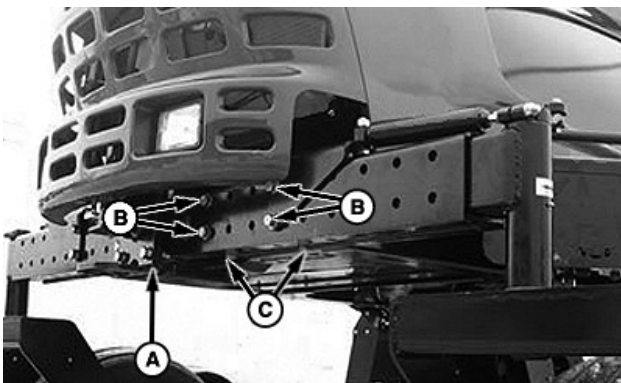
Adjust the rear casters to a narrow tread width that allows loading and shipping of the windrower without having to remove the casters.

A narrow tread width also suits smaller platforms by allowing more space to the uncut crop, and provides more maneuverability around poles, irrigation inlets, or other obstacles.

A wider tread width is useful in heavy crops that produce large windrows so run over is reduced.

Adjust the caster tread width as follows:

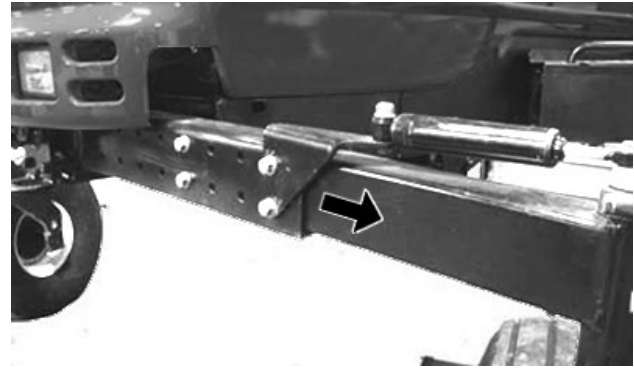
1. Park windrower on a firm, level surface. Lower platform on the ground. Place ground speed lever in Neutral-Detent and lock the steering wheel.
2. Shut off engine and remove key.
3. Using a jack or other suitable lifting device under the frame at lift point (A) as shown, raise rear of windrower so weight is off casters.



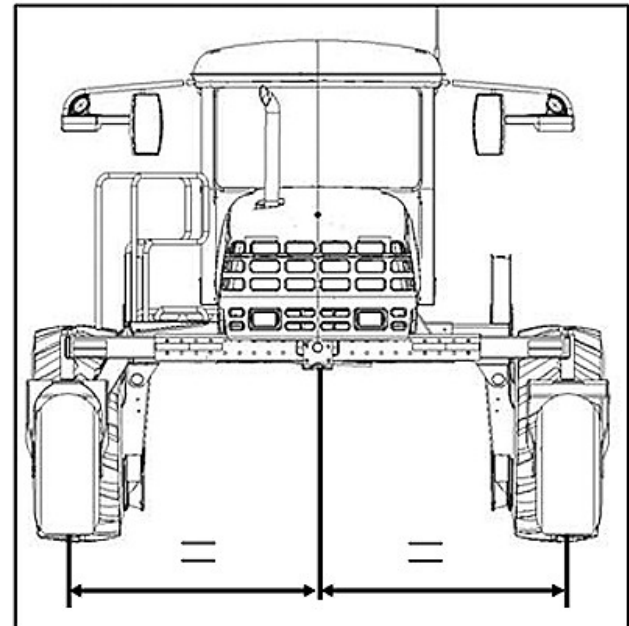
E70525—UN—01AUG13

A—Lift Point  
B—Cap Screw (4 used)  
C—Cap Screw (2 used)

4. Remove cap screws (B) and washers from left and right side of walking beam.
5. Remove cap screws (C) and washers.



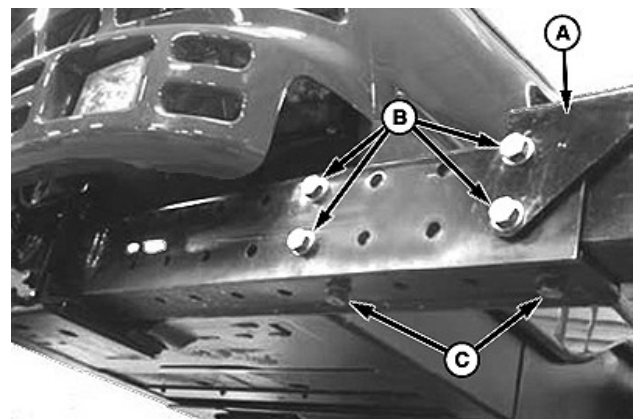
E61146—UN—15MAY12



E61148—UN—27JUL12

6. Slide extensions inboard or outboard in equal amounts and align holes at desired location.

**NOTE:** To help move the axle in or out, rotate the caster wheel so that it is parallel to the axle, then turn the wheel.



E61147—UN—28MAR12

A—Bracket



**B—Cap Screw (4 used)**  
**C—Cap Screws (2 used)**

7. Position bracket (A) and install cap screws (B). The shorter cap screws are installed at the back inboard locations.
8. Install bottom cap screws (C).
9. Tighten cap screws as follows: Snug bottom cap screws (C). Tighten and torque back cap screws (B) to specification. Tighten and torque bottom cap screws (C) to specification

**Specification**

Cap Screws (B and C)—Torque. . . . . 447 N·m  
 (330 lb.-ft.)

10. Lower windrower to the ground.

**IMPORTANT: Torque bolts after first 5 and 10 hours of operation.**

**Ballast**

Fluid ballasting of the rear caster tires is recommended to provide adequate machine stability when using large platforms on the windrower. Also, the stability of machine varies with different attachments, windrower options, terrain, and operator driving technique.

With respect to ballast capacity, a tire is considered to be “full” of ballast fluid when 75% of the inner volume of the tire is occupied by ballast fluid, or else when the ballast fluid is level with the wheel's valve stem when the stem is at the 12 o'clock position while the windrower is on level ground. When adding ballast fluid to the caster wheels, always add an identical amount to each wheel. The caster wheels can safely hold any volume of ballast fluid up to and including their maximum capacity, as specified in the table below.

OUO6064,00012AF-19-25AUG14

Tire Size	Fluid per Tire at 75% Fill L (gal)	Total Weight of Both Tires kg (lb)
7.5 X 16	38 (10)	91 (200)
10 X 16	69 (18)	170 (380)
16.5 X 16.1	158 (41)	377 (830)

Platform Description		Recommended Ballast				Recommended Tire Size
		Level Ground		Hills		
Type	Size	Per Tire	Both Tires	Per Tire	Both Tires	
		L (gal)	kg (lb) <sup>a</sup>	L (gal)	kg (lb)	
A Series	All Options	0				7.5 X 16 10 X 16 16.5 X 16.1
R Series	4.0 m (13 ft) ONLY	0				7.5 X 16 10 X 16 16.5 X 16.1
D Series	7.6 m (25 ft) and smaller	0				7.5 X 16 10 X 16 16.5 X 16.1
	9.1 m (30 ft) single or double reel without conditioner 10.7 m (35 ft) single reel	0	0	38 (10)	91 (200)	7.5 x 16 10 x 16 16.5 x 16.1
	9.1 m (30 ft) double reel steel fingers and conditioner 10.7 m (35 ft) double reel (5 or 6-bat)	69 (18)	170 (380)	115 (30)	288 (630)	Level ground: 10 x 16 Level ground: 16.5 x 16.1 Hills: 16.5 x 16.1
	12.1 m (40 ft)	115 (30)	288 (630)	158 (41)	377 (830)	16.5 x 16.1

**Ballast Table**

<sup>a</sup>The weights provided in this column rely on the assumption that the tires will be filled with a standard mixture of calcium chloride and water. If you intend to fill the tire with only water (for example, in regions where the ambient temperature does not fall below freezing), then multiply the relevant fill weight specified in this column by 0.8 to calculate the weight of both tires when they are filled with water alone.

Weights are given for typical calcium chloride and water mixtures. Weight is reduced 20% when only water is used (for areas that do not require antifreeze protection).

If only water is used, increase volume of water by 20% (up to maximum allowable fill per tire) to compensate.



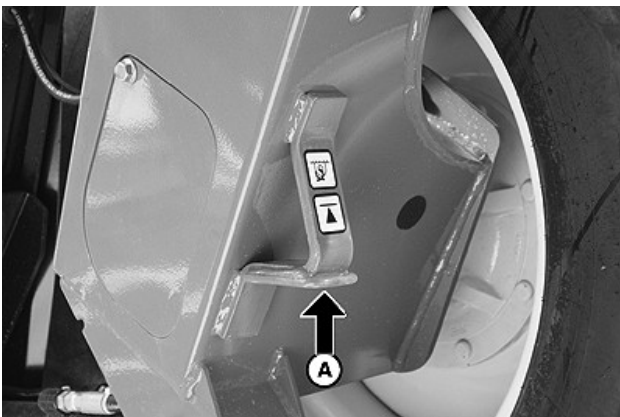
### Weight Box

A weight box is available from a dealer.

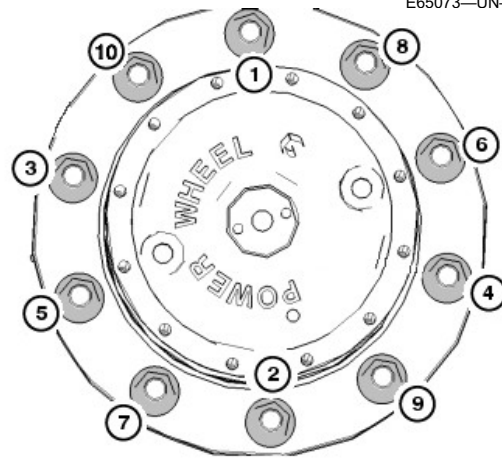
The weight box allows engine-forward transport in high range when the platform is not attached.

WKJQUWJ,0000D72-19-04MAR22

### Drive Wheel Removal and Installation



E63878—UN—12JUN12



E65073—UN—25JUN12

E76341—UN—12AUG14

#### A—Jack Point

1. Park windrower on a firm and level surface.
2. Remove platform.
3. Block all wheels.
4. Place ground speed lever in Neutral-Detent.
5. Shut engine off and remove key.
6. Jack up windrower under leg jack point (A), and raise windrower wheel off the ground.
7. Remove wheel nuts, washers, and wheel.

**NOTE:** For Turf tires be sure arrow on sidewall points in forward direction.

8. When installing wheel, ensure that air valves are on the outside and tire tread points forward.
9. Position wheel on hub and install washers and wheel nuts.

**IMPORTANT: To avoid damage to wheel rims, Do Not overtighten wheel nuts.**

10. Torque nuts to specification following torque sequence shown.

**Specification**

Wheel Nuts—Torque. . . . . 510 N·m  
(375 lb.-ft.)

11. Repeat torque sequence three times.
12. Lower windrower and remove jack.
13. Repeat torquing procedure at 1 hour intervals until torque stabilizes at two consecutive checks.

OUO6064,00012B1-19-15SEP14

## Changing Formed Caster Wheel

**CAUTION:** To prevent bodily injury or machine damage do the following before servicing or repairing windrower:

- Park on firm, level surface.
- Check to ensure that steering wheel is centered and locked
- Shut off engine and remove key.
- Block both sides of drive tires or rear tires as required

Remove formed caster wheel as follows:

1. Raise end of walking beam using a jack or suitable lifting device with a minimum lifting capacity of 1816 kg (4000 lb.).
2. Remove the six wheel bolts and remove wheel from hub.  
  
Loosen nut (A) on side of axle being raised. Slide cap screw and spacer (C) against stop (B). Tighten nut.
3. Replace caster wheel and torque bolts to specification.

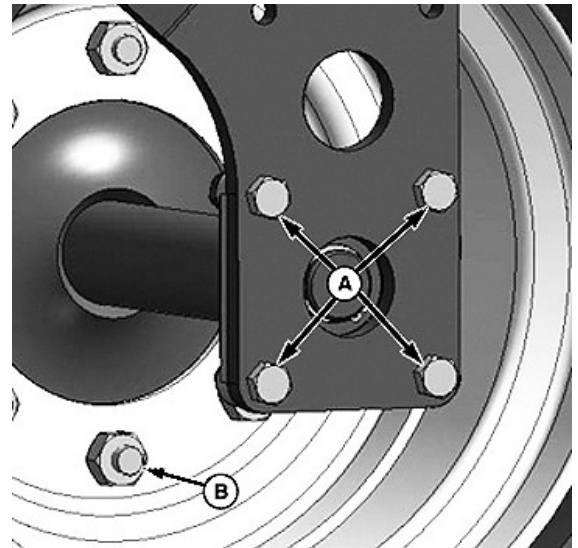
**Specification**

Wheel Bolts—Torque. . . . . 163 N·m  
(120 lb.-ft.)

4. Lower windrower and remove jack or lifting device.

OUO6064,00012B2-19-25AUG14

## Changing Forked Caster Wheel



E63879—UN—07MAY12

A—Forked Caster Bolts (8 each side)  
B—Wheel Nuts (8 each side)

**CAUTION:** To prevent bodily injury or machine damage do the following before servicing or repairing windrower:

- Park on level surface
- Place GSL in N-DETENT.
- Check to ensure steering wheel is centered and locked
- Turn off engine, remove key
- Block both sides of drive tires or rear tires as required
- The jack or lifting device must have 1 816 kg (4 000 lb.) capacity.

1. Raise end of walking beam using a jack or other suitable lifting device with a minimum lifting capacity of 1 816 kg (4 000 lb.) until the wheel is slightly off the ground.
2. Remove the forked caster bolts (A). Four bolts on each side and remove the wheel assembly from caster.
3. Remove eight wheel nuts (B) from wheel and remove wheel.

To replace the wheel(s) reverse the procedure and using the following torque values.

**Specification**

Wheel Nuts—Torque. . . . . 163 N·m  
(120 lb.-ft.)

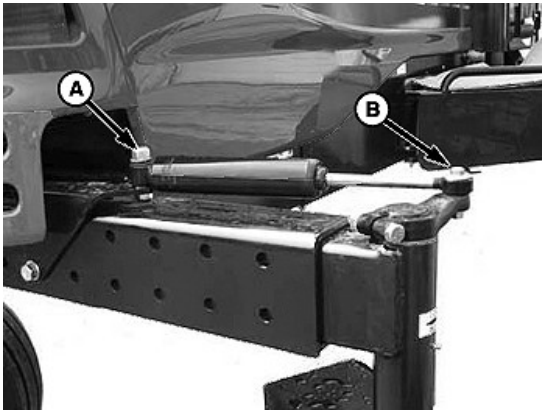
**Specification**

Forked Caster Bolts—Torque. . . . . 97-107 N·m  
(75-79 lb.-ft.)

Lower windrower and remove jack.

OUO6064,00012B3-19-25AUG14

## Caster Wheel Dampeners



E63275—UN—20APR12

**A—Inboard Bolt**  
**B—Outboard Bolt**

Each caster wheel is equipped with a fluid filled stabilization dampener.

Check mounting bolts periodically for proper torque.

