5083E, 5093E and 5101E (Tier 3) Tractors Operator's Manual (North American, July 2012)

JOHN DEERE

OPERATOR'S MANUAL

5083E, 5093E and 5101E (Tier 3) Tractors (North American, July 2012)

OMSJ15763 ISSUE L3 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

John Deere 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

Required Emission-Related Information

Service Provider

A 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-19-08DEC23-1/1

Identification Views

5101E Cab Tractor

PULV007068—UN—08MAR10

LV15794—UN—22MAY12

5101E OOS Tractor

JZ81662,0000BDA-19-22MAY12-1/1

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.

Continued on next page

Continued on next page

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-19-03OCT22-1/1

Understand Signal Words

TS187—19—30SEP88

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

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

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

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards. DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

DX,SIGNAL-19-05OCT16-1/1

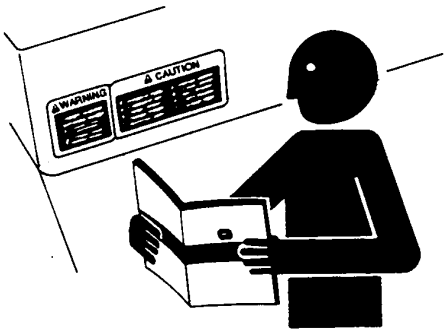
Follow Safety Instructions

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.

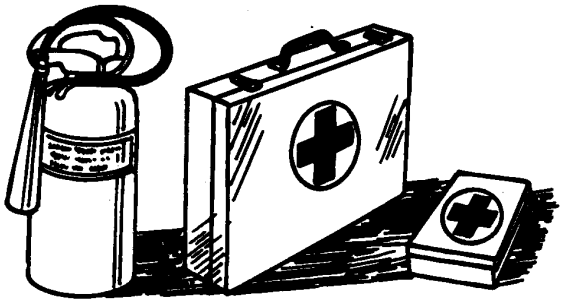
DX,READ-19-01AUG22-1/1

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.



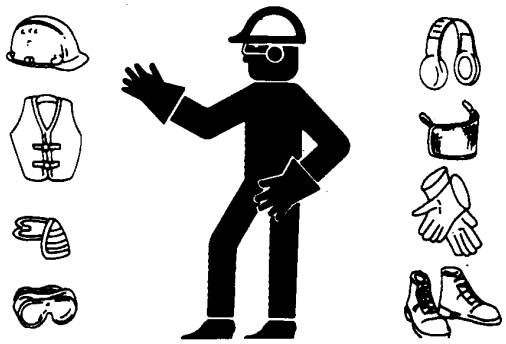
TS291—UN—15APR13

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

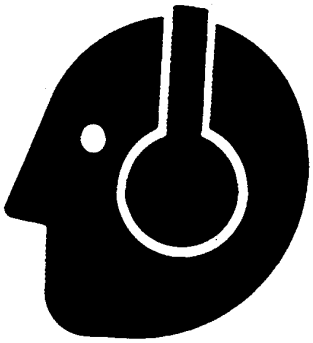
DX,WEAR2-19-03MAR93-1/1

Protect Against Noise

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

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

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



TS207—UN—23AUG88

DX,NOISE-19-03OCT17-1/1

Handle Fuel Safely—Avoid Fires

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

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

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

Use only an approved fuel container for transporting flammable liquids.

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

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

TS202—UN—23AUG88

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

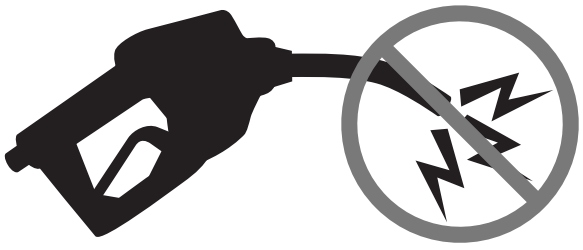
The removal of sulfur and other compounds in Ultra-Low Sulfur Diesel (ULSD) fuel decreases its conductivity and increases its ability to store a static charge.

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

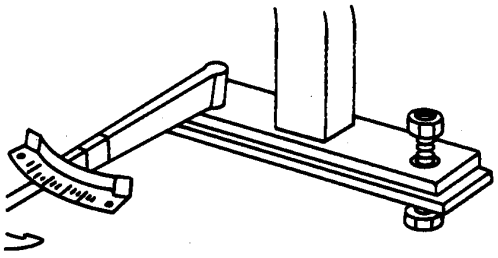
Keep ROPS Installed Properly

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.



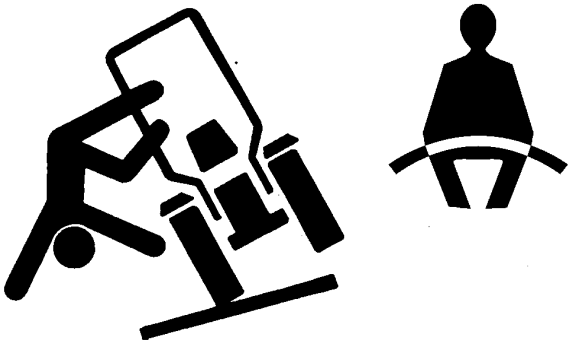
TS212—UN—23AUG88

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.

Only use power take-off driveshafts with adequate guards and shields.

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 driveshaft 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.

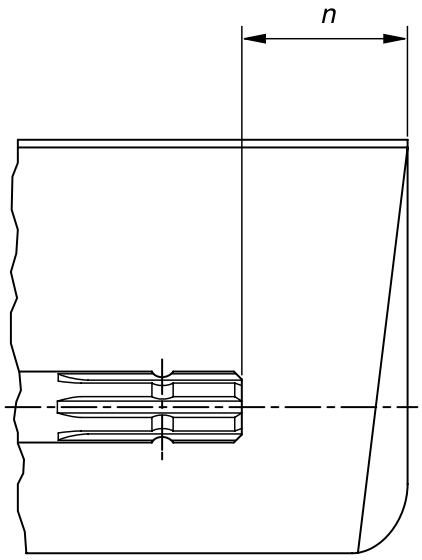
The angle at which the primary implement PTO driveshaft can be inclined may be reduced depending on the shape and size of the tractor master shield and the shape and size of the guard of the primary implement PTO driveshaft.

Do not raise implements high enough to damage the tractor master shield or guard of primary implement PTO driveshaft. Detach the PTO driveline shaft if it is necessary to increase implement height. (See Attching/Detaching PTO Driveline)

When using Type 3/4 PTO, inclination and turning angles may be reduced depending on type of PTO master shield and coupling rails.

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.)
4	57.5 mm (2.264 in.)	22	100 mm (4.00 in.)

TS1644—UN—22AUG95



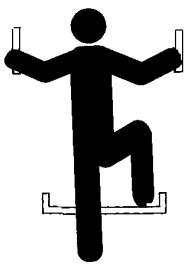
H96219—UN—29APR10

DX,PTO-19-28FEB17-1/1

Use Steps and Handholds Correctly

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

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



T133468—UN—15APR13

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

Read Operator's Manuals for ISOBUS Controllers

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

GreenStar is a trademark of Deere & Company

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

NOTE: ISOBUS refers to the ISO Standard 11783

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

Use Seat Belt Properly

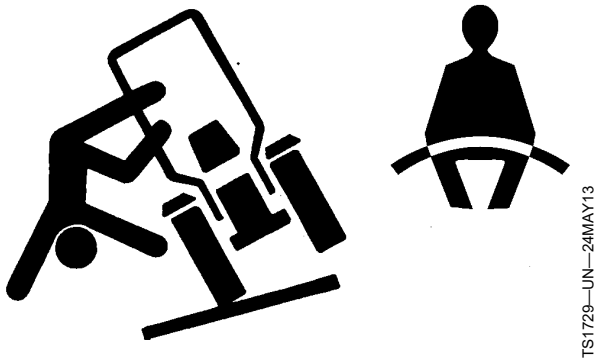
Avoid crushing injury or death during rollover.

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

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

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

Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear, 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.
- Operators must be mentally and physically capable of accessing the operator's station and/or controls, and operating the machine properly and safely.
- Never operate machine when distracted, fatigued, or impaired. Proper machine operation requires the operator's full attention and awareness.
- This tractor is not intended to be used as a recreational vehicle.
- Read this operator's manual before operating the tractor and follow operating and safety instructions in the manual and on the tractor.
- Follow operation and ballasting instructions found in the operator's manual for your implements/attachments, such as front loaders.
- Follow the instructions outlined in the operator's manual of any mounted or trailed machinery or trailer. Do not operate a combination of tractor-machine or tractor-trailer unless all instructions have been followed.
- Make sure that everyone is clear of machine, attached equipment, and work area before starting engine or operation.
- Stay clear of the three-point linkage and pickup hitch (if equipped) when controlling them.
- Keep hands, feet, and clothing away from power-driven parts.

Driving Concerns

- Never get on or off a moving tractor.
- Complete any required training prior to operating vehicle.
- Keep all children and nonessential personnel off tractors and all equipment.
- Never ride on a tractor unless seated on a John Deere approved seat with a seat belt.
- Keep all shields/guards in place.
- Use appropriate visual and audible signals when operating on public roads.
- Move to side of road before stopping.
- Reduce speed when turning, applying individual brakes, or operating around hazards on rough ground or steep slopes.
- Stability degrades when attached implements are at high position.
- Couple brake pedals together for road travel.
- Pump brakes when stopping on slippery surfaces.
- Regularly clean fenders and fender valances (mud flaps) if installed. Remove dirt before driving on public roadways.

Heated and Ventilated Operator's Seat

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

Towing Loads

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

Parking and Leaving the Tractor

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

Common Accidents

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

The most common accidents involving tractors are:

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

DX,WW,TRACTOR-19-08MAY19-1/1

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.

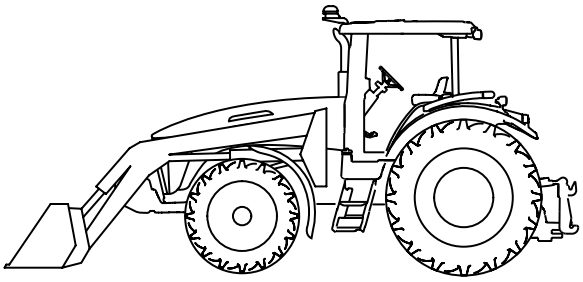
Never allow anyone to walk or work under a raised loader.

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

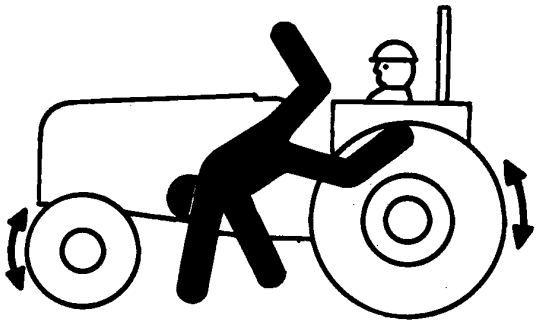
Ballast tractor in accordance to Ballast Recommendations in PREPARE TRACTOR section.

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.

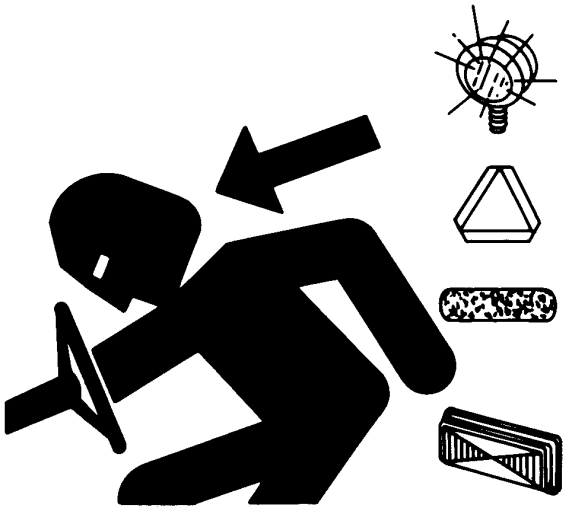
TS1730—UN—24MAY13

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

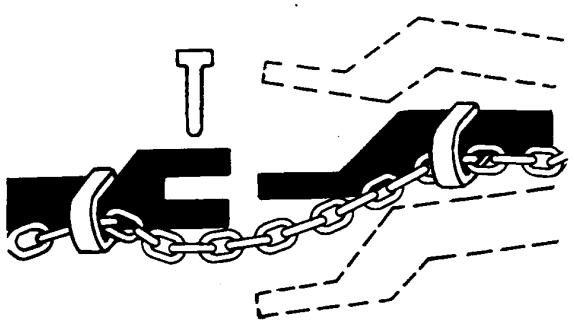
DX,FLASH-19-07JUL99-1/1

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

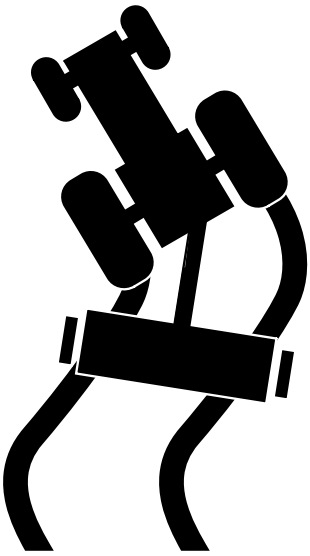
Implements shall be equipped with brakes if the maximum fully loaded weight is greater than 1500 kg (3307 lbs) and greater than 1.5 times the weight of the towing unit.

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.

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

DX,TOW1-19-28FEB17-1/1

Use Caution on Slopes, Uneven Terrain, and Rough Ground

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

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

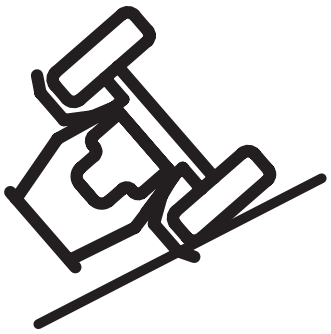
Danger of overturn increases greatly with narrow tread setting, at high speed.

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

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

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

Never drive near the edge of a gully, drop-off, ditch, steep embankment, or a body of water. The machine could



RXA0103437—UN—01JUL09

suddenly roll over if a wheel goes over the edge or the ground caves in

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

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

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

DX,WW,SLOPE-19-28FEB17-1/1

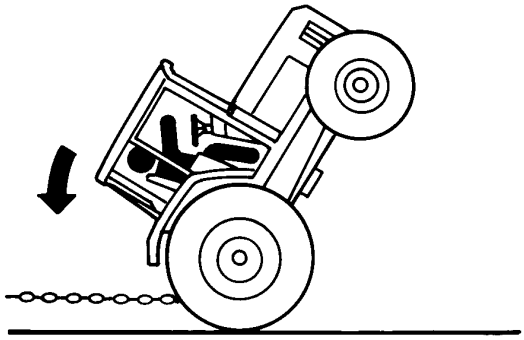
Freeing a Mired Machine

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

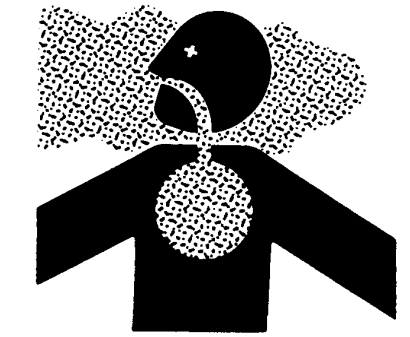
DX,MIRED-19-07JUL99-1/1

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

TS220—UN—15APR13

A34471

A34471—UN—11OCT88

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

Handling Batteries Safely

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

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

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

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

Avoid hazards by:

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

If acid is spilled on skin or in eyes:

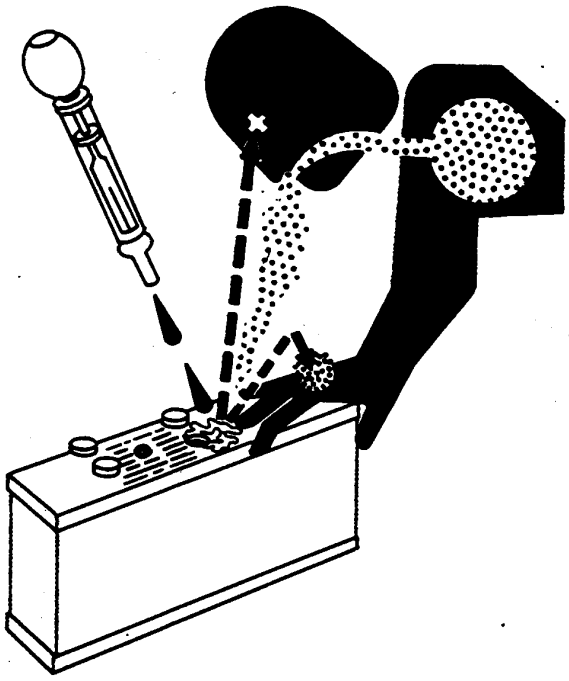
1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

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

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

TS204—UN—15APR13



TS203—UN—23AUG88

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

Avoid Heating Near Pressurized Fluid Lines

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

TS953—UN—15MAY90

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

Remove Paint Before Welding or Heating

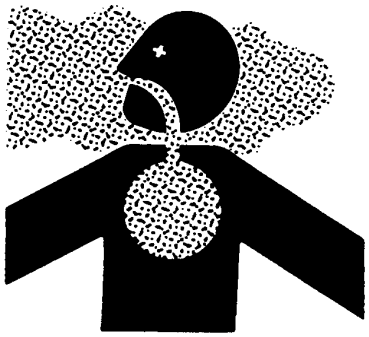
Avoid potentially toxic fumes and dust.

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 away from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

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

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

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

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

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

TS218—UN—23AUG88

DX,SERV-19-28FEB17-1/1

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:

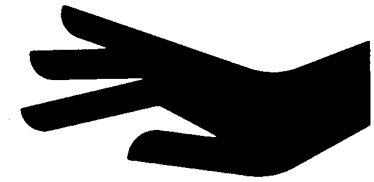
- Only engage power-driven parts required by service procedure
- Ensure that other people are clear of operator station and machine

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

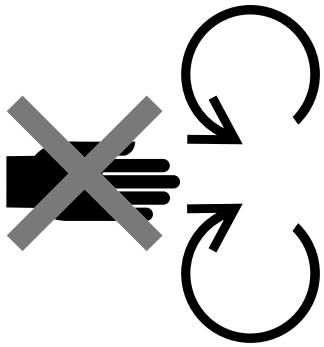
Always disable movement (neutral), set the parking brake or mechanism and disconnect power to attachments or tools before leaving the operator's station.

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

TS227—UN—15APR13



TS271—UN—23AUG88



TS1693—UN—09DEC09

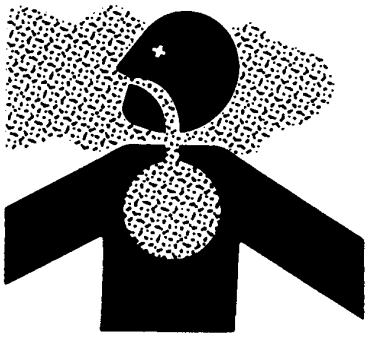
TS1695—UN—07DEC09

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

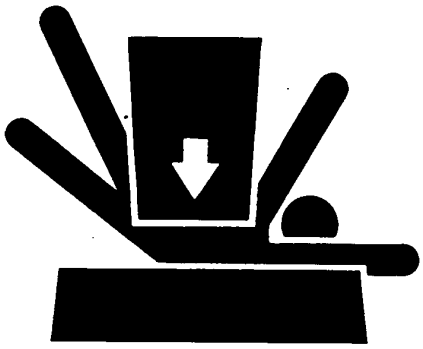
DX,AIR-19-17FEB99-1/1

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.

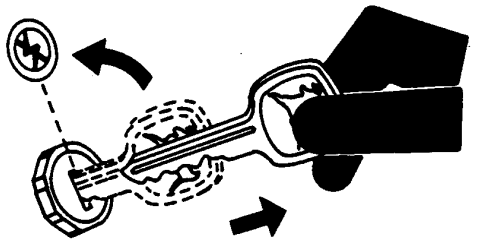
TS177—UN—11JAN89

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

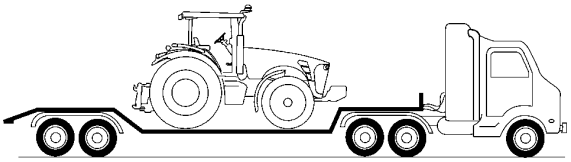
DX,PARK-19-04JUN90-1/1

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.

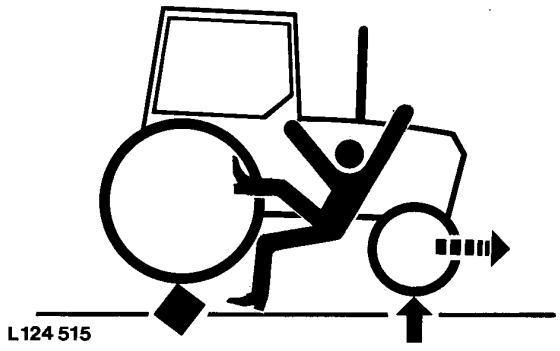
RXA0103438—UN—11JUN09

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

DX,WW,RIMS-19-28FEB17-1/1

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.

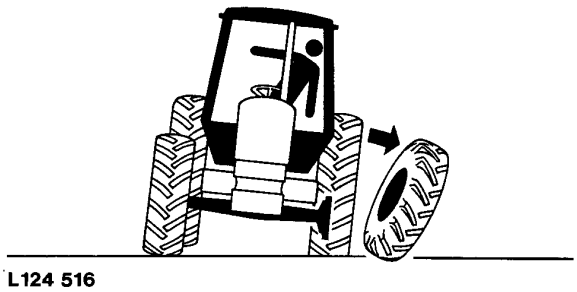


L124515—UN—06AUG94

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.



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.

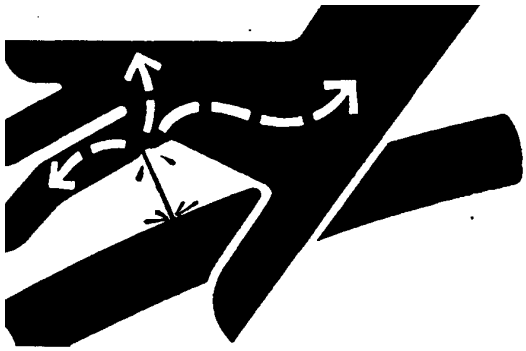
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

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.)

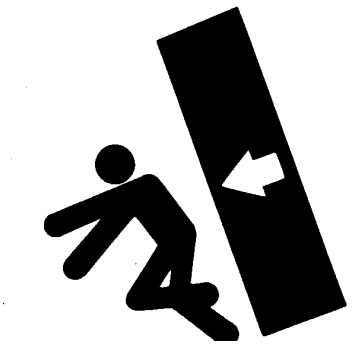
TS1343—UN—18MAR92

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.



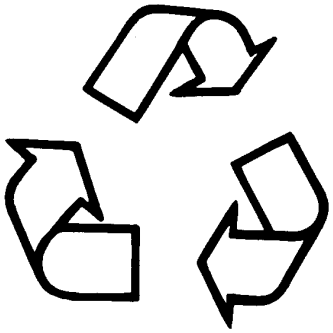
TS219—UN—23AUG88

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.



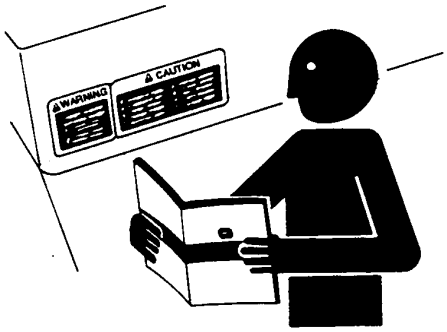
TS1133—UN—15APR13

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

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

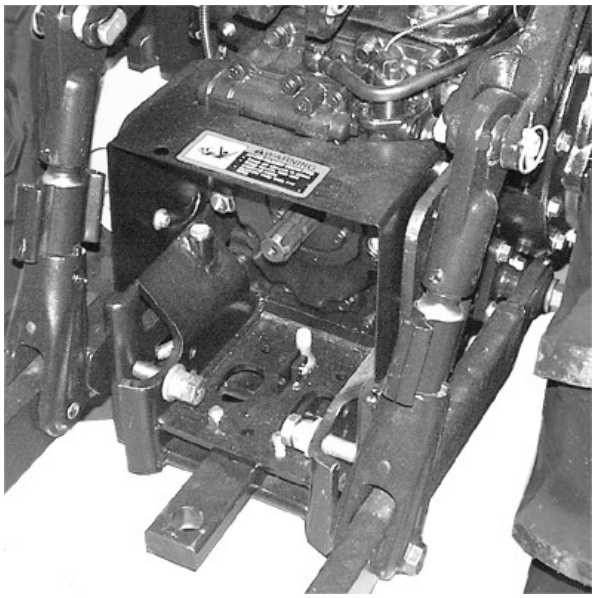
DX,SIGNS-19-18AUG09-1/1

Safety Signs—All

Warning

AVOID INJURY FROM PTO

- **Keep all shields in place**
- **Keep hands, feet and clothing away**
- **Operate only with 540 RPM**



LV9730—UN—03SEP04

PTO Shield

LV6379—19—14MAR01

Standard—540 RPM PTO

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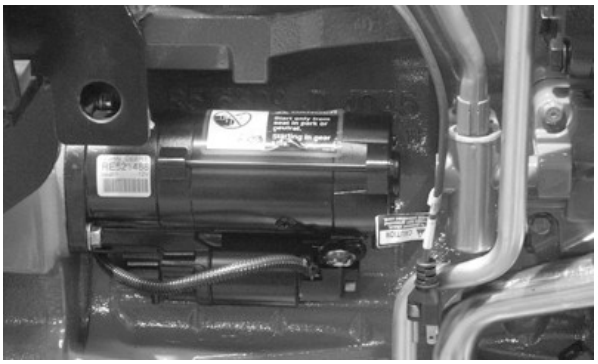
JZ81662,0000C05-19-23MAY12-1/4

DANGER

Start only from seat in park or neutral.

Starting in gear kills.

LV1932—19—02JUN97



PULV008124—UN—07APR10

Starter

Continued on next page

JZ81662,0000C05-19-23MAY12-2/4

WARNING

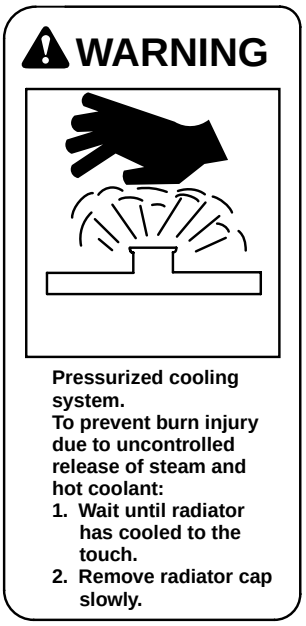
Pressurized cooling system.

To prevent burn injury due to controlled release of steam and hot coolant:

1. **Wait until radiator has cooled to the touch.**
2. **Remove radiator cap slowly.**

LV14288—UN—16MAY11

Radiator (Right-Hand Side)

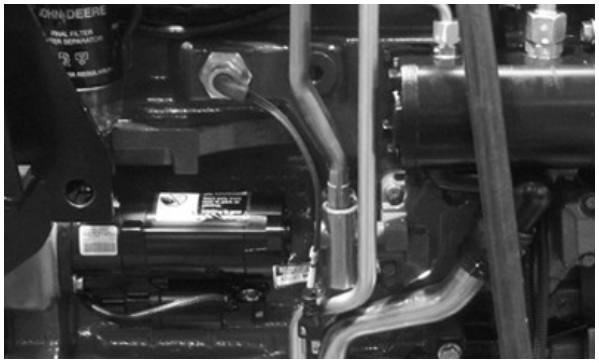


LV09135—19—08JUL04

Continued on next page

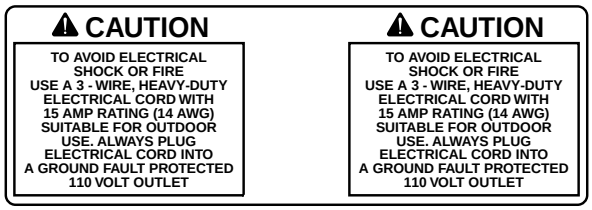
JZ81662,0000C05-19-23MAY12-3/4

CAUTION: TO AVOID ELECTRICAL SHOCK OR FIRE USE A 3-WIRE, HEAVY-DUTY ELECTRICAL CORD WITH 15 AMP RATING (14 AWG) SUITABLE FOR OUTDOOR USE. ALWAYS PLUG ELECTRICAL CORD INTO A GROUND FAULT PROTECTED 110 VOLT OUTLET.



PULV007156—UN—26JUL10

Engine Coolant Heater



LV14886—UN—06OCT11

JZ81662,0000C05-19-23MAY12-4/4

Safety Signs—Cab

WARNING

Avoid serious injury or death resulting from loss of control during transport or braking of a towed implement.

This tractor is capable of operating at transport speeds that may exceed the maximum allowable transport speed for towed implements. If implement manufacturer does not specify maximum transport speed, observe these transport speed limits:

—Implements without brakes: 32 km/h (20 mph)

—Implements with brakes: 40 km/h (25 mph)

Do not exceed the implement's maximum transport speed.

WARNING

AVOID CRUSHING:

- **Do not jump if machine tips.**

USE SEAT BELT

- **Pull belt fully from retractors and adjust for best protection.**

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.

Continued on next page

JR13030,000008A-19-16JUL12-1/4

LV14478—UN—28JUL11

Left-Hand Door Post

Continued on next page

JR13030,000008A-19-16JUL12-2/4

LV09136—19—07JUL04

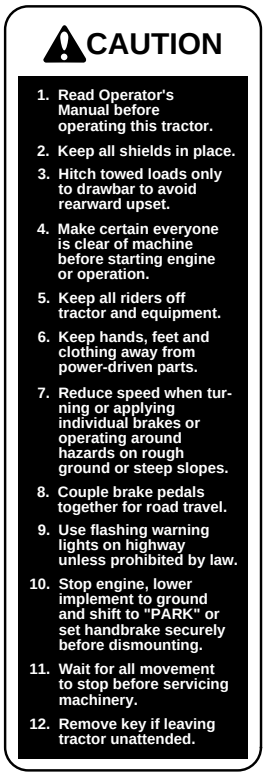
Continued on next page

JR13030,000008A-19-16JUL12-3/4

1. **Read Operator's Manual before operating this tractor.**
2. **Keep all shields in place.**
3. **Hitch towed loads only to drawbar to avoid rearward upset.**
4. **Make certain everyone is 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 handbrake securely before dismounting.**
11. **Wait for all movement to stop before servicing machinery.**
12. **Remove key if leaving tractor unattended.**

LV14479—UN—28JUL11

Left-Hand Door Post



LV5411—19—17NOV00

JR13030,000008A-19-16JUL12-4/4

Safety Signs—OOS

WARNING

Avoid serious injury or death resulting from loss of control during transport or braking of a towed implement.

This tractor is capable of operating at transport speeds that may exceed the maximum allowable transport speed for towed implements. If implement manufacturer does not specify maximum transport speed, observe these transport speed limits:

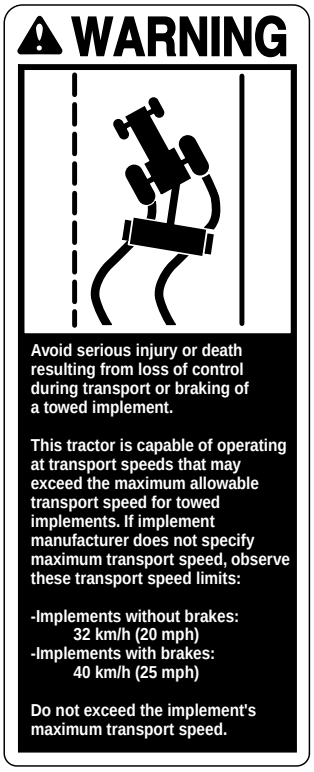
—Implements without brakes: 32 km/h (20 mph)

—Implements with brakes: 40 km/h (25 mph)

Do not exceed the implement's maximum transport speed.

PULV000210—UN—06MAR08

Left-Hand Side Fender



RXA0068063—19—08JUL04

Continued on next page

JR13030,000008B-19-16JUL12-1/3

WARNING

AVOID CRUSHING

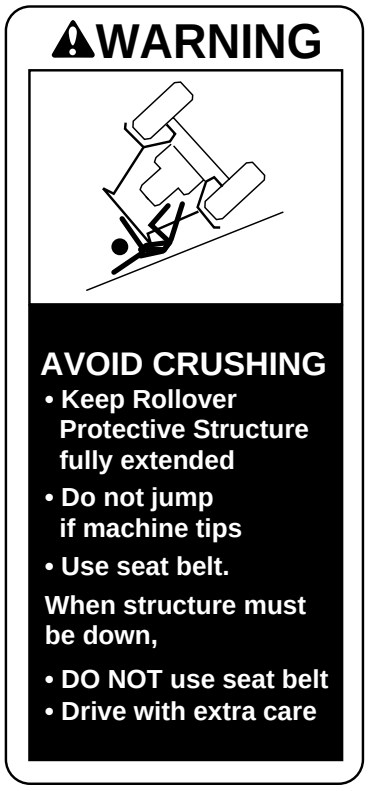
- **Keep rollover protective structure fully extended.**
- **Do not jump if machine tips.**
- **Use seat belt.**

When structure must be down,

- **DO NOT use seat belt.**
- **Drive with extra care.**

PULV000205—UN—06MAR08

Left-Hand Side Fender



LV6526—19—14MAR01

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JR13030,000008B-19-16JUL12-2/3

CAUTION

1. **Read Operator's Manual before operating this tractor.**
2. **Keep all shields in place.**
3. **Hitch towed loads only to drawbar to avoid rearward upset.**
4. **Make certain everyone is 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 handbrake securely before dismounting.**
11. **Wait for all movement to stop before servicing machinery.**
12. **Remove key if leaving tractor unattended.**

PULV000206—UN—06MAR08

CAUTION

1. **Read Operator's Manual before operating this tractor.**
2. **Keep all shields in place.**
3. **Hitch towed loads only to drawbar to avoid rearward upset.**
4. **Make certain everyone is 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 handbrake securely before dismounting.**
11. **Wait for all movement to stop before servicing machinery.**
12. **Remove key if leaving tractor unattended.**

PULV000209—19—22FEB08

JR13030,000008B-19-16JUL12-3/3

Safety Signs—ROPS

ROLL-OVER PROTECTIVE STRUCTURE

To maintain operator protection and ROPS certification:.

- Replace damaged ROPS, do not repair or revise.

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

SJ15807 Roll-Gard™

Tested in accordance with:

SAE: J1294

CSA: B352.1 (1999)

John Deere Tractor Models:5083E, 5093E, 5101E

Deere & Company Moline, Illinois

LV15761—UN—18MAY12

Left-Hand Side

LV15795—UN—23MAY12

Roll-Gard is a trademark of Deere & Company

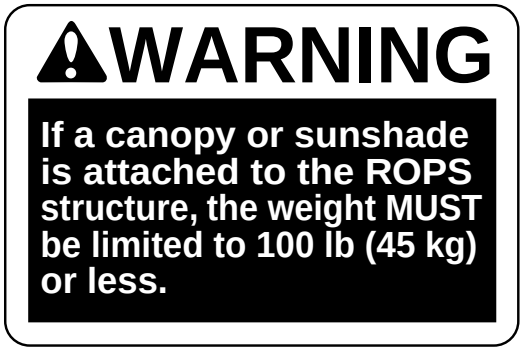
Continued on next page

JR13030,000008C-19-16JUL12-1/2

WARNING

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

PULV000202—UN—06MAR08



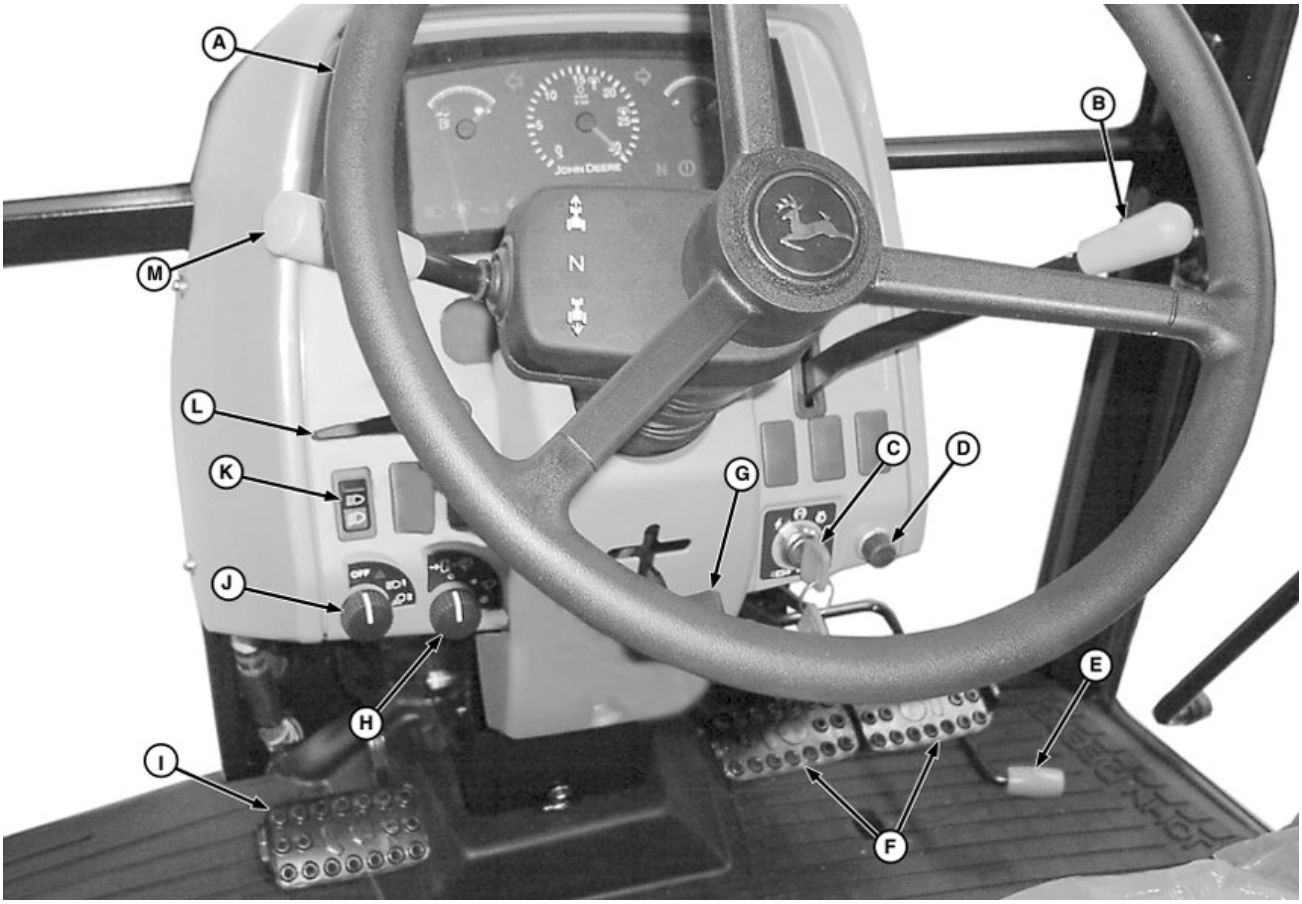
LV6525—19—14MAR01

JR13030,000008C-19-16JUL12-2/2

Front Console Switches and Controls

Cab

JZ81662,0000BA8-19-30APR12-1/3



LV12899—UN—06DEC06

A—Steering Wheel
B—Hand Throttle
C—Ignition Switch
D—Horn (Optional)
E—Foot Throttle
F—Brake Pedals
G—Steering Wheel Tilt Lever
H—Windshield Wiper/Washer Control
I—Clutch Pedal
J—Light Switch
K—Work Light Switch
L—Turn Signal Lever
M—EH Directional Reverser Lever

Open Operator Station (OOS)

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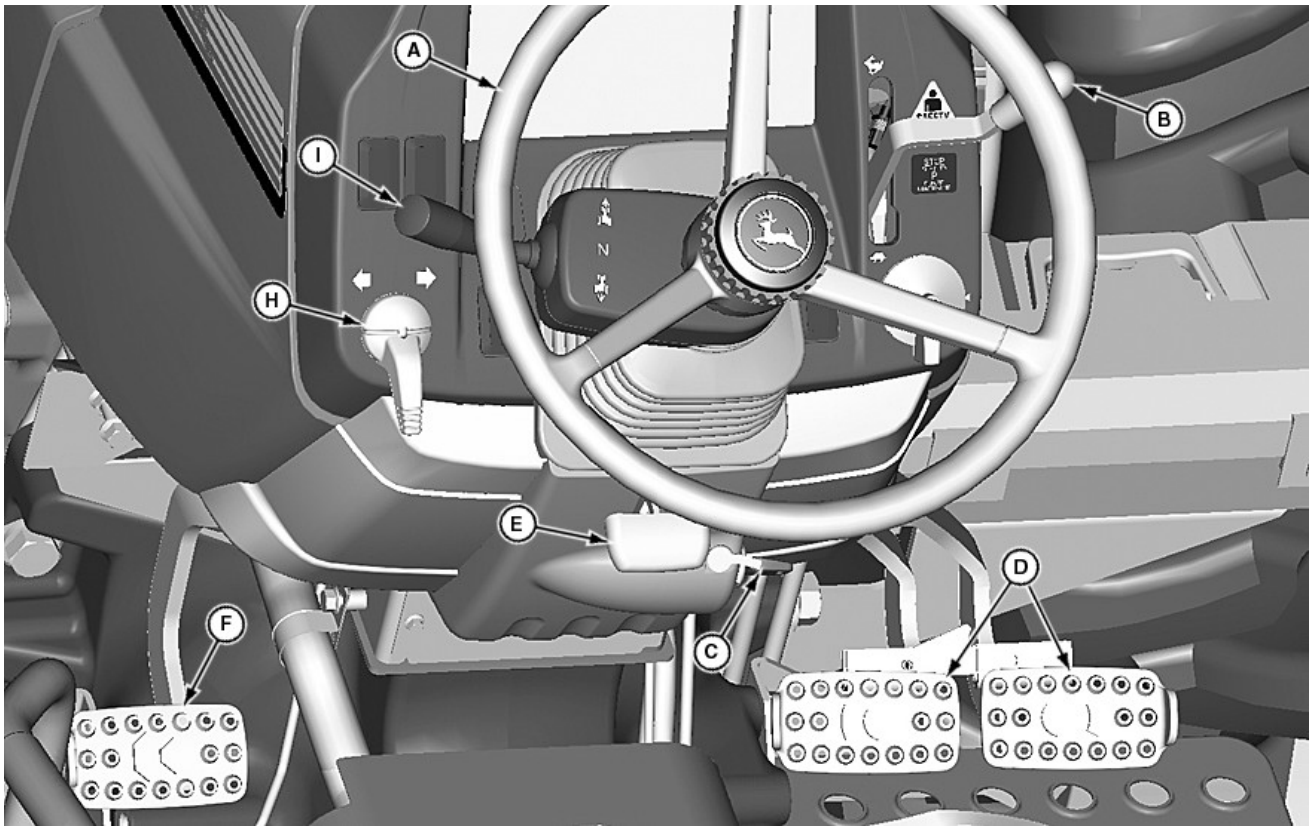
JZ81662,0000BA8-19-30APR12-2/3



A—Steering Wheel
B—Hand Throttle
C—Ignition Switch
D—Brake Pedals
E—Steering Wheel Tilt Lever
F—Clutch Pedal
G—Light Switch
H—Turn Signal Lever
I—EH Directional Reverser Lever

JZ81662,0000BA8-19-30APR12-3/3

Tractor Controls—Cab

Right-Hand Console

NOTE: The rockshaft rate-of-drop knob (I) is located behind driver's seat on lower right-hand side.

