3033R, 3039R and 3046R Compact Utility Tractors Operator's Manual (North American Edition)

OPERATOR'S MANUAL

3033R, 3039R, 3046R Compact Utility Tractors (North American Edition)

OMLVU28866 ISSUE J6 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

John Deere Augusta Works
North American Edition
PRINTED IN U.S.A.

Introduction

Foreword

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

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

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

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

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

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate or statement 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.

DX,IFC1 -19-03APR09-1/1

Contents

Continued on next page

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

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Introduction

Thank You for Purchasing a John Deere Product

We appreciate having you as a customer and wish you many years of safe and satisfied use of your machine.

KN52281,1003FBA -19-22AUG12-1/1

Using Your Operator's Manual

This manual is an important part of your machine and should remain with the machine when you sell it.

Reading your operator's manual will help you and others avoid personal injury or damage to the machine. Information given in this manual will provide the operator with the safest and most effective use of the machine. Knowing how to operate this machine safely and correctly will allow you to train others who may operate this machine.

If you have an attachment, use the safety and operating information in the attachment operator's manual along with the machine operator's manual to operate the attachment safely and correctly.

This manual and safety signs on your machine may also be available in other languages (see your authorized dealer to order).

Sections in your operator's manual are placed in a specific order to help you understand all the safety messages and learn the controls so you can operate this machine safely. You can also use this manual to answer any specific operating or servicing questions. A convenient index located at the end of this book will help you to find needed information quickly.

The machine shown in this manual may differ slightly from your machine, but will be similar enough to help you understand our instructions.

RIGHT-HAND and LEFT-HAND sides are determined by facing in the direction the machine will travel when going forward. When you see a broken line (------), the item referred to is hidden from view.

Before delivering this machine, your dealer performed a predelivery inspection to ensure best performance.

KN52281,1003FBB -19-03OCT12-1/1

Special Messages

Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.

CAUTION: Avoid injury! This symbol and text highlight potential hazards or death to the operator or bystanders that may occur if the hazards or procedures are ignored.

IMPORTANT: Avoid damage! This text is used to tell the operator of actions or conditions that might result in damage to the machine.

NOTE: General information is given throughout the manual that may help the operator in the operation or service of the machine.

KN52281,1003FBC -19-22AUG12-1/1

Attachments for Your Machine

There's a John Deere attachment or kit to make your new machine perform more tasks or be more versatile, whether your machine is a lawn tractor or compact utility tractor or a utility vehicle.

You can check out the entire line of attachments for your machine at JohnDeere.com or ask your John Deere dealer. From aerators to electric lift kits to tillers, there's a John Deere attachment or kit to fill every need.

KN52281,1003FBD -19-22AUG12-1/1

Product Identification

Product Identification Information

Each machine has its own unique Product Identification Number (PIN). The PIN number is broken down as follows:

1	L	V	3	0	4	6	R	#	#	A	1	0	0	0	0	1
WMC	Build Factory		Machine Series	Engine Hp			Machine Family	Check Letter	Calendar Year	Model Year	Operator Station Identifier	Build Sequence				
			Model Number								Serial Number					

WMC: World Manufacturing Code.

Build Factory: represents manufacturing location.

Machine Series: represents tractor series.

Engine Hp: represents approximate engine horsepower.

Machine Family: represents overall machine configuration.

Check Letter: calculated based on values and positions of the other characters in the PIN.

Calendar Year = represents calendar year of manufacture (2010 = A, 2031 = 1, 2041 = A again).

Model Year = represents number of years manufactured.

Operator Station = represents style of cab or open operation station.

Build Sequence = represents consecutive number of machines built with same machine series through operator station.

Model Number: made up of series, Hp, and family; example shown 3046R.

Serial Number: made up of model year, operator station, and build sequence.

UP00731,0000203 -19-29JAN16-1/1

Record Identification Numbers

Product Identification Number

If you need to contact an Authorized Service Center for information on servicing, always provide the product model and identification numbers.

You will need to locate the identification numbers for the product. Record the information in the spaces provided below.

DATE OF PURCHASE:

_____

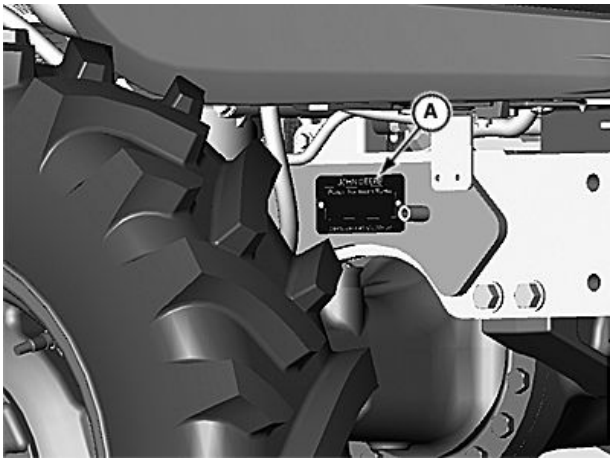
DEALER NAME:

_____

DEALER PHONE:

_____

PRODUCT IDENTIFICATION NUMBER (A):



LV18564 —UN—02AUG13

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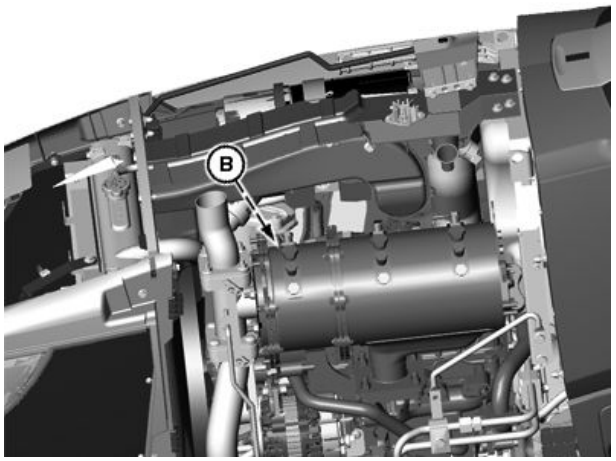
UP00731,00001F9 -19-24JUL14-1/4

ENGINE SERIAL NUMBER (B):

_ _



LV18565 —UN—05AUG13

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UP00731,00001F9 -19-24JUL14-2/4

ROPS Certificate

ROLL- OVER PROTECTIVE STRUCTURE

To maintain unimpaired operator protection and manufacturer's ROPS certification:

•Replace damaged ROPS, do not repair or revise.

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

CERTIFICATION

Performance certified at date of manufacture to:

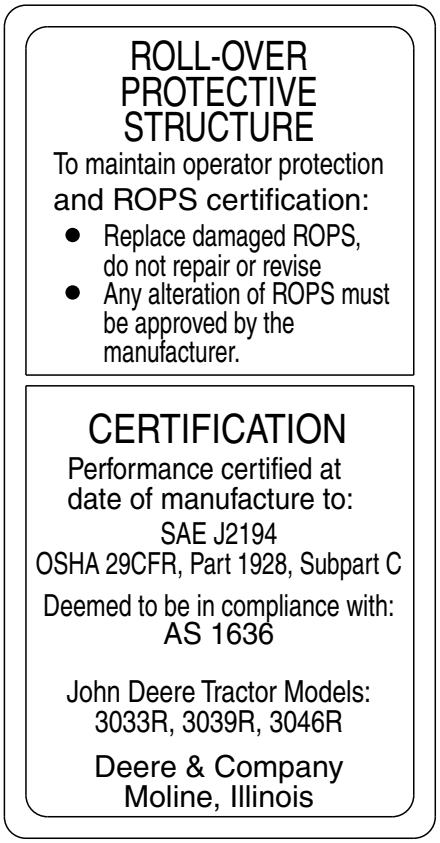
SAE J2194

OSHA 29CFR, Part 1928, Subpart C

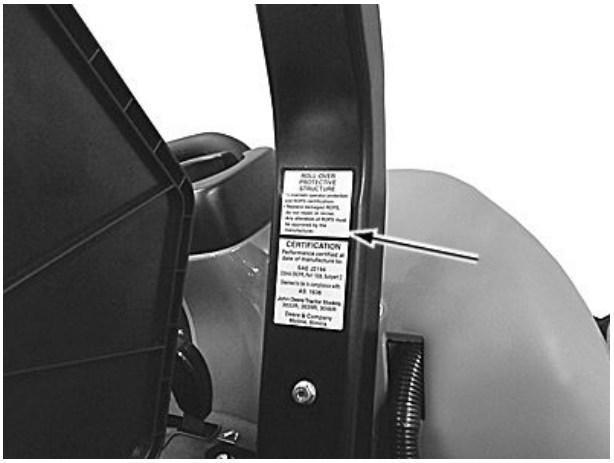
Deemed to be in compliance with: AS 1636

John Deere Tractor Models: 3033R, 3039R, 3046R

Deere & Company Moline, Illinois



LV18566 —UN—22OCT13



LV18567 —UN—02AUG13

Right-Hand Side

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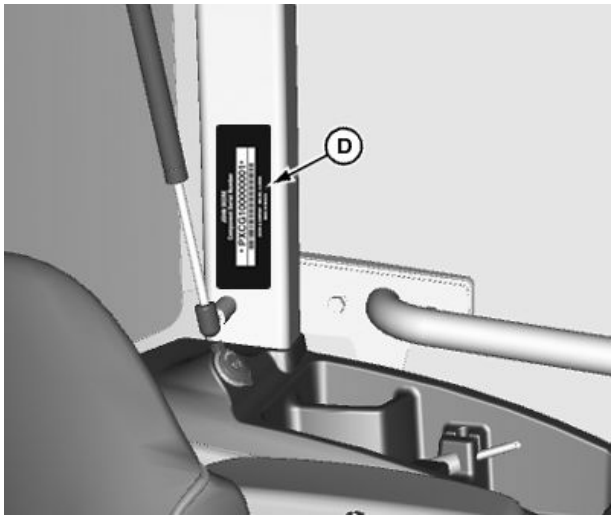
ROPS SERIAL NUMBER CAB (D):

_ _

LV20985 —UN—05FEB14



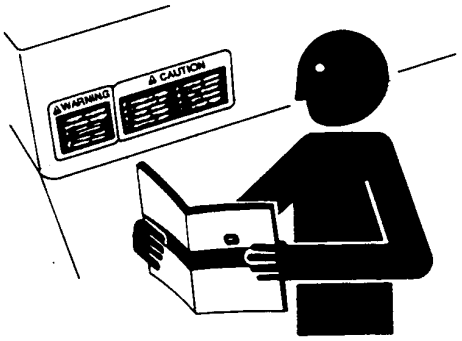
LV18901 —UN—05FEB14

UP00731,00001F9 -19-24JUL14-4/4

Replace Safety Signs

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.



TS201 —UN—15APR13

DX,SIGNS -19-18AUG09-1/1

Safety Signs—All

! WARNING

AVOID INJURY FROM PTO

- **Keep all shields in place**
- **Keep hands, feet and clothing away**

LV21308 —UN—06MAR14

Warning Label—R122717

LV18501 —UN—31JUL13

PTO

Continued on next page

UP00731,00001CE -19-03JUN14-1/2

! DANGER

Start only from seat in park or neutral.

Starting in gear kills.

Safety Label—T146103

LV19455 —UN—22OCT13

Starter

LV18502 —UN—31JUL13

UP00731,00001CE -19-03JUN14-2/2

Safety Signs—OOS

! WARNING

AVOID CRUSHING:

• Keep rollover protective structure fully extended.

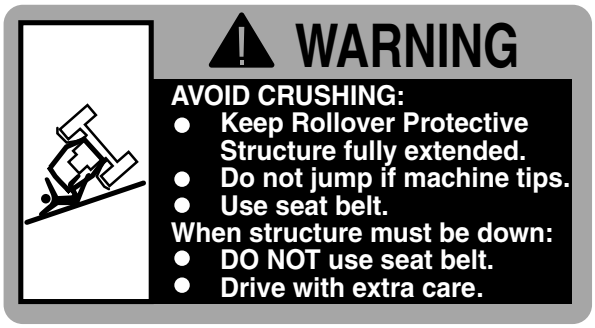
• Do not jump if machine tips.

• Use Seat Belt.

When structure must be down

• DO NOT use seat belt.

• Drive with extra care.



LV18511 —UN—23OCT13

Warning Label—LVU10709

LV18506 —UN—31JUL13

Right-Hand Fender

Continued on next page

UP00731,00001D0 -19-16SEP15-1/4

! CAUTION

1. **Read Operator's Manual before operating this tractor.**
2. **Do not operate machine without guards, shields and safety devices in place and working.**
3. **Hitch towed loads only to drawbar to avoid rearward upset.**
4. **Make certain children and / or others are clear of machine before starting engine or operation.**
5. **Keep all riders off tractor and equipment.**
6. **Keep hands, feet and clothing away from power-driven parts.**
7. **Reduce speed when turning or applying individual brakes or operating around hazards on rough ground or steep slopes.**
8. **Couple brake pedals together for road travel.**
9. **Use flashing warning lights on highway unless prohibited by law.**
10. **Stop engine, lower implement to ground and shift to "PARK" or set brake(s) securely before dismounting.**
11. **Wait for all movement to stop before servicing machinery.**
12. **Remove key if leaving machine unattended.**
13. **Do not operate machine unless trained.**

LV19457 —UN—22OCT13

Caution Label—LVU20485

LV18507 —UN—31JUL13

Right-Hand Fender

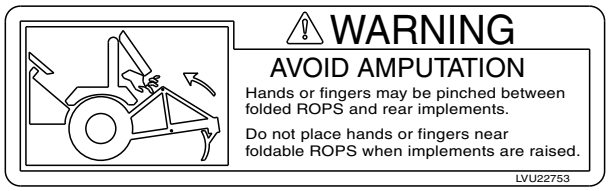
Continued on next page

! WARNING

AVOID AMPUTATION

Hands or fingers may be pinched between folded ROPS and rear implements.

Do not place hands or fingers near foldable ROPS when implements are raised.



LV18555 —UN—22OCT13

Warning Label—LVU22753

LV18508 —UN—31JUL13

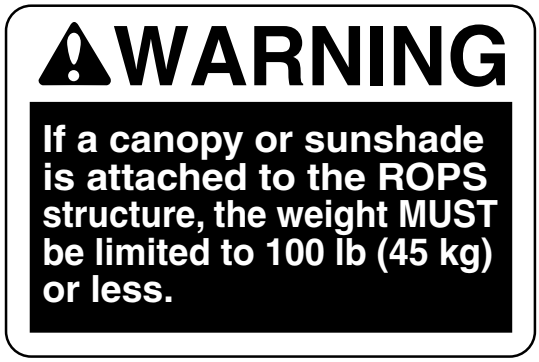
Top of ROPS

Continued on next page

UP00731,00001D0 -19-16SEP15-3/4

! WARNING

If a canopy or sunshade is attached to the ROPS structure, the weight MUST be limited to 100 lb (45 kg) or less.



LV19458 —UN—22OCT13

Warning Label—R141735

LV21998 —UN—03JUN14

Left Side of ROPS

UP00731,00001D0 -19-16SEP15-4/4

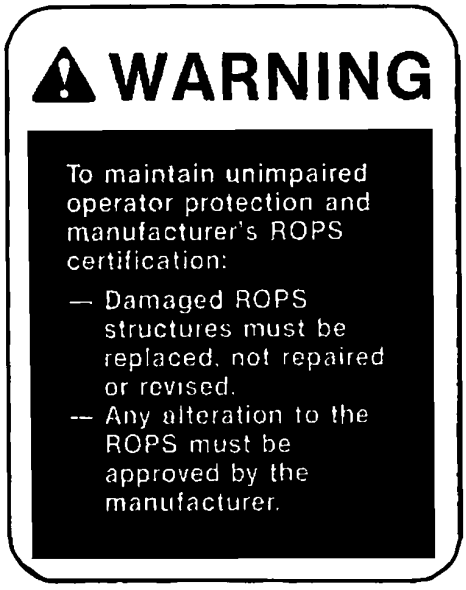
Safety Signs—Cab

! WARNING

To maintain unimpaired operator protection and manufacturer's ROPS certification:

— Damaged ROPS structures must be replaced. not repaired or revised.

— Any alteration to the ROPS must be approved by the manufacturer.



LV18554 —UN—22OCT13

Warning Label—R120124

LV18504 —UN—31JUL13

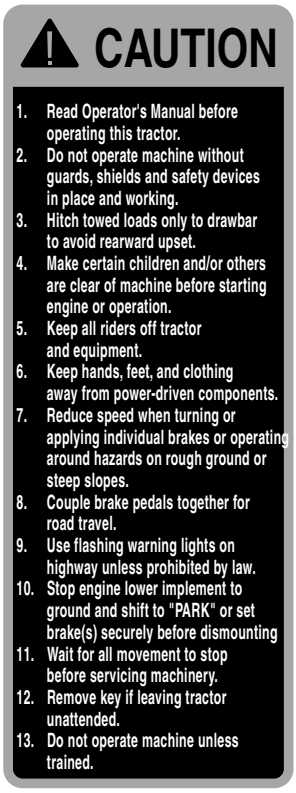
Left-Hand Door Post

Continued on next page

UP00731,00001CF -19-17SEP15-1/3

! CAUTION

1. **Read Operator's Manual before operating this tractor.**
2. **Do not operate machine without guards, shields and safety devices in place and working.**
3. **Hitch towed loads only to drawbar to avoid rearward upset.**
4. **Make certain children and / or others are clear of machine before starting engine or operation.**
5. **Keep all riders off tractor and equipment.**
6. **Keep hands, feet and clothing away from power-driven components.**
7. **Reduce speed when turning or applying individual brakes or operating around hazards on rough ground or steep slopes.**
8. **Couple brake pedals together for road travel.**
9. **Use flashing warning lights on highway unless prohibited by law.**
10. **Stop engine, lower implement to ground and shift to "PARK" or set brake(s) securely before dismounting.**
11. **Wait for all movement to stop before servicing machinery.**
12. **Remove key if leaving machine unattended.**
13. **Do not operate machine unless trained.**



Caution Label—LV20486

LV18510 —UN—22OCT13

Left-Hand Door Post

LV18505 —UN—31JUL13

Continued on next page

UP00731,00001CF -19-17SEP15-2/3

! WARNING

AVOID CRUSHING

Do not jump if machine tips

USE SEAT BELT

LV19456 —UN—22OCT13

Warning Label—LVU10707

LV21062 —UN—17FEB14

Right-Hand Door Post

UP00731,00001CF -19-17SEP15-3/3

Recognize Safety Information

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

Follow recommended precautions and safe operating practices.

T81389 —UN—28JUN13

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

Understand Signal Words

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.

TS187 —19—30SEP88

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 -19-05OCT16-1/1

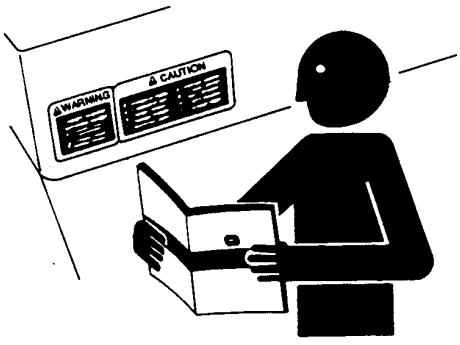
Follow Safety Instructions

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

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

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

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



TS201 —UN—15APR13

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

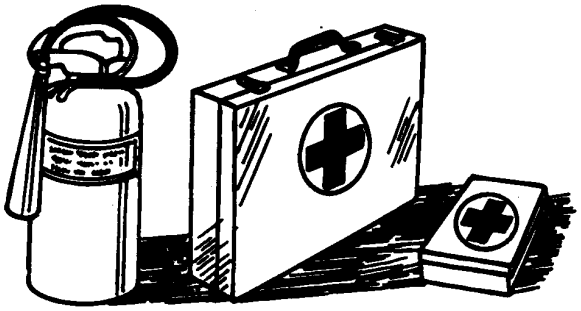
DX,READ -19-16JUN09-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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



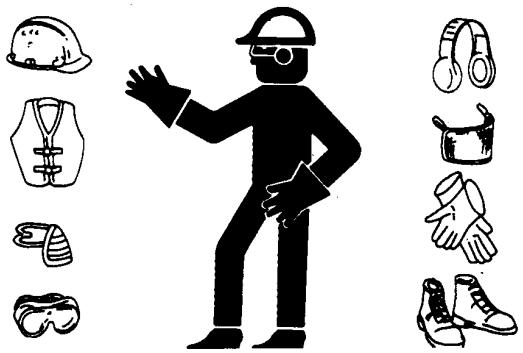
TS291 —UN—15APR13

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

Wear Protective Clothing

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

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



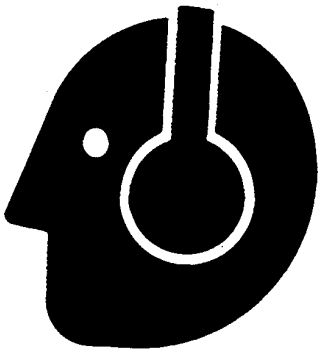
TS206 —UN—15APR13

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

Protect Against Noise

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

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



TS207 —UN—23AUG88

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

Handle Fuel Safely—Avoid Fires

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

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

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

Use only an approved fuel container for transporting flammable liquids.

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

TS202 —UN—23AUG88

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

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

Handle Starting Fluid Safely

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.

TS1356 —UN—18MAR92

DX,FIRE3 -19-14MAR14-1/1

Fire Prevention

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

- Birds and other animals may build nests or bring other flammable materials into the engine compartment or onto the exhaust system. The tractor should be inspected and cleaned prior to the first use each day.
- A build up of grass, crop material and other debris may occur during normal operation. This is especially true when operating in very dry conditions or conditions where airborne crop material or crop dust is present. Any such build up must be removed to ensure proper machine function and to reduce the risk of fire. The tractor must be inspected and cleaned periodically throughout the day.
- Regular and thorough cleaning of the tractor combined with other routine maintenance procedures listed in the Operator's Manual greatly reduce the risk of fire and the chance of costly downtime.
- Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.
- Check fuel lines, tank, cap, and fittings frequently for damage, cracks or leaks. Replace if necessary.

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

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

In Case of Fire

CAUTION: Avoid personal injury.

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

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

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

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

TS227 —UN—15APR13

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

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

Avoid Static Electricity Risk When Refueling

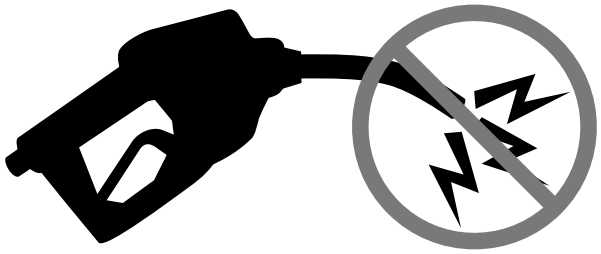
The removal of sulfur and other compounds in Ultra-Low Sulfur Diesel (ULSD) fuel decreases its conductivity and increases its ability to store a static charge.

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

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

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

RG22142 —UN—17MAR14



RG21992 —UN—21AUG13

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

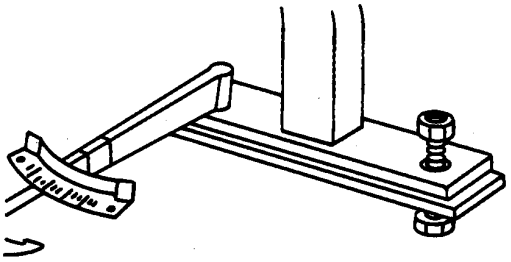
Keep ROPS Installed Properly

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

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

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

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



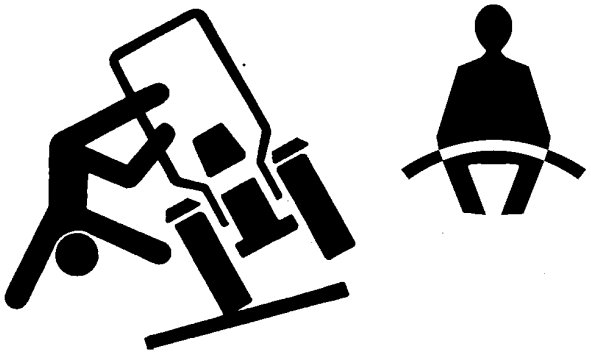
TS212 —UN—23AUG88

DX,ROPS3 -19-12OCT11-1/1

Use Foldable ROPS and Seat Belt Properly

Avoid crushing injury or death during rollover.

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



TS1729 —UN—24MAY13

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

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

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

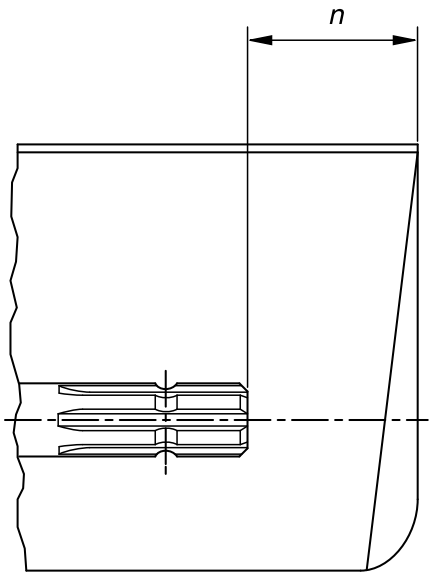
Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

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

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

PTO Type	Diameter	Splines	n ± 5 mm (0.20 in.)
1	35 mm (1.378 in.)	6	85 mm (3.35 in.)
2	35 mm (1.378 in.)	21	85 mm (3.35 in.)
3	45 mm (1.772 in.)	20	100 mm (4.00 in.)

TS1644 —UN—22AUG95



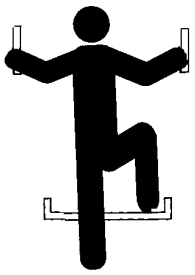
H96219 —UN—29APR10

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

Use Steps and Handholds Correctly

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

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



T133468 —UN—15APR13

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

Read Operator's Manuals for ISOBUS Controllers

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

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

NOTE: ISOBUS refers to the ISO Standard 11783

GreenStar is a trademark of Deere & Company

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

Use Seat Belt Properly

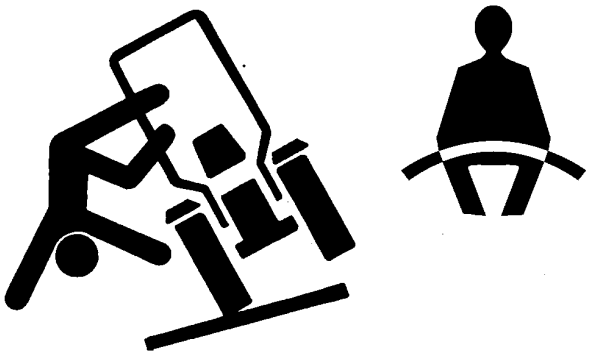
Avoid crushing injury or death during rollover.

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

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

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

Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear, discoloration, or abrasion. Replace only with replacement parts approved for your machine. See your John Deere dealer.



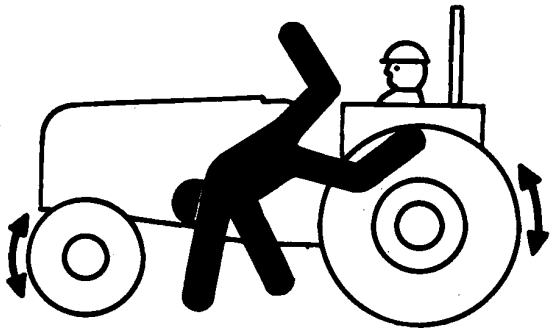
TS1729 —UN—24MAY13

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

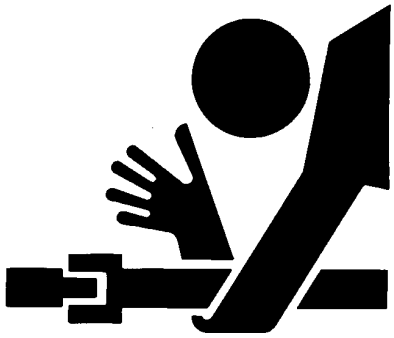
Operating the Tractor Safely

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

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



TS290 —UN—23AUG88



TS276 —UN—23AUG88

Driving Concerns

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

Towing Loads

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

Parking and Leaving the Tractor

- Before dismounting, shut off SCVs, disengage PTO, stop engine, lower implements/attachments to ground and securely engage park mechanism, including the park pawl and park brake. In addition, if tractor is left unattended, remove key.
- Leaving transmission in gear with engine off will NOT prevent the tractor from moving.
- Never go near an operating PTO or an operating implement.
- Wait for all movement to stop before servicing machinery.

Common Accidents

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

The most common accidents involving tractors:

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

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

Avoid Backover Accidents

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

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

PC10857XW —UN—15APR13

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

Limited Use in Forestry Operation

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

These are applications where normal operation does not present a risk of falling or penetrating objects. Any forestry applications beyond these applications, such as forwarding and loading, requires fitment of application-specific components including Falling Object Protective Structure (FOPS) and/or Operative Protective Structures (OPS). Contact John Deere dealer for special components.

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

Operating the Loader Tractor Safely

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

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

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

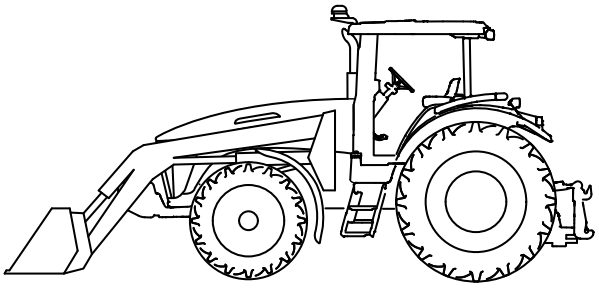
Never allow anyone to walk or work under a raised loader.

Do not use loader as a work platform.

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

Lower loader to ground before leaving operators station.

The Rollover Protective Structure (ROPS) or cab roof, if equipped, may not provide sufficient protection from load falling onto the operators station. To prevent loads from falling onto the operators station, always use appropriate implements for specific applications (that is, manure forks, round bale forks, round bale grippers, and clampers).



TS1692 —UN—09NOV09

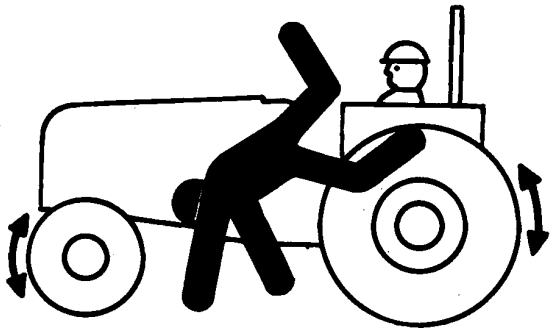
Ballast tractor in accordance to Ballast Recommendations in PREPARE TRACTOR section.

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

Keep Riders Off Machine

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

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

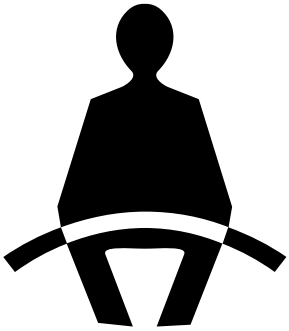


TS290 —UN—23AUG88

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

Instructional Seat

The instructional seat, if so equipped, has been provided only for training operators or diagnosing machine problems.



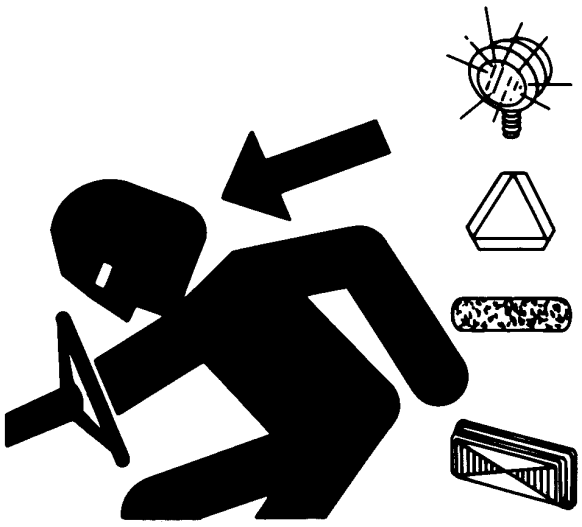
TS1730 —UN—24MAY13

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

Use Safety Lights and Devices

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

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



TS951 —UN—12APR90

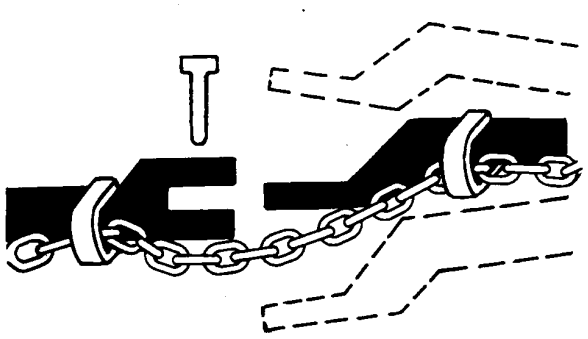
DX,FLASH -19-07JUL99-1/1

Use a Safety Chain

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

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

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



TS217 —UN—23AUG88

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

Transport Towed Equipment at Safe Speeds

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

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

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

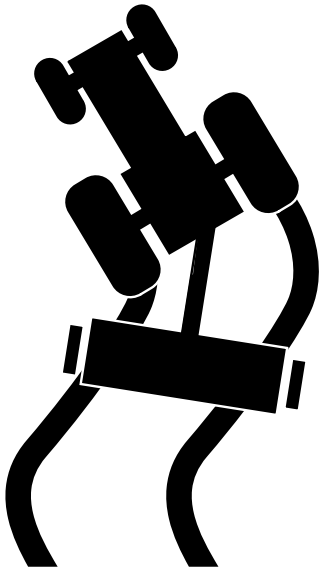
Implements shall be equipped with brakes if the maximum fully loaded weight is greater than 1500 kg (3307 lbs) and greater than 1.5 times the weight of the towing unit.

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

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

Implements with brakes:

- If the manufacturer does not specify a maximum transport speed, do not tow at speeds greater than 40 km/h (25 mph).



TS1686 —UN—27SEP06

- When transporting at speeds up to 40 km/h (25 mph) the fully loaded implement must weigh less than 4.5 times the towing unit weight.
- When transporting at speeds between 40—50 km/h (25—31 mph) the fully loaded implement must weigh less than 3.0 times the towing unit weight.

DX,TOW1 -19-04FEB16-1/1

Use Caution On Slopes and Uneven Terrain

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

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

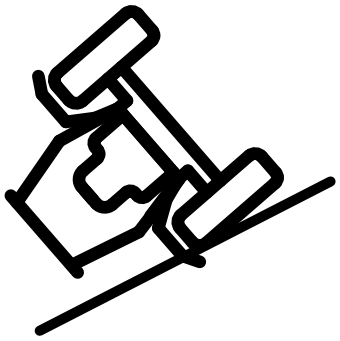
Danger of overturn increases greatly with narrow tread setting, at high speed.

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

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

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

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



RXA0103437 —UN—01JUL09

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

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

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

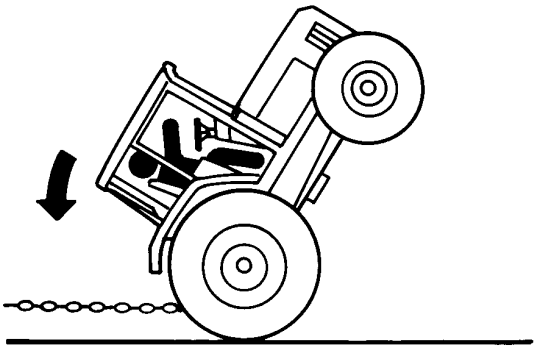
Freeing a Mired Machine

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

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

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

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



TS1645 —UN—15SEP95

TS263 —UN—23AUG88

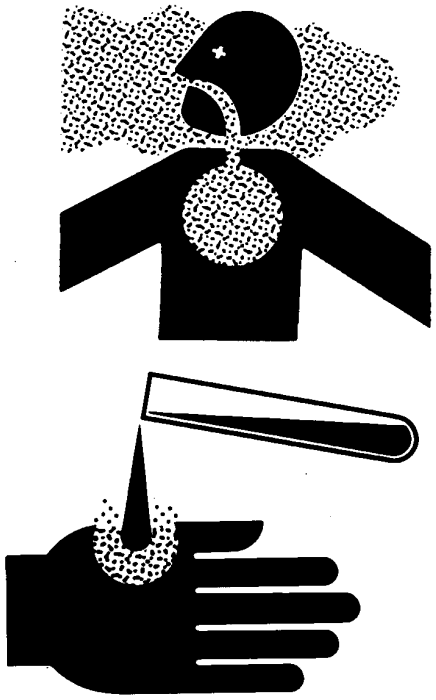
DX,MIRED -19-07JUL99-1/1

Avoid Contact with Agricultural Chemicals

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

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

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



TS220 —UN—15APR13

TS272 —UN—23AUG88

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

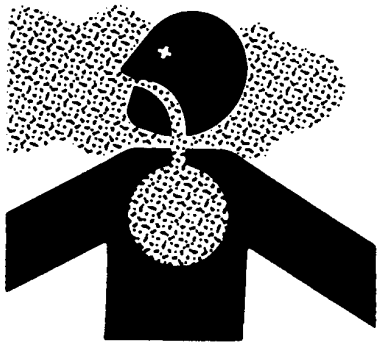
Handle Agricultural Chemicals Safely

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

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

Reduce risk of exposure and injury:

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



TS220 —UN—15APR13

A34471 —UN—11OCT88

A34471

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

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

Handling Batteries Safely

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

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

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

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

Avoid hazards by:

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

If acid is spilled on skin or in eyes:

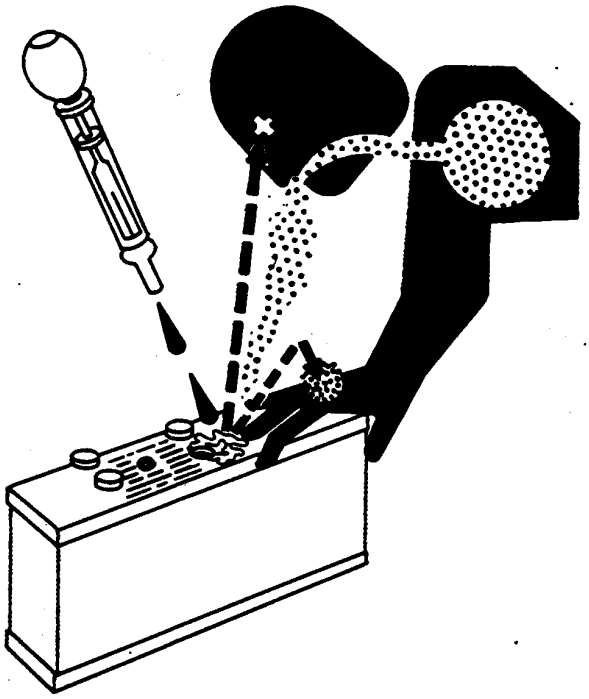
1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

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

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

TS204 —UN—15APR13



TS203 —UN—23AUG88

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

Avoid Heating Near Pressurized Fluid Lines

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

TS953 —UN—15MAY90

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

Remove Paint Before Welding or Heating

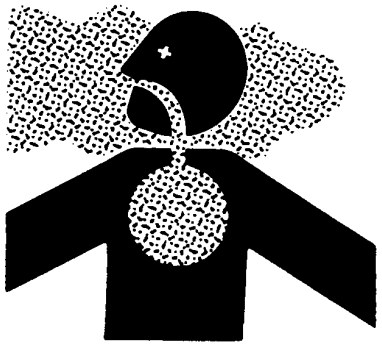
Avoid potentially toxic fumes and dust.

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

Remove paint before heating:

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

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



TS220 —UN—15APR13

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

Dispose of paint and solvent properly.

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

Handle Electronic Components and Brackets Safely

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

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

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

TS249 —UN—23AUG88

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

Practice Safe Maintenance

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

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

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

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

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

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

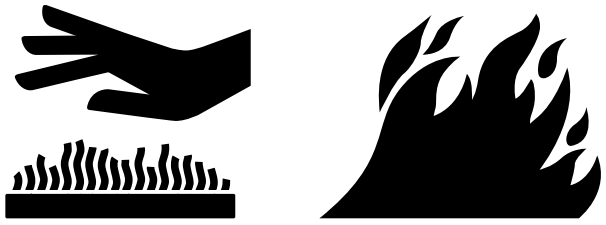
TS218 —UN—23AUG88

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

Avoid Hot Exhaust

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

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



RG17488 —UN—21AUG09

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

Clean Exhaust Filter Safely

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

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

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

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

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

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

Avoid contact with these components until cooled to safe temperatures.

If service procedure requires engine to be running:

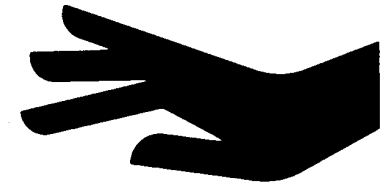
- Only engage power-driven parts required by service procedure
- Ensure that other people are clear of operator station and machine

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

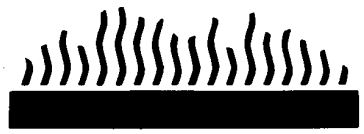
Always disable movement (neutral), set the parking brake or mechanism and disconnect power to attachments or tools before leaving the operator's station.

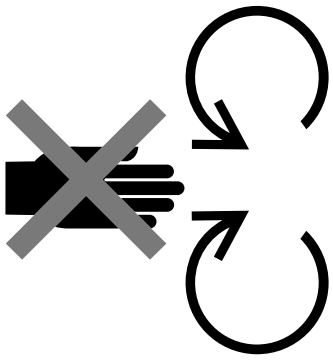
Shut off engine and remove key (if equipped) before leaving the machine unattended.

TS227 —UN—15APR13

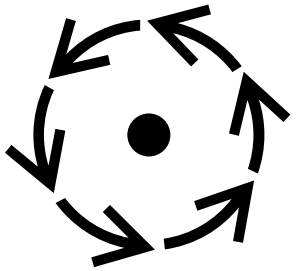


TS271 —UN—23AUG88





TS1693 —UN—09DEC09



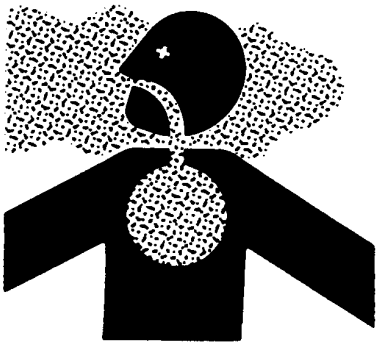
TS1695 —UN—07DEC09

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

Work In Ventilated Area

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

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



TS220 —UN—15APR13

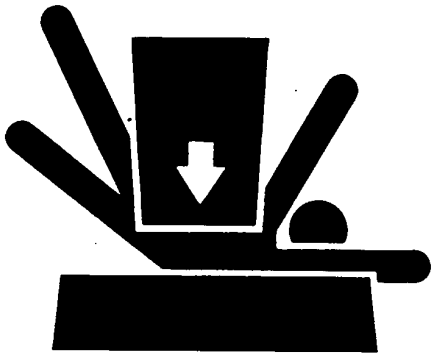
DX,AIR -19-17FEB99-1/1

Support Machine Properly

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

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

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



TS229 —UN—23AUG88

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

Prevent Machine Runaway

Avoid possible injury or death from machinery runaway.

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

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

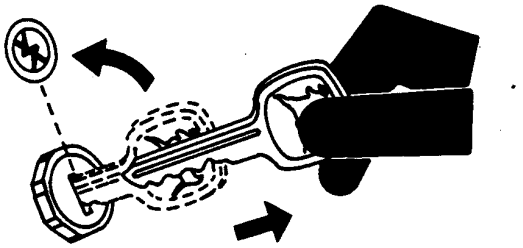
TS177 —UN—11JAN89

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

Park Machine Safely

Before working on the machine:

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



TS230 —UN—24MAY89

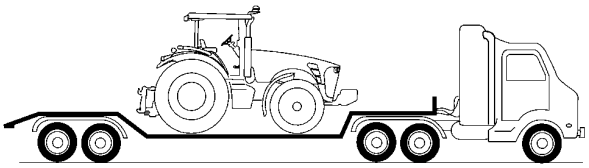
DX,PARK -19-04JUN90-1/1

Transport Tractor Safely

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

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

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



RXA0103709 —UN—01JUL09

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

Service Cooling System Safely

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

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

TS281 —UN—15APR13

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

Service Accumulator Systems Safely

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

Relieve pressure from the pressurized system before removing accumulator.

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

Accumulators cannot be repaired.

TS281 —UN—15APR13

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

Service Tires Safely

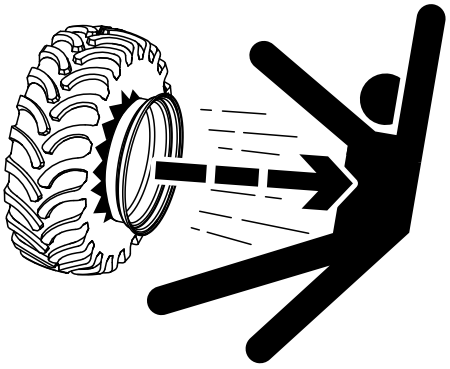
Explosive separation of a tire and rim parts can cause serious injury or death.

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

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

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

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

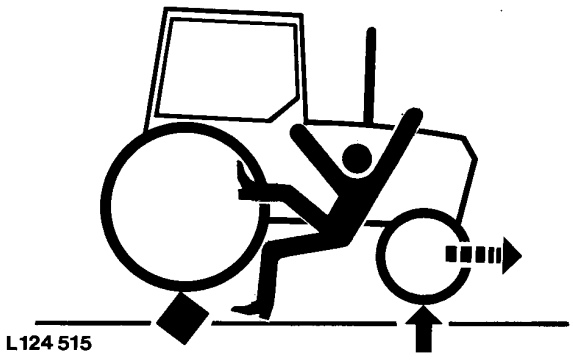


RXA0103438 —UN—11JUN09

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

Service Front-Wheel Drive Tractor Safely

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

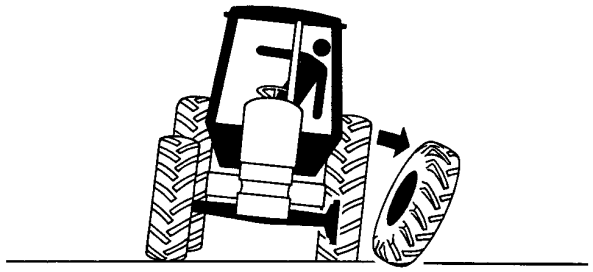


L124515 —UN—06AUG94

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

Tightening Wheel Retaining Bolts/Nuts

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



L124 516

L124516 —UN—03JAN95

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

Avoid High-Pressure Fluids

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

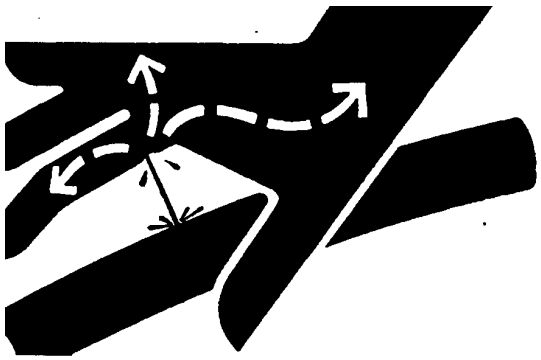
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

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

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

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

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.