**IMPORTANT: Caster wheel dampener bolts have tow torque values. Inboard and Outboard.**

Caster wheel anti-shimmy dampeners must be checked during break-in at 5 hours and 50 hours of operation until torque stabilizes.

Variations in terrain, operating hours and operators require that these dampeners be checked for proper torque as often as necessary.

### Specification

Inboard Bolt—Torque. . . . . 135 N·m  
(100 lb.-ft.)

### Specification

Outboard Bolt—Torque. . . . . 115 N·m  
(85 lb.-ft.)

Lower windrower and remove jack.

OUC6064,00012B4-19-25AUG14

# Options and Attachments

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## Options and Attachments

### Platform Drive Reverser

Allows the conditioner, auger, and reel to reverse on the auger platform. Allows the conditioner and knife to reverse on the draper platform.

### Windrow Merger Attachment

Allows windrower to lay a double windrow when using an auger platform. The kit includes a draper deck, linkage assembly, and hydraulics.

### Self-Aligning Center-Link

Allows the center link cylinder to be hydraulically positioned and connected to the platform without leaving the operator's station.

### Booster Spring Kit External

Available for platforms over 2724 kg (6000 lb) to increase the float capacity.

### Light Platform Flotation Kit

Available for platforms that do not require as much spring tension for float.

### AM/FM Radio

Available for installation into a pre-wired cab. Speakers are factory installed. Different radio packages are available through a John Deere dealer.

### Weight Box

The weight box allows engine-forward transport in high range when the platform is not attached.

### Warning Beacons

Roof-mounted rotating warning beacon lights for installation into pre-wired cab. Standard equipment for export shipment.

### Lighting and Marking for Cab-Forward Road Travel

Allows windrower to travel in the cab-forward mode and comply with lighting regulations.

### Fan Air Baffle

Provides a baffle for reducing windrow disturbance by air exiting the engine cooling fan.

### AutoTrac™

See a John Deere dealer for more information.

### Towing Harness and Hitch Pin Kit

Towing harness is used together with the weight box for towing a D-Series draper platform equipped with the slow speed transport option.

### Booster Spring Kit Internal

Internal spring for lift linkage to improve float capacity.

### Draper Platform Case Drain Kit

*AutoTrac is a trademark of Deere & Company*

Available for installation when using a draper platform with upper cross auger but without double draper drive.

### Windshield Shades

Retractable sun shades for front and rear windows.

### Pressure Sensor

Monitors hydraulic pressure and warns of overload conditions.

### Mechanical Center-Link

Provides a manually adjustable connection between the windrower and platform.

### HID Auxiliary Lighting

Provides more field lighting. Kit includes two cab-mounted high intensity discharge lights and installation instructions.

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GW44282,0000A60-19-13DEC19

# Troubleshooting

## Engine Error Codes

**Example:** Cab display module displays the Error Code **110S 16F 28C**

- 110S -S is SPN column - then locate code 110 in that column.
- 16F-F is the FMI column - then locate 16 in that column.

- 28-C is occurrences - 28 is the quantity.
- DESCRIPTION - Coolant Temperature High - Data Valid but Above Normal Operational Range - Moderately Severe Level Engine Coolant Temperature.
- Refer to LAMP COLOR and specific ENGINE CODES as required.

J1939 SPN	J1939 FMI	Lamp Color	Cum-min-sCode	J1939 SPN	J1939 SPN Description	Description	CDM ERROR MESSAGE
22	3	Amber	719		Crankcase Pressure	Extended Crankcase Blow-by Pressure Circuit - Voltage Above Normal or Shorted to High Source	Crankcase Pressure
	4	Amber	729			Extended Crankcase Blow-by Pressure Circuit - Voltage Below Normal or Shorted to Low Source	
32	3	Amber	2111		Coolant Temperature	Coolant Temperature 2 - Data Valid but Above Normal Operational Range - Most Severe Level	Coolant Temperature
52	0	Red	2114			Coolant Temperature 2 Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	4	Amber	2112			Coolant Temperature 2 - Data Valid but Above Normal Operational Range - Moderately Severe Level	
	16	Amber	2113				
91	0	Red	148		Accelerator Pedal position	Accelerator Pedal or Lever Position Sensor Circuit - Abnormal Frequency, Pulse Width, or Period	Accelerator Pedal position
	1	Red	147			Accelerator Pedal or Lever Position Sensor Circuit - Abnormal Frequency, Pulse Width, or Period	
	2	Red	1242	154		Accelerator Pedal or Lever Position Sensor 1 and 2-Intermittent, or Incorrect	
	3	Red	131	154		Accelerator Pedal or Lever Position Sensor Circuit - Voltage Above Normal or Shorted to High Source	
	4	Red	132	154		Accelerator Pedal or Lever Position Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	8	154		154	Throttle Position Sensor	Abnormal Frequency, Pulse Width, or Period	
	12	154		154		Bad Device or Component	
	19	Red	287		Accelerator Pedal position	SAE J1939 Multiplexing Accelerator Pedal or Lever Sensor System Error - Received Network Data In Error	
94	1	Amber	2216		Fuel Delivery Pressure	Fuel Pump Delivery Pressure - Data Valid but Above Normal Operational Range - Moderately Severe Level	Fuel Delivery Pressure
	2	Amber	268			Fuel Pressure Sensor Circuit - Data Erratic, Intermittent, or Incorrect	
	18	Amber	2215			Fuel Pump Delivery Pressure - Data Valid but Below Normal Operational Range - Moderately Severe Level	
97	3	Amber	428		Water in Fuel Indicator	Water in Fuel Sensor Circuit - Voltage Above Normal or Shorted to High Source	Water in Fuel Indicator
	4	Amber	429			Water in Fuel Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	15	Maintenance	418			Water in Fuel Indicator High - Data Valid but Above Normal Operational Range - Least Severe Level	
	16	Amber				Water In Fuel Indicator - Data Valid but	

## Troubleshooting

						Above Normal Operating Range - Moderately Severe Level	
100	1	Red	415	157	Engine Oil Pressure	Oil Pressure Low - Data Valid but Below Normal Operational Range - Most Severe Level	Engine Oil Pressure
	2	Amber	435			Oil Pressure Sensor Circuit - Data Erratic, Intermittent, or Incorrect	
	3	Amber	135	157		Oil Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source	
	4	Amber	141	157		Oil Pressure Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	10	157		157		Engine Oil Pressure Sensor 5 VDC Supply Connection Open Circuit	
	17	Not applicable		157		Low Oil Pressure - WARNING	
	18	Amber	143	360		Oil Pressure Low – Data Valid but Below Normal Operational Range - Moderately Severe Level	
102	2	Amber	433		Boost Pressure	Intake Manifold Pressure Sensor Circuit - Data Erratic, Intermittent, or Incorrect	Boost Pressure
	3	Amber	122	197		Intake Manifold Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source	
	4	Amber	123	197		Intake Manifold Pressure Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	10	Amber		197		Intake Manifold Pressure Sensor Circuit-Abnormal Rate of Change	
103	10	Amber	2345		Turbocharger 1 Speed	Turbocharger Speed Invalid Rate of Change Detected - Abnormal Rate of Change	Turbocharger 1 Speed
	16	Amber	595			Turbocharger #1 Speed High - Data Valid but Above Normal Operational Range – Moderately Severe Level	
	18	Amber	687			Turbocharger #1 Speed Low - Data Valid but Below Normal Operational Range - Moderately Severe Level	
105	0	Red	155		Intake Manifold #1 Temperature	Intake Manifold Air Temperature High - Data Valid but Above Normal Operational Range - Most Severe Level	Intake Manifold #1 Temperature
	3	Amber	153	133		Intake Manifold Air Temperature Sensor Circuit - Voltage Above Normal or Shorted to High Source	
	4	Amber	154	133		Intake Manifold Air Temperature Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	15	Amber	2964	133		Intake Manifold Temperature High-Data Valid but Above Normal Operational Range-Least Severe Level	
	16	Amber	488	133	Intake Manifold	Intake Manifold 1 Temperature - Data Valid but Above Normal Operational Range - Moderately Severe Level	
106	3	135		1785	Intake Manifold Pressure Sensor	Voltage Above Normal or Shorted High	Inlet Manifold Pressure Sensor
	4	135		1785		Voltage Below Normal or Shorted Low	
	10	135		1785		Inlet Manifold Pressure Sensor 5 VDC Supply Connection Open Circuit	
107	15	Amber		151	Air Filter Restriction	High Air Filter Restriction	Air Filter
108	2	Amber	295		Barometric Pressure	Barometric Pressure Sensor Circuit - Data Erratic, Intermittent, or Incorrect	Barometric Pressure
	3	Amber	221			Barometric Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source	
	4	Amber	222			Barometric Pressure Sensor Circuit -	

## Troubleshooting

						Voltage Below Normal or Shorted to Low Source	
109	3	Amber	231		Coolant Pressure	Coolant Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source	Coolant Pressure
	4	Amber	232			Coolant Pressure Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	18	Amber	233			Coolant Pressure - Data Valid but Below Normal Operational Range - Moderately Severe Level	
110	0	Red	151	168	Engine Coolant Temperature	Coolant Temperature Low - Data Valid but Above Normal Operational Range - Most Severe Level	Engine Coolant Temperature
	2	Amber	334			Coolant Temperature Sensor Circuit - Data Erratic, Intermittent, or Incorrect	
	3	Amber	144	168		Coolant Temperature Sensor Circuit - Voltage Above Normal or Shorted to High Source	
	4	Amber	145	168		Coolant Temperature Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	15	NONE	2963	168		Engine Coolant Temperature High - Data Valid but Above Normal Operational Range - Least Severe Level	
	16	Amber	146	168		Coolant Temperature High - Data Valid but Above Normal Operational Range - Moderately Severe Level	
157	0	Red	449	159	Injector Metering Rail #1 Pressure	Fuel Pressure High - Data Valid but Above Normal Operational Range - Moderately Severe Level	Injector Metering Rail #1 Pressure
	1	Amber	2249			Injector Metering Rail #1 Pressure - Data Valid but Below Normal Operational Range - Most Severe Level	
	2	Amber	554			Fuel Pressure Sensor Error - Data Erratic, Intermittent, or Incorrect	
	3	Amber	451	159		Injector Metering Rail #1 Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source	
	4	Amber	452			Injector Metering Rail 1 Pressure Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
	16	Amber	553			Injector Metering Rail 1 Pressure High - Data Valid but Above Normal Operational Range - Moderately Severe Level	
	18	Amber	559			Injector Metering Rail 1 Pressure Low - Data Valid but Below Normal Operational Range - Moderately Severe Level	
158	2	439		439	Keyswitch	Data Erratic, Intermittent, or Incorrect	Keyswitch
166	2	NONE	951		Cylinder Power	Cylinder Power Imbalance Between Cylinders - Data Erratic, Intermittent, or Incorrect	Cylinder Power
167	1	Red	598		Alternate Potential (Voltage)	Electrical Charging System Voltage Low - Data Valid but Below Normal Operational Range - Most Severe Level	Alternator Potential (Voltage)
	16	Amber	596			Electrical Charging System Voltage High - Data Valid but Above Normal Operational Range - Moderately Severe Level	
	18	Amber	597			Electrical Charging System Voltage Low - Data Valid but Below Normal Operational Range - Moderately Severe Level	
168	0			422	ECM Battery Power	Excessive Battery Power	ECM Battery Power
	1	422				Low Battery Power	
	2					Intermittent	
	16	Amber	442		Electrical Potential (Voltage)	Battery #1 Voltage High- Data Valid but Above Normal Operational Range - Moderately Severe Level	



## Troubleshooting

	18	Amber	441			Battery #1 Voltage Low - Data Valid but Below Normal Operational Range – Moderately Severe Level	
171	3	Amber	249		Ambient Air Temperature	Ambient Air Temperature Sensor Circuit - Voltage Above Normal or Shorted to High Source	Ambient Air Temperature
	4	Amber	256			Ambient Air Temperature Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
173	15	Amber		185	High Exhaust Temperature	Exhaust Temperature	High Exhaust Temperature
174	3	Amber	263		Fuel Temperature	Engine Fuel Temperature Sensor 1 Circuit - Voltage Above Normal or Shorted to High Source	Fuel Temperature
	4	Amber	265			Engine Fuel Temperature Sensor 1 Circuit - Voltage Below Normal or Shorted to Low Source	
	16	Amber	261			Engine Fuel Temperature - Data Valid but Above Normal Operational Range - Moderately Severe Level	
175	0	Red	214		Oil Temperature	Engine Oil Temperature - Data Valid but Above Normal Operational Range - Most Severe Level	Oil Temperature
	2	Amber	425			Engine Oil Temperature - Data Erratic, Intermittent, or Incorrect	
	3	Amber	212			Engine Oil Temperature Sensor 1 Circuit - Voltage Above Normal or Shorted to High Source	
	4	Amber	213			Engine Oil Temperature Sensor 1 Circuit - Voltage Below Normal or Shorted to Low Source	
190	0	Red	234		Engine Speed	Engine Speed High - Data Valid but Above Normal Operational Range - Most Severe Level	Engine Speed
	2	Amber	689			Primary Engine Speed Sensor Error – Data Erratic, Intermittent, or Incorrect	
	8	141		141		Abnormal Signal Frequency	
	15	Not applicable		141		Engine Overspeed - WARNING	
251	2	Maintenance	319		Real-Time Clock Power	Real-Time Clock Power Interrupt - Data Erratic, Intermittent, or Incorrect	Real Time Clock Power
558	2	Amber	431	91	Accelerator Pedal Low Idle Switch	Accelerator Pedal or Lever Idle Validation Circuit - Data Erratic, Intermittent, or Incorrect	Accelerator Pedal Low Idle Switch
	2	155		774	Secondary Throttle Position Sensor	Data Erratic, Intermittent, or Incorrect	
	4	Amber	55	55	Accelerator Pedal Low Idle Switch	Accelerator Pedal or Lever Idle Validation Circuit - Voltage Below Normal, or Shorted to Low Source	
	13	Red	432	432		Accelerator Pedal or Lever Idle Validation Circuit - Out of Calibration	
611	3	Amber	2185		System Diagnostic Code #1	Sensor Supply Voltage #4 Circuit-Voltage Above Normal, or Shorted to High Source	Accelerator Pedal Low Idle Switch
	4	Amber	238		System Diagnostic Code #1	Sensor Supply Voltage #3 Circuit-Voltage Below Normal, or Shorted to Low Source	
	16	Amber	2292		Fuel Inlet Meter Device	Fuel Inlet Meter Device - Data Valid but Above Normal Operational Range - Moderately Severe Level	
	18	Amber	2293		Fuel Inlet Meter Device	Fuel Inlet Meter Device flow demand lower than expected - Data Valid but Below Normal Operational Range - Moderately Severe Level	