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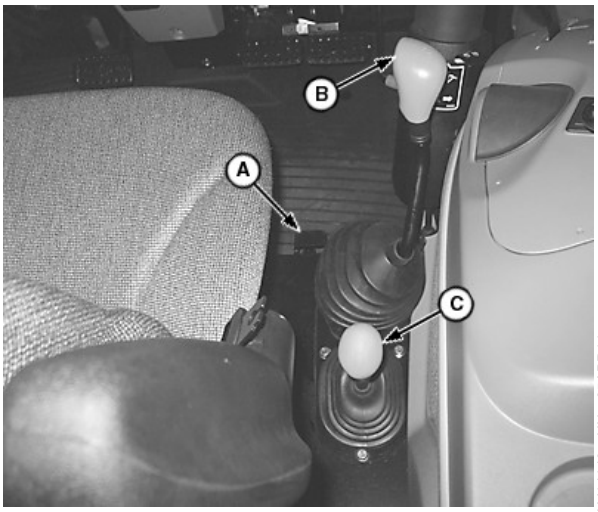
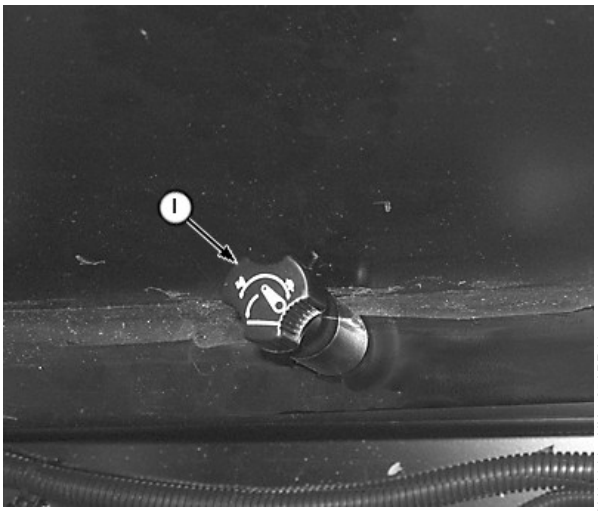
JZ81662,0000BA9-19-18MAY12-1/3



LV14142—UN—25APR11

LV14143—UN—25APR11



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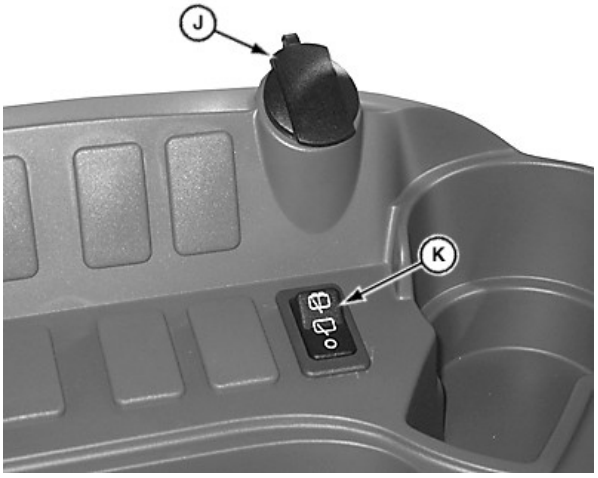


LV15713—UN—27APR12

A—Differential Lock Pedal
B—Gear Shift Lever
C—Range Shift Lever
D—SCV Control Levers
E—Position Control Stop Knob
F—Rockshaft Draft Control Lever
G—EH PTO Control
H—Rockshaft Position Control Lever
I—Rockshaft Rate-of-Drop Knob
J—12-Volt Accessory Electrical Outlet
K—RearWindshield Wiper Control Switch (If Equipped)

Left Side Controls

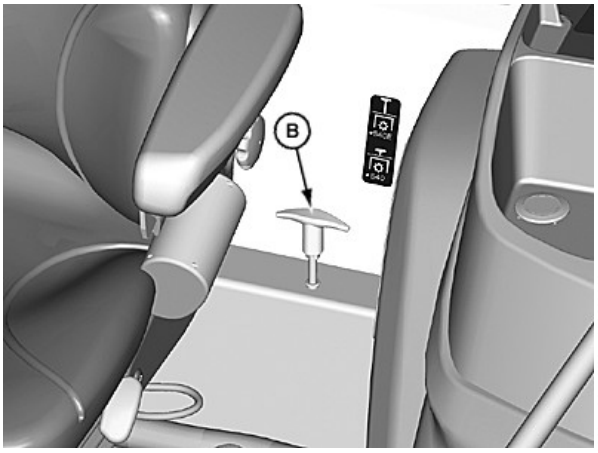
Continued on next page

JZ81662,0000BA9-19-18MAY12-2/3

A—Mechanical Front Wheel Drive (MFWD) Lever

B—540/540E PTO Shift Lever

LV14150—UN—25APR11

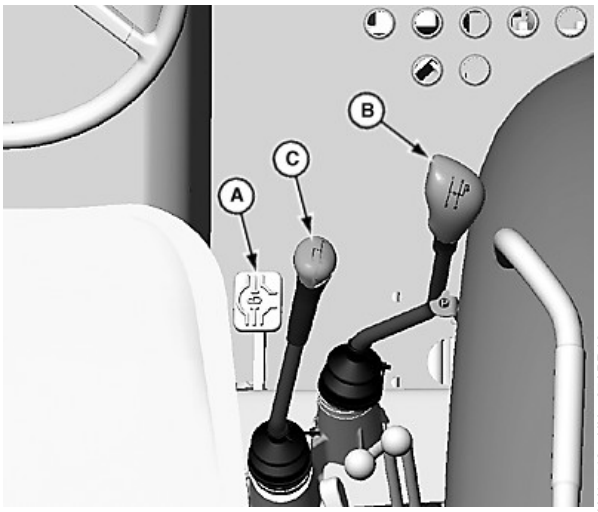


LV15783—UN—18MAY12

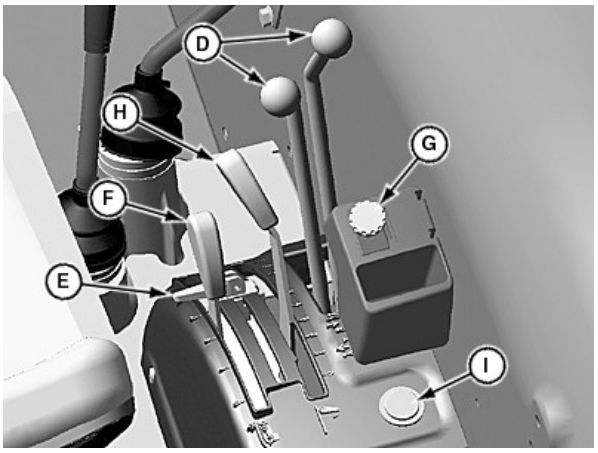
540/540E PTO Shift Lever

JZ81662,0000BA9-19-18MAY12-3/3

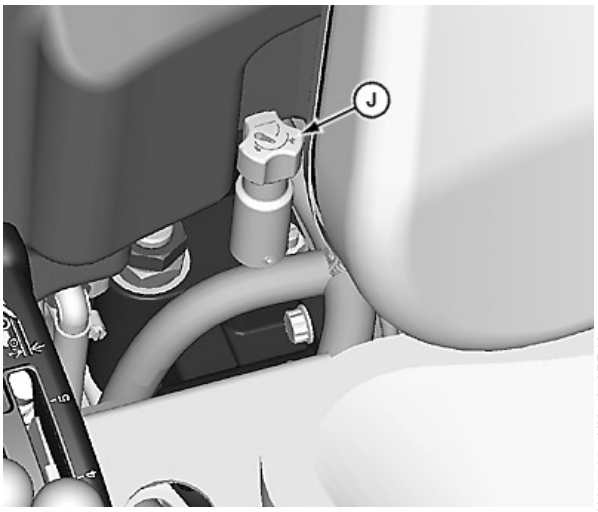
Tractor Controls—OOS



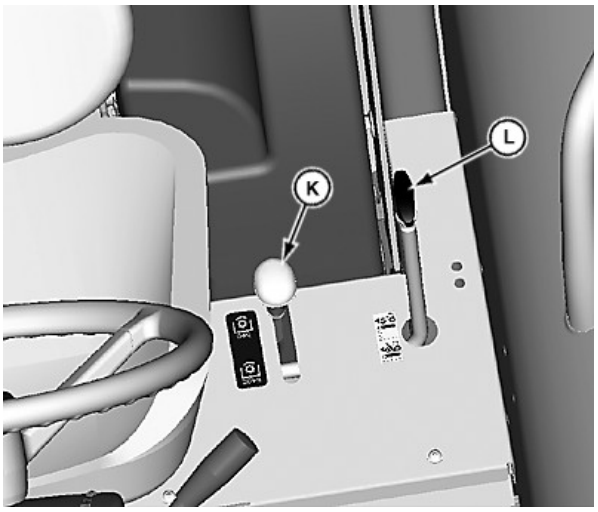
LV15712—UN—27APR12



LV15711—UN—21MAY12



LV15715—UN—27APR12



LV15714—UN—27APR12

Left-Hand Controls

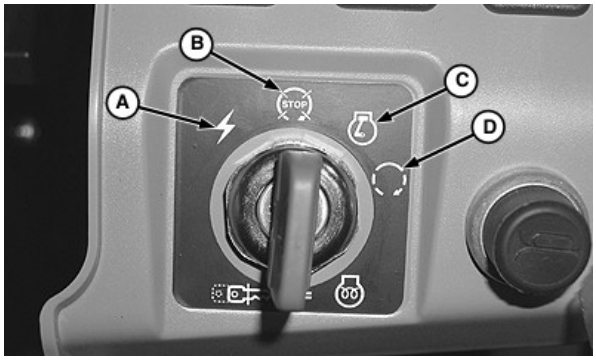
A—Differential Lock Pedal
B—Gear Shift Lever
C—Range Shift Lever
D—SCV Control Levers
E—Position Control Stop Lever
F—Rockshaft Draft Control Lever
G—EH PTO Knob
H—Rockshaft Position Control Lever
I—12-Volt Accessory Outlet
J—Rockshaft Rate-of-Drop Knob
K—540/540E PTO Shift Lever
L—Mechanical Front Wheel Drive (MFWD) Lever

NOTE: The rockshaft rate-of-drop knob (J) is located behind driver's seat on lower right-hand side.

JZ81662,0000BAE-19-15MAY12-1/1

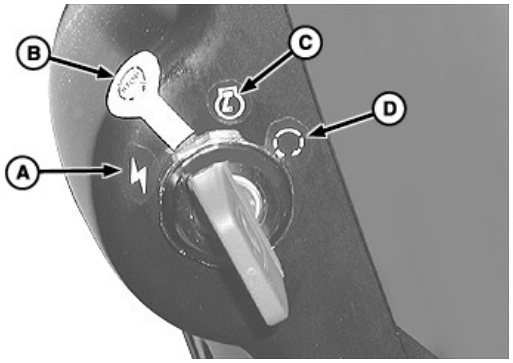
Ignition Switch

A—Accessory
B—STOP
C—Run
D—Start



LV12807—UN—01NOV06

Ignition Switch—Cab



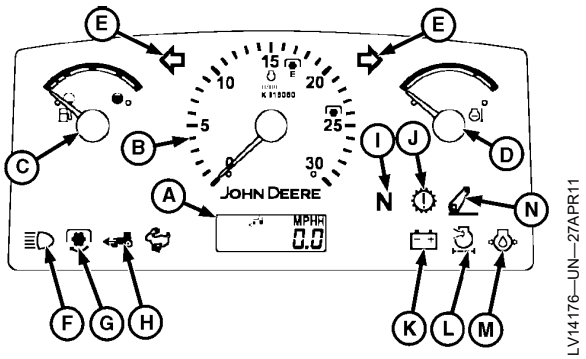
LV09199—UN—22JUL04

Ignition Switch—OOS

JZ81662,0000BAB-19-30APR12-1/1

Gauges and Indicator Lights

A—Speedometer/Hour Meter
B—Tachometer
C—Fuel Level Gauge
D—Coolant Temperature Gauge
E—Warning/Turn Signal Indicators
F—High Beam Indicator
G—PTO Engaged Indicator
H—MFWD Engaged Indicator
I—Neutral Indicator
J—PowrReverser™ Information Indicator
K—Charging System Indicator
L—Air Cleaner Restriction Indicator
M—Engine Oil Pressure Indicator
N—Electrohydraulic Hitch Indicator



LV14176—UN—27APR11

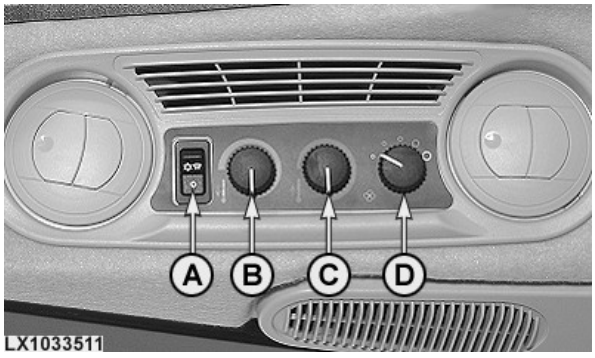
A	**Speedometer/Hour Meter**	Indicates vehicle speed.
B	**Tachometer**	Indicates engine speed, revolutions per minute (RPM).
C	**Fuel Level Gauge**	Indicates amount of fuel remaining in tank.
D	**Coolant Temperature Gauge**	Indicates engine coolant temperature. Red area indicates overheat (coolant level too low, dirty radiator, or clogged screen). SHUT OFF engine IMMEDIATELY to prevent damage. If necessary, have John Deere dealer diagnose vehicle.
E	**Turn Indicator**	Illuminates when turn signal switch is switched to right-hand or left-hand side.
F	**High Beam Indicator**	Illuminates when the headlights are switched on high beam.
G	**PTO Engaged Indicator**	Illuminates when PTO is engaged.
H	**MFWD Engaged Indicator**	Illuminates when MFWD is engaged.
I	**Neutral Indicator**	Illuminates when transmission reverser (if equipped) in neutral position. Flashes when operator improperly shifted reverse. If necessary, cycle reverser lever back to neutral. If flashing and Transmission Information indicator are illuminated at the same time, this indicates a malfunction (review error message in Information Display). If necessary, have John Deere dealer diagnose vehicle.
J	**PowrReverser™ Information Indicator**	Illuminates when PowrReverser™ malfunction occurs. SHUT OFF engine IMMEDIATELY and determine cause (review error message in Information Display). If necessary, have John Deere dealer diagnose vehicle.
K	**Charging System Indicator**	Illuminates when alternator malfunction occurs. If necessary, have John Deere dealer diagnose vehicle.
L	**Engine Air Cleaner Restriction Indicator**	Illuminates when air cleaner element clogged (clean or replace element). If necessary, have John Deere dealer diagnose vehicle.
M	**Engine Information Indicator**	Illuminates when engine malfunction occurs (check oil level). If necessary, have John Deere dealer diagnose vehicle.
N	**Electrohydraulic Hitch Indicator**	Illuminates when hitch malfunction occurs (review error message in Information Display). If necessary, have John Deere dealer diagnose vehicle.

PowrReverser is a trademark of Deere & Company

JZ81662,0000BAC-19-30APR12-1/1

Heater and Air Conditioning Controls (Cab Only)

A—Air Conditioning/Defrost Switch
B—Air Conditioning Temperature Control
C—Heater Temperature Control
D—Blower Speed Switch



LX1033511—UN—19NOV03

JZ81662,0000BAD-19-30APR12-1/1

Operating Lights

Cab

JZ81662,0000BB1-19-18MAY12-1/3

Tractor light switch has three operating positions:

Warning position (B): Use when transporting on public roads during daylight hours.

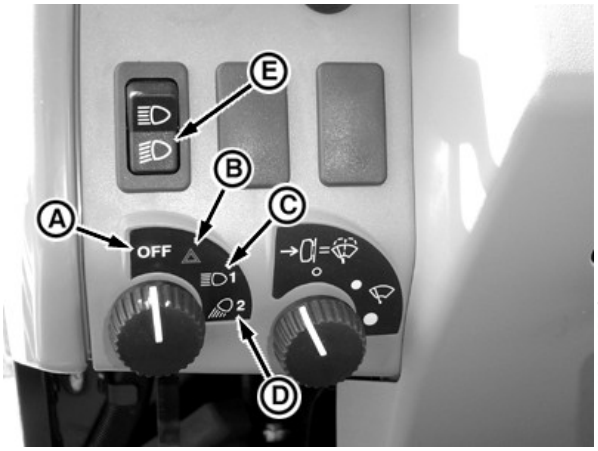
Bright headlight position (C): Use when traveling on public roads at night or during daylight hours when visibility is limited.

CAUTION: Do not use work lights when transporting on public roads. Bright clear lights can blind or confuse drivers of other vehicles as they approach from the front or rear.

Work light position (D): Use to activate front and rear facing work lights, and high beam headlights.

IMPORTANT: Keep lighting in good working order. Repair or replace damaged lighting immediately.

Keep headlights properly adjusted. See ADJUST HEADLIGHTS in Maintenance—As Required/Per Condition section, Replacing Headlight Bulb.



P13875—UN—19DEC05

A—Off Position
B—Warning Light Position
C—Bright Headlight Position
D—Work Light Position
E—Headlight Dimmer Switch

Switch Position	Warning Lights Amber[a]	Taillights Red[a]	Work Light(s) Rear Facing	Work Light(s) Front Facing	Headlights
A–Off	Off	Off	Off	Off	Off
B–Warning	On Flashing	On Steady	Off	Off	Off
C–Bright Headlight	On Flashing	On Steady	Off	Off	On–High Beams[b]
D–Work Light	Off	On Steady	On	On	On–High Beams[b]

[a] *When turn signal is activated, amber and red lights on turn-side flash, while opposite side lights shine steady.*
[b] *Use headlight dimmer switch (E) to dim headlights to low beams when meeting other vehicles as they approach from the front.*

Open Operator Station (OOS)

Continued on next page

JZ81662,0000BB1-19-18MAY12-2/3

CAUTION: To alert drivers of other vehicles to your movements, use flashing warning lights whenever you travel on public roads. Flashing lights come ON in Warning, Transport 1, and Transport 2 positions.

Light switch has four operating positions:

Warning position (B): Use when transporting on public roads during daylight hours.

CAUTION: Do not use work lights when transporting on public roads. Bright clear lights can blind or confuse drivers of other vehicles as they approach from the front or rear.

NOTE: Indicator (F) lights whenever high beam headlights are ON.

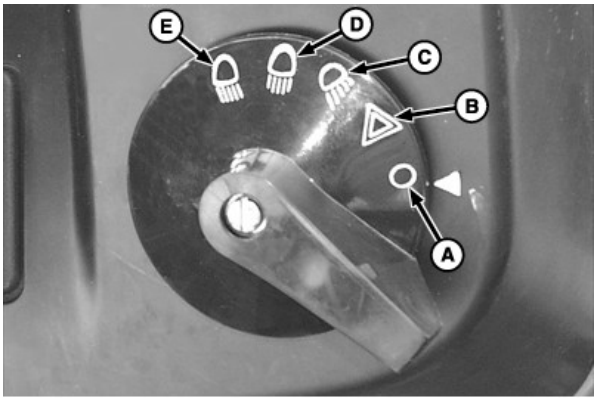
Work Light position (C): Use to activate front (cab) and rear facing work lights and high beam headlights.

Transport 1 position (D): Use when traveling on public roads at night or during daylight hours when visibility is limited.

Transport 2 position (E): Use to dim headlights to low beams when meeting other vehicles as they approach from the front.

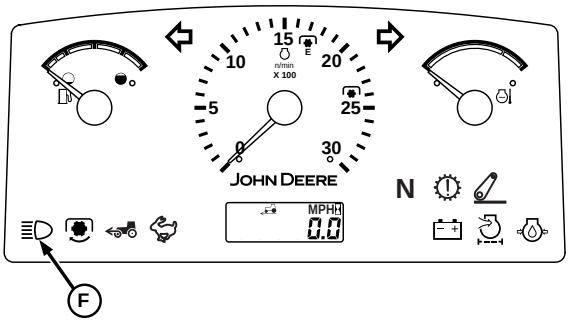
IMPORTANT: Keep lighting in good working order. Repair or replace damaged lighting immediately.

Keep headlights properly adjusted. See ADJUSTING HEADLIGHTS in Section 105, Replacing Headlight Bulb.



LV09152—UN—12JUL04

Light Switch



LV09155—UN—12JUL04

A—Off Position
B—Warning Position
C—Work Light Position
D—Transport 1 Position
E—Transport 2 Position
F—High Beam Indicator Light

Switch Position	Warning Lights Amber[a]	Tail Lights Red[a]	Work Lights[b] Rear Facing	Work Lights Front Facing	Headlights Front Grille
A—Off	Off	Off	Off	Off	Off
B—Warning	On Flashing	Off	Off	Off	Off
C—Work Light	Off	Off	On	On	On—High Beams
D—Transport 1	On Flashing	On Steady	Off	Off	On—High Beams
E—Transport 2	On Flashing	On Steady	Off	Off	On—Low Beams

[a] *When turn signal is activated, amber and red lights on turn-side flash, while opposite side lights shine steady.*
[b] *Standard equipment. Straddle Mount has a single work light mounted behind the operator seat. Cab tractors have four work lights (2 front and 2 rear) mounted to the roof.*

JZ81662,0000BB1-19-18MAY12-3/3

Operating Loader Lights—If Equipped

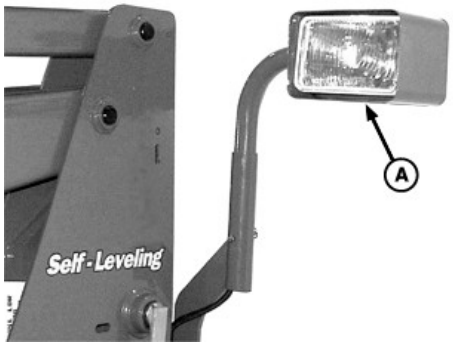
Loader lights (A) are dual beam headlights attached to loader mounting frames and used in place of standard front grille headlights which are obstructed by the loader.

Rotate light assemblies (A) to front-facing, operating position (shown).

To activate loader lights, depress top of rocker switch (B).

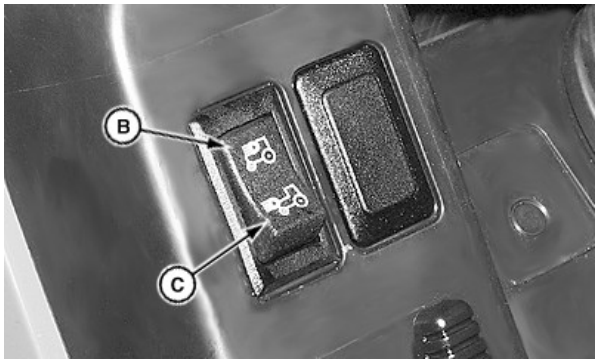
Loader lights will now operate in place of front grille headlights and front work lights.

If loader is removed, depress bottom of rocker switch (C) to restore front grille headlights to normal operation. Turn loader light assemblies toward machine for storage.



LV9465—UN—03SEP04

Loader Light (Left Side Shown)



LV15725—UN—03MAY12

Loader Light Rocker Switch

JZ81662,0000BBA-19-03MAY12-1/1

Using Seven-Terminal Outlet

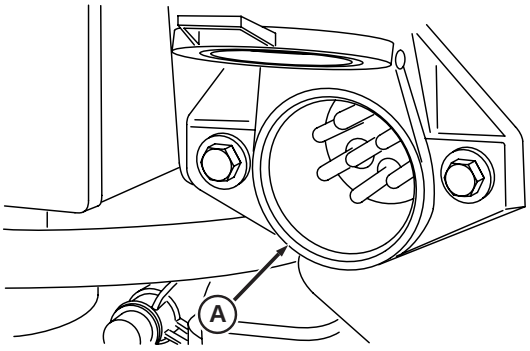
Outlet (A) is used to connect lights, turn signals, and remote electrical equipment on trailers or implements. Always use auxiliary light on towed implement when tractor lights are obscured.

If implement harness is properly wired and connected to outlet, implement lighting operates in conjunction with tractor warning and signal lights.

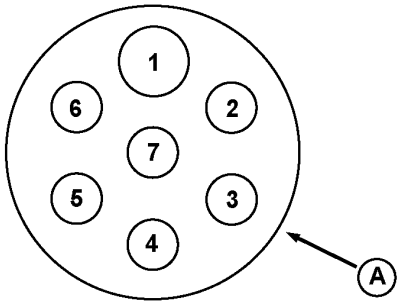
NOTE: Matching plug is available through your John Deere dealer.

Terminal	Function
1	Ground
2	Work Light
3	Left Turn
4	Brakes (if equipped)
5	Right Turn
6	Tail Light
7	Accessory Power

A—Seven-Terminal Outlet



RXA0068234—UN—27JUN03



RW21249A—UN—29APR99

OUO1078,0000166-19-10FEB14-1/1

Operating Rotating Beacon Light—If Equipped

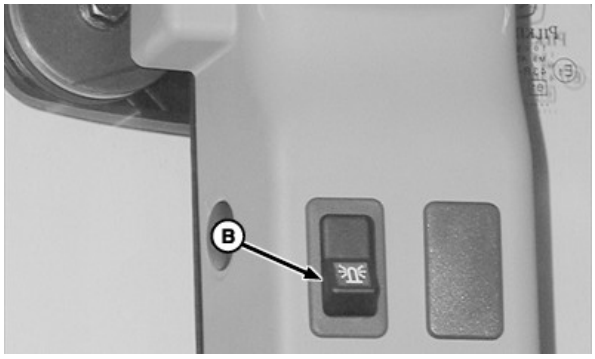
Depress switch (B) to activate light (A).

To remove light for storage or clearance:

1. Loosen wing nut and lift light from tube.
2. Install cap on tube end to protect light socket.

A—Light **B—Switch**

LV9687—UN—19AUG04



LV9688—UN—19AUG04

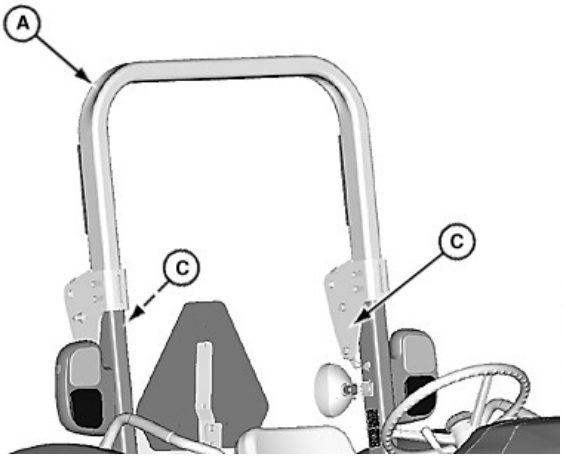
JZ81662,0000BB2-19-30APR12-1/1

Operating Foldable ROPS

CAUTION: Make certain all parts are installed correctly if roll over protective structure (ROPS) is loosened or removed for any reason. Replace and tighten mounting cap screws to proper torque.

The protection offered by ROPS is impaired if ROPS is subjected to structural damage, as in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. Replace damaged ROPS, never reuse. Any alteration to the ROPS must be manufacturer approved.

Always keep upper part of ROPS pinned in vertical position (as pictured) when operating tractor. If tractor is operated with ROPS folded (for example, to enter a low building) drive with extreme caution and DO NOT use seat belt. Lift the ROPS up again and pin in vertical position as soon as the tractor is operated under normal conditions.



LV15695—UN—19APR12

ROPS—Vertical Operating Position

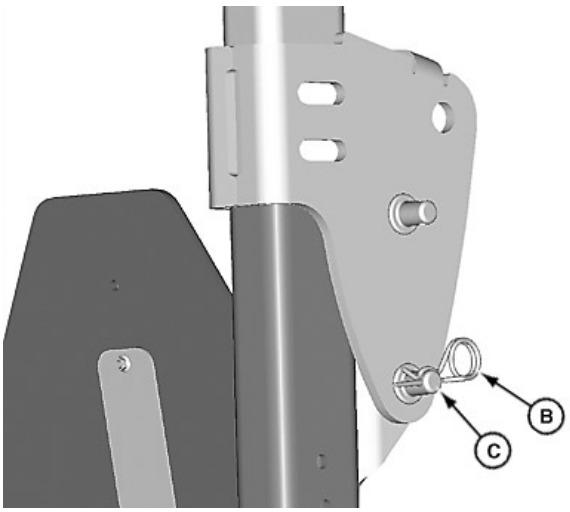
Lower ROPS Crossbar (A):

1. Remove quick-lock pins (B) and headed pins (C).
2. Lower crossbar (A) of ROPS onto stops.
3. Reinstall pins (C and B) into holes in ROPS to lock down crossbar.

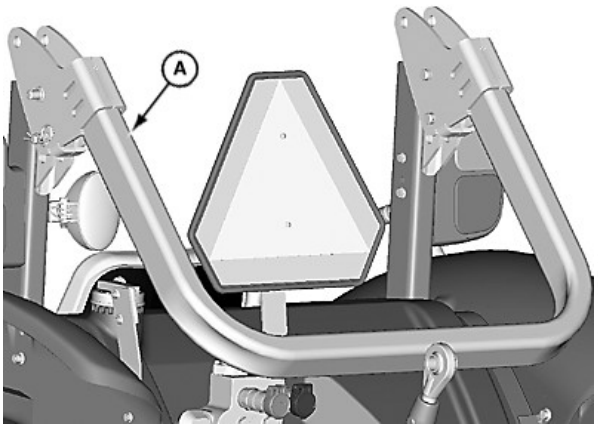
Raise ROPS Crossbar (A):

1. Remove headed pins (C) and quick-lock pins (B).
2. Lift crossbar (A) of ROPS to vertical position.
3. Reinstall pins (C and B) into holes in ROPS to lock in position.

A—ROPS Crossbar
B—Quick-Lock Pins
C—Headed Pins



LV15696—UN—19APR12



LV15697—UN—19APR12

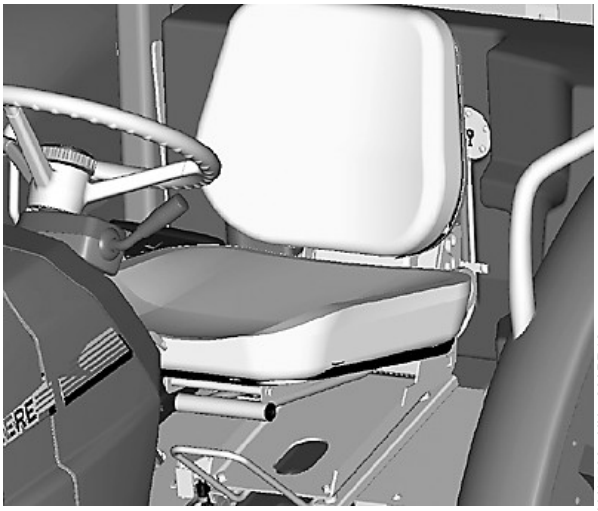
ROPS—Folded

JZ81662,0000A76-19-20APR12-1/1

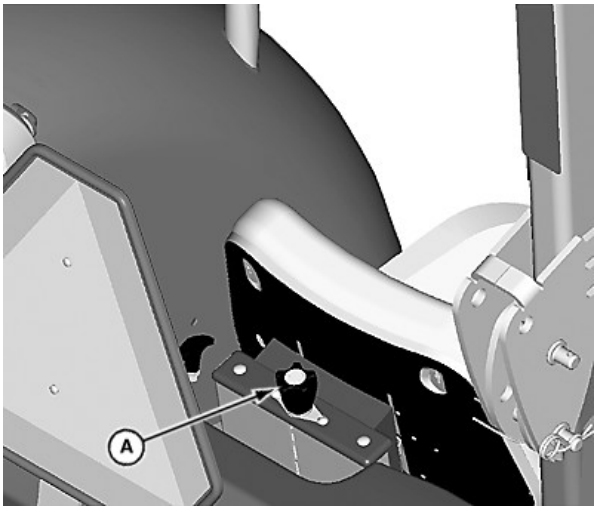
Adjusting Operator Seat

CAUTION: To avoid accidents, adjust seat before driving.

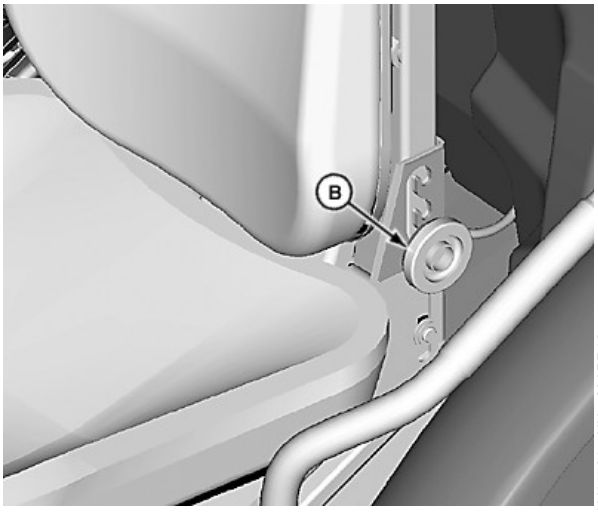
JZ81662,0000A76-19-23APR12-1/2



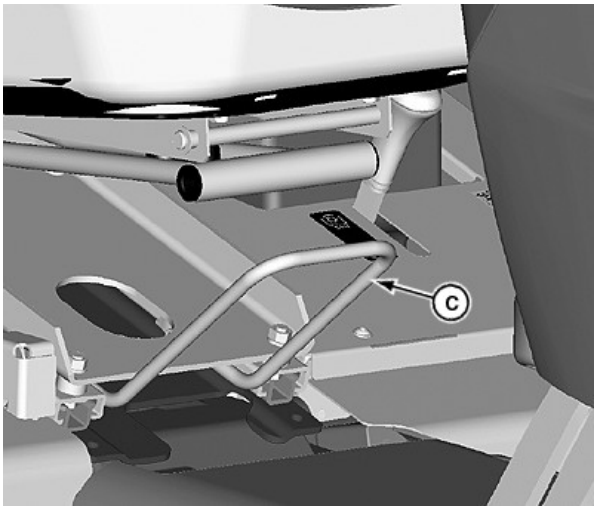
Operator's Seat



Ride Comfort



Seat Height Position



Forward/Backward

A—Ride Comfort Knob **B—Seat Height Knobs** **C—Forward/Backward Bar**

For operator comfort, three seat adjustments are available.

Ride Comfort: Turn knob (A) to adjust seat suspension for firm or soft ride.

Seat Height: Loosen knob (B) on both sides, lift seat from hooked slots and move to desired height. Tighten knobs after adjustment.

Forward/Backward: Pull up on bar (C) and slide seat forward or back to desired position. Release bar to lock seat in place.

JZ81662,0000A76-19-23APR12-2/2

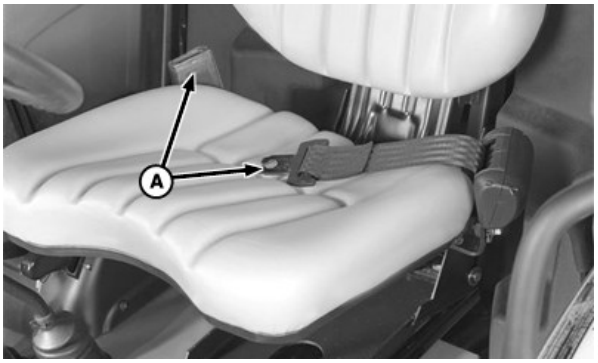
Seat Belt

CAUTION: Use seat belt when operating with a Roll-Over Protective Structure (ROPS). DO NOT use seat belt when ROPS is folded down.

Fit seat belt snugly across abdomen.

Inspect seat belt and hardware annually.

A—Seat Belt



JZ81662,0000A77-19-23APR12-1/1

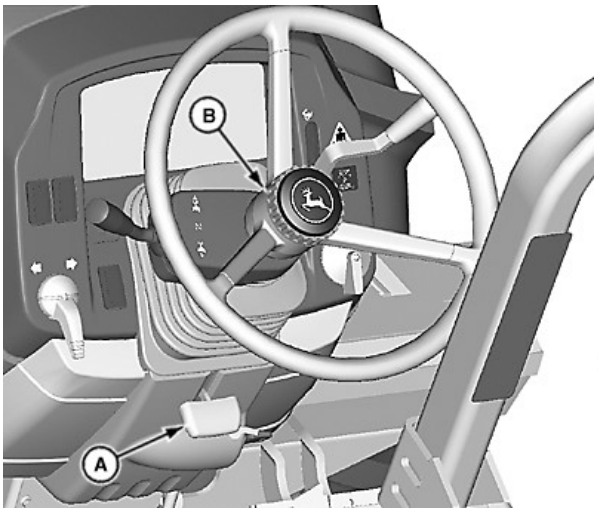
Adjusting Steering Wheel Tilt and Height

Lift steering wheel tilt lever (A) and move steering column to desired angle. Release lever to lock into position.

Loosen steering wheel telescope release ring (B) and adjust steering wheel to desired height. Tighten ring to lock into position.

A—Steering Wheel Tilt Lever

B—Steering Wheel Telescope Release Ring

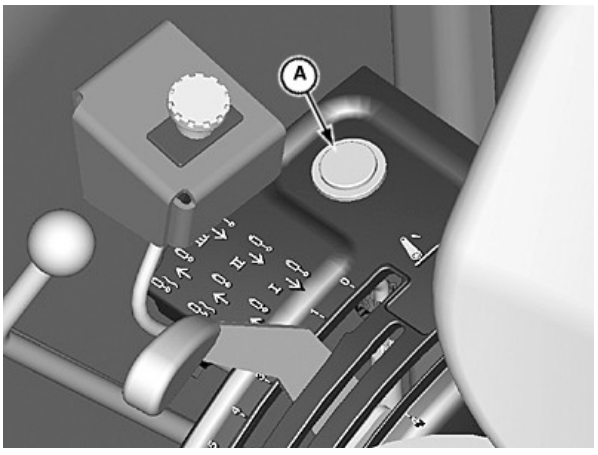


Steering Wheel Adjustment

JZ81662,0000A77-19-25APR12-1/1

Accessory Electrical Outlet—If Equipped

A—Accessory Outlet



JZ81662,0000A77-19-30APR12-1/1

Adjusting Seat

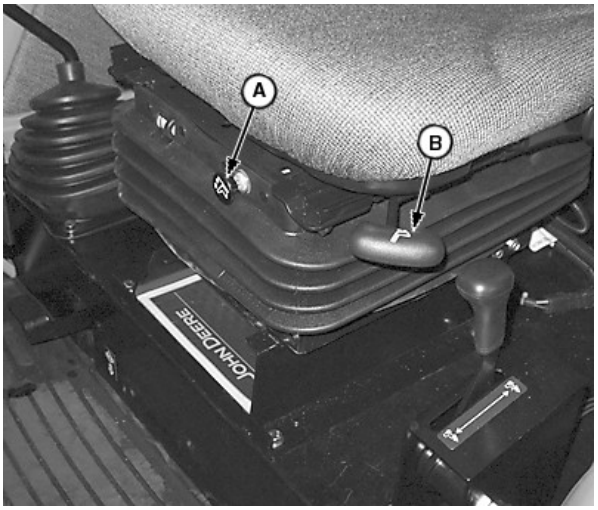
CAUTION: To avoid accidents, adjust seat before driving.