X9811 —UN—23AUG88

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

Do Not Open High-Pressure Fuel System

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

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

TS1343 —UN—18MAR92

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

Store Attachments Safely

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

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

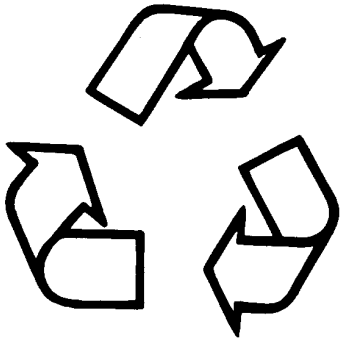
TS219 —UN—23AUG88

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

Decommissioning — Proper Recycling and Disposal of Fluids and Components

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

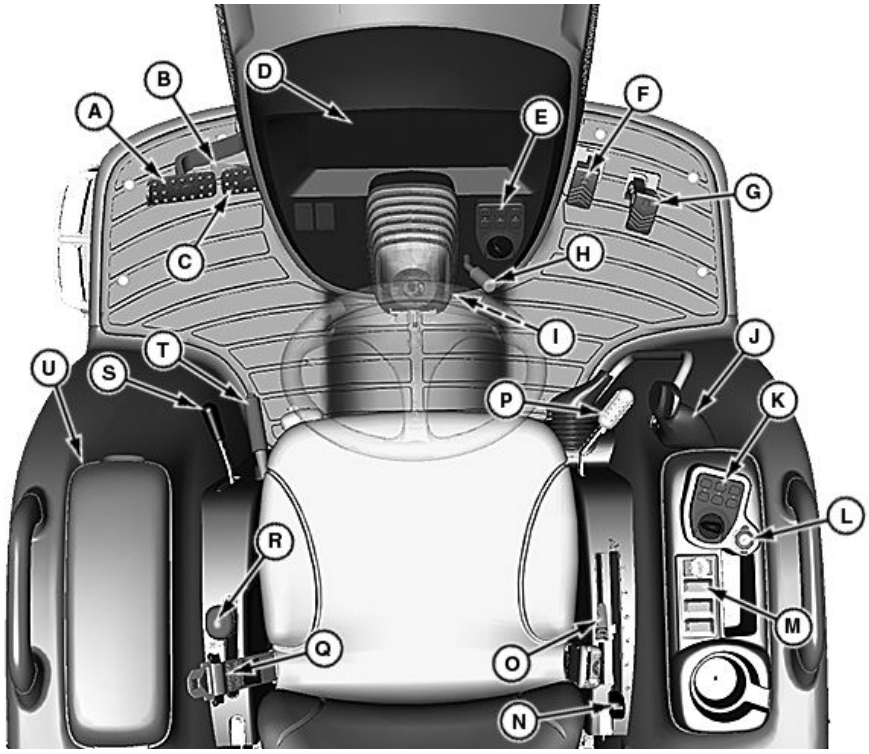
- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting 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.



TS1133 —UN—15APR13

DX,DRAIN -19-01JUN15-1/1

Operator Station Controls—OOS



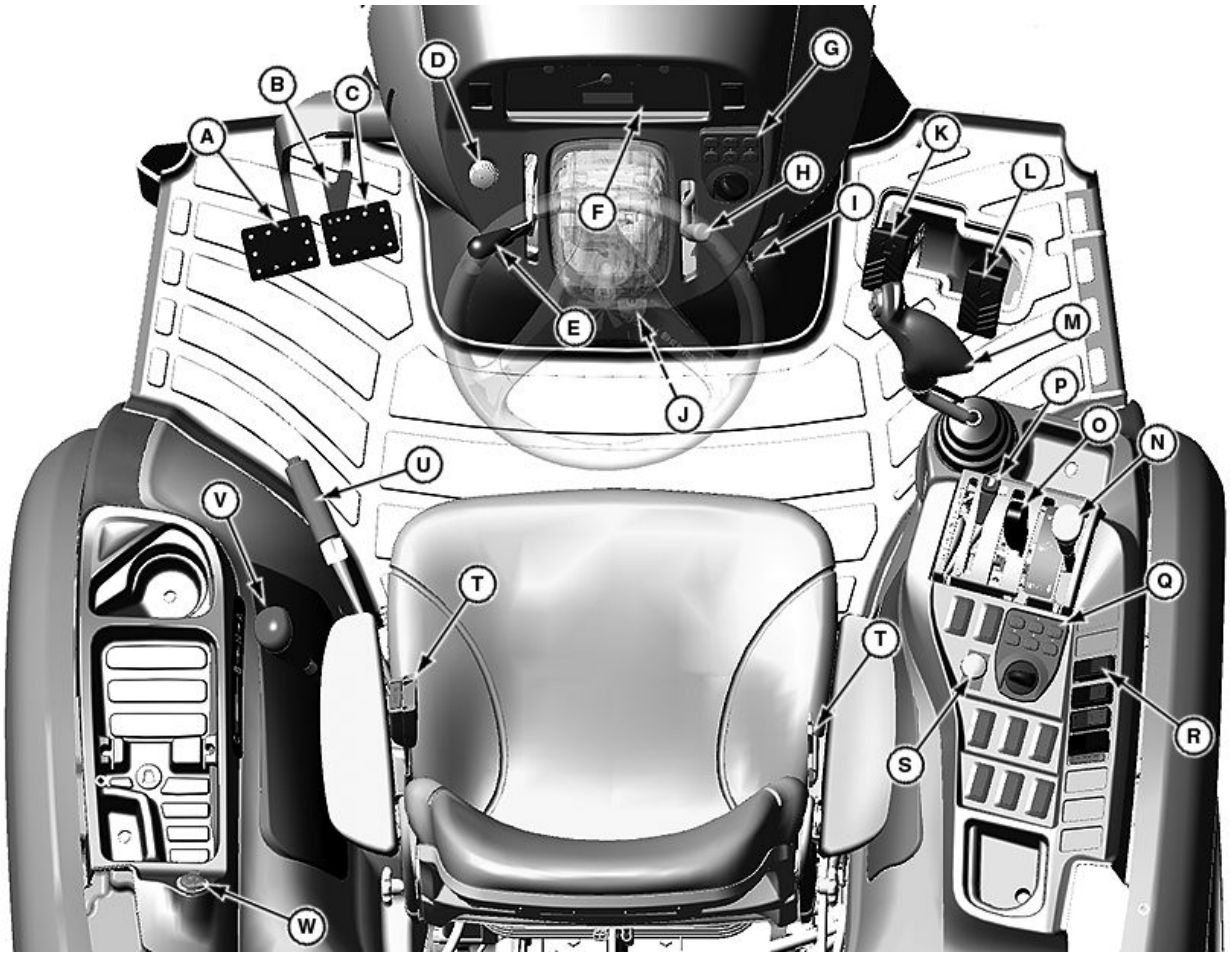
LV17492 —UN—23MAY13

Open Operator Station Controls

A—Left Turn Brake Pedal
B—Brake Pedal Lock
C—Right Turn Brake Pedal
D—Instrument Cluster
E—Dash Panel Module
F—Forward Travel Pedal
G—Reverse Travel Pedal
H—Engine Speed Hand Throttle
I— Ignition Key Switch
J— Dual Selective Control Valve (SCV) Lever
K—Cruise Control Module
L—Aux Port
M—PTO Engagement Switch
N—Rockshaft Control Lever
O—Rockshaft Depth Stop
P—PTO Select Lever
Q—Seat Belt
R—Transmission Range Shift Lever
S—Mechanical Front Wheel Drive (MFWD) Lever
T—Park Brake Lever
U—Operator's Manual Holder

KN52281,1004877 -19-18SEP13-1/1

Operator Station Controls—Cab



LV17721 —UN—14MAY13

Cab Controls

A—Left Turn Brake Pedal
B—Brake Pedal Lock
C—Right Turn Brake Pedal
D—Wiper Knob
E—Mechanical Front Wheel Drive (MFWD) Lever
F—Instrument Cluster
G—Dash Panel Module
H—Engine Speed Hand Throttle
I— Ignition Key Switch
J—Tilt Lever
K—Forward Travel Pedal
L—Reverse Travel Pedal
M—Dual Selective Control Valve (SCV) Lever
N—PTO Selector Lever
O—Rockshaft Control Lever
P—Rockshaft Depth Stop
Q—Cruise Control Module
R—Rear Outlet Activation Switch
S—PTO Engagement Switch
T—Seat Belt
U—Park Brake Lever
V—Transmission Range Shift Lever
W—Aux Port

KN52281,1004878 -19-18SEP13-1/1

Floor Panel Operation—OOS

A—Selective Control Valve (SCV) Lock (OOS shown)
B—Rockshaft Rate-of-Drop Control Knob
C—Differential Lock Pedal

LV17671 —UN—03MAY13

KN52281,1004879 -19-23MAY13-1/1

Floor Panel Operation—Cab

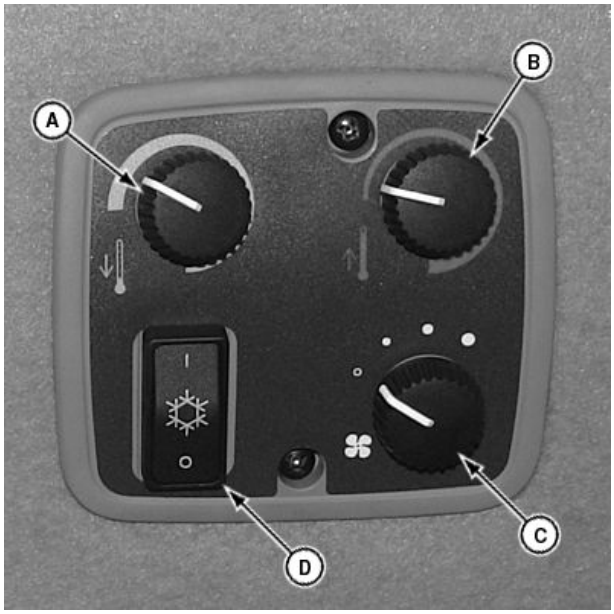
A—Rockshaft Rate-of-Drop Control Knob
B—Differential Lock Pedal

LV17726 —UN—07MAY13

KN52281,100487A -19-23MAY13-1/1

HVAC Controls

A—Air Conditioner Temperature Control Knob
B—Heater Temperature Control Knob
C—Blower Speed Knob
D—Defrost Switch



LV17722 —UN—07MAY13

KN52281,100487B -19-23MAY13-1/1

Daily Operating Checklist

- ☐ Test safety systems. Perform safety interlock system checkout procedure.
- ☐ Check engine oil level.
- ☐ Check/drain water separator.
- ☐ Check transmission fluid level.
- ☐ Check coolant level.
- ☐ Clean air intake screen and radiator screen.
- ☐ Check air filter elements and dust valve.
- ☐ Check wheel bolt torques.
- ☐ Check tire pressure.
- ☐ Check fuel level.
- ☐ Remove grass and debris from machine.
- ☐ Check area below machine for leaks.
- ☐ Keep exhaust vent area clear of debris and obstructions.

KN52281,10047DF -19-20MAY13-1/1

Avoid Damage to Plastic and Painted Surfaces

- Do not wipe plastic parts unless rinsed first. Using a dry cloth may cause scratches.
- Insect repellent spray may damage plastic and painted surfaces. Do not spray insect repellent near machine.
- Be careful not to spill fuel on machine. Fuel may damage surface. Wipe up spilled fuel immediately.
- Prolonged exposure to sunlight will damage hood surfaces.

KN52281,1003EA4 -19-22AUG12-1/1

Entering and Exiting Machine

Using Step

Step (A) is located on the left side of machine. Use step for entering and exiting the operator station.

Using Left Side Door (Tractor with Cab)

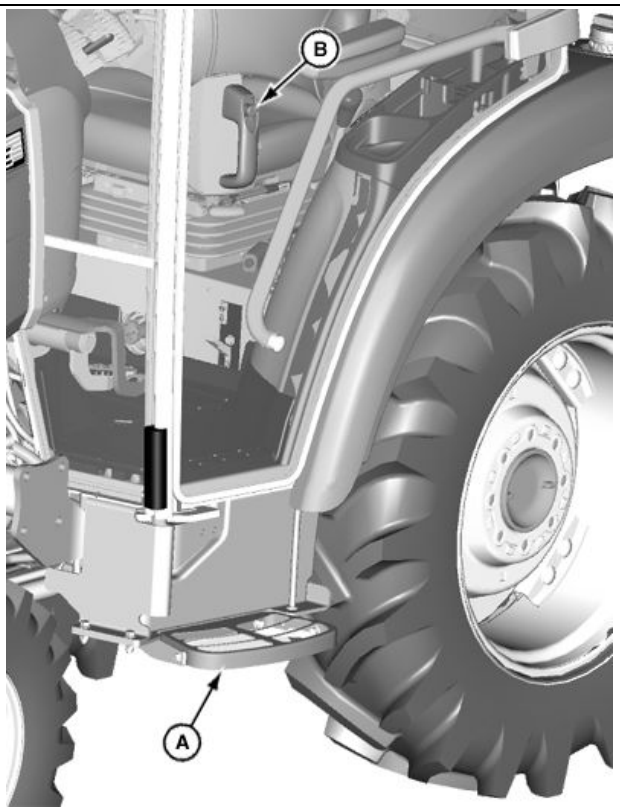
To enter cab, press button on handle (B) and open door. Close door until door locks into closed position.

To exit cab, push button on inside of door handle and open door.

Emergency Exit

In an emergency situation open glass panel on right side of cab to exit.

A—Step **B—Handle**



LV17780 —UN—14MAY13

KN52281,1004838 -19-20MAY13-1/1

Adjusting Seat

CAUTION: To avoid accidents, adjust seat before driving.

Standard Seat Adjustment

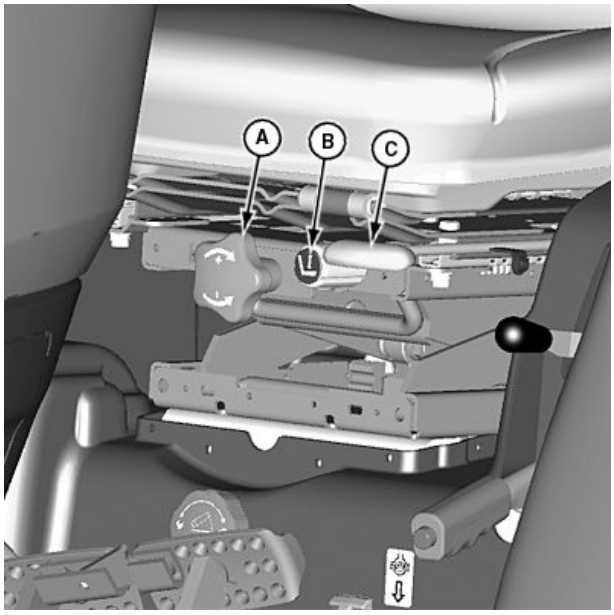
Adjust to each operator's personal preference; there are three available seat adjustments:

Height: While seated, pull height adjustment knob (A) out to raise seat. Push adjustment knob to lower seat. Release knob to lock in position.

Level: While seated, turn seat level adjustment knob (B) to adjust to preferred level.

Forward or Backward: Rotate forward/backward Adjustment Lever (C) counterclockwise to move seat to desired position.

A—Height Adjustment Knob
B—Seat Level Adjustment Knob
C—Forward/Backward Adjustment Lever



LV17728 —UN—09MAY13

KN52281,10047C6 -19-21MAY13-1/2

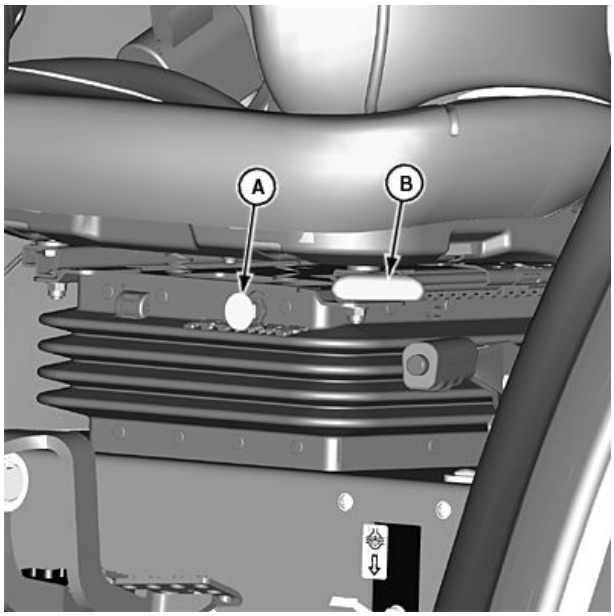
Deluxe Seat Adjustment

Adjust to each operator's personal preference; there are two available seat adjustments:

Weight: While seated with the engine running, pull weight adjustment knob (A) out to increase air pressure. Push adjustment knob in to lower seat pressure. Release knob to lock in position.

Forward or Backward: Rotate forward/backward Adjustment Lever (B) counterclockwise to move seat to desired position.

A—Weight Adjustment Knob
B—Forward/Backward Adjustment Lever



LV17729 —UN—09MAY13

KN52281,10047C6 -19-21MAY13-2/2

Using Seat Belt

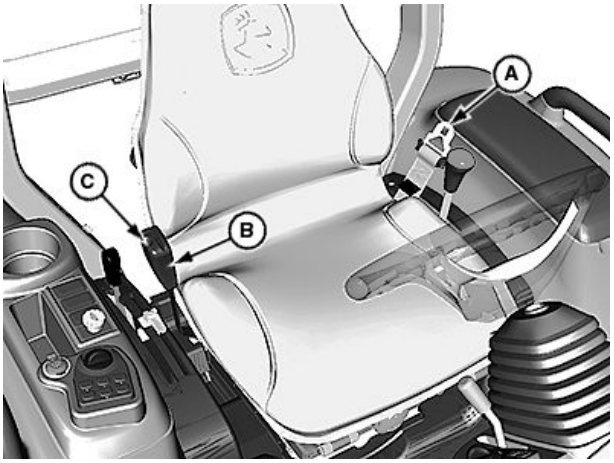
CAUTION: Avoid Injury! Always wear seat belt when operating machine with non-folding roll-over Protective Structure (ROPS). Do not jump from machine if machine tips.

Fasten Seat Belt

1. Extend self-retracting seat belt (A) and insert into latch (B) on opposite side of seat. Seat belt is self-retracting and will automatically adjust to fit operator.

Release Belt

1. Press red button (C) on latch (B) to release seat belt end.



LV17517 —UN—19APR13

A—Seat Belt
B—Latch
C—Button

KN52281,10047C7 -19-21MAY13-1/1

Adjusting Tilt Steering Wheel

CAUTION: Avoid injury! Do not attempt to adjust the steering wheel while the machine is moving. The operator can lose control of the machine.

- **Stop the machine before adjusting the steering wheel.**
- **Lock the steering wheel in position before driving the machine.**

1. Stop machine.
2. Pull tilt steering control lever (A) up to release steering wheel.
3. Adjust steering wheel to desired position.
4. Release tilt steering control lever to lock steering wheel in position.

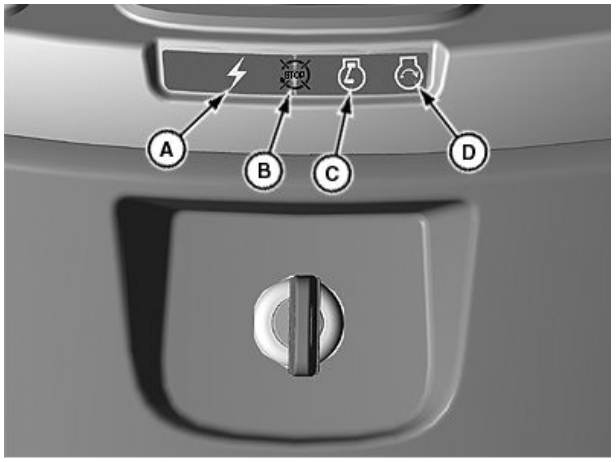
LV17700 —UN—06MAY13

A—Tilt Steering Control Lever

KN52281,1004814 -19-21MAY13-1/1

Using Key Switch

- With key in the acc position (A), accessories can be used. Be careful not to accidentally move key to this position. Battery could be drained.
- With key in the off position (B) , all switched power is off, and the engine should not run.
- Turn key to the run position (C), and the engine oil pressure light and battery charge light will illuminate and activate glow plugs.
- Turn key to the start position (D) to start engine. Release the key after the engine has started. It will automatically return to the run position. Engine will continue to run and engine oil pressure light and battery charge light will turn off.

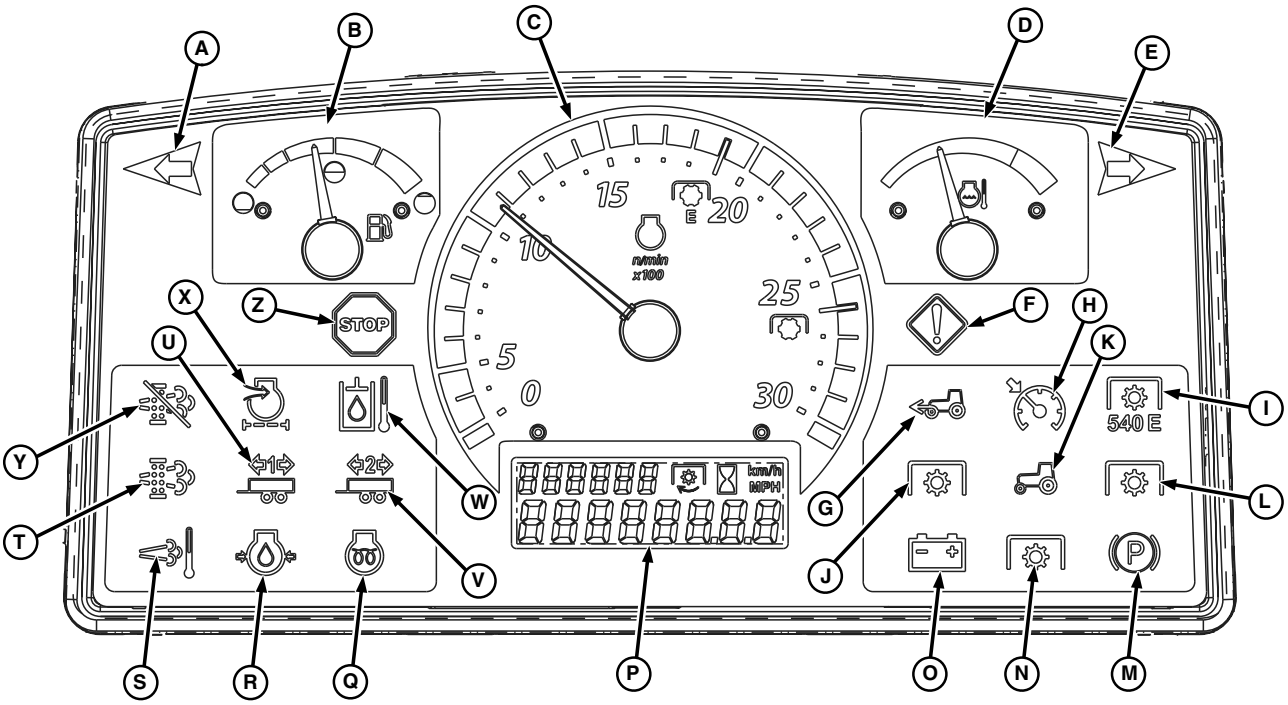


LV17496 —UN—19NOV13

A—Acc position
B—Off Position
C—Run Position
D—Start Position

KN52281,10047C9 -19-08AUG13-1/1

Using Instrument Panel



LV17507 —UN—29APR13

A— Left Turn Signal/Warning Flasher Indicator Light—Flashes when left turn signal switch is depressed, or when hazard light switch is depressed.

B—Fuel Gauge—Shows the amount of fuel in the fuel tank.

C—Tachometer—Shows engine speed. Engine speed in 100s. Example: If indicator is pointing at 20, engine speed is 2000 rpm.

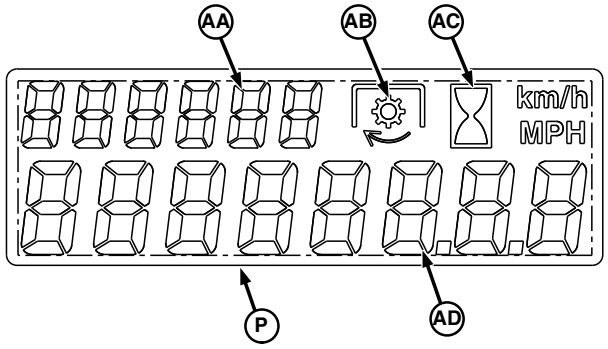
Engine Idle—Specification

Low Idle—Speed	950 ± 25 rpm
Rated—Speed	2400 rpm
High Idle—Speed	2600 ± 50 rpm

D—Engine Coolant Temperature Gauge—Indicates temperature of cooling system. If gauge needle reaches red range, engine is overheating and engine RPM will derate.

If engine is overheated, remove load on machine immediately. Reduce engine to idle speed and allow engine to cool. Stop engine. Check coolant level in overflow bottle and check for air flow blockage to radiator. If coolant level is correct and needle stays in red range after cleaning grille, stop engine.

E—Right Turn Signal/Warning Flasher Indicator Light—Flashes when right turn signal switch is depressed, or when hazard lights switch is depressed.



LV17524 —UN—29APR13

F—Service Alert Indicator—Illuminates when a malfunction occurs (review error message in information display). If necessary, have John Deere dealer diagnose vehicle.

G—Front Wheel Drive Indicator—Illuminates when MFWD is engaged.

H—Cruise Control Light—Illuminates when cruise control is engaged (if equipped).

I—Rear 540 PTO— Not Used.

J—Front PTO Indicator Light—Illuminates when front PTO is engaged (if equipped).

K—Not Used

Continued on next page

UP00731,00000F7 -19-10JUN16-1/2

L—Rear PTO Indicator Light—Illuminates when Rear PTO is engaged.

M—Parking Brake Light—Illuminates when ignition key is in the run position and parking brake is locked.

N—Mid PTO Indicator Light—Illuminates when Mid PTO is engaged.

O—Alternator/Battery Charging Light—Illuminates when ignition key is in the run position and engine is not running. If light turns on while engine is running, alternator is not charging battery. Move engine speed control lever lever to full throttle position. Stop engine if light remains on.

P—Information Display Panel—Displays speedometer, hour meter, PTO hour, PTO speed, soot levels, regen information, operational status, warning messages, and fault information.

Q—Engine Glow Plug Indicator Light—Illuminates when ignition key is in ON position. Glow plugs are energized whenever starter is engaged.

R—Engine Oil Pressure Light—Illuminates when ignition key is in the run position and the engine is not running. If this light turns on while engine is running, engine oil pressure is too low. Stop engine.

S—High Exhaust Temperature Indicator—Illuminates when the temperature is high enough inside the exhaust filter to allow active filter cleaning.

T—Exhaust Filter Cleaning Indicator—Illuminates when soot levels in the filter are high and exhaust filter cleaning is needed.

U—Trailer 1 Indicator—Starts flashing when trailer turn signal or hazard warning lights are switched on (if equipped).

V—Trailer 2 Indicator—Starts flashing when trailer turn signal or hazard warning lights are switched on (if equipped).

W—Hydraulic Oil Temperature Light—Not Used.

X—Engine Air Cleaner Restriction Indicator—Illuminates when air cleaner element is clogged (clean or replace element). If necessary, have John Deere dealer diagnose vehicle.

Y—Exhaust Filter Disabled Indicator—Illuminates when the exhaust filter cleaning switch had been disabled.

Z—Stop Indicator—Illuminates when a serious malfunction occurs. SHUT OFF engine IMMEDIATELY and determine cause (review error message in information display). If necessary, have a John Deere dealer diagnose vehicle.

AA—Vehicle Information Display—Shows vehicle wheel speed, engine hours, PTO speed, and diagnostic information.

AB—PTO Icon—Illuminates when PTO is operating and PTO speed is displayed in the vehicle information display.

AC—Hour Meter Icon—Illuminates when engine hours are being displayed on information display.

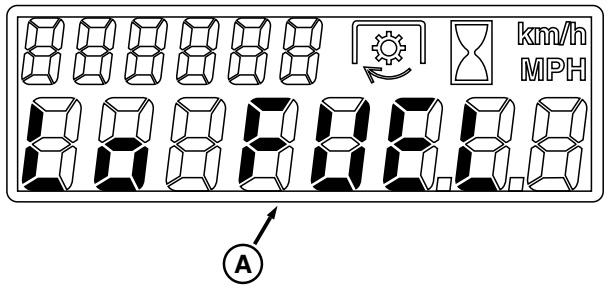
AD—Vehicle Information Display—Shows vehicle wheel speed, engine hours, PTO speed, and diagnostic information.

UP00731,00000F7 -19-10JUN16-2/2

Information Display

The information display screen (A) displays speedometer, hour meter, PTO hour, PTO speed, soot levels, regen information, operational status, warning messages, and fault information.

A—Information Display Screen



LV25550 —UN—13JUN16

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UP00731,0000177 -19-10JUN16-1/3

①	SHIFt to NEut	㉓	EnGInE SPEEd HIGh
②	Pto Hr	㉔	Ecu rEGEn InHIbItEd
③	HItch on	㉕	PuLL CoIL FAuLt
④	HItch oFF	㉖	HoLd CoIL FAuLt
⑤	E-SPd	㉗	StArt CoIL FAuLt
⑥	A-rAnGE	㉘	E-SPd to 1500
⑦	r tGht buLb Error	㉙	EnGInE run
⑧	LEFt buLb Error	㉚	PtO CoIL FAuLt
⑨	EnG Hr	㉛	r Io On
⑩	Gnd SP	㉜	Lo FUEL
⑪	UEh Hr	㉝	both PEdALS dEPrESSEd
⑫	FPEdAL	㉞	Out oF SEAt
⑬	rPEdAL	㉟	no SPEEd
⑭	throtL	㊱	SHIFt to nEutrAL
⑮	F-CO IL	㊲	H I SPEEd
⑯	r-CO IL	㊳	Lo O IL PrESS
⑰	donE	㊴	O IL PrESS d ISconn
⑱	Soot	㊵	EnG InE OuEr HEAt
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LV25050 —UN—25APR16

1—Shift to neutral—Will display if attempting to start the tractor in gear. Will display if tractor is in gear during a parked exhaust filter cleaning.

2—PTO hours—Displays PTO hours.

3—Hitch on—Will display when hitch assist is engaged.

4—Hitch off—Will display when hitch assist is disengaged.

5—Engine speed—Will display when engine speed is too high, decrease RPM.

6—A-Range—Will display if tractor is not in A-range when hitch assist is engaged.

7—Right bulb error—Will display when there is a fault with right turn signal bulb or circuit.

8—Left bulb error—Will display when there is a fault with left turn signal bulb or circuit.

9—Engine hours—Displays engine hours.

10—Ground speed—Displays ground speed.

11—Vehicle hours—Displays vehicle hours.

12—Forward pedal—See a John Deere dealer.

13—Reverse pedal—See a John Deere dealer.

14—Throttle—See a John Deere dealer.

15—Forward coil—See a John Deere dealer.

16—Reverse coil—See a John Deere dealer.

17—Done—See a John Deere dealer.

18—Soot—Displays diesel particulate filter soot level.

19—Hours since last regeneration—Displays hours since last exhaust filter cleaning.

20—Shut PTO off—Displays if PTO is engaged during a parked exhaust filter cleaning or hitch assist is engaged.

21—Shift park brake on—Displays if park brake is not engaged during a parked exhaust filter cleaning or hitch assist is engaged.

Continued on next page

UP00731,0000177 -19-10JUN16-2/3

22—Engine cold—Will display when engine temperature needs to be higher before performing a parked exhaust filter cleaning.

23—Engine speed high—Will display when engine speed needs to be lower before performing a parked exhaust filter cleaning.

24—ECU regeneration inhibited—Will display when exhaust filter cleaning can not be performed, see a John Deere dealer.

25—Pull coil fault—Will display when there is an error with the fuel shut off circuit, see a John Deere dealer.

26—Hold coil fault—Will display when there is an error with the fuel shut off circuit, see a John Deere dealer.

27—Start coil fault—Will display when there is an error with the starter relay circuit, see a John Deere dealer.

28—Engine speed to 1500—Will display during a parked exhaust filter cleaning. Adjust engine RPM to 1500 for optimal filter cleaning.

29—Engine is running—Displays when attempting to start the engine when engine is running.

30—PTO coil fault—Will display when there is a PTO solenoid circuit fault, see a John Deere dealer.

31—RIO on—This will display when RIO switch is enabled while mid-PTO is engaged.

32—Low Fuel—Will display when fuel level is below 1/8 of a tank.

33—Both pedals depressed—Displays when both reverse and forward HST pedals are being pressed at the same time.

34—Out of seat—Displays when tractor is engaged in forward or reverse while operator is out of seat.

35—No speed—Displays when the tractor is engaged in forward or reverse and no ground speed detected.

36—Shift to neutral—Will display if attempting to start the tractor in gear. Will display if tractor is in gear during a parked exhaust filter cleaning.

37—High speed—Displays when ground speed exceeds limit for shuttle shifting.

38—Low oil pressure—Displays when low engine oil pressure is detected.

39—Oil pressure disconnected—Displays when oil pressure signal is not detected. See a John Deere dealer.

40—Engine over heat—Displays when engine temperature is too high. Wait for engine to cool before operating tractor.

41—Recovery regenertion is prohibited—Displays when parked exhaust filter cleaning is prohibited. See a John Deere dealer.

42—Stationary regeneration required—Displays when parked exhaust filter cleaning is required.

43—Pre-heat coil fault—Displays when there is an error with the cold starting relay circuit, see a John Deere dealer.

UP00731,0000177 -19-10JUN16-3/3

Using Lights and Turn Signals

- A—Press button to activate or deactivate left turn signal.
- B—Press button to activate or deactivate right turn signal.
- C—Press button to activate or deactivate warning lights.
- D—Turn light switch counter clockwise to turn off lights.
- E—Turn light switch to the center to activate lights.
- F—Turn light switch clockwise to activate lights and work lights.

LV22244 —UN—23JUN14

KN52281,10047E1 -19-24JUN14-1/1

Using Display Mode Switch

The display mode switch (A) can be used to scroll through hour meter and active error codes display on all machines. The display information will automatically change as long as the display mode switch is pressed in the current cycle.

By intermittently pressing the display mode switch you can scroll through the functions in the following order.

1. Engine hour meter
2. Ground speed (R models only)
3. Vehicle hour
4. PTO hour
5. Soot percentage
6. Hour since last regeneration

Hold the display mode switch to return to engine hour meter.

A—Display Mode Switch

LV22250 —UN—23JUN14

KN52281,10048FD -19-23JUN14-1/1

Using Cruise Control (If Equipped)

CAUTION: Avoid injury! Use cruise control only in large, open areas. Shut off before turning or when in areas with many obstacles.

NOTE: The cruise control is only operational when the machine is traveling forward.

Engaging Cruise Control

1. Depress forward travel pedal until desired travel speed is reached.
2. Press cruise control activation switch (B).
3. Press Set/- switch (A).
4. Release forward travel pedal.
5. To increase travel speed press Res/+ switch (C) or to decrease travel speed press cruise control Set/- switch (A).
6. To resume travel speed after deactivation press Res/+ switch (C).

Disengaging Cruise Control

NOTE: The machine will stop if cruise control is disengaged while the machine is in motion. To maintain forward motion, depress the forward travel pedal before disengaging cruise control.

1. Press cruise control activation switch (B), or depress the brake pedal.

LV17526 —UN—19APR13

A— Set/- switch
B— Cruise Control Activation Switch
C— Res/+ switch

KN52281,10047CC -19-08AUG13-1/1

Using eThrottle

CAUTION: Avoid injury! When eThrottle is engaged, tractor speed increases as travel pedals are depressed.

Using eThrottle enables the operator to increase or decrease the speed of tractor by using the forward and reverse travel pedals. As depression of travel pedal increases, tractor speed increases.

NOTE: Using eThrottle is not recommended during PTO applications. With eThrottle engaged, constant PTO RPM cannot be maintained, which will result in reduced performance of implement.

Press eThrottle switch (A) to engage. The LED above the switch will illuminate.

Press again to disengage.

A—eThrottle Switch

LV17696 —UN—03MAY13

KN52281,1004810 -19-08AUG13-1/1

Using LoadMatch

LoadMatch™ enables the operator to prevent the engine from stalling during heavy load applications such as operating with a loader.

Engaging LoadMatch

1. Determine if heavy load application will be performed.
2. Press LoadMatch switch (A).

Disengaging LoadMatch

Press LoadMatch switch (A).

A—LoadMatch switch

LV17697 —UN—03MAY13

LoadMatch is a trademark of Deere & Company

KN52281,1004811 -19-31OCT13-1/1

Using SpeedMatch

SpeedMatch™ enables the operator to set the desired maximum travel speed for the machine. Full forward or reverse pedal travel distance can be used to control machine travel speed between stop and the desired maximum travel speed.

Engaging SpeedMatch

1. Depress forward travel pedal until desired maximum travel speed is reached.
2. Press SpeedMatch switch (A) to activate speedmatch.
3. Press Set/- switch (C) to set speedmatch.
4. Release forward travel pedal. Completely depress forward travel pedal to achieve desired maximum speed.

Adjusting maximum travel speed

- Fully depress res/+ switch (B) repeatedly to increase speed by increments.
- Fully depress set/- switch (C) repeatedly to decrease speed by increments

Disengaging

Fully depress SpeedMatch switch to disengage.

LV17698 —UN—19JUL13

A—SpeedMatch Switch
B—RES/+ switch
C—SET/- switch

SpeedMatch is a trademark of Deere & Company

KN52281,1004812 -19-31OCT13-1/1

Using MotionMatch

MotionMatch™ enables the operator to adjust machine acceleration and deceleration rates. Shorter starting and stopping distances can be set for applications requiring rapid changes in direction, such as operating with a loader. Longer starting and stopping distances can be set to avoid turf damage in other applications.

To use MotionMatch

- Turn MotionMatch switch (A) clockwise (C) for shorter acceleration and deceleration distances.
- Turn MotionMatch switch (A) counterclockwise (B) for longer acceleration and deceleration distances.

A—MotionMatch Switch
B—Counterclockwise
C—Clockwise

LV17699 —UN—03MAY13

MotionMatch is a trademark of Deere & Company

KN52281,1004813 -19-31OCT13-1/1

Using Dome Light

IMPORTANT: Before exiting cab, turn dome light to OFF or DOOR position to avoid causing battery to lose its charge.

Dome light switch (A) has three positions:

- Left Position: Light on with door open or closed.
- Right Position: Light on with door open and light off with door closed.
- Center Position: Light off with door open or closed.

A—Dome Light Switch

LV17725 —UN—07MAY13

KN52281,100481A -19-07MAY13-1/1

HVAC Temperature Control

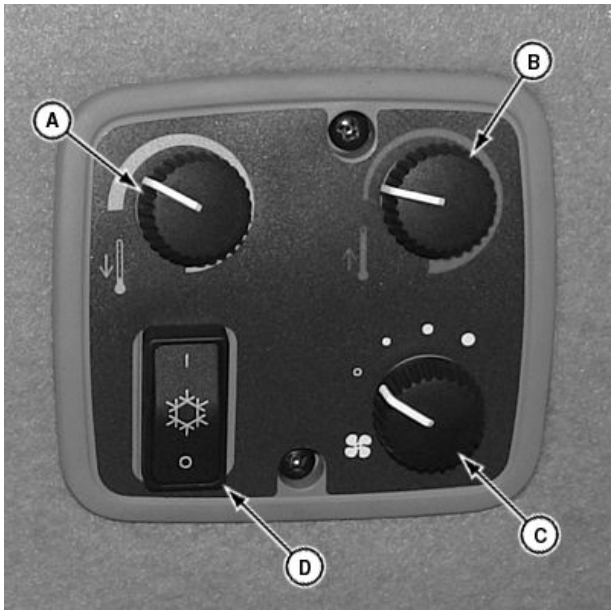
Push top half of defrost switch (D) to turn air conditioning and deicing ON, and push bottom half to turn it OFF.

Turn air conditioner temperature control knob (A) to adjust air conditioning temperature.

Turn heater temperature control knob (B) to adjust heater temperature.

Turn blower speed knob (C) to adjust blower speed.

A—Air Conditioner Temperature Control Knob
B—Heater Temperature Control Knob
C—Blower Speed Knob
D—Defrost Switch



LV17722 —UN—07MAY13

KN52281,1004817 -19-07MAY13-1/1

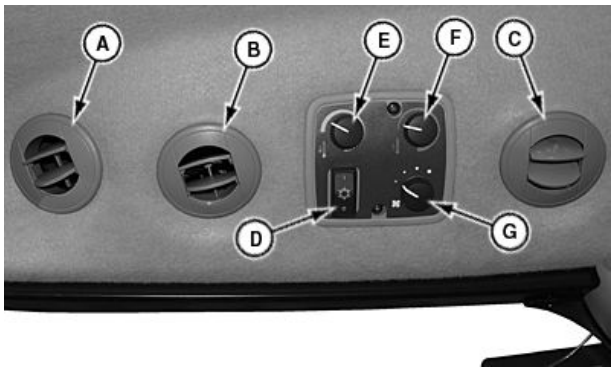
Defrost Windshield and Side Glass

1. Aim two front vents (A) toward windshield.
2. Aim middle vent (B) toward side window.

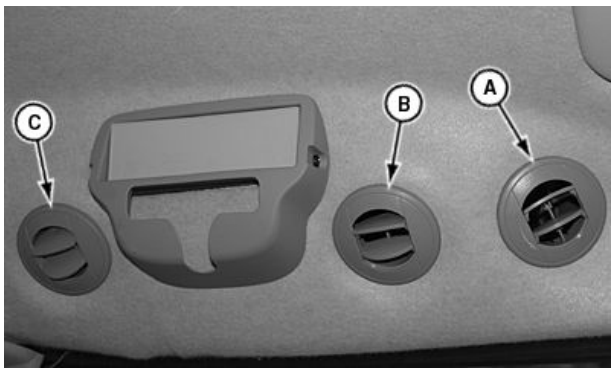
NOTE: Closing middle and rear vents helps clear windshield faster.

3. Press top half of defrost switch (D) and turn air conditioner temperature control knob (E) to full counterclockwise position.
4. Turn heater temperature control knob (F) clockwise to obtain desired temperature.
5. Adjust blower speed knob (G) to desired speed.

A—Front Vents
B—Middle Vents
C—Rear Vents
D—Defrost Switch
E—Air Conditioner Temperature Control Knob
F—Heater Temperature Control Knob
G—Blower Speed Knob



LV17723 —UN—07MAY13



LV17724 —UN—07MAY13

KN52281,1004818 -19-07MAY13-1/1

Using Rear Window

Opening and Closing Rear Window

IMPORTANT: Avoid damage! Check to be sure 3-point hitch arms and attached rear implements are out of the way before opening the rear window.

Release latch (A) on inside of rear window and push window out to open. Pull window shut to close and secure latch.

Emergency Exit

Exit through rear window if cab doors are blocked in an emergency.

A—Latch

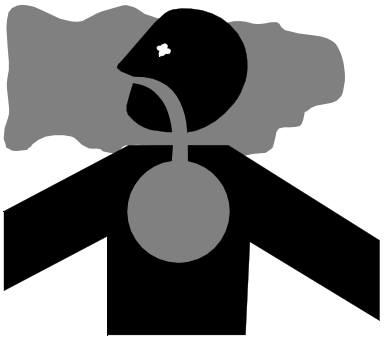
LV17730 —UN—09MAY13

KN52281,100482D -19-08MAY13-1/1

Testing Safety Systems

CAUTION: Avoid Injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- **Move the machine to an outside area before running the engine.**
- **Do not run an engine in an enclosed area without adequate ventilation.**
- **Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.**
- **Allow fresh outside air into the work area to clear the exhaust fumes out.**



LVAL38264 —UN—21AUG12

The safety systems installed on your machine should be checked before each machine use. Be sure you have read the machine operator manual and are completely familiar with the operation of the machine before performing these safety system checks.

Use the following checkout procedures to check for normal operation of machine.

If there is a malfunction during one of these procedures, do not operate machine. See your authorized dealer for service.

Perform these tests in a clear open area. Keep bystanders away.

KN52281,1003EAD -19-22AUG12-1/1

Testing the Neutral Start Switch

1. Sit on operator's seat.
2. Disengage PTO.
3. Move the transmission range shift lever to the H (high) or L (low) position.
4. Turn key switch to START position.

   Result: Engine must not crank.

KN52281,1003EAE -19-22AUG12-1/1

Testing Rear PTO Switch

1. Sit on operator's seat.
2. Lock park brake.
3. Move transmission range lever to the N (neutral) position.
4. Pull PTO switch engagement knob to the engaged/on position.
5. Turn key to START position.
   - Engine must not crank.
6. Push PTO engagement knob to the disengaged/off position.
7. Turn key switch to off position.

JZ81662,0000FAF -19-20FEB13-1/1

Testing the Seat Switch

1. Sit on operator's seat.
2. Do not depress the hydrostatic travel pedals.
3. Lock park brake.
4. Start engine.
5. Turn on the PTO.
6. Raise up slightly from operator's seat. Do not dismount machine.

   Result: Engine shut-off solenoid must de-energize in 1/2 second, causing the engine to stop.

KN52281,1003EB0 -19-17OCT13-1/1

Using Brake Pedals

Using Brake Pedals As Driving Brake

CAUTION: Using unlocked brakes to stop the machine at high speeds may cause accidental turning or tipping.

- **Lock pedals together when not using the turn brakes or for road travel or transport.**
- **Slow down before making a turn.**

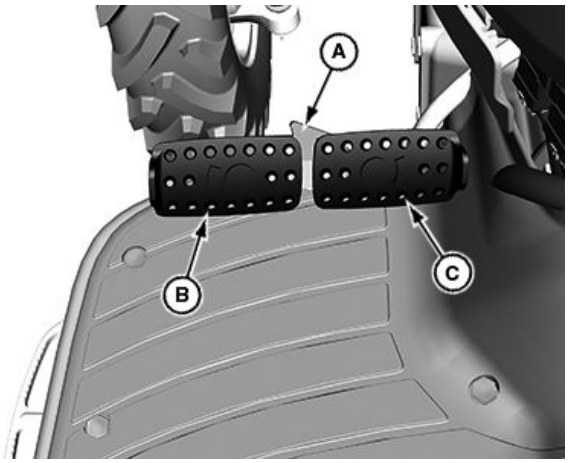
1. Rotate brake pedal lock (A) clockwise until it locks into right turn brake pedal (C).
2. Depress either brake pedal to slow or stop the machine.
   - With latch down, brakes should stop machine in a straight line.