## Troubleshooting

	31	Amber	757		Electronic Control Module	Electronic Control Module Data Lost-Condition Exists	Electronic Control Module
612	2	Red	115		System Diagnostic Code #2	Engine Speed/Position Sensor Circuit Lost Both of Two Signals From Magnetic Pickup Sensor - Data Erratic, Intermittent, or Incorrect	System Diagnostic Code #2
627	12	Amber	434		Power Supply	Power Lost Without Off Ignition- Data Erratic, Intermittent, or Incorrect	Power Supply
629	12	Red	111		Controller #1	Engine Control Module Critical Internal Failure - Bad Intelligent Device or Component	Controller #1
630	2	Amber	341	527	Calibration Memory	Engine Control Module data lost - Data Erratic, Intermittent, or Incorrect	Calibration Memory
	13	Red	342			Electronic Calibration Code Incompatibility - Out of Calibration	
	31	Amber	2217			ECM Program Memory (RAM) Corruption - Condition Exists	
631	2	415		415	Engine Software	Data Incorrect	Engine Software
633	31	Amber	2311		Fuel Control Valve #1	Fueling Actuator #1 Circuit Error - Condition Exists	Fuel Control Valve #1
637	11	143		143	Primary to Secondary Speed Signal	Calibration Fault	Primary to Secondary Speed Signal
639	9	Amber	285	247	SAE J1939 Datalink	SAE J1939 Multiplexing PGN Timeout Error - Abnormal Update Rate	SAE J1939 Datalink
	13	Amber	286			SAE J1939 Multiplexing Configuration Error - Out of Calibration	
1484	31	None	211		J1939 Error	Additional Auxiliary Diagnostic Codes Logged-Condition Exists	J1939 Error
641	3	Amber	2385		Variable Geometry Turbocharger	VGT Actuator Driver Circuit-Voltage Above Normal, Or Shorted To High Source	Variable Geometry Turbocharger
	4	Amber	2384			VGT Actuator Driver Circuit-Voltage Below Normal, or Shorted to Low Source	
646	5	177		526	Turbo Wastegate	Solenoid Current Low	Turbo Wastegate
	6	177		526		Solenoid Current High	
651	2			111	Injector Cylinder #1	Cylinder #1 Injector Erratic, Intermittent, or Incorrect	Injector Cylinder #1
	5	Amber				Injector Solenoid Cylinder #1 Circuit - Current Below Normal or Open Circuit	
	6	N/A				Injector Current High	
	7	Amber				Injector Cylinder #1 - Mechanical System Not Responding Properly or Out of Adjustment	
652	2			112	Injector Cylinder #2	Cylinder #2 Injector Erratic, Intermittent, or Incorrect	Injector Cylinder #2
	5	Amber	331	2		Injector Solenoid Cylinder #2 Circuit - Current Below Normal or Open Circuit	
	6	Not applicable		2		Injector Current High	
	7	Amber	1141	2		Injector Cylinder #2 - Mechanical System Not Responding Properly or Out of Adjustment	
653	2			113	Injector Cylinder #3	Cylinder #3 Injector Erratic, Intermittent, or Incorrect	Injector Cylinder #3
	5	Amber	324	3		Injector Solenoid Cylinder 3 Circuit - Current Below Normal or Open Circuit	
	6	Not applicable		3		Injector Current High	
	7	Amber	1142	3		Injector Cylinder #3 - Mechanical System Not Responding Properly or Out of Adjustment	

## Troubleshooting

654	2			114	Injector Cylinder #4	Cylinder #4 Injector Erratic, Intermittent, or Incorrect	Injector Cylinder #4
	5	Amber	332			Injector Solenoid Cylinder 4 Circuit - Current Below Normal or Open Circuit	
	6	Not applicable				Injector Current High	
	7	Amber	1143			Injector Cylinder #4 - Mechanical System Not Responding Properly or Out of Adjustment	
655	2			115	Injector Cylinder #5	Cylinder #5 Injector Erratic, Intermittent, or Incorrect	Injector Cylinder #5
	5	Amber	323	5		Injector Solenoid Cylinder #5 Circuit - Current Below Normal or Open Circuit	
	6	Not applicable	1144	5		Injector Current High	
	7	Amber		5		Injector Cylinder #5 - Mechanical System Not Responding Properly or Out of Adjustment	
656	2			116	Injector Cylinder #6		Injector Cylinder #6
	5	Amber	325	6		Injector Solenoid Cylinder #6 Circuit - Current Below Normal or Open Circuit	
	6	Not applicable		6		Injector Current High	
	7	Amber	1145	6		Injector Cylinder #6 - Mechanical System Not Responding Properly or Out of Adjustment	
676	5	199		199	Glow Plug Start Aid Relay	Current Low	Glow Plug Start Aid Relay
	6	199				Current High	
677	3	Amber	584		Starter Motor Solenoid Lockout Relay Driver Circuit	Starter Relay Circuit - Voltage Above Normal or Shorted to High Source	Starter Solenoid Lockout Relay Driver Circuit
	4	Amber	585			Starter Relay Circuit - Voltage Below Normal or Shorted to Low Source	
678	3	517		517	8 VDC Supply	ECM 8 VDC Supply - Voltage Above Normal or Shorted High	8 VDC Supply
	4	517				ECM 8 VDC Supply - Voltage Below Normal or Shorted Low	
723	2	Amber	753		Engine Speed Sensor #2	Engine Speed/Position #2 Camshaft Sync Error- Data Erratic, Intermittent or Incorrect	Engine Speed Sensor #2
	7	Amber	731			Engine Speed/Position #2 Mechanical Misalignment Between Camshaft and Crankshaft Sensors - Mechanical System Not Responding Properly or Out of Adjustment	
	8	142		142		Abnormal signal frequency	
729	3	Amber	2426		Intake Air Heater Driver #1	Intake Air heater #1 Circuit - Voltage Above Normal or Shorted to High Source	Intake Air Heater Driver #1
	4		2427			Intake Air heater #1 Circuit - Voltage Below Normal or Shorted to Low Source	
1043	3	Amber	387		Internal Sensor Voltage Supply	Accelerator Pedal or Lever Position Sensor Supply Voltage Circuit-Voltage Above Normal, or Shorted to High Source	Internal Sensor Voltage Supply
	4	Amber	284			Engine Speed/Position Sensor (Crankshaft) Supply Voltage Circuit - Voltage Below Normal or Shorted to Low Source	
1075	3	Amber	2265		Electric Lift Pump for Engine Fuel	Fuel Priming Pump Control Signal Circuit - Voltage Above Normal or Shorted to High Source	Electric Lift Pump for Engine Fuel
	4	Amber	2266			Fuel Priming Pump Control Signal Circuit -	

## Troubleshooting

						Voltage Below Normal or Shorted to Low Source	
1079	3	Amber	386	516	5 V (DC) Supply	Sensor Supply Voltage #1 Circuit-Voltage Above Normal, or Shorted to High Source	5 Volts DC Supply
	4	Amber	352	516		Sensor Supply Voltage #1 Circuit- Voltage Below Normal, Shorted to Low Source	
1080	3	Amber	227			Sensor Supply Voltage #2 Circuit- Voltage Above Normal, or Shorted to High Source	
	4	Amber	187			Sensor Supply Voltage #2 Circuit-Voltage Below Normal, or Shorted to Low Source	
1136	3	Amber	697		Sensor Circuit - Voltage	ECM Internal Temperature Sensor Circuit - Voltage Above Normal or Shorted to High Source	Sensor Circuit - Voltage
	4	Amber	698			ECM Internal Temperature Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
1172	3	Amber	691		Turbocharger #1 Compressor Inlet Temperature	Turbocharger #1 Compressor Inlet Temperature Sensor Circuit - Voltage Above Normal or Shorted to High Source	Turbocharger #1 Compressor Inlet Temperature
	4	Amber	692			Turbocharger #1 Compressor Inlet Temperature Sensor Circuit - Voltage Below Normal or Shorted to Low Source	
1188	5	Amber		177	Turbo Wastegate	Turbo Wastegate Drive Current Below Normal	Turbo Wastegate
	6					Turbo Wastegate Drive Current Above Normal	
	7					Turbo Wastegate Not Responding	
1347	3	Amber	272		Fuel Rail Pump	High Fuel Pressure Solenoid Valve Circuit - Voltage Above Normal or Shorted to High Source	Fuel Rail Pump
	4	Amber	271			High Fuel Pressure Solenoid Valve Circuit – Voltage Below Normal or Shorted to Low Source	
	5	162		162		Output current low	
	6	162		162		Output current high	
	7	Amber	281	162		High Fuel Pressure Solenoid Valve #1 – Mechanical System Not Responding Properly or Out of Adjustment	
1378	31	Main-ten-ance	649		Engine Oil Change Interval	Change Lubricating Oil and Filter – Condition Exists	Engine Oil Change Interval
1388	3	Amber	297		Auxiliary Pressure	Auxiliary Pressure Sensor Input #2 Circuit - Voltage Above Normal or Shorted to High Source	Auxiliary Pressure
	4	Amber	298			Auxiliary Pressure Sensor Input #2 Circuit - Voltage Below Normal or Shorted to Low Source	
	14	Red	296			Auxiliary Pressure Sensor Input #1 - Special Instructions	
1563	2	Amber	1256		Control Module Identification Input State	Control Module Identification Input State Error - Data Erratic, Intermittent, or Incorrect	Control Module Identification Input State
2623	3	Amber	1239		Accelerator Pedal Position	Accelerator Pedal or Lever Position Sensor 2 Circuit - Voltage Above Normal or Shorted to High Source	Accelerator Pedal Position
	4	Amber	1241			Accelerator Pedal or Lever Position Sensor 2 Circuit - Voltage Below Normal or Shorted to Low Source	
2629	15	None	2347		System Diagnostic Code #1	Turbocharger Compressor Outlet Temperature (Calculated) - Data Valid but Above Normal Operational Range- Least Severe Level	System Diagnostic Code #1
2789	15	None	2346		System Diagnostic Code #1	Turbocharger Turbine Inlet Temperature (Calculated) - Data Valid but Above	System Diagnostic Code #1

## Troubleshooting

						Normal Operational Range - Least Severe Level	
2981	3	Amber	2115		Coolant Pressure	Coolant Pressure #2 Circuit - Voltage Above Normal or Shorted to High Source	Coolant Pressure
	4	Amber	2116			Coolant Pressure #2 Circuit - Voltage Below Normal or Shorted to Low Source	
	18	Amber	2117			Coolant Pressure #2 - Data Valid but Below Normal Operational Range - Moderately Severe Level	

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## Cab Display Module and Windrower Control Module Fault Codes

E 1			
E 2		RTCH NOT ALLOWED	Return to cut height activated with the header off.
E 3		CDM CAN bus ERROR	CAN bus error with the CDM. Check electrical connections.
E 4		HDR DRV NOT ALLOWED	Header engage switch activated while in the engine-forward position.
E 5		CHECK HEADER ID	Header ID change has been detected while the header was engaged.
E 6		TEMP GAUGE SHORT	Wiring or connection problem.
E 7		SPEED STICK SHORT	Wiring or connection problem.
E 8		HEADER ENABLE SHORT	Wiring or connection problem.
E 9		WCM ENABLE SHORT	Wiring or connection problem.
E 10		CDM INTERNAL ERROR	Internal hardware or software problem.
E 11		CDM POWER UP	CDM Module did not power up correctly.
E 12		WCM POWER UP	WCM Module did not power up correctly.
E 13		FUEL SOLENOID	WCM Fuel solenoid output fault detected.
E 14			
E 15		KNIFE DRIVE PWM P68	Knife drive - PWM solenoid P68 drive fault detected.
E 16		DRAPER DRIVE PWM P69	Draper drive - PWM solenoid P69 drive fault detected.
E 17		REEL DRIVE PWM P70	Reel drive - PWM solenoid P70 drive fault detected.
E 18			
E 19	E119	LOAD SENSE P75	Disc block valve - Solenoid P75 drive fault detected.
E 20			
E 21	E121	REVERSER P106	Reverser Solenoid P106 fault detected.
E 22			
E 23	E123	REVERSER	Reverser - Solenoid P65, P66, and P67 fault detected.
E 24	E124	DECK SHIFT RIGHT P95	Right deck shift solenoid P95 fault detected.
E 25	E125	DECK SHIFT LEFT P96	Left deck shift solenoid P96 fault detected.
E 26	E126	DWA UP	DWA raise solenoid P72 and P73 fault detected.
E 27	E127	DWA DOWN	DWA lower solenoid P72 and P73 fault detected circuit.
E 28	E128	TILT RETRACT	Platform tilt retract solenoid P54 fault detected.
E 29	E129	TILT EXTEND	Platform tilt extend solenoid P53 and P54 fault detected.
E30	E130	4 WAY VALVE P62	4-way valve solenoid P62 fault detected.
E 31	E131	BYPASS VALVE P52	Bypass valve solenoid P52 fault detected.
E 32	E132	HEADER UP AND DOWN P57	Header up and down solenoid P57 fault detected.
E 33	E133	SCREEN CLEANERS	Screen cleaner output fault detected.
E 34	E134	RIGHT STOP LAMP	Right stop lamp output fault detected.
E 35	E135	LEFT STOP LAMP	Left stop lamp output fault detected.
E 36	E136	RIGHT TURN LAMP	Right turn lamp output fault detected.
E 37	E137	LEFT TURN LAMP	Left turn lamp output fault detected.
E 38	E138	MAIN DRIVE	Main header drive solenoid P71 fault detected.
E 39	E139	LOW RANGE P61	Low range solenoid P61 fault detected.
E 40	E140	HIGH RANGE P60	High range solenoid P60 fault detected.

## Troubleshooting

E 41	E141	REEL AFT	Reel aft solenoid P55 and P59 fault detected.
E 42	E142	REEL FORE	Reel fore solenoid P55 and P59 fault detected.
E 43	E143	REEL UP AND DOWN P58	Reel up and down solenoid P58, P52, and P62 fault detected.
E 44	E144	FLOAT RHS P64	RHS float solenoid P64 fault detected.
E 45	E145	FLOAT LHS P63	LHS float solenoid P63 fault detected.
E 46		SENSOR VOLTS HIGH	WCM 9 V sensor voltage output high (wire 5).
E 47		SENSOR VOLTS LOW	WCM 9 V sensor voltage output low (wire 5).
E 48		WCM OVER TEMP	WCM over temperature fault.
E 49		WCM LOW TEMP	WCM low temperature fault.
E 50		BATT + OUT OF RANGE	System voltage above 15.5 V.
E 51	E151	DISK DRIVE PWM P68	Disk header drive solenoid P68 fault detected.
E52			
E53			
E54			
E55		DISK SPD OVERLOAD	Low disk speed detected < setpoint.
<b>ERROR codes E56—E63 not allocated</b>			
E 64		HEADER OIL PRESSURE	Header drive charge pressure low.
E 65		KNIFE OVERLOAD	Low knife speed detected < setpoint.
E 66		### LOW VOLTS	Low system voltage < 11.5 V.
E 67		TRANS OIL PRESSURE	Supercharge pressure low, switch 202 on hydraulic schematic.
E 68		HYDRAULIC OIL HOT	Oil tank temperature > 110°C (230°F).
E 69		ENGINE AIR FILTER	Engine air filter is plugged.
E 70		HYDRAULIC FILTER	Hydraulic filter pressure too high, switch 227 on hydraulic schematic.
E 71		LOW HYDRAULIC OIL	Low hydraulic oil level sensor tripped.
E 72		### HIGH VOLTS	System voltage above 15.5 V.
<b>Error codes E73—E100 not allocated</b>			
E101		SPI ERROR	J1939 CAN error.
E102		CAN ERROR	J1939 CAN error.
E103		EEPROM READ ERROR	Internal error.
E104		EEPROM WRITE ERROR	Internal error.
E105		TEMP SENSOR ERROR	Internal temperature sensor error.