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

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

Forward or Backward: Lift forward/backward adjustment lever (B), move seat to desired position.

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



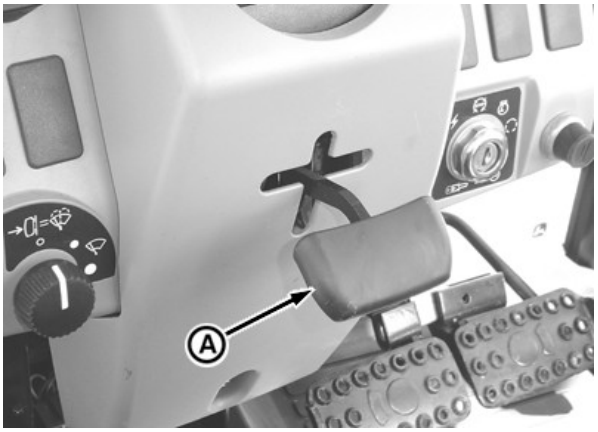
LV14152—UN—25APR11

JZ81662,000027C-19-08JUL11-1/1

Adjusting Steering Wheel Tilt

Lift lever (A) and move steering column to desired angle. Release lever to lock into position.

A—Steering Wheel Tilt Lever



P13911—UN—22DEC05

JZ81662,0000BA3-19-25APR12-1/1

Accessory Electrical Outlet (If equipped)

Accessory 12-volt electrical outlet (A) is used when connecting auxiliary equipment.

NOTE: Outlet is protected by two 30-amp fuses.

A—12-Volt Electrical Outlet

LV14165—UN—25APR11

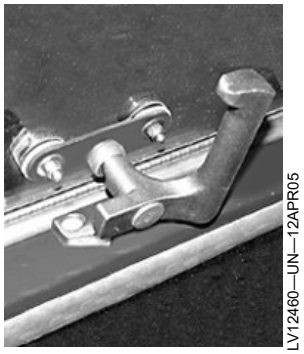
JZ81662,000027D-19-08JUL11-1/1

Opening Windows

Side and rear windows can be opened. Release latch and push window out to open.

Rear window provides a large exit path if cab doors are blocked in an emergency situation.

Side Window Latch



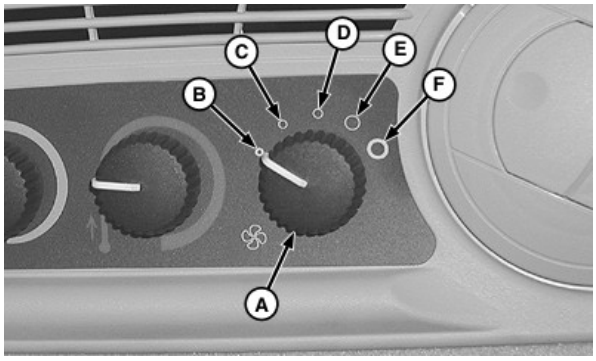
Rear Window Latch

AI68620,00001FB-19-03SEP10-1/1

Adjusting Blower Speed

Turn control knob (A) to desired setting. For rapid cab cool down, use the purge setting (F).

A—Blower Speed Control Knob
B—Off
C—Low
D—Medium
E—High
F—Purge



AI68620,00001FC-19-03SEP10-1/1

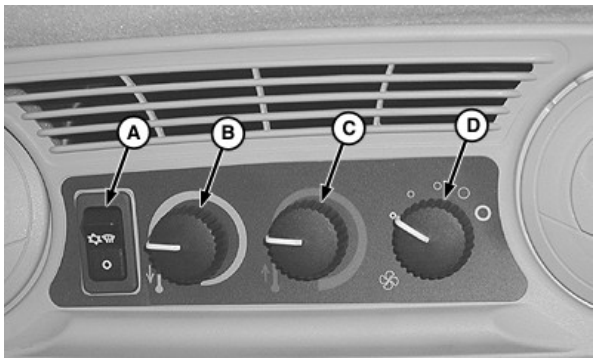
Controlling Temperature

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

Turn control knob (B) to adjust air conditioning temperature.

Turn control knob (C) to adjust heater temperature.

A—Air Conditioning and Deicing Switch
B—Air Conditioning Temperature Control Knob
C—Heater Temperature Control Knob
D—Blower Speed Control Knob



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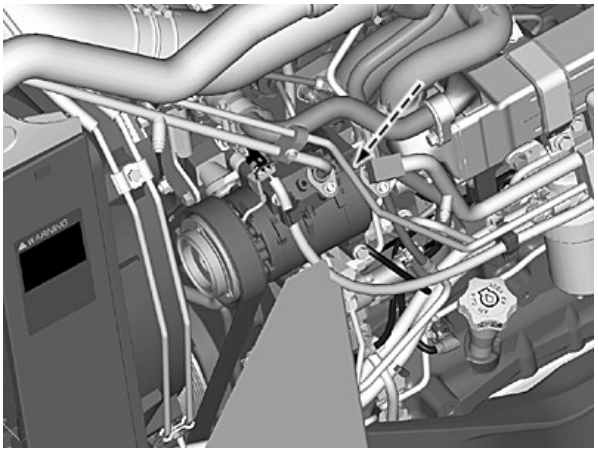
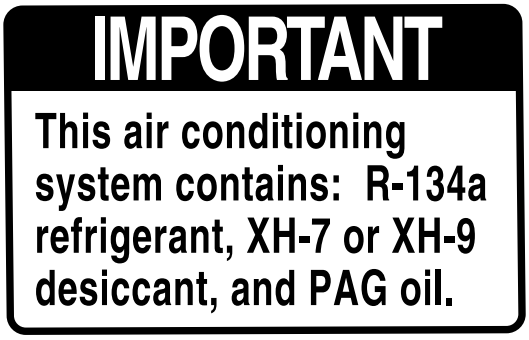
JZ81662,0000C2C-19-24MAY12-1/2

IMPORTANT: This air conditioning system contains: R134a refrigerant, XH-7 or XH-9 desiccant, and PAG oil.



LV14485—UN—28JUL11

Rear of A/C Compressor



LV12690—19—28APR05

JZ81662,0000C2C-19-24MAY12-2/2

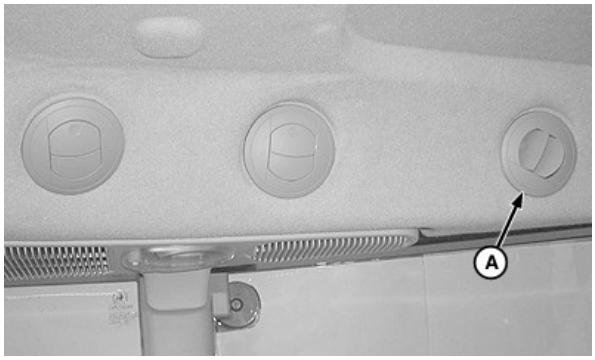
Deicing, Demisting or Defrosting Windshield

1. Aim two front vents (A) toward windshield.

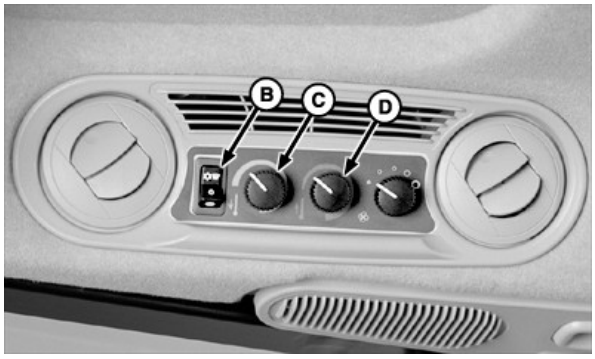
NOTE: Closing middle and rear vents will help clear windshield faster.

2. Press top half of deicing switch (B) and turn A/C temperature control knob (C) to full counterclockwise position.
3. Turn heater temperature control knob (D) clockwise to obtain desired temperature.

A—Front Vent
B—Deicing Switch
C—A/C Temperature Control Knob
D—Heater Temperature Control Knob



LV8596—UN—14AUG03



LV10324—UN—21SEP04

AI68620,00001FE-19-03SEP10-1/1

Optimizing A/C and Heater Performance

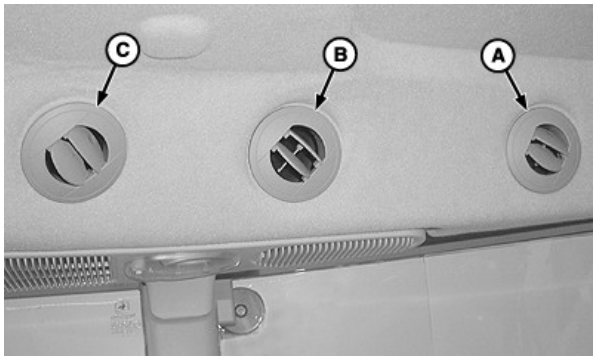
Adjust individual vents to target heating or cooling:

- Aim front vents (A) toward legs and mid-body.
- Aim middle vents (B) toward your head.
- Aim rear vents (C) toward your back.

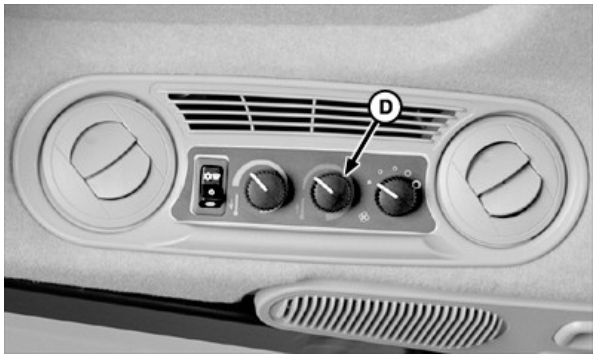
NOTE: For maximum cooling effect, turn heater temperature control knob (D) to full counterclockwise position.

Aim all vents (A, B, and C) down to heat the floor and feet.

A—Front Vent
B—Middle Vent
C—Rear Vent
D—Heater Temperature Control Knob



LV10325—UN—21SEP04



LV10326—UN—21SEP04

AI68620,00001FF-19-03SEP10-1/1

Operating Windshield Wiper and Washer

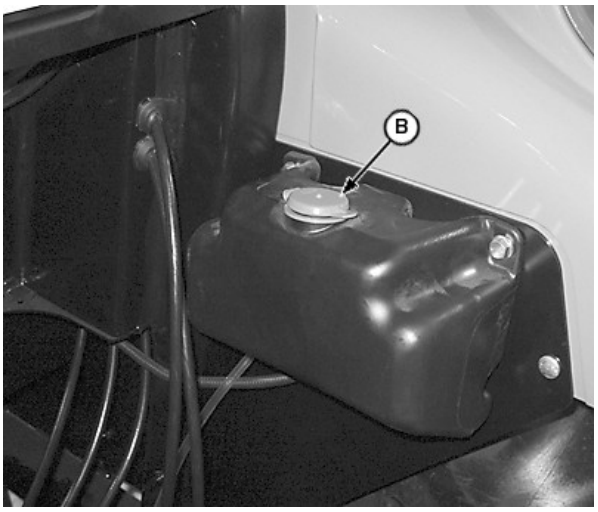
Rotate wiper switch (A) to move windshield wipers to OFF, SLOW, or FAST position.

Push switch to activate windshield washer.

Fill reservoir (B) with non-freezing windshield washer fluid. Reservoir is located behind cab on inside of right rear fender.

A—Windshield Wiper/Washer Switch **B—Washer Fluid Reservoir**

P13913—UN—22DEC05



LV14166—UN—25APR11

JZ81662,000027F-19-08JUL11-1/1

Operating Rear Window Wiper and Washer—If Equipped

Switch (A) has three positions:

- Top WASH position—Hold switch down to activate washer.
- Center ON position—Rear window wiper is activated.
- Bottom OFF position.

A—Rear Window Wiper/Washer Switch

LV14167—UN—25APR11

JZ81662,000027E-19-08JUL11-1/1

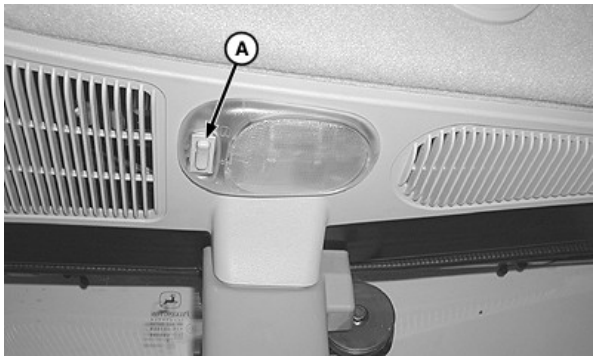
Using Dome Light

Dome light switch (A) has three positions:

- ON turns the dome light on.
- Dome light comes on when either door is opened and off when both doors are closed.
- OFF turns the dome light off.

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

A—Dome Light Switch



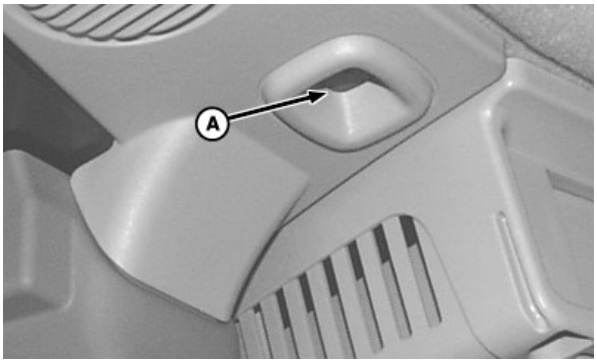
LV8418—UN—14JUL03

AI68620,0000202-19-03SEP10-1/1

Using Control Illumination Light

Control illumination light (A) comes on with front grille headlights when light switch is placed in Work Light, Transport 1 or Transport 2 position.

A—Control Illumination Light



LV09217—UN—22JUL04

AI68620,0000203-19-03SEP10-1/1

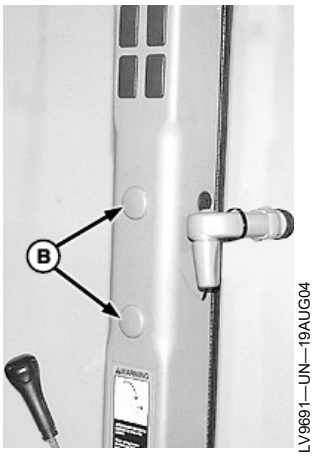
Installing a Monitor

There are two locations to attach monitors and controls in the cab:

Continued on next page

JZ81662,0000280-19-11JUL11-1/2

Front Post



Right Center Post

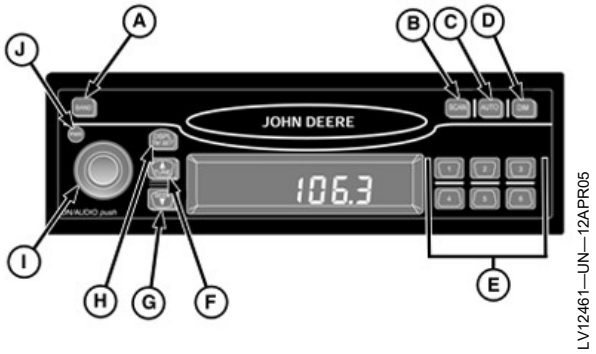
A—Mounting Locations **B—Plugs (Mounting Locations)**

- Front right post (A).
- Right center post (remove plugs [B]).

JZ81662,0000280-19-11JUL11-2/2

Operating Radio

1. Press BAND (A) to select FM1, FM2, AM, SAT, or WX (Weather).
2. Press TUNE (F) once to turn to the next higher station. Press SEEK (G) once to turn to the next lower station.
3. Press and hold both TUNE (F) and BAND (A) to switch between manual tune mode and “seek” mode.
4. Holding SEEK longer than half a second begins the “seek” function. When a station with a strong enough signal is found, “seek” function will stop at that station.
5. Press SCAN (B) to scan all stations. When a strong enough signal is found, the station will play for 5 seconds then continue to scan until SCAN is pressed again.
6. Adjust volume, bass, treble, fade, and balance by pressing and releasing ON/AUDIO knob (I) repeatedly until desired function appears on display. Rotate ON/AUDIO knob for adjustment.



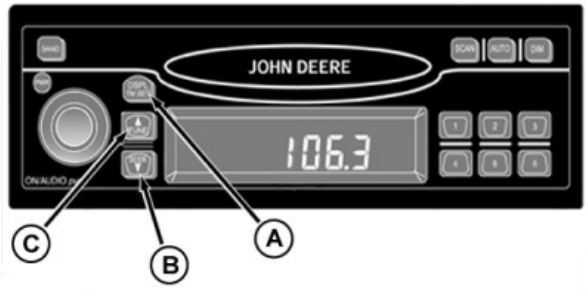
A—Band
B—Scan
C—Auto Preset
D—Dim
E—Preset Stations
F—Tune
G—Seek
H—Display/Time Set
I—On/Audio/Volume
J—Power

7. Adjust brightness of display by pressing (D) until “DIM” appears on display. Rotate ON/AUDIO knob to adjust.

AI68620,0000205-19-03SEP10-1/1

Setting Clock (If Equipped)

1. Switch ignition to ON position.
2. Press and hold DSPL/TM SET (A) button until the “hours” digits flash.
3. Press SEEK (B) or TUNE (C) to set the correct hour.
4. Press and hold DSPL/TM SET until the “minutes” digits flash.
5. Press SEEK or TUNE to set correct minute. The seconds are reset to zero when minute setting is changed.

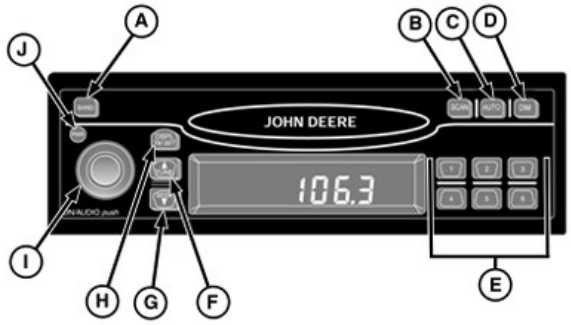


RW26907—UN—05APR00

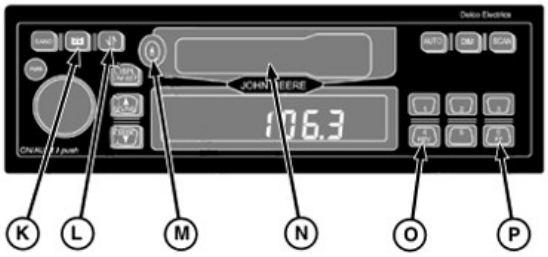
A—DSPL/TM SET
B—SEEK
C—TUNE

AI68620,0000206-19-03SEP10-1/1

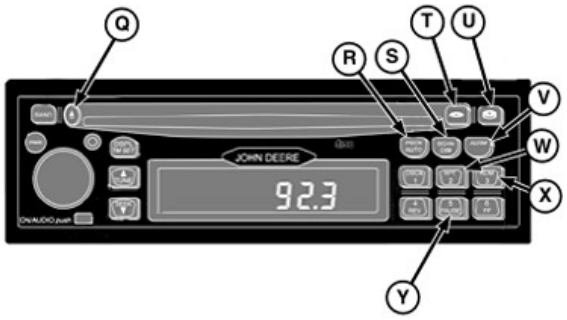
Operating Cassette Tape or Compact Disc Player—If Equipped



LVI12461—UN—12APR05



LVI12462—UN—12APR05



LVI12463—UN—12APR05

A—Band
B—Scan
C—Auto Preset
D—Dim
E—Preset Stations
F—Tune
G—Seek
H—Display/Time Set
I—On/Audio/Volume
J—Power
K—Tape
L—Tape Reverse
M—Eject Tape
N—Tape Slot
O—Rewind Tape
P—Fast Forward Tape
Q—Eject CD
R—Pre-Scan/Auto
S—Scan/Dim
T—CD Mode
U—CD Changer Mode
V—Alarm
W—CD Repeat
X—CD Random
Y—CD Pause

Operating cassette tape player

1. Turn receiver ON.
2. Insert cassette into slot (N). If radio is playing, press (K) to play the cassette.
3. Press (L) to play the opposite side of the tape.
4. Press (O) to rewind.
5. Press (P) to fast forward.
6. Press (M) to eject tape.
7. If receiver detects a defective cassette, “BAD TAPE” will appear on the display and the tape will be ejected.

Operating compact disc player

1. Turn ignition and receiver ON.
2. Insert compact disc into slot, label side up.
3. Press (F) to forward to the next track. Press (G) to reverse to the beginning of the track.
4. Press (W) to repeat the current track. Press (X) for random track selection.
5. Press and hold (O) to fast reverse. Release to play at normal speed.
6. Press (Y) to pause the CD. Press (Y) again to resume play.
7. Press and hold (P) to fast forward. Release button to play at normal speed.
8. Press (Q) to eject CD.
9. Press (S) to advance to the next track on the CD. The CD will play 10 seconds of that track and then play each successive track for 10 seconds. Press again to cancel.

AI68620,0000207-19-03SEP10-1/1

Observe Engine Operation Closely

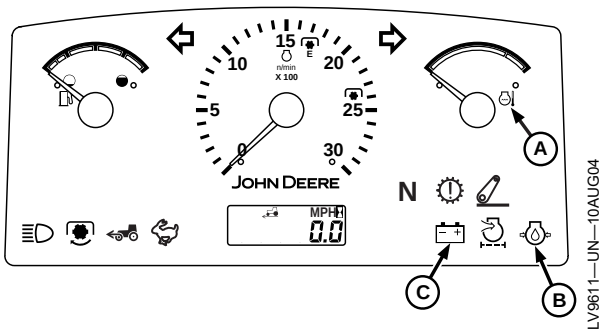
IMPORTANT: The engine is ready for normal operation. Use extra caution during the first 100 hours to become thoroughly familiar with the sound and feel of your new tractor.

Warm up tractor and check coolant temperature gauge (A), oil pressure (B), charging (C), and warning indicators.

Avoid unnecessary engine idling.

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

NOTE: If engine oil is added, use seasonal viscosity grade oil.



A—Coolant Temperature Gauge
B—Oil Pressure Indicator
C—Charging Indicator

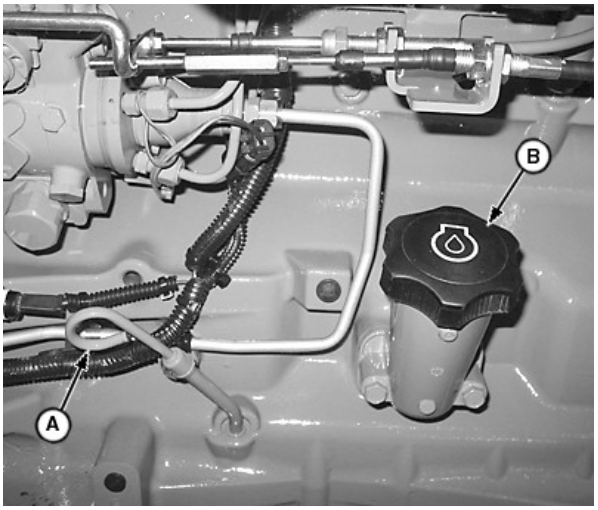
JZ81662,0000281-19-11JUL11-1/1

Service Daily Before Start-Up

IMPORTANT: During the first 100 hours of operation, fill with John Deere Diesel Engine Break-In Oil.

1. Check engine oil level. Wipe dipstick (A) off and reinsert it fully. Remove and locate oil level. Do not operate when oil level is below lower mark on dipstick. Add seasonal viscosity grade oil through filler hole (B).

A—Engine Oil Dipstick **B—Engine Oil Filler Cap**

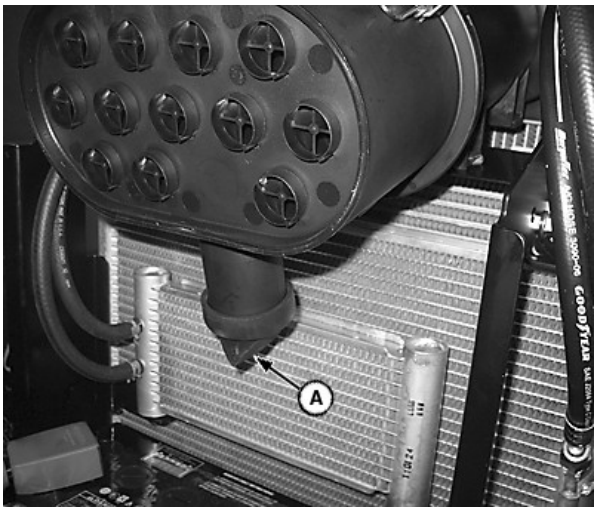


LV14175—UN—27APR11

JZ81662,0000282-19-11JUL11-1/2

2. If operating in extremely wet or muddy conditions, lubricate with multipurpose grease the following at the 10-hour service interval:
   - Front axle pivot pin
   - King pins
   - Rear axle bearings
3. Lubricate hood latch with multipurpose grease. (If necessary, clean first with a pressure washer)
4. Raise hood. Remove and clean dust unloading valve (A). Replace if damaged. Install valve. Lower hood.

A—Dust Unloading Valve



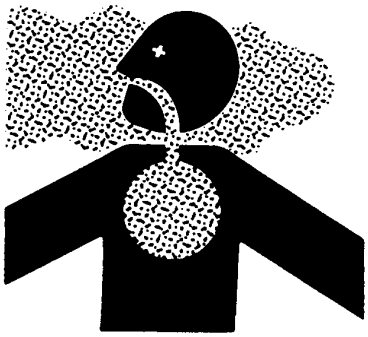
LV14238—UN—10MAY11

JZ81662,0000282-19-11JUL11-2/2

Before Starting the Engine

CAUTION: Prevent asphyxiation by providing adequate ventilation. If operating indoors, use an exhaust pipe extension to remove the exhaust fumes or open doors and windows to thoroughly ventilate the area.

1. Check fuel gauge.



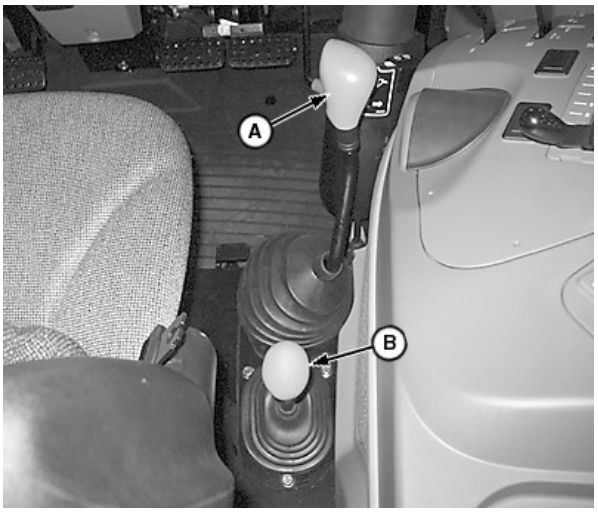
TS220—UN—15APR13

JZ81662,0000BBB-19-21MAY12-1/4

2. **Transmission Controls:** Put gear shift lever (A) in NEUTRAL or PARK and range shift lever (B) in NEUTRAL.

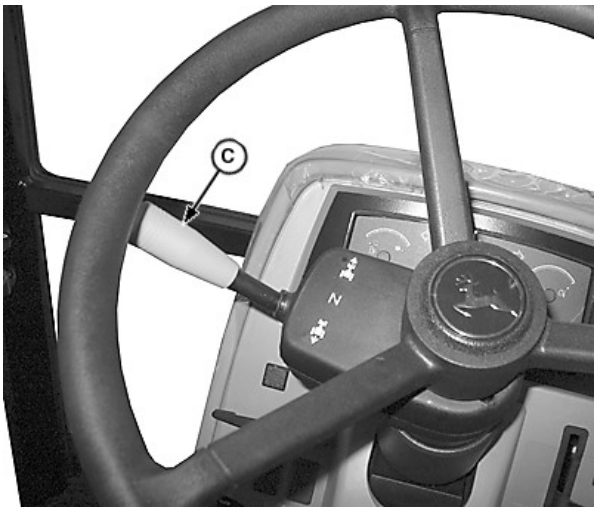
   PowrReverser™ **Transmission:** Put electro-hydraulic (EH) directional reverser lever (C) in NEUTRAL.

A—Gear Shift Lever
B—Range Shift Lever
C—EH Directional Reverser Lever



LV14177—UN—27APR11

Gear and Range Shifter Levers (Cab shown; OOS similar)



LV14178—UN—27APR11

EH Directional Reverser Lever (Cab shown; OOS similar)

PowrReverser is a trademark of Deere & Company

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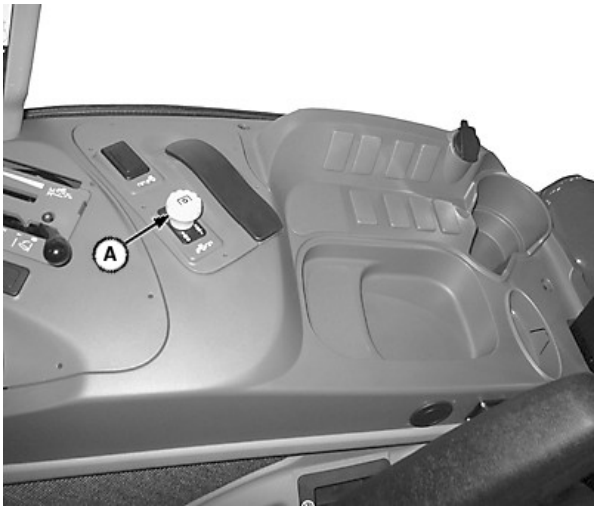
JZ81662,0000BBB-19-21MAY12-2/4

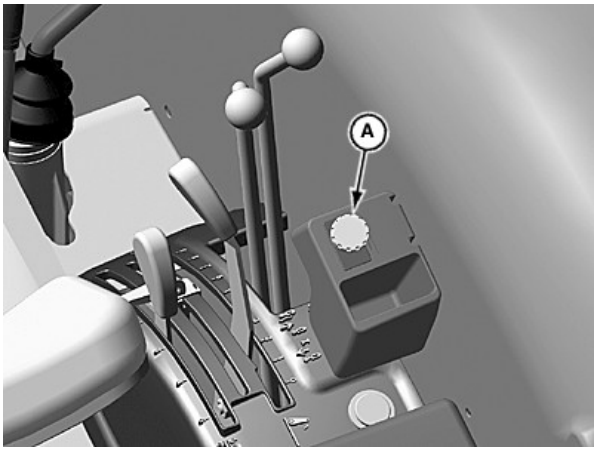
3. **EH PTO Control:**Push PTO Switch knob (A) down to disengage.

A—EH PTO Knob



LV14213—UN—02MAY11

EH PTO Knob (Cab)



LV15726—UN—18MAY12

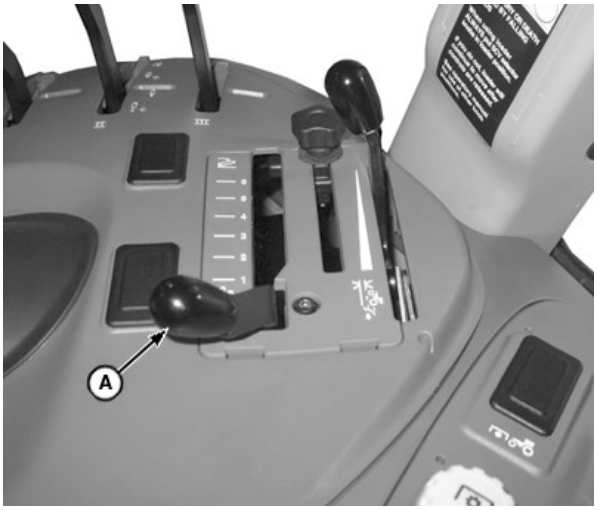
EH PTO Knob (OOS)

Continued on next page

JZ81662,0000BBB-19-21MAY12-3/4

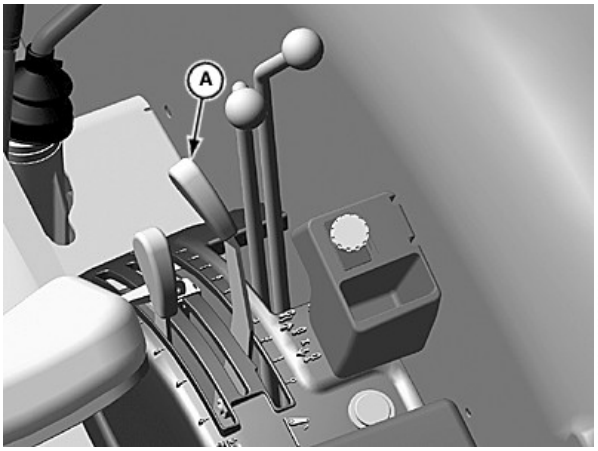
4. Push hitch control lever (A) forward to lower equipment to the ground.
5. Turn key to RUN position and check to see if all indicators light. (If any indicator does not light, see your John Deere dealer.)

A—Hitch Control Lever



LV14179—UN—03MAY11

Hitch Control Lever (Cab)



LV15784—UN—18MAY12

Hitch Control Lever (OOS)

JZ81662,0000BBB-19-21MAY12-4/4

Operating Ignition Switch

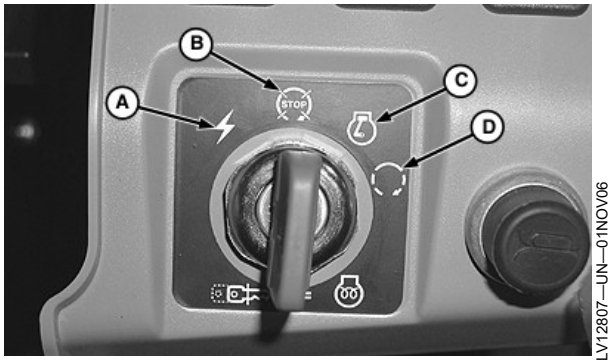
Accessory Position (A): Turn key to ACCESSORY position to power electrical functions.

Stop Position (B): Turn key to STOP position to turn off electrical accessories and to shut down engine.

Run Position (C): Turn key to RUN position. Check to ensure that indicator bulbs light, instrument indicator dials momentarily move, and that there is an audible beep before advancing to START position. Also use RUN position to activate cold weather starting devices. If temperature is below 5°C (41°F), refer to Cold Weather Starting procedure in this section.

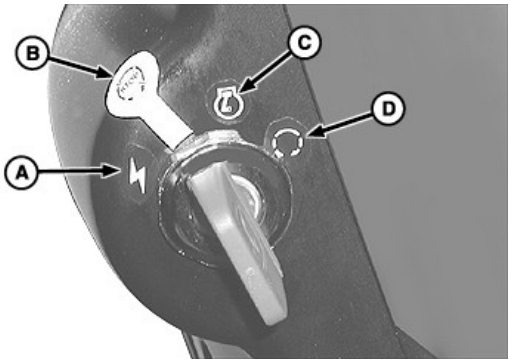
Start Position (D): Turn key to START position to crank and start engine. Key returns to RUN position when released.

A—Accessory Position
B—Stop Position
C—Run Position
D—Start Position



LV12807—UN—01NOV06

Cab



LV09199—UN—22JUL04

OOS

JZ81662,0000BB0-19-04MAY12-1/1

Starting the Engine

CAUTION: NEVER start engine while standing on ground. Do not start engine by shorting across starter terminals. Machine will start in gear and move if normal circuitry is bypassed.

IMPORTANT: DO NOT run a cold engine at full throttle. Idle engine at 1200 rpm until it warms to operating temperature.

1. Start from operator's seat with transmission in neutral or park. For PowrReverser™ Transmission, put EH directional reverser lever in NEUTRAL.
2. Push hand throttle (A) forward from idle position (approximately 1/3 of full throttle). Engine may not start with throttle pulled completely down.

IMPORTANT: DO NOT operate starter more than 20 seconds at a time. If engine does not start, wait at least 2 minutes for the starter motor to cool before trying again.

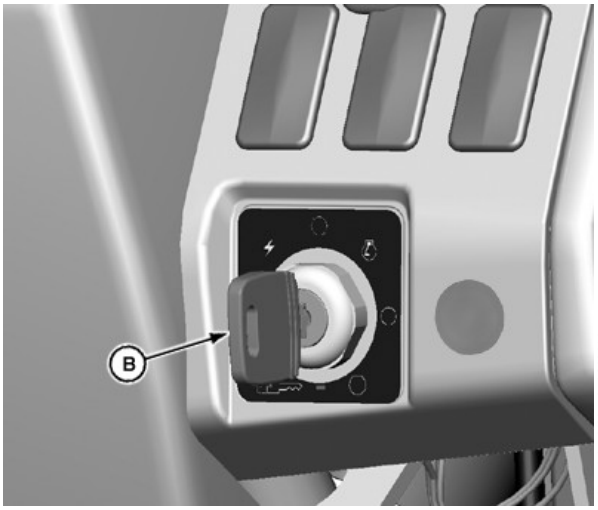
3. Depress clutch pedal and turn key (B) to START position. Release key when engine starts. If key is released before engine starts, wait until starter and engine stop turning before trying again.
4. Warm up tractor carefully. Charging and oil pressure warning indicators should go off and stay off. Coolant temperature gauge should begin to move into normal range.
5. Avoid unnecessary engine idling. Check fluid levels frequently for engine oil, coolant, transmission-hydraulic, and mechanical front wheel drive. Watch for fluid leaks.

A—Hand Throttle **B—Key Switch**

TS177—UN—11JAN89

LV12797—UN—04OCT06

Hand Throttle (Cab shown; OOS similar)



LV15734—UN—07MAY12

Key Switch (Cab shown; OOS similar)

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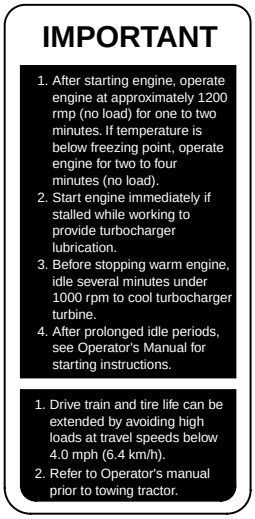
JR13030,0000089-19-16JUL12-1/2

IMPORTANT:

1. **After starting engine, operate engine at approximately 1200 rpm (no load) for one to two minutes. If temperature is below freezing point, operate engine for two to four minutes (no load).**
2. **Start engine immediately if stalled while working to provide turbocharger lubrication.**
3. **Before stopping warm engine, idle several minutes under 1000 rpm to cool turbocharger turbine.**
4. **After prolonged idle periods, See Operator's Manual for starting instructions.**

1. **Drive train and tire life can be extended by avoiding high loads at travel speeds below 4.0 mph (6.4 km/h).**
2. **Refer to Operator's Manual prior to towing tractor.**

LV14480—UN—28JUL11



LV12660—19—02MAY05

JR13030,0000089-19-16JUL12-2/2

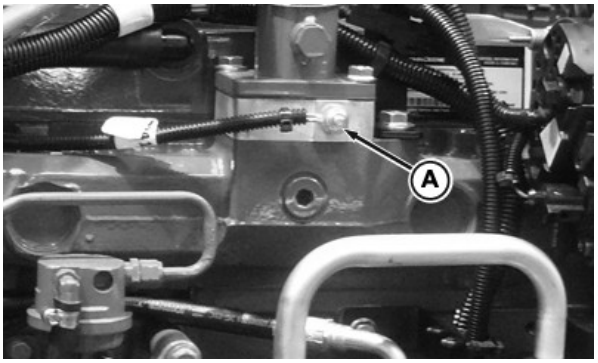
Cold Weather Starting

CAUTION: DO NOT use starting fluid in tractor equipped with a cold weather starting device.

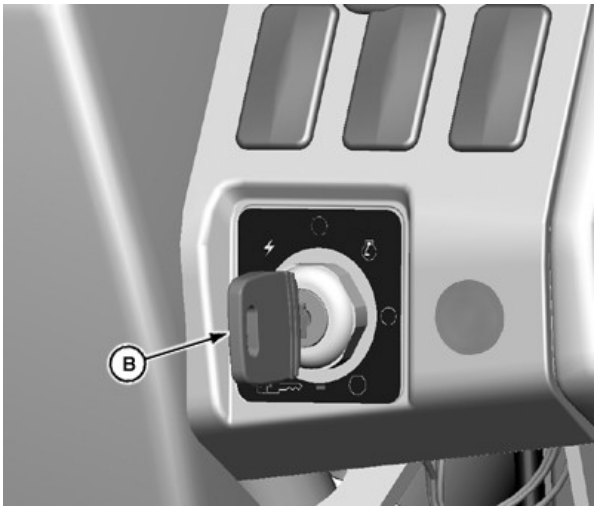
Tractors can be equipped with an optional intake air heater system. An electric heating element (A) warms the intake air.