Using Brake Pedals to Assist In Turning

IMPORTANT: Do not apply turn brakes while an implement is engaged with the ground. Damage to the 3-point hitch and implement may occur.

NOTE: Turn brake pedals can be used to make tighter turns and may reduce unnecessary backing.

Rotate brake pedal lock (A) counterclockwise until it stops against left turn brake pedal (B). The brake pedals will now function independently.



LV17509 —UN—19APR13

A—Brake Pedal Lock
B—Left turn Brake Pedal
C—Right Turn Brake Pedal

- To make a tighter left turn, depress left turn brake pedal (B) while turning to the left.
- To make a tighter right turn, depress right turn brake pedal (C) while turning to the right.

KN52281,10047D0 -19-20MAY13-1/1

Using Park Brake

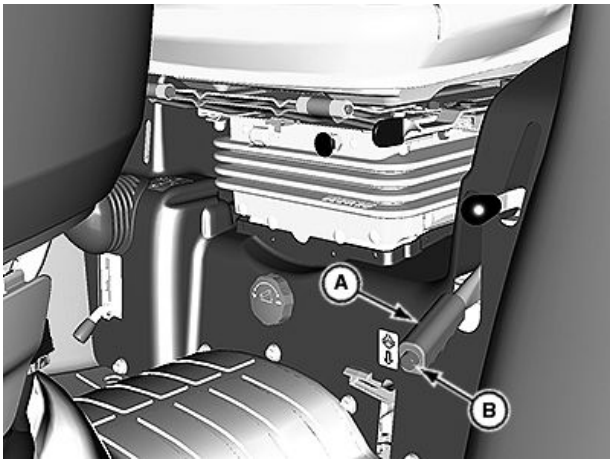
Locking Park Brake

CAUTION: Always lock park brake and move transmission range shift lever to a position other than N (neutral) before leaving machine unattended. Transmission will not prevent machine motion without the park brake locked.

1. Lock both brake pedals together using brake pedal lock.
2. Press down on brake pedals with foot.
3. Pull park brake lever (A) up to the locked position. The park brake light should illuminate.
4. Remove foot from brake pedals.

Unlocking Park Brake

1. Press down on brake pedals with foot.
2. Push park brake release button (B), and lower park brake lever (A) down to the unlocked position. Park brake light should be off.



LV17511 —UN—19APR13

A— Park Brake Lever **B— Park Brake Release Button**

3. Remove foot from brake pedals. Both pedals should now be released from the locked position.

KN52281,10047D1 -19-21MAY13-1/1

Using Throttle

Use throttle to change engine speeds. Use throttle in conjunction with tachometer to set engine speeds.

- **Increase Engine Speed**—Push throttle lever (A) toward front of machine.
- **Decrease Engine Speed**—Pull throttle lever (A) toward rear of machine.

Engine/Tachometer Speeds—Specification

Low Idle—Speed	950 rpm
Rated—Speed	2600 rpm
High Idle—Speed	2750 ± 50 rpm

A—Throttle Lever

LV17510 —UN—19APR13

KN52281,10047D3 -19-17OCT13-1/1

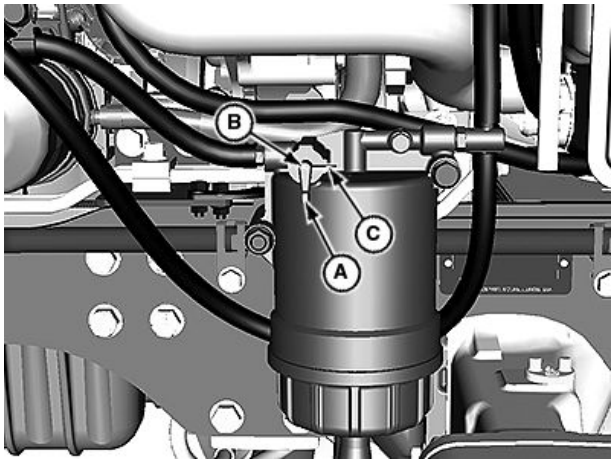
Using Fuel Shut off Valve

CAUTION: Avoid Injury! Close fuel shutoff valve when performing any type of engine service, during transport of the machine, and during storage.

Locate fuel shutoff valve on the right side of machine on fuel sediment filter.

Open or close fuel shutoff valve lever (A) as required:

- **Open Valve:** Rotate valve lever pointer to the vertical position (B) marked “O”.
- **Close Valve:** Rotate valve lever pointer to the horizontal position (C) marked “C”.



LV17528 —UN—19APR13

A—Fuel Shut off Valve Lever
B—Vertical Position Marked “O”
C—Horizontal Postion Marked “C”

KN52281,10047D4 -19-21MAY13-1/1

Filling Fuel Tank

CAUTION: Avoid injury! Fuel vapors are explosive and flammable:

- **Shut engine off before filling fuel tank.**
- **Allow engine to cool before refueling.**
- **Do not smoke while handling fuel.**
- **Keep fuel away from flames or sparks.**
- **Fill fuel tank outdoors or in well ventilated area.**
- **Clean up spilled fuel immediately.**
- **Use clean approved non-metal container to prevent static electric discharge.**

IMPORTANT: Avoid damage! Dirt and water in fuel can cause engine damage:

- **Clean dirt and debris from the fuel tank opening.**
- **Use clean, fresh, stabilized fuel.**
- **Fill the fuel tank at the end of each day’s operation to keep condensation out of the fuel tank.**
- **Use a non-metallic funnel with a plastic mesh strainer when filling the fuel tank or container.**

Fill fuel tank at the end of each day’s operation to prevent condensation and freezing during cold weather.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Remove any trash from area around fuel tank cap.
4. Remove fuel tank cap slowly to allow any pressure built up in tank to escape.
5. Fill fuel tank only to bottom of filler neck. Do not overfill.
6. Install fuel tank cap.

KN52281,10049C4 -19-23SEP13-1/1

Starting the Engine

NOTE: Open Operator station shown cab similar

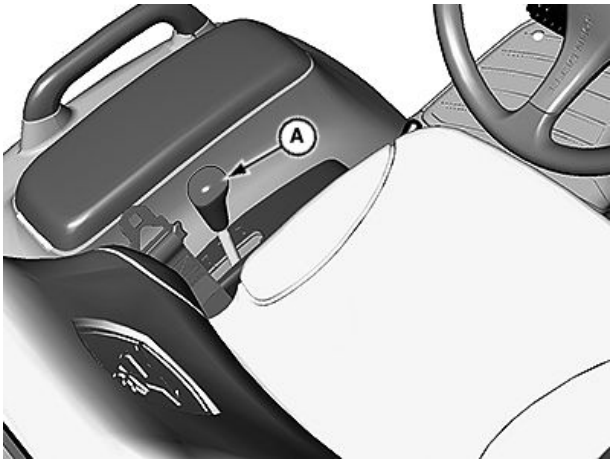
CAUTION: Avoid Injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- **Move the machine to an outside area before running the engine.**
- **Do not run an engine in an enclosed area without adequate ventilation.**
- **Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.**
- **Allow fresh outside air into the work area to clear out the exhaust fumes.**

NOTE: It is recommended to install optional engine block heat, hydraulic oil heater, and battery heating pad if operating machine in temperatures below - 18° C (0° F).

If temperature is below 0° C (32° F), follow the cold weather starting steps in this section.

1. Apply park brake.
2. Move the transmission range shift lever (A) to the N position.



LV17529 —UN—19APR13

A—Transmission Range Shift Lever

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KN52281,10047D5 -19-06AUG13-1/3

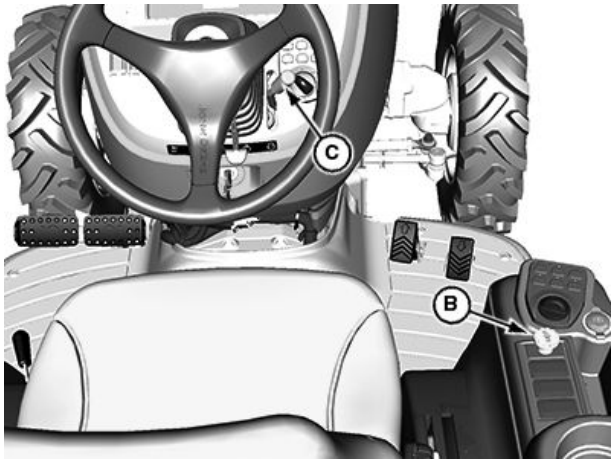
3. Make sure PTO switch (B) is in disengaged/off position.
4. Remove foot from forward and reverse travel pedals.

CAUTION: Avoid Injury! Check to be sure that area is clear of any bystanders before lowering implements to the ground.

5. Lower any rear mounted implement to the ground by pushing the rockshaft control lever forward.
6. Lower any front mounted implement to the ground using the SCV lever (if equipped).
7. Set engine speed control lever (C) to the 1/2—3/4 fast position.
8. Turn key switch to the run position.
9. Check instrument panel indicator lights:
   - Alternator/battery discharging light illuminates.
   - Engine oil pressure light illuminates.

IMPORTANT: Avoid damage! Glow plugs and air heater are operational during cranking. Using ether or starter fluid during cranking will cause damage to engine.

10. Turn key to the start position to start engine. Release the key after the engine has started.
11. Check indicator lights:
    - Engine oil pressure light goes out within 5 seconds.



LV17530 —UN—19APR13

B— PTO Switch

C— Engine Speed Control Lever

NOTE: If indicator light does not go out after 10 seconds, set engine speed at full throttle .

- Battery charging light should go out within 10 seconds.
- If indicator lights stay on longer than the given time interval, stop engine and check for cause.

12. Set engine speed control lever to the 1/2 fast position for 1 minute without load.

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KN52281,10047D5 -19-06AUG13-2/3

Cold Weather Starting

CAUTION: Avoid injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

Move the machine to an outside area before running the engine.

Do not run an engine in an enclosed area without adequate ventilation.

• Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.

•Allow fresh outside air into the work area to clear the exhaust fumes out.

NOTE: It is recommended to install optional engine block heat, hydraulic oil heater, and battery heating pad if operating machine in temperatures below - 18° C (0° F).

If temperature is below 0° C (32° F), follow the cold weather starting steps in this section.

1. Apply park brake.
2. Move the transmission range shift lever (A) to the N position.
3. Turn ignition key switch to the run position.
4. When glow plug icon light turns off, then turn key to start position.

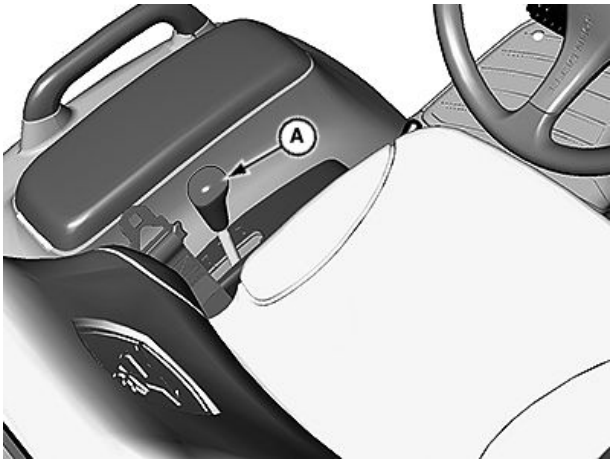
IMPORTANT: Avoid damage! Starter may be damaged if starter is operated for more than 20 seconds at a time.

Wait 2 minutes before trying again if engine does not start.

5. Release key when engine starts.
6. Check instrument panel indicator lights:
   - Engine oil pressure light should go out within 5 seconds.
   - Alternator/battery charging light should go out within 10 seconds.
7. If indicator light remains on after 10 seconds, set engine speed to full throttle. If indicator light continues to stay on, stop the engine and check for cause.

IMPORTANT: Avoid damage! In cold weather, run engine several minutes to allow engine oil and transmission oil to warm.

NOTE: It is normal for the engine to be louder and for blue-white exhaust smoke to be present during engine warm up. The amount of exhaust smoke depends on air temperature.



LV17529 —UN—19APR13

A—Transmission Range Shift Lever

8. Warm the engine:

- In warm weather, set engine speed control lever to the 1/2 fast position for 1 minute without load.
- In cold weather, set engine speed control knob to the 1/2 fast position for 5 minutes without load.

Idling Engine

NOTE: Allowing engine to idle for long periods of time will waste fuel and cause carbon buildup.

1. Adjust engine speed control lever lever to set engine at low idle.
2. Apply park brake.

Starting a Stalled Engine

IMPORTANT: Avoid damage! If engine stalls while operating under load, start engine immediately to prevent abnormal heat buildup in engine.

1. Disengage PTO.
2. Remove foot from forward and reverse travel pedals.
3. Move transmission range shift lever to neutral position
4. Start engine. Continue with normal operation, or set engine at low idle for 2 minutes before stopping engine.

KN52281,10047D5 -19-06AUG13-3/3

Starting the Engine—PowrReverser Transmission

NOTE: If attempting to restart the engine after a stall, wait at least 2 seconds before restarting.

CAUTION: Avoid injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- **Move the machine to an outside area before running the engine.**
- **Do not run an engine in an enclosed area without adequate ventilation.**
- **Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.**
- **Allow fresh outside air into the work area to clear out the exhaust fumes.**

NOTE: It is recommended to install optional engine block heater, hydraulic oil heater, and battery heating pad if operating machine in temperatures below —18°C (0°F).

If temperature is below 0°C (32°F), follow the cold weather starting steps in this section.

1. Apply park brake.
2. Depress clutch pedal completely and move the transmission gear shift lever and reverser lever to the N (neutral) position.
3. Make sure PTO switch is in the off position.

CAUTION: Avoid injury! Check to be sure that area is clear of any bystanders before lowering implements to the ground.

4. Lower any rear-mounted implement to the ground by pushing the rockshaft control lever forward.
5. Lower any front-mounted implement to the ground.
6. Set hand throttle to the 1/2—3/4 fast position.
7. Turn key switch to the run position.
8. Check instrument panel indicator lights:
   - Alternator/battery charging light illuminates.
   - Engine oil pressure light illuminates.

IMPORTANT: Avoid damage! Glow plugs and air heater are operational during cranking. Using ether or starter fluid during cranking will cause damage to engine.

9. Turn key switch to the start position to start engine. Release the key after the engine has started.
10. Check indicator lights:
    - Engine oil pressure light goes out within 5 seconds.

NOTE: If indicator light does not go out after 10 seconds, set engine speed at full throttle.

- Alternator charging light goes out within 10 seconds.
- If indicator lights stay on longer than the given time interval, stop engine and check for cause.

11. Set hand throttle to the 1/2 fast position for 1 minute without load.

Cold Weather Starting

CAUTION: Avoid injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

Move the machine to an outside area before running the engine.

Do not run an engine in an enclosed area without adequate ventilation.

• Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.

•Allow fresh outside air into the work area to clear out the exhaust fumes.

NOTE: It is recommended to install optional engine block heater, hydraulic oil heater, and battery heating pad if operating machine in temperatures below —18°C (0°F).

If temperature is below 0°C (32°F), follow the cold weather starting steps in this section.

1. Apply park brake.
2. Depress clutch pedal and move the transmission gear shift lever and reverser lever to the N (neutral) position.
3. Turn key switch to the run position.
4. When glow plug icon light turns off, turn key to the start position.

IMPORTANT: Avoid damage! Starter damage can occur if starter is operated for more than 20 seconds at a time.

Wait 2 minutes before trying again if engine does not start.

5. Release key when engine starts.
6. Check instrument panel indicator lights:
   - Engine oil pressure light goes out within 5 seconds.
   - Alternator/battery charging light goes out within 10 seconds.
7. If indicator light remains on after 10 seconds, set engine speed to full throttle. If indicator light continues to stay on, stop the engine and check for cause.

Continued on next page

IMPORTANT: Avoid damage! In cold weather, run engine several minutes to allow engine oil and transmission oil to warm.

NOTE: It is normal for the engine to be louder and for blue-white exhaust smoke to be present during engine warm-up. The amount of exhaust smoke depends on air temperature.

8. Warm the engine:
   - In warm weather, set hand throttle to the 1/2 fast position for 1 minute without load.
   - In cold weather, set hand throttle to the 1/2 fast position for 5 minutes without load.

Idling Engine

NOTE: Allowing engine to idle for long periods of time wastes fuel and cause carbon buildup.

1. Adjust hand throttle to set engine at low idle.
2. Apply park brake.

Starting a Stalled Engine

IMPORTANT: Avoid damage! If engine stalls while operating under load, start engine immediately to prevent abnormal heat buildup in engine.

1. Disengage PTO.
2. Apply park brake.
3. Depress clutch pedal and move transmission gear shift lever and reverser lever to the N (neutral) position.
4. Start engine.
5. Release park brake and continue with normal operation, or set engine at low idle for 2 minutes before stopping engine.

UP00731,000017D -19-17MAR14-2/2

Stopping Machine

Normal Stopping

1. Position machine on a firm, level surface.
2. Remove foot smoothly from forward or reverse travel pedals to stop motion.
3. Push PTO switch to the disengaged/off position.

CAUTION: Avoid Injury! Check to be sure that area is clear of any bystanders before lowering implements to the ground.

4. Lower any implements to the ground.

IMPORTANT: Avoid Damage! Do not stop engine immediately after hard or extended operation. Keep engine running at slow idle for about 2 minutes to prevent heat buildup.

5. Adjust engine speed control lever rearward to set engine speed at slow idle speed. Allow engine to idle for 2 minutes.

CAUTION: Avoid Injury! Always lock park brake and move transmission range shift lever to a position other than N (neutral) before leaving machine unattended. Transmissions will not prevent machine motion without the park brake locked.

6. Apply park brake.
7. Turn key switch to the stop position.
8. Remove key.
9. Wait for the engine and all moving parts to stop before leaving the operator's station.

Emergency Stopping

1. Remove foot from forward or reverse pedal.
2. Depress brake/differential lock pedal.
3. Turn key switch to the stop position. Do not release brake pedal until all moving parts have stopped.
4. Apply park brake.

JZ81662,0000FB9 -19-22FEB13-1/1

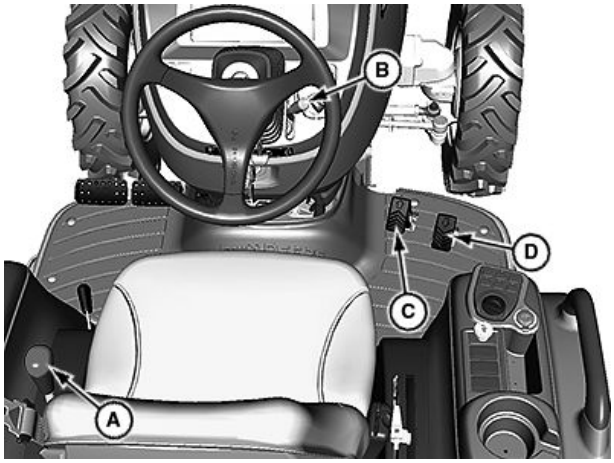
Operating Transmission

IMPORTANT: Avoid damage! Select the proper speed range and gear for the job:

- **Never overload engine by lugging machine at low idle speeds.**
- **Raise engine speed to match expected loads. If a slight increase in engine rpm occurs simultaneously with moving engine speed control knob (B) forward, engine is not overloaded.**

1. The transmission range shift lever (A) provides three speed ranges and is used in conjunction with the forward travel pedal (C) and reverse travel pedal (D).
2. Choose a speed range to match work application.
   - A—Low speed operations such as tilling hard soil, mowing long grass, or heavy hauling. Machine speed is decreased, but machine power is increased.
   - N—Neutral position. Lever must be in the N (neutral) position when starting the engine.
   - B—High speed operations such as light tilling and hauling, mowing short grass and transport. Machine speed is increased, but machine power is decreased.
   - C—Road travel.

   Stop machine to change speed range.



LV17531 —UN—19APR13

A—Transmission Range Shift Lever
B—Engine Speed Control Knob
C—Forward Travel Pedal
D—Reverse Travel Pedal

KN52281,10047D6 -19-21MAY13-1/1

Operating PowrReverser Transmission

The PowrReverser™ transmission range shift lever provides three speed ranges. The transmission gear shift lever provides four gear positions. The reverser lever controls travel direction.

Use all three levers in different combinations to achieve 12 forward and 12 reverse speeds.

Machine motion must stop and the clutch pedal must be depressed before changing ranges. Gears may be changed while machine is in motion if clutch pedal is depressed.

IMPORTANT: Avoid damage! Select the proper speed range and gear for the job.

1. Choose a speed range to match work application:
   - A—Low speed operations such as tilling hard soil, mowing long grass, and heavy hauling. Machine speed is decreased, but machine power is increased.
   - B—Operations including moderate tilling, hauling, and grass mowing.
   - C—High speed operations such as transport and light mowing.
2. Choose a gear that matches the immediate power/speed requirements:
   - 1st Gear—High power, low speed operations.
   - 2nd Gear—Medium power, moderate speed operations.
   - 3rd Gear—Low power, moderate speed operations.
   - 4th Gear—Low power, high speed operations.

PowrReverser is a trademark of Deere & Company

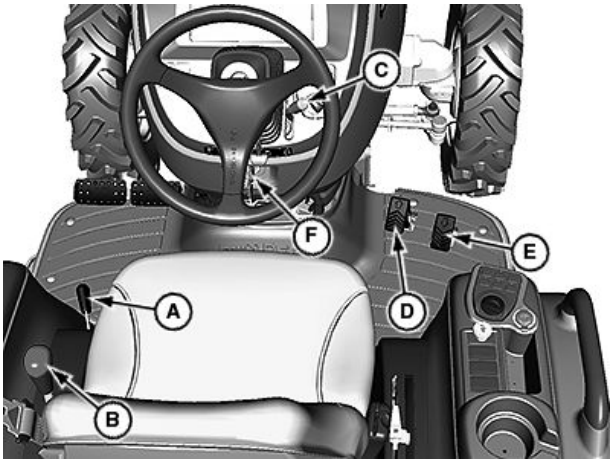
UP00731,000017E -19-17FEB15-1/1

Driving Machine

CAUTION: Avoid injury! Always check area around machine for bystanders and obstacles before operating the machine.

IMPORTANT: Avoid damage! To prevent transmission damage, stop machine motion completely before shifting the transmission range shift lever.

1. Start machine engine.
2. Unlock park brake lever (A).
3. Choose A, B, or C speed range on transmission range shift lever (B) to match work application.
4. Move engine speed control lever (C) to desired operating speed.
5. Slowly depress forward travel pedal (D) downward to move forward. Slowly depress reverse travel pedal (E) downward to move in reverse.
6. Release travel pedal to stop machine and change speed range.
7. Fully stop machine motion before turning ignition key switch (F) to the stop position.



LV17532 —UN—19APR13

A— Park Brake Lever
B— Transmission Range Shift Lever
C— Engine Speed Control Lever
D— Forward Travel Pedal
E— Reverse Travel Pedal
F— Ignition Key Switch

KN52281,10047D7 -19-19APR13-1/1

Driving Machine—PowrReverser Transmission

CAUTION: Avoid injury! Always check area around machine for bystanders and obstacles before operating the machine.

IMPORTANT: Avoid damage! To prevent transmission damage, stop machine motion completely before shifting the transmission range shift lever.

1. Start machine engine.
2. Move reverser lever to N (neutral) position.
3. Unlock park brake lever.
4. Depress clutch pedal.
5. Choose A, B, or C speed range on transmission range shift lever to match work application.
6. Move the transmission gear shift lever to the desired gear position.
7. Move the reverser lever to the forward or reverse position.
8. Release clutch pedal gradually to take up load smoothly.
9. Continue to shift gears while moving under normal loads:
   - Depress clutch pedal and shift to next gear.
   - Release clutch pedal gradually to take up load smoothly.
10. Adjust throttle speed:
    - To maintain a constant operating speed, adjust the engine speed with the hand throttle.
    - To repeatedly increase and decrease engine speed, leave the hand throttle set at the middle position and use the foot throttle to change engine speed.

CAUTION: Avoid injury! Always check area around machine for bystanders and obstacles before repositioning machine or changing machine direction.

11. To change travel direction:
    - Clutch use is not required.
    - Move the reverser lever to the forward or reverse position.

UP00731,000017F -19-17FEB15-1/1

Come Home Mode

Come Home Mode allows the operator to move a tractor having mechanical problems.

NOTE: The PTH must detect the come-home fuse on initial ignition start-up before it enters come home mode. If come home fuse is inserted after ignition start-up, the ignition must be powered off before come home mode will be activated.

The pedals must be in neutral position after come-home mode is activated before any motion is commanded.

Inserting the Come Home fuse generates (DTC PTH 523966.31—Come-Home Mode Procedure Detected). This code stays active until the Come-Home mode fuse is removed.

Perform the following to enter the tractor into Come Home Mode:

1. With key switch OFF, insert come home fuse.
2. Start engine.
3. When ICC Displays SEAt, toggle seat switch (operator gets out of the seat and sits down again).

Vehicle Response in Come Home Mode:

- PTO Operation Disabled
- Hitch Assist Disabled
- Creep-to-Reposition Disabled
- LoadMatch Disabled
- MotionMatch Disabled
- Autothrottle Disabled
- Cruise Control Disabled
- Fault Codes Ignored
- Transmission calibration is not permitted

WS68074,0000858 -19-10SEP15-1/1

Using Differential Lock (Traction Assist)

CAUTION: Avoid injury! Driving at high speeds with the traction assist engaged may result in loss of steering control. Do not engage traction assist or turn with the traction assist engaged while operating machine at high speeds or on slopes.

The differential lock is used to provide better traction when rear wheels start to slip. Engaging differential lock will lock right and left rear axles together and cause both rear wheels to turn at equal speeds for maximum traction.

IMPORTANT: Avoid damage! Using the traction assist function improperly can damage the transaxle:

- **Reduce speed and allow drive wheels to rotate at same speed before engaging or disengaging traction assist.**
- **Disengage traction assist when driving on dry asphalt or concrete.**
- **Use traction assist only when necessary for improved ground engagement.**

NOTE: Turning radius is increased when the differential lock is engaged.

Engaging Differential Lock

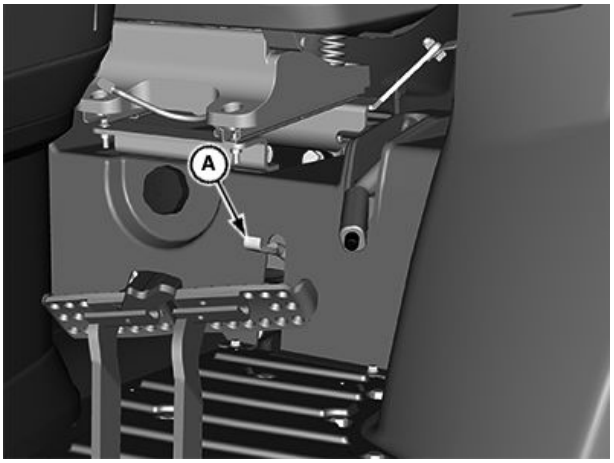
1. Stop or slow machine movement.

NOTE: Differential lock will remain engaged as long as rear wheel slippage occurs. If tires slip and regain traction repeatedly, hold down pedal with foot so differential lock remains engaged.

2. Depress differential lock lever (A) to engage differential lock.

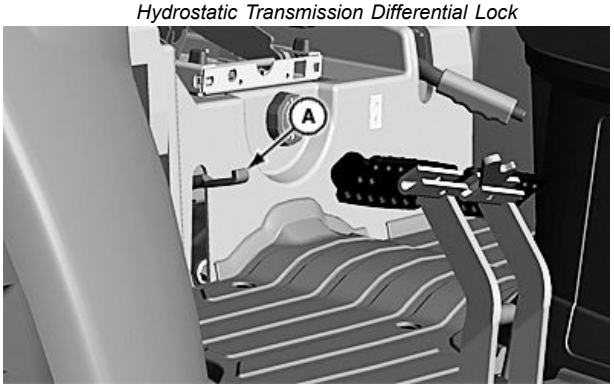
Disengaging Differential Lock

Rear wheel slippage will keep differential lock engaged. Lock will automatically disengage when traction equalizes.



Hydrostatic Transmission Differential Lock

LV17860 —UN—23MAY13



PowrReverser Transmission Differential Lock

LV20863 —UN—03FEB14

A—Differential Lock Lever

UP00731,000012A -19-21APR16-1/1

Using Mechanical Front Wheel Drive (MFWD)

Mechanical front wheel drive (MFWD) enables the powertrain to drive both front and rear axles for improved traction on difficult ground conditions and provides four-wheel braking. MFWD can be engaged and disengaged on-the-go with light loads and on low traction surfaces.

CAUTION: Avoid Injury! Use extra caution when driving on slopes. To increase traction and provide four-wheel braking, engage mechanical front wheel drive (MFWD) when driving on slopes. Be aware that MFWD can improve access to dangerously sloped terrain, thereby increasing the possibility of roll - over.

To improve braking on sloped, icy, wet, or graveled surfaces, engage the MFWD. Add ballast to the tractor and travel at a reduced speed to avoid skidding and loss of steering control.

IMPORTANT: Avoid Damage! Always disengage MFWD when driving on a paved surface.

Put the transmission levers in neutral to move the machine when the engine is not running.

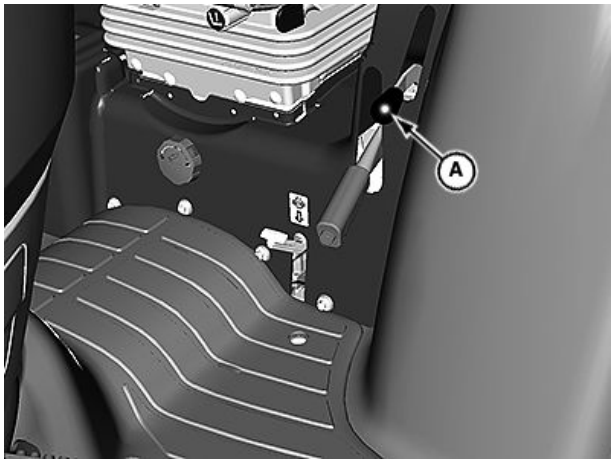
NOTE: It may be necessary to reduce engine load to disengage front wheel drive.

Pull up on MFWD lever (A) to engage. Push down MFWD lever to disengage.

Tips for Operating MFWD:

- Maintain front tire pressure at maximum allowable level to ensure proper tire performance in all field conditions.
- Engage MFWD to provide four-wheel braking.
- Disengage MFWD when driving machine to or from work site to increase front tire life.

A—MFWD Lever Shown



LV17538 —UN—24APR13

Open Operator Station

LV17798 —UN—15MAY13

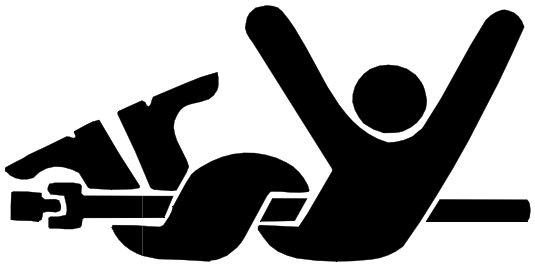
Cab

KN52281,10047D9 -19-21MAY13-1/1

Using the Power-Take-Off (PTO) Safely

CAUTION: Avoid injury! Stay clear of rotating drivelines:

- **Entanglement in rotating driveline can cause serious injury or death.**
- **Keep hands, feet and clothing away.**
- **Make sure that all shields are installed and used properly.**
- **Stop the engine and be sure PTO driveline is stopped before getting near it.**



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KN52281,1003EC1 -19-28OCT13-1/1

Using Rear and Mid PTO (Operator on Seat)

IMPORTANT: Use rear mounted equipment rated for 540 rpm. Do not operate mid or rear PTO over 540 RPM mark on tachometer.

NOTE: The mid-PTO is only operational with the operator on the seat.

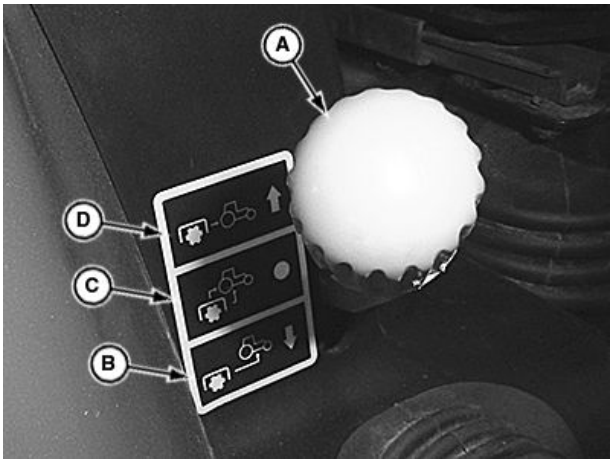
Engaging the PTO

1. Sit on operator seat.
2. Lock the park brake.
3. Move the transmission range shift lever to the N (neutral) position.

NOTE: The starter will not crank if the PTO switch knob is in the engaged/on position.

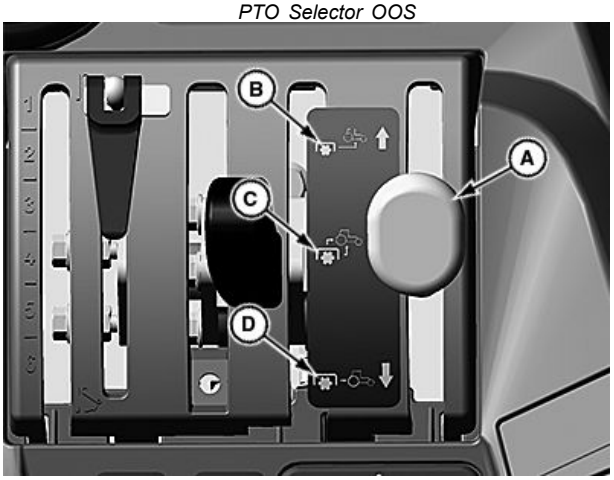
If the operator leaves the seat with the engine running and the mid-PTO engaged, the safety interlock system will stop the engine and all implements.

4. Start the engine.
5. Set engine speed to 1500 rpm or less.
6. Move the PTO selector lever (A) to desired operating position.
   - Selector Lever (A)
   - Position (B) - Mid PTO only.
   - Position (C) - Mid and Rear PTO both.
   - Position (D) - Rear PTO only.



LV17884 —UN—21OCT13

PTO Selector OOS



LV17885 —UN—28MAY13

PTO Selector Cab

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KN52281,100487F -19-16AUG13-1/2

7. Pull the PTO switch knob (E) up to the engaged/on position.
   - The instrument panel PTO engaged light will illuminate when the PTO is engaged.
8. Adjust the engine speed hand throttle forward to the desired speed for the implement used.

Using the RIO (Reverse Implement Option) Switch

NOTE: If the machine is equipped with the optional RIO function, the mid PTO can be operated with machine in reverse if the RIO function is activated. The RIO switch is only operational with the operator on the seat.

1. Sit on operator seat.
2. Pull PTO switch (E) to the RIO position.
3. Press the reverse travel pedal.

NOTE: PTO switch will stay enabled until tractor stops or forward motion is detected.

Disengaging the PTO

1. Adjust engine rpm to slow idle.

LV17557 —UN—30MAY13

E—PTO Switch Knob

2. Push PTO switch knob down to the disengaged/off position.

KN52281,100487F -19-16AUG13-2/2

Using Rear PTO (Operator Off Seat)

IMPORTANT: Use rear mounted equipment rated for 540 rpm. Do not operate mid or rear PTO over 540 RPM mark on tachometer.

NOTE: The mid-PTO is only operational with the operator on the seat.

Engaging the PTO

1. Sit on operator's seat.
2. Lock the park brake.
3. Move the transmission range shift lever to the N (neutral) position.

NOTE: The starter will not crank if the PTO switch knob is in the engaged/on position.

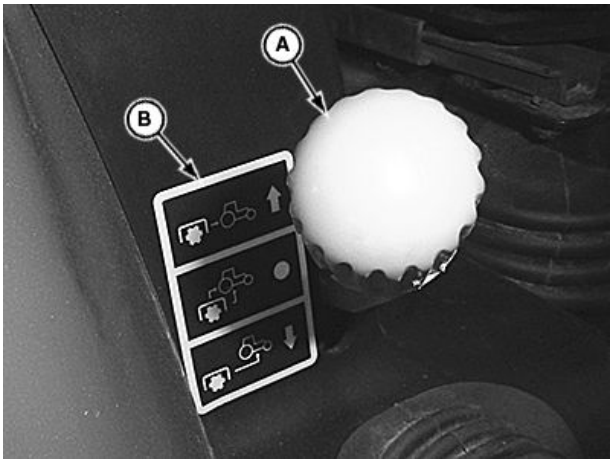
If the operator leaves the seat with the engine running and the mid-PTO engaged, the safety interlock system will stop the engine and all implements.

4. Start the engine.
5. Set engine speed to 1500 rpm or less.
6. Move the PTO selector lever (A) to Rear PTO Position (B).
7. Get off the operator's seat.
8. Pull the PTO switch knob (C) up to the engaged/on position.
   - The instrument panel PTO engaged light will illuminate when the PTO is engaged.
9. Adjust the engine speed hand throttle forward to the desired speed for the implement used.

Disengaging the PTO

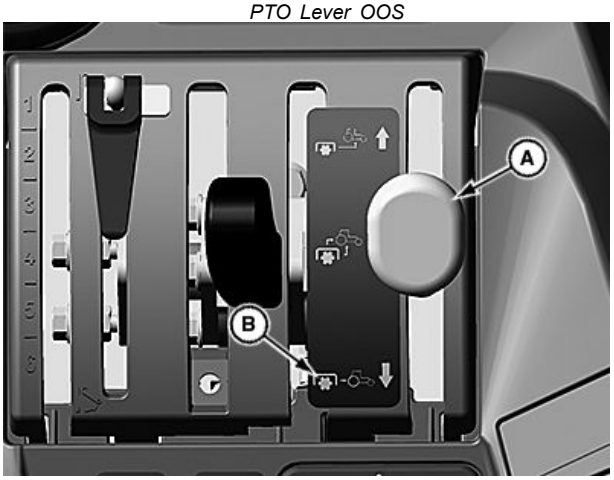
1. Adjust engine rpm to slow idle.
2. Push the PTO switch knob down to the disengaged/off position.

A—PTO Selector Lever
B—Rear PTO Position
C—PTO switch knob



LV17886 —UN—28MAY13

PTO Lever OOS



LV17887 —UN—28MAY13

PTO Lever Cab

LV17915 —UN—30MAY13

KN52281,1004880 -19-08AUG16-1/1

Using Drawbar Hitch (If Equipped)

CAUTION: Avoid Injury! Use only the drawbar that was provided with the machine (if equipped), or the optional drawbar available from your John Deere dealer. Do not install or use any other type of drawbar.

To avoid rearward upset, all towed loads must be attached to the drawbar, not just to the center link or draft arms.

IMPORTANT: Avoid damage! Maximum static vertical load on drawbar not to exceed maximum recommendations. Drive slowly with heavy loads.

Maximum Drawbar Loads

Certain heavy equipment such as a loaded single-axle trailer can place excessive strain on the drawbar. Strain is greatly increased by speed and rough ground. Do not exceed the maximum static vertical loads, see Specifications section.

Adjusting Drawbar Length

IMPORTANT: Avoid damage! For drawn PTO-driven implements, the drawbar must be in the operating position.

The drawbar is equipped with two adjusting holes for changing drawbar length and one hole for storage.

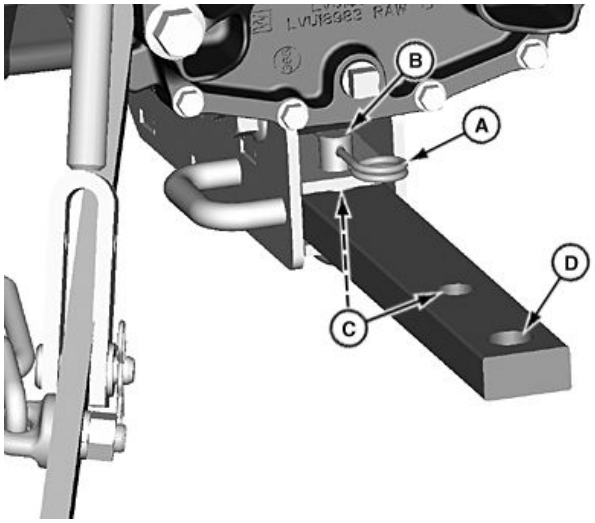
1. Remove quick-lock pin (A) and drilled pin (B).
2. Adjust drawbar to one of two operating positions (C), or to storage position (D).
3. Install drilled pin (B) up from bottom of machine. Secure with quick-lock pin (A).

Towing Loads

CAUTION: Avoid injury! Stopping distance increases with speed and weight of towed load, and on slopes. Towed loads, with or without brakes, that are too heavy for the machine or are towed too fast can cause loss of control. Consider the weight of the equipment and its load.

Ensure that load does not exceed recommended weight. The machine must be heavy, and powerful enough with adequate braking power for the towed load. Use additional caution and reduce speed when towing loads under adverse surface conditions, when turning, and on inclines.

1. Hitch the towed load only to the drawbar. Lock the drawbar and pin in place.
2. Install a safety chain to the machine drawbar support and to the towed load. Provide only enough slack to permit turning.
3. Before descending a hill, shift to a gear low enough to control machine without having to use the brake pedal.



LV16738 —UN—05MAR13

A—Quick-Lock Pin
B—Drilled Pin
C—Operating Positions
D—Storage Position

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KN52281,100483C -19-11OCT16-1/2

Using Safety Chain

CAUTION: Avoid injury! Hitch towed loads only to the drawbar to avoid rearward upset. Do not use the safety chain for towing loads.

IMPORTANT: Avoid damage! Secure the towed load to the drawbar. The safety chain is designed to help control the towed load in case of separation from the drawbar.

Use a chain with a strength rating greater than the gross weight of the towed load.

Replace or repair the safety chain if one or more links or fittings are broken, stretched, or damaged.

1. Attach safety chain (A) to drawbar support (B) and to towed load. Provide only enough slack to permit turning.
2. Install additional attaching points (C) for chain on drawbar to reduce slack in chain when necessary.

LV17806 —UN—15MAY13

A—Safety Chain
B—Drawbar Support
C—Attaching Points

3. Remove safety chain and store when not in use.

KN52281,100483C -19-11OCT16-2/2

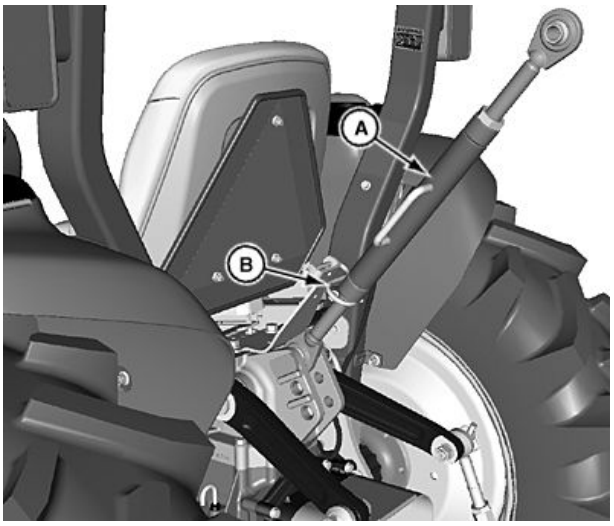
Using 3-Point Hitch

NOTE: The 3-point hitch on your machine is classified as a limited category 1 hitch.

Center Link Storage Position

Place center link (A) in storage hook (B) when hitch is not in use.

A—Center Link
B—Storage Hook



LV16753 —UN—05MAR13

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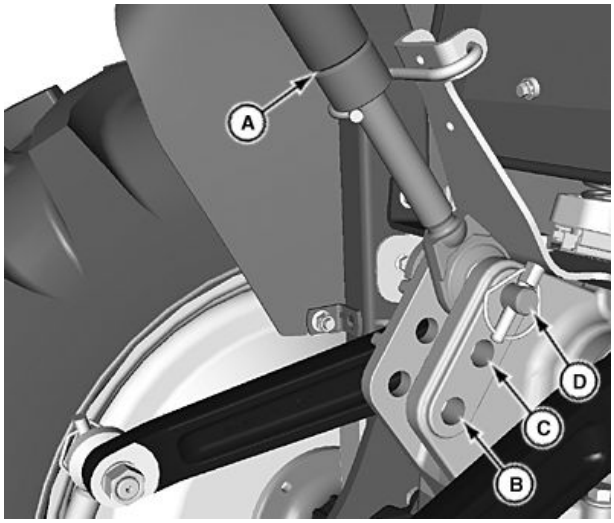
KN52281,10047E3 -19-01AUG13-1/8

Positioning Center Link

- **For light and medium draft loads:** Install center link (A) in bottom hole (B) of mounting bracket. Example of light and medium draft load implements include a landscape rake. A category 1 implement tilts forward while raising in this position.
- **For medium and heavy draft loads:** Install center link in middle hole (C) of mounting bracket. Example of medium and heavy draft load implements include a tiller or box blade. A category 1 implement tilts forward slightly while raising in this position.
- **For very heavy draft loads:** Install center link in top hole (D) of mounting bracket. Example of very heavy draft load implements include a plow or ripper. A category 1 implement rises, but angle remains constant.

A—Center Link
B—Bottom Hole
C—Middle Hole
D—Top Hole



LV16754 —UN—05MAR13

KN52281,10047E3 -19-01AUG13-2/8

Using Rockshaft Control Lever

Use rockshaft control lever (A) to raise and lower equipment attached to 3-point hitch.

The six rockshaft position identifiers (C) do not signify specific operating depths. When rockshaft control lever is moved forward, draft arms lower closer to ground.

Lower Implement: Push rockshaft control lever forward.

Raise Implement: Pull rockshaft control lever rearward.

The adjustable rockshaft depth stop (B) can be adjusted to maintain a particular implement operating depth. To use the depth stop knob:

1. Operate implement for a few minutes to determine the desired operating depth.
2. Loosen the depth stop knob.
3. Move knob against rockshaft control lever.
4. Tighten knob to keep the depth stop in position. Implement will operate in same position each time rockshaft control lever is pushed against the depth stop.

LV17559 —UN—24APR13

Open Operator Station Shown; Cab Similar

A—Rockshaft Control Lever
B—Rockshaft Depth Stop
C—Rockshaft Position Identifiers

Continued on next page

KN52281,10047E3 -19-01AUG13-3/8

Using Rate-of-Drop/Lock Valve

CAUTION: Avoid Injury! Excessive rate-of-drop may cause injury or damage. Fully lowering implement takes at least 2 seconds.

IMPORTANT: Avoid Damage! To prevent overheating hydraulic oil and damaging machine, do not raise rockshaft when rate-of-drop/lock valve is closed.