Miscellaneous Information and Error Codes	
ENGINE OIL PRESSURE	Engine oil pressure warning.
ENGINE TEMPERATURE	Engine coolant temperature warning.
CANBUSS ERROR	
KNIFE SPD OVERLOAD	Knife speed is < programmed setpoint while header is engaged.
NO OPERATOR	Operator not detected in seat (3-second delay before message).
NO HEADER	No header ID detected - not hooked up or wiring error.
LOCK SEAT BASE	Seat base not detected in either cab-forward or engine-forward position.
DISENGAGE HEADER	Header engage switch is on when the ignition is turned on.
x x x x S x x F x x C	Engine code configuration (CAN bus).
CENTER STEERING	GSL or Pintal switches not closed with the key on and the engine off.
NOT IN PARK	GSL or Pintal switches not closed with the key on and the engine off.
BRAKE ON	
PLACE GSL INTO "N"	GSL or Pintal switches not closed with the key on and engine off.
BRAKE SW FAILURE	Ignition on and engine not running, the brake switch and relay are closed.
BRAKE OFF	Engine running, the brake solenoid is not activated.
CHECK SEAT SWITCHES	System detects that both seat switches are active.
CAB FORWARD SW ON ENG FORWARD SW ON	If both switches are activated, then the display alternately flashes between these two messages.
When dual codes are shown for an item (primarily the solenoid valves), the first code indicates a short circuit condition and the second code indicates an open circuit condition. E41 would be a short in the reel fore/aft solenoid P55 and P59. The E141 indicates an open circuit.	

## Engine

Symptom	Problem	Solution
<b>Engine Hard to Start or Will Not Start</b>	Controls not in NEUTRAL	Move ground speed lever to NEUTRAL.  Move steering wheel to locked position.  Disengage platform drive/clutch.
	Water, dirt, or air in fuel system	Drain, flush, fill, and bleed system.
	Incorrect grade of fuel	Consult fuel supplier; use correct fuel for operating conditions.
	Fuel pump hand primer lowered	Pull up lever.
	Cold weather	Use cold weather starting aids.
	Low compression	See your John Deere dealer.
	Low battery output	Have battery tested. Check battery electrolyte level.
	Faulty starter	See your John Deere dealer.
	Wiring shorted, open fuse	Check continuity of wiring and fuse.
	Poor connection in starting circuit	Clean and tighten all connections on battery and starter.
	Injection pump fuel shutoff valve	See your John Deere dealer.
	Dirty or faulty injectors	See your John Deere dealer.
	Fuel filter plugged or full of water	Replace filter element or drain water.
	Crankcase oil of too heavy viscosity	Drain and fill crankcase with oil of proper viscosity and quality.
	Exhaust restricted	Check and correct exhaust restriction.
<b>Engine Knocks</b>	Insufficient oil	Add oil.
	Fuel injection pump out of time	See your John Deere dealer.
	Low coolant temperature	Remove and check thermostat. (See "Engine Overheats" in this section.)
	Incorrect grade of fuel	Use correct fuel.

## *Troubleshooting*

Symptom	Problem	Solution
	Injection nozzle valve sticking	See your John Deere dealer.
	Loose or failed main bearings or connecting rod bearings, worn pistons, and cylinders	See your John Deere dealer.
	Air in fuel system	Bleed fuel system.
	Engine overheating	See "Engine Overheats" in this section.
<b>Engine Runs Irregularly or Stalls Frequently</b>	Low coolant temperature	Run engine until sufficiently warm; also check thermostat.
	Clogged fuel filter	Replace filter element and bleed system.
	Water, dirt, or air in fuel system	Drain, flush, fill, and bleed system.
	Dirty or faulty injectors	See your John Deere dealer.
	Vent on fuel tank obstructed	Clean vent in soapy water and blow dry.
<b>Lack of Power</b>	Overheated engine	See "Engine Overheats" in this section.
	Intake air restriction	Service air cleaner and precleaner screen.
	Clogged fuel filter	Replace filter element and bleed system.
	Fuel injection pump advance not working	See your John Deere dealer.
	Low fast idle speed	See your John Deere dealer.
	Dirty or faulty injectors	See your John Deere dealer.
	Engine overloaded	Reduce load.
	Incorrect grade of fuel	Use correct fuel.
	Under normal engine temperature	Remove and check thermostat.
	Incorrect valve clearance	See your John Deere dealer.
	Injection pump out of time	See your John Deere dealer.
	Turbocharger not functioning	See your John Deere dealer.
	Leaking exhaust manifold gasket	See your John Deere dealer.



Symptom	Problem	Solution
	Restricted fuel line	Clean or replace fuel line.
<b>Under Normal Engine Temperature</b>	Defective thermostat	Remove and check thermostat.
	Defective temperature gauge or sender	Check gauge, sender, and connections.
<b>Engine Overheats</b>	Low coolant level	Fill radiator upper surge tank to proper level. Check radiator and hoses for loose connections and leaks.
	Engine overloaded	Reduce load.
	Defective radiator cap	Replace cap.
	Loose or defective fan belt	Check belt tension. Replace belt if necessary.
		Check automatic belt tensioner.
	Dirty radiator core, oil cooler, air conditioner condenser, or grill screen	Remove trash and dirt. (See POWER SCREEN CLEANER in this section.
	Low engine oil level	Check oil level. Add oil as required.
	Cooling system needs flushing	Flush cooling system.
	Defective thermostat	Remove and check thermostat.
	Defective temperature gauge or sender	Check water temperature with thermometer and replace gauge or sender, if necessary.
	Incorrect grade of fuel	Use correct fuel.
	Defective water pump	See your John Deere dealer.
<b>Low Oil Pressure</b>	Low oil level	Add oil.
	Incorrect type of oil	Drain, fill crankcase with correct oil.
<b>High Oil Consumption</b>	Crankcase oil too light	Drain and refill with proper viscosity oil.
	Oil leaks	Check for leaks in lines, around gaskets, and drain plug.
	Restricted crankcase vent tube	Clean vent tube.
	Defective turbocharger	See your John Deere dealer.
<b>High Fuel Consumption</b>	Incorrect grade of fuel	Use correct fuel.

## *Troubleshooting*

Symptom	Problem	Solution
	Clogged or dirty air cleaner	Service air cleaner and precleaner screen.
	Engine overloaded	Reduce load.
	Incorrect valve clearance	See your John Deere dealer.
	Defective turbocharger	See your John Deere dealer.
	Engine out of time	See your John Deere dealer.
	Low engine temperature	Check thermostat.
	Injection nozzles dirty or damaged	See your John Deere dealer.
<b>Engine Emits White Smoke</b>	Incorrect grade of fuel	Use correct fuel.
	Cold temperature	Warm up engine to normal operating temperature.
	Engine out of time	See your John Deere dealer.
	Clogged or dirty air cleaner	Service air cleaner and precleaner screen.
	Engine overloaded	Reduce load.
	Injection nozzles dirty	See your John Deere dealer.
	Turbocharger not functioning	See your John Deere dealer.
<b>Engine Emits Black or Gray Exhaust Smoke</b>	Defective thermostat	Remove and check thermostat.
	Incorrect grade of fuel	Use correct fuel.
	Restricted air cleaner	Service air cleaner and precleaner screen.
	Fuel injection nozzles dirty or damaged	Have your John Deere dealer check the injectors.
	Engine overloaded	Reduce load.
	Engine out of time	See your John Deere dealer.
	Turbocharger not functioning	See your John Deere dealer.

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## **Air Conditioning**

Symptom	Problem	Solution
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Symptom	Problem	Solution
<b>System Will Not Produce Sufficient Cooling</b>	Fan speed switch off	Press setpoint adjust switch on armrest console and adjust blower speed up or down with selection dial.
	Compressor not functioning (both the large and small air-conditioning hoses, exiting right-hand rear corner of cab, are at the same temperature)	See your John Deere dealer.
	High-pressure switch open. Insufficient air flow across condenser	Clean condenser. Check rotary wand duct for obstruction.  Clean air screen.  See your John Deere dealer.
	Low-pressure switch open. Insufficient air flow across evaporator	Clean cab filters. Check cab fan operation.  See your John Deere dealer.
	Low-pressure switch open. Low outside air temperature	Move temperature control to warmer setting.
	Low-pressure switch open. Insufficient refrigerant level (bubbles in sight glass)	See your John Deere dealer.
	Heater valve partially on (with temperature knob set for maximum cooling, feel both heater hoses exiting right-hand rear corner of cab. If both are warm, valve is open)	See your John Deere dealer.
	Insufficient blower speed	Increase blower speed.
	Debris on radiator screen	Clean screen.
	Compressor clutch not engaging	See your John Deere dealer.
	Condenser is overheating	Clean screens, cores and fins of condenser, oil cooler, and radiator.
	Burned out clutch field or faulty field	See your John Deere dealer.
	Faulty high pressure or low-pressure switches	Replace switches.
	Faulty air conditioning evaporator thermostat sensor	Replace air conditioning evaporator thermostat sensor.
	Recirculating fan disconnected	Check connectors at fan switch.

## *Troubleshooting*

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Symptom	Problem	Solution
	Compressor seized	Remove compressor for service or replacement.
	Dirty filters	Clean filters.
	Broken or disconnected electrical wire	Check all terminals for loose connections; check wiring for hidden breaks.
	Broken or disconnected cab ground wire	Check ground wire, verify if loose, broken, or disconnected.
	Expansion valve stuck in open position	Replace expansion valve.
	Expansion valve stuck shut	Replace expansion valve.
	Broken refrigerant line	Examine all lines for evidence of breakage by external stress of rubbing wear.
	Leak in system	Evacuate system, apply static charge, leak test system, and repair leak as necessary.
	Restriction in refrigerant system	Check for kinked hoses.
	Restriction in receiver dryer	See your John Deere dealer.
	Restriction in expansion valve	See your John Deere dealer.
	Compressor shaft seal leaking	Replace the compressor shaft seal.
	Excessive moisture in system, causing expansion valve freeze up	Drain and recharge. Replace receiver-dryer.
	Clogged cab roof inlet panel	Remove and clean.
	Evaporator fins clogged	Blow out evaporator fins with compressed air.
	Too little refrigerant in system	Recharge system.
	Clogged screen in receiver-dryer	Discharge system; replace receiver-dryer. Then evacuate and charge system.
	Excessive moisture in system	Discharge system; replace receiver-dryer. Then evacuate and charge system.
	Air in system	Discharge, evacuate, and charge system.

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Symptom	Problem	Solution
<b>Hissing Noise At Expansion Valve</b>	Loss of refrigerant	Check sight glass for bubbles and system for leaks. See your John Deere dealer.
	Restriction in refrigerant system	Check for kinks in hoses.
		Check receiver-dryer for uniformity of temperature. If temperature is not uniform, see your John Deere dealer.
<b>Partial Frosting and Sweating of Lines Combined With Poor Cooling</b>	Loss of refrigerant	Check sight glass for bubbles and system for leaks. See your John Deere dealer.
	Restricted or clogged liquid line	See your John Deere dealer.
	Expansion valve malfunctioning	See your John Deere dealer.
<b>Air Conditioning System Too Noisy</b>	Loose or excessively worn drive belt.	Tighten or replace as necessary.
	Noisy clutch	Remove clutch for service or replacement as necessary.
	Compressor noisy	Check mountings and repair; remove compressor for service or replacement.
	Excessive charge in system	Discharge excess refrigerant until high-pressure gauge drops within specifications.
	Low charge in system	Check system for leaks; charge system.
	Excessive moisture in system	Replace receiver-dryer; evacuate and charge system.
<b>Air Conditioning System Cools Intermittently</b>	Compressor clutch slipping	Slippage over a prolonged period requires that the clutch be removed for service; requires adjustment for proper spacing.
	Unit icing up is caused by excessive moisture in system, inoperative expansion valve, or faulty thermostat	Replace expansion valve; replace receiver-dryer if excess moisture is present; replace thermostat.
	Thermostat defective	Replace thermostat.
	Defective blower switch or blower motor	Remove defective part for service or replacement.
	Partially open, improper ground, or loose connection in compressor clutch coil or solenoid	Check connections or remove clutch coil or solenoid for service or replacement.

## *Troubleshooting*

Symptom	Problem	Solution
<b>Compressor clutch cycles excessively or compressor stays off up to 15 minutes</b>	Evaporator icing	Adjust controls correctly. (See Operator Station section.) Open louvers. Clean filters. Move knob to warmer setting.
<b>Bad smell (foul odor) in cab</b>	Plugged drain tube. Dirty filters. Dirty cab	Blow out condensate tube. Clean filters. Vacuum out cab.  Be certain weep valve in condensate drain tube is installed.

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## **Heater**

Symptom	Problem	Solution
<b>Heater Not Heating</b>	Heater shut off valve is closed	Open heater shut off valve
	Dirty recirculating filter	Clean filter.
	No thermostat in engine water outlet manifold	Install thermostat.
	Defective thermostat in engine water outlet manifold	Replace thermostat.
	Temperature control not functioning	See your John Deere dealer.
	Kinked heater hose. Defective heater valve	Straighten or replace. Replace valve.

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## **Drive System**

Symptom	Problem	Solution
<b>Both Wheels Lack Pulling Ability On Grade or Pulling Out Of Ditch</b>	Loose or worn controls	Check controls.  Set switch to FIELD SPEED 1 position.
	Internal park brakes dragging	See your John Deere dealer.
	Faulty relief valves	See your John Deere dealer.
	Failed motors and pumps	See your John Deere dealer.
	Low charge pressure	See "Low Charge Pressure" in this section.
	Improper tire inflation	See tire inflation pressures.

Symptom	Problem	Solution
<b>Both Wheels Will Not Pull In Forward or Reverse</b>	Hydraulic oil overheated	See "Hydraulic Oil Overheats" in this section.
	Low on oil	Check hydrostatic oil level and final drives.
	Tow disconnects still out	Engage final drives.
	Steering controls worn or loose	Check control lever and steering for loose, worn, or broken ball joints and ball joint rods.
	Internal park brakes dragging	See your John Deere dealer.
	Faulty relief valves	See your John Deere dealer.
	Low charge pressure	See "Low Charge Pressure" in this section.
	Failed pump	See your John Deere dealer.
<b>One Wheel Does Not Pull in Forward or Reverse</b>	Broken pump driveline	See your John Deere dealer.
	Tow disconnect still out	Engage final drive.
	Steering controls worn or loose	Check control lever and steering for loose, worn, or broken ball joints and ball joint rods.
	Internal park brakes dragging	See your John Deere dealer.
	Failed pump, motor, or final drive	See your John Deere dealer.
	Faulty relief valve	See your John Deere dealer.
<b>Excessive Noise From Drive System</b>	LOW ENGINE IDLE AND HIGH ENGINE IDLE switch in high engine idle position	Set switch to LOW ENGINE IDLE position.
	Brakes noisy	See "Dragging Or Overheating" in BRAKES, in this section.
	Faulty pump or motor	See your John Deere dealer.
	Cab mounts defective	See your John Deere dealer.
<b>Windrower Will Not Run Full Speed in Low engine idle or High engine idle.</b>	Low charge pressure	See "Low Charge Pressure" in this section.
<b>Leaking Seals or Covers On Pumps or Motors</b>	Case pressure too high	Check for kinked hose or other restrictions in drain lines.