1. To activate cold weather starting device, turn key switch (B) to RUN position, push in and hold:
   - 10 or 15 seconds for temperatures above 0°C (32°F)
   - 30 seconds for temperatures below 0°C (32°F)
2. Depress clutch pedal and turn key to START position.
3. If engine runs rough, press in on key to reactivate cold weather starting device until engine runs smoothly.
4. Idle engine at 1200 rpm until it warms to operating temperature.

A—Electric Heating Element **B—Key Switch**



Air Intake Heater Element



Key Switch (Cab shown; OOS similar)

JZ81662,0000BBD-19-04MAY12-1/1

Using Engine Coolant Heater

CAUTION: To avoid shock or hazardous operation, always use a three-wire heavy-duty electrical cord (minimum gauge 10 AWG and no longer than 7.6 m [25 ft]) equipped with three connectors. If a two-to-three contact adapter is used at the wall receptacle, connect green wire to a good ground.

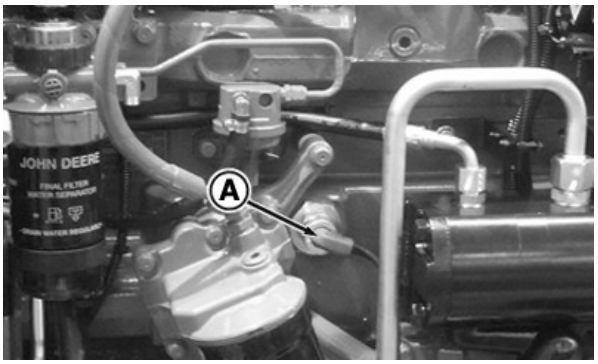
Immerse element in coolant before connecting heater to power source. NEVER energize heater in air.

Located on side of the engine, the 110-volt coolant heater (A) warms the engine coolant, reduces oil drag, eases starting, and shortens warm-up time.

Connect heater plug to a ground fault protected 110-volt electrical outlet.

A—Coolant Heater

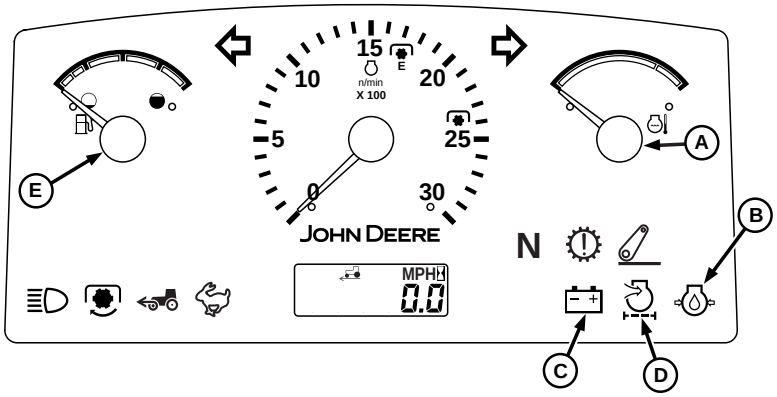
TS210—UN—23AUG88



PULV006910—UN—22JUN10

AI68620,000020E-19-03SEP10-1/1

Checking Engine Indicators and Gauges



LV9541—UN—04AUG04

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

IMPORTANT: If temperature gauge (A) indicates hot (red zone), or either charging system or oil pressure indicators (B or C) fail to go out, stop engine and determine the cause.

Coolant Temperature Gauge (A)

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

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

Oil Pressure Indicator (B)

Oil pressure indicator will light if engine oil pressure is low. Indicator should light when key is turned to RUN position and go out when engine starts.

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

If low oil level is not the problem, see your John Deere dealer.

Charging System Indicator (C)

Charging system indicator will light when alternator output is low. Indicator should light when key is turned to RUN position, and go out when engine starts.

If indicator stays lit for longer than 5 seconds in normal operation, stop engine and check for cause. If loose or broken fan belt is not the cause, see your John Deere dealer.

Air Restriction Indicator (D)

Air restriction indicator will light if air cleaner becomes plugged. Service air cleaner as soon as possible.

Fuel Level Gauge (E)

Stop to refuel before fuel gauge reaches empty mark.

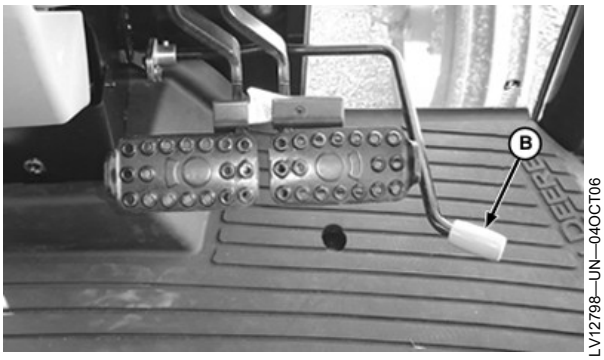
IMPORTANT: Use diesel fuel only.

If tractor runs out of fuel and will not start in several tries, bleed air from fuel system.

JZ81662,0000285-19-12JUL11-1/1

Changing Engine Speeds

Hand Throttle (Cab shown; OOS similar)



Foot Throttle (Cab shown; OOS similar)

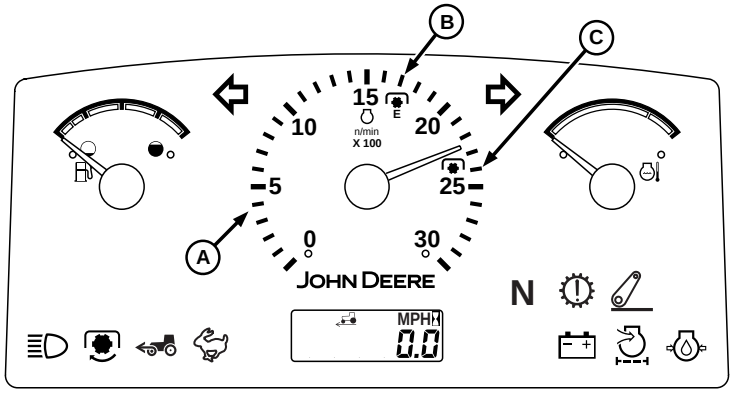
A—Hand Throttle **B—Foot Throttle**

Push hand throttle (A) forward to increase speed.

Depress foot throttle (B) to temporarily increase engine speed above hand throttle setting.

JZ81662,0000BBE-19-03MAY12-1/1

Recommended Engine Speeds and Operating Procedures



LV9542—UN—04AUG04

A—Tachometer **B—1700 rpm Mark (540E)** **C—2400 rpm Mark (540)**

Tachometer (A) shows engine rpm, read in hundreds.

Warming Up Engine

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

1. Idle engine at 1200—1500 rpm for several minutes.
2. Run engine at about 1900 rpm and under light load until engine reaches normal operation condition.

NOTE: If hydraulic functions operate slowly, warm the transmission-hydraulic system oil.

Avoid Idling Engine

Allowing engine to idle at low rpm uses fuel inefficiently, and can cause a buildup of carbon in the engine.

If tractor must be left with the engine running more than three or four minutes, minimum engine speed should be 1200 rpm.

Observe Engine Work and Idle Speeds

Slow idle speed should be 850 ± 50 rpm. At light or no load, full throttle speed will increase to 2600 +50/-25 rpm.

Normal working speed is 1600—2400 rpm rated speed. Within these limits engine can be put under full load.

NOTE: With PTO shift lever in 540E position, engine fast idle speed is limited to 1700 rpm.

For correct PTO speed, run engine at:

- **Economical 540E PTO (B) operation (lighter load):** Increase engine speed until tachometer needle is aligned with 1700 rpm mark (B).
- **Standard 540 rpm PTO (C) operation (load requiring full engine power):** Increase engine speed until tachometer needle is aligned with 2400 rpm mark (C).

Restarting Stalled Engine

Should the engine stall when operating under load, depress clutch and restart it immediately to prevent abnormal heat buildup and continue with normal operation, or operate at slow idle for one or two minutes before stopping.

JZ81662,0000286-19-12JUL11-1/1

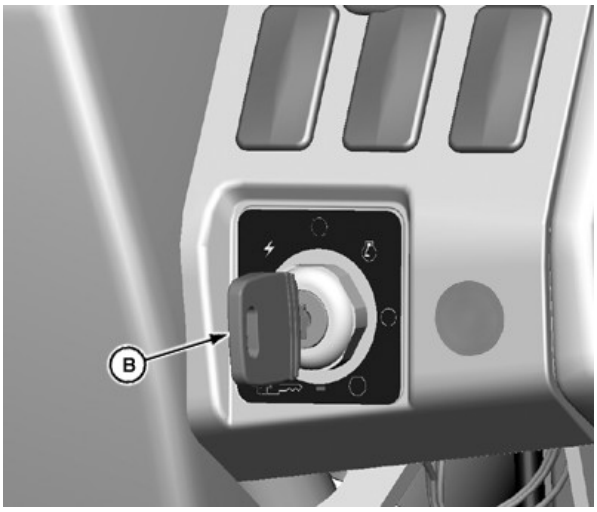
Stopping the Engine

IMPORTANT: Certain engine parts are cooled by engine oil. Stopping a hot engine could cause damage by overheating or lack of lubrication.

1. Pull hand throttle (A) back to slow idle.
2. Put gear shift lever in PARK, and allow engine to idle for 2—5 minutes.
3. For PowrReverser™ Transmission, put EH directional reverser lever in NEUTRAL.
4. Lower all equipment to the ground, put all SCV levers in NEUTRAL, and disengage PTO.
5. Turn key switch (B) to STOP and remove from switch.

A—Hand Throttle **B—Key Switch**

Hand Throttle (Cab shown; OOS similar)



Key Switch (Cab shown; OOS similar)

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JZ81662,0000BBF-19-04MAY12-1/1

Use Booster Battery or Charger

CAUTION: Battery gas is explosive. Keep sparks and flames away from battery. Make last connection and first disconnection at a point away from battery.

IMPORTANT: Reversed polarity may damage electrical system or cause battery to explode.

Booster battery

1. Attach red power cable to vehicle starter positive terminal and positive terminal of booster battery.
2. Attach black ground cable to negative terminal of booster battery and to a good ground on the engine block.
3. Turn key to START position.
4. When engine starts, remove ground cable first, then power cable.

Battery charger

1. With charger OFF, attach red positive lead to positive (+) battery terminal and negative charger lead to a good ground on the engine block, away from battery.
2. Charge battery according to charger manufacturer instructions.
3. Disconnect negative charger lead first, then positive lead.

AI68620,0000213-19-03SEP10-1/1

Operating PowrReverser Transmission

CAUTION: Leaving transmission in gear with engine stopped WILL NOT prevent tractor from moving. Put transmission gear shift lever in PARK and electro-hydraulic directional reverser lever in NEUTRAL before dismounting.

Gear shift lever (A) provides four forward travel speeds (1, 2, 3, 4) and reverse.

Range shift lever (B) provides three speed ranges (A, B, C).

Electro-hydraulic (EH) directional reverser lever (C) provides travel direction (forward or reverse).

When using range and gear shift levers in different combinations, 12 forward and reverse speeds are available.

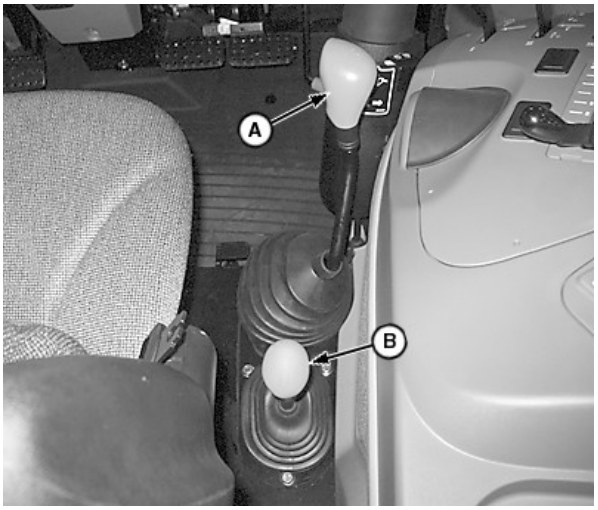
NOTE: Slow speed gearing (creeper) is available as an option.

1. When starting tractor, put EH directional reverser lever in neutral and cycle clutch pedal one time to disengage the engagement override valve.

IMPORTANT: To prevent unnecessary wear, never "ride" the clutch by resting a foot on the pedal.

2. Depress clutch pedal and stop tractor before shifting range shift lever.
3. Use EH directional reverser lever to select travel direction. You can change travel direction without depressing the clutch pedal.
4. Depress clutch pedal when shifting gears. Gear shifts (1, 2, 3, 4) can be made on-the-go, without stopping. Release clutch pedal gradually to take up load smoothly.

A—Gear Shift Lever
B—Range Shift Lever
C—EH Directional Reverser Lever



LV14177—UN—27APR11

Cab Shown; OOS Similar

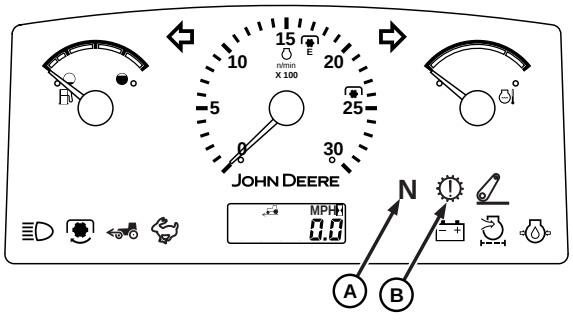
LV14178—UN—27APR11

JZ81662,0000BC3-19-04MAY12-1/2

The Neutral Indicator (A) lights when gear shift lever and EH directional reverser lever are both in neutral. The indicator light will go out when the gear shift lever is put in PARK. The indicator light will flash if the gear shift lever is in Neutral and EH directional reverser lever is in forward or reverse.

The Information Indicator (B) lights if a malfunction is detected in the transmission. If this indicator comes on, contact your John Deere dealer.

A—Neutral Indicator
B—Information Indicator



LV9588—UN—06AUG04

JZ81662,0000BC3-19-04MAY12-2/2

Ground Speed Estimates—PowrReverser Transmission

Speeds are calculated using 18.4 R30 1442 R1 rear tires. To calculate ground speeds for tractors equipped with rear tires other than 18.4 R30 1442 R1 tires, see CORRECTION FACTORS FOR OTHER TIRE SIZES in this section.

FORWARD		REVERSE	
Range-Gear	1600 / 2400 RPM km/h (mph)	Range-Gear	1600 / 2400 RPM km/h (mph)
A-1	1.21 / 1.80 (0.75 / 1.11)	A-1	1.31 / 1.97 (0.81 / 1.22)
A-2	1.63 / 2.45 (1.02 / 1.53)	A-2	1.79 / 2.68 (1.11 / 1.66)
A-3	2.24 / 3.35 (1.39 / 2.08)	A-3	2.43 / 3.66 (1.51 / 2.28)
A-4	3.00 / 4.49 (1.86 / 2.74)	A-4	3.27 / 4.90 (2.03 / 3.05)
B-1	3.46 / 5.20 (2.15 / 3.23)	B-1	3.79 / 5.67 (2.35 / 3.53)
B-2	4.72 / 7.07 (2.93 / 4.40)	B-2	5.15 / 7.72 (3.20 / 4. 79)
B-3	6.44 / 9.66 (4.00 / 6.00)	B-3	7.03 / 10.54 (4.37 / 6.54)
B-4	8.63 / 12.95 (5.37 / 8.04)	B-4	9.41 / 14.11 (5.84 / 8. 77)
C-1	10.03 / 15.03 (6.23 / 9.34)	C-1	10.93 / 16.40 (6.79 / 10.19)
C-2	13.64 / 20.46 (8.46 / 12.73)	C-2	14.88 / 22.32 (9.34 / 13.86)
C-3	18.62 / 27.93 (11.56 / 17.36)	C-3	20.31 / 30.47 (12.63 / 18.94)
C-4	24.94 / 37.41 (15.50 / 23.24)	C-4	27.21 / 40.81 (16.91 / 25.36)

JZ81662,0000BC4-19-04MAY12-1/1

Correction Factors for Other Tire Sizes

To calculate ground speeds for tractors equipped with rear tires other than 18.4 R30 1442 R1 tires, multiply speeds shown in GROUND SPEED ESTIMATES by the correction factor for the appropriate tire size found in the table.

Be sure to use correct ground speed estimate for your transmission type. Use creeper transmission ground speed estimates, if so equipped.

Example: Forward B-2 (PowrReverser™ Transmission) at 2400 engine rpm with 19.5L-24 R4 tires.

7.07 km/h (4.49 mph) x 0.88 = 6.22 km/h (3.95 mph)

Tire Size	Correction Factor
19.5L-24 R4	0.88
16.9-30 R1	0.96

NOTE: Speed and correction factor information above is based on rolling circumference information from GoodYear Farm Tire Data Book. Rolling circumference dimensions for "like" size tires vary by manufacturer.

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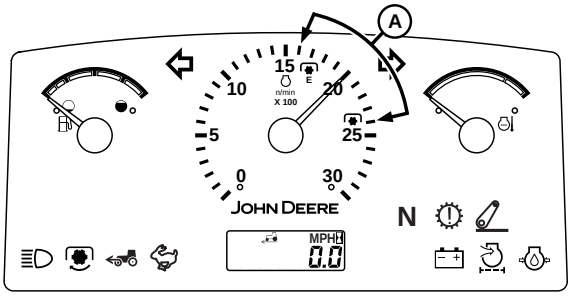
AI68620,0000219-19-03SEP10-1/1

Selecting a Gear

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

The tractor may be operated in any gear with engine speeds between 1600—2400 rated engine rpm (A). Within these limits the engine can be put under full load. For light load operation, use a higher gear and lower engine speed. This saves fuel and reduces wear.



LV9567—UN—06AUG04

A—1600—2400 Rated Engine RPM

JZ81662,0000288-19-12JUL11-1/1

Operating Mechanical Front Wheel Drive

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

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

When driving on icy, wet or graveled surfaces, reduce speed and be sure tractor is properly ballasted to avoid skidding and loss of steering control. For best control, engage mechanical front wheel drive.

IMPORTANT: To extend tire life, engage mechanical front wheel drive only when needed. DO NOT engage when driving on hard surfaces.

DO NOT install tire chains on tractor front wheels. Chains will strike and damage tractor.

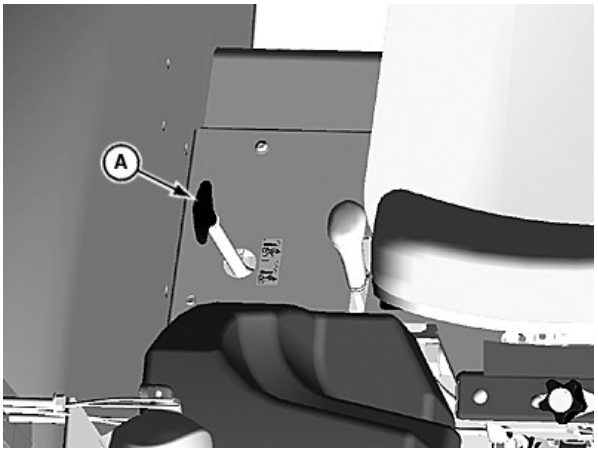
To prevent transmission damage, DO NOT engage or disengage mechanical front wheel drive on the go.

For Cab: Depress clutch pedal and stop tractor before engaging or disengaging MFWD. Push MFWD shift lever (A) forward to engage, and pull lever back to disengage MFWD.

For OOS: Depress clutch pedal and stop tractor before engaging or disengaging MFWD. Pull MFWD shift lever (A) up to engage, and push lever down to disengage MFWD.

A—MFWD Shift Lever

LV14150—UN—25APR11



LV15740—UN—08MAY12

OOS

JZ81662,0000BC5-19-07MAY12-1/1

Operating Brakes

CAUTION: Before operating tractor on a road, lock brake pedals together with locking bar (A). Use brakes lightly and cautiously when slowing from transport speed.

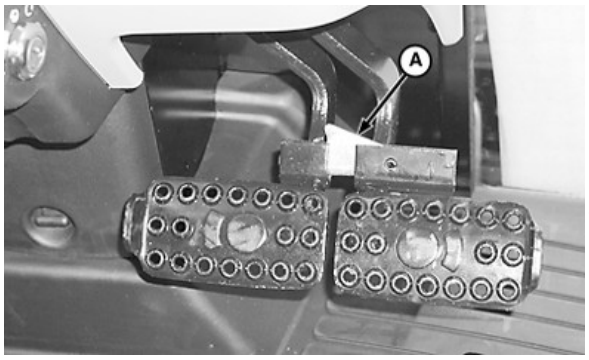
NOTE: Brake pedals shown in locked position.

Use individual brakes to assist in making sharp turns. Disengage brake pedal locking bar (A) and depress only one brake pedal.

To stop tractor, depress both brake pedals.

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

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



LV12837—UN—01NOV06

A—Brake Pedal Locking Bar

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

AI68620,000021E-19-03SEP10-1/1

Using Differential Lock

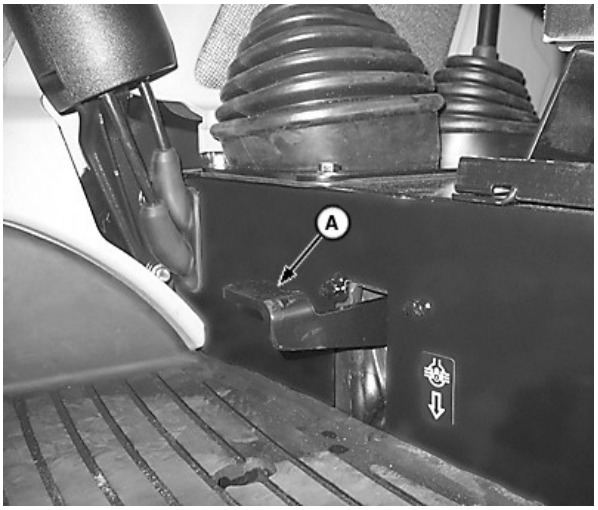
CAUTION: DO NOT operate tractor at high speed or attempt to turn with differential lock engaged.

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

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

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

If tires repeatedly slip, then get traction, then slip again, hold pedal down in the engaged position.



Differential Lock

A—Differential Lock Pedal

JZ81662,000028A-19-12JUL11-1/1

Stopping the Tractor

1. Stop tractor travel with brakes.

CAUTION: Leaving transmission in gear with engine off WILL NOT prevent tractor from moving.

IMPORTANT: Stop tractor before moving gear shift lever to PARK. Park pawl will not engage, and transmission may be damaged if tractor is moving.

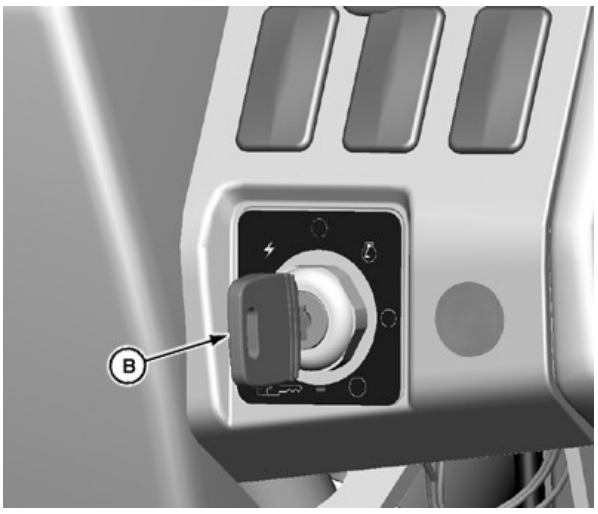
2. Move gear shift lever to PARK.
3. For PowrReverser™ Transmission, put EH directional reverser lever in NEUTRAL.
4. Disengage PTO.
5. Put all SCV levers in NEUTRAL.
6. Lower all equipment to the ground.

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

7. Pull hand throttle (A) back to slow idle position. Allow engine to idle for 2—5 minutes.

CAUTION: Remove key from ignition switch to prevent operation by untrained personnel.

8. Turn key switch (B) to STOP position and remove key from switch.



A—Hand Throttle **B—Key Switch**

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JZ81662,0000BC8-19-07MAY12-1/1

Operate Mechanical Position Control

CAUTION: Prevent unexpected movement of rear hitch. Put draft control knob (C) in full forward position before attaching implement.

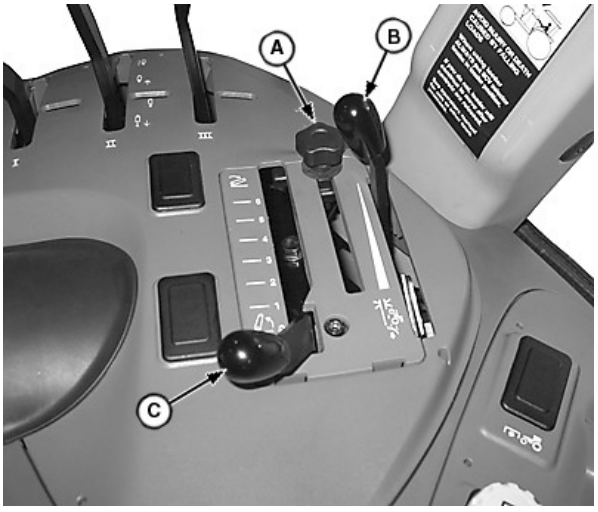
Push draft control lever (B) fully forward when you DO NOT want rear hitch to adjust automatically to draft load, such as when attaching an implement to the tractor.

Use position control lever (C) to control hitch movement and depth:

Transport

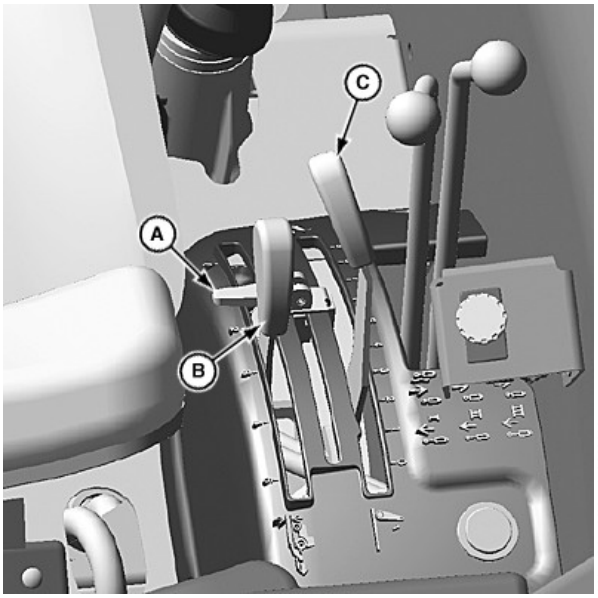
For transport of implements and end of field turn-around, pull control lever (C) fully rearward for both load and non-load sensing usage.

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



LV14194—UN—27APR11

Cab



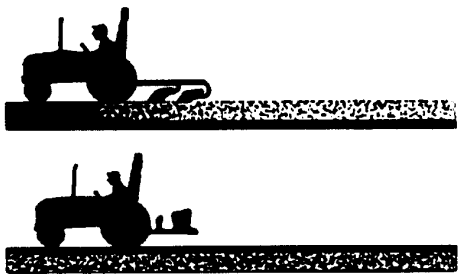
LV15720—UN—17MAY12

Open Operator Station

JZ81662,0000807-19-18MAY12-1/3

Constant Depth

1. For constant depth of implements on level terrain and for non-ground engaging implements such as spreaders or sprayers, put position control lever (C) at desired depth.
2. Operate implement for a few minutes to determine proper depth or height.
3. Set control lever stop (A) against position control lever. Rear hitch will return to the same position each time control lever contacts the stop.



LV09233—UN—26JUL04

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JZ81662,0000807-19-18MAY12-2/3

Float

For float operation for implements with skids or depth gauge wheels designed to carry full implement weight, push both position control lever (C) and draft control lever (B) all the way forward, so implement can follow ground contour.

NOTE: Lift links can be adjusted for lateral float. (See Adjusting Lateral Float in 3-Point Hitch section.)

LV9457—UN—26JUL04

JZ81662,0000807-19-18MAY12-3/3

Operate Mechanical Draft Control

The rear hitch is equipped with variable draft control system:

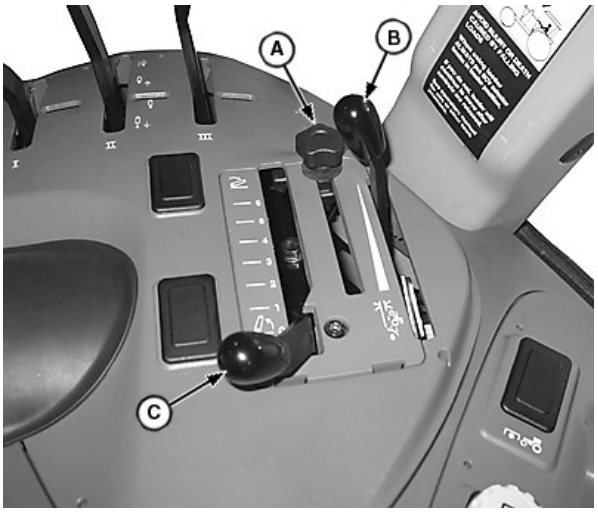
- Operating with a fully mounted implement in hill and swale terrain, the implement will rise and lower to follow the ground contours while maintaining a nearly constant depth.
- Operating in varying soil conditions, the implement is raised slightly to get through tough spots so you do not have to shift to a lower gear.

Change draft sensitivity ranges by repositioning the center link.

For draft load sensing operation:

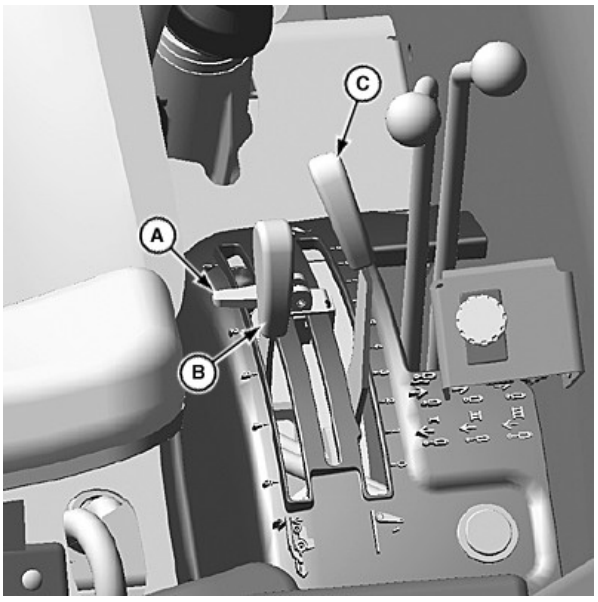
1. Pull position control lever (C) to its fully rearward position and push the draft control lever (B) to the fully forward (least draft) position.
2. With tractor moving, push position control lever (C) forward to set implement operating depth.
3. Set position control stop (A). The operating depth set up will prevent the rear hitch from lowering all the way when the tractor begins to slip.
4. Pull draft control lever (B) rearward until desired draft sensing sensitivity is obtained.
5. To slightly raise implement (for getting through slippery spots in a field), push position control lever (C) forward more then the draft control setting.
6. Pull position control lever (C) fully rearward to raise the hitch at the end of the field.

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



LV14194—UN—27APR11

Cab



LV15720—UN—17MAY12

Open Operator Station

JZ81662,0000808-19-01MAY12-1/1

Operate Mechanical Rate-of-Drop

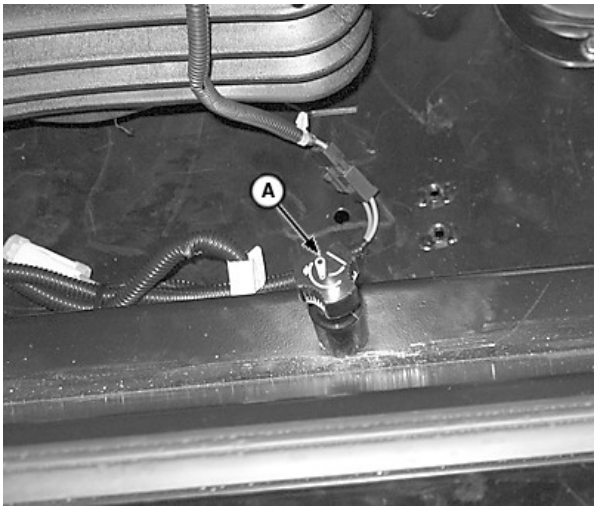
CAUTION: To avoid injury from hitch movement, only adjust rate-of-drop from operator station.

IMPORTANT: Fully lowering implement should take at least 2 seconds. Rate of drop is directly related to implement weight; therefore select a rate slow enough to prevent damage.

Turn rate-of-drop control knob (A), located behind right rear of seat:

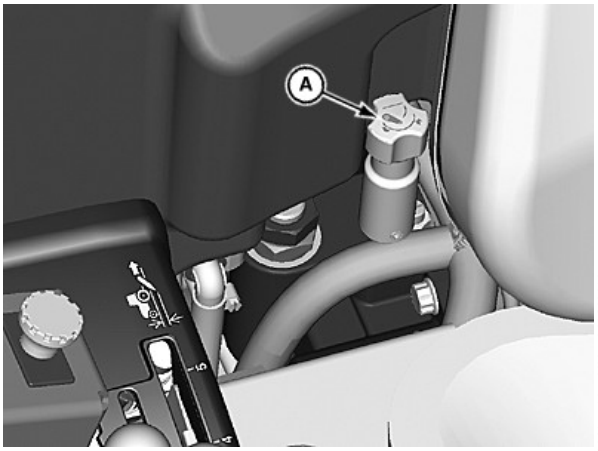
- To slow rockshaft drop, turn CLOCKWISE.
- To increase rate-of-drop, turn COUNTERCLOCKWISE.

A—Rate-of-Drop Control Knob



LV14197—UN—27APR11

Cab



LV15716—UN—02MAY12

Open Operator Station (OOS)

JZ81662,0000809-19-01MAY12-1/1

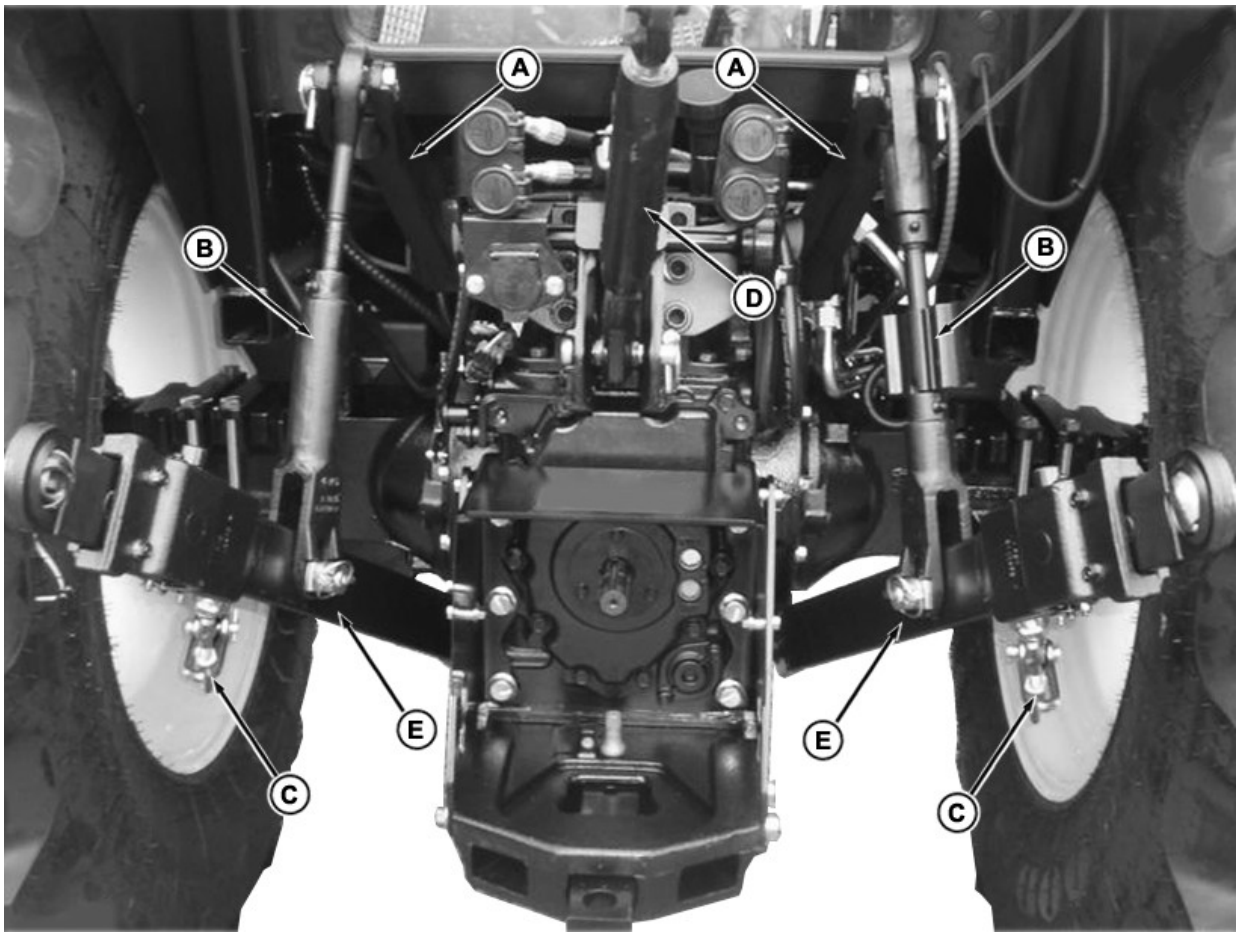
Match Tractor Power to Implement

IMPORTANT: Match tractor power to the size of the implement. Excessive power can damage an implement, and too large of an implement can damage the tractor.

Refer to your implement operator's manual for minimum and maximum power requirements before attaching implement to tractor.

AI68620,0000226-19-03SEP10-1/1

3-Point Hitch Components



PULV007176—UN—13AUG10

A—Lift Arms
B—Lift Links
C—Sway Chain
D—Center Link
E—Draft Links

NOTE: Optional telescoping draft links shown.

JZ81662,0000291-19-12JUL11-1/1

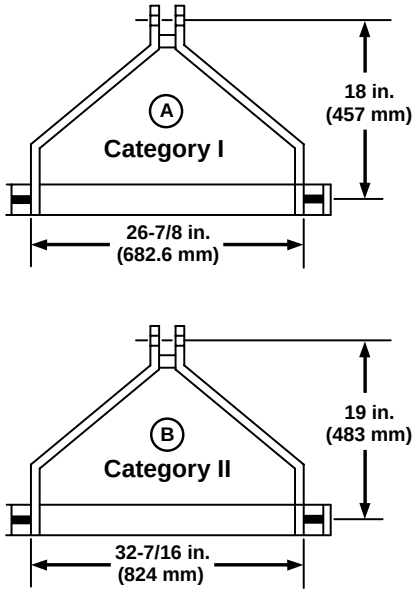
Preparing Implement

When attaching Category I implements to the tractor, sway bars may need adjustment to prevent binding and limiting full raise of the hitch. (See Adjusting Hitch Side Sway in this section.)

Category I (A), 3-Point Hitch is narrower and is used for smaller implements than Category II (B) implements. (See chart below to identify implement category.)

Category II implements should have the top hole of the implement mast located 483 mm (19 in.) above the lower pins. Drill another hole in top mast or extend top mast if necessary.

Category	Mast Height	Width Between Lower Pins	Pin Size	
			Lower	Upper
I (A)	457 mm (18 in.)	682.6 mm (26-7/8 in.)	22 mm (7/8 in.)	19 mm (3/4 in.)
II (B)	483 mm (19 in.)	824 mm (32-7/16 in.)	28 mm (1-1/8 in.)	25.4 mm (1 in.)



LV9639—UN—11AUG04

A—Category I **B—Category II**

AI68620,0000228-19-03SEP10-1/1

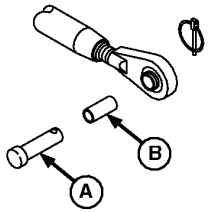
Converting Category II Hitch to Category I

Center link and draft link ends are sized for Category II implement attaching pins.

If Category I implements are to be used, the Category II hitch can easily be converted by inserting reducer bushings (B) in center link end and draft link ends. Smaller implement pins (A) are also needed when bushings are installed.

See your John Deere dealer for parts.

A—Implement Pin **B—Center/Draft Link Bushing**



LV9640—UN—11AUG04

Center Link End Shown

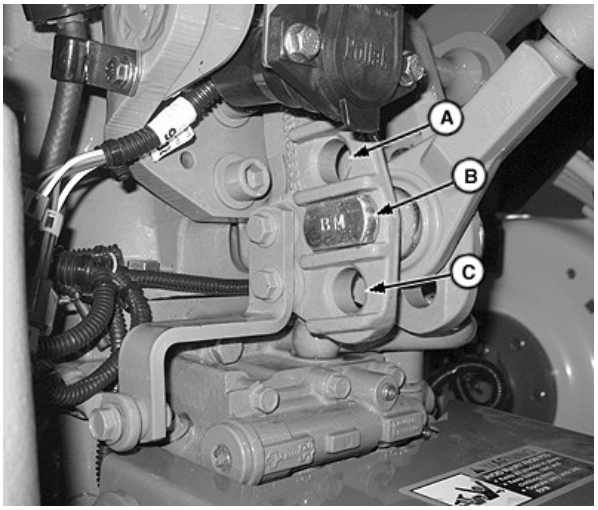
JZ81662,0000BB8-19-02MAY12-1/1

Positioning Center Link

The center link attaching bracket has holes which allow three different positions for attaching the center link. The position affects the draft sensing sensitivity.