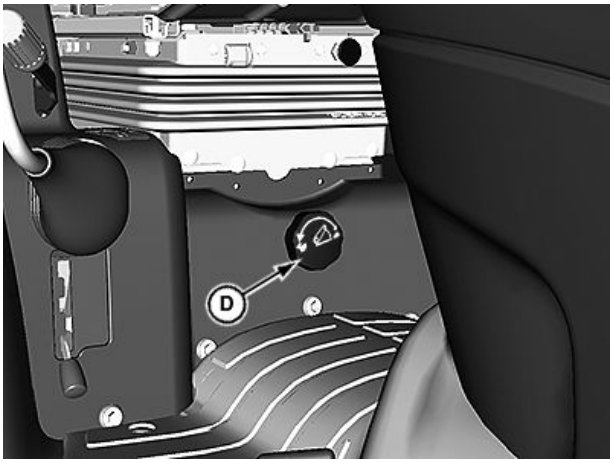
NOTE: Do not use implements or controls with valve locked, damage to tractor could occur.

The rate-of-drop/lock valve (D) controls the rate of rockshaft drop when rockshaft control lever (A) is operated. This valve provides direct rate-of-drop control for 3-point hitch mounted implements. The valve can also be used to hydraulically lock rockshaft (3-point hitch) in a desired position.

Increase Rate-of-Drop: Rotate rate-of-drop lock rate valve knob (D) counterclockwise to make drop faster.

Decrease Rate-of-Drop: Rotate rate-of-drop lock rate valve knob (D) clockwise to make drop slower.

CAUTION: Avoid Injury! Do not use the rockshaft drop/lock valve for holding an attachment in raised position for service work. Loss of hydraulic pressure could result in sudden drop of attachment. Lower attachment onto blocks or remove from machine before servicing.



LV17560 —UN—24APR13

D—Rate-of-Drop/Lock Valve Knob

Lock 3-Point Hitch: Rotate rate-of-drop/lock valve knob (D) clockwise until tight.

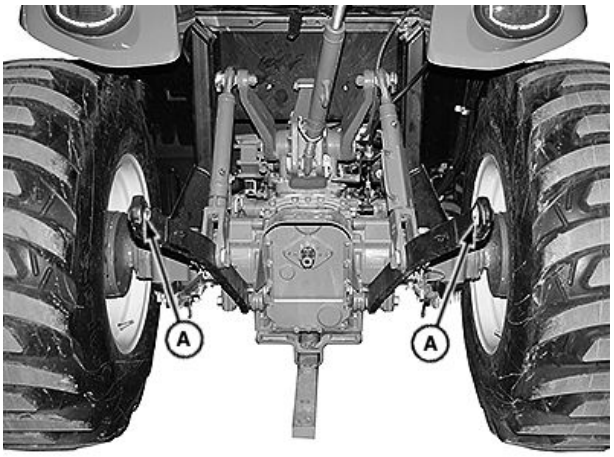
Unlock 3-Point Hitch: Rotate rate-of-drop/lock valve knob (D) counterclockwise.

KN52281,10047E3 -19-01AUG13-4/8

Using the Draft Links

CAUTION: Avoid Injury! Look down and behind before and while backing. Clear area of all bystanders before backing machine.

1. Slowly back machine into position to align draft links with implement lift brackets.
2. Park machine safely. (See Parking Safely in safety Section.)
3. Connect draft links (A) to the implement.
4. Secure implement with lynch pins.



LV17575 —UN—29APR13

A—Draft Links

Continued on next page

KN52281,10047E3 -19-01AUG13-5/8

Leveling Implement Front-to-Rear

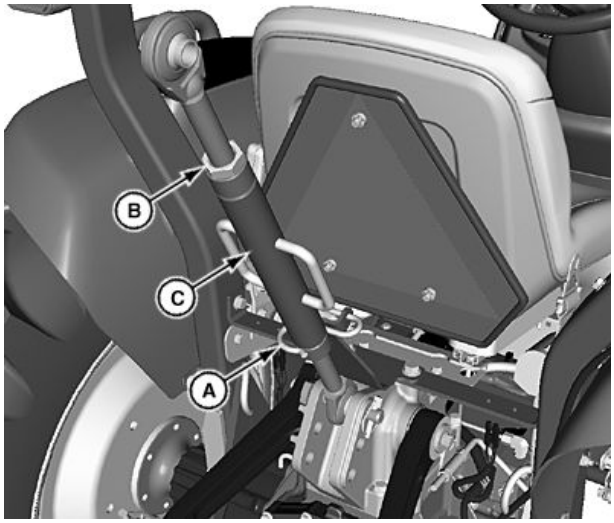
1. Park machine safely. (See Parking Safely in Safety section.)

NOTE: When the 3-point hitch is not being used, return center link to storage hook (A).

2. Lower implement to ground to relieve pressure on center link.
3. Loosen lock nut (B).

IMPORTANT: Avoid Damage! Do not turn center link body past the stops, or threads may be damaged.

4. Rotate center link body (C) to lengthen or shorten the center link as needed.
5. Tighten lock nut (B).



LV16781 —UN—05MAR13

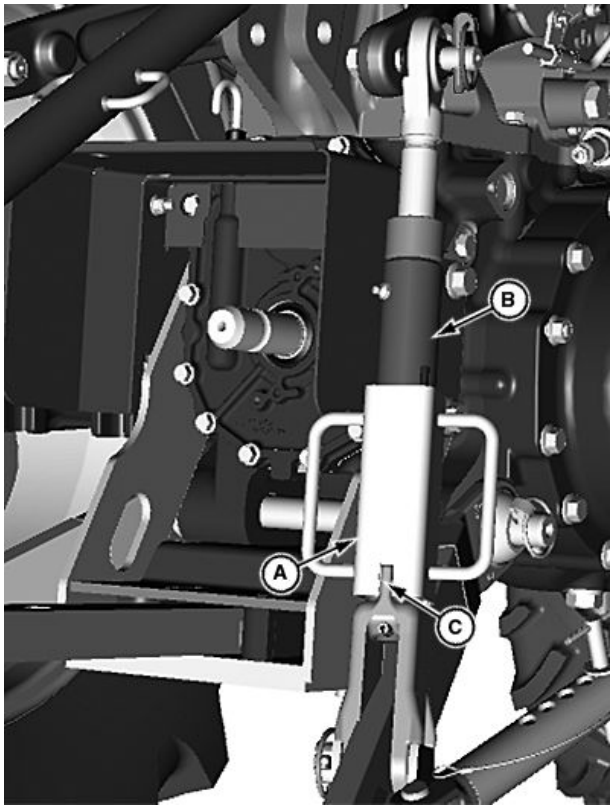
A—Storage Hook
B—Lock nut
C—Center Link Body

KN52281,10047E3 -19-01AUG13-6/8

Leveling Implement Side-to-Side

Use turnbuckle (A) on the right adjustable lift link (B) to level a 3-point hitch implement side-to-side.

1. Park machine safely. (See Parking Safely in Safety section.)
2. Lower any rear mounted implement to the ground.
3. Slide up and rotate turnbuckle collar (A) to raise or lower draft link until 3-point hitch mounted implement is level from side-to-side.
4. Slide down and line up the slot in turnbuckle collar (A) with turnbuckle collar lock (C) to secure position.



LV17873 —UN—23MAY13

A—Turnbuckle Collar
B—Lift Link
C—Turnbuckle Collar Lock

Continued on next page

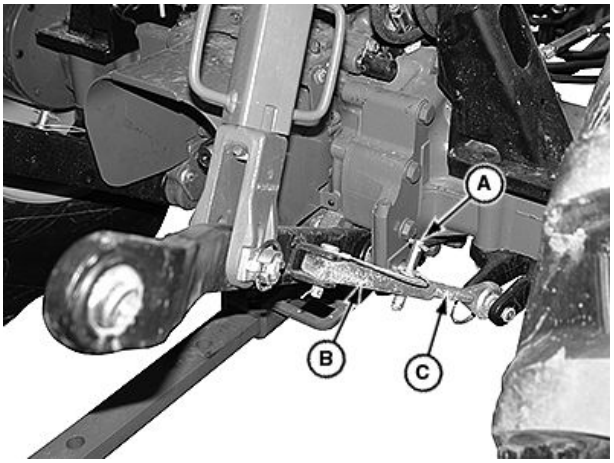
KN52281,10047E3 -19-01AUG13-7/8

Adjusting Implement Side-to-Side Sway

NOTE: Check implement operator's manual procedure for adjusting sway links. When sway links have been properly adjusted, side sway of implement is controlled by position of links. A small amount of sway, 13—25 mm (1/2—1 in.), is needed for many implements.

Use left and right sway links (C) to adjust 3-point hitch implement side-to-side sway:

1. Park machine safely. (See Parking Safely in Safety section.)
2. Lower any rear mount implement to the ground.
3. Remove locking pin (A).
4. Slide stabilizer Sway Link Adjusting Shaft (B) to adjust 3-point hitch implement side-to-side sway.
5. Replace locking pin (A).



LV17577 —UN—29APR13

A—locking Pin
B—Sway Link Adjusting Shaft
C—Sway Link

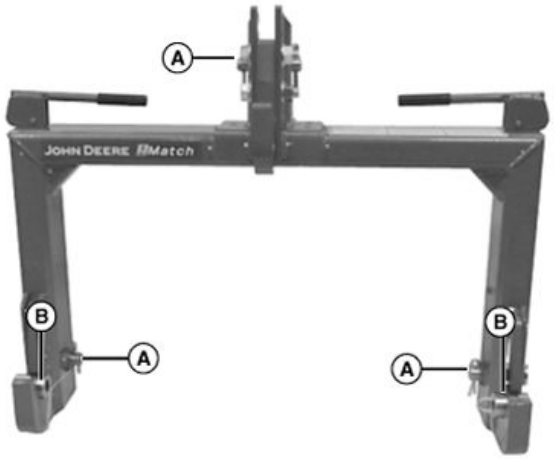
KN52281,10047E3 -19-01AUG13-8/8

Using Optional iMatch Quick-Attach Hitch System

The optional iMatch™ quick-attach hitch fits all Category I implements designed to the ASAE Cat I standard for quick-attach hitches.

Installing iMatch Quick-Attach Hitch

1. Remove three drilled pins (A) and two bushings (B) from iMatch quick-attach hitch.
2. Use machine rockshaft control lever to fully lower 3-point hitch draft links.
3. Park machine safely. (See Parking Safely in Safety Section.)



LVAL38290 —UN—21AUG12

A—Drilled Pins (3 used) **B—Bushing (2 used)**

iMatch is a trademark of Deere & Company

Continued on next page

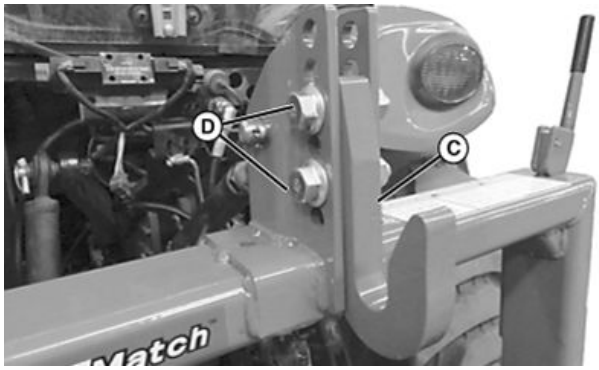
JZ81662,0000FC5 -19-01MAR13-1/4

4. Center link hook (C) is set from factory at standard height to accommodate most implements. Adjust center link hook, if necessary.
   - Remove nuts and bolts (D).
   - Raise or lower center link hook as required.
   - Install nuts and bolts. Torque bolts to specification before use of iMatch assembly.

Specification

iMatch Bolts—Torque..... 245—318 N·m

5. Position iMatch quick-attach hitch near draft links and adjust 3-point hitch sway links to align draft links with quick-attach hitch.
6. Install iMatch quick-attach hitch on draft links using drilled pins.
7. Install 3-point hitch center link on iMatch quick-attach hitch using center link quick-lock pin and drilled pin.



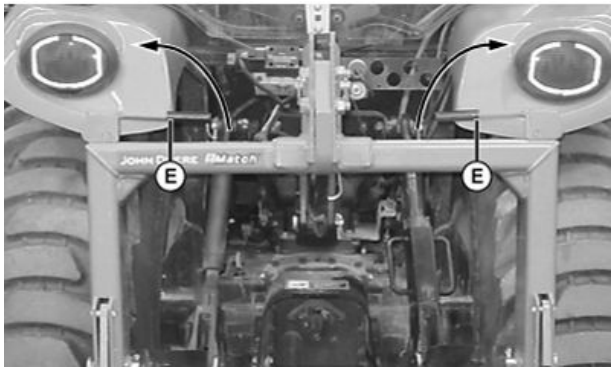
LVAL38291 —UN—21AUG12

C—Center Link Hook **D—Nuts And Bolts**

JZ81662,0000FC5 -19-01MAR13-2/4

Connecting Implement

1. Install two bushings included with iMatch quick-attach hitch on drilled pins in implement draft link lift brackets.
2. Move levers (E) on iMatch quick-attach hitch to unlocked position.
3. Back machine into position and align iMatch quick-attach hitch with implement lift brackets.
4. Use rockshaft control lever to position iMatch quick-attach hitch under lift brackets and lift implement from ground.

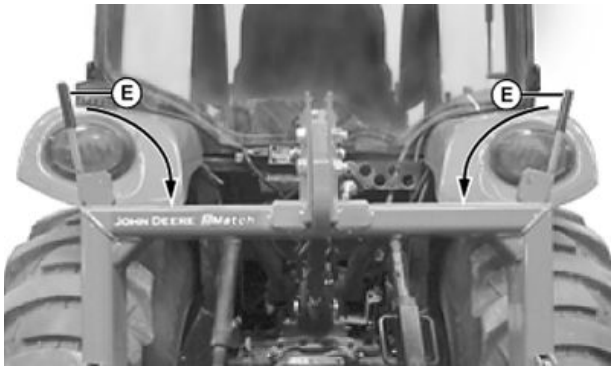


LVAL38292 —UN—21AUG12

E—Levers

JZ81662,0000FC5 -19-01MAR13-3/4

5. Fully raise implement. Move levers (E) on iMatch quick-attach hitch to locked position.



LVAL38293 —UN—21AUG12

E—Levers

JZ81662,0000FC5 -19-01MAR13-4/4

Using Attachments

When using attachments, check full range of three point hitch travel each time a new attachment or implement is mounted. Watch for hoses and attachment parts throughout the three point hitch travel range. Adjust the depth stop as needed. Some attachments with short driveshafts require an upstop, see your John Deere Dealer. The driveshaft can be damaged if attachments are operated at too high of an angle.

JZ81662,0000FC6 -19-01MAR13-1/1

Connecting Implement Hydraulic Hoses

CAUTION: Avoid injury! Escaping fluid under high pressure can penetrate the skin and cause serious injury. Avoid the hazard by relieving pressure before connecting 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 from Deere & Company Medical Department in Moline, Illinois, U.S.A. In the United States and Canada only, this information may be obtained by calling 1-800-822-8262.**

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Relieve hydraulic pressure:
   - Move dual selective control valve (SCV) lever rearward-to-forward and side-to-side several times.
   - Move third SCV lever rearward-to-forward several times if equipped.
3. See your implement operator's manual for specific instructions on connecting hydraulic hoses to couplers. Install hose ends in couplers with matching colors.
   - Colors for the couplers are shown on the label installed on the machine near the couplers.
4. See your implement operator's manual for specific instructions on operating SCV controls.

IMPORTANT: Avoid damage! To prevent contamination of female quick couplers, color-coded hose ends should be installed in the couplers when not being used.

KN52281,100482E -19-09MAY13-1/1

Using Dual Selective Control Valve Lever

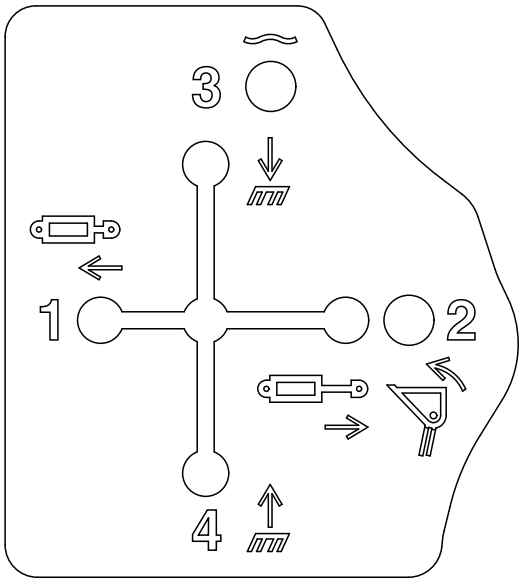
The label installed on the machine next to the dual selective control valve (SCV) lever shows the different lever positions.

Lever positions numbered 1—4 on the label match hydraulic line couplers numbered 1—4 on the label installed on the machine near the couplers. Moving the lever to position 1 will supply fluid to coupler 1 and return fluid through coupler 2 and so forth.

Lever Position	Fluid Supply	Fluid Return
Left to position 1	**1**	**2**
Right to position 2	**2**	**1**
Foward to position 3	3	4
Rearward to position 4	4	3

Move the lever to the full right or "regen" position for faster loader bucket dumping.

Move the lever to the full forward or "float" position to remove pressure in both lines 3 and 4 and allow fluid to flow back and forth between the lines. The lever may be left in the "float" position.



LV17735 —UN—09MAY13

Standard Label Which May Not Exactly Match Label on Your Machine

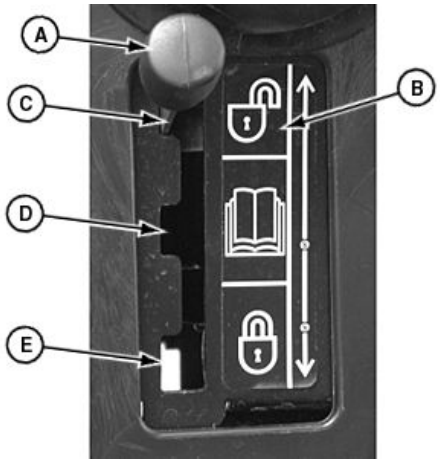
KN52281,100482F -19-09MAY13-1/1

Using Dual Selective Control Valve (SCV) Lock Lever

Tractor without Cab

Selective control valve (SCV) lock lever (A) allows the operator to control the type of dual SCV lever movement needed for a particular operation or situation. Operation of the lock lever is indicated on lock lever label (B).

- To allow movement of dual SCV lever in all directions, move lock lever to the top position (C). Operation of the dual SCV is totally unlocked.
- To prohibit engagement of the regen (regeneration) function of the dual SCV, move lock lever to the middle position (D). This position is recommended for all implements except for the front loader. Loader buckets will dump more rapidly when the regen function is engaged. The regen function is available only with the lock lever in top position C.
- To prohibit movement of dual SCV lever in all directions, move lock lever to the bottom position (E). Operation of the dual SCV is totally locked.



LV17736 —UN—09MAY13

A—Selective Control Valve Lock Lever
B—Lock Lever Label
C—Top Position
D—Middle Position
E—Bottom Position

UP00731,00001CC -19-29MAY14-1/2

Selective Control Valve (SCV) Lever Lock—Cab

Selective control valve (SCV) lever lock (A) allows the operator to control the type of dual SCV lever movement needed for a particular operation or situation.

- To prohibit movement of dual SCV lever in all directions, make sure SCV lever (C) is in center position, and pull the lock lever all the way out to the bottom position (D) as shown on lock lever label (B). Operation of the dual SCV is totally locked.
- To allow movement of dual SCV lever in all directions, move the lock lever to the center position (E). Operation of the dual SCV is totally unlocked.
- To prohibit engagement of the regen (regeneration) function of the dual SCV, push the lock lever all the way in to the top position (F). This position is recommended for all implements except for the front loader. Loader buckets will dump more rapidly when the regen function is engaged.

NOTE: After extended use, the dual SCV lever may require cable adjustment to lock out.

LV21964 —UN—28MAY14

SCV Lever Shown with Optional Rear Outlet SCV control switch

A—Selective Control Valve Lock Lever
B—Lock Lever Label
C—Selective Control Valve Lever
D—Bottom Position
E—Center Position
F—Top Position

UP00731,00001CC -19-29MAY14-2/2

Using Rear Outlet Selective Control Valve (SCV)

CAUTION: Avoid injury! Escaping fluid under high pressure can penetrate the skin and cause serious injury. Avoid the hazard by relieving pressure before connecting 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 from Deere & Company Medical Department in Moline, Illinois, U.S.A. In the United States and Canada only, this information may be obtained by calling 1-800-822-8262.**

This machine model series can be equipped with an optional hydraulic third selective control valve (SCV) and hydraulic outlets to operate hydraulically driven implements.

The machine-mounted hydraulic outlets are female quick couplers.

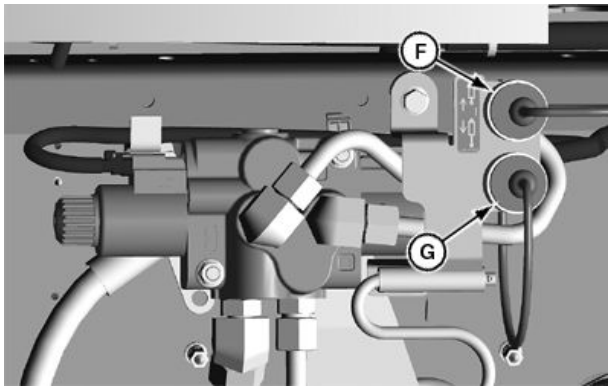
Using Rear SCV Control Switch

The rear outlet SCV may be operated in a momentary condition to operate attachments such as extending or retracting a hydraulic cylinder. The attachment will receive full hydraulic flow in direct response to the use of the control switch

1. Depress the top of control switch (E) to allow flow from the circuit out the lower outlet (G) and return to the machine through the upper outlet (F).
2. Depress the bottom of control switch (H) to allow flow from the circuit out the upper outlet (F) and return to the machine through the lower outlet (G).

NOTE: Before connecting or disconnecting couplers, relieve pressure on both rear outlets. Lower the implement to the ground, tractor off and the ignition in the on position. Cycle the SCV control switch (E and H) a few times.

LV17739 —UN—09MAY13



LV22041 —UN—06JUN14

Cab Shown; Open Operator Station Similar

E—Top of Control Switch
F—Upper Outlet
G—Lower Outlet
H—Bottom of Control Switch
I— T Handle

IMPORTANT: Avoid damage! To prevent contamination of female quick couplers, color-coded hose ends should be installed in the couplers when not being used.

KN52281,1004D72 -19-09JUN14-1/1

Raising and Lowering Roll-Over Protective Structure (ROPS)

CAUTION: Avoid injury! Always wear seat belt when operating machine with folding Roll-Over Protective Structure (ROPS) in upright position. Do not jump from machine if machine tips.

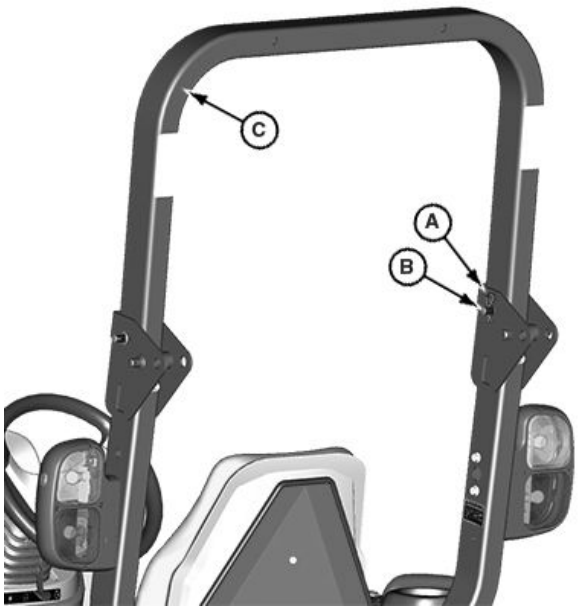
If ROPS must be folded to operate in a low clearance area, do not use seat belt. Raise ROPS and use seat belt as soon as conditions permit.

Lowering ROPS Crossbar

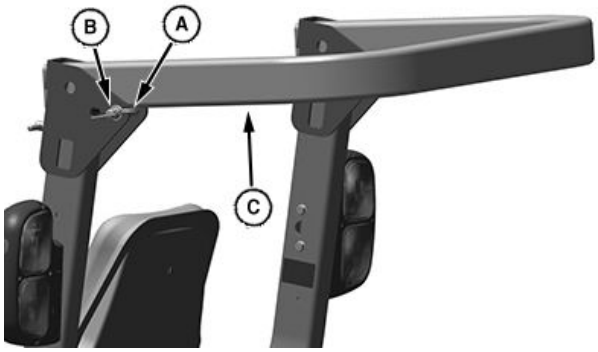
1. Remove spring locking pin (A) and drilled pin (B) on each side of the ROPS.
2. Carefully lower ROPS crossbar (C).
3. Align crossbar bracket holes with support bracket holes on each side of the ROPS.
4. Install drilled pins (B) and spring locking pins (A) to lock crossbar (C) in the lowered position.

Raising ROPS Crossbar

1. Remove spring locking pins (A) and drilled pins (B) on each side of the ROPS.
2. Carefully raise ROPS crossbar (C) to the operating position.
3. Align crossbar bracket holes with support bracket holes on each side of the ROPS.
4. Install drilled pins (B) and spring locking pins (A) to lock crossbar (C) in the raised position.



LV17701 —UN—06MAY13



LV25561 —UN—09JUN16

A—Spring Locking Pin
B—Drilled Pin
C—ROPS Crossbar

UP00731,00001C2 -19-09JUN16-1/1

Ballasting Machine

CAUTION: Avoid Injury! Ballasted machine can become unstable when attachment is raised. Always drive slowly over uneven ground and when turning with raised attachment.

IMPORTANT: Avoid Damage! Do not overload tires. Do not exceed tire maximum inflation pressure or maximum load capacity.

Add weight to machine front end if needed for stability. Heavy pulling and heavy rear-mounted implements tend to lift front wheels. Add enough ballast to maintain steering control and prevent roll-over. Remove weight when it is no longer needed.

IMPORTANT: Avoid Damage! Remove ballast from machine when no longer needed.

Implement Codes

Use the following tables to determine the number of front weights to use with John Deere implements. Implement code data can be found in the ballasting section of the implement operator's manual.

Match the implement code from the implement manual with the codes for your machine and type of hitch. If the code falls between two numbers in the table, use the next higher number for the number of front weights to use with that implement.

These codes are for ideal conditions. Actual field conditions can require additional ballast. Some John Deere implements require using a certain number of front weights rather than giving implement codes.

Maximum recommended implement codes:

Implement Code Using iMatch™ Quick-Attach Hitch	
Number of 20 kg (42 lb.) Weights	3033R, 3039R, and 3046R
0	21
1	23
2	25
3	27
4	29
5	31
6	33
7	35
8	37
9	39
10	41

Implement Code Using iMatch™ Quick-Attach Hitch	
Number of 32 kg (72 lb.) Weights	3033R, 3039R, and 3046R
0	21
1	24
2	28
3	31
4	35
5	39
6	42
7	46
8	49
9	53
10	57

Tire Capacities

IMPORTANT: Avoid damage! Do not overload tires. Do not exceed tire maximum inflation pressure or maximum load capacity.

If necessary ballast exceeds tire load capacity, reduce load or install other tires.

See tire maximum inflation pressure and maximum load capacities in the Specifications section.

Verify maximum tire inflation pressure and maximum load information if embossed into the tire side wall.

Using Optional Rear Cast Iron Wheel Weights

IMPORTANT: Avoid damage! Do not overload tires. Do not exceed tire maximum inflation pressure or maximum load capacity.

CAUTION: Avoid Injury! Machine component or attachment is heavy. Use a safe lifting device or get an assistant to help lift, install, or remove component or attachment.

Fasten weight to each rear wheel using a safe lifting device. A total of three weights per wheel can be used. See your implement operator's manual for installation and number of weights to use.

Rear wheel weights are available from your John Deere dealer.

Using Optional Rear Ballast Box

CAUTION: Avoid Injury! To improve front loader-machine stability, use of ballast box is recommended. Use ballast as recommended in loader operator's manual.

The rear ballast box is used for carrying ballast on the 3-point hitch. Approximate weight of different materials is given in the implement operator's manual.

Continued on next page

Using Liquid Weight in Tires

CAUTION: Avoid Injury! Installing liquid ballast requires special equipment and training. Injury can occur from exploding tire. Have the job done by your John Deere dealer or a tire service store.

IMPORTANT: Avoid Damage! Cover rim completely with solution to avoid corrosion, but never more than 90 percent full. More solution would leave too little air space to absorb shocks. Damage to tire could occur.

NOTE: Use of alcohol as ballast is not recommended. Calcium chloride solution is heavier and more economical.

A solution of water and calcium chloride provides safe economical ballast, and prevents freezing. If used properly, it will not damage tires, tubes, or rims.

A mixture of 0.4 kg of calcium chloride per liter of water (3.5 lb./gal.), prevents freezing soilid above -45°C (-50 °F).

Fill tubeless tires at least to valve stem level (minimum 75% full). Less solution would expose part of rim, possibly causing corrosion.

Tube-type tires can be filled to any level below 90%.

Optional Front Weights and Front Weight Bracket Extension

IMPORTANT: Avoid Damage! Do not install weights on front bumper plate. Damage to the front grille can occur. Use optional bolt-on weight bracket for front weights.

LV18581 —UN—02AUG13

A—Front Weight Bracket

Quik-Tatch™ weights and attaching hardware are available at your John Deere dealer. Each weight is 19 kg (42 lb.) or 32 kg (70 lb.).

An optional front weight bracket extension kit (A) is available at your John Deere dealer. This optional front weight bracket extension kit holds up to ten Quik-Tatch weights.

iMatch is a trademark of Deere & Company
Quik-Tatch is a trademark of Deere & Company

KN52281,10047EF -19-23OCT13-2/3

Transporting Machine on Trailer

CAUTION: Avoid Injury! Use extra care when loading or unloading the machine into a trailer or truck.

Close fuel shut-off valve, if your machine is equipped.

IMPORTANT: Avoid Damage! Transporting a machine on a trailer or on a truck bed at high speeds can result in hood or engine cover raising and possibly coming off machine if not secured.

- **Position machine on trailer so hood or engine cover opens from rear of trailer to prevent wind from blowing hood or cover open.**
- **Secure hood or engine cover with existing machine locks or latches.**
- **Secure hood or engine cover with tie down straps if no locks or latches exist.**

NOTE: Use a heavy-duty trailer to transport your machine.

1. Drive or back machine onto trailer so hood or engine cover opens from rear of trailer.
2. Lower any implements to trailer deck.
3. Lock the park brake.
4. Stop the engine.
5. Remove the key.
6. Close the fuel shut-off valve.
7. Remove or cover up the slow moving vehicle (SMV) sign.
8. Fasten machine to trailer with heavy-duty straps, chains, or cables. Both front and rear straps must be directed down and outward from machine. Trailer must have signs and lights as required by law.

KN52281,1003ECB -19-24AUG16-1/1

Transporting Machine

Driving Machine Safely on Roads

CAUTION: Avoid Injury! Use caution when operating machine at transport speeds. Reduce speeds if towed load weighs more than machine. Consult towed equipment operator's manual for recommended transport speeds.

Use additional caution when transporting towed loads under adverse surface conditions, especially when turning, and on inclined surfaces.

Use of warning lights and turn signals are recommended when traveling on public roads unless prohibited by state or local regulations. An implement safety lighting kit is available from your John Deere dealer.

Observe the following precautions when operating the machine on a road:

- Make sure SMV (Slow Moving Vehicle) emblem and warning lights are clean and visible. If towed or rear mounted equipment obstructs these safety devices, install SMV emblem and warning lights on equipment.
- Turn on flashing warning lights and headlights, except if prohibited by law.
- Drive slowly enough to maintain safe control at all times. Slow down for hillsides, rough ground, and sharp turns, especially when transporting heavy, rear-mounted implements.
- Adjust tread width position of rear wheels to provide maximum stability.
- If equipped, disengage the MFWD to reduce tire wear.
- Never coast machine downhill.

Pushing or Towing Machine

CAUTION: Avoid Injury! Never tow machine faster than 16 km/h (10 mph). If possible, have someone operate steering and brakes of towed tractor.

IMPORTANT: Avoid Damage! Push or tow machine for short distances only.

1. Push PTO switch knob to the disengaged/off position.
2. Disengage differential lock.
3. Disengage park brake.
4. Place transmission range shift lever in the N (neutral) position.
5. Disengage the MFWD.

KN52281,100483F -19-20MAY13-1/1

Pushing or Towing Machine

CAUTION: Avoid Injury! Never tow machine faster than 16 km/h (10 mph). If possible, have someone operate steering and brakes of towed tractor.

IMPORTANT: Avoid damage! Push or tow machine for short distances only.

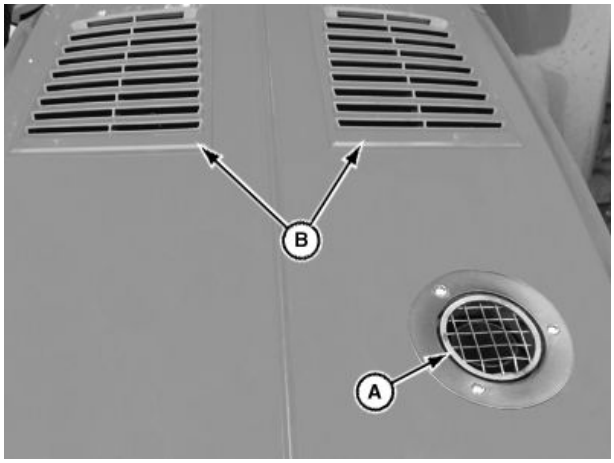
1. Push the PTO knob to the disengaged/off position.
2. Disengage the differential lock.
3. Disengage park brake.
4. Move the transmission range shift lever to the N (neutral) position.
5. Disengage the MFWD.

KN52281,1004840 -19-20MAY13-1/1

Cleaning Hood Vents

IMPORTANT: Avoid damage! Hood vents must be kept free of debris and obstruction to allow for adequate air flow.

1. Park machine safely. (See Parking Safely in Safety section.)
2. Allow engine to cool.
3. Raise hood.
4. Check exhaust vent (A) and engine hood vent (B) for obstruction or debris.
5. Check vent area for any obstructions.
6. Lower hood.



LV19091 —UN—13SEP13

A—Exhaust Vent **B—Engine Hood Vent**

KN52281,10049BB -19-16SEP13-1/1

Exhaust Filter System Overview

Your machine is equipped with an emission compliant engine, which cleans and filters the engine exhaust. Please read the Exhaust Filter Cleaning sections to understand when and where operator interaction is required.

IMPORTANT: Under normal machine operation the system is in Automatic mode, and requires minimal operator interaction.

IMPORTANT: Soot builds up during times when engine exhaust gas temperature is lower (lower engine speed, lower engine load). Performing extended operations at either low engine speed (below 1500 rpm) or low engine load (such as backhoe work) could result in needing a parked exhaust cleaning. Periodically monitor the machine display during these operations to determine if parked exhaust cleaning is required.

To avoid unnecessary buildup of diesel particulates or soot in the exhaust filter system:

- Avoid unnecessary idling.
- Use proper engine oil. (See Service Engine section for recommendations.)
- Use only ultra low sulfur fuel. (See Service Miscellaneous section for recommendations.)

IMPORTANT: When vehicle use is not suited for higher temperatures created by exhaust filter cleaning, use the Disable mode (B). Be sure to deactivate disable mode as soon as possible to avoid unnecessary soot built up in exhaust filter.

Remember to select Disable mode (B) when temporarily connected to an indoor ducted exhaust system during vehicle diagnostic and repair activities.

LV23936 —UN—24AUG16

Exhaust Filter Cleaning Mode Switch

A—Parked Exhaust Filter Cleaning Switch **B—Exhaust Filter Cleaning Disable Switch**

Continued on next page

UP00731,0000350 -19-23JUN15-1/6

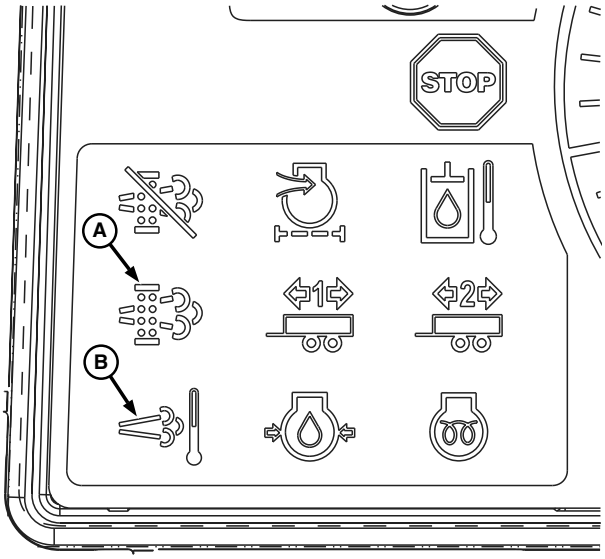
Exhaust Filter Indicators

Exhaust Filter Indicator (restriction) (A) — Indicates that buildup in the exhaust filter requires cleaning.

High Exhaust Temperature Indicator (B) — Illuminates when the exhaust filter system is actively performing exhaust filter cleaning.

A—Exhaust Filter Indicator

B—High Exhaust Temperature Indicator



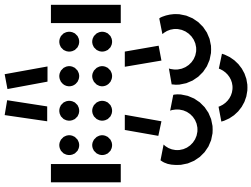
LV17596 —UN—01MAY13

Exhaust Filter Indicators

UP00731,0000350 -19-23JUN15-2/6

Operator Information

H94828 —UN—13OCT09



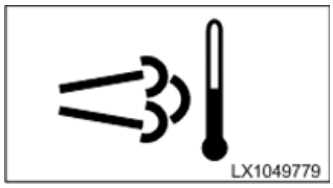
1. Exhaust Filter cleaning Indicator

Description	Recommended Procedure
High level of soot at exhaust filter; the exhaust filter requires cleaning. *NOTE: If no cleaning is carried out, engine power is reduced .*	Exhaust filter cleaning with tractor parked may be carried out; see **Parked Exhaust Filter Cleaning**.

UP00731,0000350 -19-23JUN15-3/6

2. High Exhaust Temperature Indicator

LX1049779 —UN—22JUL10



Description	Recommended Procedure
Exhaust filter cleaning is taking place. Exhaust temperatures are high.	Do not interrupt automatic exhaust filter cleaning unless absolutely necessary.

UP00731,0000350 -19-23JUN15-4/6

3. Parked Exhaust Filter Cleaning Required

LX1049777 —UN—22JUL10

Description	Recommended Procedure
Very high level of soot at exhaust filter; the exhaust filter requires cleaning. *NOTE: Engine power is reduced.*	Perform **Parked Exhaust Filter Cleaning**.

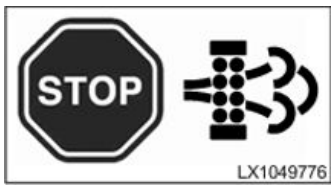
Continued on next page

UP00731,0000350 -19-23JUN15-5/6

4. **Service Exhaust Filter Cleaning Required**

Description	Recommended Procedure
Extreme level of soot in exhaust filter. When this level of contamination is reached, service cleaning must be performed. *NOTE: Note: Engine power is reduced.*	Contact your John Deere dealer and get the dealer to service-clean the exhaust filter. See **Service Exhaust Filter Cleaning**.

LX1049776 —UN—22JUL10



UP00731,0000350 -19-23JUN15-6/6

Automatic (AUTO) Exhaust Filter Cleaning

Automatic exhaust filter cleaning is started when soot in the exhaust filter reaches a certain level. This occurs less frequently if the engine is operated for long periods under conditions where passive exhaust filter cleaning takes place. Automatic exhaust filter cleaning is initiated and performed without any intervention on the part of the operator.

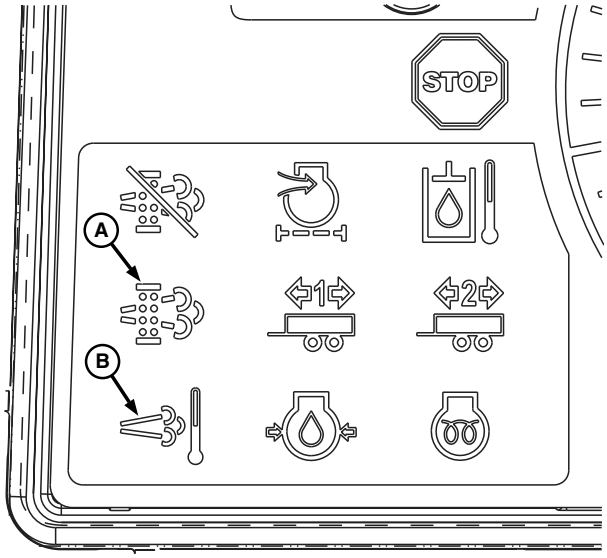
The exhaust filter indicator (A) will illuminate if the system determines that soot buildup in the exhaust filter requires cleaning. The light will remain on until an auto exhaust cleaning process is performed

An exhaust filter cleaning will start automatically unless the disabled switch has been activated. The high exhaust temperature indicator (B) will illuminate and stay on during the cleaning process.

Do not disable automatic exhaust filter cleaning unless it is absolutely necessary.

CAUTION: To prevent fires, be sure to routinely clear any combustible materials (crop debris, animal nests, etc.) from the area of the engine and exhaust filter. Exhaust filter cleaning uses extremely high temperature.

IMPORTANT: See also *Clean Exhaust Filter Safely* in the Safety section.



A—Exhaust Filter Indicator

B—High Exhaust Temperature Indicator

UP00731,000034F -19-25JUN15-1/1

Disabled Exhaust Filter Cleaning

IMPORTANT: Operate vehicle with the exhaust filter cleaning mode switch in the AUTO position.

If your vehicle must be used in a situation not suited for higher temperatures created during exhaust filter cleaning, the system can be temporarily disabled. Be sure to deactivate the disabled exhaust filter cleaning mode as soon as possible to avoid soot buildup in the exhaust filter.

Activate exhaust filter cleaning disable switch (A) to disable exhaust filter cleaning mode. The LED will illuminate indicating it is disabled.

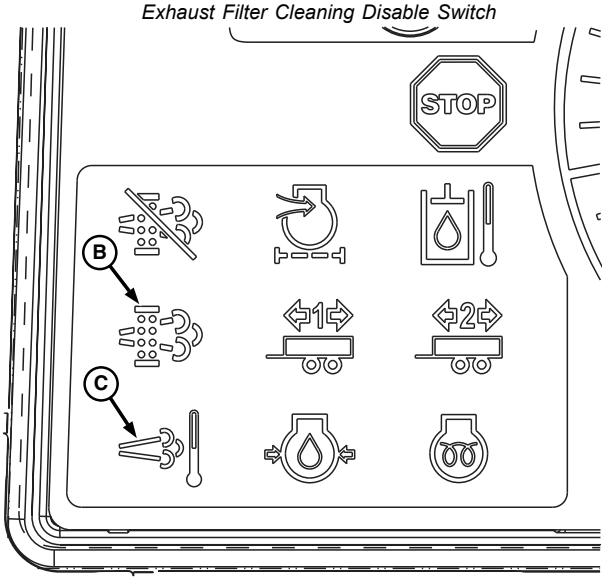
While in disabled mode, if the system determines that soot buildup in the exhaust filter requires cleaning, Exhaust Filter Indicator - Restriction (B) comes on. Press exhaust filter cleaning disable switch (A) to return to Automatic (AUTO) mode. High Exhaust Temperature Indicator (C) remains illuminated during the exhaust filter cleaning.

Do not disable automatic exhaust filter cleaning unless it is absolutely necessary. If disabled mode is used frequently, the system will eventually activate a parked exhaust filter cleaning. Meaning that the engine performance is reduced and will not return to normal until a park exhaust filter cleaning is performed.

A—Exhaust Filter Cleaning Disable Switch
B—Exhaust Filter Cleaning Indicator
C—High Exhaust Temperature Indicator

LV17597 —UN—21MAY13

Exhaust Filter Cleaning Disable Switch



LV17598 —UN—01MAY13

UP00731,0000351 -19-24JUN15-1/1

Parked Exhaust Filter Cleaning

IMPORTANT: If operator disregards indicators and continues to operate machine without allowing an automatic cleaning, engine performance is reduced. A parked exhaust filter cleaning procedure must be performed.

The following occurs when exhaust filter becomes restricted:

- Service alert and exhaust filter cleaning indicators (on dash) are illuminated.
- Engine power is reduced.

At this time, a parked exhaust filter cleaning is required.

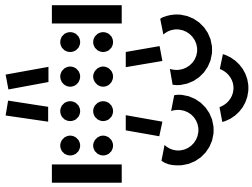
Before a parked exhaust filter cleaning can be completed, the following criteria must be met:

- Set engine rpm at low idle.

H94831 —UN—13OCT09

Service Alert Indicator

H94828 —UN—13OCT09



Exhaust Filter Cleaning Indicator

- Coolant temperature **must** be above 60 deg°C (140°F).
- Transmission **must** be in neutral.
- Zero ground speed commanded.
- Park brake **must** be engaged.
- PTO **must** be turned off.

Continued on next page

KN52281,10047F3 -19-06NOV14-1/2

IMPORTANT: Select a suitable space to park the machine and lower all implements to the ground.

No other machine functions can be used while exhaust filter cleaning is taking place with the machine parked. Excluded from this are functions that are required for an emergency shutdown of the machine.

Do not start exhaust filter cleaning if the fuel gauge has been showing a low fuel level for a long time.

Only stop engine if absolutely necessary due to heat build up in the engine compartment.

1. Press and hold the exhaust filter cleaning switch (A) in the parked cleaning position for 5 seconds; LED above the switch will start blinking if all conditions are met. Release, then push for another 3 seconds; the icon should remain lit.

NOTE: If cancellation of a parked exhaust filter cleaning process is necessary, your best option is to push filter cleaning disable switch (D).

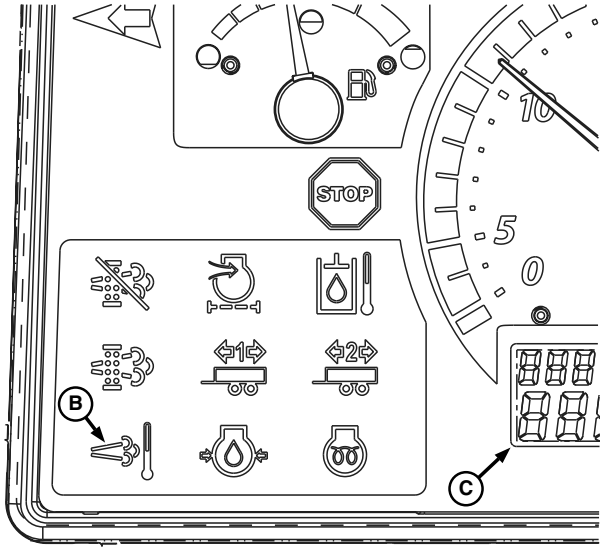
2. During the parked cleaning process, the high exhaust temperature indicator (B) and the LED above the Exhaust Filter Cleaning Switch (A) illuminate.
3. The engine speed elevates to 2200 rpm.
4. When the parked cleaning process is complete, the LED above the Exhaust Filter Cleaning Switch turns off. High exhaust temperature indicator (B) remains on for 30 seconds after completion and the engine speed returns to low idle.