## Troubleshooting

Symptom	Problem	Solution
<b>Low Charge Pressure</b>	Plugged charge pump suction screen in reservoir	Clean screen.
	Low on oil	Check for leaks and correct. Fill reservoir.
	Malfunctioning priority valve	See your John Deere dealer.
	Worn charge pump	Replace.
	Plugged filter	Replace filter.
	Malfunctioning shuttle valve in the platform drive motor	Check motor for sticking valve spools or broken springs.
<b>Low Charge Pressure</b>	Plugged charge pump suction screen in reservoir	Clean screen.
	Low on oil	Check for leaks and correct. Fill reservoir.
	Malfunctioning priority valve	See your John Deere dealer.
	Worn charge pump	Replace.
	Plugged filter	Replace filter.
	Malfunctioning shuttle valve in the platform drive motor	Check motor for sticking valve spools or broken springs.
<b>Hydraulic Oil Overheats</b>	Low oil supply	Fill system with correct oil.
	Operating in HIGH ENGINE IDLE range over non-flat terrain	Set ground drive switch to LOW ENGINE IDLE range.
	Oil cooler air passages clogged	Clean oil cooler.
		Clean air screen.
	Clogged hydrostatic filter	Replace filter.
	Platform drive motor shuttle spool sticking	See your John Deere dealer.
<b>Platform Drive Will Not Engage</b>	Faulty switch, solenoid, or valve cartridge	See your John Deere dealer.
	Faulty operator presence relay	Replace relay.
<b>Platform Drive Stops</b>	Faulty operator presence seat switch	Replace switch.
	Faulty operator presence relay	Replace relay.



Symptom	Problem	Solution
<b>Platform drive speed too slow.</b>	Low charge pressure	See "Low Charge Pressure" in this section.
<b>Platform drive lacks power.</b>	Hydraulic couplers not properly connected	Ensure hoses are connected correctly and hose couplers are tight. See your platform Operator's Manual.

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## Lift and Float System

Symptom	Problem	Solution
<b>Platform Does Not Follow Ground Contour</b>	Platform float hydraulic pressure too high	Adjust float pressure. (See Adjusting Platform Float in Operating the Windrow section.)
	Faulty platform float or platform run power relay	Replace power relay. (See your John Deere dealer.)
	Accumulator gas precharge pressure too low or high	See your John Deere dealer.
<b>Platform Digs Into Ground and Pushes Hard</b>	Guards digging into ground	Adjust guard angle. (See ADJUSTING PLATFORM GUARD ANGLE in Operating Windrower section.)
	Platform float hydraulic pressure too low	Adjust float pressure. (See ADJUSTING PLATFORM FLOAT in Operating Windrower section.)
	Accumulator gas precharge pressure too high or low	See your John Deere dealer.
	Platform float hydraulic pressure release valve open.	Close valve on valve block.
<b>Platform Drops Too Fast Or Does Not Lower Smoothly</b>	Platform float set too heavy	Adjust platform float. (See Adjusting Platform Float in Operating Windrower section.)
	Accumulator gas precharge pressure too high or low	See your John Deere dealer.
<b>Platform Will Not Lift Or Lifts Too Slow</b>	Binding lift linkage	Replace bent or worn parts.
	Platform float set too heavy	Adjust platform float. (See Adjusting Platform Float in Operating Windrower section.)
	Worn auxiliary pump	See your John Deere dealer.
	Low relief valve setting	See your John Deere dealer.

## *Troubleshooting*

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Symptom	Problem	Solution
	Platform full of dirt	Clean platform.
	Malfunctioning priority valve	See your John Deere dealer.
	Faulty switch or relay	Replace switch or relay.
	Faulty solenoid or valve cartridge	Replace solenoid or valve cartridge.

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## **Electrical**

Symptom	Problem	Solution
<b>Low Voltage or Battery Will Not Charge</b>	Defective battery (possibly due to low water level.)	Replace battery. Maintain water level.
	Low engine speed	Increase speed.
	Wet or dirty battery	Keep clean and dry.
	Loose or corroded connections	Clean and tighten battery connections.
	Dirty or defective alternator, defective voltage regulator, or high resistance in circuit	See your John Deere dealer.
	Loose or defective fan belt	Check automatic belt tensioner. Replace worn belt.
<b>Starter Cranks Slowly or Will Not Operate</b>	Alternator or voltage regulator not functioning properly	See your John Deere dealer.
	Relay not functioning	Check relay and wire connections.
	Starter solenoid not functioning	Check solenoid and wire connections.
	Loose or corroded battery connections	Clean and tighten loose connections.
	Steering wheel or hydrostatic ground drive lever not in neutral	Put hydrostatic ground drive lever in neutral and center steering wheel.
	Key switch worn or terminals loose	Check switch and terminals.
	Too high viscosity crankcase oil	Drain and fill crankcase with oil of proper viscosity and quality.
	Faulty starter	Replace starter.
	Neutral interlocks not set or defective	Check switches at hydrostatic lever neutral park position and at steering assembly under the cab.

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## *Troubleshooting*

Symptom	Problem	Solution
<b>Lights Dim</b>	Defective neutral start relay	Replace relay.
	High resistance in circuit or poor ground on lights	Check the wiring circuit for a break in a wire or a poor ground.
	Defective light switch	Replace switch.
<b>Lights Will Not Light</b>	Poor ground	Check ground cable under cab, and between engine and mainframe, for loose connection or corrosion.
	Defective light switch	Replace switch.
	Open wiring, circuit breaker, or fuse	Check wiring for broken wire or shorts. Check circuit breaker or fuse.
	Defective light	Replace.
<b>Turn Signals Do Not Operate</b>	Poor ground	Check ground cable under cab, and between engine and mainframe, for loose connection or corrosion.
	Controller faulty	Replace warning light display.
	Defective light	Replace light.
	Open wiring or fuse	Check wiring and replace fuse.
	Defective relay	Replace relay.
<b>Warning Lights Do Not Operate</b>	Poor ground	Check ground cable under cab, and between engine and mainframe, for loose connection or corrosion.
	Controller faulty	Replace warning light display.
	Defective relay	Replace relay.
	Open wiring or fuse	Check wiring and replace fuse.
	Defective light	Replace light.
	Faulty light switch	Replace switch.
<b>No Current to Cab</b>	Poor ground	Check ground cable under cab, and between engine and mainframe, for loose connection or corrosion.
	Solenoid stuck or defective	Replace solenoid.
	Wiring or circuit breaker open	Check wiring for a broken or shorted wire.

## *Troubleshooting*

Symptom	Problem	Solution
	Poor ground	Check ground cable under cab, and between engine and mainframe, for loose connection or corrosion.

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### **Power Screen Cleaner (Rear Door Air Screen)**

Symptom	Problem	Solution
<b>Power Screen Cleaner Wand Will Not Rotate</b>	Open wiring	Check wiring.
	Engine not running	Start engine.
	Wand motor shaft nut loose	Tighten nut.
	Motor overloaded	Wait for thermal switch to reset. Check fuse.
	Air screen wand pushing debris	Trash duct plugged. Clean out duct.
	Motor sluggish or will not operate	Replace motor.
<b>Wand Fails to Clean Screen</b>	Clogged trash duct	Clean duct.
<b>Power Screen Cleaner Door Will Not Latch</b>	Latch out of adjustment	Adjust latch.
<b>Compartment Is Dirty</b>	Door seal damaged	Replace seal.
	Leaks in screen compartment	Seal all holes with silicone gasket material. Replace damaged seals.

OUO6064,00012CA-19-12AUG14

### **Steering and Ground Speed Controls**

Symptom	Problem	Solution
<b>Machine Will Not Steer Straight, Tends to Wander When Steering is Held Still</b>	Inspect steering linkages for wear or looseness	Replace worn parts. (If ball joints or special bushings have 0.76 mm (0.030 in.) free play, it will affect steering control.) Tighten any loose hardware, especially ball joint cap screws and jam nuts on the ball joint rods.
	Lack of charge pressure or flow	See DRIVE SYSTEM, "Low Charge Pressure" in this section.
<b>Steering wheel does not turn freely during operation</b>	binding linkage(s)	Check linkage(s) for interference or bent parts.
	Improper steering assist relief setting	See your John Deere dealer.

## *Troubleshooting*

Symptom	Problem	Solution
	Steering binding in steering column with tilted	See your John Deere dealer.
<b>Windrower Moves on Flat Ground With Ground Speed Lever in Neutral and Steering Wheel Centered</b>	Ground drive controls out of adjustment	See you John Deere dealer.
<b>Ground Speed Control Lever Hard To Move</b>	Control cable worn	Replace.
	Damaged dampener	Replace.
<b>Ground Speed Control Handle Has Excessive Free Movement</b>	Control cable worn	Replace cable.
<b>Internal park brakes dragging or overheating</b>	Low charge pressure	See DRIVE SYSTEM, "Low Charge Pressure" in this section.
	Electro-hydraulic valve malfunctioning	See your John Deere dealer.
<b>Ground Speed Surges While Steering</b>	Loose or worn hydro cable	Tighten cable joints or replace cable.

OUO6064,00012CB-19-12AUG14

### Throttle

Symptom	Problem	Solution
<b>Throttle Does Not Work or Engine High Idle Speed Too Low</b>	Faulty switch	Replace.
	Engine derate code	See your John Deere dealer.

OUO6064,00012CC-19-12AUG14

### Tires

Symptom	Problem	Solution
<b>Windrower Raising and Lowering Rhythmically Near Maximum Transport Speed</b>	Tire pressure too low or too high	Check tire air pressure in front and rear tires.

OUO6064,00012CD-19-12AUG14

### Internal Park Brakes

Symptom	Problem	Solution
<b>Loss of Brake Capacity</b>	Worn brake disks	See your John Deere dealer.
<b>Brakes dragging or overheating</b>	Low charge pressure	See DRIVE SYSTEM, "Low Charge Pressure" in this section.
	Electro-hydraulic valve malfunctioning	See your John Deere dealer.

OUO6064,00012CE-19-12AUG14

## **Seat**

Symptom	Problem	Solution
<b>Excessively Rough Ride</b>	Seat suspension not adjusted	Adjust to operator's weight.
	High air pressure in tires	Inflate to proper pressure.

OUO6064,00012CF-19-12AUG14

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## **Radio**

Symptom	Problem	Solution
<b>Radio Not Operating</b>	Start switch in "OFF" position	Turn key to "ON" or "ACCESSORY".
	Open fuse	Replace fuse.
	Poor connection to radio	Check wiring harness.
	Poor connection to speakers	Check wiring harness.
<b>Poor Reception</b>	Station improperly tuned in	Tune station with tuning control.
	Push button improperly set	Set push button to correct frequency.
	Antenna in improper position	Place antenna in upright position.
	Poor antenna connection	Check antenna cable connection.
	Uneven speaker balance	Set balance control.
	Faulty suppression capacitor in alternator.	Replace capacitor.
	Faulty antenna	Replace antenna.
<b>Interference from business band/ CB radio.</b>	Business band/CB radio antenna improperly installed.	Change antenna location. Left-hand side is ideal location.
		Ground antenna base and shield in antenna cable. Minimize cable length.

OUO6064,00012D0-19-12AUG14

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# Storage

## Storing Windrower (End of Season)

*NOTE: To allow oil and refrigerant in air conditioning compressor and for other moving parts to relubricate, start the engine every 30 days or so, preventing seals from drying out and leaking.*

1. To protect the cylinder rods from rust and corrosion during storage, retract the platform lift cylinders, float cylinders, and platform tilt cylinders.
2. Clean the entire windrower and platform thoroughly inside and out to prevent rust.

*NOTE: Swing combination cooler-condenser away from radiator for cleaning.*

3. To clean dust and dirt from radiator, oil cooler and condenser, and pump drive gear case oil cooler, use pressurized water or air. (See Cleaning Screen, Condenser, Oil Cooler, and Radiator in Engine section.)
4. Clean engine pre-cleaners, screens, and air filters. (See procedures in Engine section.)
5. Drain crankcase while engine is warm. Replace filter and fill crankcase with oil of proper weight and quality. (See Diesel Engine Oil in Fuels, Coolants, and Lubricants section.) Used oil does not protect engine parts.

**IMPORTANT: The hydraulic system must not be left dry during storage.**

6. Drain hydrostatic reservoir (2000 hours or every other season), install new filter elements, and fill reservoir to proper level. (See Hydrostatic Drive and Main Hydraulic Systems Oil in Fuels, Coolants, and Lubricants section.)
7. Check and add oil, if necessary, to the final drives. (See Final Drives Oil in Fuels, Coolants, and Lubricants section.)

*NOTE: For drain and flush intervals: (See Drain Intervals for Diesel Engine Coolant) in Fuels, Coolants, and Lubricants section.*

8. Drain, flush, and refill cooling system with antifreeze rated for lower temperatures than expected. (See Diesel Engine Coolant in Fuels, Coolants, and Lubricants section for recommended coolant.)
9. Grease windrower and platform completely. (See Lubrication and Maintenance section in this manual and platform Operators manual).
10. Paint all worn, or chipped places.
11. Store windrower in a dry place.
12. Lower platform and block up windrower, taking load off tires. DO NOT DEFLATE TIRES. If machine is

exposed, cover the tires to protect them from sunlight, grease, and oil.

13. Disconnect battery cables (negative ground cable first). Remove batteries and store in a cool, dry location, safe from freezing temperatures and also temperatures in excess of 52°C (125°F). Check batteries every 30 days and charge if necessary. (See Charging Battery in Electrical section).
14. List the repair parts needed and order them early.

OJ06064,0002FD9-19-17AUG20

## Removing Windrower From Storage (Beginning of Season)

**⚠ CAUTION: When cleaning the windrower after storage take extra precaution in looking for mice or bird nests that have been built during storage. Avoid fire, look closely around exhaust components and in the engine area.**

1. Check engine, final drives, pump drive gear case, and hydrostatic system oil levels. Check for leaks and add oil as necessary.
2. Remove radiator cap and check coolant level. If low, check for leaks or loose connections. Service cooling system as required. Be certain sufficient amount of low silicate antifreeze with coolant conditioner is used to provide for coldest anticipated temperature. (See DIESEL ENGINE COOLANT in Fuels, Coolants, and Lubricants section for recommended coolant conditioner.)
3. Install batteries. Charge batteries. (See CHARGING BATTERY in Electrical section).
4. Remove blocking and check tires and tire inflation. (See CHECKING WHEELS in the Wheels, Steering, Brakes, and Rear Axle section).
5. Clean the windrower and platform thoroughly.
6. Perform BEGINNING OF SEASON procedure on platform. (See Storage section in platform Operators manual).
7. Completely lubricate windrower and platform. (See Lubrication and Maintenance section in this manual and platform Operators manual).

**IMPORTANT: Review Operating Engine section.**

8. Start windrower and allow to warm up.
9. Increase engine speed to operating rpm.
10. Raise platform and move windrower out of storage area to level ground.
11. Lower platform and engage platform drive. Run windrower and platform for 3—5 minutes. Turn off engine and remove key.