Should the following conditions occur, move center link to indicated holes to correct.

Condition	Use Holes
Excessive hitch activity or hunting occurs in draft control operation.	A or B
Rear of implement rises too much when lifted. The implement weight which can be lifted is reduced slightly with center link attachment in lower holes.	A or B
Rear of implement drags the ground.	B or C
Draft control knob range is too small.	B or C
Hitch seems unresponsive in draft control operation and allows engine speed to drop too far before raising rockshaft.	B or C

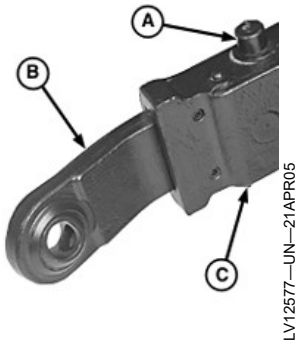


A—Upper Hole
B—Middle Hole
C—Lower Hole

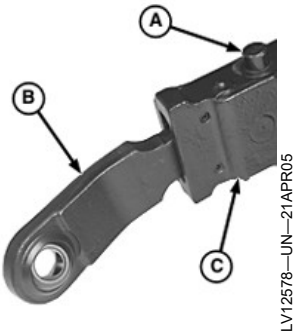
NOTE: Implements with Category I mast height 457 mm (18 in.) will normally use the lower two attaching holes and implement with Category II mast height 483 mm (19 in.) will use the upper two holes.

JZ81662,0000293-19-12JUL11-1/1

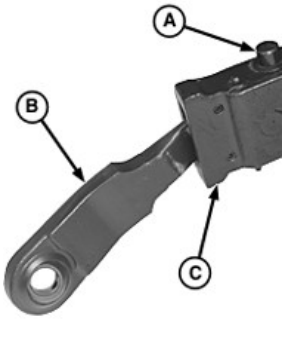
Attaching Implements to 3-Point Hitch



Full In



Mid-Point



Full Out

A—Button
B—Draft Link End
C—Draft Arm

1. Be sure drawbar will not interfere. If necessary, move drawbar to fully retracted position or remove it. Check for any other potential interference.

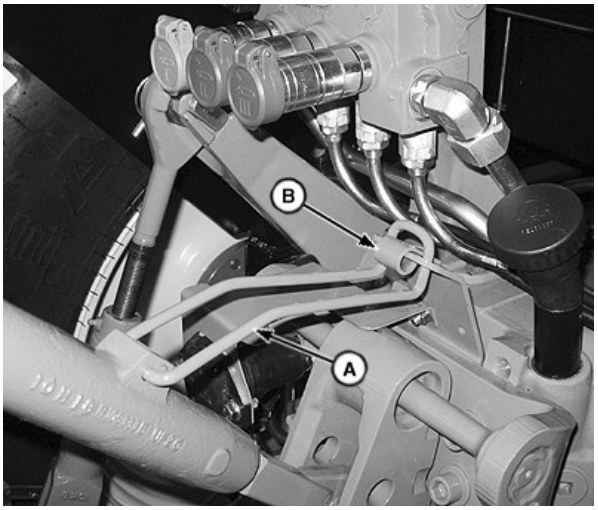
CAUTION: To prevent unexpected movement of rockshaft, place draft sensing control in OFF position before attaching implement to hitch.

2. Position tractor in line with hitch points. Back tractor up close to implement. Place transmission in PARK and stop engine.
3. Move button (A) toward center of tractor and pull out draft link end (B). Slip draft link end over implement hitch pin. Retain with quick-lock pin. Repeat on other side.
4. Raise or lower draft arms (C) to align ends (B) with arms, then slowly back up tractor to lock ends in place.

Continued on next page

JZ81662,0000BC9-19-07MAY12-1/3

5. Lift locking clip (A), and rotate tab (B) to rear to release center link from transport hook.
6. Attach center link to implement top mast.
7. Adjust center link and lift links as necessary. See Leveling the Hitch in this section.



LV14200—UN—29APR11

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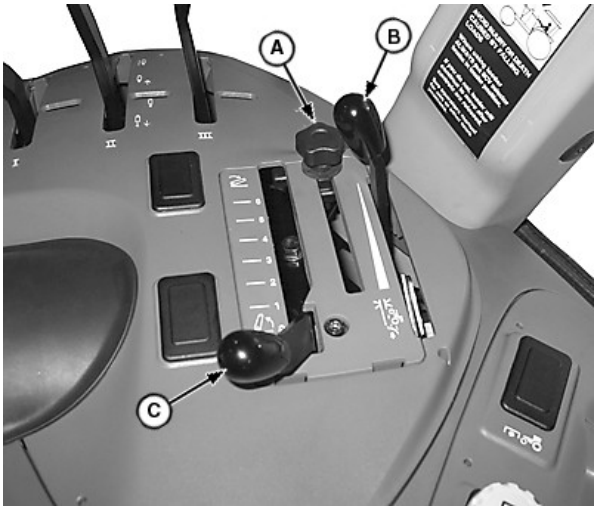
JZ81662,0000BC9-19-07MAY12-2/3

CAUTION: To avoid bodily injury or machine damage whenever an implement, implement quick coupler, or other attachment is connected to the tractor 3-point hitch, check full range of operation for interference, binding or PTO separation.

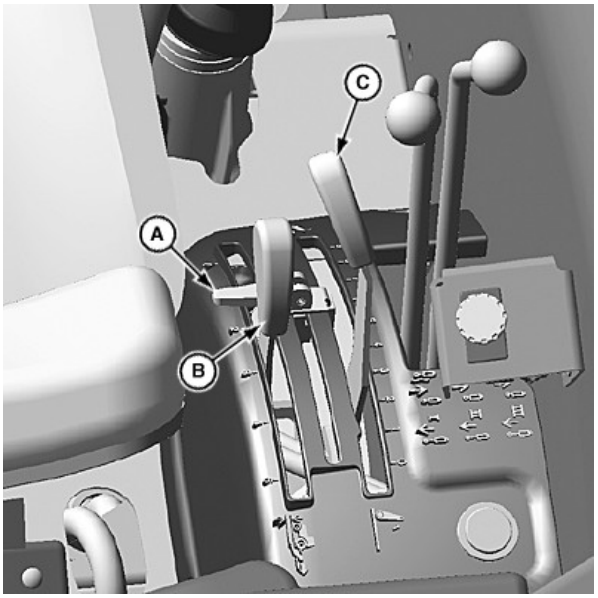
8. Start engine. Using rockshaft position control lever (C), slowly raise and lower implement and check for interference.

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



LV14194—UN—27APR11

Cab



LV15720—UN—17MAY12

OOS

JZ81662,0000BC9-19-07MAY12-3/3

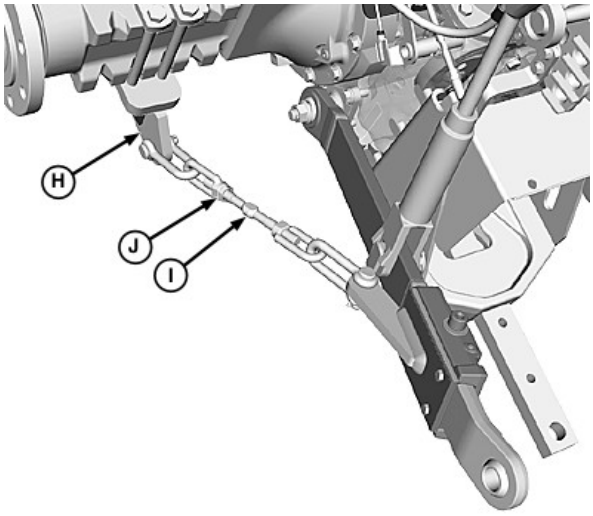
Adjusting Hitch Side Sway

NOTE: Check implement operator's manual for instruction on whether to allow side sway.

IMPORTANT: DO NOT shorten chains so short that they do not allow hitch to be raised completely. If chain prevents hitch from raising, hydraulic relief valve will open, causing excessive oil heating, pump damage or equipment damage.

NOTE: Use spring or rubber strap to keep draft links out of rear tires when draft links are not attached to implement.

Implement side sway should be adjusted when the rockshaft is raised for transport by loosening the jam nut (J) on the threaded link (I) and turning the center rod to increase or decrease the length of the chain. Tighten jam nut again when adjusted.



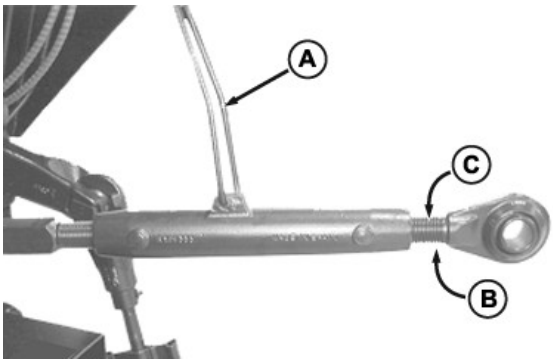
LV13909—UN—10FEB10

Sway Chains

H—Stabilizer Bracket
I—Threaded Link
J—Jam Nut

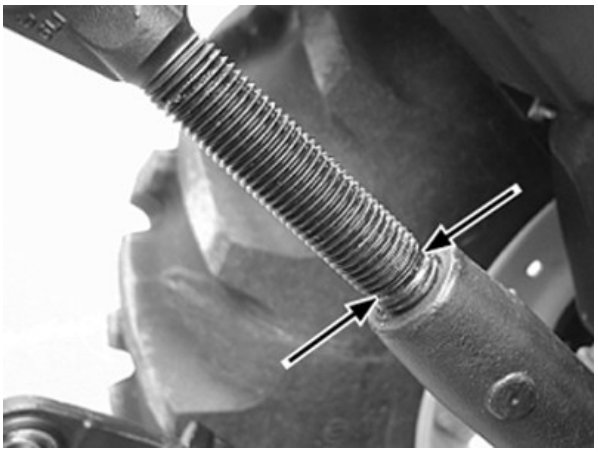
AI68620,000022C-19-03SEP10-1/1

Leveling the Hitch



PULV006939—UN—22JUN10

Center Link



PULV006923—UN—20APR10

Extension Limit Groove

A—Locking Clip
B—Center Link Clockwise Rotation
C—Center Link Counterclockwise Rotation

1. Lower implement to take weight off hitch and adjust center link to level implement front-to-rear.

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

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

NOTE: On later model tractors make sure the center link does not unscrew past the extension limit groove cut into threads as shown in photo.

a. Unlatch locking clip (A). Rotate center link body:

- CLOCKWISE (B) to lengthen center link.
- COUNTERCLOCKWISE (C) to shorten center link.

b. Latch locking clip.

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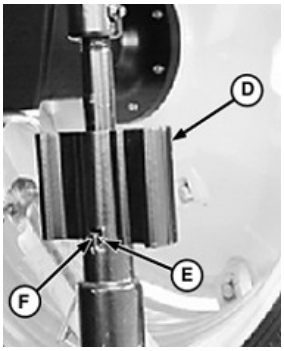
AI68620,000022D-19-03SEP10-1/2

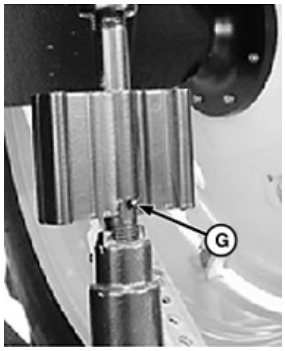
2. Adjust right link to level implement side-to-side.
   a. Lift locking handle (D) and rotate 90° to engage slot (E) onto roll pin (G). Turn locking handle (D):
      - CLOCKWISE to raise draft link.
      - COUNTERCLOCKWISE to lower draft link.
   b. Lift handle (D) and rotate 90° to engage slot (E) onto locking tab (F) of lower body to prevent change of adjustment during operation.
3. Left lift link is also adjustable in length to accommodate two different length right lift link assemblies used, depending on tire size. The following adjustments will provide optimum hitch leveling:
   - **Right lift link, center threaded section measures 316 mm (12-7/16 in.) long:** Adjust the left lift link to 550 mm (21-5/8 in.) from pin-to-pin (lateral float locked out).
   - **Right lift link, center threaded section measures 266 mm (10-1/2 in.) long:** Shorten the left lift link to 450 mm (17-7/16 in.).

   To change the left lift link length:



LV12580—UN—21APR05

Storage/Lock Position



LV12581—UN—21APR05

Adjusting Position

D—Locking Handle
E—Slot
F—Locking Tab
G—Roll Pin

   a. Remove upper lift link pin. Rotate the upper end assembly:
      - CLOCKWISE to shorten.
      - COUNTERCLOCKWISE to lengthen.
   b. Install upper pin and locking pin.

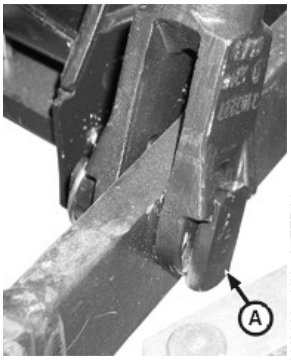
AI68620,000022D-19-03SEP10-2/2

Adjusting Lateral Float

To allow draft link to rise slightly as implement follows ground contour, put pin head and rectangular washer in vertical position (A).

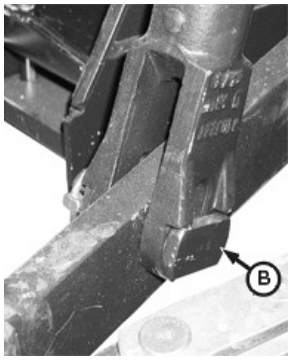
To hold implement rigid, place pin head and rectangular washer in horizontal position (B).

- **Float position:** Hitch-mounted implements (cultivator or mower), which have ground gauging skids or wheels which may cause the implement to twist relative to the tractor.
- **Rigid position:** Plows and ground engaging implements that should not twist relative to the tractor.



LV6103—UN—07FEB01

A—Pin in Float Position (Vertical)



LV6102—UN—07FEB01

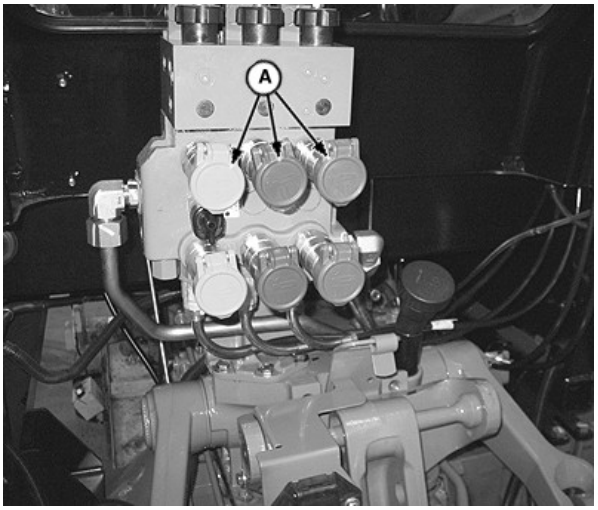
B—Pin in Fixed Position (Horizontal)

AI68620,000022E-19-03SEP10-1/1

SCV Control Lever and Coupler Identification

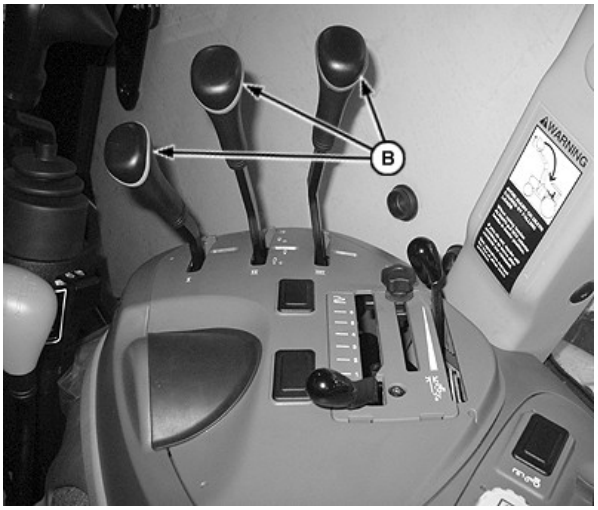
SCV control lever (B) controls oil flow to corresponding SCV couplers, located at the rear of tractor. Top couplers are extend; bottoms coupler are retract.

A—Rear SCV Couplers **B—Rear SCV Control Lever**

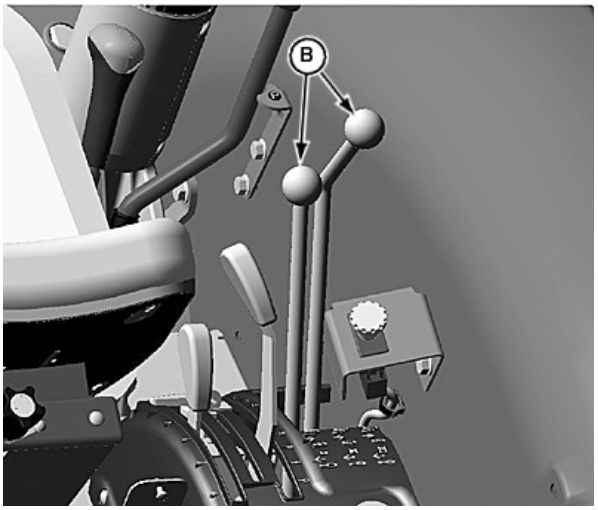


LV14201—UN—27APR11

Rear SCV (Cab)



LV14202—UN—27APR11



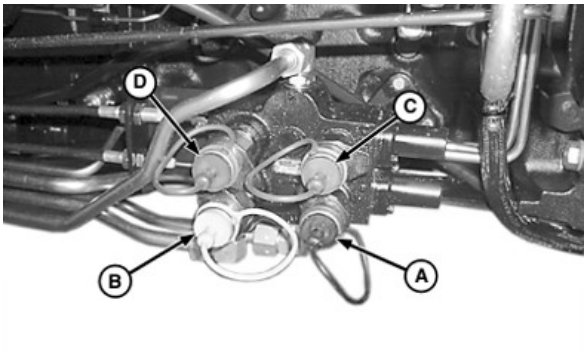
LV15741—UN—08MAY12

Rear SCV Control Levers (OOS)

JZ81662,0000BCA-19-11MAY12-1/1

Mid-Mount Valve Coupler Identification

A—Bucket Cylinder—Rod End (Black)
B—Bucket Cylinder—Head End (Yellow)
C—Boom Cylinder—Head End (Blue)
D—Boom Cylinder—Rod End (Red)



Mid-Mount Valve

AI68620,0000230-19-03SEP10-1/1

Use Correct Hose Tips

Selective control valve (SCV) couplers accept a standard hose tip as recommended by ISO[1], and SAE[2]. Adapters are available to update older hose tips to the ISO couplers on this tractor.

[1] International Standards Organization
[2] Society of Automotive Engineers

AI68620,0000231-19-03SEP10-1/1

Connecting or Disconnecting High-Pressure Hoses

CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. 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.

1. If possible, retract remote cylinder as much as possible to protect rod from damage.

   IMPORTANT: Implement must be raised slightly, by pulling back on lever to reset coupler check valves, before it can be lowered.

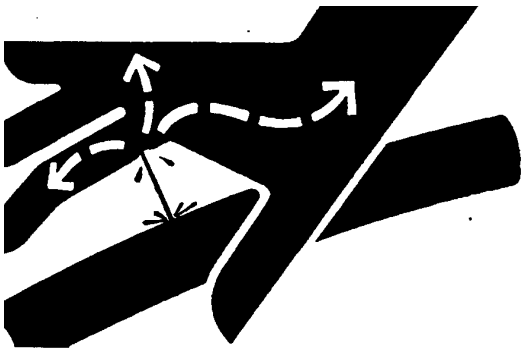
   a. If hose accidentally pulls from tractor during use, clean hose tip and coupler before reconnecting. Hoses can be reinstalled with minimal loss of oil.

   b. After reinstalling hose, extend and retract cylinder to properly seat connector and reset check valve.

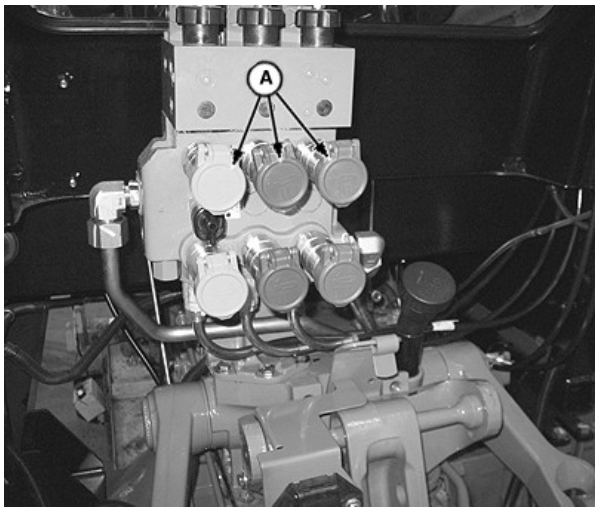
2. With as much hydraulic pressure relieved as possible from hoses, pull hoses from couplers.

3. **Rear SCV:** Wipe clean, then install dust plugs (A). Install dust plugs on hose ends also.

   Mid-Mount Valve: Make sure coupler dust plugs and hose end dust plugs are clean, then install.



X9811—UN—23AUG88



LV14201—UN—27APR11

Rear SCV

A—Dust Plugs

JZ81662,0000296-19-13JUL11-1/1

Connecting Cylinder Hoses—Rear SCV

1. Identify extend and retract hoses. Extend hose should be connected to top coupler (A); retract hose to bottom coupler (B).

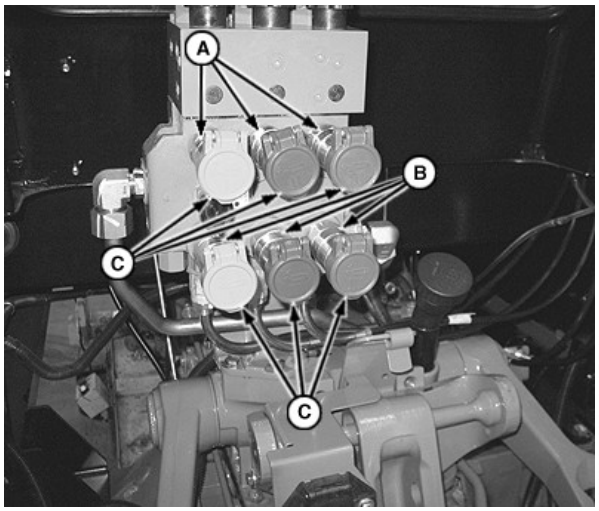
2. Remove dust caps (if equipped) from hose end.

3. Remove dust plugs (C).

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

4. Making sure hose end and coupler are clean, push hose tip firmly into coupler. Pull on hose to make sure positive connection was made.

A—Top (Extend) Coupler
B—Bottom (Retract) Coupler
C—Dust Plug



LV14203—UN—27APR11

JZ81662,0000297-19-13JUL11-1/1

Connecting Cylinder Hoses—Mid-Mount Valve

CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

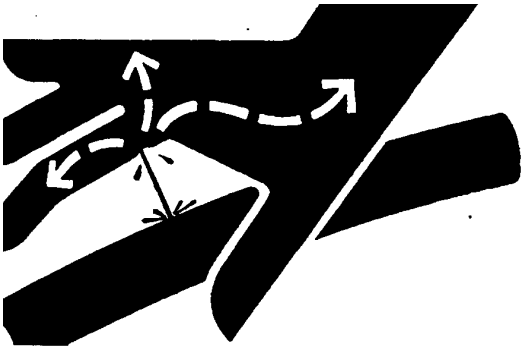
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical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

NOTE: Hose connections at mid-mount valve are color-coded.

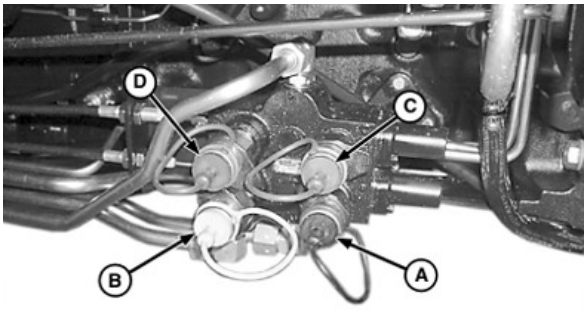
1. Match hoses to couplers using color-coded dust caps/plugs.

Key	Dust Plug/Cap Color	Hydraulic Function
A	Black	Bucket Cylinder—Rod End
B	Yellow	Bucket Cylinder—Head End
C	Blue	Lift Cylinder—Head End
D	Red	Lift Cylinder—Rod End

2. Remove dust plugs from hose ends.
3. Pull dust plugs from valve couplers.



X9811—UN—23AUG88



LV12918—UN—07DEC06

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

4. Making sure hose end and couplers are clean, push hose tip firmly into coupler. Pull on hose to make sure positive connection was made.
5. Connect mating (color-coded) hose-to-coupler together.

AI68620,0000234-19-03SEP10-1/1

Operating SCV Control Lever

CAUTION: Overheated hydraulic oil can cause personal injury and component malfunctions. To prevent hydraulic oil from overheating, DO NOT hold SCV control lever in operating position for an extended period of time.

Extend and Retract Cylinders

With hoses properly connected to couplers, pull lever back against spring pressure to extend remote cylinder. Spring pressure returns lever to neutral when released. With lever in neutral, remote cylinder is hydraulically locked in position. Push lever forward against spring pressure to retract cylinder.

Float Position

Push lever forward, through retract, into detent to operate “float” feature.

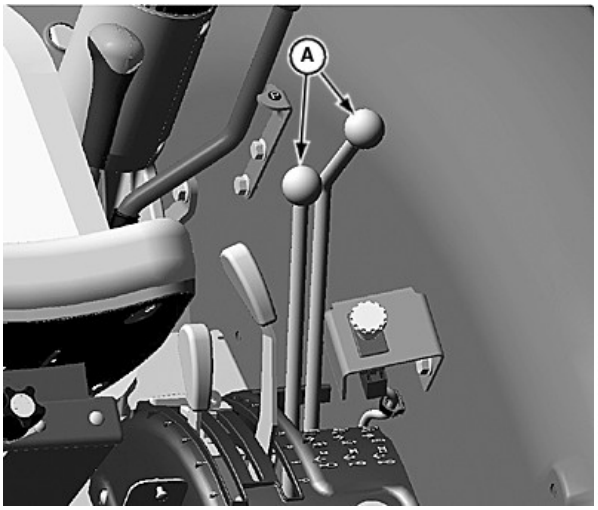
“Float” operation allows cylinder to extend and retract freely, such as when an implement follows ground contour.

Manually return lever to neutral when “float” is no longer required.

A—SCV Lever

LV14205—UN—27APR11

SCV Levers (Cab)



LV15742—UN—08MAY12

SCV Levers (OOS)

JZ81662,0000BCB-19-07MAY12-1/1

Operating Joystick Control Lever—If Equipped

CAUTION: Overheated hydraulic oil can cause personal injury and component malfunctions. To prevent hydraulic oil from overheating, DO NOT hold joystick control lever in operating position for an extended period of time.

While joystick control lever (A) can be used to operate other hydraulically driven devices, it is most commonly used to operate a loader attachment.

Lever controls lifting and lowering of the boom as well as tilting (dump) and rollback (curl) of the bucket.

Both two-function control levers use full forward detented position for “FLOAT” operation.

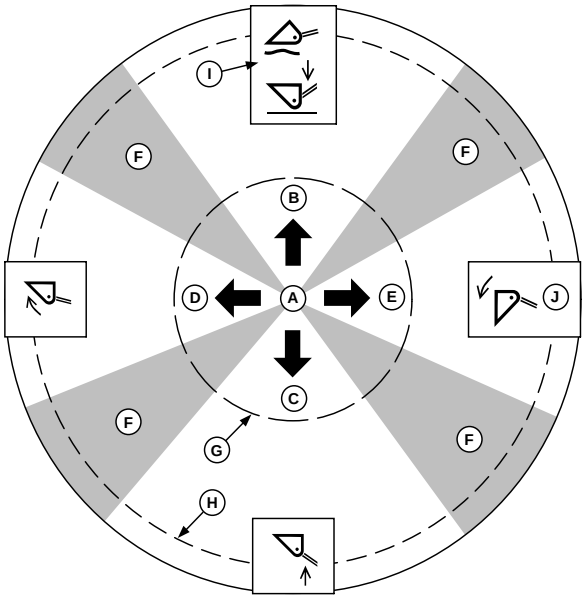
Two-function control lever has a momentarily detented position (full right) used to fast dump the bucket.

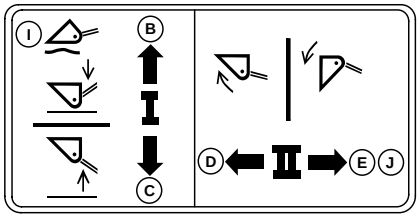
NOTE: Roman numerals do not apply to this application.

1. A single function operates when control lever (A) is moved straight away from center, in one of four primary directions (front, back, left or right).
   - Front—Boom Lower (B)
     - Full-front (I) is a detented position used for “float” operations.
   - Back—Boom Raise (C)
   - Left—Bucket Rollback (Curl) (D)
   - Right—Bucket Tilt (Dump) (E)
     - **Two-Function Control Lever:** Full-right (J) is a momentarily detented regenerative position where return oil is used to fast dump the bucket.
2. Two functions operate simultaneously when lever is moved at 45° angles from primary directions, into a two-function zone (F). Two-function zones are: Boom Lower/Bucket Dump, Bucket Dump/Boom Raise, Boom Raise/Bucket Curl, Bucket Curl/Boom Lower.
3. When lever is released to spring-centered neutral position, mid-mount valve holds boom and bucket in position.
4. Cylinder operating speed depends on how far from center the control lever is moved. When lever is first moved from center, hydraulic functions operate slowly (G), then move progressively faster as lever is moved further away from center, out to fast speed operating position (H).

“Float”: Push lever full forward into detent when “float” is desired. “Float” position (I) allows loader boom to move up and down freely while traveling over rough ground. Manually return lever to neutral when “float” is no longer needed.

LV14206—UN—27APR11





LV12839—UN—01NOV06

A—Joystick Control Lever
B—Front—Boom Lower
C—Back—Boom Raise
D—Left—Bucket Rollback (Curl)
E—Right—Bucket Tilt (Dump)
F—Two-Function Zone
G—Slow Speed
H—Fast Speed
I—Detented “Float” Position
J—Fast Dump Position (Two-Function Control Lever only)

Continued on next page

JZ81662,0000C06-19-22MAY12-1/2

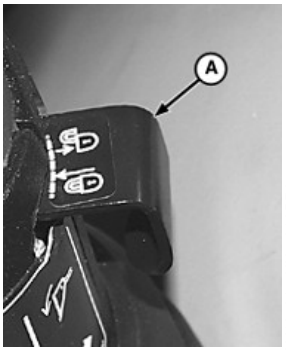
Transport Lock

CAUTION: To prevent loader movement, engage control lever transport lock (A) before dismounting tractor. Control lever must be in center (neutral) position for lock to engage.

Transport lock does not lock out switch operated third-function hydraulics, which are active anytime the key is ON.

- Push IN to lock
- Pull OUT to unlock

NOTE: Lock is engaged when dashed line is in against body and lever does not move.



LV12594—UN—21APR05

Locked

LV12595—UN—21APR05

Unlocked

A—Transport Lock

JZ81662,0000C06-19-22MAY12-2/2

Correcting Reversed Cylinder Response

CAUTION: If cylinder response is opposite of control lever, extending when it should retract, reverse hose connections at couplers.

AI68620,0000239-19-03SEP10-1/1

Warming Transmission-Hydraulic System Oil

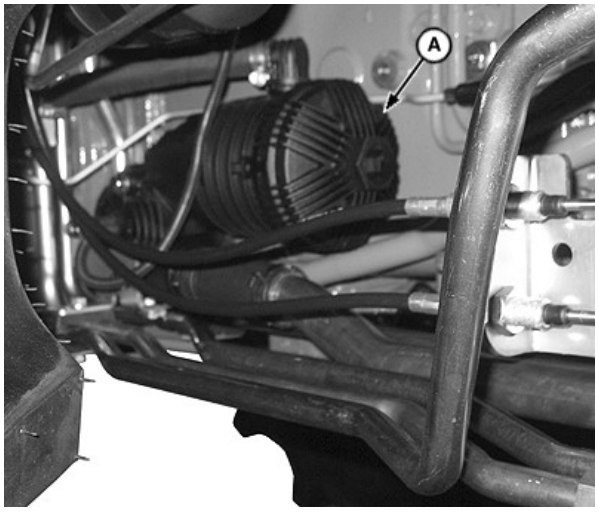
CAUTION: Overheated hydraulic oil can cause personal injury and component malfunctions. To prevent hydraulic oil from overheating, DO NOT hold SCV or multi-function control lever in operating position for an extended period of time.

Hydraulic system may be slow to function when tractor is started in cold weather. Cold oil will not flow easily through the filter screen or hydraulic system filter (A).

Steering will be slow until system warms up.

Hydraulic system will function normally when oil warms up.

A—Hydraulic Oil Filter



LV14207—UN—27APR11

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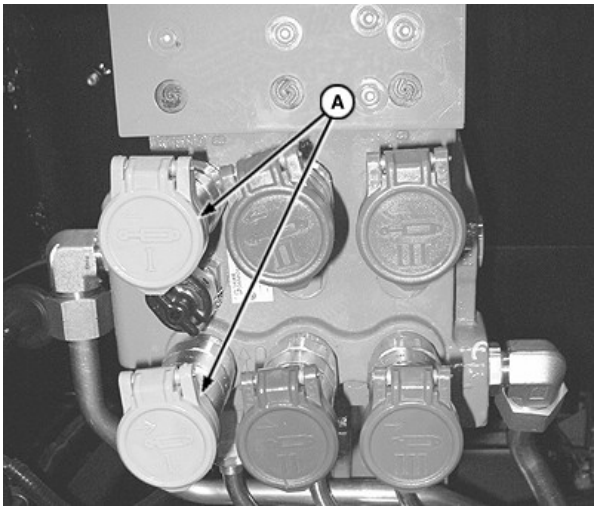
JZ81662,000029A-19-13JUL11-1/2

1. Connect jumper hose to SCV couplers (A).
2. Depress clutch pedal, start engine and idle at 1200 rpm.
3. Move SCV control lever (B) forward or rearward until hydraulic oil warms to operating temperature.
4. Turn steering wheel side-to-side to check warm-up progress. When wheel turns smoothly without hesitation, oil has warmed to operating temperature. After transmission-hydraulic oil has warmed to operating temperature:
   - Return SCV lever to neutral.
   - Remove jumper hose.

A—SCV Coupler **B—SCV Control Lever**



LV14208—UN—27APR11

LV14209—UN—02MAY11

JZ81662,000029A-19-13JUL11-2/2

Match Tractor Power to Implement

IMPORTANT: Tractor power should be matched to the size of the implement. Excessive power can damage an implement, and too large an implement can damage the tractor.

Refer to your implement operator's manual for minimum and maximum power requirements before attaching implement to tractor.

AI68620,000023B-19-03SEP10-1/1

Observing Drawbar Load Limitations

IMPORTANT: Certain heavy equipment, such as a loaded single-axle trailer, can place excessive strain on drawbar. Strain is greatly increased by speed and rough terrain. Do not exceed maximum static vertical load on drawbar.

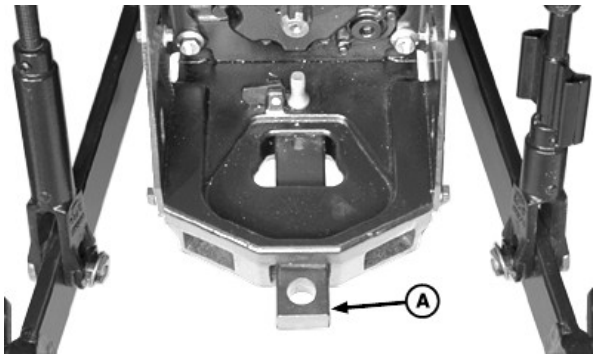
Drive slowly with heavy loads.

Drawbar Maximum Static Vertical Load — Specification

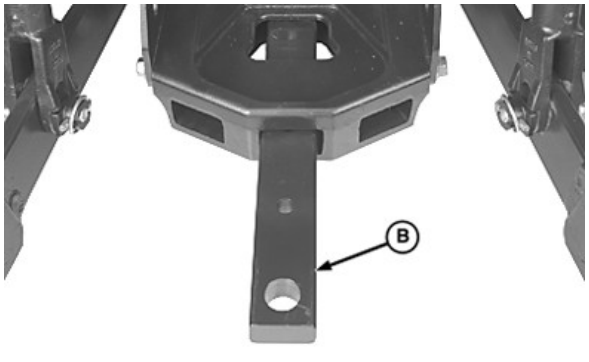
Fully Retracted Position—Static Vertical Load	1120 kg (2470 lb)
Fully Extended Position—Static Vertical Load	760 kg (1675 lb)

NOTE: Offset and heavy duty drawbars are available as an option. See your John Deere dealer for detailed information on optional drawbars.

A—Drawbar—Fully Retracted **B—Drawbar—Fully Extended**



Fully Retracted



Fully Extended

JZ81662,000029B-19-13JUL11-1/1

Selecting Drawbar Position

CAUTION: Avoid injury from unexpected equipment movement. 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.

For maximum traction and efficiency, drawbar (A) should be positioned in the center, fully retracted position. (See implement operator's manual for more information.)

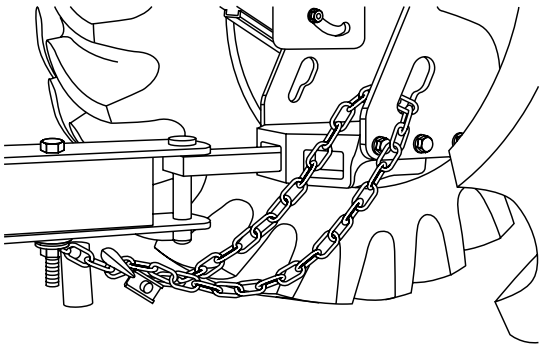
If needed, drawbar can be offset from center using slots provided in the drawbar support.

IMPORTANT: For drawn PTO-driven implements, drawbar must be extended to proper position.

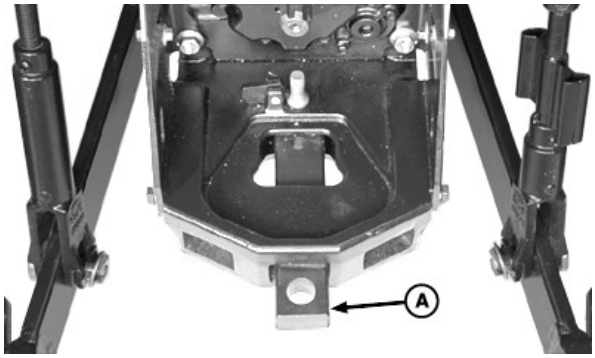
Drawbar Positions	
PTO Shaft	**PTO Shaft End-to-Hitch Pin Hole (B)**
540 rpm (6 spline)	356 mm (14 in.)

A—Drawbar

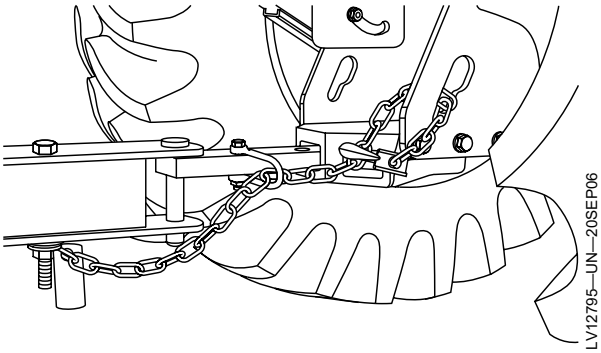
B—Distance from Shaft End-to-Hitch Pin Hole



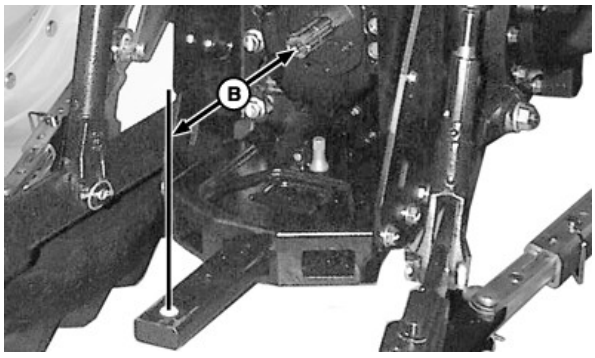
Safety Chain with Drawbar Retracted



Fully Retracted



Safety Chain with Drawbar Extended



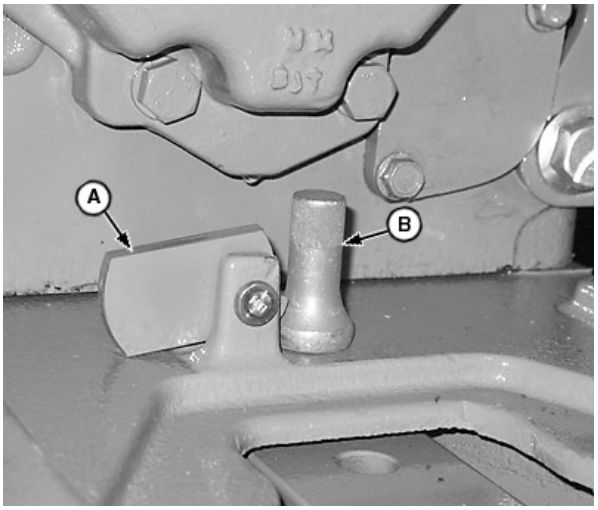
JZ81662,000029D-19-13JUL11-1/1

Adjusting Drawbar Length and Offset

1. Lift retaining latch (A).
2. Remove drawbar pin (B).
3. Slide drawbar to desired position.

   If moving from centered to offset position, remove drawbar and slide through offset slots in support.
4. Install drawbar pin and rotate latch to retain in-place.