NOTE: If not returning machine to operation, allow engine time to return to normal operating temperature before stopping engine.

5. After high exhaust temperature indicator (B) turns off, the system defaults to automatic exhaust filter cleaning mode and machine can be operated as normal.

IMPORTANT: If operator disregards indicators and continues to operate machine without allowing a parked cleaning, engine performance is reduced. A service exhaust cleaning procedure, by a John Deere dealer, is required.

LV17599 —UN—29OCT13



LV17600 —UN—01MAY13

A—Parked Cleaning Position
B—Exhaust Filter Temperature Indicator
C—Information Display
D—Filter Cleaning Disable Switch

KN52281,10047F3 -19-06NOV14-2/2

Service Exhaust Filter Cleaning

IMPORTANT: Repeated cancellation or ignoring indicators to perform a parked exhaust filter cleaning causes additional engine power limitations, which eventually lead to a dealer required service.

When STOP indicator (A) and exhaust filter cleaning indicator (B) are illuminated at the same time, contact your John Deere dealer. If level of soot at exhaust filter is extreme, the icon shown opposite appears and engine power is reduced. In this case, contact your John Deere dealer to service and clean the exhaust filter.

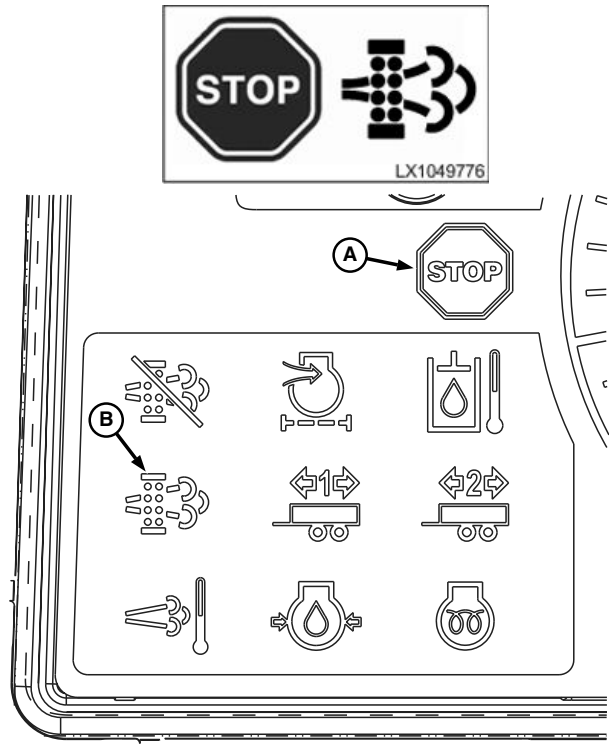
Automatic exhaust filter cleaning and filter cleaning with machine parked are no longer possible at this time.

*NOTE: If the tractor is switched off after this icon appears, it will not reappear immediately if the engine is restarted, and the tractor is **briefly** capable of operating, albeit with reduced power. This action is intentional, the intention being to allow the dealer to perform service-cleaning.*

Tips for avoiding service-cleaning:

- Do not disable exhaust filter cleaning unless absolutely necessary.
- Avoid unnecessary idling.
- Do not interrupt cleaning process unless absolutely necessary.
- If possible, do not shut off the engine while the indicator light for exhaust filter cleaning is on.
- Take note of information displayed for the operator, and act accordingly.

LX1049776 —UN—22JUL10



A—Stop Indicator

B—Exhaust Filter Cleaning Indicator

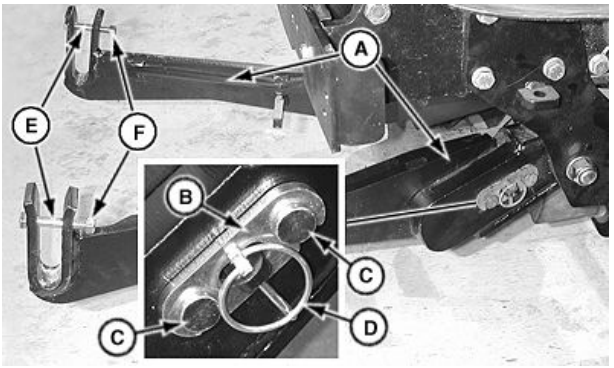
KN52281,10047F4 -19-05AUG13-1/1

Using Front 3-Point Hitch (If equipped)

Installing Lift Arms

Install lift arms (A) on pivot bracket with pin retainer plate (B), two lift arm retention pins (C) and lynch pin (D).

A—Lift Arms
B—Plate
C—Pins
D—Lynch Pin
E—Lift Arm Screws
F—Lift Arm Locknuts



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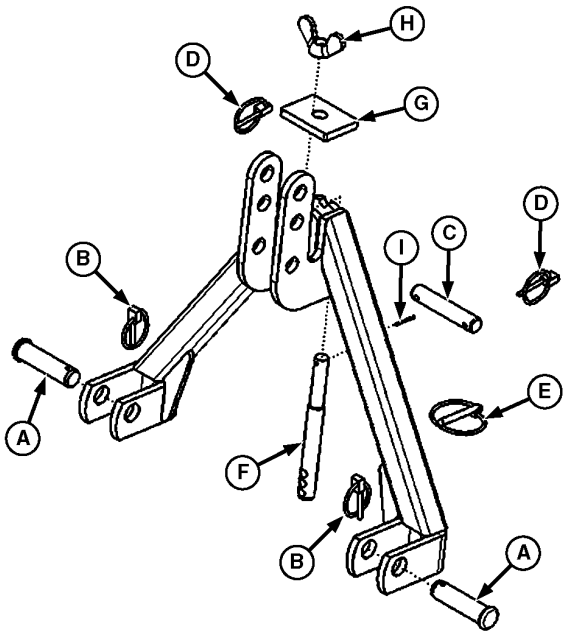
UP00731,00000D4 -19-22OCT13-1/11

Assemble A-Frame

List of parts for reference:

1. Install cylinder pins (A) in frame with lynch pins (B).
2. Install hinge pin (C) in middle hole in frame with lynch pins (D).
3. Install quick-lock pin (E) in retainer rod (F). Install retainer rod on frame with retainer plate (G), wing nut (H) and cotter pin (I).

A—Cylinder Pin
B—Lynch Pin
C—Hinge Pin
D—Lynch Pin
E—Quick Lock Pin
F—Retainer Rod
G—Retainer Plate
H—Wing Nut
I— Cotter Pin



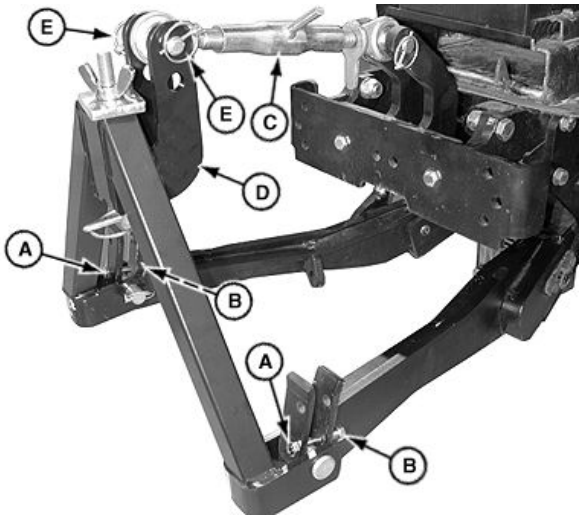
LV19384 —UN—18OCT13

UP00731,00000D4 -19-22OCT13-2/11

Install A-Frame

1. Remove screws (A) and locknuts (B) in front hitch lift arms.
2. Install A-frame on lift arms as shown.
3. Install front hitch center link (C) on A-frame with hinge pin (D) and lynch pins (E).
   - Center link may be installed on top or middle hole in A-frame to allow for more or less implement tilt.
4. Install screws (A) and locknuts (B) in front hitch lift arms.
   - Install screws in top holes in lift arms for implement float position.
   - Install screws in bottom holes in lift arms for implement fixed position.

A—Screws
B—Locknuts
C—Center Link
D—Hinge Pin
E—Lynch Pins



LV19385 —UN—18OCT13

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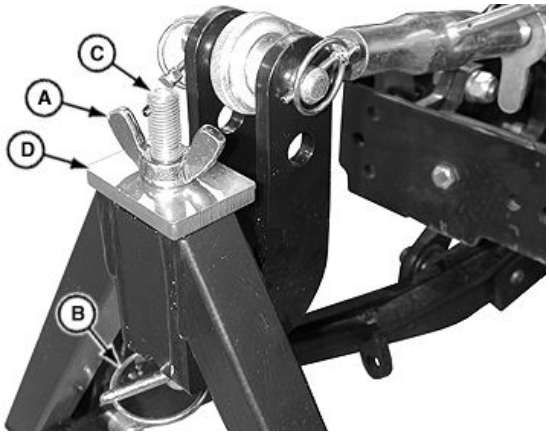
UP00731,00000D4 -19-22OCT13-3/11

Installing Implements on Front Hitch with A-Frame

Installing Implement:

1. Loosen wing nut (A) and remove quick-lock pin (B).
2. Remove retainer rod (C) with wing nut and retainer plate (D) from A-frame.
3. Check to be sure that the implement hydraulic hoses are out of the way if applicable.

A—Wing Nut
B—Quick Lock Pin
C—Retainer Rod
D—Retainer Plate

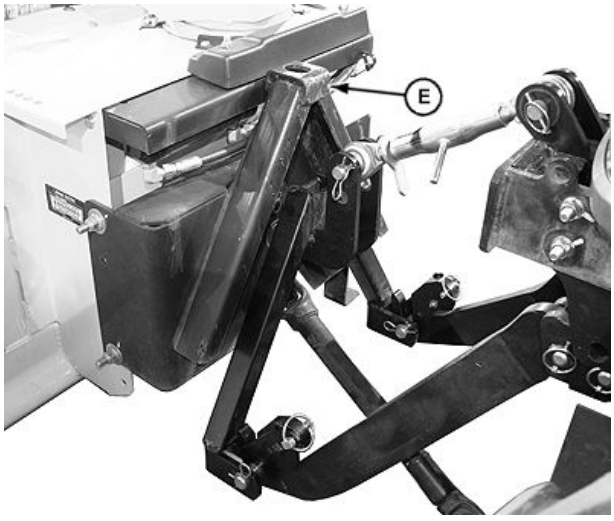


LV19386 —UN—18OCT13

UP00731,00000D4 -19-22OCT13-4/11

4. Drive tractor forward slowly and align A-frame with mount (E) on implement.
5. Raise hitch to install A-frame on mount.

E—Mount



LV19387 —UN—18OCT13

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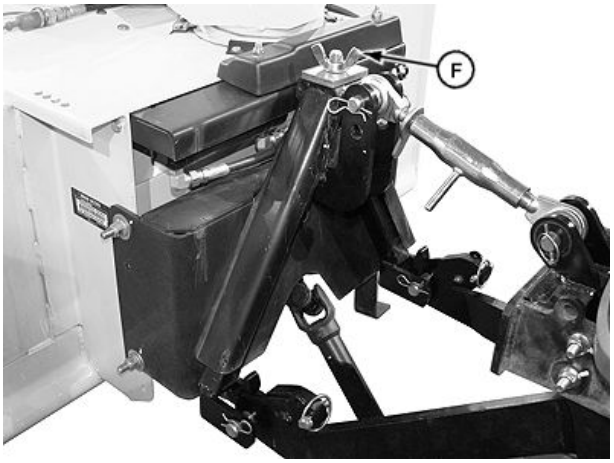
UP00731,00000D4 -19-22OCT13-5/11

6. Install retainer rod with wing nut and retainer plate through mount and A-frame. Position wing nut (F) as needed to install quick-lock pin in retainer rod.
7. Tighten wing nut to secure implement to A-Frame.

Installing and Removing Mid-Mount Mower

Assemble and Install Front Draft Pivot Assembly:

1. Park machine safely.
2. Follow installing instructions in mid-mount mower operator's manual.
3. Remove yokes installed on front draft pivot assembly supplied with mid-mount mower.
4. Remove spring locking pins, J-pins and springs on front of mower.



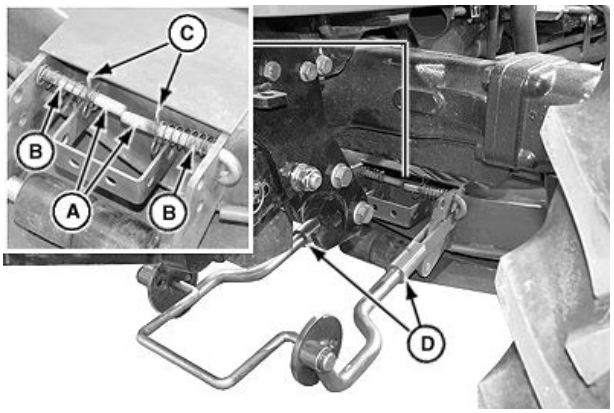
LV19388 —UN—18OCT13

F—Wing Nut

UP00731,00000D4 -19-22OCT13-6/11

5. Install J-pins (A), spring locking pins (B) and cotter pins (C) on front of mower as shown.
6. Install yokes (D) on front draft pivot assembly for front hitch. Thread yokes 2.5 cm (1 in.) onto rods.
7. Install front draft pivot assembly on mower as shown. Check to be sure J-pins are locked.

A—J-Pins
B—Locking Pins
C—Cotter Pins
D—Yokes



LV19389 —UN—18OCT13

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UP00731,00000D4 -19-22OCT13-7/11

8. Pull back on drilled pin (E) on front draft pivot assembly and insert roll pin (F) into notch (G).
9. Install front draft pivot assembly on front hitch as shown.
10. Move pivot shaft (H) upward until the drilled pin snaps into hole.
11. Follow the adjusting upstop clearance instructions in mid-mount mower operator's manual.

Removing Mid-Mount Mower:

1. Park machine safely.
2. Following removing mower instructions in mid-mount mower operator's manual.
3. Pull back on drilled pin on front draft pivot assembly and insert roll pin into notch.
4. Move pivot shaft downward and remove front draft pivot assembly from front hitch.
5. Pull both J-pins on front of mower outward and turn to unlocked position.
6. Remove front draft pivot assembly from mower brackets and out from under tractor.
7. Follow remaining Removing Mower instructions in mid-mount mower operator's manual to move mower out from under tractor.

Operating Front Hitch

Raising and Lowering Hitch

1. Check to be sure hitch is not in transport lock position.
2. Review instructions on using hydraulic dual selective control valve (SCV) and dual selective control valve lock lever included in your tractor operator's manual.
3. Move the tractor dual SCV lever:

   a. To raise the hitch, move the lever rearward.

   b. To lower the hitch, move the lever forward.

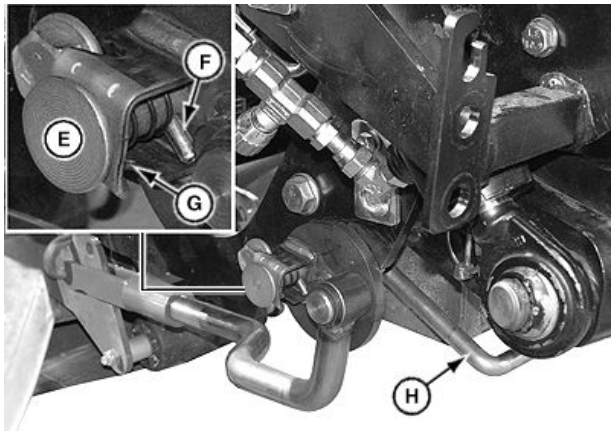
Adjusting Hitch Control Valve

- Rotate knob (A) on valve to adjust the speed at which the hitch raises and lowers.
- Rotate knob (A) to close the valve and place the hitch in transport lock position.

Removing and Storing

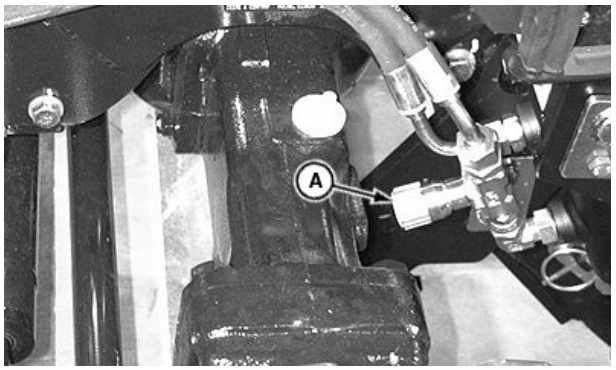
Removing Implement

1. Park machine safely.
2. Loosen wing nut.
3. Remove quick-lock pin in retainer rod.
4. Remove retainer rod with retainer plate.



LV19390 —UN—18OCT13

E—Drilled Pin
F—Roll Pin
G—Notch
H—Shaft



LV19414 —UN—18OCT13

A—Knob

5. Lower the hitch to remove A-frame from implement mount, and slowly back tractor away from implement.
6. Install retainer rod with retainer plate on A-frame with quick-lock pin.

Removing A-frame

1. Remove locknuts and screws in front hitch lift arms.
2. Remove lynch pins and hinge pin and remove front hitch center link from A-frame. Remove A-frame.3. Install screws and locknuts in fro
3. Install screws and locknuts in front hitch lift arms.

Removing Hitch

- Front hitch may be left on tractor when not in use.
- Lift arms should be removed when front hitch is not in use, and must be removed for loader operation.
- Lift arms and center link may be removed and stored.
- To remove front hitch, reverse the order of assembly:
  - Remove lift arms.
  - Remove hydraulic hoses.
  - Remove center link.

Continued on next page

- Remove front PTO support.
- Remove hydraulic cylinder.
- Remove pivot bracket and mount brackets.

Storing

NOTE: Lift arms should be removed when front hitch is not in use.

1. Remove lynch pins, pin retainer plates and lift arm retention pins, and remove lift arms from lower pivot bracket.
2. Store plates and pins in lower pivot bracket.

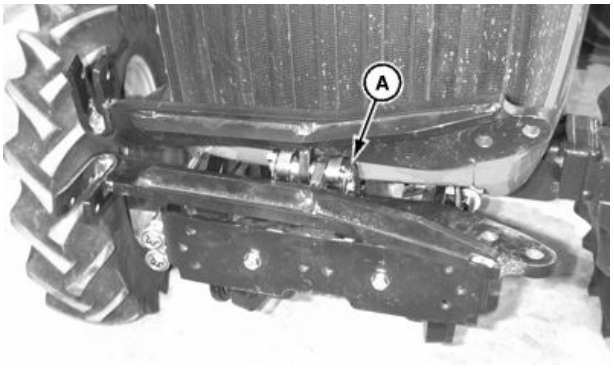
UP00731,00000D4 -19-22OCT13-9/11

3. Use link pin (A) and two lynch pins to secure lift arms to center link bracket.

Storing Center Link

1. Remove A-frame from front hitch.
2. Remove link pin and two lynch pins to remove center link from center link bracket.
3. Store link pin and lynch pins in center link bracket.

A—Link Pin

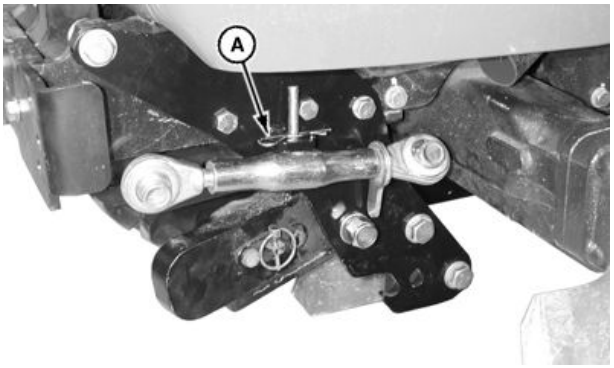


LV19391 —UN—18OCT13

UP00731,00000D4 -19-22OCT13-10/11

4. Install center link on mount on left mount bracket with spring locking pin (A).

A—Locking Pin



LV19392 —UN—18OCT13

UP00731,00000D4 -19-22OCT13-11/11

Replacement Parts

Service Literature

If you would like a copy of the Parts Catalog or Technical Manual for this machine call:

- **U.S. & Canada:** 1-800-522-7448.
- **All Other Regions:** Your John Deere dealer.

KN52281,1003ED2 -19-22AUG12-1/1

Parts

We recommend John Deere quality parts and lubricants, available at your John Deere dealer.

When you order parts, your John Deere dealer needs the serial number or product identification number (PIN) for your machine or attachment. These are the numbers that you recorded in the Product Identification section of this manual.

Order Service Parts Online

Visit **http://JDParts.deere.com** for your Internet connection to parts ordering and information.

JZ81662,0000FCB -19-08APR13-1/1

Diesel Fuel

Use the proper diesel fuel to help prevent decreased engine performance and increased exhaust emissions. Failure to follow the fuel requirements listed below can void your engine warranty.

Consult your local fuel distributor for properties of the diesel fuel in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to ISO EN 590 or ASTM D975 are recommended.

Required fuel properties

In all cases, the fuel shall meet the following properties:

Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially when temperatures are below -20°C (-4°F) or elevations above 1500 m (5000 ft).

Cold Filter Plugging Point (CFPP) should be at least 5°C (9°F) below the expected lowest temperature or **Cloud Point** below the lowest ambient temperature.

Fuel lubricity should comply with ISO EN 590 or ASTM D975.

IMPORTANT: Avoid damage! Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

If a fuel of low or unknown lubricity is used, addition of John Deere PREMIUM DIESEL FUEL CONDITIONER at the specified concentration is recommended.

Sulfur content

- Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.
- Use only ultra low sulfur diesel (ULSD) fuel with a maximum of 0.0015% (15mg/kg) sulfur content.

IMPORTANT: Avoid damage! Do not mix diesel engine oil or any other type of lubricating oil with diesel fuel.

Using BioDiesel Fuel

BioDiesel fuels may be used only if the BioDiesel fuel properties meet the latest edition of ASTM D6751, ASTM D7467, EN14214, or equivalent specification.

The current maximum allowable BioDiesel concentration is a 20% blend (also known as B20) in petroleum diesel fuel.

Use of B6-B20 fuel will require special procedures for fuel handling and machine storage.

To learn of any changes to the recommendations for BioDiesel usage with your diesel engine, ask your John Deere dealer.

Handling and Storing Diesel Fuel

CAUTION: Avoid injury! Handle fuel carefully. Do not fill the fuel tank when engine is running.

Do not smoke while you fill the fuel tank or service the fuel system.

IMPORTANT: Avoid damage! Do not use galvanized containers—diesel fuel stored in galvanized containers reacts with zinc coating in the container to form zinc flakes. If fuel contains water, a zinc gel will also form. The gel and flakes will quickly plug fuel filters and damage fuel injectors and fuel pumps.

- Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.
- When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and to prevent water condensation. Contact your fuel supplier for recommendations.

UP00731,0000023 -19-26MAY15-1/1

Handling and Storing Diesel Fuel

CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.

Keep all storage tanks as full as practicable to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using BioDiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and prevent water condensation. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4 -19-15FEB13-1/1

Testing Diesel Fuel

A fuel analysis program can help to monitor the quality of diesel fuel. The fuel analysis can provide critical data such as cetane number, fuel type, sulfur content, water content, appearance, suitability for cold weather operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets specification.

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

DX,FUEL6 -19-14APR11-1/1

Minimizing the Effect of Cold Weather on Diesel Engines

John Deere diesel engines are designed to operate effectively in cold weather.

However, for effective starting and cold-weather operation, a little extra care is necessary. The following information outlines steps that can minimize the effect that cold weather may have on starting and operation of your engine. See your John Deere dealer for additional information and local availability of cold-weather aids.

Use Winter Grade Fuel

When temperatures fall below 0 °C (32 °F), winter grade fuel (No. 1-D in North America) is best suited for cold-weather operation. Winter grade fuel has a lower cloud point and a lower pour point.

Cloud point is the temperature at which wax begins to form in the fuel. This wax causes fuel filters to plug. **Pour point** is the lowest temperature at which movement of the fuel is observed.

NOTE: On average, winter grade diesel fuel has a lower Btu (heat content) rating. Using winter grade fuel may reduce power and fuel efficiency, but should not cause any other engine performance effects. Check the grade of fuel being used before troubleshooting for low-power complaints in cold-weather operation.

Air Intake Heater

An air intake heater is an available option for some engines to aid cold weather starting.

Ether

An ether port on the intake is available to aid cold weather starting.

CAUTION: Ether is highly flammable. Do not use ether when starting an engine equipped with glow plugs or an air intake heater.

Coolant Heater

An engine block heater (coolant heater) is an available option to aid cold weather starting.

Seasonal Viscosity Oil and Proper Coolant Concentration

Use seasonal grade viscosity engine oil based on the expected air temperature range between oil changes and a proper concentration of low silicate antifreeze as recommended. (See DIESEL ENGINE OIL and ENGINE COOLANT requirements in this section.)

Diesel Fuel Flow Additive

Use John Deere Fuel-Protect Diesel Fuel Conditioner (winter formula), which contains anti-gel chemistry, or equivalent fuel conditioner to treat non-winter grade fuel (No. 2-D in North America) during the cold-weather season. This generally extends operability to about 10 °C (18 °F) below the fuel cloud point. For operability at even lower temperatures, use winter grade fuel.

IMPORTANT: Treat fuel when outside temperature drops below 0 °C (32 °F). For best results, use with untreated fuel. Follow all recommended instructions on label.

BioDiesel

When operating with BioDiesel blends, wax formation can occur at warmer temperatures. Begin using John Deere Fuel-Protect Diesel Fuel Conditioner (winter formula) at 5 °C (41 °F) to treat BioDiesel fuels during the cold-weather season. Use B5 or lower blends at temperatures below 0 °C (32 °F). Use only winter grade petroleum diesel fuel at temperatures below -10 °C (14 °F).

Winterfronts

Use of fabric, cardboard, or solid winterfronts is not recommended with any John Deere engine. Their use can result in excessive engine coolant, oil, and charge air temperatures. This can lead to reduced engine life, loss of power and poor fuel economy. Winterfronts may also put abnormal stress on fan and fan drive components potentially causing premature failures.

If winterfronts are used, they should never totally close off the grill frontal area. Approximately 25% area in the center of the grill should remain open at all times. At no time should the air blockage device be applied directly to the radiator core.

Radiator Shutters

If equipped with a thermostatically controlled radiator shutter system, this system should be regulated in such a way that the shutters are completely open by the time the coolant reaches 93 °C (200 °F) to prevent excessive intake manifold temperatures. Manually controlled systems are not recommended.

If air-to-air aftercooling is used, the shutters must be completely open by the time the intake manifold air temperature reaches the maximum allowable temperature out of the charge air cooler.

For more information, see your John Deere dealer.

DX,FUEL10 -19-15MAY13-1/1

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic lubricants.

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

DX,ALTER -19-11APR11-1/1

Engine Oil

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

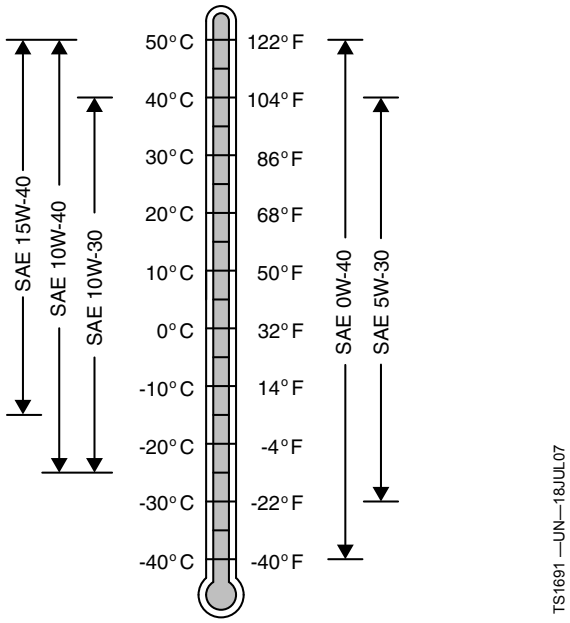
The following John Deere oils are preferred:

- John DeerePlus-50™ II
- John DeereTorq-Gard™ Supreme

Other oils may be used if above John Deere oils are not available, provided they meet the following specification:

- API Service Classification CJ-4
- ACEA Specification E6 or E9
- JASO Specification DH-2

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.



Oil Viscosities for Air Temperature Ranges

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

UP00731,1004800 -19-24APR15-1/1

Diesel Engine Coolant

Preferred coolants:

The following pre-mix engine coolants are preferred:

- **John Deere Cool-Gard™ II**
- **John Deere Cool-Gard™ II PG**

Not all Cool-Gard™ II pre-mix products are available in all countries.

Use COOL-GARD™ II PG when a non-toxic coolant formulation is required.

Additional Recommended Coolants

The following engine coolant is also recommended:

- John Deere COOL-GARD™ II Concentrate in a 40—60% mixture of concentrate with quality water.

IMPORTANT: Avoid damage! When mixing coolant concentrate with water, do not use less than 40% or greater than 60% concentration of coolant. Less than 40% gives inadequate additives for corrosion protection. Greater than 60% can result in coolant gelation and cooling system problems.

Other Coolants

Other ethylene glycol or propylene glycol base coolants may be used if they meet one of the following specifications:

- Pre-mix coolant meeting ASTM D6210 requirements
- Coolant concentrates meeting ASTM D6210 requirements in a 40% to 60% mixture of concentrate with quality water
- Pre-mix coolant meeting ASTM D3306 requirements
- Coolant concentrates meeting ASTM D3306 requirements in a 40% to 60% mixture of concentrate with quality water

Cool-Gard is a trademark of Deere & Company

If coolant meeting one of these specifications is unavailable, use a coolant concentrate or pre-mix coolant that has a minimum of the following chemical and physical properties:

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

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol base engine coolant concentrate.

Coolant Drain Intervals

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

When Cool-Gard™ II or Cool-Gard™ II PG is used, the drain interval is 6 yr. or 6000 operating hours.

If a coolant other than Cool-Gard™ II or Cool-Gard™ II PG is used, reduce the drain interval to 2 yr. or 2000 operating hours.

IMPORTANT: Avoid damage! Do not use cooling system sealing additives or antifreeze that contains sealing additives.

IMPORTANT: Avoid damage! Do not mix ethylene glycol and propylene glycol base coolants.

IMPORTANT: Avoid damage! Do not use coolants that contain nitrites.

UP00731,0000022 -19-29JUN15-1/1

Operating in Warm Temperature Climates

John Deere engines are designed to operate using recommended engine coolants.

Always use a recommended engine coolant, even when operating in geographical areas where freeze protection is not required.

IMPORTANT: Water may be used as coolant *in emergency situations only.*

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended engine coolant as soon as possible.

DX,COOL6 -19-15MAY13-1/1

Additional Information About Diesel Engine Coolants and John Deere COOL-GARD™ II Coolant Extender

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.

COOL-GARD is a trademark of Deere & Company

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.

DX,COOL17 -19-20APR11-1/1

Testing Diesel Engine 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.

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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.

DX,COOL9 -19-11APR11-1/1

Service Intervals

Servicing Your Machine

IMPORTANT: Avoid Damage! Operating in extreme conditions may require more frequent service intervals:

- **Engine components may become dirty or plugged when operating in extreme heat, dust or other severe conditions.**
- **Engine oil can degrade if machine is operated constantly at slow or low engine speeds or for frequent short periods of time.**

Please use the following timetables to perform routine maintenance on your machine.

Park the vehicle safely. (See Parking Safely in Safety Section.)

KN52281,1003EE0 -19-22AUG12-1/1

As Needed

- Replace alternator belt.
- Replace air filter elements.
- Inspect air intake system hoses and connections each time the air filter is changed, or at a minimum yearly.
- Replace cab air filters.
- Replace light bulbs.
- Replace fuses.
- Clean and replace battery.
- Replace radiator hoses and clamps.
- Check and clean radiator fins.
- Check tire air pressure.
- Clean fuel tank overfill reservoir.
- Check primary fuel filter.
- Check primary fuel filter. Drain water and sediment from fuel sediment bowl, and service water separator.
- Check and adjust front wheel toe-in.
- Check and clean front grille and side screens.
- Check and clean radiator cooling screen.
- Check engine coolant level. Refill with correct coolant and conditioner as required.
- Clean debris from engine compartment.
- Keep exhaust vent area clean of debris and obstruction.
- Adjust all cables to acquire appropriate travel for engagement (cabs).

KN52281,10047DC -19-17OCT13-1/1

After First 10 Hours

- Check wheel bolt torque.
- Check cab rollover protection system mounting hardware torque.
- Check windshield wiper arm mounting hardware torque.

UP00731,0000047 -19-15JUL13-1/1

Every 10 Hours or Daily

- Test safety systems.
- Check engine oil level.
- Check transmission oil level.
- Check air filter rubber dust unloading valve.
- Check engine coolant level. Refill with correct coolant and conditioner as required.
- Grease trunnions when used in wet land applications.

KN52281,10049DE -19-26SEP13-1/1

Every 50 Hours

- Check front axle oil level.
- Lubricate machine.
- Check cab rollover protection system mounting hardware torque.
- Clean or replace cab air filter.
- Check hardware torque on Front Hitch (if equipped).

UP00731,000004B -19-22OCT13-1/1

Every 100 Hours

- Check front hitch hydraulic connections for leaks.

UP00731,00002FB -19-04MAR15-1/1

Every 200 Hours or Annually

- Change engine oil and filter.
- Check and adjust alternator/fan belt.
- Check wheel bolt torque.
- Check and adjust air conditioner compressor belt (if equipped).
- Check air restriction indicator light.

KN52281,10049B9 -19-16SEP13-1/1

Every 400 Hours

- Change transmission oil and filter.
- Replace front PTO gearbox oil (JD20D), if equipped.
- Replace front PTO gearbox oil filter, if equipped.

NOTE: See section 12-5 (Canging Transmission Oil and Hydraulic Suction Oil Filter) for 1200-hour oil service requirements.

UP00731,0000363 -19-11AUG15-1/1

Every 400 Hours or Annually

- Replace primary fuel filter / water separator.
- Replace final fuel filter.

UP00731,0000046 -19-17JUL13-1/1

Every 600 Hours

- Check air filter element, intake, hoses, and clamps. Replace as required.
- Change front axle oil.
- Check front axle thrust bolt torque.
- Check brake adjustment.

JZ81662,0000FD1 -19-15JUL13-1/1

Yearly

- Change engine oil and filter if less than 200 hours of operation.
- Drain water from fuel tank and replace fuel filters.
- Check all hoses and clamps.
- Inspect air intake system hoses and connections each time the air filter is changed.

KN52281,1004A3A -19-14OCT13-1/1

Every 1000 Hours

- Check engine valve clearance. See your John Deere dealer.

JZ81662,0001020 -19-15MAY13-1/1

Every Two Years or 2000 Hours

- Service fuel injection nozzles.
- If coolant is NOT checked annually, the service interval is one year / 1000 hours. Flush and replace factory coolant. Flush cooling system and replace coolant with John Deere COOL-GARD II engine coolant.

UP00731,00003AF -19-25AUG15-1/1

Every Six Years or 6000 Hours

- If coolant is checked annually, the service interval can be extended to six years / 6000 hours. Flush and replace factory coolant. Flush cooling system and replace coolant with John Deere COOL-GARD II engine coolant. See your John Deere Dealer for service, or to order a John Deere Coolant Test Kit.

OUO1082,0005D58 -19-09NOV12-1/1

Service Lubrication

Grease

IMPORTANT: Avoid Damage! Use recommended John Deere greases to avoid component failure and premature wear.

The recommended John Deere greases are effective within an average air temperature range of -29 to 135 degrees C (-20 to 275 degrees F).

If operating outside that temperature range, contact your Servicing dealer for a special-use grease.

The following greases are preferred:

- John Deere Multi-Purpose SD Polyurea Grease
- John Deere Multi-Purpose HD Lithium Complex Grease

If not using any of the preferred greases, be sure to use a general all-purpose grease with an NLGI grade No.2 rating.

Wet or high speed conditions may require use of a special-use grease. Contact your Servicing dealer for information.

The following lubricant is preferred:

- SUPER LUBE® lubricant.[1]

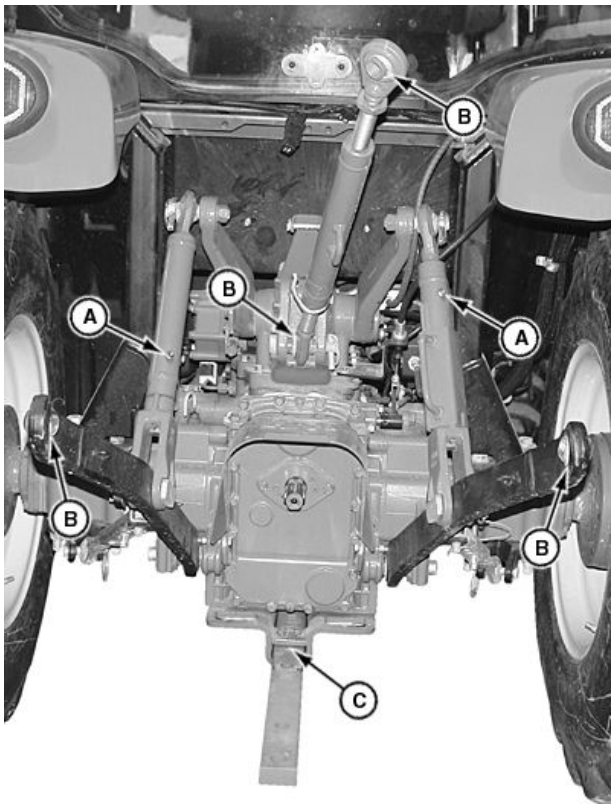
[1]SUPER LUBE is a registered trademark of Synco Chemical Corp.

JZ81662,0000FD4 -19-18MAR13-1/1

Lubricating 3-Point Hitch

- Lubricate lift link grease fitting (A) with recommended grease or equivalent.
- Lubricate ball joints (B) and drawbar (C) with SUPER LUBE® lubricant.[1]

A—Lift Link Grease Fitting
B—Ball Joints
C—Drawbar



LV17592 —UN—30APR13

[1]SUPER LUBE is a registered trademark of Synco Chemical Corp.

KN52281,10047F5 -19-25APR13-1/1

Lubricating Front Hitch

Lubricate grease fittings with recommended grease:

- Lower pivot bracket.
- Hydraulic cylinder.

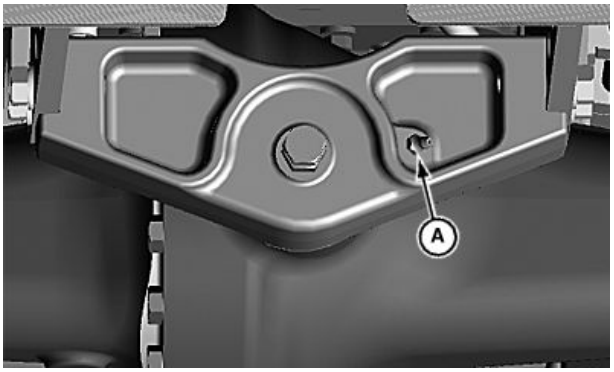
UP00731,00000F8 -19-22OCT13-1/1

Lubricating Axle Trunnion

- Lubricate front trunnion grease fitting (A) and rear trunnion grease fitting (B) with SUPER LUBE® lubricant.[1]

A—Front Trunnion Grease Fitting

B—Rear Trunnion Grease Fitting



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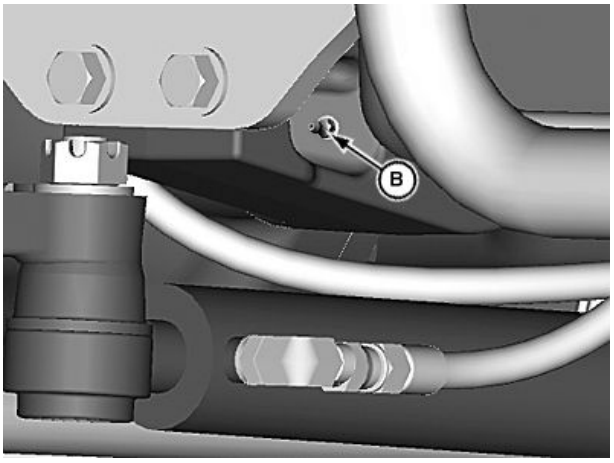


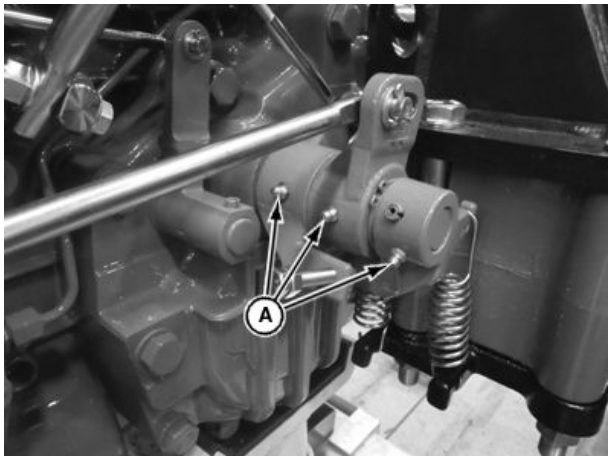
LV19182 —UN—26SEP13

[1]*SUPER LUBE is a registered trademark of Synco Chemical Corp.*

KN52281,10049DB -19-26SEP13-1/1

Lubricating Brake Linkage

Lubricate brake assembly grease fittings (A) with recommended grease.



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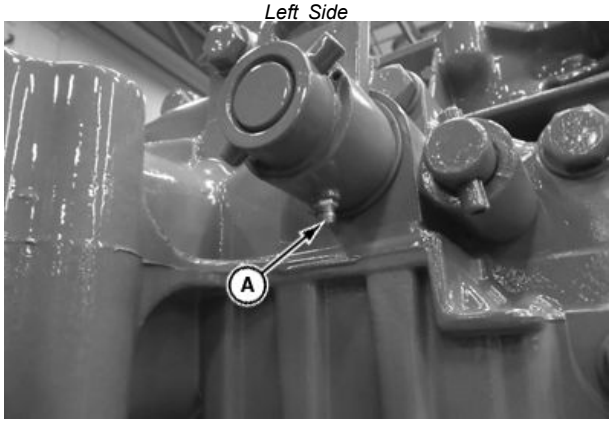
Left Side



LV23027 —UN—11SEP14

Right Side

KN52281,1004DF0 -19-10SEP14-1/1

Required Emission-Related Information

Service Provider

A qualified repair shop or person of the owner's choosing may maintain, replace, or repair emission control devices and systems with original or equivalent replacement parts. However, warranty, recall, and all other services paid for by John Deere must be performed at an authorized John Deere service center.

DX,EMISSIONS,REQINFO -19-12JUN15-1/1

Exhaust Filter Maintenance and Service

IMPORTANT: Performing recommended exhaust filter cleaning will help to reduce ash build up and extend the life. Refer to the "Operating" section of the OM for exhaust filter cleaning directions.

See your John Deere dealer for exhaust filter maintenance. Ensure that exhaust filter cleaning has been performed first as this may resolve problems. If exhaust filter cleaning has been performed and the service exhaust filter indicator light (Stop and exhaust filter) on the dash turns on after a short period, exhaust filter service may be required.

The Exhaust Filter includes the Diesel Oxidation Catalyst (DOC) and Diesel Particulate Filter (DPF). The DPF retains residual ash, which is the noncombustible result of additives used in crankcase lubrication oils and the fuel. The exhaust filter provides many hours of maintenance free operation. At some point the exhaust filter will require replacement to remove the accumulated ash.

The exact number of hours of operation before replacement or service is required will vary depending upon the engine's power category, duty cycle and operating conditions, engine oil ash content, and fuel quality. Adhering to John Deere's recommended oil and fuel specifications will maximize the hours of operation before service is required.

During normal equipment operation the DPF service interval will depend on the rate at which ash accumulates in it. Generally, exhaust filters on engines below 175 hp / 130 kW will require replacement at about 3,000 hours while engines at or above 175 hp / 130 kW will require replacement at about 4,500 hours. As ash levels rise in the DPF, the capacity for soot storage is reduced and the back pressure of the exhaust system will rise more frequently. The exhaust filter indicator will indicate when cleaning or service is needed.

The removal and disposal of DPF ash must be done by a professional, see your John Deere dealer. Do not attempt to remove ash by using water or other chemicals. Removing ash by these methods may damage the material securing the DPF in its canister, resulting in the loosening of the DPF element in the canister and subjecting it to damage from vibration.

Failure to follow the approved ash removal methods may damage the exhaust filter resulting in potential denial of the Exhaust Filter emissions warranty. Take your machine to an authorized John Deere dealer for service.

UP00731,0000177 -19-03MAR14-1/1

Avoid Fumes

CAUTION: Avoid Injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- **Move the machine to an outside area before running the engine.**
- **Do not run an engine in an enclosed area without adequate ventilation.**
- **Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.**
- **Allow fresh outside air into the work area to clear the exhaust fumes out.**

KN52281,1003F09 -19-23AUG12-1/1

Checking Engine Oil Level

IMPORTANT: Avoid damage! Failure to check the oil level regularly could lead to serious engine problems if oil level is low:

- **Check oil level before operating.**
- **Check oil level when the engine is cold and not running.**
- **Keep level between the Full and the Add marks.**
- **Shut off engine before adding oil.**

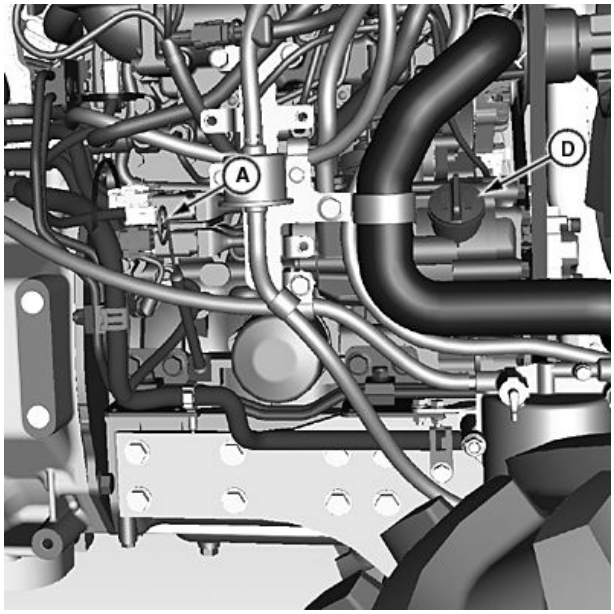
NOTE: Check engine oil when engine is cold. If engine is warm, allow to cool for at least 5 minutes before checking oil.

Check engine oil with machine parked on a level surface.

1. Park the machine safely. (See Parking Safely in Safety section.)

IMPORTANT: Avoid damage! Dirt and contamination can enter engine when checking oil level. Clean area around dipstick before loosening or removing.