12. Check windrower and platform completely to see that all hardware is tight and cotter pins are spread.
13. Check all fluid levels and, if necessary, fill with recommended fluid. (See Fuels, Coolants, and Lubricants section.)
14. Review your Operators manual.

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OUO6064,00012D2-19-25AUG14



# Specifications

## Windrower Specifications

1

Engine	
Model and Type	Cummins™ QSB - 4.5 L, 4 Cylinder Turbo Diesel - B20 Bio-diesel Approved <sup>a</sup>
Power @ 2300 rpm Power @ 2000 rpm	Rated—110 kW (148 hp) Peak—116 kW (156 hp)
Aspiration	Turbo-Charged
Bore and Stroke	107 x 124 mm (4.21 x 4.88 in)
Displacement	4.5 L (275 in³)
Firing Order	1—3—4—2
Idle rpm	1100 rpm
Maximum rpm (no load - platform not engaged)	2320—2350 rpm

<sup>a</sup>"Portions copyright CUMMINS INC. REPRODUCED FOR LIMITED LICENSED USE ONLY, WITH PERMISSION FROM CUMMINS INC. UNLICENSED USE AND/OR REPRODUCTION ARE EXPRESSLY PROHIBITED."

Electrical System	
Type	12 V negative ground
Battery	Group rating 29H or 31A. heavy duty / off road / vibration resistant
Alternator	130 A

Traction Drive		
Type	Hydrostatic, 3 speed electric shift	
Speed	Field (cab-forward)	Low Range 18 km/h (0 - 11 mph) Mid Range 26 km/h (0 - 16 mph)
	Reverse (cab-forward)	9.6 km/h (6 mph)
	Transport (engine-forward)	High Range 37 km/h (0-23 mph)
Transmission	Type	2 Piston Pumps - 1 Per Drive Wheel
	Displacement	44 cc (2.65 in³)
	Flow	167 L/min (40 U.S. gal/min)
	Pressure	37 900 kPa (379 bar) (5500 psi)
Final Drive	Type	Planetary Gearbox
	Ratio	30.06:1
Wheel Motor Displacement	Low range	68 cc (4.15 in³)
	Mid range	50 cc (3.01 in³)
	High range	32 cc (1.93 in³)

Platform Drive			
Type	Hydraulic, Electrical Displacement Control		
Displacement	Piston Pump A: 0—45 cc (2.75 in³) Gear Pumps B: 0—38 cc (2.32 in³)		
Flow	Piston Pump A: 0—273 L/min (72 gal/min) Gear Pumps B & C: 45 L/min (12 gal/min)		
Maximum Pressure		Piston Pump A	Gear Pump B
	Knife drive	27 600 kPa (276 bar) (4200 psi)	
	Reel drive	22 100 kPa (221 bar) (3200 psi)	
	DWA drive		20 000 kPa (200 bar) (2900 psi)
	Supercharged		2070 kPa (20.7 bar) (300 psi)

Platform Lift / Tilt		
Type	Hydraulic double acting cylinders. Tilt: hydraulic positioning, optional mechanical link	
Gear Pump (2)	Displacement	16.7 cc (1.02 in³)
	Flow	44 L/min (11.5 U.S. gal/min)
	System pressure (relief/max)	17 200 kPa (172 bar) (2500 psi)

**Note:** One pump provides flow for platform lift, tilt, and float adjustment, and both pumps provide a supercharge.

Platform Flotation	
Primary Adjustment	Single draw-bolt with two springs per side. Inner booster springs (1 per side on each inboard spring).
Fine Adjustment	Hydraulic, In-cab switch

<sup>1</sup> (Specifications and design subject to change without notice.)

## Specifications

Automatic	Hydraulic, 3 programmable settings for all platforms, deck shift compensation on draper platforms
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Capacities	
Fuel Tank	367.0 L (97.0 gal)
Cooling Capacity	24.0 L (6.3 gal)
Engine Oil (including filter)	11.9 L (12.6 qt)
Hydraulic Reservoir	65.0 L (17.2 gal)
Final Drives	1.4 L (1.5 qt) per side
Pump Drive Gear Case	2.1 L (2.2 qt)

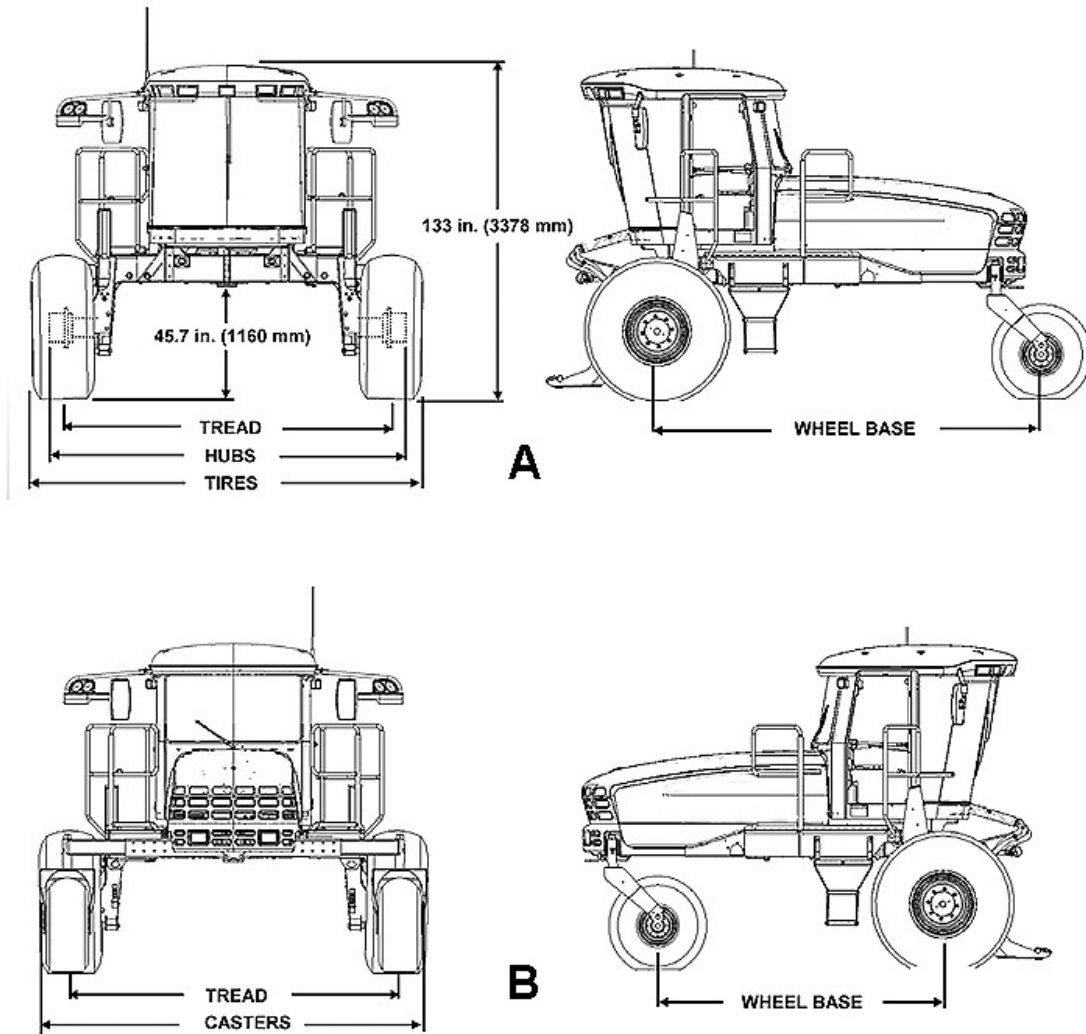
Operator Cab	
Type	Spring / Shock Suspension
Width	1600 mm (63.0 in)
Depth	1735 mm (68.3 in) at the top of window
Height	1640 mm (64.6 in)
Volume	3540 L (125.0 ft³)
Seat	Driver: Adjustable air suspension, seat belt Training: Folding, cab mounted, seat belt
Windshield Wiper	Front and rear
Heater	7038 W (24 000 Btu/h)
Air Conditioning	8288 W (28 280 Btu/h)
Electrical Outlets	1 switched, 1 non-switched, 1 dual (switched/non-switched)

Tire Size and Pressures	
Drive Tires:	
Size	18.4 x 26
Inflation Pressure	221 kPa (2.21 bar) (32 psi)
Size	600 x 65 R28
Inflation Pressure	179 kPa (1.79 bar) (26 psi)
Size	18.4 x 26 Turf
Inflation Pressure	241 kPa (2.41 bar) (35 psi)
Size	23.1 x 26 Turf
Inflation Pressure	138 kPa (1.38 bar) (20 psi)
Size	580/70 R26 Turf
Inflation Pressure	165 kPa (1.65 bar) (24 psi)
Caster Tires:	
Size	Formed caster: 7.5 x 16SL single rib, 10 x 16 front steer tire Forked caster: 16.5L x 16.1 rib implement flotation, 10 x 16 front steer tire
Rear Tire Pressure	All rear tire pressures are: 69 kPa (0.69 bar) (10 psi)

Weight	
Base	4360 kg (9610 lb)
Maximum GVW	7750 kg (21 500 lb)
Maximum CGVW	10 480 kg (23 100 lb)

GW44282,0000A63-19-15NOV19

## Dimensions



(A) CAB-FORWARD, (B) ENGINE-FORWARD

E60716—UN—15AUG12

RC48509,00005CD-19-21JUN13

## Windrower Dimensions

	WHEEL POSITION	TREAD mm (in.)	HUBS mm (in.)	CASTERS mm (in.)	TIRES mm (in.)	SHIPPING mm (in.)	WHEEL BASE mm (in.)	
							CAB-FWD	ENG-FWD
DRIVE TIRES								
18.4 x 26 Bar and Turf Rims Inset*	Inner/Outer	3144 (123.7)	3571 (140.6)		3644 (143.4)	3630 (142.9)	4020 (158.3)	3064 (120.6)
	Outer/Outer	3324 (130.9)	3751 (147.7)		3824 (150.6)			
	Inner/Inner	2964 (116.7)	3391 (133.5)		3464 (136.3)			
18.4 x 26 Bar and Turf Rims Outset**	Inner/Outer	3319 (130.6)	3571 (140.6)		3819 (150.4)	3630 (142.9)	4020 (158.3)	3064 (120.6)
	Outer/Outer	3499 (137.7)	3751 (147.7)		3999 (157.4)			
	Inner/Inner	3139 (123.6)	3391 (133.5)		3639 (143.2)			
600/65R28 Radial Tire	Inner/Outer	3139 (123.6)	3571 (140.6)		3758 (148.0)	3630 (142.9)	4020 (158.3)	3064 (120.6)
	Outer/Outer	3319 (130.7)	3751 (147.7)		3938 (155.1)			
	Inner/Inner	2959 (116.5)	3391 (133.5)		3578 (140.9)			

## Specifications

23.1 - 26 and 580/70R26 Turf Tires	Inner/Outer Outer/Outer Inner/Inner	3203 (126.1) 3383 (133.2) 3023 (119.0)	3571 (140.6) 3751 (147.7) 3391 (133.5)		3793 (149.3) 3973 (156.4) 3613 (142.2)	3630 (142.9)	4020 (158.3)	3064 (120.6)
CASTER TIRES								
7.5 - 16SL	Minimum Maximum	2448 (96.4) 3448 (135.7)		3032 (119.4) 4032 (158.8)				
10 - 16 Formed Caster	Minimum Maximum	2448 (96.4) 3448 (135.7)		3032 (119.4) 4032 (158.8)				
10 - 16 Forked Caster	Minimum Maximum	2448 (96.4) 3448 (135.7)		3014 (118.7) 4014 (158.0)				
16.5 - 16.1	Minimum Maximum	2448 (96.4) 3448 (135.7)		3014 (118.7) 4014 (158.0)				

**NOTE:** \* Allows for increased wheel to endsheet clearance with 15 ft. draper platform.

**NOTE:** \*\* Allows for increased wheel to frame clearance in muddy soil conditions.

OUO6064,00012DC-19-26AUG14

## Lubricants, Fluids, and System Capacities

**⚠ CAUTION:** To avoid injury or death, Do NOT allow any machine fluids to enter the body.

Refer to the table below for information on the appropriate lubricants and fluids for the windrower, and for the capacity of each system. Follow the procedures for filling each system provided in this manual.

Lubricant/Fluid	Location	Description	Capacity
Grease	As required unless otherwise specified.	SAE multi-purpose high temperature extreme pressure (EP2) performance with 1% maximum molybdenum disulphide (NLGI Grade 2) lithium base.	—
Diesel Fuel	Fuel Tank	Diesel Grade No. 2, or Diesel Grade No. 1 and 2 mix <sup>a</sup> ; refer Fuel Specifications, for more information	378 L (97 gal)
Hydraulic Oil	Hydraulic Reservoir	SAE 15W-40 compliant with SAE specs for API class SJ and CH-4 engine oil.	65 L (17.2 gal)
Gear Lubricant	Gearbox	SAE 80W-140 <sup>b</sup> , API service class GL-5 fully synthetic gear lubricant (SAE J2360 preferred)	2.1 L (2.2 qt)
Gear Lubricant	Wheel Drive <sup>c</sup>	SAE 75W-90, API service class GL-5 fully synthetic gear lubricant (SAE J2360 preferred)	1.4 L (1.5 qt)
Coolant	Engine Cooling System	ASTM D-6210 and CES-14603, Peak Final Charge Global™, FleetGard™ ES Compleat™ OAT; refer to notes in the following table	27.5 L (7.3 gal)
Engine oil	Engine Oil Pan	SAE 15W-40 compliant with SAE specs for API class SJ and CH-4 engine oil	11 L (11.6 qt)
Air Conditioning refrigerant <sup>d</sup>	Air Conditioning System	R-134a	2.27 kg (5 lb)
Air Conditioning Refrigerant Oil <sup>e</sup>	Air conditioning system total capacity	PAG SP-15	240 cc (8.1 fl oz)

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<sup>a</sup>Optional when operating temperature is below 0°C (32°F).

<sup>b</sup>SAE 75W-140 must be substituted for SAE 80W-140 if necessary.

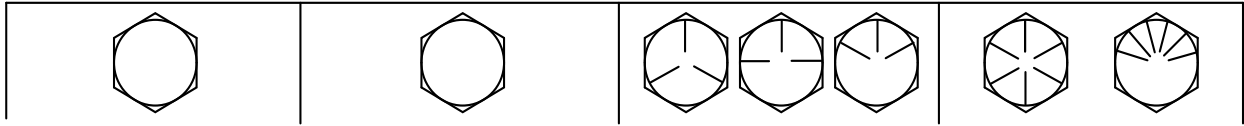
<sup>c</sup>SAE 85W-140 API Service Class GL-5. Extreme Pressure Gear Lubricant is used before initial change.

<sup>d</sup>For prior models that have not upgraded to 2.27 kg (5 lb) of refrigerant order Kit, which includes decal to advise of systems 2.27 kg (5 lb) charge requirement, refer to Service Bulletin 1254.

<sup>e</sup>New compressor (MD #183515) comes filled. If installing on 2014 and prior models, refer to Service Bulletin 1254.