A—Retaining Latch **B—Drawbar Pin**



LV14210—UN—02MAY11

JZ81662,000029E-19-13JUL11-1/1

Attaching PTO-Driven Implement

CAUTION: 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.

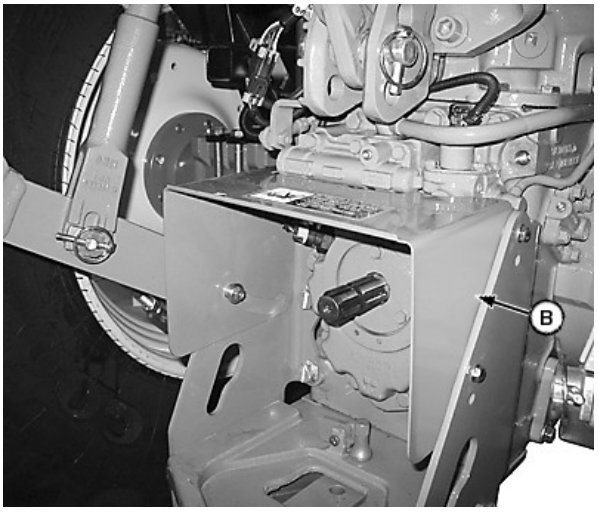
Wear close fitting clothing. Stop the engine and be sure PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

1. Turn key to STOP position to shut off engine.
2. Put drawbar (A) in extended position. If implement will be connected to 3-point hitch, be sure drawbar will not interfere. Fully retract drawbar or remove it if necessary. (See Selecting Drawbar Position in this section.)
3. Install drawbar lock pin.
4. Attach implement to tractor (drawbar or 3-point hitch) before connecting PTO driveline. Raise hitch to full-up (transport) position if it is not to be used.
5. Rotate PTO shield (B) up for clearance. With engine off, turn PTO shaft by hand to line up splines. Connect driveline to PTO shaft. Pull out on shaft to be sure driveline is locked to PTO shaft. Return PTO shield to down position.
6. Check that all shields are in place and in good condition. Never operate PTO unless master shield is properly installed. WITH ENGINE STOPPED, check integral shields on driveline by making sure they rotate freely on shaft. Lubricate or repair as necessary.
7. Check for interference.

A—Drawbar **B—PTO Shield**

TS1644—UN—22AUG95

LV12605—UN—22APR05



LV14211—UN—02MAY11

JZ81662,000029F-19-14JUL11-1/1

Selecting Correct PTO Speeds

540/540E Operation (Cab)

For standard 540 PTO operation (load requiring full engine power), push lever (A) down to 540 position.

For economical PTO operation (lighter load), pull lever up for 540E position. In economical mode, engine is run at lower rpm to conserve fuel and reduce overall operating noise while still turning PTO shaft at 540 rpm.

540/540E Operation (OOS)

For standard 540 PTO operation (load requiring full engine power), pull lever (A) back to 540 position.

For economical PTO operation (lighter load), push lever forward 540E position. In economical mode, engine is run at lower rpm to conserve fuel and reduce overall operating noise while still turning PTO shaft at 540 rpm.

NOTE: With PTO shift lever in 540E position, engine fast idle speed is limited to 1700 rpm.

A—PTO 540/540E Shift Lever

LV14212—UN—02MAY11

LV15743—UN—10MAY12

PTO 540/540E Shift Lever (OOS)

JZ81662,0000BCC-19-09MAY12-1/1

Operating Tractor PTO

NOTE: Engine will not start if PTO lever is engaged.

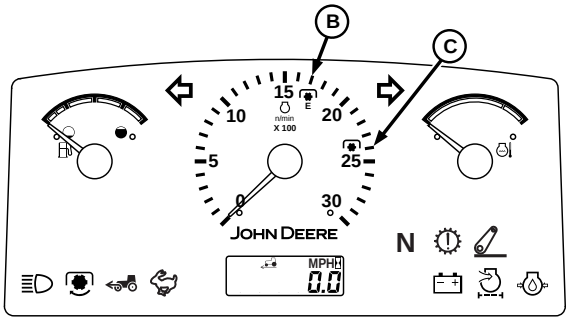
1. Depress clutch pedal, start engine and push hand throttle lever (A) forward until tachometer indicates PTO rated speed:

PTO Rated Speed	
PTO	**Engine RPM Speed**
540E	1700
540	2400 (full power)

NOTE: When in 540E position, engine speed is mechanically limited to a maximum of 1700 rpm. 540E operation will not engage if engine speed is above 1700 rpm.

A—Hand Throttle Lever
B—540E Operation Speed
C—540 Operation Speed

LV12797—UN—04OCT06



LV9620—UN—11AUG04

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JZ81662,0000BCD-19-24MAY12-1/3

NOTE: PTO is engaged or disengaged without depressing clutch pedal.

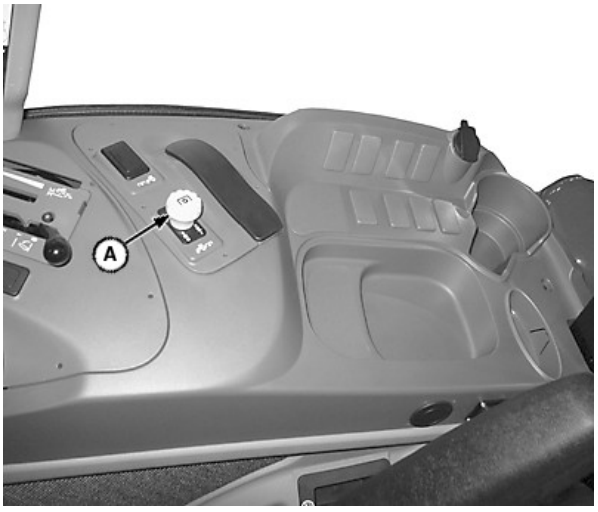
2. To engage PTO, lift switch knob (A) up to “I” position.

   PTO indicator (B) will light when PTO is engaged.

IMPORTANT: A warning alarm will sound if operator leaves seat with PTO engaged.

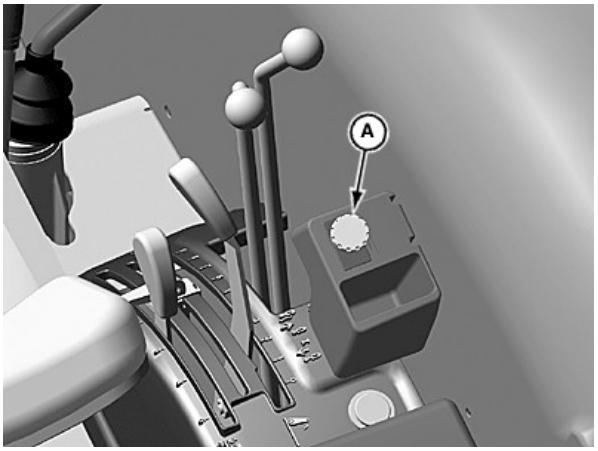
NOTE: If engine is stopped while PTO is engaged, restart engine, depress and lift PTO switch knob to reset and engage PTO.

A—PTO Control Lever **B—PTO Indicator**



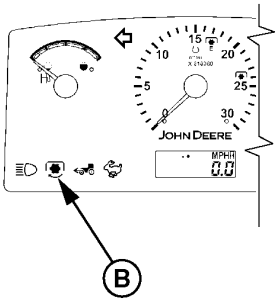
LV14213—UN—02MAY11

PTO Control Switch (Cab)



LV15726—UN—18MAY12

PTO Control Switch (OOS)



LV14244—UN—10MAY11

Indicator

Continued on next page

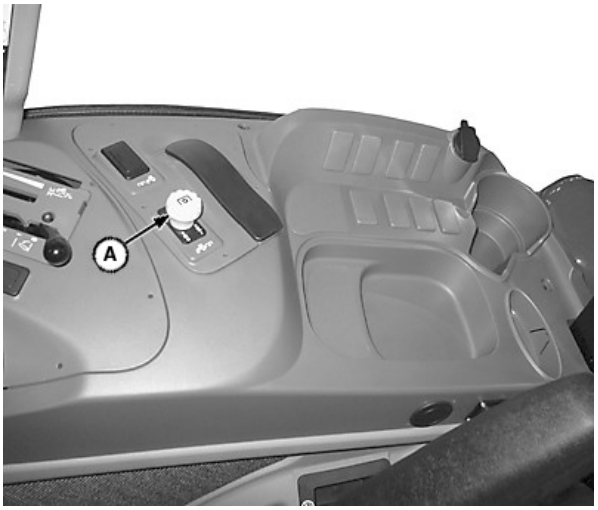
JZ81662,0000BCD-19-24MAY12-2/3

CAUTION: Avoid personal injury. Stop engine and allow PTO driveline to stop before adjusting, connecting or cleaning PTO driven equipment.

To avoid entanglement with rotating shaft, always disengage PTO when not in use.

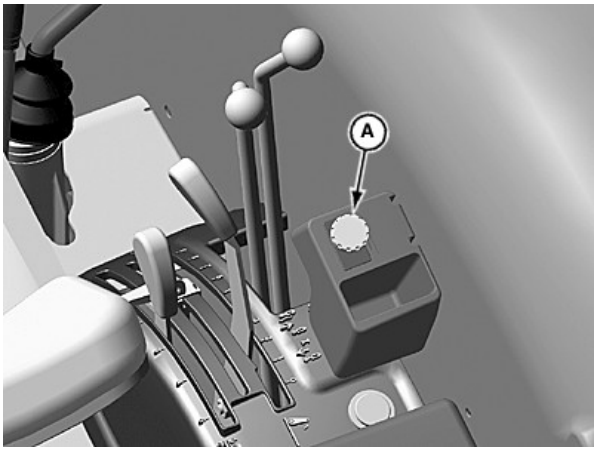
3. To disengage PTO, push switch knob (A) down to “O” position.

   PTO brake automatically engages when PTO is disengaged.



LV14213—UN—02MAY11

PTO Control Switch (Cab)



LV15726—UN—18MAY12

PTO Control Switch (OOS)

JZ81662,0000BCD-19-24MAY12-3/3

Performance Ballast

Planning for Maximum Productivity

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

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

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

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

AI68620,0000242-19-03SEP10-1/1

Selecting Ballast Carefully

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

Factors determining amount of ballast:
- Soil surface—loose or firm
- Type of implement—integral/semi-integral or towed
- Travel speed—slow or fast
- Tractor power output—partial or full load
- Tire size
- Type of front axle—MFWD

Ballasting MFWD-Equipped Tractors

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

If equipped with a loader, provide adequate ballast to rear wheels.

NOTE: Implement codes are used to determine proper ballast for stability and steering control. Refer to the implement code in your implement operator's manual, along with USING IMPLEMENT CODES in this section, to determine the minimum number of front weights that are required for your tractor model. In some cases, additional front ballast is required for optimum field performance. If more assistance is needed, see your John Deere dealer.

Matching Ballast to Work Load

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

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

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

Ballast Limitations

Ballast should be limited by either tire capacity or tractor capacity. Each tire has a recommended carrying capacity which should not be exceeded (see Wheels, Tires and Treads section). If a greater amount of weight is needed for traction, a larger single tire should be considered.

Ballast can be added as either liquid or cast iron.

Checking for Correct Ballast

The best way to check for correct ballast is to measure amount of travel reduction (% slip) of the drive wheels. Under normal field conditions, travel reduction should be 10—15%.

Add more weight to drive wheels if slip is excessive. If there is less than 10% slip, weight should be removed.

AI68620,0000243-19-03SEP10-1/1

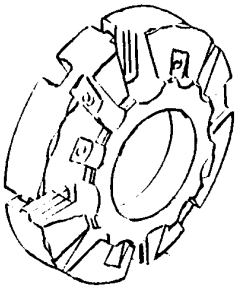
Using Cast Iron Weights

Cast iron weights are available in a 43 kg (95 lb) size. Weights can be installed on the inside or outside of wheel.

Rear wheel weights can be installed for improved traction and/or ballast. See Sales Manual for corresponding bundle numbers.

IMPORTANT: Maximum of two weights can be added per side.

See your John Deere dealer for more information and recommendations on weight use and placement.



M47215—UN—29JAN92

AI68620,0000244-19-03SEP10-1/1

Installing Rear Cast Iron Weights

CAUTION: Optional cast iron weight weighs 43 kg (95 lb). Handle with care! Use appropriate equipment or have the job done by your John Deere dealer.

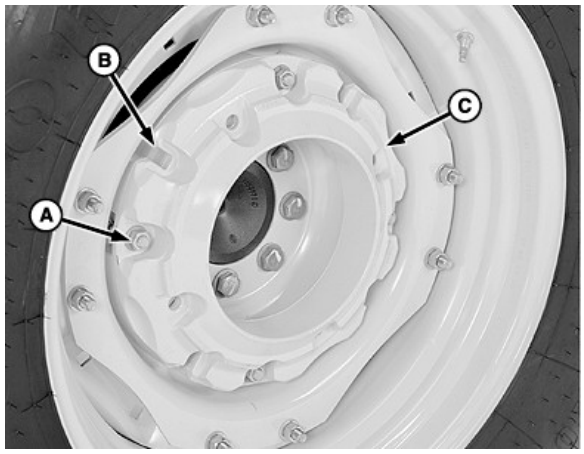
1. Remove wheel.
2. Attach weight (C) to wheel disks using four special round head bolts, washers and nuts (A). Tighten nuts to specifications.

Specification	
Wheel Weight-to-Disk Nuts—Torque	215 N·m (159 lb-ft)

3. Install additional weights:
   a. Insert four round head bolts (D) through slots (B) of first weight. Install bolts with square neck in slot (as shown).
   b. Align mounting holes of second weight with round head bolts and install weight. Fasten with washers and nuts. Tighten nuts to specifications.

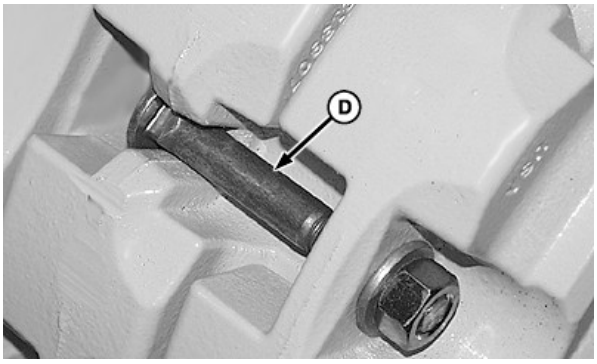
Specification	
Wheel Weight-to-Weight Nuts—Torque	215 N·m (159 lb-ft)

4. Install wheel and tighten mounting hardware. (See Tighten Bolts—Rear Axle in Wheels, Tires and Treads section.)
5. Tighten wheel weights and mounting hardware again after a few hours service. Check regularly.



LV9684—UN—17AUG04

Single Wheel Weight Shown



LV9692—UN—19AUG04

Install Bolt in Slot (Additional Weight)

A—Nut, 5/8-11 (4 used)
B—Slot (4 locations)
C—Wheel Weight
D—Round Head Bolt (4 used)

AI68620,0000245-19-03SEP10-1/1

Using Implement Codes

CAUTION: DO NOT attempt to transport an implement without adequate front ballast. Lack of steering control may result.

John Deere engineers have developed a code to determine how much front ballast is needed for stability and steering control.

1. Find implement code in implement operator's manual.
2. Use the following chart to determine how many Quik-Tatch™ front weights are required on your tractor model.

   To use chart, find the implement code range in the left column into which your implement code fits. Then move to the right until you are beneath the column which identifies your tractor configuration. The number you find at this point in the chart is the number of Quik-Tatch™ weights needed.

   Example: An implement with a code 100 to be used on an MFWD tractor with a quick-coupler, but without liquid in the front tires, requires 4 front weights.

   With maximum front ballast, do not attempt to transport an implement whose code exceeds:

   - 137 for MFWD Tractor

NUMBER OF Quik-Tatch™ WEIGHTS NEEDED		
MFWD		
Implement Code	Without Liquid in Front Tires	With Liquid in Front Tires
0—87	0	—
88—97	2	0
98—107	4	2
108—117	6	4
118—127	8	6
128—137	—	8

Quik-Tatch is a trademark of Deere & Company

AI68620,0000246-19-03SEP10-1/1

Service Tires Safely

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

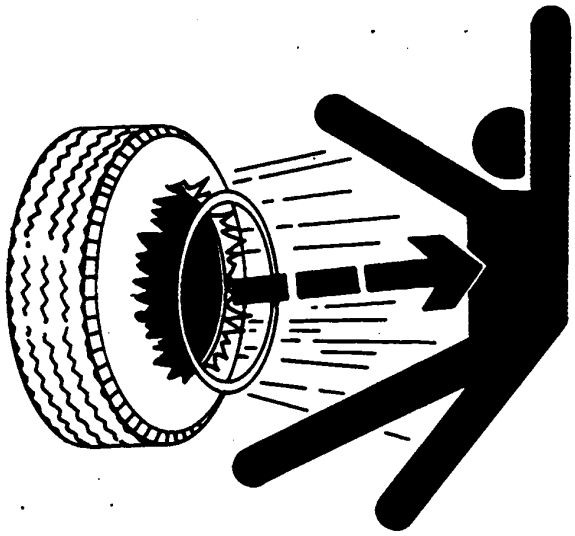
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.

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

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

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



TS211—UN—15APR13

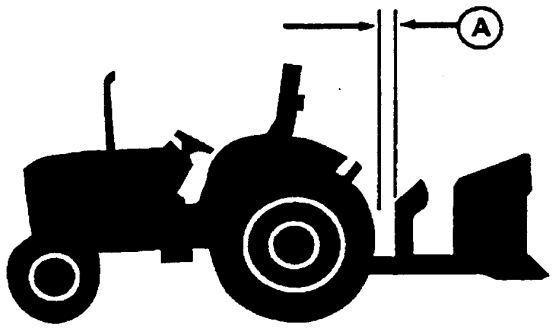
DX,RIM1-19-27OCT08-1/1

Check Implement-to-Tire Clearance

IMPORTANT: When large diameter rear tires are installed on a tractor with a 3-Point Hitch, a quick coupler or similar device is required to provide adequate implement-to-tire clearance.

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

A—Clearance



M47177—UN—31JAN92

JZ81662,0000787-19-08MAR12-1/1

Check Tire Inflation Pressure

Check tires daily for damage or noticeably low pressure.

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

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

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

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

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

1. All inflation pressures are calculated for 29 km/h (18 mph) travel speeds for both diagonal (bias) ply and radial ply tires.
2. Operating tires at the inflation pressures listed on the chart will provide optimum tractive performance of the tire/vehicle system. Correctly inflated radial tires will show a large deflection of the sidewall or “cheeks.” This is normal and will not hurt the tire if the inflation pressure is maintained.
3. Regularly monitor inflation pressures less than 80 kPa (0.8 bar) (12 psi) because of the increased risk of low-pressure air leaks (especially due to leaking valve cores).
4. When operating tractors on steep side slopes, increase inflation pressures 28 kPa (0.28 bar) (4 psi) above the values listed to compensate for lateral weight transfer.
5. Tires run as singles in high-traction conditions sometimes experience bead slip. Increasing the inflation pressure will compensate for this condition but will cause reduced traction. Consult your tire dealer if this problem occurs.
6. If higher load capacities are needed, contact your John Deere dealer for tire manufacturer’s load and inflation table information.

JZ81662,0000788-19-08MAR12-1/1

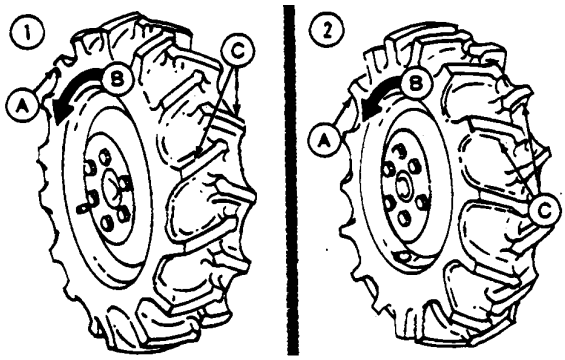
Tire Inflation Pressure Charts

FRONT TIRES								
			With Little or No Added Weight			With Maximum Ballast or Heavy Mounted Implement		
Tire Size	Ply Rating	Tread	kPa	(bar)	(psi)	kPa	(bar)	(psi)
11.2-24	6	R1	124	(1.24)	(18)	179	(1.79)	(26)
12.4-24	8	R1	97	(0.97)	(14)	221	(2.2)	(32)
12.5/80-18	10	I3	103	(1.03)	(15)	310	(3.1)	(45)

REAR TIRES								
			With Little or No Added Weight			With Maximum Ballast or Heavy Mounted Implement		
Tire Size	Ply Rating	Tread	kPa	(bar)	(psi)	kPa	(bar)	(psi)
16.9-30	6	R1	83	(0.83)	(12)	193	(1.93)	(28)
18.4-30	8	R1	83	(0.83)	(12)	138	(1.38)	(20)
19.5L-24	10	R4	83	(0.83)	(12)	165	(1.65)	(24)

JZ81662,0000F55-19-12FEB13-1/1

Selecting Front Tire Rolling Direction



RW510—UN—06APR89

Left Tire (Viewed From Rear)

A—Front Tire (Viewed from Rear) **B—Rolling Direction of Tire** **C—Tire Lugs**

(1)—Under most conditions, front tires (A) should be mounted with the direction of tire lugs (C) the same as the tire rolling direction (B).

(2)—If tractor is mainly used for loader operations, lug direction may be reversed on the MFWD axle for improved tire wear.

JZ81662,000078A-19-08MAR12-1/1

Tighten Wheel/Axle Hardware Correctly

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

Any time hardware is loosened, tighten to specified torque.

NOTE: Follow checking procedure when a new tractor is first used, or wheels have been off.

1. After driving tractor about 100 m (109 yd), and before placing it under load, tighten hardware to specified torque.
2. Check hardware after working three hours and again after 10 hours.
3. Check all hardware frequently and keep it tight.

JZ81662,000078B-19-08MAR12-1/1

Tighten Wheel Bolts—MFWD Axle

Tighten hardware (A and B) to specifications.

Specification	
MFWD Wheel Rim-to-Disk Bolts	
(A)—Torque	245 N·m (180 lb-ft)
MFWD Wheel Disk-to-Hub Nuts	
(B)—Torque	300 N·m (220 lb-ft)

A—MFWD Wheel Rim-to-Disk Bolts **B—MFWD Wheel Disk-to-Hub Nuts**

LV14278—UN—10MAY11

JZ81662,000078C-19-08MAR12-1/1

Tighten Wheel Bolts—Rear Axle

Tighten bolts (A and B) to specifications.

	Specification
Rear Wheel Rim-to-Disk Bolts	
(A)—Torque	245 N·m (180 lb-ft)
Rear Steel Wheel Disk-to-Hub Bolts	
(B)—Torque	600 N·m (445 lb-ft)

A—Rear Wheel Rim-to-Disk Bolts

B—Rear Wheel Disk-to-Hub Bolts

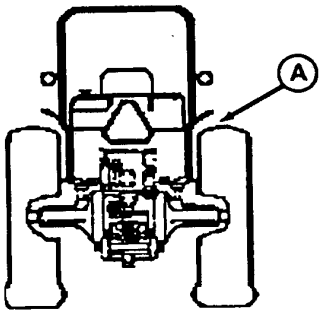
LV14279—UN—10MAY11

JZ81662,000078D-19-08MAR12-1/1

Observe Rear Wheel Tread Width Limitations

IMPORTANT: Tires must have at least 25 mm (1 in.) clearance with fenders (A). When large diameter rear tires are installed, check clearance between tire and fenders.

A—Rear Wheel-to-Fender Clearance



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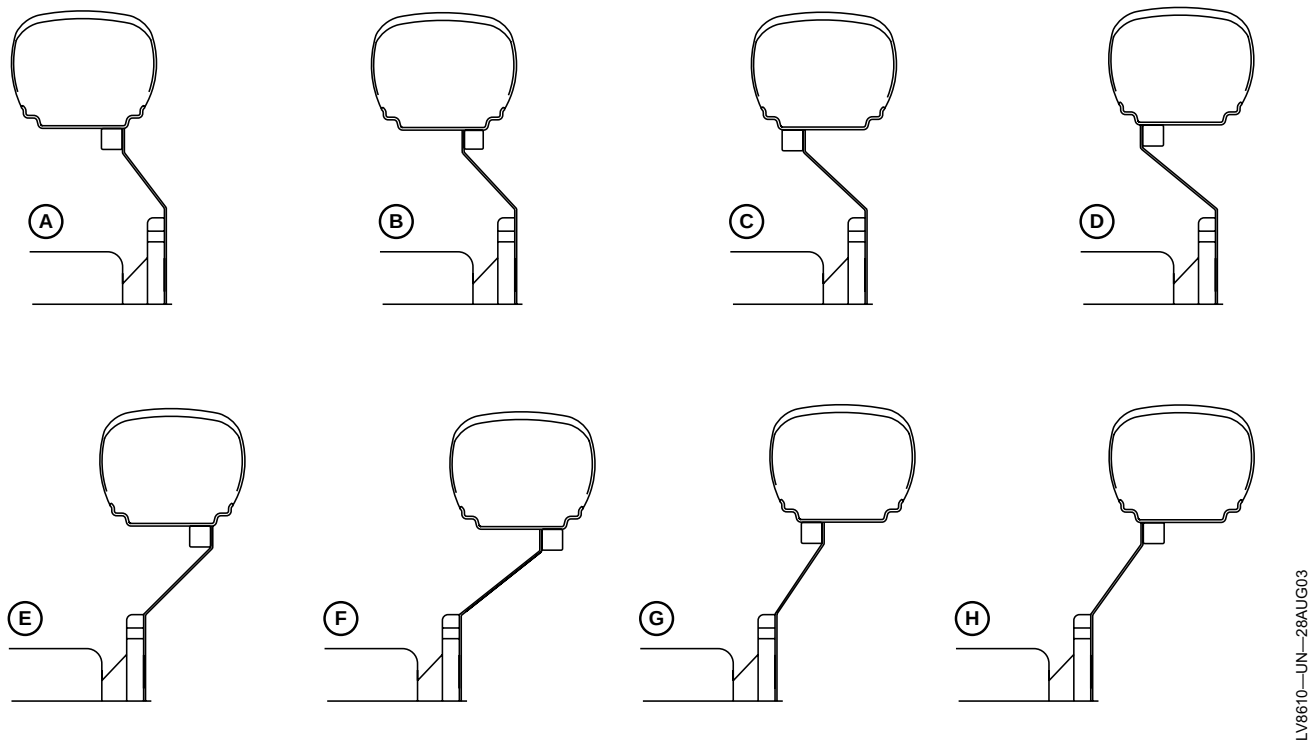
Tread Settings—Multi-Position Rear Wheels



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

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

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

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

IMPORTANT: After setting wheel spacing, tighten rear wheel rim-to-disk bolts and rear wheel disk-to-hub bolts to specification. Drive tractor 100 m (109 yd) and tighten again.

Specification

Rear Wheel Rim-to-Disk—Torque. . . . . 245 N·m (180 lb-ft)

Rear Wheel Disk-to-Hub—Torque. . . . . 600 N·m (445 lb-ft)

MULTI-POSITION REAR WHEELS—TREAD WIDTH (Centerline-to-Centerline)								
	Diagram							
Tire	A	B	C	D	E	F	G	H
18.4 R30 1442 R1	INT[a]	INT[a]	INT[a]	INT[a]	1515 mm (59.6 in.)	1617 mm (63.7 in.)	1719 mm (67.7 in.)	1820 mm (71.7 in.)
19.5L-24 10PR R4	INT[a]	INT[a]	INT[a]	INT[a]	1512 mm (59.5 in.)	1617 mm (63.7 in.)	1715 mm (67.6 in.)	1820 mm (71.7 in.)

[a] *Interference (do not use)*

JZ81662,000078F-19-08MAR12-1/1

Tread Settings—Multi-Position MFWD Wheels

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

Wheel tread can also be adjusted by exchanging the complete wheel to the opposite side of the tractor. (This maneuver permits the change from disk-dished-in to disk-dished-out operations without disassembling the wheel). When changing MFWD wheels from one side to the other, the arrow on side wall of tire points in the direction of forward rotation. In certain applications, MFWD equipped tractors may operate with the arrows in the opposite direction. (See Selecting Front Tire Rolling Direction in this section.)

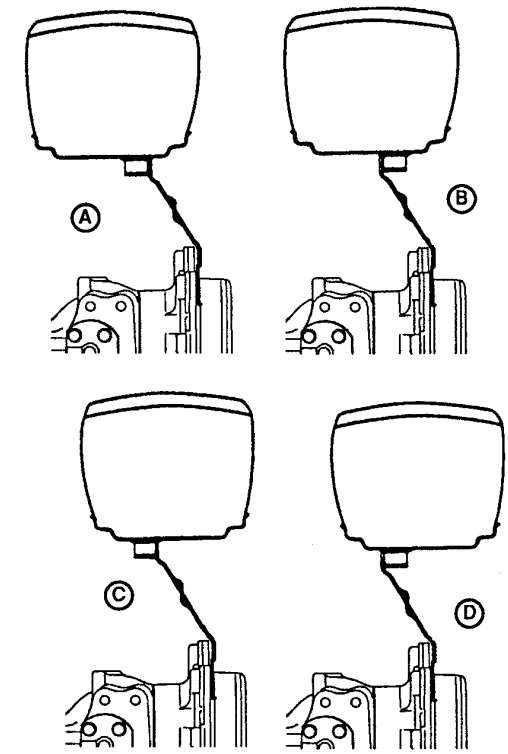
The relationship of the wheel disk and rim in obtaining the different tread settings is shown in the diagrams. A study of these diagrams, before attempting to change tread settings, will save unnecessary labor.

Tread settings are measured at the middle of the tires **at axle height**.

IMPORTANT: After setting wheel spacing, tighten MFWD wheel rim-to-disk bolts and MFWD wheel disk-to-hub bolts to specification. Drive tractor 100 m (109 yd) and tighten again.

Specification

MFWD Wheel Rim-to-Disk Bolts—Torque	245 N·m (180 lb-ft)
MFWD Wheel Disk-to-Hub Nuts—Torque	300 N·m (220 lb-ft)



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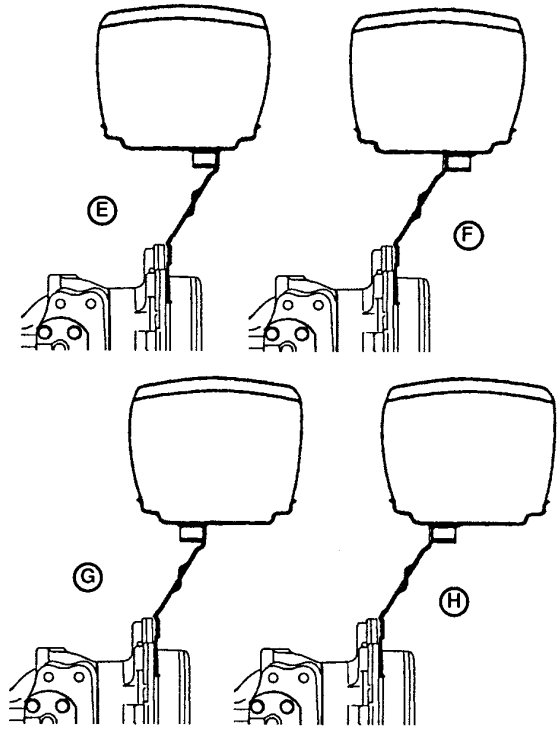

LV602—UN—22APR94

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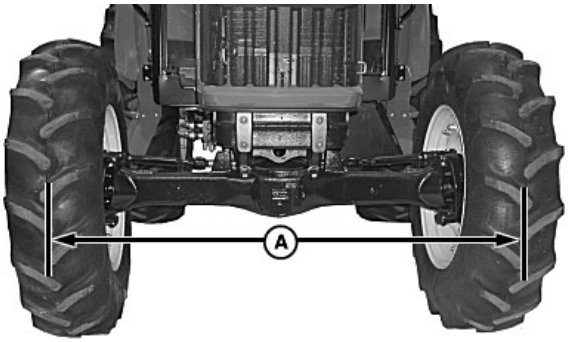
JZ81662,0000790-19-08MAR12-1/2

MULTI-POSITION MFWD WHEELS—TREAD WIDTH (Centerline-to-Centerline)								
	Diagram							
Tire	A	B	C	D	E	F	G	H
12.5/80-18 10PR I3	1564 mm (61.6 in.)	N/A	N/A	N/A	1731 mm (68.2 in.)	N/A	N/A	N/A
12.4-24 8PR R1	1300 mm (51 in.)	1398 mm (55 in.)	1500 mm (59 in.)	1598 mm (63 in.)	1700 mm (67 in.)	1798 mm (70.7 in.)	1900 mm (74.8 in.)	1998 mm (78.6 in.)

JZ81662,0000790-19-08MAR12-2/2

Checking Toe-In—MFWD Axle

1. Disengage MFWD and park tractor on smooth, level surface. Steer front wheels straight ahead. Stop engine.
2. Measure distance (A) between centerline of tires at hub level in front of axle, using an outside bar of each tire or an inside bar of each tire. Record measurement and mark the tires.
3. Move tractor back about 1 m (3 ft), so mark is at hub level behind the axle. Again, measure distance between tires at same point on tire. Record measurement.
4. Determine the difference between front and rear measurements. If the front measurement is smaller, toe is in. If the rear is smaller, toe is out. The difference may be in either direction (toe-in or toe-out), but should be less than 3 mm (1/8 in.). Adjust toe-in if necessary. (See Adjusting Toe-In—MFWD Axle in this section.)



LV13210—UN—02JUN08

A—MFWD Axle Toe-In Distance

JZ81662,0000791-19-08MAR12-1/1

Adjust Toe-In—MFWD Axle

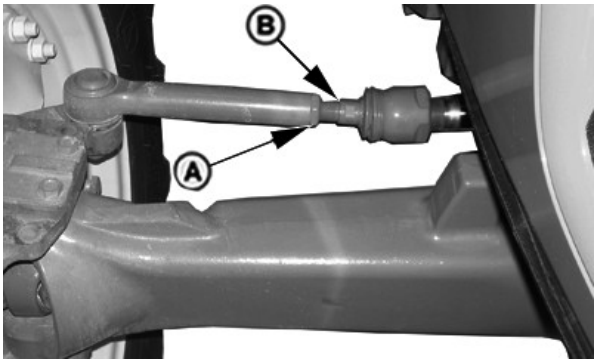
1. Loosen jam nuts (A) on both ends of tie rod.
2. Adjust both sides equally by rotating the inner rod (B) to lengthen or shorten tie rod, as needed, to obtain toe-in or toe-out of less than 3 mm (1/8 in.).

Tie Rod Rotation	Approximate Change
1/8 turn	4 mm (3/16 in.)
1/4 turn	8 mm (3/8 in.)
1/2 turn	16 mm (5/8 in.)

3. Tighten jam nuts to specification.

Specification

Jam Nuts—Torque. . . . . 220 – 240 N·m (162 – 177 lb-ft)



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A—Tie Rod Jam Nuts **B—Inner Rod**

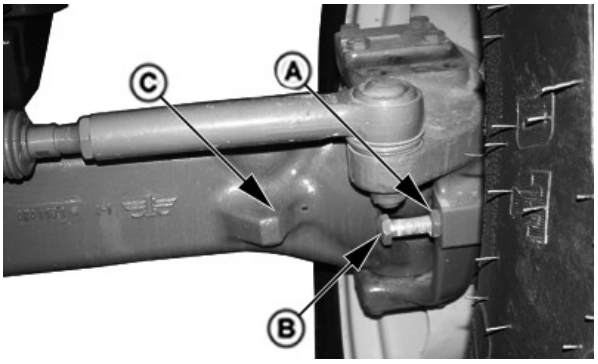
JZ81662,0000792-19-08MAR12-1/1

Set MFWD Steering Stops Turn Radius

1. Raise and support front of tractor so MFWD axle can be oscillated to its stops.
2. Slowly turn steering wheel to the left until steering cylinder travel has reached its limit, the steering stops, or the tires are within 25 mm (1 in.) of grille screen or side panels.
3. Raise left side of axle against its stop and measure clearance between tire and nearest tractor component. The distance should not be less than 25 mm (1 in.).
4. Loosen lock nut (A) on steering stop and adjust steering stop bolt (B) so it touches steering stop (C). It may be necessary to shorten stop bolt (B) in order to obtain maximum turning angle.
5. Tighten steering stop bolt retaining lock nut (A) to specifications.

Specification	
Steering Stop Bolt Retaining Lock Nut—Torque	125 N·m (92 lb-ft)

6. Turn wheel fully to the left. Impact knuckle housing to steering stop five times.



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A—Steering Stop Lock Nut
B—Steering Stop Bolt
C—Steering Stop

7. Tighten steering stop bolt retaining nuts again to specification.
8. Repeat above steps for right side.

NOTE: Wide tread settings and large tire sizes will increase turn radius slightly.

JZ81662,0000793-19-08MAR12-1/1

Use Correct Tire Combinations

In order to achieve maximum drawbar pull, maintain proper steerability, and reduce tire wear and fuel consumption, comply with the correct tire combinations shown.

Model	Front	Rear
5101E (Standard) and 5083E, 5093E (Optional)	12.4-24 R1	18.4-30 R1
5083E, 5093E (Standard), and 5101E (Optional)	12.5/80-18 I3	19.5L-24 R4

Should mechanical front wheel drive front tires show excessive wear in comparison with rear tire, the front tires must be replaced to maintain the predetermined tire ratio.

IMPORTANT: When replacing tires, consult your tire dealer. Mixing worn and new tires, bias and radial, or tires of different diameters or loaded radii can reduce tire life and overall tractor performance.

Using any tire combination, other than those listed, could result in premature tire and driveline wear due to excessive underspeed or overspeed.

JZ81662,0000794-19-22MAY12-1/1

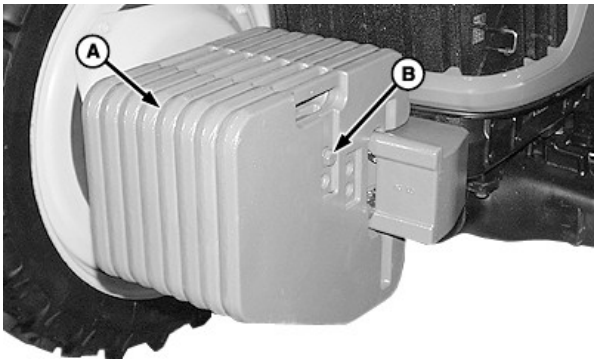
Ballasting Front End for Transport

CAUTION: Additional front ballast may be needed for transporting rear-mounted implements. Heavy pulling and heavy rear-mounted implements tend to lift front wheels. When handling weights, use proper lifting equipment. Approximate weight of QUIK-TATCH weights is 47 kg (104 lb). Drive slowly over rough ground when implement is raised.

NOTE: Determine the minimum number of front weights required from implement code in implement operator's manual.

Up to 10 Quik-Tatch™ weights can be installed on the front of the tractor.

1. Add weight to front end to maintain stability and steering control. Install weights in pairs, one on each side of center (A).
2. To hold weights in place, insert retaining bolts (B) through holes from side-to-side. Tighten to specification.



LV9683—UN—17AUG04

A—Ballast Center **B—Ballast Retaining Bolt**

Specification	
Ballast Weights Retaining Bolts—Torque	215 N·m (159 lb-ft)

*NOTE: Additional information for ballasting your tractor is available on the internet at **www.JohnDeere.com/Tips***

Quik-Tatch is a trademark of Deere & Company

AI68620,0000214-19-03SEP10-1/1

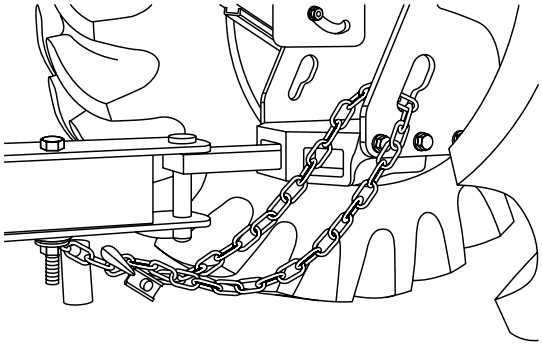
Using Safety Chain

CAUTION: Avoid possible accident and injury by using a safety chain on drawn equipment. Use a safety chain with a strength rating equal to or greater than the gross weight of equipment. Provide only enough slack in the chain to permit turning.