2. Remove dipstick (A), located at the right side of the engine. Wipe with a clean cloth.
3. Install dipstick.



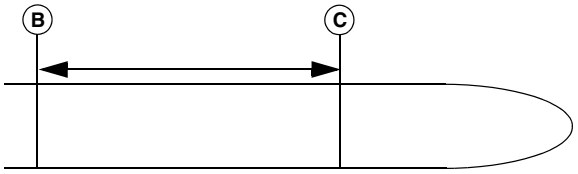
LV17603 —UN—30APR13

A—Dipstick **D—Oil Fill Cap**

4. Remove dipstick.

KN52281,10047F6 -19-20MAY13-1/2

5. Check oil level on dipstick. Oil level should be between levels (B) and (C) on dipstick.
6. If oil level is low:
   a. Raise hood.
   b. Remove right side panel.
   c. Remove oil fill cap (D).
   d. Add recommended engine oil until level is within operating range on dipstick. Do not overfill.
   e. Install dipstick.
7. If oil is above level (B) on dipstick, drain to proper level.
8. Install right side panel.



LVAL38308 —UN—21AUG12

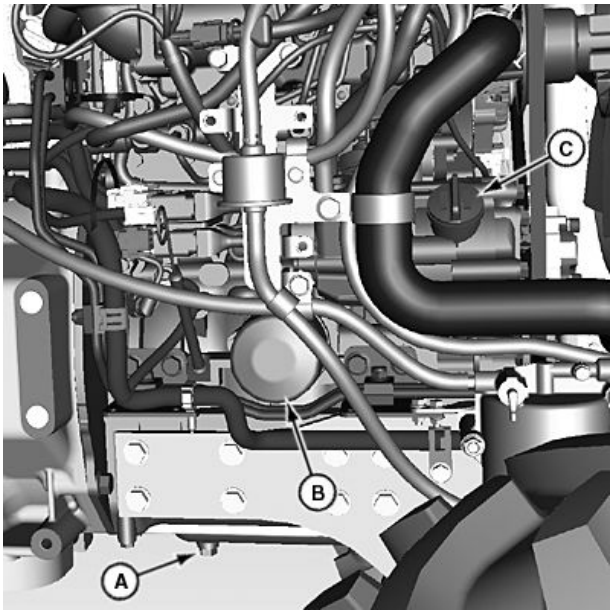
B—Full **C—Add**

9. Lower hood.

KN52281,10047F6 -19-20MAY13-2/2

Changing Engine Oil and Filter

1. Run engine to warm the oil.
2. Park machine safely. (See Parking Safely in Safety section.)
3. Place drain pan under oil drain plug (A) located on underside of engine.
4. Remove drain plug.
5. Wipe dirt from around oil filter (B).
6. Turn filter counterclockwise to remove.
7. Put a light coat of clean engine oil on gasket of new filter.
8. Install replacement oil filter by turning filter clockwise until gasket contacts filter base. Tighten additional 1/2 turn.
9. Install drain plug. Do not overtighten.
10. Remove oil fill cap (C).
11. Add engine oil.
    - Approximately 4.3 L (1.1 gal.) (3033R, 3039R)
    - Approximately 5.7 L (1.5 gal.) (3046R)
12. Install oil fill cap.
13. Start and run engine at idle to check for leaks.
14. Stop engine. Fix any leaks before operating.



LV17604 —UN—30APR13

A—Oil Drain Plug
B—Oil Filter
C—Oil Fill Cap

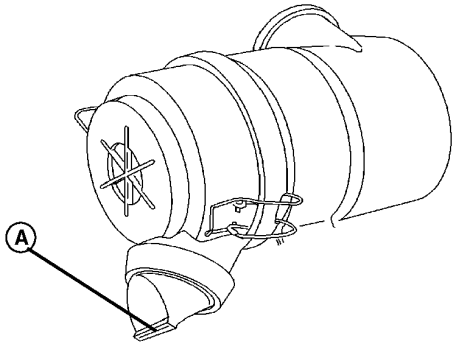
15. Check engine oil level. Add oil if necessary.

KN52281,10047F7 -19-04SEP13-1/1

Cleaning Dust Unloading Valve

IMPORTANT: Avoid damage! Do not operate engine without air cleaner element and rubber dust unloading valve installed.

1. Park the vehicle safely.
2. Allow engine to cool.
3. Access the engine compartment.
4. Squeeze dust unloading valve (A) to clean. Remove and replace if damaged.



LVAL38312 —UN—21AUG12

A—Dust Valve

KN52281,1003F0E -19-27JUL16-1/1

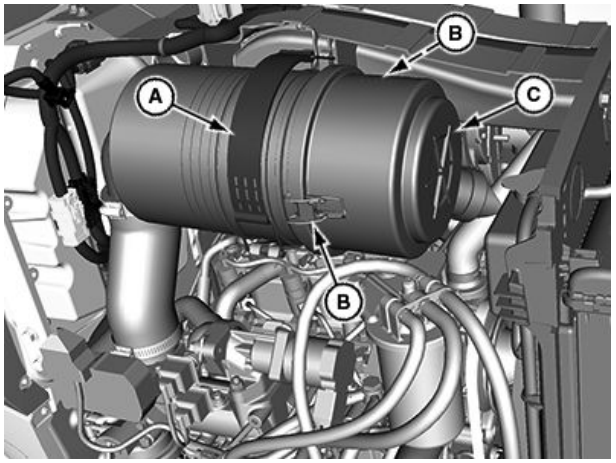
Servicing Air Filter Elements

CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

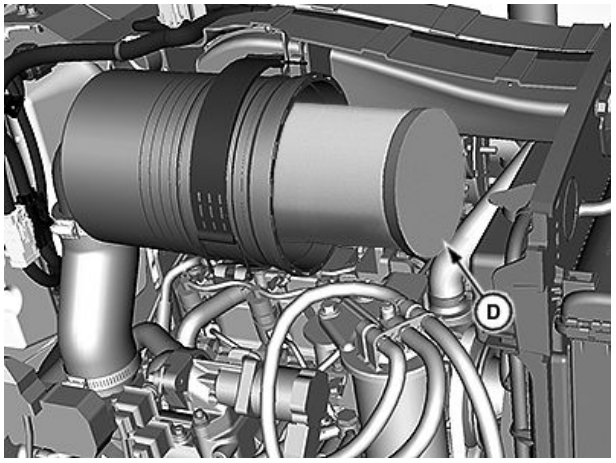
IMPORTANT: Avoid damage! Dirt and debris can enter the engine through a damaged filter element:

Servicing Primary Air Filter Element

1. Park machine safely. (See Parking Safely in Safety section.)
2. Allow engine to cool.
3. Raise hood.
4. Remove hold down strap (A).
5. Tilt canister up and release latches (B) and remove air filter canister cover (C).
6. Remove and discard primary element (D). Clean out any dirt in canister, taking care not to damage secondary filter element. Replace with a new primary filter element.
7. Install air filter canister cover with rubber dust unloading valve pointing downward.
8. Secure latches.
9. Position canister back in place and install hold down strap.
10. Check instructions molded into canister cover for proper installation.
11. Lower hood.



LV17606 —UN—30APR13



LV17607 —UN—30APR13

A—Hold Down Strap
B—Latches
C—Air Filter Canister Cover
D—Primary Element

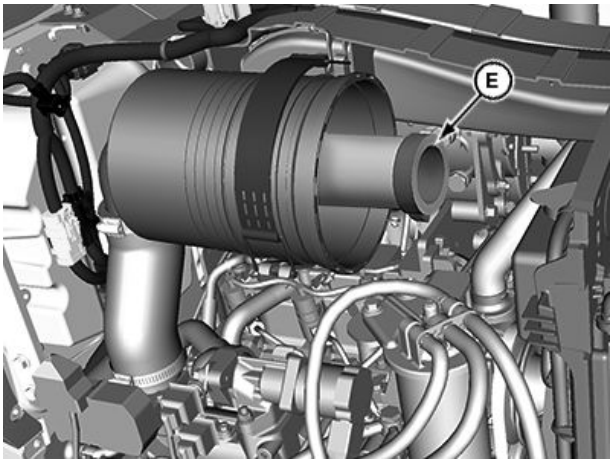
Continued on next page

KN52281,10047F8 -19-03JUN13-1/2

Servicing Secondary Air Filter Element

IMPORTANT: Avoid damage! Secondary element does not need routine replacement. Visually inspect it without removing from canister. Do not attempt to clean secondary element. If secondary element is replaced, install new primary and secondary element immediately to prevent dust from entering air intake system.

1. Remove air filter canister cover.
2. Remove and discard primary air filter element.
3. Remove and discard secondary air filter element (E). Replace with a new secondary air filter element.
4. Install new primary air filter element.
5. Replace air filter canister cover.
6. Position canister back in place and install strap.
7. Lower hood.



LV17608 —UN—30APR13

E—Secondary Element

KN52281,10047F8 -19-03JUN13-2/2

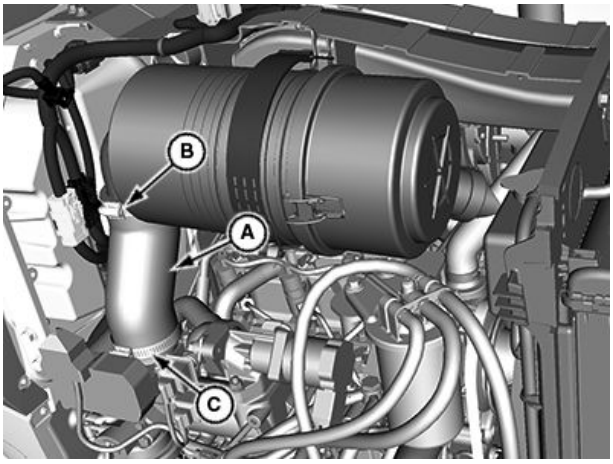
Checking Air Filter Intake Hose

NOTE: Inspect air intake system hoses and connections each time the air filter is changed, or at a minimum yearly.

1. Park machine safely. (See Parking Safely in Safety section.)
2. Raise hood.

NOTE: Visually inspect hose for cracks and wear. Squeeze hose to check for deterioration. Hose should not be hard and brittle, nor soft or swollen.

3. Check air intake hose (A).
4. Tighten upper (B) and lower (C) clamps if necessary.
5. Lower hood.



LV17609 —UN—30APR13

A—Hose
B—Upper Clamp
C—Lower Clamp

KN52281,10047F9 -19-04SEP13-1/1

Service Cooling System Safely

LVAL38318 —UN—21AUG12

CAUTION: Avoid injury! The radiator will be hot and can burn skin. Built-up pressure may cause explosive release of coolant when the radiator cap is removed:

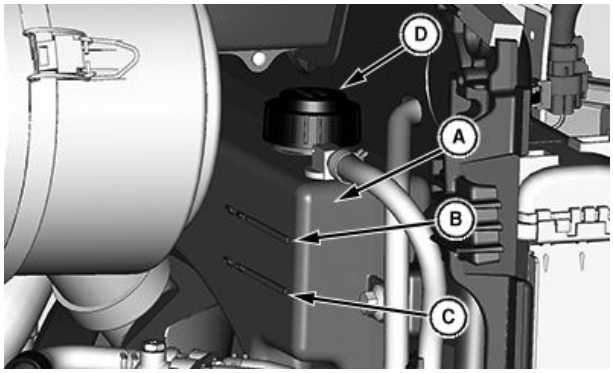
- **Shut off the engine and allow to cool.**
- **Do not remove the cap unless the radiator and the engine are cool enough to touch with bare hands.**
- **Slowly loosen the cap to the first stop to release all pressure. Then remove the cap.**

KN52281,10047FA -19-26APR13-1/1

Servicing Cooling System

Checking Cooling System

1. Park machine safely. (See Parking Safely in Safety section.)
2. Allow engine to cool.
3. Raise hood.
4. Check recovery tank (A) coolant level:
   - If engine is warm, coolant level should be between the FULL line (B) and the LOW line (C).
   - If engine is cold, coolant level should be at the LOW line (C) on the recovery tank.
5. Remove recovery tank cap (D) if needed to add coolant.
6. Add recommended coolant.
7. Install recovery tank cap.



LV23789 —UN—25MAR15

A—Recovery Tank
B—Full Line
C—Low Line
D—Tank Cap

8. Lower hood.

Continued on next page

UP00731,0000303 -19-25MAR15-1/3

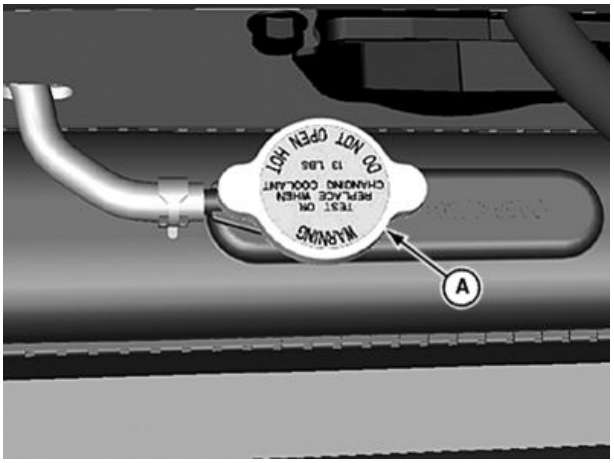
Draining Cooling System

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Allow engine to cool.
3. Raise hood.
4. Slowly open radiator cap (A) to the first stop to release all pressure.
5. Close radiator cap tightly.
6. Position drain pan under radiator. Remove lower radiator hose (B) at radiator.
7. Drain coolant from engine:
   - Locate engine block drain plug (C) at right side of engine, behind oil filter. Position drain pan under drain plug, remove drain plug, and allow all coolant to drain.
8. When coolant drains from the recovery tank, remove the radiator cap.
9. Install lower radiator hose and install engine block drain plug.
10. Flush cooling system.

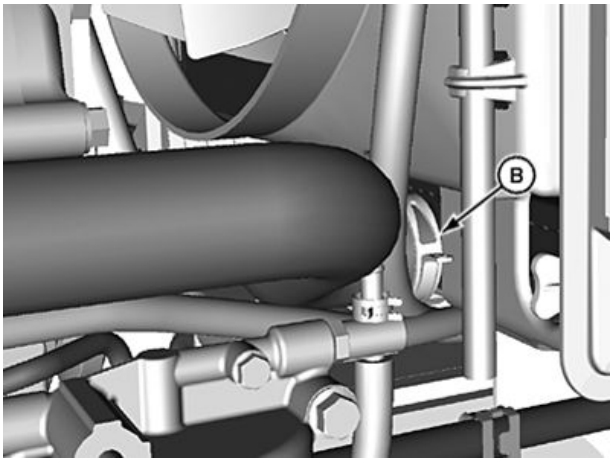
Flushing Cooling System

1. Fill cooling system with clean water and John Deere Cooling System Cleaner, or John Deere Cooling System Quick Flush or an equivalent. Follow directions on the container.
2. Install and tighten radiator cap.
3. Start and run engine until it reaches operating temperature.
4. Stop engine.
5. Remove lower radiator hose and engine block drain plug.
6. Drain cooling system immediately before rust and dirt settle.
7. Install radiator and engine block drain plug.

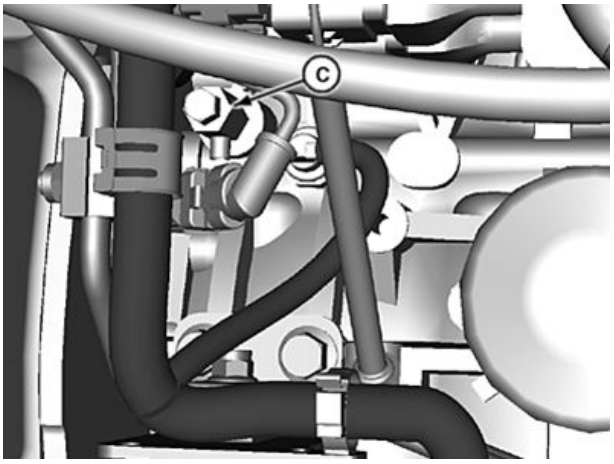
A—Radiator Cap
B—Lower Radiator Hose
C—Engine Block Drain Plug



LV17614 —UN—16MAY13



LV17615 —UN—16MAY13



LV17616 —UN—16MAY13

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UP00731,0000303 -19-25MAR15-2/3

Filling Cooling System

IMPORTANT: Avoid damage! Using incorrect coolant mixture can damage the radiator:

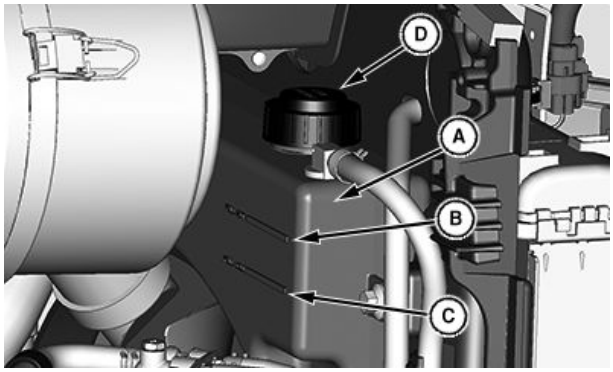
- **Do not operate engine with plain water.**
- **Do not exceed a 50% mixture of coolant and water.**
- **Aluminum engine blocks and radiators require approved ethylene glycol based antifreeze.**

NOTE: John Deere COOL-GARD™ coolant is recommended when adding new coolant to the cooling system.

Follow the directions on the container for correct mixture ratio.

1. Allow radiator to cool.
2. Fill cooling system.
   - Cooling system capacity is 5.3 L (1.4 qt.) OOS and 7.0 L (1.9 qt.) Cab.
3. Install and tighten radiator cap.
4. Remove tank cap (D).
5. Fill recovery tank (A) to the low line (C).

COOL-GARD is a trademark of Deere & Company



LV23789 —UN—25MAR15

A—Recovery Tank
B—Full Line
C—Low Line
D—Tank Cap

6. Run engine until it reaches operating temperature.
7. Stop engine.
8. Coolant level should be between the FULL line (B) and the LOW line (C).
9. Lower hood.

UP00731,0000303 -19-25MAR15-3/3

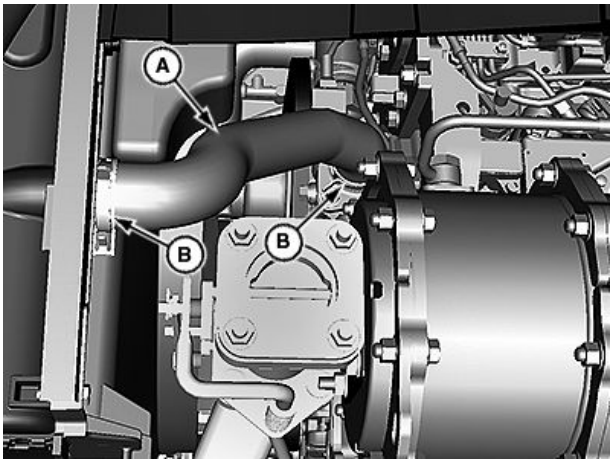
Checking Radiator Hoses and Clamps

1. Park machine safely. (See Parking Safely in Safety section.)
2. Raise hood.
3. Remove right and left side panels.

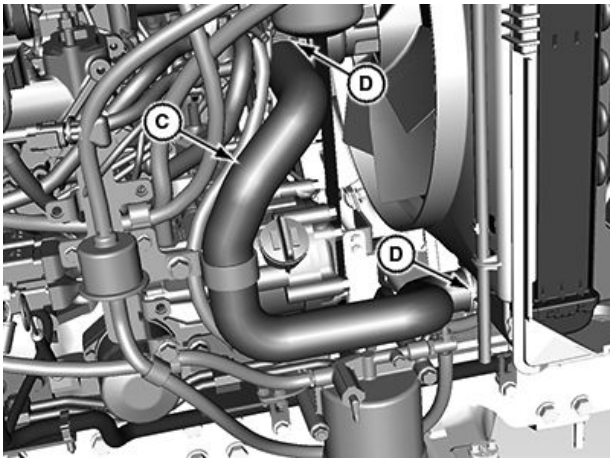
NOTE: Visually inspect hoses for cracks and wear. Squeeze hoses to check for deterioration. Hoses should not be hard and brittle, nor soft or swollen.

4. Check upper radiator hose (A) for damage or cracking. Replace if necessary.
5. Check hose clamps (B) as needed.
6. Check lower radiator hose (C) for damage or cracking. Replace if necessary.
7. Check hose clamps (D) as needed.
8. Install right and left side panels.
9. Lower hood.

A—Upper Radiator Hose
B—Hose Clamps
C—Lower Radiator Hose
D—Hose Clamps



LV17620 —UN—01MAY13



LV17621 —UN—03MAY13

KN52281,10047FC -19-20MAY13-1/1

Cleaning Radiator Cooling Fins

CAUTION: Avoid injury! Compressed air can cause debris to fly a long distance.

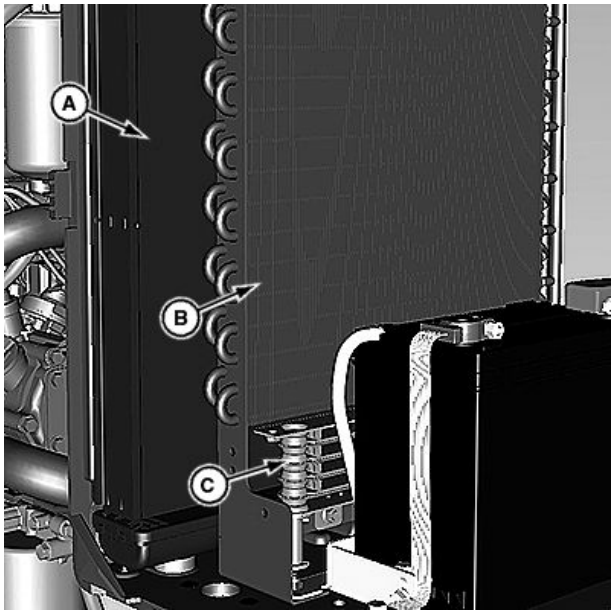
- **Clear work area of bystanders.**
- **Wear eye protection when using compressed air for cleaning purposes.**
- **Reduce compressed air pressure to 210 kPa (2.1 bar) (30 psi).**

IMPORTANT: Avoid damage! Reduced air intake can cause overheating. Keep radiator cooling fins clean.

Do not use pressure washers to clean radiator cooling fins. The force produced by pressure washers can damage the radiator and cooling fins.

Reduce compressed air pressure to 210 kPa (2.1 bar) (30 psi) when cleaning radiator and cooling fins. Spray compressed air straight into radiator. Do not spray radiator on an angle or cooling fins can be bent.

1. Park machine safely. (See Parking Safely in Safety section.) Allow engine to cool.
2. Raise hood.
3. Using compressed air or water, remove all dirt and debris from fins at front and rear of the following:
   - Radiator (A), including fan shroud.
   - Air Conditioner Condenser (B).
   - Intercooler (C).
4. Lower hood.



LV17622 —UN—01MAY13

A—Radiator
B—Air Conditioner Condenser
C—Intercooler

KN52281,10047FD -19-03SEP13-1/1

Servicing the Alternator Belt

CAUTION: Avoid injury! Rotating parts can catch fingers, loose clothing, or long hair. Wait for engine and all moving parts to stop before leaving operator station to adjust or service machine.

Equipment: JDG529 or JDST28 Belt Tension Gage.

Checking Belt Tension

1. Park machine safely. (See Parking Safely in Safety Section.) Allow engine to cool.
2. Raise hood.
3. Remove left side panel.
4. Use belt tension gage or apply moderate thumb pressure to belt (A) halfway between the pulleys.
5. Adjust belt tension if not within specifications.

Specification	
Belt Tension—Force	75 LB (or 334 N)
Belt Deflection—Inward Pressure	9 mm (3/8 in.)

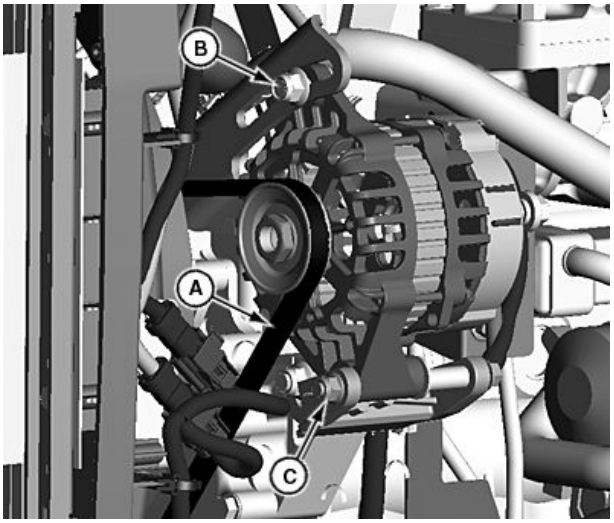
Adjusting Belt Tension

1. Loosen adjusting bolt (B) and pivot bolt (C).
2. Apply outward pressure to alternator housing until tension is correct.
3. Tighten bolts (B) and (C).
4. Check belt tension.
5. Install left side panel.
6. Lower hood.

Replacing Belt

NOTE: Replace alternator belt if excessive wear, damage, or stretching is detected.

1. Park machine safely. (See Parking Safely in Safety Section.) Allow engine to cool.
2. Raise hood.



LV17240 —UN—26MAR13

A—Thumb Position
B—Adjusting Bolt
C—Pivot Bolt

3. Remove left side panel.
4. Loosen adjusting bolt (B) and pivot bolt (C).
5. Apply inward pressure to alternator housing.
6. Remove belt from alternator pulley, fan pulley, and crankshaft pulley.
7. Route belt over fan and remove.
8. Install new belt over fan and onto pulleys.
9. Apply outward pressure to alternator housing until tension is correct.
10. Tighten bolts (B) and (C).
11. Check belt tension. Adjust as necessary.
12. Install left side panel.
13. Lower hood.

JZ81662,0000FE1 -19-07NOV13-1/1

Servicing the Air Conditioner Belt—Cab

CAUTION: Avoid injury! Rotating parts can catch fingers, loose clothing, or long hair. Wait for engine and all moving parts to stop before leaving operator station to adjust or service machine.

Equipment: JDG529 or JDST28 Belt Tension Gage.

Checking Belt Tension

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Allow engine to cool.
3. Raise hood.
4. Remove right side panel. (See Removing and Installing Side Panels in the Miscellaneous section.)
5. Use belt tension gage or apply moderate thumb pressure to belt (A) halfway between the pulleys.
6. Adjust belt tension if not within specifications.

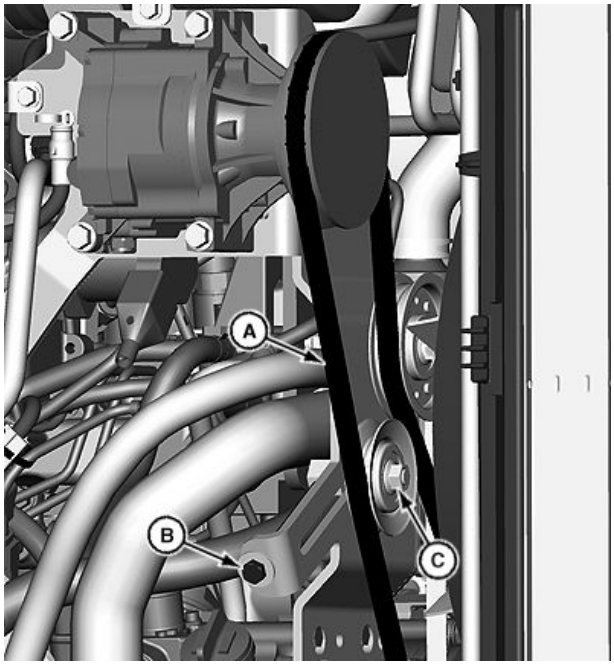
Specification	
Belt Tension—Force	75 LB (or 334 N)
Belt Deflection—Inward Pressure	9 mm (3/8 in.)

Adjusting Belt Tension

1. Loosen adjustment pulley nut (C).
2. Turn adjusting bolt (B) clockwise to tighten counterclockwise to loosen the air conditioner belt.
3. Adjust belt tension to specifications.
4. Tighten adjustment pulley nut (C).
5. Recheck belt tension.
6. Install right side panel.
7. Lower hood.

Replacing Belt

NOTE: Replace air conditioner belt if excessive wear, damage, or stretching is detected.



LV19575 —UN—30OCT13

Remove Belt

A—Belt
B—Adjusting Bolt
C—Adjustment Pulley Nut

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Allow engine to cool.
3. Raise hood.
4. Remove right side panel.
5. Loosen adjustment pulley nut (C).
6. Loosen adjusting bolt (B) to release tension on the belt.
7. Remove belt from air conditioning compressor pulley, idler pulley, and crankshaft pulley.

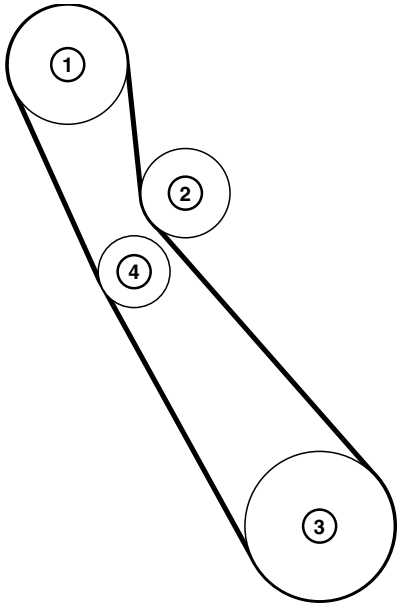
Continued on next page

8. Install new belt in reverse order of removal.

Belt Routing	
1	Air Conditioning Compressor Pulley
2	Idler Pulley
3	Crankshaft Pulley
4	Adjustment Pulley

NOTE: If necessary the idler pulley bolt can be loosened and the idler pulley moved inboard in the slot. After belt is positioned around pulleys, the idler pulley should be moved outboard to take up the belt slack, and the idler pulley bolt tightened.

9. Check belt tension (Refer to Adjusting Belt Tension in this section.)
10. Install right side panel.
11. Lower hood.



LV19590 —UN—30OCT13

Belt Routing

KN52281,1004A2D -19-31OCT13-2/2

Checking and Cleaning Fuel Filter Sediment Bowl and Replacing Filter

CAUTION: Avoid injury! Fuel vapors are explosive and flammable:

- **Do not smoke while handling fuel.**
- **Keep fuel away from flames or sparks.**
- **Shut off engine before servicing.**
- **Cool engine before servicing.**
- **Work in a well-ventilated area.**
- **Clean up spilled fuel immediately.**

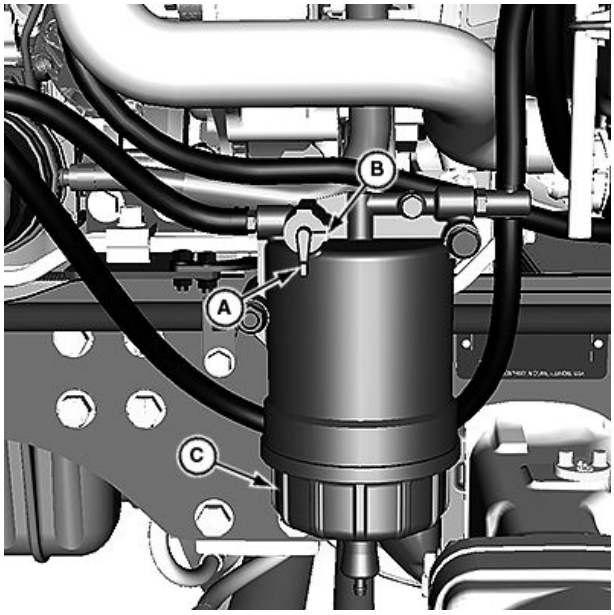
NOTE: Change filter when fuel level is low.

Checking Sediment Bowl

1. Park machine safely. (See Parking Safely in Safety section.) Allow engine to cool.
2. Check fuel sediment bowl. If water and deposits are detected, remove bowl and replace fuel filter.

Cleaning Sediment Bowl and Replacing Fuel Filter

1. Move the fuel shutoff valve (A) to closed position (B).
2. Position drain pan under fuel filter sediment bowl (C).
3. Turn sediment bowl counterclockwise to remove.
4. Remove and discard the fuel filter.
5. Clean bowl.
6. Install new filter to filter head.
7. Install sediment bowl.



LV17623 —UN—01MAY13

A—Fuel Shutoff Valve
B—Closed Position
C—Sediment Bowl

8. Open fuel shutoff valve.

NOTE: Fuel system is self-bleeding.

9. Turn key to the ON position for 10—15 seconds before attempting to start; electric pump purges air from sediment bowl.

Continued on next page

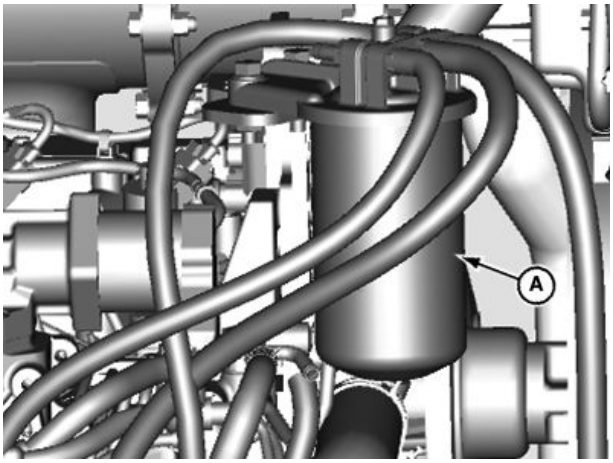
KN52281,10047FE -19-21MAY13-1/2

Replacing Inline Fuel Filter

NOTE: Change filter when fuel level is low.

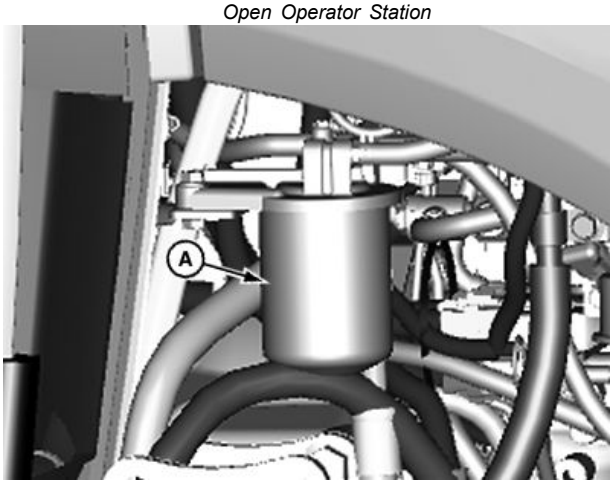
1. Position drain pan under fuel filter (A).
2. Wipe dirt from around filter.
3. Turn filter counterclockwise to remove.
4. Install replacement filter by turning filter clockwise until gasket contacts filter base. Tighten additional 1/2 turn.
5. Start and run engine at idle to check for leaks.

A—Fuel Filter



LV17807 —UN—16MAY13

Open Operator Station



LV17808 —UN—16MAY13

Cab

KN52281,10047FE -19-21MAY13-2/2

Fuel Injection Pump

IMPORTANT: Avoid damage! Do not clean a warm or hot fuel injection pump with steam or water. Clean with compressed air if pump is not cooled.

NOTE: The fuel injection pump is calibrated by the engine manufacturer and should not require any adjustments.

If engine is hard to start, lacks power, or runs rough, see Troubleshooting Section of this manual.

After performing the check in the troubleshooting section and your engine is still not performing correctly, contact your John Deere dealer.

KN52281,1003F19 -19-22AUG12-1/1

Fuel Injection Nozzles

IMPORTANT: Avoid damage! Do not service or remove fuel injection nozzles. Service life of injection nozzles may be shortened by overheating, improper operation, poor fuel quality, or excessive idling.

If injection nozzles are not working correctly or are dirty, engine will run poorly. See your John Deere dealer for service.

KN52281,1003F1A -19-22AUG12-1/1

Cleaning Front Grille Screens

IMPORTANT: Avoid damage! Grille and side screens must be clean to prevent engine from overheating and to allow adequate air intake.

1. Check front grille screens for dirt, grass clippings and debris.
2. Raise hood and clean screens with a brush or cloth.
3. Lower hood.

KN52281,1003F1B -19-22AUG12-1/1

Transmission and Hydraulic Oil

IMPORTANT: Avoid damage! Transaxle is filled with John Deere HY-Gard™ (J20D) transmission oil at the factory. DO NOT mix oils.

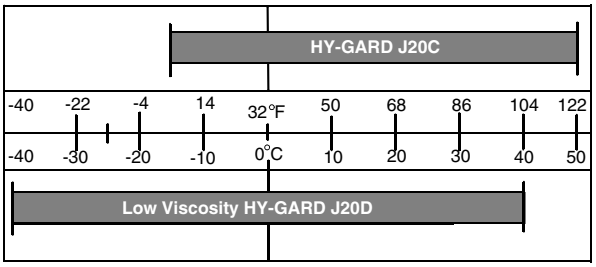
Do not use type “F” automatic transmission fluid.

Use Low Viscosity Hy-Gard™ (J20D) transmission oil.

John Deere Low Viscosity Hy-Gard transmission oil is specially formulated for operation below -18°C (0)°F to provide maximum protection for the hydraulic system.

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

IMPORTANT: Avoid damage! Use recommended oil only. Do not use engine oil or “Type F” automatic transmission fluid.



LVAL38329 —UN—21AUG12

Other oils may be used if they meet John Deere standard JDM J20D or J20C.

KN52281,1003F22 -19-22AUG12-1/1

Front Axle and MFWD Oil

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

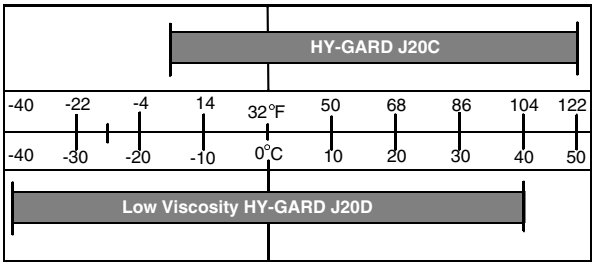
The following oils are preferred:

- John Deere Hy-Gard™
- John Deere Low Viscosity Hy-Gard™

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

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Hy-Gard is a trademark of Deere & Company



LVAL38329 —UN—21AUG12

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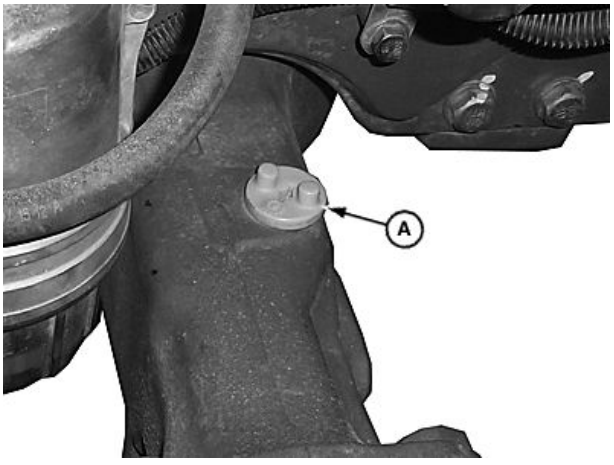
Checking Front Axle Oil Level

IMPORTANT: Avoid damage! Allow oil one hour to settle before checking level to ensure accurate dipstick reading. Repeat oil level check after several hours of operation.

1. Park machine safely. (See Parking Safely in Safety Section.) Allow machine to cool down for at least 1 hour.

IMPORTANT: Avoid damage! Dirt and debris in oil damages the transaxle. Clean area around opening before removing dipstick.

2. Loosen and remove dipstick (A) located on right side of front axle.
3. Wipe dipstick clean with a rag. Install dipstick but do not tighten. Allow dipstick to rest on top of threads.



LV19178 —UN—26SEP13

A—Dipstick

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KN52281,10049DC -19-26SEP13-1/2

4. Remove dipstick. Correct oil level is between high (B) and low (C) levels on dipstick. If oil level is low:
   a. Add recommended oil through dipstick fill opening until oil level is correct.
   b. Install and tighten dipstick.
5. Check front axle oil level again after the first several hours of operation.

LVAL38331 —UN—21AUG12

B—High Oil Level **C—Low Oil Level**

KN52281,10049DC -19-26SEP13-2/2

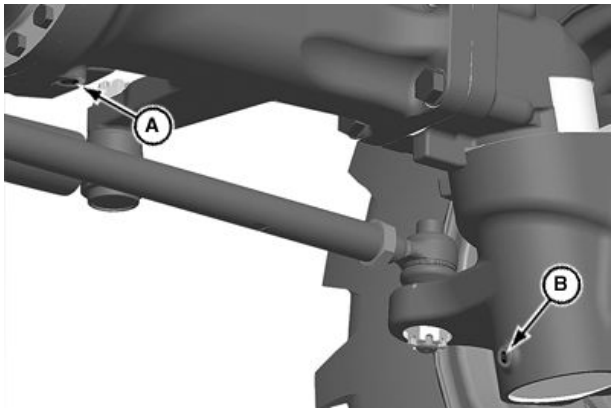
Changing Front Axle Oil

1. Operate machine to warm front axle oil.
2. Park machine safely. (See Parking Safely in Safety section.)
3. Position drain pan under differential drain plug (A).
4. Remove differential drain plug and allow oil to drain.
5. Position drain pan under each front axle drain plug (B).
6. Remove both drain plugs and allow oil to drain.
7. Install and tighten both drain plugs after all oil has drained.
8. Remove dipstick (C) located on right side of front axle.
9. Add recommended oil through dipstick fill opening until oil level is correct.
10. Install and tighten dipstick.

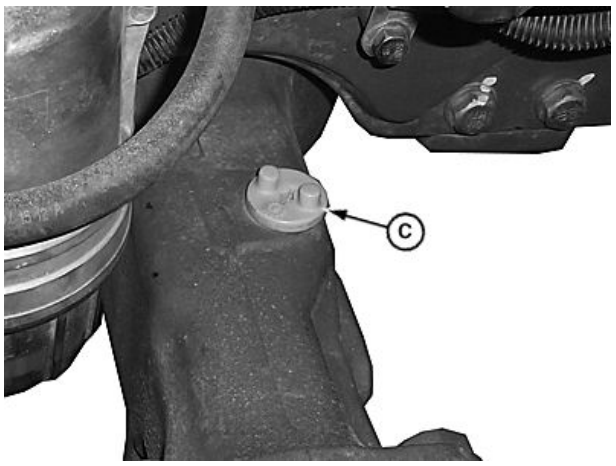
IMPORTANT: Avoid damage! Drive tractor for 1 minute at low speed, in both forward and reverse to help fill wheel ends.

Allow oil 1 hour to settle before checking level to ensure accurate dipstick reading. Repeat oil level check after several hours of operation.

11. Check front axle oil level.



LV19188 —UN—26SEP13



LV19179 —UN—26SEP13

A—Differential Drain Plug **C—Dipstick**
B—Front Axle Drain Plug

KN52281,1004806 -19-26SEP13-1/1

Adjusting Front Axle Thrust Bolt Torque

NOTE: Adjust bolt torque at required service interval to prevent excessive forward or rearward movement of front axle.

1. Park machine safely. (See Parking Safely in the Safety section.)

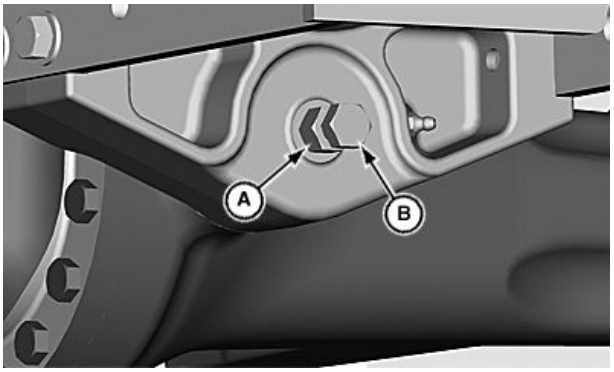
CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports.

- **Use a safe lifting device rated for the load to be lifted.**
- **Lower machine onto jackstands or other stable supports and block wheels before servicing.**

2. Raise front axle off ground to take machine weight off the front axle.
3. Grease front and rear trunnions.
4. Loosen jam nut (A).
5. Tighten thrust bolt (B) to specification.

Specification

Thrust Bolt—Torque.....30 N·m (22.12 lb.-ft.)



LV19180 —UN—26SEP13

A—Jam Nut **B—Thrust Bolt**

Do not overtighten.

6. Oscillate axle from stop to stop 3 times. Check torque.
7. Hold thrust bolt and tighten jam nut to specification.

Specification

Jam Nut—Torque.....70 N·m (51.63 lb.-ft.)

8. Lower front axle to ground.

KN52281,1004807 -19-26SEP13-1/1

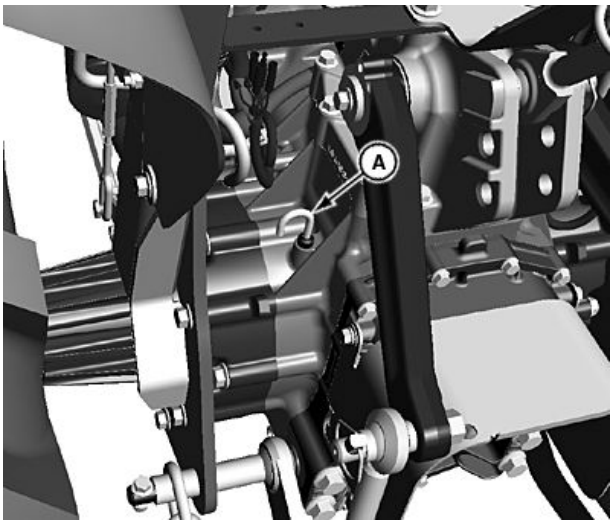
Checking Transmission Oil Level

1. Park machine safely. (See Parking Safely in Safety section.) Allow machine to cool down for at least 1 hour.

IMPORTANT: Avoid damage! Dirt and contamination can enter transmission when checking oil level. Clean area around dipstick before removing.

2. Pull to remove dipstick (A), located at left side of transaxle. Wipe with a clean cloth.
3. Install dipstick.
4. Remove dipstick.

A—Dipstick



LV17236 —UN—26MAR13

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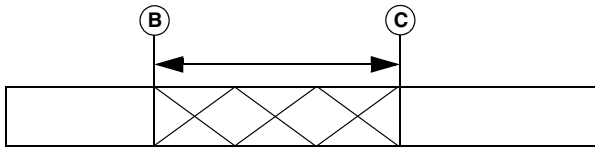
KN52281,1004808 -19-21MAY13-1/3

5. Check oil level on dipstick. Correct oil level is between levels (B and C) on dipstick.

B—Oil Level Mark **C—Oil Level Mark**

LVAL38336 —UN—21AUG12



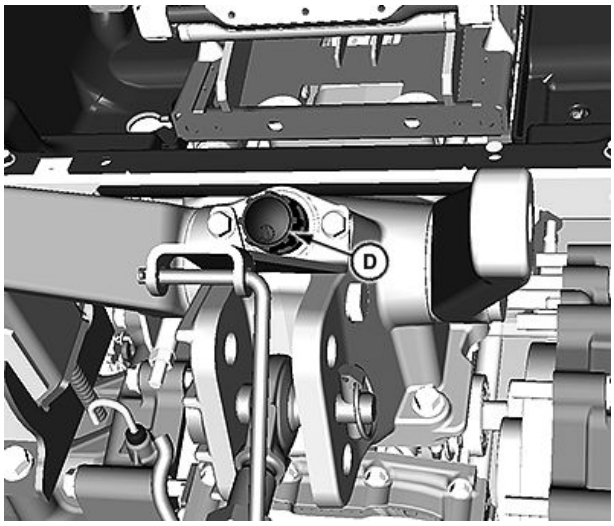
KN52281,1004808 -19-21MAY13-2/3

IMPORTANT: Avoid damage! Help prevent dirt and other contaminants from entering the transmission. Clean area around fill cap before removing.