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## Unified Inch Bolt and Screw Torque Values



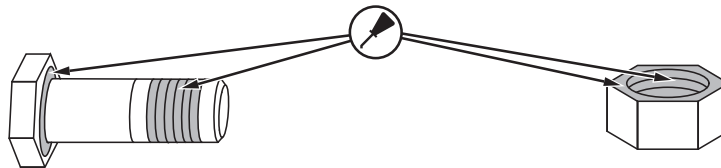
TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1 <sup>a</sup>				SAE Grade 2 <sup>b</sup>				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head <sup>c</sup>		Flange Head <sup>d</sup>		Hex Head <sup>c</sup>		Flange Head <sup>d</sup>		Hex Head <sup>c</sup>		Flange Head <sup>d</sup>		Hex Head <sup>c</sup>		Flange Head <sup>d</sup>	
	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

<sup>a</sup>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.

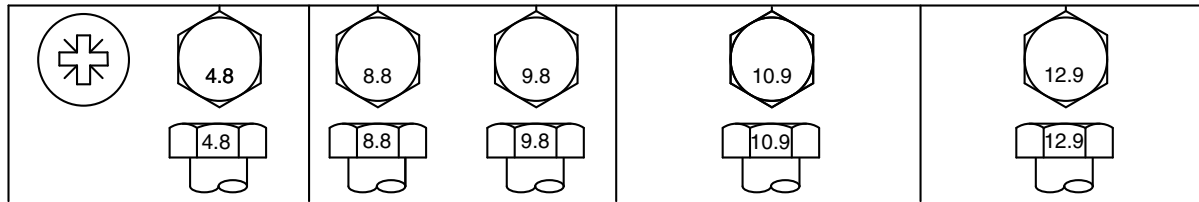
<sup>b</sup>Grade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.

<sup>c</sup>Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

<sup>d</sup>Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

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## Metric Bolt and Screw Torque Values



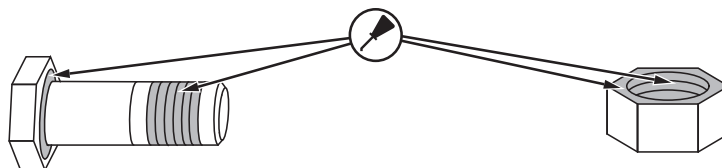
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Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head <sup>a</sup>		Flange Head <sup>b</sup>		Hex Head <sup>a</sup>		Flange Head <sup>b</sup>		Hex Head <sup>a</sup>		Flange Head <sup>b</sup>		Hex Head <sup>a</sup>		Flange Head <sup>b</sup>	
	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

<sup>a</sup>Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

<sup>b</sup>Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2-19-30MAY18

## Limited Battery Warranty

*NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.*

### To Secure Warranty Service

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

### Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship will be eligible for warranty consideration.

### This Warranty Does Not Cover

Breakage of the container, cover, or terminals.

Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

Transportation, mailing, or service call charges for warranty service.

### Limitation of Implied Warranties and Purchaser's Remedies

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

### No Dealer Warranty

The selling dealer makes no warranty of its own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

## All Engines United States and Canada Industrial (Off-Highway) Coverage

### Products Warranted

This Warranty applies to new Engines sold by Cummins and delivered to the first user on or after April 1, 1999, that are used in Industrial (Off-Highway) applications in the United States<sup>2</sup> and Canada, except for Engines used in marine, generator drive and certain defense applications, for which different Warranty Coverage is provided.

### Base Engine Warranty

This Warranty covers any failures of the Engine, under normal use and service, which result from a defect in material or factory workmanship (Warrantable Failures).

Coverage begins with the sale of the Engine by Cummins. Coverage continues for two years or 2,000 hours of operation, whichever occurs first, from the date of delivery of the Engine to the first user, or from the date the unit is first leased, rented or loaned, or when the Engine has been operated for 50 hours, whichever occurs first. If the 2,000 hour limit is exceeded during the first year, Coverage continues until the end of the first year.

Engine aftertreatment components included in the Cummins Critical Parts List (CPL) and marked with a Cummins part number are covered under Base Engine Warranty.

Additional Coverage is outlined in the Emission Warranty section.

### Extended Major Components Warranty

The Extended Major Components Warranty covers Warrantable Failures of the Engine cylinder block, camshaft, crankshaft and connecting rods (Covered Parts).

Bushing and bearing failures are not covered

This Coverage begins with the expiration of the Base Engine Warranty and ends three years or 10,000 (3,000 hours for A Series Engines) hours of operation from the date of delivery of the Engine to the first user, or from the date the unit is first leased, rented or loaned, or from when the Engine has been operated for 50 hours, whichever occurs first.

### Consumer Products

The Warranty on Consumer Products in the United States\* is a LIMITED Warranty. **CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Any implied Warranties applicable to Consumer Products in the United States\* terminate concurrently with the expiration of the express Warranties applicable

<sup>2</sup> United States includes American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands.

to the product. In the United States\*, some states do, or limitations on how long an implied Warranty lasts, so the limitations or exclusions here in may not apply to you.

**These Warranties are made to all Owners in the chain of distribution and Coverage continues to all subsequent Owners until the end of the periods of Coverage.**

### **Cummins Responsibilities**

#### **During The Base Engine Warranty**

Cummins will pay for all parts and labor needed to repair the damage to the Engine resulting from a Warrantable Failure.

Cummins will pay for the lubricating oil, antifreeze, filter elements and other maintenance items that are not reusable due to the Warrantable Failure.

Cummins will pay reasonable costs for mechanics to travel to and from the equipment site, including meals, mileage and lodging, when the repair is performed at the site of the failure.

Cummins will pay reasonable labor costs for Engine removal and reinstallation when necessary to repair a Warrantable Failure.

#### **During The Extended Major Components Warranty**

Cummins will pay for the repair or, at its option, replacement of the defective Covered Part and any Covered Part damaged by a Warrantable Failure of the defective Covered Part.

### **Owner Responsibilities**

#### **During The Base Engine Warranty**

Owner is responsible for the cost of lubricating oil, antifreeze, filter elements and other maintenance items provided during Warranty repairs unless such items are not reusable due to the Warrantable Failure.

#### **During The Extended Major Components Warranty**

Owner is responsible for the cost of all labor needed to repair the Engine, including the labor to remove and reinstall the Engine. When Cummins elects to repair a part instead of replacing it, Owner is not responsible for the labor needed to repair the part.

Owner is responsible for the cost of all parts required for the repair except for the defective Covered Part and any Covered Part damaged by a Warrantable Failure of the defective Covered Part.

Owner is responsible for the cost of lubricating oil, antifreeze, filter elements and other maintenance items replaced during repair of a Warrantable Failure.

#### **During The Base Engine And Extended Major Components Warranties**

Owner is responsible for the operation and maintenance of the Engine as specified in the applicable Cummins Operation and Maintenance Manual. Owner is also

responsible for providing proof that all recommended maintenance has been performed.

Before the expiration of the applicable Warranty, Owner must notify a Cummins distributor, authorized dealer or other repair location approved by Cummins of any Warrantable Failure and make the Engine available for repair by such facility. Service locations are listed on the Cummins Worldwide Service Locator at Cummins.com.

Owner is responsible for communication expenses, meals, lodging and similar costs incurred as a result of a Warrantable Failure.

Owner is responsible for non-Engine repairs, "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs and other losses resulting from a Warrantable Failure.

### **Limitations**

Engines with an emissions certification listed below must be operated using only diesel fuel having no more than the corresponding maximum sulfur content. Failure to use the specified fuel (see also Cummins Fuel Bulletin #3379001) can damage the Engine and aftertreatment system within a short period of time. This damage could cause the Engine to become inoperable and failures attributable to the use of incorrect fuels will be denied Warranty Coverage.

#### **Maximum sulfur levels by emissions certification level as listed on the Engine's dataplate are:**

- EPA 2007/2010/2013 — max. 15 parts per million
- EPA Tier 4 Interim/Final — max. 15 parts per million
- EU Stage IIIB 2011 — max. 15 parts per million
- Euro 4/5 — max. 50 parts per million
- Euro 6 — max. 10 parts per million

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine. Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel exhaust fluid.

For power units and fire pumps (package units), this Warranty applies to accessories, except for clutches and filters, supplied by Cummins which bear the name of another company.

For all other Industrial engines (except those previously mentioned), this Warranty does not apply to accessories



which bear the name of another company. Such non-warranted accessories include, but are not limited to: alternators, starters, fans<sup>3</sup>, air conditioning compressors, clutches, filters, transmissions, torque converters, steering pumps, and non-Cummins fan drives, Engine compression brakes and air compressors.

Cummins Compusave units are covered by a separate Warranty.

Before a claim for excessive oil consumption will be considered, Owner must submit adequate documentation to show that consumption exceeds Cummins published standards.

Failures of belts and hoses supplied by Cummins are not covered beyond the first 500 hours or one year of operation, whichever occurs first.

Parts used to repair a Warrantable Failure may be new Cummins parts, Cummins approved rebuilt parts or repaired parts. Cummins is not responsible for failures resulting from the use of parts not approved by Cummins.

A new Cummins or Cummins approved rebuilt part used to repair a Warrantable Failure assumes the identity of the part it replaced and is entitled to the remaining Coverage hereunder.

For all A Series Applications, including Industrial, travel reimbursement for non-transportable equipment will be limited to 4.0 hours, \$0.25/ mile and 250 miles maximum. Any costs beyond this limit are the customer's responsibility.

**CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS.**

**CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

**THESE WARRANTIES SET FORTH HEREIN ARE THE SOLE WARRANTIES MADE BY CUMMINS IN REGARD TO THESE ENGINES .CUMMINS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### **Emission Warranty**

#### **Products Warranted**

This Emission Warranty applies to new Engines marketed by Cummins that are used in the United States\* and Canada in vehicles designed for Industrial Off-Highway use. This Warranty applies to Engines delivered to the ultimate purchaser on or after April 1,

<sup>3</sup> Alternators, starters, and fans ARE covered for the duration of the Base Engine Warranty on A Series and B3.3 Engines. Alternators and starters are covered for the duration of the Base Engine Warranty on QSK23 Engines.

1999 for Engines up to 750 horsepower and on or after January 1, 2000 for Engines 751 horsepower and over.

### **Coverage**

Cummins warrants to the ultimate purchaser and each subsequent purchaser that, built and equipped so as to conform at the time of sale by Cummins with all U.S. Federal emission regulations applicable at the time of manufacture and that it is free from defects in workmanship or material which would cause it not to meet these regulations within the longer of the following periods: (A)<sup>4</sup> Five years or 3,000 hours of operation for industrial applications, five years or 3,500 hours of operation for industrial spark-ignited Engines (GTA855, G855, G5.9C, G8.3-C, GTA8.9E, QSK19G) and five years or 2,500 hours of operation for industrial spark-ignited Engines (GKTA19-GC), whichever occurs first, as measured from the date of delivery of the Engine to the ultimate purchaser, or (B) The Base Engine Warranty.

If the vehicle in which the Engine is installed is registered in the state of California, a separate California Emission Warranty also applies.

### **Limitations**

Engines with an emissions certification listed below must be operated using only diesel fuel having no more than the corresponding maximum sulfur content. Failure to use the specified fuel (see also Cummins Fuel Bulletin #3379001) can damage the Engine and aftertreatment system within a short period of time. This damage could cause the Engine to become in operable and failures attributable to the use of incorrect fuels will be denied Warranty Coverage.

**Maximum sulfur levels by emissions certification level as listed on the Engine's dataplate are:**

- EPA 2007/2010/2013 — max. 15 parts per million
- EPA Tier 4 Interim/Final — max. 15 parts per million
- EU Stage IIIB 2011 — max. 15 parts per million
- Euro 4/5 — max. 50 parts per million
- Euro 6 — max. 10 parts per million

Failures, other than those resulting from defects in materials or workmanship, are not covered by this Warranty.

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolant or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine. Cummins is also not responsible for failures caused by incorrect oil, fuel or

<sup>4</sup> Emissions Warranty for BLPG Industrial Off-Highway Engines is 5 years 13,500 hours.

diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel exhaust fluid.

Cummins is not responsible for non-Engine repairs, "downtime" expenses, cargo damage, fines, all business costs or other losses resulting from a Warrantable Failure.

**CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

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**All Engines International Industrial, (Off-Highway) Coverage**

**Products Warranted**

This Warranty applies to new Engines sold by Cummins and delivered to the first user on or after April 1, 1999, that are used in industrial (Off-Highway) applications anywhere in the world where Cummins approved service is available, except the United States and Canada. Different Warranty Coverage is provided for engines used in marine, generator drive and certain defense applications.

**Base Engine Warranty**

This Warranty covers any failures of the Engine, under normal use and service, which result from a defect in material or factory workmanship (Warrantable Failure).

Coverage begins with sale of the Engine by Cummins. Coverage continues for two years or 2,000 hours of operation, whichever occurs first, from the date of delivery of the Engine to the first user, or from the date the unit is first leased, rented or loaned, or when the Engine has been operated for 50 hours, whichever occurs first. If the 2,000 hour limit is exceeded during the first year, Coverage continues until the end of the first year.

Engine aftertreatment components included in the Cummins critical parts list (CPL) and marked with a Cummins part number are covered under base engine warranty.

**Extended Major Components Warranty**

The Extended Major components warranty covers Warrantable Failures of the engine cylinder block, camshaft, crankshaft and connecting rods (covered parts).

Bushing and bearing failures are not covered.

This coverage begins with the expiration of the Base Engine Warranty and ends three years or 10,000 hours (3,000 hours for A Series Engines) hours of operation, from the date of delivery of the engine to the first user, or from the date the unit is first leased, rented or loaned, or when the Engine has been operated for 50 hours, whichever occurs first.

**These Warranties are made to all Owners in the**

**chain of distribution, and Coverage continues to all subsequent Owners until the end of the periods of Coverage.**

**Cummins Responsibilities**

**During The Base Engine Warranty**

Cummins will pay for all parts and labor needed to repair the damage to the Engine resulting from a Warrantable Failure.

Cummins will pay for the lubricating oil, antifreeze, filter elements and other maintenance item that are not reusable due to a Warrantable Failure.

Cummins will pay for reasonable costs for mechanics to travel to and from the equipment site, including meals, mileage and lodging, when the repair is performed at the site of the failure.

Cummins will pay for reasonable labor costs for Engine removal and reinstallation when necessary to repair a Warrantable Failure.

**During The Extended Major Components Warranty**

Cummins will pay for the repair or, at its option, replacement of the defective Covered Part and any Covered Part damaged by a Warrantable Failure of the defective Covered Part.

**Owner Responsibilities**

**During The Base Engine Warranty**

Owner is responsible for the cost of lubricating oil, antifreeze, filter elements and other maintenance items replaced during Warranty repairs unless such items are not reusable due to the Warrantable Failure.

**During The Extended Major Components Warranty**

Owner is responsible for the cost of all labor needed to repair the Engine, including the labor to remove and reinstall the Engine. When Cummins elects to repair a part instead of replacing it, Owner is not responsible for the labor needed to repair the part.

Owner is responsible for the cost of all parts required for the repair except for the defective Covered Part and any Covered Part damaged by a Warrantable Failure of the defective Covered Part.