Attach the safety chain to the drawbar support or other specified anchor locations.

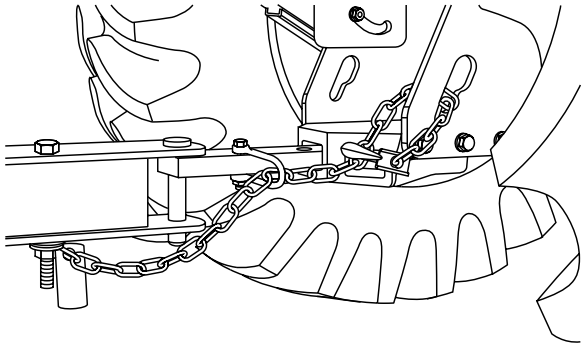
IMPORTANT: DO NOT use safety chain for towing, or possible damage to tractor, implement and drawbar may result. Safety chain is provided only for transport.

SLOW DOWN when transporting heavy implements.



LV12791—UN—08MAR06

Drawbar Retracted



LV12795—UN—20SEP06

Drawbar Extended

AI68620,0000215-19-03SEP10-1/1

Driving on Public Roads

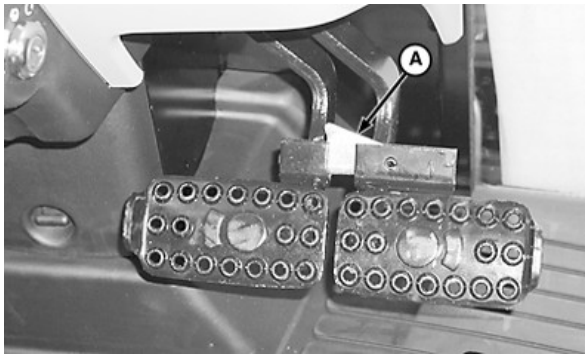
CAUTION: Slow-moving tractors with attachments or towed equipment are difficult to see on public roads. Frequently check for traffic from the rear, especially in turns. Use your turn signals.

1. When driving tractor on roads:
   - Ballast tractor correctly.
   - Clean windows and adjust rear-view mirrors.
   - Use foot throttle instead of hand throttle.

CAUTION: Use brakes lightly and cautiously when slowing from transport speed.

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

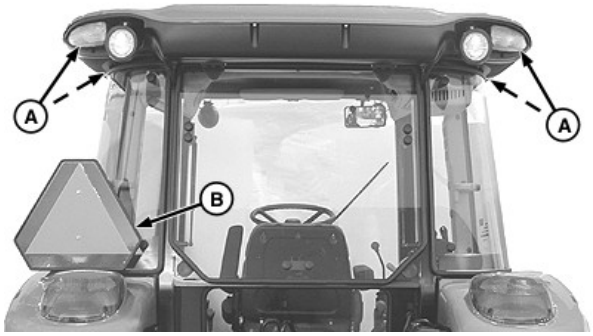
2. Tap brake pedal to ensure differential lock is NOT engaged. Couple brake pedals together using brake locking bar (A). Avoid hard braking application.

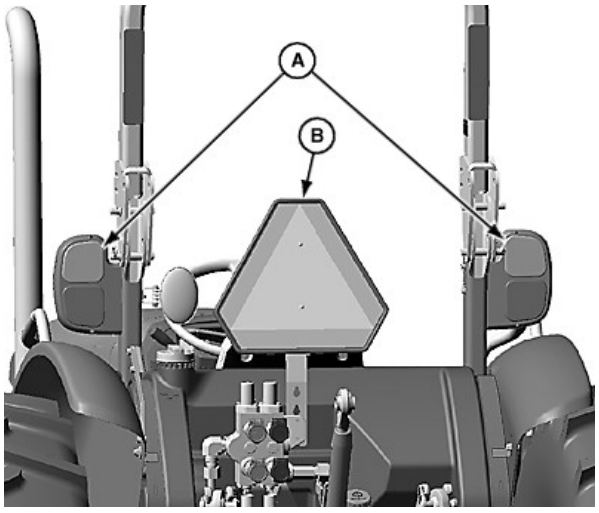


A—Brake Locking Bar

JZ81662,0000BC0-19-04MAY12-1/2

3. Check local laws and regulations for lighting requirements. Clean Slow Moving Vehicle (SMV) emblem (B) and warning lights (A). If towed or rear-mounted equipment obstructs view of safety devices, install SMV emblem and warning lights on equipment.
4. Disengage front wheel drive when transporting tractor. When driving on roads, engage BRAKE ASSIST position of MFWD switch to provide four-wheel braking.
5. **Loader Cylinders (if equipped):** Engage transport lock to eliminate possibility of loader movement during transport by inadvertently bumping the multi-function control lever.
6. **Rear Hitch:** Lock hitch in transport position to eliminate the possibility of lowering an implement during transport by inadvertently bumping the raise/lower lever.
7. Drive slowly to maintain safe control. Before descending a hill, shift to a lower gear to control speed without using brakes. Slow down for rough ground and sharp turns, especially when transporting heavy, rear-mounted equipment.

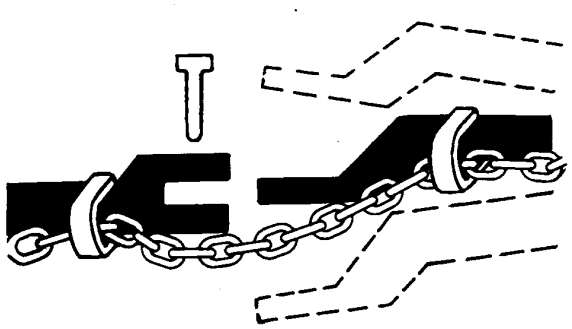


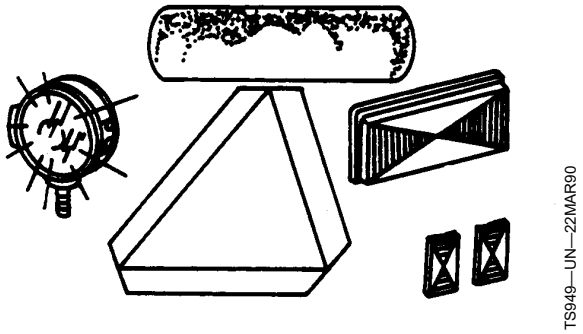


A—Warning Lights **B—SMV Emblem**

JZ81662,0000BC0-19-04MAY12-2/2

Deliver Safely


TS217—UN—23AUG88


TS949—UN—22MAR90

The best method for delivering tractors, self-propelled equipment, and most implements or attachments is on a flatbed truck or trailer. Secure loads with tie down chains, straps, and binders.

Be aware of height and width restrictions to avoid collision with overpasses, bridge abutments, or other road users. Check with local authorities regarding oversized load transport restrictions and requirements.

When towing, remember that towed loads can swerve, upset or cause loss of control when towed with an undersized towing unit.

Never tow an implement behind a truck or other motor vehicle. The ability to maintain control and brake the implement and vehicle mass is compromised. The ability to properly attach the implement hitch and safety chain to the motor vehicle may be marginal. With most motor vehicles it is not possible to properly operate the warning, tail and turn signal lights on the implement, and in most cases the implement tires are not rated for highway speeds.

Tow drawn implements only with a properly sized and weighted tractor equipped with a stationary drawbar. (See tractor operator's manual for ballast requirements.)

Integral and semi-integral implements should be attached to a tractor with a three-point hitch as specified in the implement operator's manual. The tractor should have the proper size rear tires and the sway blocks should be in the down position. Do not transport unless the tractor front end is ballasted to the weight levels specified in the tractor operator's manual for the correct implement code.

Before transporting, attach a properly sized safety tow chain between the implement and tractor.

Stopping distance increases with speed and weight of towed loads, and when transporting on slopes. Observe these recommended maximum road speeds, or local speed limits that may be lower:

- If towed equipment does not have brakes, do not transport at speeds above 32 km/h (20 mph) and do not tow loads that weigh more than 1.5 times the weight of the tractor.
- If the towed equipment has brakes, do not transport at speeds above 40 km/h (25 mph) and do not tow loads more than 4.5 times the weight of the tractor.

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

Attach the implement lighting harness to the tractor and make sure that the warning and taillights on both the tractor and implement are on and functioning properly.

Make sure that the SMV and other markings on the implement are clean and visible.

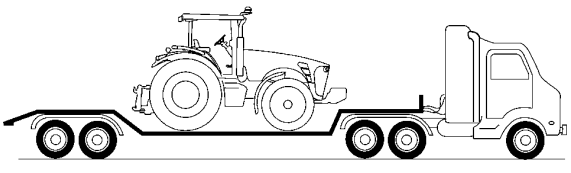
DX,DELIVER-19-26JUL19-1/1

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.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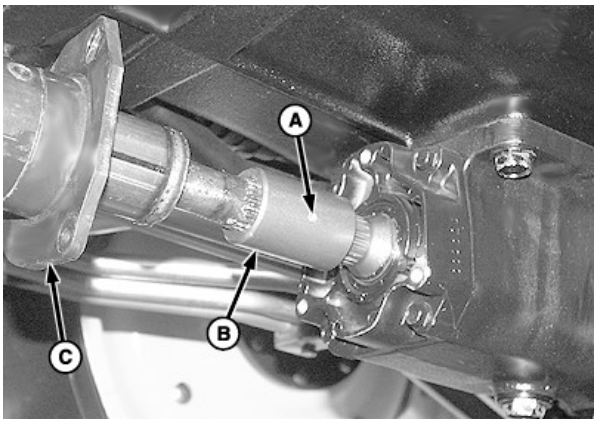
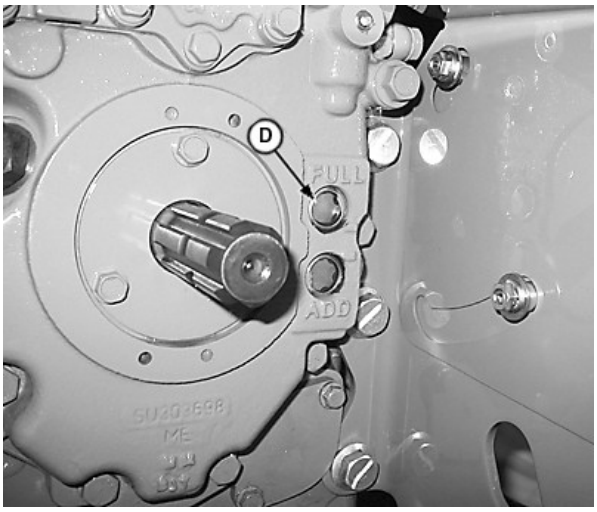
Towing Tractor



LV9702—UN—24AUG04

MFWD Drive Shaft-to-Drop Housing



LV14193—UN—27APR11

Rear of Tractor

A—Spring Pin **B—Coupler** **C—Drive Shaft Shield** **D—Sight Glass**

CAUTION: Remove MFWD drive shaft if towing tractor with front wheels on a carrier. Loss of transmission-hydraulic system pressure will engage the MFWD and pull tractor off the carrier, even with lever in the DISENGAGED position.

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

1. When towing tractor with front wheels on a carrier, remove drive shaft:
   a. Remove three cap screws and slide drive shaft shield (C) away from drop housing. Repeat on opposite end.
   b. Remove spring pin (A) using a punch and hammer.
   c. Support drive shaft and slide coupler (B) toward drop housing.
   d. Remove drive shaft, shields and couplers.
2. Check transmission-hydraulic oil level (it must be visible in the top sight glass (D)). Add 1 L (1 qt) for each 90 mm (3-1/2 in.) front wheels are raised off the ground. DO NOT raise wheels more than 305 mm (12 in.). Drain excess oil after transporting.
3. Tap brake pedals to make sure differential lock is not engaged.
4. Disengage PTO and move range and gear shift levers to NEUTRAL.
5. For PowrReverser™ Transmission, put EH directional reverser lever in NEUTRAL.
6. If possible, operate engine above 1250 rpm to provide lubrication, power steering, and power brakes. Have an operator steer and brake tractor.
7. Do not tow a tractor faster than 8 km/h (5 mph). Do not exceed 3 km/h (2 mph) for the first 10 minutes in below freezing temperatures.

After Towing

Apply multipurpose grease to MFWD couplers and shaft splines, and install drive shaft assembly.

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

PowrReverser is a trademark of Deere & Company

JZ81662,000028C-19-12JUL11-1/1

Filling Fuel Tank

CAUTION: Handle fuel with care: It is highly flammable. DO NOT refuel the machine while smoking or when near open flame or sparks.

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

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

Fill fuel tank at end of each day's operation. This prevents condensation in tank as moist air cools.

Specification

Cab—Capacity. . . . . 126.8 L (33.5 gal)

Specification

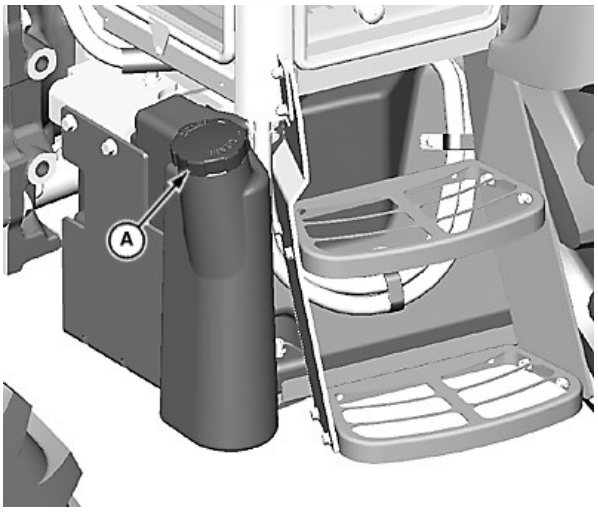
Open Operator's Station—Capacity. . . . . 96.5 L (26.5 gal)

IMPORTANT: The fuel tank uses a vented filler cap. If a new filler cap is required, always replace it with a vented cap.

NOTE: To reduce fuel gelling and control wax separation during cold weather, John Deere Fuel Flow Improver, or equivalent, may be added to fuel or bulk storage tank.

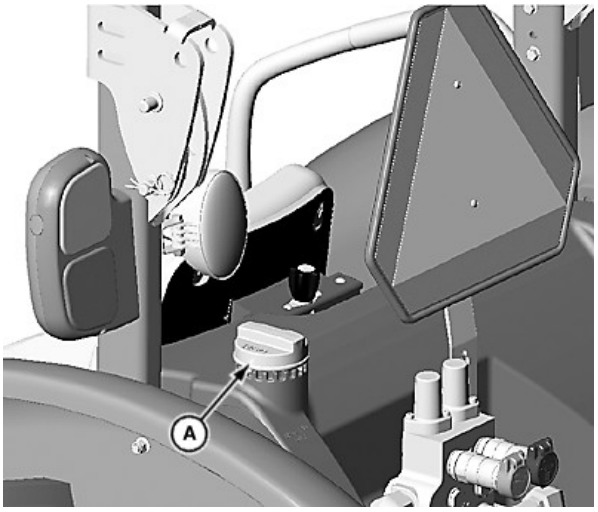
A—Vented Fuel Cap

TS202—UN—23AUG88



LV15749—UN—10MAY12

Fuel Cap; Cab



LV15748—UN—10MAY12

Fuel Cap; OOS

JZ81662,000079B-19-11MAY12-1/1

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

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

DX,ALTER-19-13JAN18-1/1

Diesel Engine Coolant (engine with wet sleeve cylinder liners)

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

Preferred Coolants

The following pre-mix engine coolants are preferred:

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

COOL-GARD II pre-mix coolant is available in several concentrations with different freeze protection limits as shown in the following table.

COOL-GARD II Pre-Mix	Freeze Protection Limit
COOL-GARD II 20/80	-9°C (16°F)
COOL-GARD II 30/70	-16°C (3°F)
COOL-GARD II 50/50	-37°C (-34°F)
COOL-GARD II 55/45	-45°C (-49°F)
COOL-GARD II PG 60/40	-49°C (-56°F)
COOL-GARD II 60/40	-52°C (-62°F)

Not all COOL-GARD II pre-mix products are available in all countries.

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

Additional Recommended Coolants

The following engine coolant is also recommended:

- John Deere COOL-GARD II Concentrate in a 40—60% mixture of concentrate with quality water.

IMPORTANT: When mixing coolant concentrate with water, do not use less than 40% or greater than 60% concentration of coolant. Less than 40% gives inadequate additives for corrosion protection. Greater than 60% can result in coolant gelation and cooling system problems.

Other Coolants

Other ethylene glycol or propylene glycol base coolants may be used if they meet the following specification:

- Pre-mix coolant meeting ASTM D6210 requirements
- Is formulated with a 2-ethylhexanoic acid (2-EHA) free additive package
- Coolant concentrate meeting ASTM D6210 requirements in a 40—60% mixture of concentrate with quality water

If coolant meeting one of these specifications is unavailable, use a coolant concentrate or pre-mix coolant that has a minimum of the following chemical and physical properties:

- Provides cylinder liner cavitation protection according to either the John Deere Cavitation Test Method or a fleet study run at or above 60% load capacity
- Is formulated with a nitrite-free additive package
- Is formulated with a 2-ethylhexanoic acid (2-EHA) 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. Deionized or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

Coolant Drain Intervals

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

When COOL-GARD II or COOL-GARD II PG is used, the drain interval is 6 years or 6000 hours of operation.

If a coolant other than COOL-GARD II or COOL-GARD II PG is used, reduce the drain interval to 2 years or 2000 hours of operation.[1]

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

Do not mix ethylene glycol and propylene glycol base coolants.

Do not use coolants that contain nitrites.

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[1] Coolant analysis may extend the service interval of other "Coolants" to a maximum not to exceed the interval of Cool-Gard II coolants. Coolant analysis means taking a series of coolant samples at 1000 hour increments beyond the normal service interval until either the data indicate the end of useful coolant life or the maximum service interval of Cool-Gard II is reached.

DX,COOL3-19-25AUG20-1/1

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,COOL6-19-17FEB20-1/1

John Deere COOL-GARD™ II Coolant Extender

Some coolant additives gradually deplete during engine operation. For COOL-GARD™ II pre-mix and COOL-GARD II Concentrate, replenish coolant additives between drain intervals by adding COOL-GARD II Coolant Extender.

COOL-GARD II Coolant Extender should not be added unless indicated by COOL-GARD II Test Strips. These test strips provide a simple, effective method to check the freeze point, additive levels, and pH of your engine coolant.

Test the coolant solution at intervals of 12 months and whenever excessive coolant is lost through leaks or overheating.

IMPORTANT: Do not use COOL-GARD II Test Strips with COOL-GARD II PG.

COOL-GARD II Coolant Extender is a chemically matched additive system for use with all COOL-GARD II coolants. COOL-GARD II Coolant Extender is not intended for use with nitrite-containing coolants.

IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

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

The use of non-recommended supplemental coolant additives can result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

Add the recommended concentration of COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

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DX,COOL16-19-15MAY13-1/1

Water Quality for Mixing with Coolant Concentrate

Engine coolants are a combination of three chemical components: ethylene glycol (EG) or propylene glycol (PG) antifreeze, inhibiting coolant additives, and quality water.

Water quality is important to the performance of the cooling system. Deionized or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

All water used in the cooling system should meet the following minimum specifications for quality:

Chlorides	<40 mg/L
Sulfates	<100 mg/L
Total solids	<340 mg/L
Total dissolved I hardness	<170 mg/L
pH	5.5—9.0

IMPORTANT: Do not use bottled drinking water because it often contains higher concentrations of total dissolved solids.

Freeze Protection

The relative concentrations of glycol and water in the engine coolant determine its freeze protection limit.

Ethylene Glycol	Freeze Protection Limit
40%	-24°C (-12°F)
50%	-37°C (-34°F)
60%	-52°C (-62°F)
Propylene Glycol	**Freeze Protection Limit**
40%	-21°C (-6°F)
50%	-33°C (-27°F)
60%	-49°C (-56°F)

DO NOT use a coolant-water mixture greater than 60% ethylene glycol or 60% propylene glycol.

DX,COOL19-19-13JAN18-1/1

Testing Coolant Freeze Point

The use of a handheld coolant refractometer is the quickest, easiest, and most accurate method to determine coolant freeze point. This method is more accurate than a test strip or a float-type hydrometer which can produce poor results.

A coolant refractometer is available through your John Deere dealer under the SERVICEGARD™ tool program. Part number 75240 provides an economical solution to accurate freeze point determination in the field.

To use this tool:

1. Allow cooling system to cool to ambient temperatures.
2. Open radiator cap to expose coolant.
3. With the included dropper, collect a small coolant sample.
4. Open the lid of the refractometer, place one drop of coolant on the window and close the lid.
5. Look through the eyepiece and focus as necessary.
6. Record the listed freeze point for the type of coolant (ethylene glycol coolant or propylene glycol) being tested.

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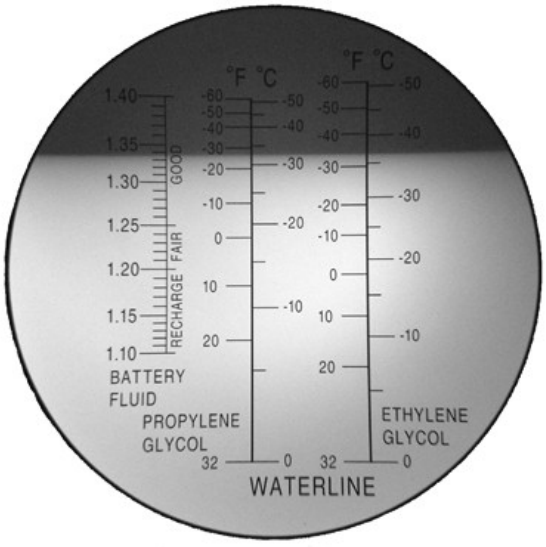
SERVICEGARD™ Part Number 75240



TS1733—UN—04SEP13

Image with a Drop of 50/50 Coolant Placed on the Refractometer Window

SERVICEGARD is a trademark of Deere & Company

DX,COOL,TEST-19-13JUN13-1/1

Extended Diesel Engine Oil Service Intervals

When John Deere PLUS-50™ oil is used with the specified John Deere filter, the service interval for engine oil and filter changes may be increased by 50% but not to exceed a maxium of 500 hours.

When ACEA E7, ACEA E6, ACEA E5, or ACEA E4 oils are used with specified John Deere filter, use engine oil analysis to determine if the service interval for engine oil and filter changes may be increased by a maximum of 50% but not to exceed 500 hours.

If John Deere PLUS-50™, ACEA E7, ACEA E6, ACEA E5, or ACEA E4 oils are used with other than the specified John Deere filter, change the engine oil and filter at the normal service interval.

If John Deere TORQ-GARD SUPREME™, API CJ-4, API CI-4 PLUS, API CI-4, API CH-4, or ACEA E3 oils are used, change the engine oil and filter at the normal service interval.

If API CG-4, API CF-4, or ACEA E2 oils are used, change the engine oil and filter at 50% of the normal service interval.

PLUS-50 is a trademark of Deere & Company
TORQ-GARD SUPREME is a trademark of Deere & Company

DX,ENOIL8-19-13SEP06-1/1

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

New engines are filled at the factory with either John Deere Break-In™ or John Deere Break-In Plus™ Engine Oil. During the break-in period, add John Deere Break-In™ or Break-In Plus™ Engine Oil, respectively, as needed to maintain the specified oil level.

Operate the engine under various conditions, particularly heavy loads with minimal idling, to help seat engine components properly.

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

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

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

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

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

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

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

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

John Deere Break-In Plus™ Engine Oil can be used for all John Deere diesel engines at all emission certification levels.

After the break-in period, use John Deere Plus-50™ II, John Deere Plus-50™, or other diesel engine oil as recommended in this manual.

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

DX,ENOIL4-19-02NOV16-1/1

Diesel Engine Oil — Tier 3 and Stage IIIA

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

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

John Deere Plus-50™ II oil is preferred.

John Deere Plus-50™ is also recommended.

John Deere Torq-Gard™ is also allowed.

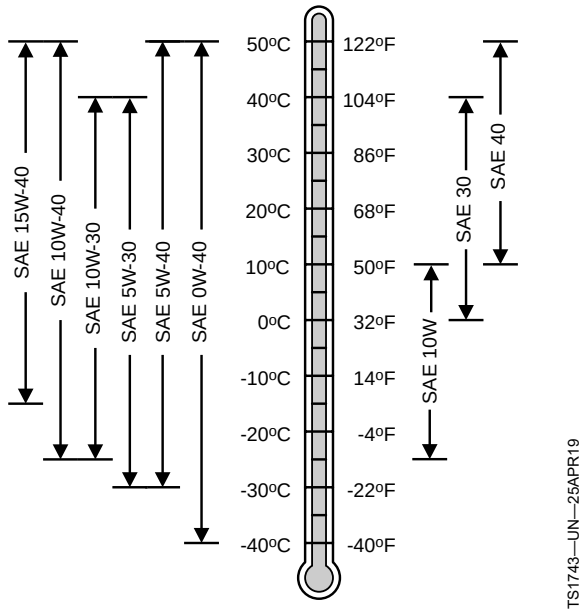
Other oils may be used if they meet one or more of the following standards:

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

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

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



Oil Viscosities for Air Temperature Ranges

DO NOT use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm).

DX,ENOIL11-19-23APR19-1/1

Engine Oil and Filter Service Intervals — Tier 3 and Stage IIIA — PowerTech™ Engines

Recommended oil and filter service intervals are based on a combination of oil pan capacity, type of engine oil and filter used, and sulfur content of the diesel fuel. Actual service intervals also depends on operation and maintenance practices.

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

Change the oil and oil filter at least once every 12 months even if the hours of operation are fewer than the otherwise recommended service interval.

Diesel fuel sulfur content affects engine oil and filter service intervals.

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is RECOMMENDED
- Use of diesel fuel with sulfur content 1000—5000 mg/kg (1000—5000 ppm) REDUCES the oil and filter change interval
- BEFORE using diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm), contact your John Deere dealer or qualified service provider
- DO NOT use diesel fuel with sulfur content greater than 10000 mg/kg (10000 ppm)

Approved Oil Types:

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

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

NOTE: The 500 hour extended oil and filter change interval is only allowed if all of the following conditions are met:

- *Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm)*
- *Use of John Deere Plus-50™ II or John Deere Plus-50™ oil*
- *Use of an approved John Deere oil filter*

Engine Oil and Filter Service Intervals	
Fuel Sulfur	Less than 1000 mg/kg (1000 ppm)
Plus-50 Oils	500 hours
Other Oils	250 hours
Fuel Sulfur	1000—2000 mg/kg (1000—2000 ppm)
Plus-50 Oils	400 hours
Other Oils	200 hours
Fuel Sulfur	2000—5000 mg/kg (2000—5000 ppm)
Plus-50 Oils	350 hours
Other Oils	175 hours
Fuel Sulfur	5000—10 000 mg/kg (5000—10 000 ppm)
Plus-50 Oils	250 hours (see John Deere dealer)
Other Oils	125 hours (see John Deere dealer)
Oil analysis may extend the service interval of “Other Oils”, to a maximum not to exceed the interval of Plus-50 Oils. Oil analysis means taking a series of oil samples at 50-hour increments beyond the normal service interval until either the data indicates the end of useful oil life or the maximum service interval of John Deere Plus-50 oils is reached.	

IMPORTANT: To avoid engine damage:

- **Reduce oil and filter service intervals by 50% when using biodiesel blends greater than B20. Oil analysis may allow longer service interval**
- **Use only approved oil types**

DX,ENOIL13,T3,PT,120TO139-19-13JAN18-1/1

Oil Filters

Filtration of oils is critically important for proper operation and lubrication. John Deere brand oil filters have been designed and produced specifically for John Deere applications.

John Deere filters adhere to engineering specifications for quality of the filter media, filter efficiency rating, strength of the bond between the filter media and the element end cap, fatigue life of the canister (if applicable), and pressure capability of the filter seal. Non-John Deere branded oil filters might not meet these key John Deere specifications.

Always change oil filters regularly as specified in this manual.

DX,FILT1-19-11APR11-1/1

Fuel Filters

The importance of fuel filtration cannot be overemphasized with modern fuel systems. The combination of increasingly restrictive emission regulations and more efficient engines requires fuel system to operate at much higher pressures. Higher pressures can only be achieved using fuel injection components with very close tolerances. These close manufacturing tolerances have significantly reduced capacities for debris and water.

John Deere brand fuel filters have been designed and produced specifically for John Deere engines.

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

DX,FILT2-19-14APR11-1/1

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended. Renewable diesel fuel produced by hydrotreating animal fats and vegetable oils is basically identical to petroleum diesel fuel. Renewable diesel that meets EN 590, ASTM D975, or EN 15940 is acceptable for use at all percentage mixture levels.

Required Fuel Properties

In all cases, the fuel shall meet the following properties:

Cetane number of 40 minimum. Cetane number greater than 47 is preferred, especially for temperatures below –20 °C (–4 °F) or elevations above 1675 m (5500 ft.).

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

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

Diesel fuel quality and sulfur content must comply with all existing emissions regulations for the area in which the engine operates. DO NOT use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm).

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

E-Diesel fuel

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

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

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

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

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

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

- Use ONLY ultra low sulfur diesel (ULSD) fuel with a maximum of 15 mg/kg (15 ppm) sulfur content.

Sulfur Content for Tier 3 and Stage III A Engines

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 1000—2000 mg/kg (1000—2000 ppm) REDUCES the oil and filter change interval.
- BEFORE using diesel fuel with sulfur content greater than 2000 mg/kg (2000 ppm), contact your John Deere dealer.

Sulfur Content for Tier 2 and Stage II Engines

- Use of diesel fuel with sulfur content less than 2000 mg/kg (2000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 2000—5000 mg/kg (2000—5000 ppm) REDUCES the oil and filter change interval.[1]
- BEFORE using diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm), contact your John Deere dealer.

Sulfur Content for Other Engines

- Use of diesel fuel with sulfur content less than 5000 mg/kg (5000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm) REDUCES the oil and filter change interval.

IMPORTANT: Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.

Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

DX,FUEL1-19-01NOV22-1/1

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 practical to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using biodiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel. Keeping the free water drained and treating the bulk fuel storage tank quarterly with a maintenance dose of a biocide will prevent microbial growth. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4-19-13JAN18-1/1

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

If fuel of low or unknown lubricity is used, add John Deere Fuel-Protect Diesel Fuel Conditioner (or equivalent) at the specified concentration.

Lubricity of BioDiesel Fuel

Fuel lubricity can improve significantly with BioDiesel blends up to B20 (20% BioDiesel). Further increase in lubricity is limited for BioDiesel blends greater than B20.

DX,FUEL5-19-07FEB14-1/1

Testing Diesel Fuel

A fuel analysis program can help to monitor the quality of diesel fuel. The fuel analysis can provide critical data such as calculated cetane index, fuel type, sulfur content, water content, appearance, suitability for cold weather operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets ASTM D975 or equivalent specification.

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

DX,FUEL6-19-13JAN18-1/1

Biodiesel Fuel

Biodiesel fuel is comprised of monoalkyl esters of long chain fatty acids derived from vegetable oils or animal fats. Biodiesel blends are biodiesel mixed with petroleum diesel fuel on a volume basis.

Before using fuel containing biodiesel, review the Biodiesel Use Requirements and Recommendations in this Operator's Manual.

Environmental laws and regulations can encourage or prohibit the use of biofuels. Operators should consult with appropriate governmental authorities prior to using biofuels.

John Deere Stage V Engines Operating in the European Union

Where the engine is to be operated within the Union on diesel or non-road gas-oil, a fuel with a FAME content not greater than 8% volume/volume (B8) shall be used.

John Deere Engines with Exhaust Filter Except Stage V Engines Operating in the European Union

Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

Biodiesel concentrations above B20 can harm the engine's emission control systems and should not be used. Risks include, but are not limited to, more frequent stationary regeneration, soot accumulation, and increased intervals for ash removal.

John Deere Fuel conditioners or equivalent, which contain detergent and dispersant additives, are required when using biodiesel blends from B10 to B20, and are recommended when using lower biodiesel blends.

John Deere Engines Without Exhaust Filter

Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

These John Deere engines can operate on biodiesel blends above B20 (up to 100% biodiesel). Operate at levels above B20 ONLY if the biodiesel is permitted by law and meets the EN 14214 specification (primarily available in Europe). Engines operating on biodiesel blends above B20 might not fully comply with or be permitted by all applicable emissions regulations. Expect up to a 12% reduction in power and an 18% reduction in fuel economy when using 100% biodiesel.

John Deere fuel conditioners or equivalent, which contain detergent and dispersant additives, are required when using biodiesel blends from B10 to B100, and are recommended when using lower biodiesel blends.

Biodiesel Use Requirements and Recommendations

The petroleum diesel portion of all biodiesel blends must meet the requirements of ASTM D975 (US) or EN 590 (EU) commercial standard.

Biodiesel users in the U.S. are strongly encouraged to purchase biodiesel blends from a BQ-9000 Certified Marketer and sourced from a BQ-9000 Accredited Producer (as certified by the National biodiesel Board). Certified Marketers and Accredited Producers can be found at the following website: http://www.bq9000.org.

Biodiesel contains residual ash. Ash levels exceeding the maximums allowed in either ASTM D6751 or EN14214 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present).

The fuel filter can require more frequent replacement when using biodiesel fuel, particularly if switching from diesel. Check engine oil level daily prior to starting engine. A rising oil level can indicate fuel dilution of the engine oil. Biodiesel blends up to B20 must be used within 90 days of the date of biodiesel manufacture. Biodiesel blends above B20 must be used within 45 days from the date of biodiesel manufacture.

When using biodiesel blends up to B20, the following must be considered:

- Cold-weather flow degradation
- Stability and storage issues (moisture absorption, microbial growth)
- Possible filter restriction and plugging (usually a problem when first switching to biodiesel on used engines)
- Possible fuel leakage through seals and hoses (primarily an issue with older engines)
- Possible reduction of service life of engine components

Request a certificate of analysis from your fuel distributor to ensure that the fuel is compliant with the specifications provided in this Operator's Manual.

Consult your John Deere dealer for John Deere fuel products to improve storage and performance with biodiesel fuels.

The following must also be considered if using biodiesel blends above B20:

- Possible coking or blocked injector nozzles, resulting in power loss and engine misfire if John Deere fuel additives and conditioners or equivalent containing detergent/dispersants are not used
- Possible crankcase oil dilution (requiring more frequent oil changes)
- Possible lacquering or seizure of internal components
- Possible formation of sludge and sediments
- Possible thermal oxidation of fuel at elevated temperatures
- Possible compatibility issues with other materials

Continued on next page

DX,FUEL7-19-13JAN18-1/2

(including copper, lead, zinc, tin, brass, and bronze) used in fuel handling, distribution, and storage equipment
- Possible reduction in water separator efficiency
- Possible damage to paint if exposed to biodiesel
- Possible corrosion of fuel injection equipment
- Possible elastomeric seal and gasket material degradation (primarily an issue with older engines)
- Possible high acid levels within fuel system
- Because biodiesel blends above B20 contain more ash, using blends above B20 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present)

IMPORTANT: Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere engines. Their use could cause engine failure.

DX,FUEL7-19-13JAN18-2/2

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 Cold 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) or equivalent 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,FUEL10-19-13JAN18-1/1

Supplemental Diesel Fuel Additives

Diesel fuel can be the source of performance or other operational problems for many reasons. Some causes include poor lubricity, contaminants, low cetane number, and a variety of properties that cause fuel system deposits. These and others are referenced in other sections of this Operator's Manual.

To optimize engine performance and reliability, closely follow recommendations on fuel quality, storage, and handling, which are found elsewhere in this Operator's Manual.

To further aid in maintaining performance and reliability of the engine's fuel system, John Deere has developed a family of fuel additive products for most global markets. The primary products include Fuel-Protect Diesel Fuel Conditioner (full feature conditioner in winter and summer formulas) and Fuel-Protect Keep Clean (fuel injector deposit removal and prevention). Availability of these and other products varies by market. See your local John Deere dealer for availability and additional information about fuel additives that might be right for your needs.

DX,FUEL13-19-07FEB14-1/1

Multipurpose Extreme Pressure (EP) Grease

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

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

The following greases are also recommended:

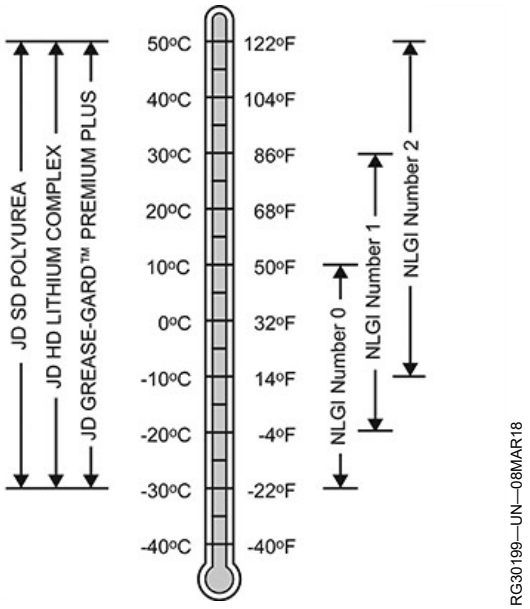
- John Deere HD Lithium Complex Grease
- John Deere Grease-Gard™ Premium Plus

Other greases may be used if they meet the following:

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

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

Grease-Gard is a trademark of Deere & Company



Greases for Air Temperature Ranges

DX,GREA1-19-13JAN18-1/1

Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX-19-18MAR96-1/1

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

Properly dispose of all old containers and any residual lubricant they may contain.

DX,LUBST-19-11APR11-1/1

Transmission, Steering, Brake, Hydraulic, and Gear Case Oil

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

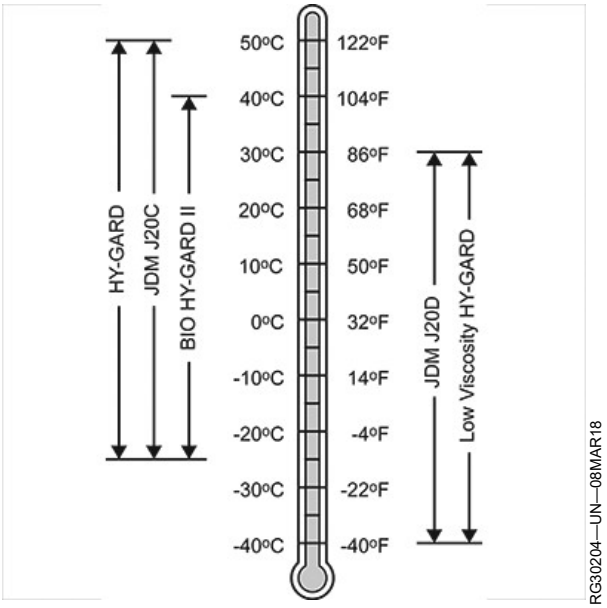
The following oils are preferred:

- 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

Use John Deere Bio Hy-Gard™ II oil when a biodegradable fluid is required.[1]



Oils for Air Temperature Ranges

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

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

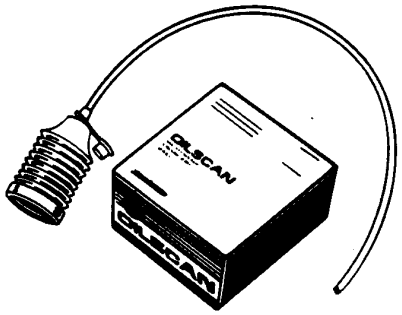
DX,OIL1-19-13JAN18-1/1

Oilscan™ and CoolScan™

Oilscan™ and CoolScan™ are John Deere sampling programs to help you monitor machine performance and identify potential problems before they cause serious damage.

Oil and coolant samples should be taken from each system before its recommended change interval.

Check with your John Deere dealer for the availability of Oilscan™ and CoolScan™ kits.



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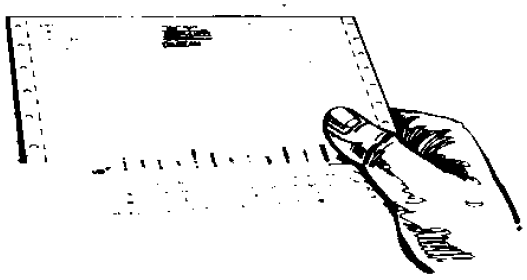

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Oilscan is a trademark of Deere & Company
CoolScan is a trademark of Deere & Company

DX,OILSCAN-19-13SEP11-1/1

Service Interval Chart

Item	Daily or 10 Hours	Weekly or 50 Hours	First 100 Hours	Every 300 Hours	Every 500 Hours
Check Engine Oil Level	•				
Drain Water and Sediment from Fuel Filter [a]	•				
Air Filter Unloader Valve	•				
Check Engine Coolant Level		•			
Check Transmission-Hydraulic System Oil Level		•			
Check MFWD for Oil Leaks		•			
Check MFWD Axle Housing and Wheel Hub Oil Level		•			
Inspect Tires and Check Inflation Pressure		•			
Lubricate MFWD Axle Trunnion		•			
Lubricate Hitch Linkages and Rockshaft Bushings [b]		•			
Inspect Tractor for Loose Hardware		•	•		
INITIAL Change Engine Oil and Filter (Change Break-In Plus™ to John Deere Plus-50™ II			•		
Change Transmission-Hydraulic Filter [c]			•		
Inspect and tighten hose clamps on the air intake system and coolant system			•		
Check MFWD Oil Level				•	
Drain and Flush Fuel Tank (Per local conditions and dealer recommendation)				•	
Battery Electrolyte Check (If recommended by John Deere or dealers for a local market's higher temperature working condition)				•	
Change Engine Oil and Filter SCHEDULED: Engine Oil and Filter Change (When using John Deere Plus-50™ II engine oil and John Deere filter)					•
Inspect Engine Air Cleaner[b]					•
Check Neutral Start System					•
Clean Cab Air Filters[b]					•
Change Fuel Filter(s)[d]					•

[a] The fuel filter must be drained when water or debris is evident in the sediment bowl. If this reoccurs more than three days in a row, then drain the sediment from the fuel tank. Run engine for a minimum of 20 seconds, re-check and if more water collects, drain the fuel tank.