Do not overfill transmission. Oil expands during operation and could overflow.

6. If oil level is low:
   - Remove filler cap (D).
   - Add recommended oil through fill opening until oil level is correct.
7. If oil exceeds top mark on the dipstick, drain to proper level.
8. Install dipstick.
9. Install and tighten filler cap.

D—Oil Filler Cap



LV17639 —UN—01MAY13

KN52281,1004808 -19-21MAY13-3/3

Changing Transmission Oil and Hydraulic Suction Oil Filter

CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids are hot when engine has been running. Allow the engine to cool before servicing or working near the engine and components.

IMPORTANT: Avoid damage! If there is evidence of severe oil contamination, it may be necessary to change the oil several times.

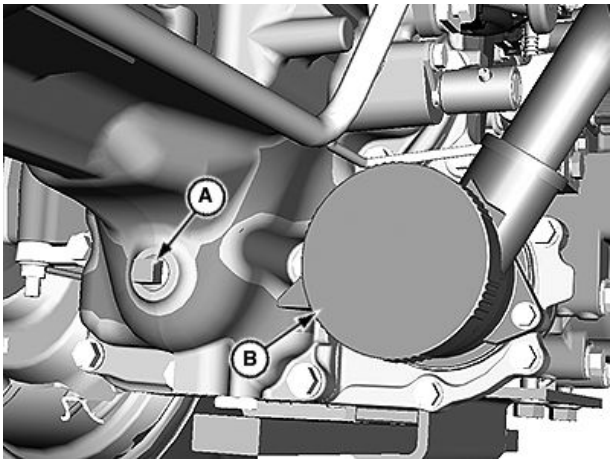
Contamination of hydraulic fluid could cause transmission damage or failure.

Severe or unusual conditions require a more frequent service interval.

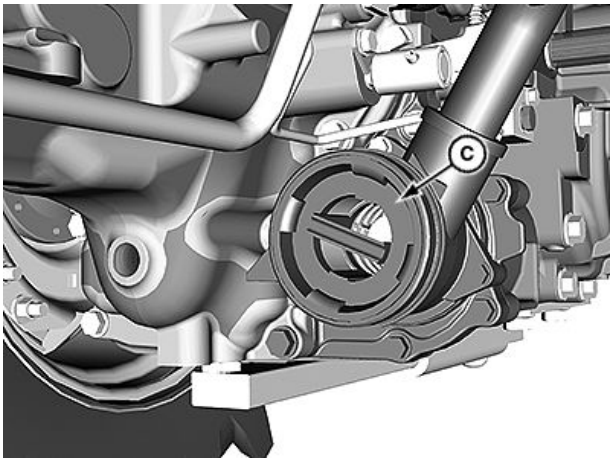
1. Drive tractor a few minutes to warm and mix transmission oil.
2. Park machine safely. (See Parking Safely in Safety section.)
3. Position drain pan under transmission drain plug (A) and suction filter cover (B) at the front of transmission. Remove plug and allow oil to drain.
4. Remove suction filter cover (B) and allow oil to drain.
5. Remove Hydraulic Suction Filter (C) and allow oil to drain.
6. Install transmission drain plug.
7. Replace filter.
8. Install cover.
9. Remove oil fill cap (D).
10. Add recommended oil into filler opening.
11. Start engine. Check for oil leaks around filter cover and drain plugs.
12. Stop engine.
13. Check transmission oil level. Add oil if necessary.

NOTE: Transmission oil can be changed every 1200 hours or 3 years if the following requirements are met:

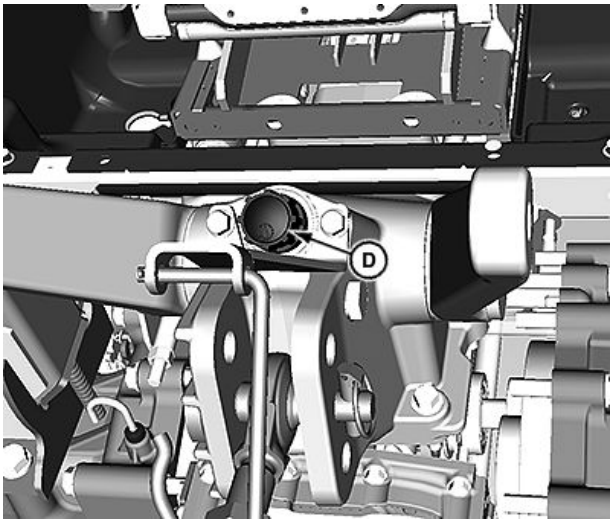
- *Use John Deere Hy-Gard™ or Lo-Vis Hy-Gard oil.*
- *Suction and transmission filter are both changed every 400 hours.*
- *Perform oil-scan of transmission oil every 400 hours or once per year.*



LV17640 —UN—01MAY13



LV17641 —UN—01MAY13



LV17639 —UN—01MAY13

A—Transmission Drain Plug
B—Hydraulic Suction Filter Cap
C—Hydraulic Suction Filter
D—Oil Fill Cover

Hy-Gard is a trademark of Deere & Company

KN52281,1004809 -19-11AUG15-1/1

Service Electrical

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

KN52281,1003F32 -19-22AUG12-1/1

Service the Battery Safely

CAUTION: Avoid injury! Battery electrolyte contains sulfuric acid. It is poisonous and can cause serious burns:

- **Wear eye protection and gloves.**
- **Keep skin protected.**
- **If electrolyte is swallowed, get medical attention immediately.**
- **If electrolyte is splashed into eyes, flush immediately with water for 15-30 minutes and get medical attention.**
- **If electrolyte is splashed onto skin, flush immediately with water and get medical attention if necessary.**

The battery produces a flammable and explosive gas. The battery may explode:

- **Do not smoke near battery.**
- **Wear eye protection and gloves.**

LVAL38348 —UN—21AUG12

- **Do not allow direct metal contact across battery posts.**
- **Remove negative cable first when disconnecting.**
- **Install negative cable last when connecting.**

KN52281,1003F33 -19-22AUG12-1/1

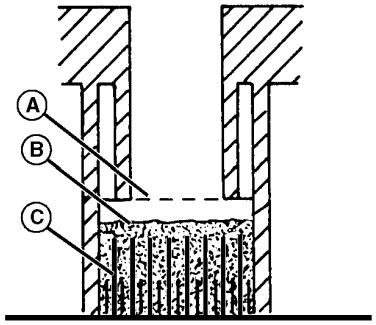
Checking Battery Electrolyte Level

NOTE: Add only distilled water to replace battery electrolyte.

1. Park the machine safely. (See Parking Safely in Safety Section.)
2. Remove battery cell caps. Make sure cap vents are not plugged.
3. Check electrolyte level. Electrolyte (B) should be approximately halfway between bottom of filler neck (A) and top of plates (C).

IMPORTANT: Avoid damage! Do not overfill battery. Electrolyte can overflow when battery is charged and cause damage.

4. Add only distilled water if necessary.
5. Install battery cell caps.



LVAL38349 —UN—21AUG12

A—Filler Neck
B—Electrolyte
C—Top of Plates

KN52281,1003F34 -19-22AUG12-1/1

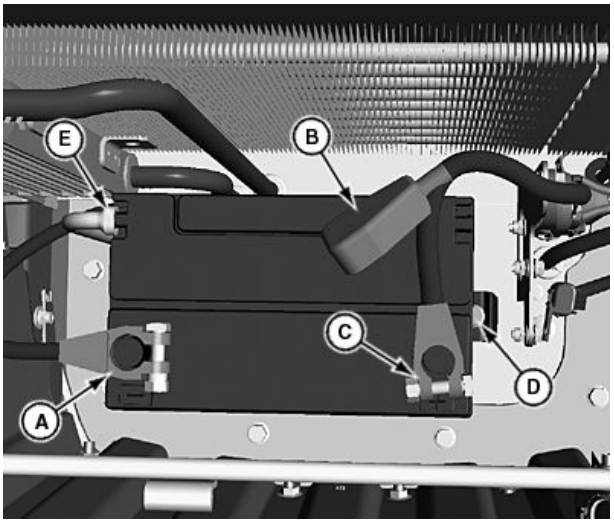
Removing and Installing Battery

Removing

1. Park machine safely. (See Parking Safely in Safety section.)
2. Raise hood.
3. Disconnect black negative (—) cable (A) from battery terminal first.
4. Slide red positive terminal cover (B) back and disconnect red positive (+) cable (C) from battery terminal.
5. Remove hold down bracket (D) and nut from both sides of battery tray.
6. Pull battery vent tube (E) from battery tray.
7. Remove battery.

Installing:

1. Position battery in machine.
2. Route battery vent tube (E) through hole in battery tray.
3. Install hold down bracket (D) and tighten nut securing battery to battery tray.
4. Connect positive (+) cable (C) to battery first, then attach negative (-) cable (A) to battery.
5. Apply spray lubricant on battery terminals to help prevent corrosion.



LV17636 —UN—30APR13

A—Black Negative Cable
B—Red Positive Terminal Cover
C—Red Positive Cable
D—Hold Down Bracket
E—Vent Tube

6. Position red positive battery terminal cover (B) on red positive (+) cable.
7. Lower hood.

KN52281,1004801 -19-21MAY13-1/1

Cleaning Battery and Terminals

1. Park machine safely.
2. Disconnect and remove battery.
3. Wash battery with solution of four tablespoons of baking soda to one gallon of water. Be careful not to get the soda solution into the cells.
4. Rinse the battery with plain water and dry.
5. Clean terminals and battery cable ends with wire brush until bright.
6. Install battery.
7. Attach cables to battery terminals, beginning with the positive cable, using washers and nuts.
8. Apply spray lubricant to terminal to prevent corrosion.

KN52281,1003F36 -19-27JUL16-1/1

Using Booster Battery

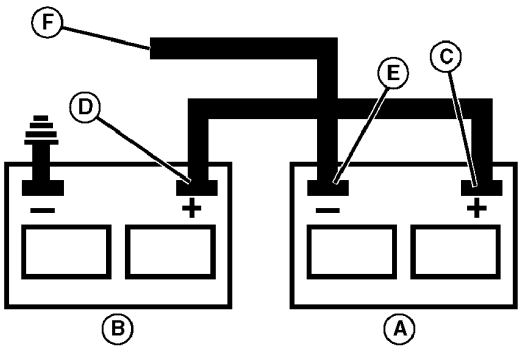
CAUTION: Avoid injury! The battery produces a flammable and explosive gas. The battery may explode:

- **Do not smoke or have open flame near battery.**
- **Wear eye protection and gloves.**
- **Do not jump start or charge a frozen battery. Warm battery to 16°C (60°F).**
- **Do not connect the negative (-) booster cable to the negative (-) terminal of the discharged battery. Connect at a good ground location away from the discharged battery.**

1. Connect positive (+) booster cable to booster battery (A) positive (+) post (C).
2. Connect the other end of positive (+) booster cable to the disabled vehicle battery (B) positive (+) post (D).
3. Connect negative (–) booster cable to booster battery negative (–) post (E).

IMPORTANT: Avoid damage! Electric charge from booster battery can damage machine components. Do not install negative booster cable to machine frame. Install only to the engine block.

Install negative booster cable away from moving parts in the engine compartment, such as belts and fan blades.



LVAL38352 —UN—21AUG12

A—Booster Battery **B—Disabled Vehicle Battery**

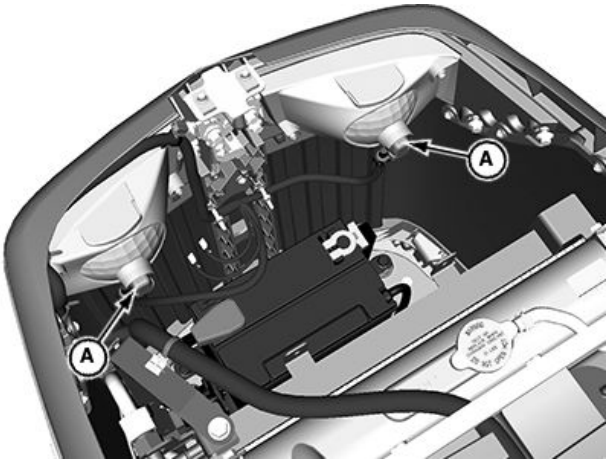
4. Connect the other end (F) of negative (–) booster cable to a metal part of the disabled machine engine block away from battery.
5. Start the engine of the disabled machine and run machine for several minutes.
6. Carefully disconnect the booster cables in the exact reverse order: negative cable first and then the positive cable.

KN52281,1003F37 -19-22AUG12-1/1

Replacing Headlight Bulb

IMPORTANT: Avoid damage! Do not touch glass headlight bulb with bare skin. Contact with bare skin could cause bulb to fail prematurely. Use gloves or a cloth when inspecting or replacing the bulb.

1. Park machine safely. (See Parking Safely in Safety Section.)
2. Raise hood.
3. Remove connector from base of headlight bulb (A).
4. Rotate base counterclockwise to remove bulb assembly from housing.
5. Insert new bulb in housing and turn clockwise to secure.
6. Insert connector into base of bulb.
7. Lower hood.
8. Check operation of headlights.



LV17630 —UN—30APR13

A—Headlight Bulb

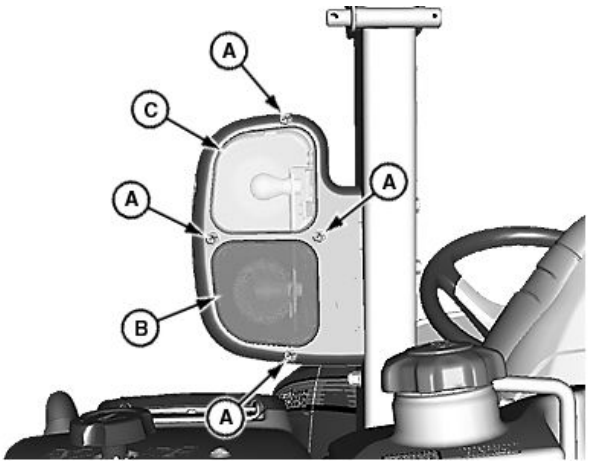
KN52281,1004802 -19-29APR13-1/1

Replacing Tail/Turn and Warning Light Bulbs

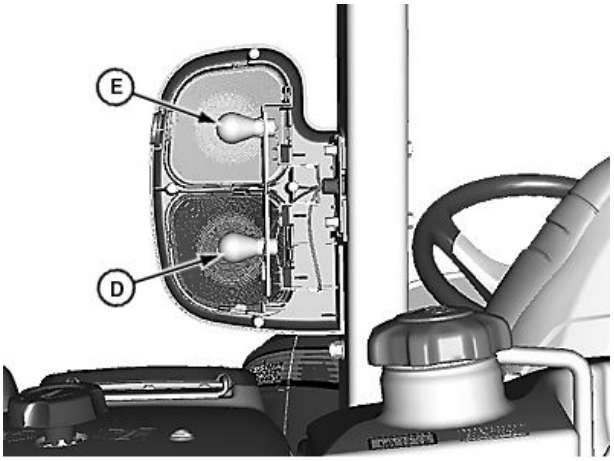
NOTE: Tail light and warning lights can be serviced by removing the rear assembly lens only.

1. Park machine safely. (See Parking Safely in Safety section.)
2. Remove four screws (A), red lens (B), and amber lens (C).
3. Push down and rotate tail light and turn signal bulb (D) to remove. Push down and rotate warning light bulb (E) to remove. Do not twist bulb.
4. Push down and rotate new bulb into socket.
5. Check operation of tail lights, turn signals and warning lights.
6. Install lens and screws.

A—Screws
B—Red Lens
C—Amber Lens
D—Tail light and Turn Signal Bulb
E—Warning Light Bulb



LV17631 —UN—31JUL13



LV17632 —UN—31JUL13

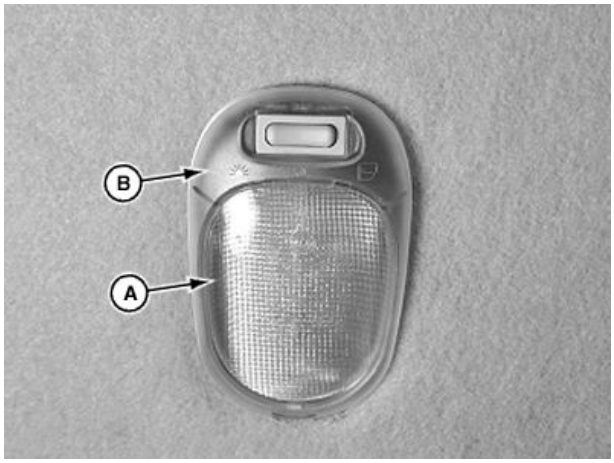
KN52281,1004803 -19-01AUG13-1/1

Replacing Light Bulbs (Tractor with Cab)

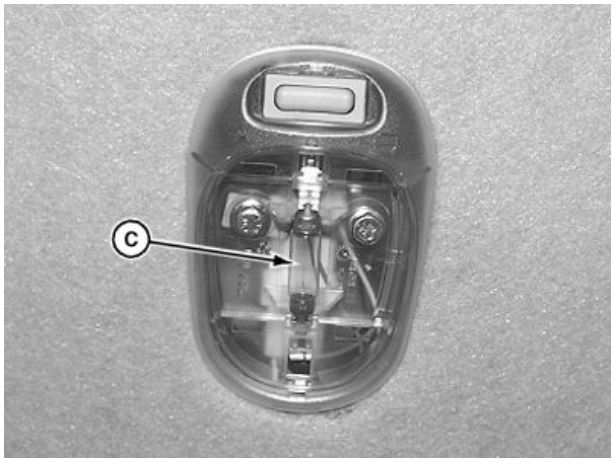
Dome Light Bulb

1. Remove cover (A) from housing (B) using a screwdriver.
2. Pull bulb (C) from socket
3. Install new bulb and cover.

A—Cover
B—Bulb Housing
C—Bulb



LV17766 —UN—14MAY13



LV17767 —UN—14MAY13

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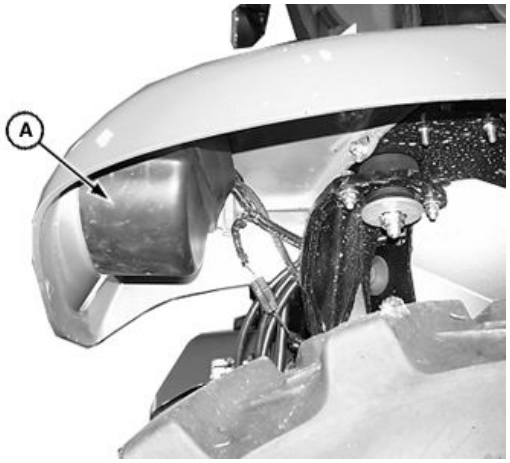
KN52281,1004837 -19-03JUN13-1/4

Tail light Bulb

1. Remove four screws and cover (A) under fender.
2. Rotate socket (B) and remove from housing.
3. Install new bulb and socket in housing.
4. Install cover and screws to fender.

A—Cover **B—Socket**



LV17768 —UN—14MAY13

Left Rear Shown

LV17769 —UN—14MAY13

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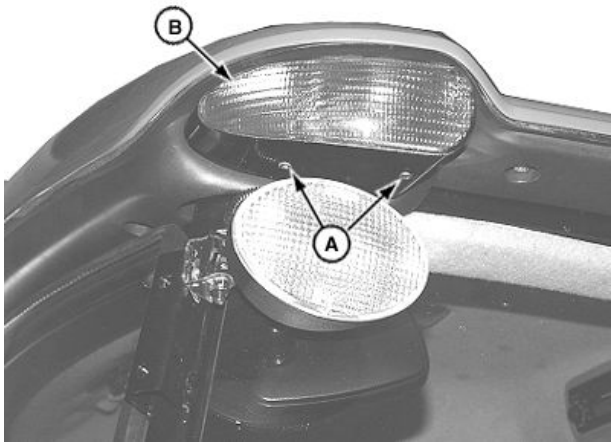
KN52281,1004837 -19-03JUN13-2/4

Warning Light Bulb

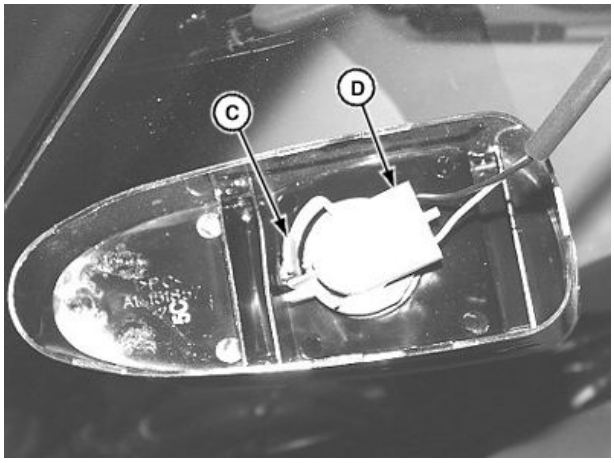
NOTE: Bulb replacement procedures for front and rear warning lights are similar. On rear warning light, bracket for the work light is also removed when removing two screws. Front right side shown.

1. Remove two hex socket head screws (A) and lens assembly (B) from cab roof panel.
2. Push in tab (C) and rotate socket (D) counterclockwise to remove from housing. Install new bulb into socket.
3. Install socket, and rotate clockwise to lock tab into position.
4. Install housing with two hex socket head screws.

A—Screws
B—Lens Assembly
C—Tab
D—Socket



LV17774 —UN—14MAY13



LV17775 —UN—14MAY13

KN52281,1004837 -19-03JUN13-3/4

Work Light Bulb

NOTE: Bulb replacement procedures for front and rear work lights and optional auxiliary work lights are the same. Rear left side shown.

1. Disconnect wiring harness connector (A).
2. Rotate bulb base (B) counterclockwise and remove from housing.
3. Install new bulb into housing and rotate bulb base clockwise to install.
4. Connect wiring harness connector.

A—Harness Connector
B—Bulb Base

LV17776 —UN—14MAY13

KN52281,1004837 -19-03JUN13-4/4

Replacing Relays and Fuses

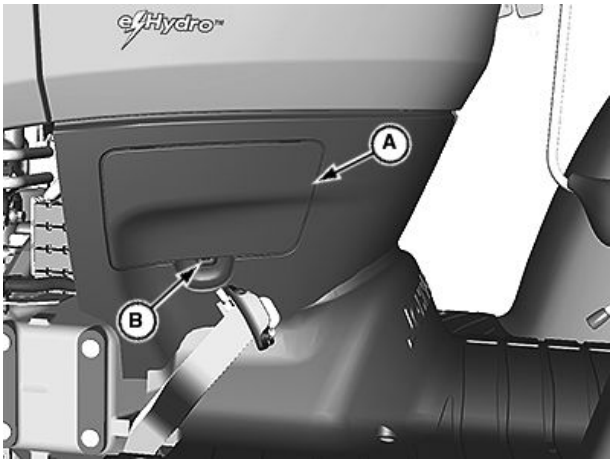
IMPORTANT: Avoid damage! The electrical system may be damaged if incorrect replacement fuses are used. Replace the defective fuse with a fuse of the same Amp rating.

Locating Fuses and Relays

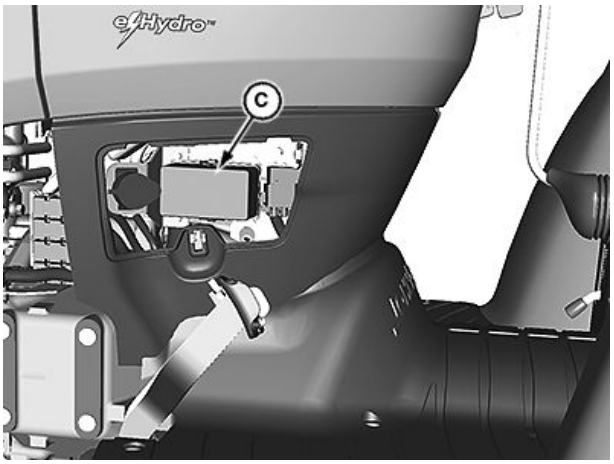
All electrical circuits are protected by fuses. Amperage rating is marked on each fuse, plus fuses are color coded to ensure proper replacement.

Fuses	
Fuse Rating	**Color**
10 Amp	Red
15 Amp	Blue
20 Amp	Yellow
30 Amp	Green

1. Park machine safely. (See Parking Safely in Safety section.)
2. Locate load center panel (A) at lower cowl.
3. Lift tab (B).
4. Remove load center cover (C).
5. Identify fuse or relay in fuse block (D), starter relay (E), or glow plug relay (F).
6. Pull defective relay or fuse.
7. Replace new relay or fuse.
8. Install load center cover.

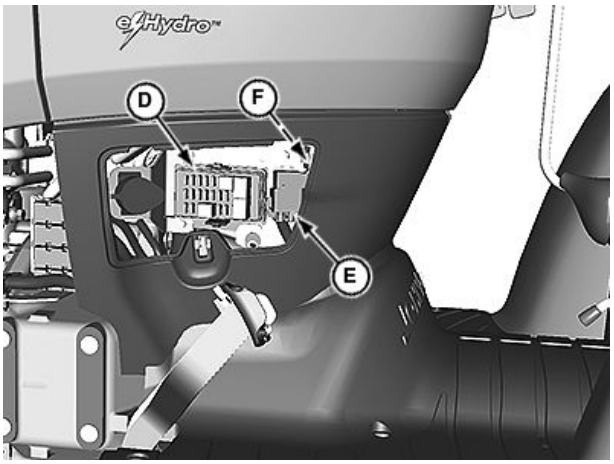


LV17633 —UN—01MAY13



LV17634 —UN—01MAY13

A—Load Center Panel
B—Panel Tab
C—Load Center Cover
D—Fuse Block
E—Starter Relay
F—Glow Plug relay



LV17635 —UN—01MAY13

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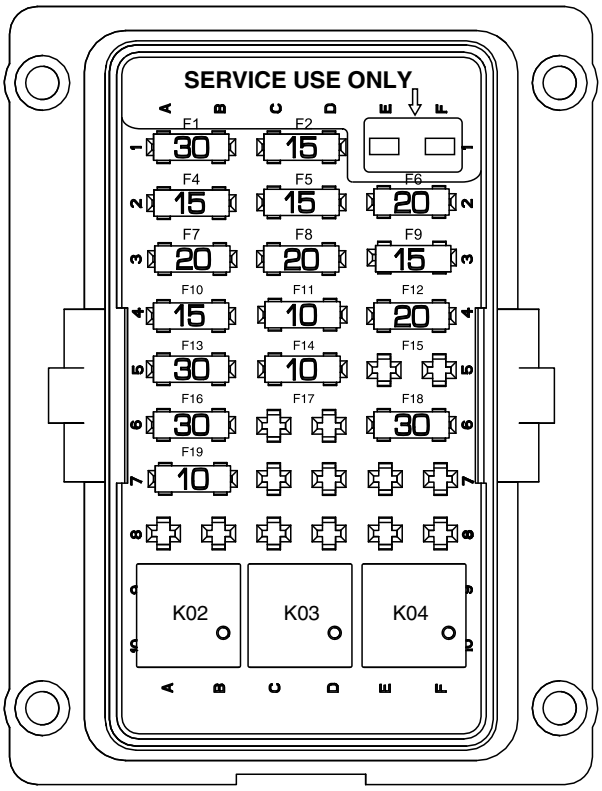
KN52281,1004805 -19-17SEP13-1/3

Fuse and Relay Size and Function

F1— Key Switch Fuse (30A)
F2— Right Fender Interconnect, Power Port Fuse (15A)
F3— Service Use Only
F4— Brake Lights Fuse (15A)
F5— Ingition Power Fuse (15A)
F6— Work Lights Fuse (Option) (20A)
F7 — Tail light Fuse (20A)
F8— Headlights Fuse(20A)
F9— Accessory Fuse(15A)
F10— Air Ride Seat Fuse (Option) (15A)
F11— EGR Fuse (10A)
F12— 7 Pin Trailer Fuse (Option) (20A)
F13— Junction Block Fuse (30A)
F14— ELX Fuse (10A)
F15— Spare
F16— Light Switch Fuse (30A)
F17— Spare
F18— Display Panel Fuse (30A)
F19— TCM Fuse (10A)
K02— EGR Valve Relay
K03— Brake Light Relay
K04— 7 Pin Connector Relay (Option)



Open Operator Station

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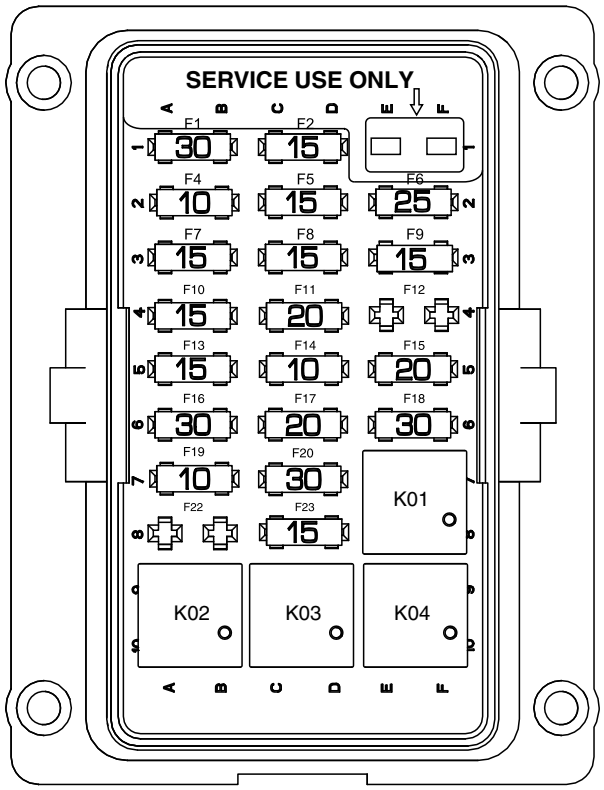
KN52281,1004805 -19-17SEP13-2/3

F1— Key Switch Fuse (30A)
F2— Power Port Fuse (15A)
F3— Service Use Only
F4— EGR Fuse (10A)
F5— Ignition Power Fuse (15A)
F6— Work Light Fuse (25A)
F7 — RH Tail Light Fuse (15A)
F8— Headlight Fuse (15A)
F9— ACC Fuse (15A)
F10— Air Ride Seat (option) (15A)
F11— Wiper Fuse (20A)
F12— 7 Pin Trailer Fuse (Option) (20A)
F13— LH Tail Light Fuse (15A)
F14— ELX Fuse (10A)
F15— Roof Harness 2 Fuse (20A)
F16— Light Switch Fuse (30A)
F17— Roof Harness 1 Fuse (20A)
F18— Display Panel Fuse (30A)
F19— TCM Fuse (10A)
F20— Junction Block Fuse (30A)
F21— Spare
F22— Brake Light Fuse (15A)
K01— Work Lights Relay
K02— EGR Relay
K03— Brake Light Relay
K04— 7 Pin Trailer Relay (Option)



Cab

KN52281,1004805 -19-17SEP13-3/3

Filling Fuel Tank

CAUTION: Avoid injury! Fuel vapors are explosive and flammable:

- **Shut engine off before filling fuel tank.**
- **Allow engine to cool before refueling.**
- **Do not smoke while handling fuel.**
- **Keep fuel away from flames or sparks.**
- **Fill fuel tank outdoors or in well ventilated area.**
- **Clean up spilled fuel immediately.**
- **Use clean approved non-metal container to prevent static electric discharge.**

IMPORTANT: Avoid damage! Dirt and water in fuel can cause engine damage:

- **Clean dirt and debris from the fuel tank opening.**
- **Use clean, fresh, stabilized fuel.**
- **Fill the fuel tank at the end of each day's operation to keep condensation out of the fuel tank.**
- **Use a non-metallic funnel with a plastic mesh strainer when filling the fuel tank or container.**

Fill fuel tank at the end of each day's operation to prevent condensation and freezing during cold weather.

1. Park machine safely. (See Parking Safely in Safety Section.)
2. Allow engine to cool.
3. Remove any trash from area around fuel tank cap.
4. Remove fuel tank cap slowly to allow any pressure built up in tank to escape.
5. Fill fuel tank only to bottom of filler neck. Do not overfill.
6. Install fuel tank cap.

KN52281,1003F49 -19-04OCT12-1/1

Raising and Lowering Hood

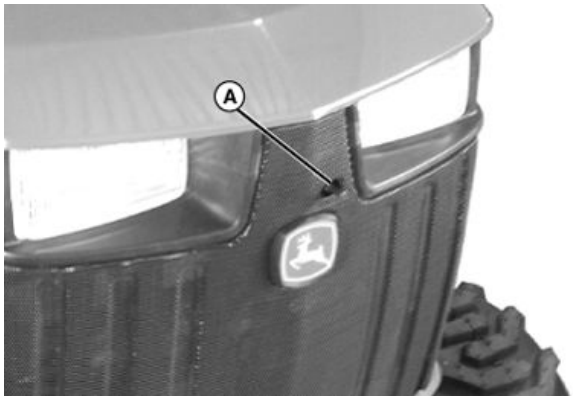
Raising

1. Park machine safely. (See Parking Safely in Safety section.)
2. Push release lever (A) sideways to open hood.
3. Raise hood until hood support rod (B) engages hood support bracket (C).

Lowering

1. Lift hood slightly to remove weight on hood support bracket.
2. Pull hood support rod (B) toward the front of the machine to release and slowly lower hood.
3. Gently push down on both sides of front of hood to lock latch.

A—Release Lever
B—Hood Support Rod
C—Hood Support Bracket



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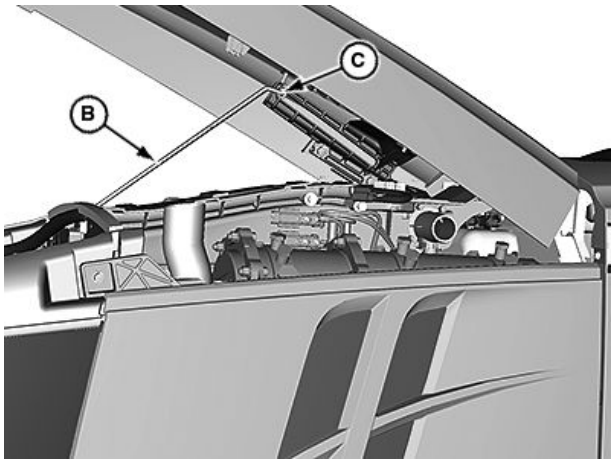


LV17662 —UN—01MAY13

KN52281,100480A -19-21MAY13-1/1

Removing and Installing Side Panels

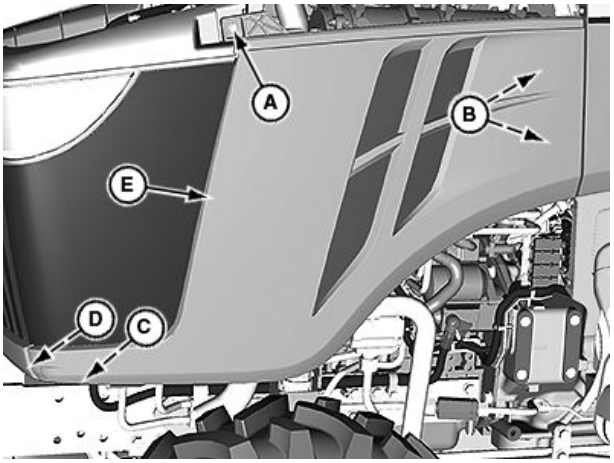
Removing

1. Park machine safely. (See Parking Safely in Safety section.)
2. Raise hood.
3. Remove bolt (A) and nut.
4. Remove nuts (B) releasing side panel.
5. Tilt side panel (E) away from machine and slide forward so mounting tab (C) clears mounting hook (G) and front mounting slot (F). Remove the side panel.

Installing

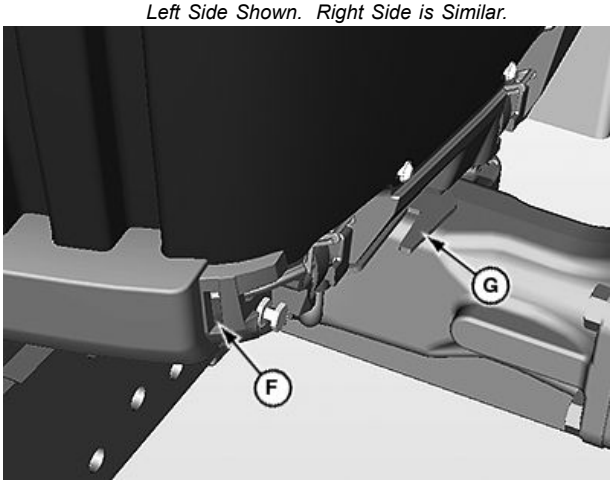
1. Align the side panel mounting hook and tab with front mounting slot (F) and mounting hook (G) on machine.
2. Slide side panel, then tilt into place.
3. Secure rear of panel mounting bracket with mounting nuts (B).
4. Install bolt (A) and nut to secure side panel (E).
5. Lower the hood.

A—Bolt
B—Mounting Nut (4 used)
C—Mounting Tab
D—Front Mounting Tab
E—Side Panel
F—Front Mounting Slot
G—Mounting Hook



LV17666 —UN—02MAY13

Left Side Shown. Right Side is Similar.



LV17667 —UN—02MAY13

KN52281,100480B -19-31MAY13-1/1

Checking Wheel Bolts and Hardware

CAUTION: Avoid injury! Check rim, hub, and axle hardware periodically to prevent possible machine roll-over.

When machine is new or anytime wheel hardware is loosened, tighten all bolts after one hour of operation and every four hours thereafter until proper torque values are maintained.

Tightness of wheel hardware must be maintained according to service interval recommendations. Check wheel bolt tightness and torque as follows:

Front Wheel Bolts

Tighten front wheel bolts alternately to 140 N·m (103 lb-ft).

Rear Wheel Bolts

Tighten rear wheel bolts alternately to 140 N·m (103 lb-ft).

JZ81662,0000FF8 -19-11APR13-1/1

Removing and Installing Wheels

CAUTION: Avoid injury! Remove wheels safely.

- **Use a safe lifting device and support machine securely on jack stands.**
- **Block front and rear of wheel not raised to prevent machine movement.**
- **Wheel can be heavy or difficult to handle when removing.**

Front Wheel Removal

1. Loosen lug bolts slightly before raising front axle.
2. Raise front of machine and lower onto support stands so that front axle supports machine.

NOTE: If the front wheels are being removed to perform work on the front axles, lower machine onto suitable stands that support the machine by the frame.

3. Remove lug bolts and wheel.

Front Wheel Installation

1. Install wheels onto axle, insert lug bolts, and lightly tighten bolts.
2. Raise front of machine, remove support stands and lower machine to floor.
3. Tighten wheel bolts to 140 N·m (103 lb.-ft.).

Rear Wheel Removal

1. Loosen lug bolts slightly before raising machine rear axle.
2. Raise rear of machine and lower onto support stands so that rear axle supports machine.
3. Remove lug bolts and wheel.

Rear Wheel Installation:

1. Install wheels onto axle, insert lug bolts, and lightly tighten bolts.
2. Raise rear of machine, remove support stands and lower machine to floor.
3. Tighten wheel bolts to 140 N·m (103 lb.-ft.).

JZ81662,0000FF9 -19-11APR13-1/1

Checking Tire Pressure

CAUTION: Avoid injury! Explosive separation of tire and rim parts is possible when they are serviced incorrectly:

- **Do not attempt to mount a tire without the proper equipment and experience to perform the job.**
- **Do not inflate the tires above the recommended pressure.**
- **Do not weld or heat a wheel and tire assembly. Heat can cause an increase in air pressure resulting in an explosion. Welding can structurally weaken or deform the wheel.**
- **Do not stand in front or over the tire assembly when inflating. Use a clip-on chuck and extension hose long enough to allow you to stand to one side.**

1. Check tires for damage.
2. See tire pressures in Specifications.
3. Check tire pressure with an accurate gauge.
4. Add or remove air if necessary.

KN52281,1003F4E -19-04OCT12-1/1

Selecting Front Tire Rolling Direction

CAUTION: Avoid injury! Remove wheels safely.

- **Use a safe lifting device and support machine securely on jack stands.**
- **Block front and rear of wheel not raised to prevent machine movement.**
- **Wheel can be heavy or difficult to handle when removing.**

Machines equipped with directional type tires (such as bar tires) have directional arrows located on the tire sidewall.

Under most conditions, tires should be installed with the directional arrow pointing in the direction of travel.

If machine is mainly used for loader operations, lug direction may be reversed to increase tire life and improve traction while backing out of dirt piles.

Move wheel from one side of machine to the other to change tire rolling direction.

Wheel must be installed so that valve stem is facing outwards.

KN52281,1003F4F -19-04OCT12-1/1

Changing Wheel Spacing and Tread Width

In special cases, front tires can be set to wide position; however, wide position cannot be used with a loader. Using wide position during loader operation reduces front axle life.

Rear tires can be mounted in one position only.

CAUTION: Avoid injury! Remove wheels safely.

- **Use a safe lifting device and support machine securely on jack stands.**
- **Block front and rear of wheel not raised to prevent machine movement**
- **Wheel can be heavy or difficult to handle when removing.**

Mounting Guidelines

- To keep tire rotation in right direction, move each rim to opposite side of machine, rather than turning rim around.
- Dished wheels can be reversed.
- Tighten all bolts to specifications.

Rear Tire Tread Dimensions

Rear Tire Size	Tread Width
15.00-19.5 R4 GA	1.08 m (42.8 in.)
41x14.00-20 R3 GA	1.10 m (43.5 in.)
11.2-24 R1 GA	1.15 m (45.2 in.)

Front Tire Tread Width Dimensions

Front Tire Size	Position	Tread Width
25x8.5-14 4PR R4 GA	(Narrow)	1.08 m (42.8 in.)
27x8.50—15 4PR R3 GA	(Narrow)	1.06 m (41.7 in.)
7.00-14 4PR R1 GA	(Narrow)	1.06 m (41.7 in.)
25x8.50-15 4PR R4 GA	(Wide)	1.25 m (49.4 in.)
27x8.50-15 4PR R3 GA	(Wide)	1.28 m (50.5 in.)
7.00-14 4PR R1 GA	(Wide)	1.28 m (50.3 in.)

JZ81662,0000FFA -19-11APR13-1/1

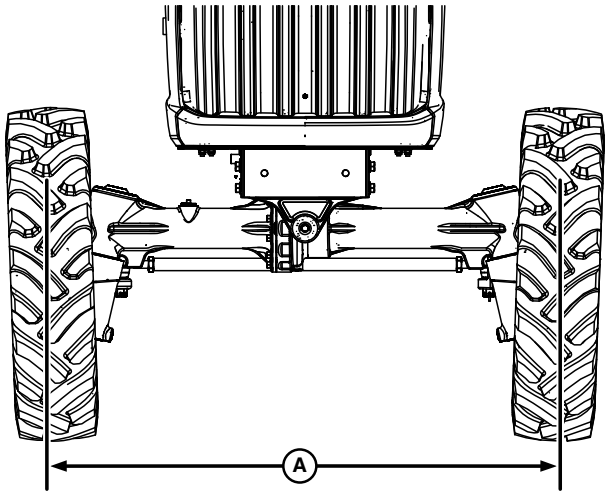
Checking and Adjusting Toe-In

1. Stop machine on a firm, level surface.
2. Disengage MFWD if equipped.
3. Turn steering wheel so front wheels are pointing straight ahead.
4. Park machine safely. (See Parking Safely in the Safety section.)

Checking Toe-In

NOTE: If front axle is equipped with bar tires, use either an outside or inside bar of each tire for marking the center line.

1. Mark the center line of each tire at hub height and to the front of the axle using chalk.
2. Measure and record distance (A) between center lines of each tire.
3. Drive machine forward or rearward slightly until chalk mark moves 180° to rear of axle.
4. Park machine safely (See Parking Safely in the Safety section.)
5. Measure and record distance (A) again between the chalk marks.



LV17448 —UN—12APR13

6. Determine the difference between front and rear measurements. Difference between measured distance (A) not to exceed 3 mm (1/8 in.). Adjust toe-in if necessary.

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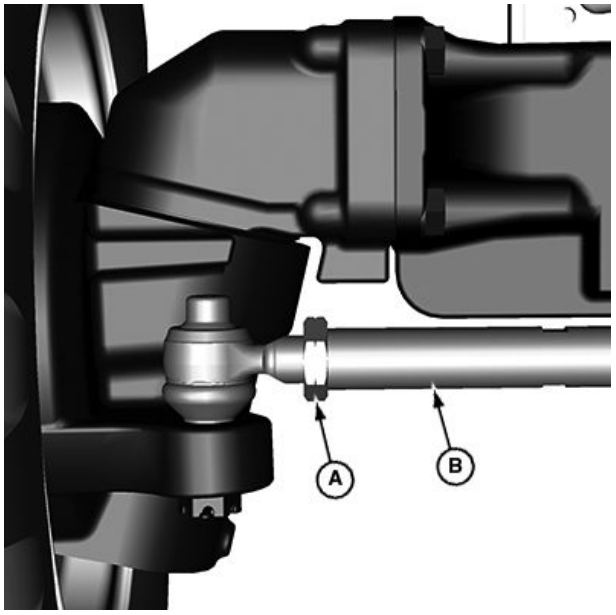
KN52281,100480C -19-04SEP13-1/2

Adjusting Toe-In

1. Loosen nuts (A) on both ball joints.
2. Rotate tie rod (B) clockwise or counterclockwise to adjust the amount of toe-in. Adjust tie rod until toe-in measurement is within correct specification.
   - Rotating threaded rod in 1/2— turn increments equals 1.5 mm (1/16 in.).
3. Tighten nuts to 120 N·m (88 lb.-ft.).
4. Check toe-in setting. Repeat procedure if further adjustment is required.

A—Nut **B—Tie Rod**



LV17669 —UN—02MAY13

KN52281,100480C -19-04SEP13-2/2

Cleaning Plastic Surfaces

IMPORTANT: Avoid damage! Improper care of machine plastic surfaces can damage that surface:

- **Do not wipe plastic surfaces when they are dry. Dry wiping will result in minor surface scratches.**
- **Use a soft, clean cloth (bath towel, diaper, automotive mitt).**
- **Do not use abrasive materials, such as polishing compounds, on plastic surfaces.**

1. Rinse hood and entire machine with clean water to remove dirt and dust that may scratch the surface.
2. Wash surface with clean water and a mild liquid automotive washing soap.
3. Dry thoroughly to avoid water spots.
4. Wax the surface with a liquid automotive wax. Use products that specifically say “contains no abrasives.”