Owner is responsible for cost of lubricating oil, antifreeze, filter elements and other maintenance items replaced during repair of a Warrantable Failure.

**During The Base Engine Warranty And Extended Major Components Warranties**

Owner is responsible for the operation and maintenance of the Engine as specified in the applicable Cummins Operation and Maintenance Manual. Owner is also responsible for providing proof that all recommended maintenance has been performed.

Before the expiration of the applicable Warranty, Owner must notify a Cummins distributor, authorized dealer or

other repair location approved by Cummins of any Warrantable Failure and make the product available for repair by such facility. Service locations are listed in the Cummins Worldwide Service Locator at Cummins.com.

Owner is responsible for communication expenses, meals, lodging and similar costs incurred as a result of a Warrantable Failure.

Owner is responsible for non-Engine repairs, "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs and other losses resulting from a Warrantable Failure.

### Limitations

Engines with a emissions certification listed below must be operated using only diesel fuel having no more than the corresponding maximum sulfur content. Failure to use the specified fuel (see also Cummins Fuel Bulletin #3379001) can damage the Engine and aftertreatment system within a short period of time. This damage could cause the Engine to become inoperable and failures attributable to the use of incorrect fuels will be denied Warranty Coverage.

#### Maximum sulfur levels by emissions certification level as listed on the Engines dataplate are:

- EPA 2007/2010/2013 — max. 15 parts per million
- EPA Tier 4 Interim/Final — max. 15 parts per million
- EU Stage IIIB 2011 — max. 15 parts per million
- Euro 4/5 — max. 50 parts per million
- Euro 6 — max. 10 parts per million

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shut down practices; unauthorized modifications of the Engine. Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel exhaust fluid.

For power units and fire pumps (package units), this warranty applies to accessories, except clutches and filters supplied by Cummins which bear the name of another company.

Except for the accessories noted previously, Cummins does not warrant accessories which bear the name of another company. Such non-warranted accessories include, but are not limited to: alternators, starters, fans<sup>5</sup>, air conditioning compressors, clutches, filters, transmissions, torque converters, steering pumps, non-Cummins fan drives and air cleaners.

<sup>5</sup> Alternators, starters and fans ARE covered for the duration of the Base Engine Warranty on A Series and B3.3 Engines. Alternators and starters are covered for the duration of the Base Engine Warranty on QSK 23 Engines.

Cummins Compusave units are covered by a separate Warranty.

Before a claim for excessive oil consumption will be considered, Owner must submit adequate documentation to show that consumption exceeds Cummins published standards.

Failures of belts and hoses supplied by Cummins are not covered beyond the first 500 hours or one year of operation, whichever occurs first.

Parts used to repair a Warrantable Failure may be new Cummins parts, Cummins approved rebuilt parts or repaired parts. Cummins is not responsible for failures resulting from the use of parts not approved by Cummins.

A new Cummins or Cummins approved rebuilt part used to repair a Warrantable Failure assumes the identity of the part it replaced and is entitled to the remaining Coverage hereunder.

For all A Series Applications, including industrial, travel reimbursement for non-transportable equipment will be limited to 4.0 hours, \$0.25/mile and 250 miles maximum. Any costs beyond this limit are the customer's responsibility.

### CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS.

### CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

### THESE WARRANTIES SET FORTH HEREIN ARE THE SOLE WARRANTIES MADE BY CUMMINS IN REGARD TO THESE ENGINES. CUMMINS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

In the case of consumer sales, in some countries, the Owner has statutory rights which cannot be affected or limited by the terms of this Warranty.

Nothing in this Warranty excludes or restricts any contractual rights the Owner may have against third parties.

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## California Emission Control System Warranty, Off-Highway

### Products Warranted

This Emissions Control System Warranty applies to off-road diesel engines certified with the California Air Resources Board beginning with the year 1996 for engines up to 750 horsepower, beginning with the year 2000 for 751 horsepower and up, marketed by Cummins, and registered in California for use in industrial off-highway applications.

## Your Warranty Rights and Obligations

The California Air Resources Board And Cummins Engine Company, Inc., are pleased to explain the emission control system warranty on your engine. In California, new off-road diesel engines must be designed, built and equipped to meet the State's stringent anti-smog standards. Cummins must warrant the emission control system on your engine for periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, Cummins will repair your off-road diesel engine at no cost to you including diagnosis, parts, and labor.

### Manufacturer's Warranty Coverage

This warranty coverage is provided for 5 years or 3,000 hours of engine operation, whichever first occurs from date of delivery of the engine to the first user. If any emission-related part on your engine is defective, the part will be repaired or replaced by Cummins.

### Coverage

This emission control system warranty applies only to the following A series and emission control parts.

- B3.3
- B3.9
- B4.5s
- B5.9
- B6.7s
- QSB3.9-30
- QSB4.5-30
- QSB5.9-44
- C8.3
- QSC8.3
- QSL9

Warranty Covered Systems	
Fuel Pump	Intake Manifold
Static Timing	Charge Air Cooler
Delivery Valve	After Cooler
Injection Control Valve Module	
Exhaust Manifold	
Injectors	
Calibration	Oxidation Catalyst
Needle	
Nozzle	Electronic Control System
Spring	Control Module
	Boost Pressure Sensor
Turbocharger	Coolant Temperature Sensor
Compressor Wheel	Fuel Pressure Sensor

Warranty Covered Systems	
Turbine Wheel	
Turbine Oil Seal	
WasteGate Valve	

### Owner's Warranty Responsibilities

As the off-road diesel engine owner, you are responsible for the performance of the required maintenance listed in your Cummins Operation and Maintenance Manual. Cummins recommends that you retain all receipts covering maintenance on your off-road diesel engine, but Cummins cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

You are responsible for presenting your off-road diesel engine to a Cummins dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

As the off-road diesel engine owner, you should also be aware that Cummins may deny you warranty coverage if your off-road diesel engine or part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

Your engine is designed to operate on diesel fuel only. Use of any other may result in your no longer operating in compliance with California's emissions requirements.

If you have any questions regarding your warranty rights and responsibilities, you should contact Cummins Customer Assistance Department at 1-800-343-7357 (1-800-DIESELS) or California Air Resources Board at Telstar Avenue, El Monte, CA 91731.

Prior to the expiration of the applicable warranty, owner must give notice of any warranted emission control failure to a Cummins distributor, authorized dealer or other repair location approved by Cummins and deliver the engine to such facility for repair. Repair locations are listed in Cummins United States and Canada Service Directory.

Owner is responsible for incidental costs such as; communication expenses, meals, lodging incurred by Owner or employees of Owner as a result of a warrantable failure.

Owner is responsible for business costs and losses, "downtime" expenses, and cargo damage resulting from a warrantable failure. CUMMINS IS NOT RESPONSIBLE FOR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDE BUT ARE NOT LIMITED TO FINES, THEFT, VANDALISM, OR COLLISIONS.

### Replacement Parts

Cummins recommends that any service parts used for maintenance, repair or replacement of emission control systems be new, genuine Cummins or Cummins approved rebuilt parts and assemblies, and that the

engine be serviced by a Cummins distributor, authorized dealer or the repair location approved by Cummins. The owner may elect to have maintenance, replacement or repair of the emission control parts performed by a facility other than a Cummins distributor, an authorized dealer or a repair location approved by Cummins, and may elect to use parts other than new genuine Cummins or Cummins approved rebuilt parts and assemblies for such maintenance, replacement or repair. However, the cost of such service or parts will not be covered under this emission control system warranty.

### Cummins Responsibilities

Repairs and service will be performed by any Cummins distributor, authorized dealer or other repair location approved by Cummins using new, genuine Cummins or Cummins approved rebuilt parts and assemblies. Cummins will repair any of the emission control parts found by Cummins to be defective without charge for part or labor (including diagnosis with results in determination that there has been a failure of a warranted emission control part).

### Emergency Repairs

In the case of an emergency where a Cummins distributor, authorized dealer, or other repair location approved by Cummins is not available, repairs may be performed by any available repair location using any replacement parts. Cummins will reimburse the owner for expenses (including diagnosis), not to exceed the manufacturer's suggested retail price for all warranted parts replaced and labor charges based on the manufacturer's recommended time allowance for the warranty repair and the geographically appropriate hourly labor rate. A part not being available within 30 days or a repair not being completed within 30 days constitutes an emergency. Replaced parts and paid invoices must be presented at a Cummins authorized repair facility as a condition of reimbursement for emergency repairs not performed by a Cummins distributor, authorized dealer, or other repair location approved by Cummins.

### Warranty Limitations

Cummins is not responsible for failures resulting from Owner or operator abuse or neglect, such as: operation without adequate coolant, fuel or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or air intake systems; improper storage, starting, warm-up, run-in or shutdown practices.

The manufacturer warrants to the ultimate purchaser and each subsequent purchaser that the engine is designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board, and that it is free from defects in materials and workmanship which cause the failure of a warranted part.

Any warranted part which is not scheduled for replacement as required maintenance, or which is

scheduled only for regular inspection to the effect of "repair or replace as necessary" is warranted for the warranty period.

Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time prior to the first scheduled replacement point for that part.

The owner will not be charged for diagnostic labor which leads to the determination that a warranted part is defective, if the diagnostic work is performed at a warranty station.

The manufacturer is liable for damages to other engine components caused by the failure under warranty of any warranted part.

Cummins is not responsible for failures resulting from improper repair or the use of parts which are not genuine Cummins or Cummins approved parts.

These warranties, together with the express commercial warranties and emission warranty are the sole warranties of Cummins. There are no other warranties, express or implied, or of merchantability or fitness for a particular purpose.

GW44282,0000064-19-27JAN15

### Speed Limit Decal—If Required



E92528—UN—22OCT19

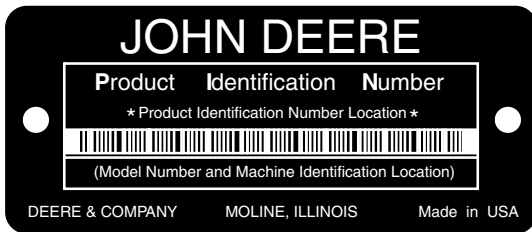
#### A—Speed Limit Decal Location

When required, a speed limit decal is used to designate the maximum ground speed for which a machine has been designed to operate or can be driven on public roads. Know your local or national maximum transport speed limit before transporting the machine.

GW44282,0000A64-19-15NOV19

# Identification Numbers

## Record Product Identification Numbers



E49073—UN—09NOV00

The windrower product identification number plate identifies the machine.

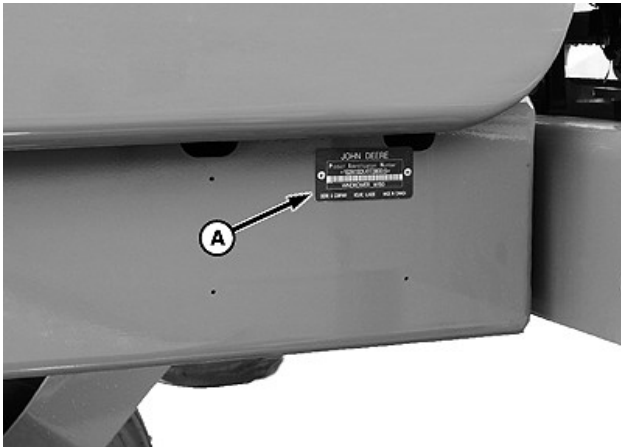
The product identification number is above the bar code, and the machine model and type is below the bar code.

All of the letters and numbers stamped on these plates are needed when ordering parts, or identifying the machine for any John Deere product support program.

They are also needed for law enforcement to trace the machine, if it is ever stolen.

RC48509,00005D3-19-21JUN13

## Record Windrower Product Identification Number



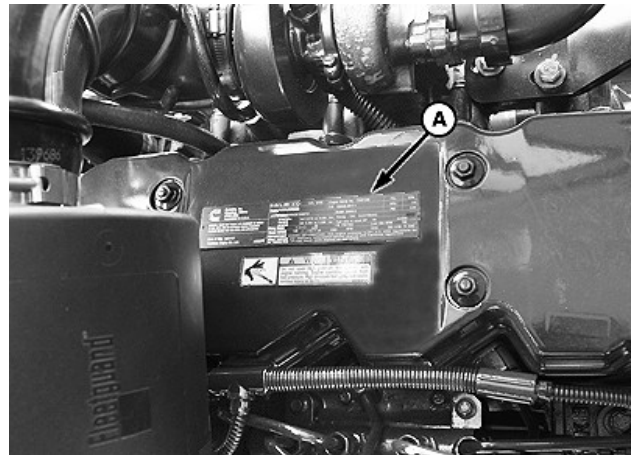
E65085—UN—07JUN12

### A—Identification Plate

Windrower product serial number is located on an identification plate (A) on the left rear cab- forward frame.

RC48509,00005D2-19-20JUN13

## Record Engine Serial Number



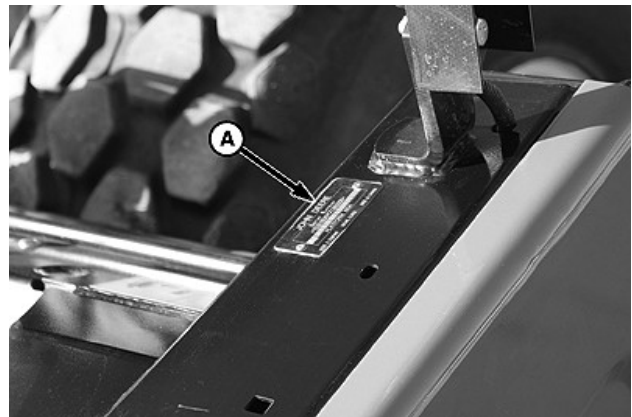
E65087—UN—12JUN12

### A—Identification Plate

Engine serial number is located on an identification plate (A) on the cylinder head cover.

OUC6064,00012D4-19-12AUG14

## Platform Identification Number



E65086—UN—12JUN12

### A—Serial Number Plate

Draper platform serial number plate (A) is located on the left-hand front of the platform. Letters and numbers stamped on the plate identifies the platform. All of these characters are needed when ordering parts or identifying a platform for any John Deere support program. If ever stolen, they are needed for law enforcement to trace.

Draper serial plate locations may vary slightly.

GW44282,0000097-19-27JAN15

## Keep Proof of Ownership

6. Notify your John Deere dealer of any losses.

DX, SECURE2-19-18NOV03

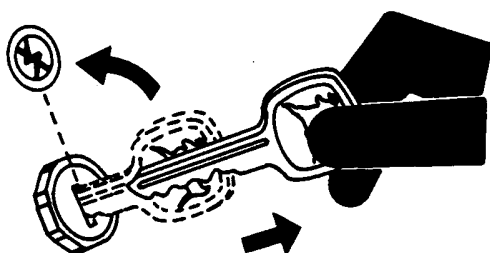


TS1680—UN—09DEC03

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
  - Mark your machine with your own numbering system
  - Take color photographs from several angles of each machine

DX, SECURE1-19-18NOV03

## Keep Machines Secure



TS230—UN—24MAY89

1. Install vandal-proof devices.
2. When machine is in storage:
  - Lower equipment to the ground
  - Set wheels to widest position to make loading more difficult
  - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.

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