IMPORTANT: Avoid damage! Do not use a power buffer to remove wax.

5. Buff applied wax by hand using a clean, soft cloth.

KN52281,1003F50 -19-22AUG12-1/1

Cleaning and Repairing Metal Surfaces

Cleaning:

Follow automotive practices to care for your vehicle painted metal surfaces. Use a high-quality automotive wax regularly to maintain the factory look of your vehicle’s painted surfaces.

Repairing Minor Scratches (surface scratch):

1. Clean area to be repaired thoroughly.

IMPORTANT: Avoid damage! Do not use rubbing compound on painted surfaces.

2. Use automotive polishing compound to remove surface scratches.
3. Apply wax to entire surface.

Repairing Deep Scratches (bare metal or primer showing):

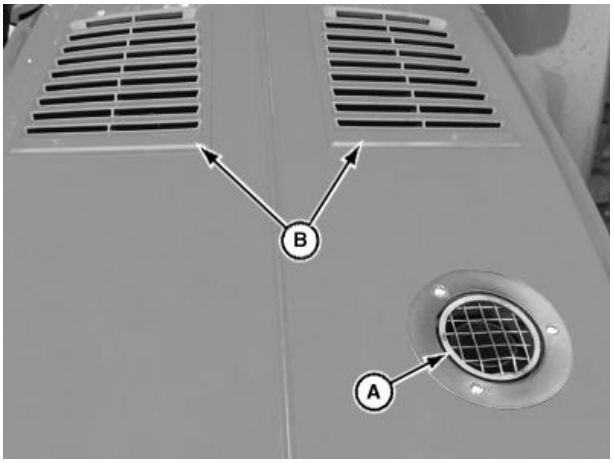
1. Clean area to be repaired with rubbing alcohol or mineral spirits.
2. Use paint stick with factory-matched colors available from your authorized dealer to fill scratches. Follow directions included on paint stick for use and for drying.
3. Smooth out surface using an automotive polishing compound. Do not use power buffer.
4. Apply wax to surface.

KN52281,1003F51 -19-22AUG12-1/1

Cleaning Hood Vents

IMPORTANT: Avoid damage! Hood vents must be kept free of debris and obstruction to allow for adequate air flow.

1. Park machine safely. (See Parking Safely in Safety section.)
2. Allow engine to cool.
3. Raise hood.
4. Check exhaust vent (A) and engine hood vent (B) for obstruction or debris.
5. Check vent area for any obstructions.
6. Lower hood.



LV19091 —UN—13SEP13

A—Exhaust Vent **B—Engine Hood Vent**

KN52281,10047DD -19-13SEP13-1/1

Servicing Air Conditioner

Air Conditioner Checks

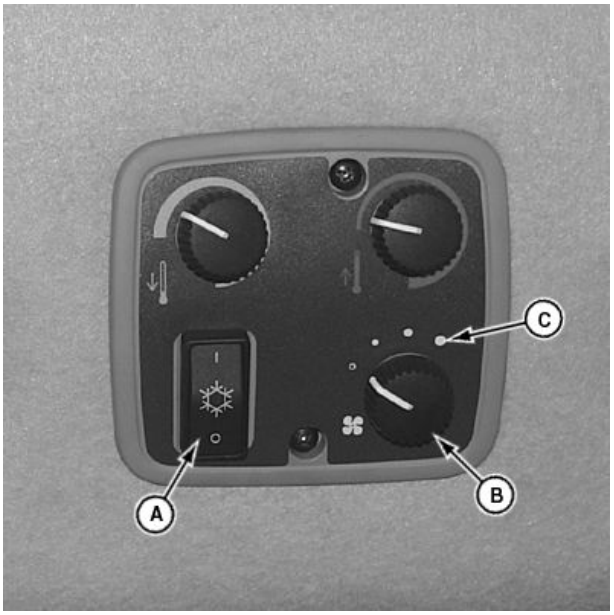
Check the following if air conditioner will not cool, or if cooling is intermittent:

CAUTION: Avoid injury! Refrigerant under pressure. Improper servicing may cause refrigerant to penetrate eyes and skin or cause burns.

IMPORTANT: Avoid damage! R134a refrigerant must be used. This requires special equipment and procedures. See your John Deere dealer.

NOTE: Some oil seepage from compressor shaft seal, on the lower front, is normal.

1. If air conditioner clutch slips after tractor has been in storage, compressor may be stuck.
   - Stop engine and turn ignition switch to stop (off) position.
   - Raise hood and rotate clutch hub back and forth to free compressor.
2. Run engine at 2000 rpm. Push top half of A/C and defrost switch (A) and set blower control knob (B) to high position (C). If cooling is intermittent, clean hood grille, radiator, and condenser. If problem is not solved, see your John Deere dealer.



LV17758 —UN—14MAY13

A—Defrost Switch **C—High Position**
B—Blower Control Knob

3. Inspect operator enclosure (cab) filter for restriction. If problem persists, see your John Deere dealer to have evaporator core cleaned.

Continued on next page

KN52281,1004835 -19-21MAY13-1/2

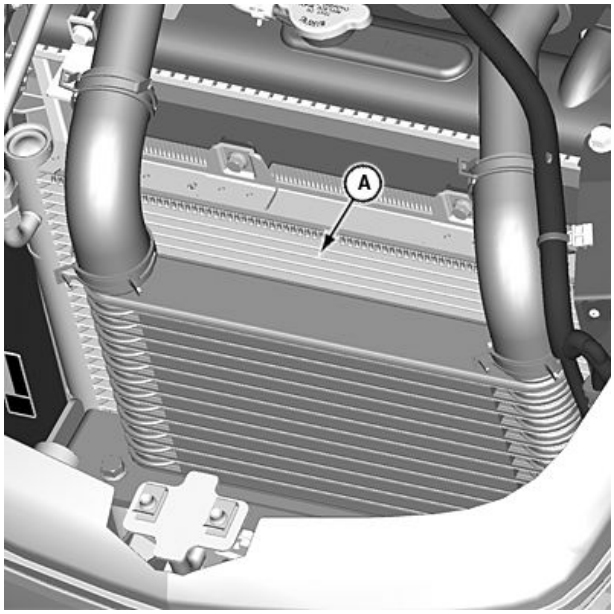
Cleaning Air Conditioner Condenser

CAUTION: Avoid injury! Compressed air can cause debris to fly a long distance.

- **Clear work area of bystanders.**
- **Wear eye protection when using compressed air for cleaning purposes.**
- **Reduce compressed air pressure to 210 kPa (30 psi).**

1. Raise hood and check air conditioner condenser (A) for dirt and debris. Clean condenser using a brush or compressed air.
2. If a more thorough cleaning is necessary, clean radiator from behind with compressed air or water. Straighten any bent fins.

A—Air Conditioner Condenser



LV17757 —UN—14MAY13

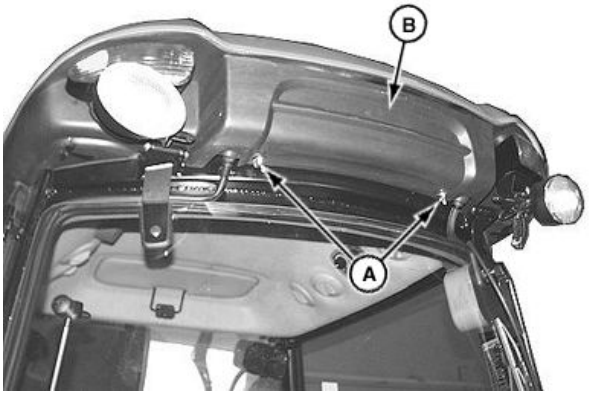
KN52281,1004835 -19-21MAY13-2/2

Cleaning Cab Air Filter

IMPORTANT: Avoid damage! Remove any rear implement before servicing cab air filter. Do not stand on 3-point hitch or PTO shield.

1. Remove two wing bolts (A), washers, and filter base (B).
2. Remove filter (C) from filter base, and clean with compressed air. Inspect filter for damage. Replace if necessary.
3. Install filter into base.
4. Install filter base, making sure six tabs (D) on roof panel are installed into slots (E) in filter base. Secure base assembly into roof panel with two washers and wing nuts.

A—Wing Bolts
B—Filter Base
C—Filter
D—Tabs
E—Slots



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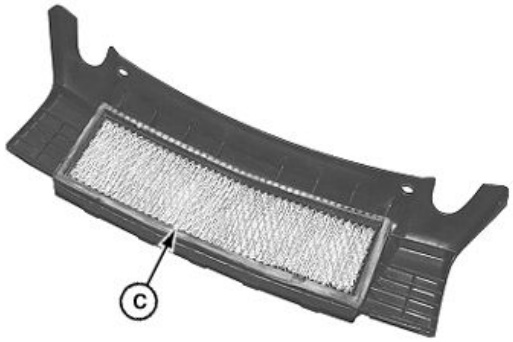

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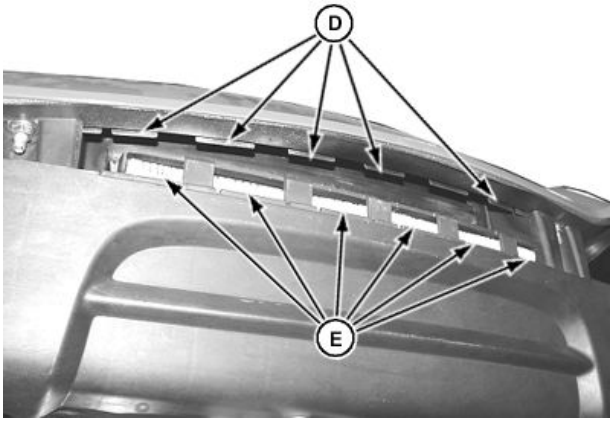

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KN52281,1004833 -19-21MAY13-1/1

Checking Cab Roll-over Protection System Installation

CAUTION: Avoid injury! To maintain operator protection and ROPS certification:

- **Do not repair or revise the ROPS.**
- **Any alteration of the ROPS must be approved by the manufacturer.**

IMPORTANT: Avoid damage! Make certain all parts are installed correctly. If cab protection system is loosened or removed for any reason, tighten mounting cap screws to specification.

The protection offered by cab protection system will be impaired if cab protection system is subjected to structural damage, as in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged cab protection system should be replaced, not reused. Any alteration to the cab protection system must be approved by the manufacturer.

1. When installation of equipment on a machine necessitates loosening or removing cab protection system, mounting cap screws should be tightened to specification.
2. Inspect cab protection system mounting hardware every 50 hours for proper torque or replacement.
3. Lift up rubber floor mat (A) to access front mounting hardware.
4. Remove fastener and pull insulation liner away from fender to access rear mounting hardware (B).
5. Tuck the insulation liner under the fender panels when complete.
6. Tighten the mounting hardware to 260 N•m (192 lb-ft).

LV17763 —UN—14MAY13

LV17764 —UN—14MAY13

A—Floor Mat **B—Mounting Hardware**

KN52281,1004836 -19-21MAY13-1/1

Troubleshooting

Using Troubleshooting Chart

If you are experiencing a problem that is not listed in this chart, see your John Deere distributor for service.

When you have checked all the possible causes listed and you are still experiencing the problem, see your John Deere distributor.

KN52281,1003F58 -19-22AUG12-1/1

Engine

If	Check
Engine Will Not Start or Is Hard to Start	Transmission gear shift lever not in neutral position. PTO engaged. Engine throttle lever not pushed forward. Fuel shutoff valve CLOSED (OFF). Stale fuel / improper fuel / fuel level. Wrong engine oil viscosity. Cold start system not being used, or malfunctioning. Plugged fuel filter. Plugged air intake filter. Dirty or faulty fuel injectors. Blown fuse. Other electrical problem.
Engine Runs Rough or Stalls	Fuel shutoff valve partially closed. Plugged fuel filter. Plugged air intake system. Kinked Fuel Line. Fuel cap vent dirty. Faulty seat switch. Stale or improper fuel / fuel level. Dirty or faulty fuel injectors. Low coolant temperature. See your John Deere dealer. Fuel pump not functioning properly. See your John Deere dealer.
Engine Overheats	Dirty grille, radiator screen, or radiator cooling fins. Plugged air intake filter. Low coolant level. Cooling system needs flushing. Defective radiator cap. Defective thermostat. Defective water temperature indicator or sender. Low oil level. Loose or defective alternator belt. Engine speed too low for load. Do not operate at low idle. Operating at too fast ground speed for conditions.
Engine Knocks	Engine oil level low. Injection pump out of time. See your John Deere dealer. Low coolant temperature. See your John Deere dealer. Engine overheating. Idle speed too low.
Engine Lacks Power	Exhaust filter restriction. See your John Deere dealer. Improper type of fuel. Plugged air intake system. Plugged fuel filter. Engine overheating. Operating at too fast ground speed for conditions. Engine oil viscosity too high. Low coolant temperature. See your John Deere dealer. Improper valve clearance. See your John Deere dealer. Dirty or faulty fuel injectors. See your John Deere dealer. Injection pump out of time. See your John Deere dealer. Implement improperly adjusted, causing drag on machine. See implement operator's manual. Rate-of-drop valve closed, causing hydraulic load on engine.
Low Oil Pressure	Engine oil level low. Plugged oil filter. Improper type of oil. Oil leaks.
Engine Uses Too Much Oil	Find and correct oil leaks. Incorrect engine oil. Plugged air intake filter.
Engine Emits White Smoke	Improper type of fuel. Low engine temperature. Defective thermostat. See your John Deere dealer. Engine out of time. See your John Deere dealer.

Continued on next page

If	Check
Engine Emits Black or Gray Exhaust Smoke	Improper type of fuel. Plugged air intake system. Operating at too fast ground speed for conditions. Dirty or faulty fuel injectors. See your John Deere Dealer. Engine out of time. See your John Deere Dealer.
High Fuel Consumption	Improper type of fuel. Plugged air intake system. Operating at too fast ground speed for conditions. Improper valve clearance. See your John Deere Dealer. Dirty or faulty fuel injectors. See your John Deere Dealer. Engine out of time. See your John Deere Dealer. Implement improperly adjusted, causing drag on machine. See implement operator's manual. Low engine temperature. Restricted air intake system. Plugged crankcase vent tube or baffle. Brakes dragging.

KN52281,1004841 -19-17OCT13-2/2

Electrical System

If	Check
Battery Will Not Charge	Check to ensure 2-pin connector on alternator is plugged in properly. Check for blown fuses. Loose or corroded connections. Loose or defective alternator belt. Dead cell in battery. Defective battery — check electrolyte level (if applicable). Defective alternator.
Battery Discharge Indicator Stays On with Engine Running	Low engine speed. Check to ensure 2-pin connector on alternator is plugged in properly. Check for blown fuses. Loose or defective alternator belt. Defective battery. Defective alternator.
Starter Will Not Work	PTO engaged. Range transmission lever not in neutral position. Check for active fault codes. Loose or corroded battery connections. Blown fuse. Low battery output — check electrolyte level (if applicable). Neutral start switch faulty or not adjusted properly - See your John Deere Dealer. Key switch or starter faulty. See your John Deere dealer.
Starter Turns Slowly	Low battery output — check electrolyte level (if applicable). Low battery power — charge battery. Engine oil viscosity too heavy. Loose or corroded battery connections.
Light Circuit Not Working	Fuse blown.
Cab Window wiper(s) and washer will not run	Blown fuse. Faulty wiring or loose connections. Defective switch(es). See your John Deere dealer. Defective motor(s). See your John Deere dealer.
Cab Work lights do not work	Blown fuse. Faulty wiring or loose connections. Defective bulb or switch. Replace bulb or see your John Deere dealer.
Cab Dome light does not work	Blown fuse. Faulty wiring or loose connections. Defective bulb or switch. Replace bulb or see your John Deere dealer.
Cab Radio does not work	Blown fuse.

KN52281,1004842 -19-29AUG13-1/1

Heater and Air Conditioning System

If	Check
All cab electrical switches do not work	Loose, defective or blown fusible link. See your John Deere dealer.
Blower malfunctioning	Blown fuses. Blower does not work. See your John Deere dealer.
Blower operates only in high position	One of two fuses blown. Blown blower resistance assembly. See your John Deere dealer.
Heater does not work	Low coolant level. Check coolant level; add if necessary. Faulty thermostat. See your John Deere dealer. Heater control valve not functioning properly. See your John Deere dealer. Heater core or hoses clogged or damaged. Flush cooling system. See your John Deere dealer. Replace heater core or hoses. See your John Deere dealer.
Air conditioning does not work	Blown fuse. Faulty wiring or loose connections. Fan belt loose or slipping. Defective switch. See your John Deere dealer. Defective compressor clutch. See your John Deere dealer.
Drafts	Poor air distribution. Adjust directional air louvers. Set blower switch to medium or low positions.
Inadequate air flow	Clogged air filters. Evaporator core air flow restricted. Faulty blower fan motors. See your John Deere dealer. Defective blower switch. See your John Deere dealer. Faulty wiring or loose connections.
Water leaking or dripping from evaporator core compartment	Loose hose clamp. Evaporator condenser pan dirty. A/C drain tubes plugged.
Strange odors inside operator’s cab	Dirty air filters. Evaporator condenser pan dirty. A/C drain tubes plugged. Tobacco smoke and tar on evaporator exterior.
Partial frosting and sweating of lines combined with poor cooling	Fan belt slipping. Loss of refrigerant. See your John Deere dealer. Restricted or clogged liquid line. See your John Deere dealer Expansion valve malfunctioning. See your John Deere dealer.
Ice flecks blowing from evaporator	Control dial set too low. Adjust temperature control to a warmer position.
Failure to cool	Insufficient blower speed. Dirty air filters. Debris on front grille. Lint or dirt on condenser fins. Refrigerant is lost or extremely low. See your John Deere dealer. Loose fan belt. Compressor clutch not engaging. See your John Deere dealer. Expansion valve not functioning. See your John Deere dealer. Restriction in refrigerant system. See your John Deere dealer. Faulty wiring or loose connections. Defective temperature control switch. See your John Deere dealer. Outside temperature too low, below 21? C (70? F). Wait until day gets warmer. If there is a malfunction in system, see your John Deere dealer. Condenser is overheating. Clean condenser screens, cores and fins of condenser and radiator. Severe restriction in high side. See your John Deere dealer. Burned out clutch field or faulty field. See your John Deere dealer. Short circuit in control circuit or failure of a switch in circuit. See your John Deere dealer.
Hissing noise at expansion valve	Loss of refrigerant. See your John Deere dealer. Restriction in refrigerant system. Check receiver-dryer for uniformity of temperature. See your John Deere dealer.

KN52281,1004900 -19-18JUL13-1/1

Machine

If	Check
Operation Sluggish, Slow	Suction side filter may need replacement.
Poor Hydraulic Performance	Suction side filter may need replacement. Water in oil.
Excessive Machine Vibration	Engine speed too slow.
Machine Will Not Move with Engine Running	Electrical problems. Park brake locked. Transmission oil level low. Transmission oil cold. Allow engine to warm. Transmission range shift lever in neutral position. Suction side filter may need replacement. Operator not in seat.
3-Point Hitch Fails To Lift	Low oil level. Worn hydraulic pump. Rate of drop valve closed. Excessive load on hitch. Hydraulic oil too cold. Hydraulic oil suction filter plugged.
3-Point Hitch Lifts Slowly	Suction side filter may need replacement. Worn hydraulic pump.
3-Point Hitch Drops Slowly or Does Not Drop	Rate-of-drop valve closed. Rate-of-drop valve set too slowly.
3-point Hitch Drops Too Fast	Rate-of-drop valve set too fast. Load too heavy.
Noise Is Coming from PTO During Operation	Noise may occur at low engine speeds, increase to rated engine speed.

KN52281,1004843 -19-21MAY13-1/1

Brakes

If	Check
Rear Wheel Brakes Not Working	Brakes out of adjustment. Worn or damaged brake linkage. See your John Deere dealer.

KN52281,1004844 -19-21MAY13-1/1

Steering

If	Check
Steering Not Working	Suction side filter may need replacement. Improper tire inflation. Low oil level. Excessive play in steering. See your John Deere dealer. Worn hydraulic pump.

KN52281,1004845 -19-21MAY13-1/1

Storage

Storing Safety

CAUTION: Avoid injury! Fuel vapors are explosive and flammable. Engine exhaust fumes contain carbon monoxide and can cause serious illness or death:

•Run the engine only long enough to move the machine to or from storage.

•Do not store vehicle with fuel in the tank inside a building where fumes may reach an open flame or spark.

•Allow the engine to cool before storing the machine in any enclosure.

KN52281,1003F62 -19-22AUG12-1/1

Preparing Machine for Storage

1. Repair any worn or damaged parts. Replace parts if necessary. Tighten loose hardware.
2. Repair scratched or chipped metal surfaces to prevent rust.
3. Wash the machine and apply wax to metal and plastic surfaces.
4. Run machine for five minutes to dry belts and pulleys.
5. Apply light coat of engine oil to pivot and wear points to prevent rust.
6. Lubricate grease points.
7. Check tire pressure.

KN52281,1003F63 -19-22AUG12-1/1

Preparing Fuel and Engine For Storage

Fuel:

If you have been using Stabilized Fuel, add stabilized fuel to tank until the tank is full.

NOTE: Filling the fuel tank reduces the amount of air in the fuel tank and helps reduce deterioration of fuel.

If you are not using Stabilized Fuel:

1. Park machine safely in a well-ventilated area.

NOTE: Try to anticipate the last time the machine will be used for the season so very little fuel is left in the fuel tank.

2. Turn on engine and allow to run until it runs out of fuel.
3. Turn key to OFF position.

IMPORTANT: Avoid damage! Stale fuel can produce varnish and plug carburetor or injector components and affect engine performance.

- **Add fuel conditioner or stabilizer to fresh fuel before filling tank.**

4. Mix fresh fuel and fuel stabilizer in separate container. Follow stabilizer instructions for mixing.
5. Fill fuel tank with stabilized fuel.
6. Run engine for a few minutes to allow fuel mixture to circulate through fuel system.
7. Turn key to OFF position

Engine:

Engine storage procedure should be used when vehicle is not to be used for longer than 60 days.

1. Change engine oil and filter while engine is warm.
2. Service air filter if necessary.
3. Clean debris from engine air intake screen.
4. Clean the engine and engine compartment.
5. Remove battery.
6. Clean the battery and battery posts. Check the electrolyte level on batteries requiring maintenance.
7. Close fuel shut-off valve, if your machine is equipped.
8. Store the battery in a cool, dry place where it will not freeze.

NOTE: The stored battery should be recharged every 90 days.

9. Charge the battery.
10. Store the vehicle in a dry, protected place. If vehicle is stored outside, put a waterproof cover over it.

KN52281,1003F64 -19-23AUG12-1/1

Removing Machine From Storage

1. Check tire pressure.
2. Check engine oil level.
3. Charge battery if necessary.
4. Install battery.
5. Lubricate all grease points.
6. Open fuel shut-off valve, if your machine is equipped.
7. Run the engine 5 minutes without any attachments running to allow oil to be distributed throughout engine.
8. Be sure all shields and guards or deflectors are in place.

KN52281,1003F65 -19-16AUG16-1/1

Specifications

Engine

Model 3033R

Item	Measurement	Specification
Engine	Manufacturer	Yanmar
	Model Number	3TNV88C-MJT
	Type	Diesel
	Gross Horsepower	23.7kW (31.8 hp)
	Manufacturer's estimated PTO Horsepower	18.1 kW (24.3 hp)
	Low Idle Speed	950 rpm
	Rated Engine Speed	2600 rpm
	High Idle	2750 rpm
	Operating Range	950 — 2750 rpm
	Engine Torque @ Rated Speed	87.09 N•m (64.24 lb.-ft.)
	Maximum Torque @ 1690 rpm	105 N•m (77.4 lb.-ft.)
	Displacement	1.6 L (97.6 cu in.)
	Cylinders	Three
	Bore and Stroke	88 x 90mm (3.5 x 3.54 in.)
	Compression Ratio	19:1
	Cooling System	Water Pump
	Oil Filter	Single Element
	Air Cleaner	Dry Type with Safety Element

Model 3039R

Item	Measurement	Specification
Engine	Manufacturer	Yanmar
	Model Number	3TNV86CT-MJT
	Gross Horsepower	28.5 kW (38.2 hp)
	Manufacturer's estimated PTO Horsepower	23.2 kW (31.1 hp)
	Low Idle Speed	950 rpm
	Rated Engine Speed	2600 rpm
	High Idle	2750 rpm
	Operating Range	950 — 2750 rpm
	Engine Torque @ Rated Speed	105 N•m (77.4 lb.-ft.)
	Maximum Torque @ 1690 rpm	127 N•m (93.7 lb.-ft.)
	Displacement	1.6 L (97.6 cu. in.)
	Cylinders	Three
	Bore and Stroke	86 x 90mm (3.4 x 3.54 in.)
	Compression Ratio	19:1
	Cooling System	Water Pump
	Oil Filter	Single Element
	Air Cleaner	Dry Type with Safety Element

Model 3046R

Item	Measurement	Specification

Continued on next page

Item	Measurement	Specification
Engine	Manufacturer	Yanmar
	Model Number	3TNV86CHT-MJT
	Gross Horsepower	33.3 kW (44.7 hp)
	Manufacturer's estimated PTO Horsepower	27.3 kW (36.6 hp)
	Low Idle Speed	950 rpm
	Rated Engine Speed	2600 rpm
	High Idle	2750 rpm
	Operating Range	950 — 2750 rpm
	Engine Torque @ Rated Speed	122 N•m (90 lb.-ft.)
	Maximum Torque @ 1690 rpm	142 N•m (104.7 lb.-ft.)
	Displacement	1.6 L (97.6 cu in.)
	Cylinders	Three
	Bore and Stroke	86 x 90mm (3.4 x 3.54 in.)
	Compression Ratio	19:1
	Cooling System	Water Pump
	Oil Filter	Single Element
	Air Cleaner	Dry Type with Safety Element

KN52281,100481D -19-17OCT13-2/2

Drivetrain

Item	Measurement	Specification
Transmission	Type	3 Range Hydrostatic
	Number of Speeds	Infinite/ 3 Range
Mechanical Front Wheel Drive		Standard
MFWD	Capability	All Ranges
MFWD	Engagement	On -the -Go
Final Drive	Type	Spur Gear
Rear Axle	Capacity	(Continuous) 2000 kg (4410 lb.)
Front Axle	Capacity	(Continuous) 1450 kg (3196 lb.)

KN52281,100481E -19-16SEP13-1/1

Hydraulic System

Item	Measurement	Specification
Pump	Type	Open Center
Hydrostatic Pump	Type	PV Axial Piston
Implement and Steering Pump	Type	Dual Gear
Working Pressure		17238 kPa (2500 psi)
Charge Pressure		1800 kPa (261 psi)
Loop Pressure		38.5 MPa (5580 psi)
Implement Pump Flow @ rated Speed	Capacity	32.5 L/min (8.6 gpm)
Power Steering Pump Flow @ rated Speed	Capacity	22.23 L/min (5.9 gpm)
Total Pump Flow @ rated Speed	Capacity	54.7 L/min (14.4 gpm)

KN52281,1004DF1 -19-12SEP14-1/1

Electrical System

Item	Measurement	Specification
Electrical System	Type	12 Volt
	Battery Size	500 Cold Cranking Amps @ -18°C (0°F)
	Alternator	75 amp

KN52281,100481F -19-07MAY13-1/1

Fluid Capacities

Item	Measurement	Specification
Fuel Tank OOS	Capacity	51.1 L (13.5 gal.)
Fuel Tank Cab	Capacity	44.5 L (11.8 gal.)
Cooling System OOS	Capacity	5.3 L (1.4 gal.)
Cooling System Cab	Capacity	7.0 L (1.9 gal.)
Crankcase with Filter (3033R, 3039R)	Capacity	4.3 L (1.1 gal.)
Crankcase with Filter (3046R)	Capacity	5.7 L (1.5 gal.)
Transmission and Hydraulic System	Capacity	25.7 L (6.8 gal.)
Front Axle	Capacity	4.8 L (1.3 gal.)

KN52281,1004824 -19-08OCT13-1/1

Ground Speeds

NOTE: All ground speed calculations shown are with machine equipped with standard 11.2-24R1 T1 rear tires and operated at 2600 engine rpm.

Item	Measurement	Specification
Forward and Reverse	Range Low	Low 0—6.60 km/h (0—4.10 mph)
Forward and Reverse	Range Medium	Medium 0—13.02 km/h (0—8.09 mph)
Forward and Reverse	Range High	High 0—29.76 km/h (0—18.50 mph)

KN52281,1004825 -19-21MAY13-1/1

Dimensions

NOTE: Machine equipped with standard 11.2-24 4PR R1 rear tires and 7.00-14 6PR R1 front tires.

Item	Measurement	Specification
Machine Dimensions	Wheelbase	1727 mm (68.0 in.)
	Overall Length with 3-Point Hitch	3053 mm (120.2 in.)
	Overall Width	1756 mm (69.1 in.)

KN52281,1004826 -19-21MAY13-1/1

Front Wheels and Tires

Item	Measurement	Specification
Front Wheels and Tires	Standard	7.00-14 6PR R1
	Optional	25x8.50-14 6PR R4
		27x8.50-15 6PR R3
		27x8.50-15 6PR R4
		25x10.5LL-15 6PR GOLF

UP00731,0000209 -19-28JUL14-1/1

Rear Wheels and Tires

Item	Measurement	Specification
Rear Wheels and Tires	Standard	11.2 - 24 6PR R1
	Optional	15.00-19.5 6PR R4
		41x14.00-20 4PR R3
		43x16.00-20 4PR R4
		41x18LL-16.1 6PR GOLF

UP00731,000020A -19-28JUL14-1/1

Front Tire Inflation Pressures (Maximum)

Item	Measurement	Specification
Front Tire Inflation Pressures (Maximum)	7.00-14 6PR R1	248 kPa (36 psi)
	25x8.50-14 6PR R4	345 kPa (50 psi)
	27x8.50-15 6PR R3	310 kPa (45 psi)
	27x8.50-15 6PR R4	310 kPa (45 psi)
	25x10.5LL-15 6PR GOLF	69 kPa (10 psi)

UP00731,000020B -19-28JUL14-1/1

Rear Tire Inflation Pressures (Maximum)

Item	Measurement	Specification
Rear Tire Inflation Pressures (Maximum)	11.2-24 6PR R1	179 kPa (26 psi)
	15.00-19.5 6PR R4	210 kPa (30 psi)
	41x14.00-20 4PR R3	172 kPa (25 psi)
	43x16.00-20 4PR R4	138 kPa (20 psi)
	41x18LL-16.1 6PR GOLF	41 kPa (6 psi)

UP00731,000020C -19-28JUL14-1/1

Tread Width

Item	Measurement	Specification
Front	Width	1146 mm (44.9 in.)
Rear	Width	1032 mm (40.6 in.)

KN52281,1004827 -19-07MAY13-1/1

Height From Ground

NOTE: Machine equipped with standard 11.2-24 4PR R4 rear tires and 7.00-14 6PR R1 front tires.

Item	Measurement	Specification
To Top of Hood	Height	1448 mm (57.0 in.)
To Top of ROPS Extended	Height	2370 mm (93.3 in.)
To Top of ROPS Folded	Height	1828 mm (72.0 in.)
To Top of Cab	Height	2159 mm (85.0 in.)

KN52281,1004828 -19-21MAY13-1/1

Ground Clearance

Item	Measurement	Specification
Front Axle	Clearance	309 mm (12.2 in.)

KN52281,1004829 -19-07MAY13-1/1

Turning Radius

Item	Measurement	Specification
MFWD Off	Radius	2.68 m (8.8 ft.)

KN52281,100482A -19-21MAY13-1/1

Weight

NOTE: Machine equipped with a ROPS, 3-point hitch, standard tires and all fluids

Item	Measurement	Specification
Tractor	Weight	1316 kg (2900 lb.)
Tractor w/Cab	Weight	1620 kg (3570 lb.)

KN52281,100482B -19-21MAY13-1/1

3-Point Hitch

Item	Measurement	Specification
3-Point Hitch	Type	Limited Category 1
Lift	Lift Capacity at Hitch Ball	1149 kg (2530 lb.)

Item	Measurement	Specification
Front 3-Point Hitch	Type	Category 0
Lift Capacity	Measured at Hitch Ball	600 kg (1300 lb.)
Lift Capacity	Measured at 61mm (24 in.) in Front of Hitch Ball	370 kg (815 lb.)

KN52281,100482C -19-22OCT13-1/1

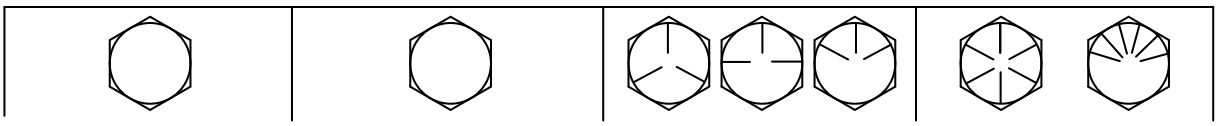
Coupling Devices

Coupling devices		Wagon hitch	Drawbar	Coupling ball
Maximum vertical load (daN)		500	400	150
Towable Mass (kg)	Unbraked	1400	1400	1400
	Independently braked	1800	1800	1800
	Inertia braked	4000	2500	2500
	Assisted braked	---	---	---

UP00731,0000189 -19-01APR14-1/1

Unified Inch Bolt and Screw Torque Values

TS1671 —UN—01MAY03



Bolt or Screw Size	SAE Grade 1				SAE Grade 2[a]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]	
	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N·m	lb.-ft.	N·m	lb.-ft.
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N·m	lb.-ft.	N·m	lb.-ft.				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N·m	lb.-ft.														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] Grade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

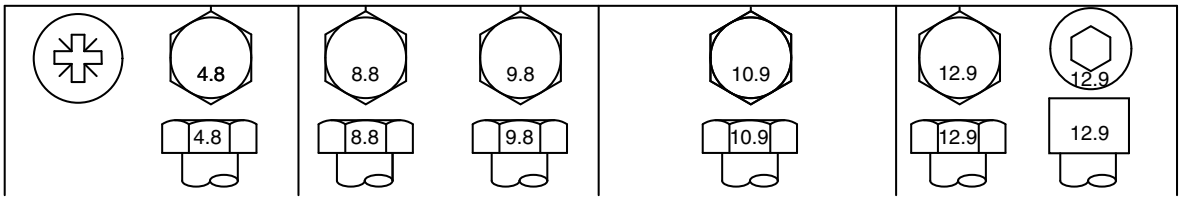
[b] "Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

[c] "Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ1 -19-12JAN11-1/1

Metric Bolt and Screw Torque Values

TS1670 —UN—01MAY03



Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]	
	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N·m	lb.-ft.														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] "Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

[b] "Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ2 -19-12JAN11-1/1

Warranty

Product Warranty

Product warranty is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual.

Engine related warranties stated in this manual refer only to emissions-related parts and components of your engine.

The complete engine warranty, less emission-related parts and components, is provided separately as the "Limited Warranty for New John Deere Equipment".

KN52281,1004A51 -19-16OCT13-1/1

John Deere, California and U.S. EPA Emission Control System Warranty (Non-Road Diesel)

Your Warranty Rights and Obligations:

The California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and John Deere are pleased to explain the **emission control system warranty** on your 2015, 2016, or 2017 model year industrial compression-ignition engine. California-certified, new off-road compression-ignition engines must be designed, built and equipped to meet the State's stringent anti-smog standards. In the remaining forty nine (49) states, new non-road compression-ignition engines must be designed, built and equipped to meet the United States EPA emissions standards. John Deere must warrant the emission control system on your engine for the 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, the air induction system, the electronic control system, EGR (exhaust gas recirculation) system and the diesel particulate filter system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, John Deere will repair your off-road compression-ignition engine at no charge to you including diagnosis, parts and labor.

Manufacturer's Warranty Period:

2015, 2016, or 2017 model year off-road compression-ignition engines are warranted for the periods listed below. If any emission-related part on your engine is found to be defective during the applicable warranty period, the part will be repaired or replaced by John Deere.

If your engine is certified as	And its maximum power is	And its rated speed is	Then its warranty period is
Variable speed or constant speed	kW <19	Any speed	1,500 hours or two (2) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of two (2) years.
Constant speed	19 ≤ kW <37	3000 rpm or higher	1,500 hours or two (2) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of two (2) years.
Constant speed	19 ≤ kW <37	Less than 3,000 rpm	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.
Variable speed	19 ≤ kW <37	Any speed	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.
Variable speed or constant speed	kW ≥ 37	Any speed	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.

Warranty Coverage:

This warranty is transferable to each subsequent purchaser for the duration of the warranty period. Repair or replacement of any warranted part will be performed at an authorized John Deere service provider.

Warranted parts not scheduled for replacement as required maintenance in the owner's manual shall be warranted for the warranty period. Warranted parts scheduled for replacement as required maintenance in the owner's manual are warranted for the period of time prior to the first scheduled replacement. Any warranted parts scheduled for replacement as required maintenance that are repaired or replaced under warranty shall be warranted for the remaining period of time prior to the first scheduled replacement. Any part not scheduled for replacement that is repaired or replaced under warranty shall be warranted for the remaining warranty period.

During the warranty period, John Deere is liable for damages to other engine components caused by the failure of any warranted part during the warranty period.

Any replacement part which is functionally identical to the original equipment part in all respects may be used in the maintenance or repair of your engine, and shall not reduce John Deere's warranty obligations. Add-on or modified parts that are not exempted may not be used. The use of any non-exempted add-on or modified parts shall be grounds for disallowing a warranty.

Warranted Parts:

This warranty covers engine components that are a part of the emission control system of the engine as delivered by John Deere to the original retail purchaser. Such components may include the following:

(A) Fuel injection system (including Altitude compensation system)

(B) Cold start enrichment system

(C) Intake manifold and Air intake throttle valve

(D) Turbocharger systems

(E) Exhaust manifold

Continued on next page

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(F) Positive crankcase ventilation system

(G) Charge Air Cooling systems

(H) Exhaust Gas Recirculation (EGR) systems

(I) Exhaust gas after treatment (diesel particulate filter system)

(J) Electronic Control units, sensors, solenoids and wiring harnesses used in above systems

(K) Hoses, belts, connectors and assemblies used in above systems

(L) Emission Control Information Labels

Since emissions related parts may vary slightly between models, certain models may not contain all of these parts and other models may contain the functional equivalents.

Exclusions:

Failures other than those arising from defects in material or workmanship are not covered by this warranty. The warranty does not extend to the following: malfunctions caused by abuse, misuse, improper adjustment, modification, alteration, tampering, disconnection, improper or inadequate maintenance, or use of fuels and lubricating oils not meeting specified standards, accident-caused damage and replacement of expendable items made in connection with scheduled maintenance. John Deere disclaims any responsibility for incidental or consequential such as loss of time, inconvenience, loss of use of equipment/engine or commercial loss.

Owner's Warranty Responsibilities:

As the off-road compression-ignition engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. John Deere recommends that you retain all documentation, including receipts, covering maintenance on your off-road compression-ignition engine, but John Deere cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

John Deere may deny your warranty coverage if your off-road compression-ignition engine or a 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 fuel may result in your engine no longer operating in compliance with CARB and EPA emissions requirements.

You are responsible for initiating the warranty process. You must present your engine to a John Deere service provider as soon as a problem exists. The warranty repairs should be completed by the dealer as expeditiously as possible.

If you have a question about your emissions warranty coverage, how to make an emissions warranty claim or how to make arrangements for emissions-related authorized repairs, you should contact your John Deere Turf and Utility retailer, or the John Deere Customer Contact Center at 1-800-537-8233, or e-mail John Deere from https://groundscare.custhelp.com/app/utils/login_form/redirect/ask.

TC00531,00000EA -19-22MAY15-2/2

Tire Warranty

John Deere warranty applies for tires available through the John Deere parts system. For tires not available through the John Deere parts system, the tire manufacturer's warranty applicable to your machine may not apply outside the U.S. (See your John Deere dealer for specific information.)

KN52281,1003F90 -19-22AUG12-1/1

Limited Battery Warranty

NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.

To Secure Warranty Service

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

Free Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within 90 days of purchase will be replaced free of charge. Installation costs will be covered by warranty if (1) the unserviceable battery was installed by a John Deere factory or dealer, (2) failure occurs within 90 days of purchase, and (3) the replacement battery is installed by a John Deere dealer.

Pro Rata Adjustment

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship more than 90 days after purchase, but before the expiration of the applicable adjustment period, will be replaced upon payment of the battery's current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and chart below. Installation costs are not covered by warranty after 90 days from the date of purchase.

This Warranty Does Not Cover

Breakage of the container, cover, or terminals.

Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

Transportation, mailing, or service call charges for warranty service.

Limitation of Implied Warranties and Purchaser's Remedies

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

No Dealer Warranty

The selling dealer makes no warranty of it's own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

Pro Rata Months of Adjustment

Warranty Code	Warranty Period
A	40 Months
B	36 Months
C	24 Months

NOTE: If your battery is not labeled with a warranty code, it is a warranty code "B".

DX,BATWAR,NA -19-16APR92-1/1

John Deere Quality Statement

John Deere Quality

John Deere equipment is more than just a purchase, it's an investment in quality. That quality goes beyond our equipment to your John Deere dealer's parts and service support. This support is needed to keep you a satisfied customer.

That's why John Deere has initiated a process to handle your questions or problems, should they arise. The following three steps will help guide you through the process.

LVAL38364 —UN—21AUG12

Step 1

Refer to your operator's manual

A. It has many illustrations and detailed information on the safe and proper operation of your equipment.

B. It gives troubleshooting procedures, and specification information.

C. It gives ordering information for parts catalogs, service and technical manuals.

D. If your questions are not answered in the operator's manual, then go to Step 2.

Step 2

Contact your dealer

A. Your John Deere dealer has the responsibility, authority, and ability to answer questions, resolve problems, and fulfill your parts and service needs.

B. First, discuss your questions or problems with your dealer's trained parts and service staff.

C. If the parts and service people are unable to resolve your problem, see the dealership manager or owner.

D. If your questions or problems are not resolved by the dealer, then go to Step 3.

Step 3

Contact John Deere

A. Your John Deere dealer is the most efficient source in addressing any concern, but if you are not able to resolve your problem after checking your operator's manual and contacting your dealer, contact John Deere for assistance.

B. For prompt, effective service, please have the following ready before you call:

- The name of the dealer with whom you've been working.
- Your serial number which you recorded on the inside front cover of this manual.
- Your equipment model number.
- Number of hours on machine (if applicable).
- If the problem is with an attachment, your attachment identification number.

C. Then call 1-800-537-8233 (United States and Canada) and our advisor will work with your dealer to investigate your concern. If you are outside the United States and Canada, contact us at the following website: www.deere.com/wps/dcom/ en_US/regional_home.page.

KN52281,1003F93 -19-22AUG12-1/1

Service Record

Every 10 Hour Service

SERVICE PROCEDURE	
□ Check safety interlock system.	□ Radiator coolant level.
□ Check engine oil level.	□ Lubricate grease points (Wet Conditions).
□ Check transmission oil level.	
□ Clean air filter rubber dust valve.	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

UP00731,0000003 -19-11OCT16-1/1

Every 50 Hour Service

SERVICE PROCEDURE	
□ Check front axle oil level.	□ Clean or replace cab air filter.
□ Lubricate machine.	□ Check hardware torque on front hitch (If equipped).
□ Check cab rollover protection system mounting hardware torque.	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

UP00731,0000004 -19-11OCT16-1/1

Every 100 Hour Service

SERVICE PROCEDURE	
□ Check front hitch hydraulic connections for leaks.	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

UP00731,000000F -19-11OCT16-1/1

Every 200 Hour Service or Annually

SERVICE PROCEDURE	
□ Change engine oil and filter.	Check and adjust air conditioner compressor belt (If equipped).
□ Check and adjust alternator/fan belt.	Check air restriction indicator light.
□ Check wheel bolt torque.	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

UP00731,0000005 -19-11OCT16-1/1

Every 400 Hour Service

SERVICE PROCEDURE		
□ Change Transmission Oil and Filter[a] .	□ Replace front PTO gearbox oil filter, if equipped.	
□ Replace front PTO gearbox oil (JD20D), if equipped.		
Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

[a] *Transmission oil can be changed every 1200 hours or 3 years if specific requirements are met., see transmission maintenance for additional information.*

UP00731,0000006 -19-11OCT16-1/1

Every 400 Hour Service or Annually

SERVICE PROCEDURE		
□ Replace primary fuel filter / water separator.	□ Replace final fuel filter.	
Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

UP00731,0000010 -19-11OCT16-1/1

Every 600 Hour Service

SERVICE PROCEDURE		
□ Service air filter element , intake, and hoses, and clamps. Replace as required.	□ Check axle thrust bolt torque	
□ Check front axle oil.	□ Check brake adjustment.	
Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

UP00731,0000007 -19-11OCT16-1/1

Yearly

SERVICE PROCEDURE		
□ Change engine oil and filter if less than 200 hours of operation.	□ Check all hoses and clamps	
□ Drain water from fuel tank and replace fuel filters.	□ Inspect air intake system hoses and connections each time the air filter is clogged.	
Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

UP00731,0000011 -19-11OCT16-1/1

Every 1000 Hour Service

SERVICE PROCEDURE	
□ Check Engine Valve Clearance. See your John Deere Dealer	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

UP00731,00002E4 -19-18AUG16-1/1

Every 2000 Hour Service or Every Two Years

SERVICE PROCEDURE	
□ Drain, Flush and Refill Engine Cooling System [a]	□ Service fuel injection nozzles.

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

[a] *When coolant is NOT checked annually or NOT serviced with the pre-diluted John Deere COOL-GARD II*

UP00731,0000012 -19-11OCT16-1/1

Every 6000 Hour Service or Every Six Years

SERVICE PROCEDURE	
□ Drain, Flush and Refill Engine Cooling System[a]	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

[a] *When coolant is checked annually and serviced with the pre-diluted John Deere COOL-GARD II*

UP00731,00002AE -19-18AUG16-1/1

Change of Ownership

Serial Number	
Engine Number	
Previous Owner:	
Address:	
Purchase Date:	
Hours at Purchase:	

Machine Model:
Registration No.:
New Owner:
Address:
Dealer's Stamp (only if sold through dealer)

UP00731,0000233 -19-27JUN16-1/1

Change of Ownership

Serial Number	
Engine Number	
Previous Owner:	
Address:	
Purchase Date:	
Hours at Purchase:	

Machine Model:
Registration No.:
New Owner:
Address:
Dealer's Stamp (only if sold through dealer)

UP00731,0000234 -19-27JUN16-1/1

Change of Ownership

Serial Number	
Engine Number	
Previous Owner:	
Address:	
Purchase Date:	
Hours at Purchase:	

Machine Model:
Registration No.:
New Owner:
Address:
Dealer's Stamp (only if sold through dealer)

UP00731,0000235 -19-27JUN16-1/1

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