[b] Service more often if operated in extremely dusty conditions.

[c] Using a shop-vac, apply suction to the fill port during filter change to prevent draining of the hydraulic oil.

[d] Make sure to replace with fuel filter(s) of part numbers correct for the tractor's model and specifications due to critical differences in mount, filter performance specifications, direction of internal flow, etc.

JZ81662,00007AC-19-22MAY12-1/1

Service Interval Chart

Item	Every 600 Hours	Every 1200 Hours	Every 1800 Hours or Annual	Every 2000 Hours or Two Years	First Three Years or 3000 Hours	First Five Years or 5000 Hours
Replace Transmission-Hydraulic Oil Filter [a]	•					
Change MFWD Hub and Axle Housing Oil	•					
Clean Engine Crankcase Vent Tube	•					
Check Cooling System for Leaks	•					
Lubricate Rear Axle Bearings [b]	•					
Check Engine Idle Speeds	•					
Check Front Axle Pivot Pin End Play [c]	•					
Inspect, and Tighten Hose Clamps on the Air Intake System and Coolant System	•					
Service/Clean Primary and Secondary Engine Air Filter Elements		•				
Clean Transmission-Hydraulic Oil Pick-up Screen		•				
Check Belt Tensioner		•				
Change Transmission-Hydraulic Oil and Filter		•				
Replace and/or Clean Cab Air Filters [d]			•			
Inspect Seat Belt			•			
Check Coolant Properties [c]			•			
Adjust Engine Valve Clearances [c]				•		
Test Injection Nozzles [c]				•		
Drain, Flush and Replace Coolant (When coolant is NOT checked annually or not serviced with the pre-diluted John Deere COOL-GARD II™)[c]					•	
Test or Replace Thermostat [c]					•	
Drain, Flush and Replace Coolant						•

[a] Using a shop-vac, apply suction to the fill port during filter change to prevent draining of the hydraulic oil.
[b] Daily Service is only necessary when operating in extremely wet and muddy conditions. Greasing too frequently can cause seal fatigue.
[c] See your John Deere dealer for service.
[d] Service more often if operated in extremely dusty conditions.

COOL-GARD is a trademark of Deere & Company

JZ81662,00007AD-19-22MAY12-1/1

Service—As Required

- Clean radiator, oil-coolers, and AC condenser
- Clean and check battery
- Replace water separator element
- Adjust hand throttle friction
- Replace in-line fuel filter (located on top of coolers by air cleaner)
- Replace in-line fuel strainer/filter (located at fuel tank outlet)
- Service air cleaner (clean when the restriction indicator is ON; after 5 cleanings, replace elements.)[1]
- Lubricate front axle pivot pin[2]
- Lubricate hood latch[3]
- Check brake pedal adjustment[4]
- Clean cab air filters[1]
- Lubricate steering spindles[2]
- Lubricate rear axle bearings[2]
- Lubricate the draft sensing shaft seals at each end[2]
- Adjust PTO lever and linkage[4]
- Service air conditioning system[4]
- Inspect fuel injectors[4]

[1] Service more often if operated in extremely dusty conditions.
[2] Daily Service is only necessary when operating in extremely wet and muddy conditions. Greasing too frequently can cause seal fatigue.
[3] Only necessary after pressure washing.
[4] See your John Deere dealer for service.

JZ81662,00007AE-19-08MAR12-1/1

Cleaning Hood Screen, Radiator, Oil Cooler or A/C Condenser

1. Whenever trash builds up on hood screen (A), stop engine and brush clean.

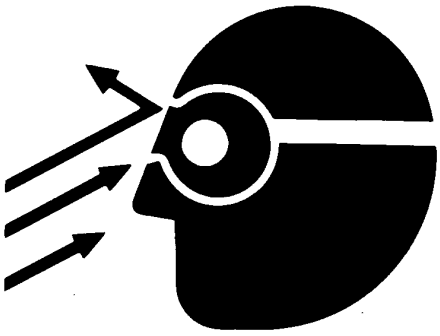
CAUTION: Reduce compressed air to less than 210 kPa (2 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment including eye protection.

2. Raise hood and remove finger guards. See if trash has built up on radiator (C), or oil cooler and CAC (D), or A/C condenser (E). If so, remove it using a brush or compressed air.

3. If a more thorough cleaning is necessary, clean radiator from behind with compressed air or water. Straighten any bent fins.

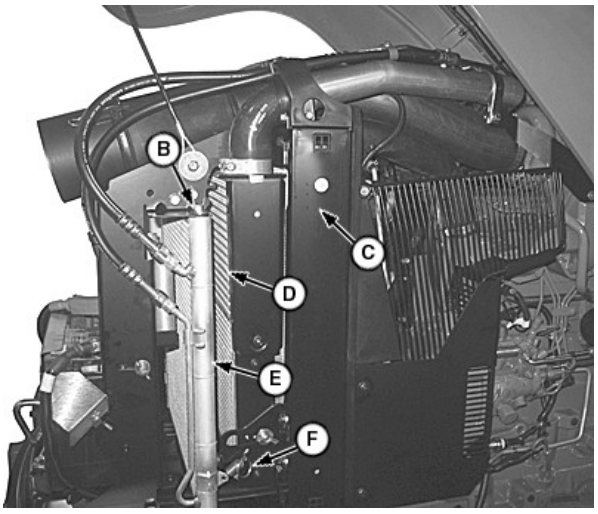
NOTE: If more clearance is required, remove retaining springs (F) from each side of the condenser. Loosen wing nuts (B) from the top condenser mounting brackets and bottom oil cooler mounting brackets. The condenser and oil cooler can now be moved forward to clean in between. After cleaning, reattach retaining springs and tighten wing nuts to secure.

A—Hood Screen
B—Wing Nut
C—Radiator
D—Oil Cooler and Charge Air Cooler (CAC)
E—A/C Condenser
F—Retaining Spring



TS266—UN—23AUG88

LV14264—UN—16MAY11



LV14263—UN—11MAY11

JZ81662,000080A-19-09MAR12-1/1

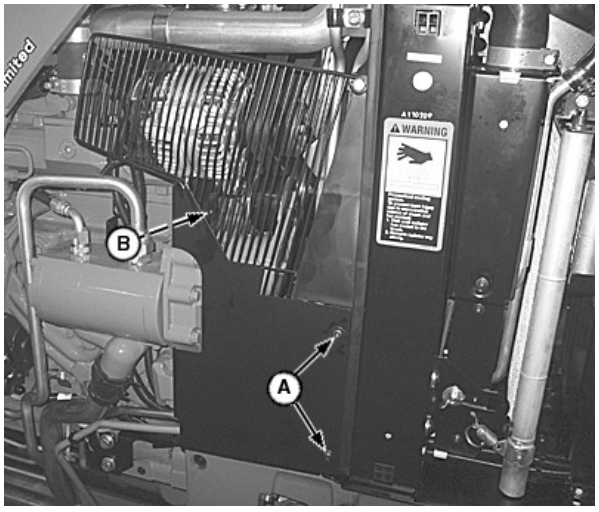
Replacing Fan Belt

NOTE: Fan drive belt is equipped with an automatic tensioner which does not require adjustment.

IMPORTANT: DO NOT remove belt guard fastened to A/C compressor. Compressor will be loose if cap screws are removed.

1. Remove two hex socket head cap screws (A) from right-side guard brace.
2. Remove cap screw (B) from retaining guard to radiator. Remove right-side guard.

A—Hex Socket Head Cap Screw (2 used)
B—Cap Screw

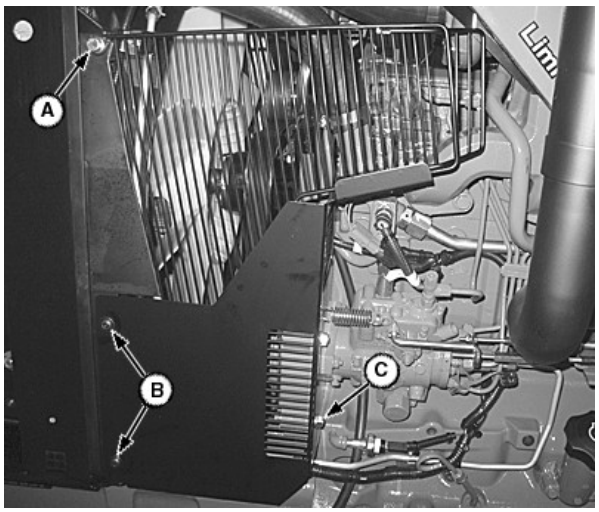


Right-Side Guard

JZ81662,000080B-19-17MAY12-1/3

3. Remove two hex socket head cap screws (B) from left-side guard brace.
4. Remove cap screw (A) retaining guard to radiator.
5. Remove two nuts (C) from left-side guard brace. Remove left-side guard.

A—Cap Screw
B—Hex Socket Head Cap Screw (2 used)
C—Nut (2 used)



Left-Side Guard

Continued on next page

JZ81662,000080B-19-17MAY12-2/3

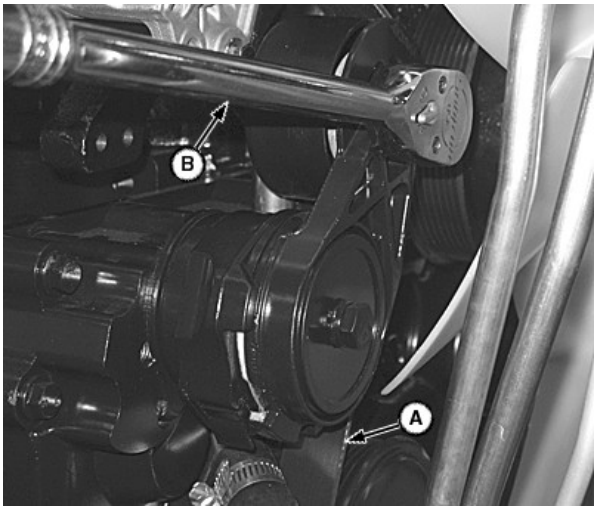
6. Release tension on belt using a long-handle 1/2 in. drive breaker bar (B) to pull tensioner away from engine.

   Remove belt (A) from alternator pulley.

7. Release tension on tensioner and remove breaker bar.
8. Remove belt.
9. Install new belt in reverse order of removal.

Belt Routing	
1	Alternator
2	Air Conditioning Compressor[a]
3	Idler[a]
4	Crankshaft Pulley
5	Coolant Pump
6	Tensioner
7	Fan Drive

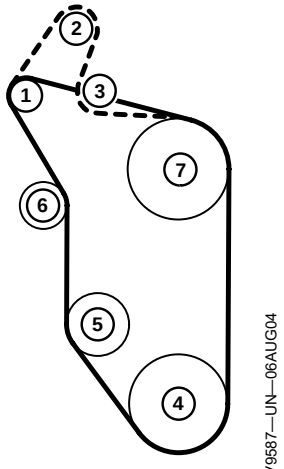
[a] *Cab only*



LV14270—UN—11MAY11

Remove Belt

A—Belt **B—Breaker Bar**



LV9587—UN—06AUG04

JZ81662,000080B-19-17MAY12-3/3

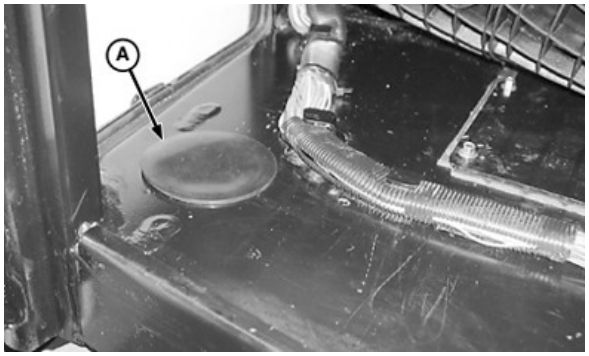
Keeping Cab Protection System Installed Properly

SERVICE INTERVAL
INITIAL — 10 HOURS
REGULAR — WEEKLY OR 50 HOURS

CAUTION: 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.

When installation of equipment on a machine necessitates loosening or removing cab protection system, tighten mounting cap screws to specification.



Plug—Front Mount (Left-Hand Side Shown)

A—Plug

Inspect cab protection system mounting hardware every week or 50 hours for proper torque or replacement.

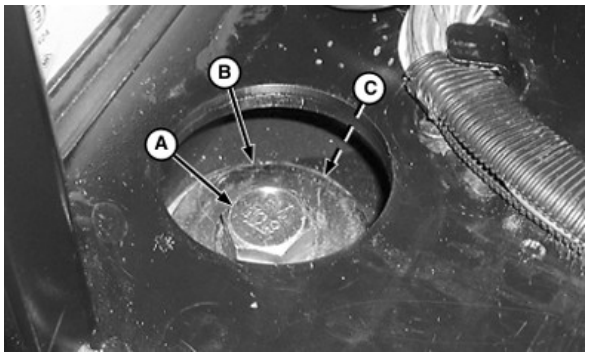
Lift up rubber floor mat and pry out plugs (A) to access FRONT mounting hardware.

JZ81662,000080C-19-09MAR12-1/2

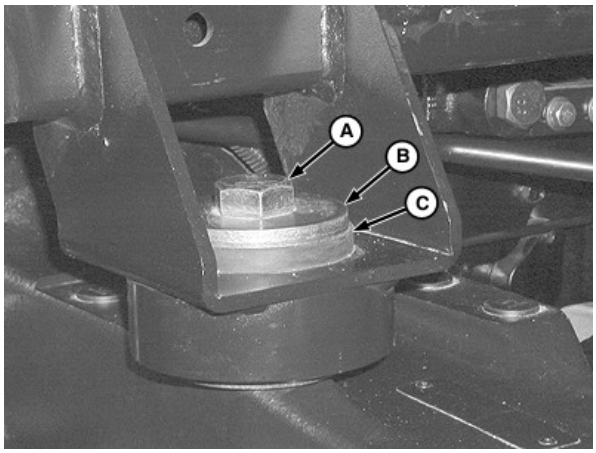
Check front and rear mounting hardware (A—C) for proper torque.

Specification	
Cab Protection System Mounting Cap Screws—Torque	500 N·m (368 lb-ft)

A—Cap Screw (4 used)
B—Washer (4 used)
C—Isolator (4 used)



Front Cab Mount



Rear Cab Mount

JZ81662,000080C-19-09MAR12-2/2

Bleeding Fuel System

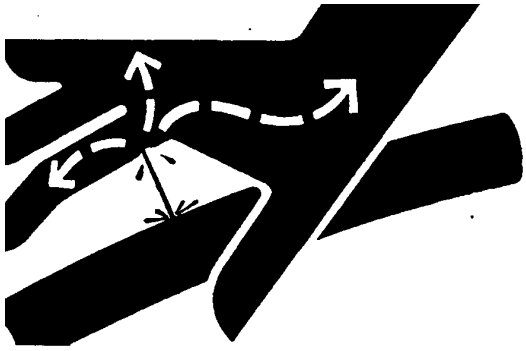
CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

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

IMPORTANT: To avoid injection pump damage, DO NOT attempt to start the engine while bleeding the fuel system.

1. Check fuel level. Fuel tank must be full. Add if necessary.
2. Raise hood and loosen fuel return line (C).
3. Loosen filter base bleed screw (B).
4. Push priming pump (A) until fuel runs out smoothly without spitting, then tighten bleed screw (B).
5. Loosen injection pump bleed screw (D).
6. Push priming pump (A) until fuel runs out smoothly without spitting, then tighten fuel return line (C).
7. Tighten bleed screw (D) and lower hood.

A—Priming Pump
B—Bleed Screw
C—Fuel Return Line
D—Bleed Screw



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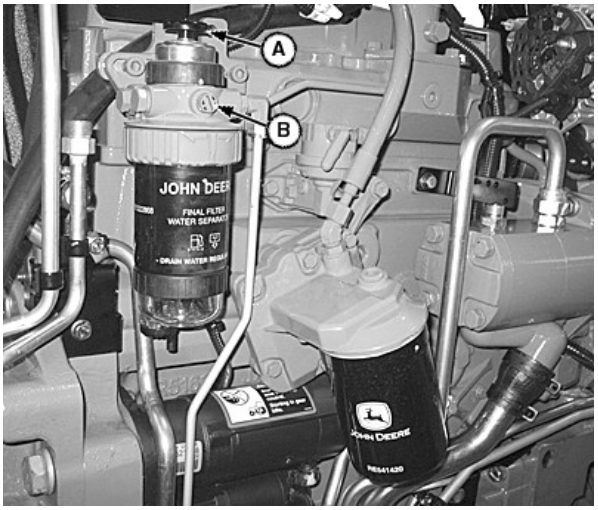
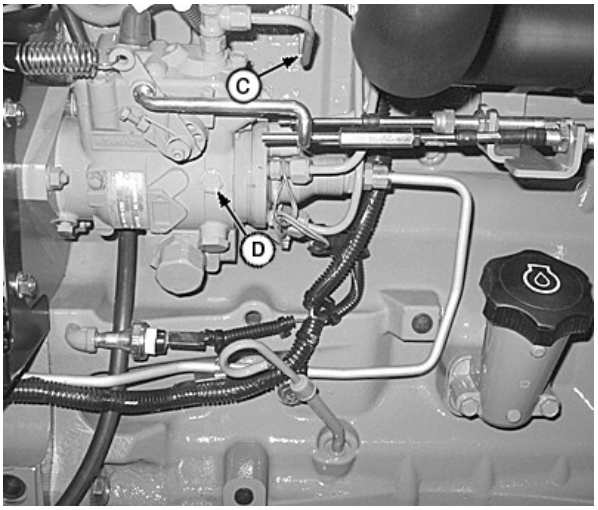


LV14272—UN—11MAY11



LV14271—UN—11MAY11

Fuel Injection Pump

JZ81662,000080D-19-09MAR12-1/1

Replacing Battery

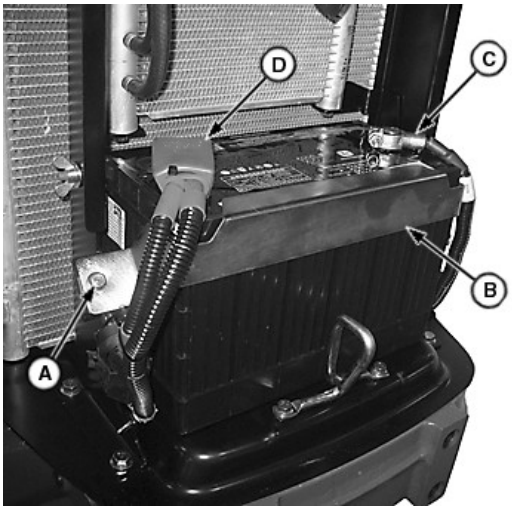
1. Raise hood and remove side screens.

CAUTION: To avoid sparks, disconnect negative (ground) cable first and connect it last.

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.

2. Remove nut and disconnect negative (ground) battery cable (C).
3. Remove nut and disconnect positive cable (D).
4. Loosen cap screws (A) and rotate battery hold-down (B) down.
5. Remove battery.
6. When replacing battery, use John Deere battery or equivalent. (See your John Deere dealer.)

Specification	
Battery—Volts	12 Volts
BCI Group	31
Cold Cranking Amps (CCA) at –18°C (0°F)	750



LV14273—UN—10MAY11

Battery—Front of Tractor

A—Cap Screw (2 used)
B—Battery Hold-Down
C—Negative (–) Cable
D—Positive (+) Cable

7. Install battery in reverse order of removal.

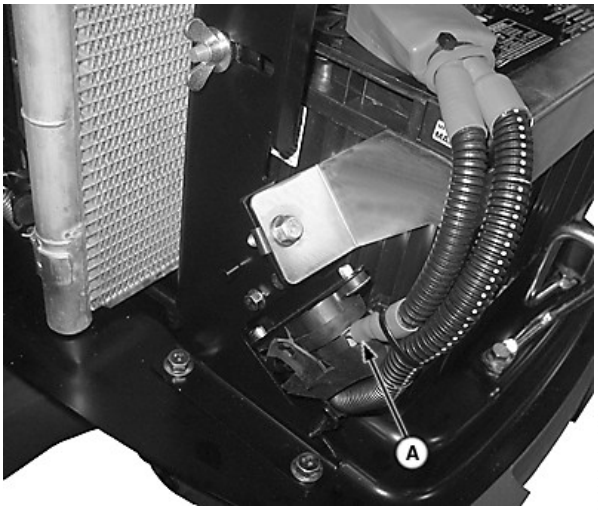
JZ81662,000080E-19-09MAR12-1/1

Locating Fusible Link

Electrical circuits are protected by one fusible link:

- Fusible link (A) is located under hood along right side of battery.

A—Fusible Link



LV14274—UN—10MAY11

Fusible Link at Battery

JZ81662,000080F-19-09MAR12-1/1

Locating Fuses

All electrical circuits are protected by fuses. Amperage rating is marked on each fuse, plus fuses are color coded to ensure proper replacement.

Fuse Rating	Color
5 Amp	Orange
10 Amp	Red
15 Amp	Blue
20 Amp	Yellow
30 Amp	Green

IMPORTANT: DO NOT replace original fuse with higher rated fuse or machine damage may occur. If original size fuse will not carry electrical load and continues to blow, have the electrical system checked by your John Deere dealer.

Cab

JZ81662,0000810-19-11MAY12-1/3

Remove left console cover (A) to access fuse and relay load center (B).

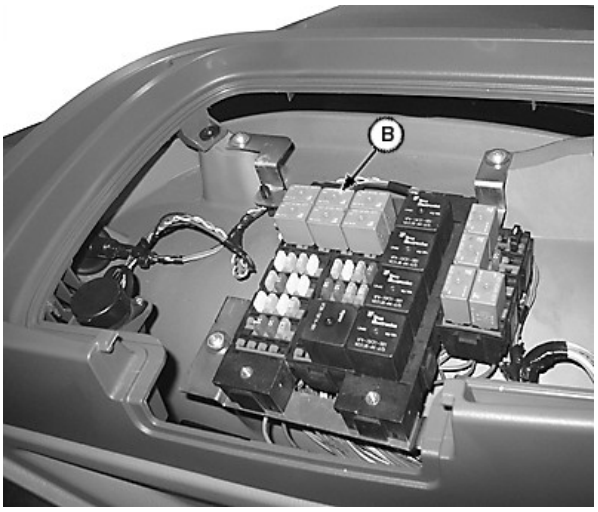
NOTE: A fuse and relay reference label is provided inside cover.

Open Operator Station

A—Left Console Cover **B—Fuse and Relay Load Center**

LV14275—UN—10MAY11

Left Console Cover



LV14276—UN—10MAY11

Load Center

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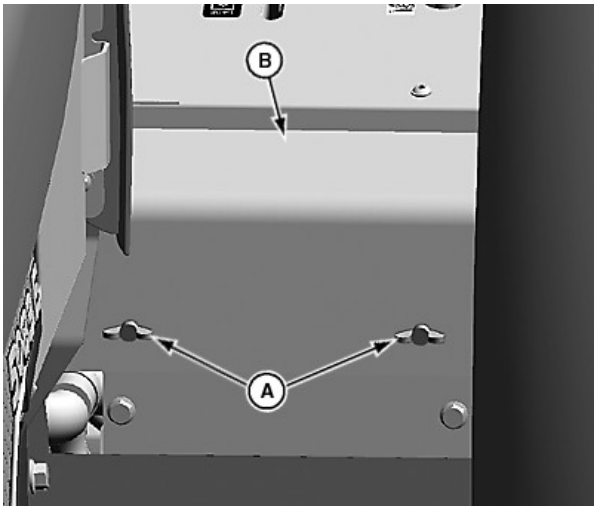
JZ81662,0000810-19-11MAY12-2/3

Remove wing nuts (A) from load center cover (B).

Remove load center cover, and fuse block covers (C) to gain access to fuse blocks (D).

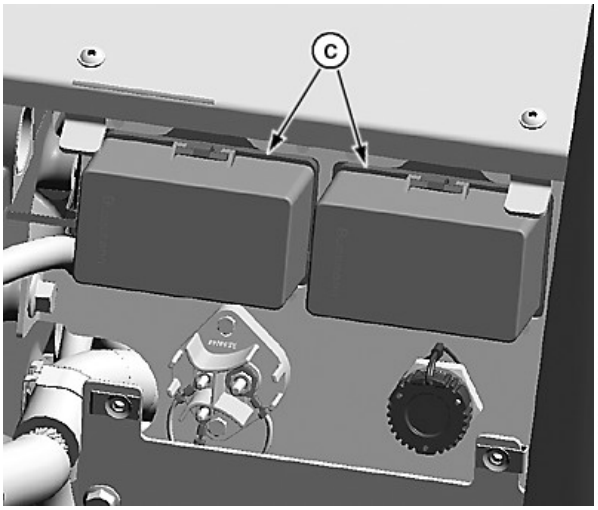
NOTE: A fuse and relay reference label is provided inside cover.

A—Wing Nuts
B—Load Center Cover
C—Fuse Block Covers
D—Fuse Blocks



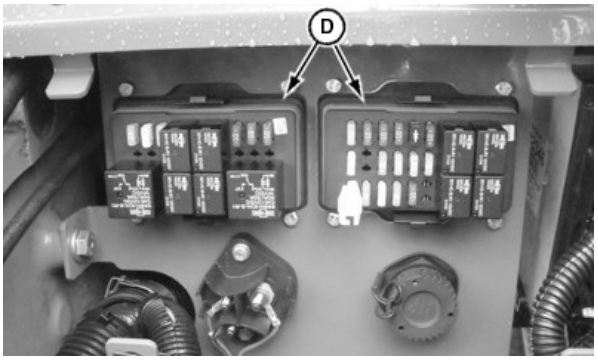
LV15753—UN—11MAY12

Load Center Cover



LV15754—UN—11MAY12

Fuse Block Covers



LV15755—UN—11MAY12

Fuse Blocks

JZ81662,0000810-19-11MAY12-3/3

Fuse and Relay Size and Function

Cab

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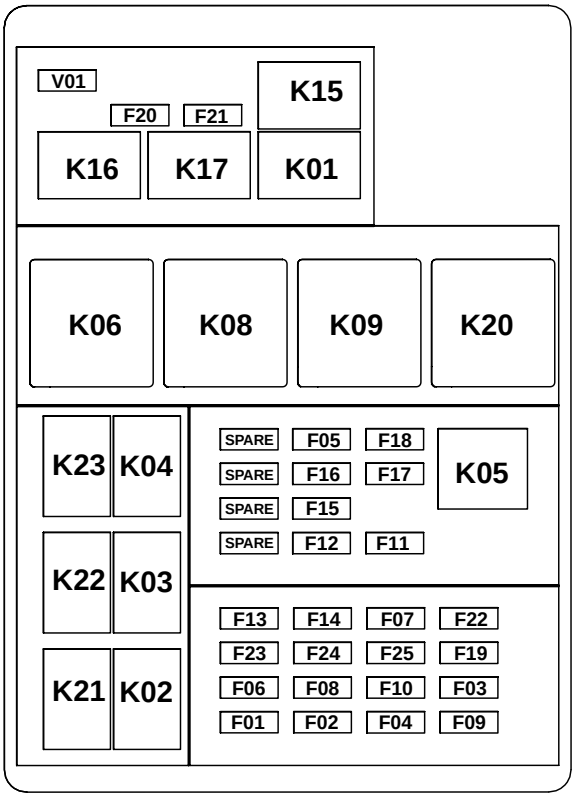
JZ81662,0000811-19-19APR12-1/4

F01—20-Amp: Ignition Switch Fuse
F02—30-Amp: Warning Lights and Turn Lights Fuse
F03—10-Amp: Dome Light and Radio Fuse
F04—20-Amp: Light Switch Fuse
F05—15-Amp: Low Beam Headlights and Loader Lights Fuse
F06—30-Amp: Junction Block, CNVC Outlet, and Cigar Lighter Fuse
F07—15-Amp: Horn Fuse
F08—10-Amp: Instrument Cluster Fuse
F09—10-Amp: Instrument Cluster Diagnostics Fuse[1]
F10—30-Amp: Trailer Auxiliary Power Fuse
F11—30-Amp: Junction Block, CNVC Outlet, Mid-Mount SCV, and Air Seat Fuse
F12—10-Amp: Radio Fuse
F13—20-Amp: Rear Work Lights Fuse
F14—20-Amp: Front Work Lights and Beacon Light Fuse
F15—10-Amp: Tail Lights Fuse
F16—15-Amp: High Beam Headlights and Loader Lights Fuse
F17—10-Amp: Reverser Switch Fuse
F18—10-Amp: ELX Relay, Seat Switch, Wheel Speed Sensor, and Turn Light Relays Fuse
F19—10-Amp: ELX. Service ADVISOR Fuse
F20—10-Amp: Neutral Relay, Countershaft Speed Sensor, MFWD Switch, Brake Pedal Switch, PTO Switch, and Park Switch Fuse
F21—10-Amp: EH Control Unit Fuse
F22—15-Amp: High/Low Beam Relay Fuse
F23—30-Amp: HVAC and Right Blower Fuse
F24—20-Amp: Front Wiper Fuse
F25—20-Amp: Left Blower
K01—Warning Light Power Relay
K02—Left Turn Relay
K03—Right Turn Relay
K04—Flash Logic Relay
K05—Turn/Warn Relay
K06—Trailer Power Relay
K08—Rear Work Light Relay
K09—Front Work Lights Relay
K15—ELX Power Relay
K16—Neutral Relay
K17—Transmission Enable Relay
K20—HVAC Relay
K21—Wiper System Relay
K22—Left Blower Relay
K23—Right Blower Relay
V01—Reverse Polarity Protection Diode

[1] *Used only to enable diagnostic mode. Socket must be empty for normal operation.*



LV14138—UN—07APR11

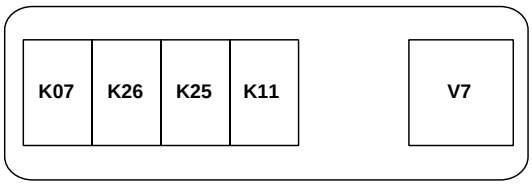
Load Center—Cab

JZ81662,0000811-19-19APR12-2/4

Center Console Relays

LV14139—UN—10MAY11

K07—Accessory Relay
K11—PTO Off/Neutral Relay
K25—High Beams Relay
K26—Low Beams Relay
V7—Diode Block



Center Console Relays

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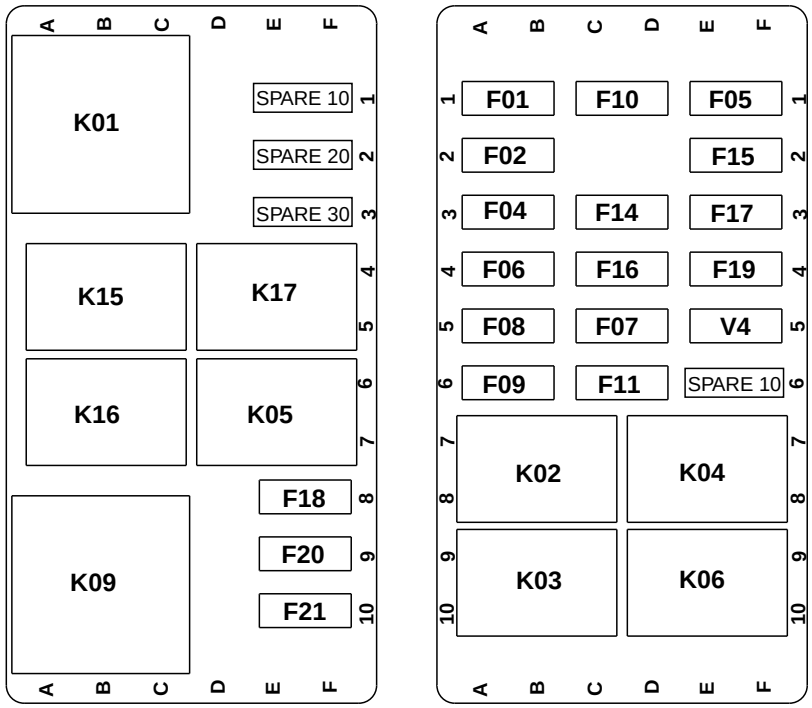
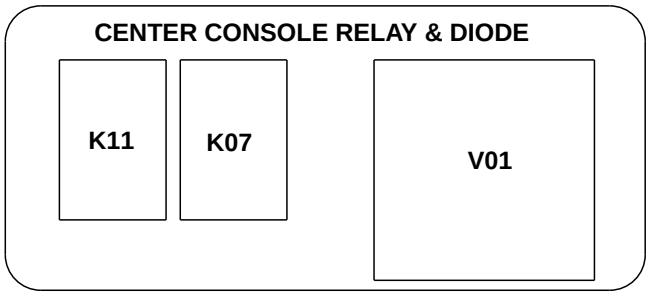
JZ81662,0000811-19-19APR12-3/4

Open Operator Station





Load Center—OOS

LV15509—UN—09APR12

F1—Ignition Switch Fuse
F2—Warning Lights and Turn Lights Fuse
F4—Light Switch Fuse
F5—Low Beam Headlights and Loader Lights Fuse
F6—Junction Block, CNVC Outlet, and Power Outlet Fuse
F7—Horn Fuse
F8—Instrument Cluster Fuse
F9—Instrument Cluster Diagnostics Fuse[1]
F10—Trailer Auxiliary Power Fuse
F11—Junction Block and Mid-Mount SCV
F14—Front Work Lights and Beacon Light Fuse
F15—Tail Lights Fuse
F16—High Beam Headlights and Loader Lights Fuse
F17—Forward Neutral Reverser Switch Fuse
F18—ELX Relay, Seat Switch, Wheel Speed Sensor, and Turn Signal Light Switch Fuse
F19—Service ADVISOR Fuse
F20—Speed Lever Neutral Switch, Countershaft Speed Sensor, MFWD Switch, Brake Pedal Switch, PTO Switch, and Park Switch Fuse
F21—Neutral Relay and EH Control Unit Fuse
K1—Warning Light Power Relay
K2—Left Turn Relay
K3—Right Turn Relay
K4—Flash Logic Relay
K5—Turn/Warn Relay
K6—Trailer Power Relay
K7—Accessory Relay
K9—Work Light Relay
K11—PTO OFF/Neutral Relay
K15—ELX Power Relay
K16—Neutral Relay
K17—Transmission Enable Relay
V01—Diode Block
V04—Diode

[1] Used only to enable diagnostic mode. Socket must be empty for normal operation.

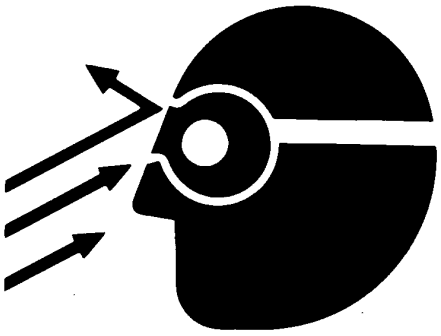
JZ81662,0000811-19-19APR12-4/4

Handling Halogen Light Bulbs Safely

CAUTION: Halogen bulbs (A) contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. To avoid possible injury:

- **Handle bulb by its base. Keep bulb oil free; wear gloves to avoid touching glass.**
- **Turn off light switch and allow bulbs to cool before changing. Leave switch off until bulb change is done.**
- **Wear eye protection.**
- **Do not drop or scratch bulb. Keep away moisture.**
- **Place used bulb in the new bulb's carton and dispose of properly. Keep out of reach of children.**

A—Halogen Bulb



TS266—UN—23AUG88

H39474—UN—30JUN00

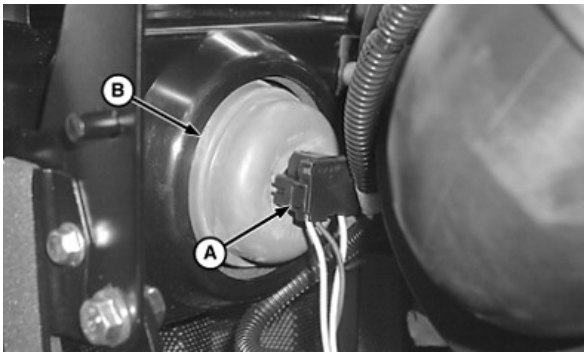
JZ81662,0000812-19-09MAR12-1/1

Replacing Headlight Bulb

CAUTION: Halogen bulbs contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. (See Handling Halogen Light Bulbs Safely in this section.)

1. Raise hood and remove side screen panels.
2. Disconnect wiring harness plug (A).
3. Remove dust boot (B).
4. Unlatch retaining spring (C) and remove light bulb (D).
5. Install new bulb in reverse order of removal.
6. Adjust headlights, if necessary.

A—Wiring Harness Plug
B—Dust Boot
C—Retaining Spring
D—Light Bulb



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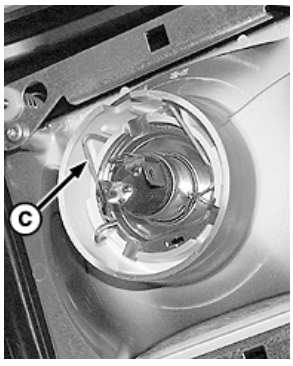

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LV9512—UN—01AUG04

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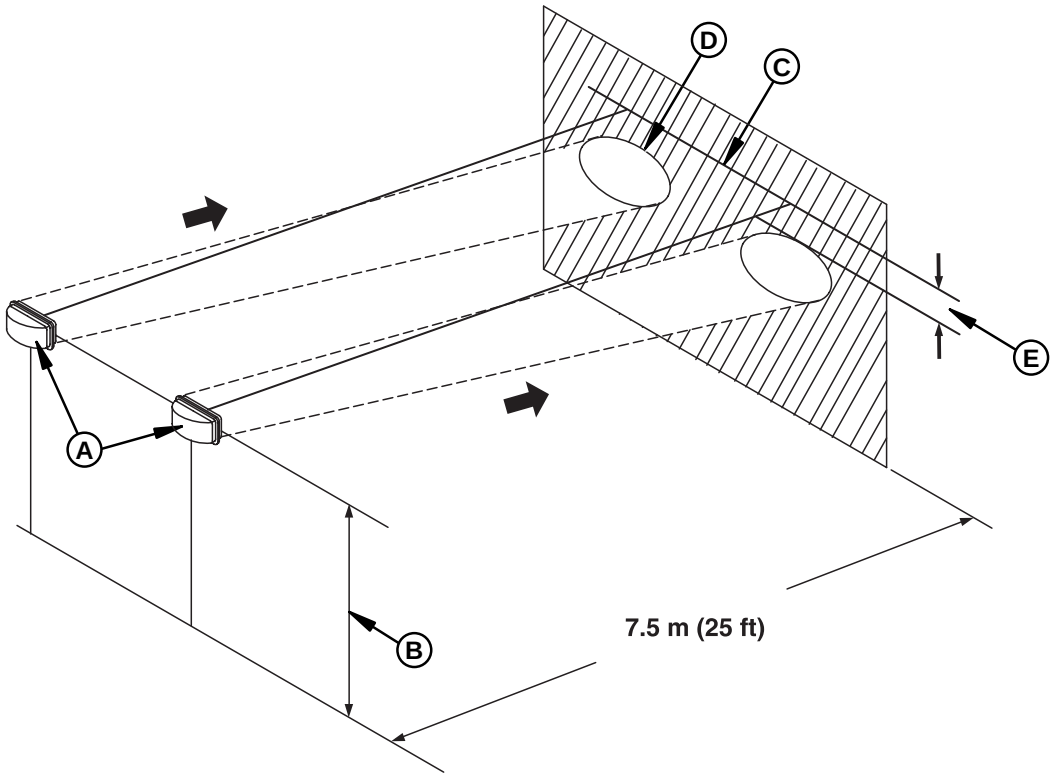
JZ81662,0000813-19-09MAR12-1/2

Adjust Headlight



Headlight Aiming Diagram

A—Headlights
B—Distance from Center of Headlight to Ground
C—Horizontal Line on Wall
D—Border of Bright Area
E—10% of Distance (B)

1. Park the tractor on a level surface with headlights (A) 7.5 m (25 ft) from a vertical wall.
2. Measure the distance (B) from the center of a headlight to the ground.
3. Mark a horizontal line (C) on the wall, the same distance from the ground as (B).
4. Set headlights on low beam and observe bright areas on the wall.
5. Use screws at the back of lights for adjustment.

JZ81662,0000813-19-09MAR12-2/2

Replacing Warning Light Bulb—Cab

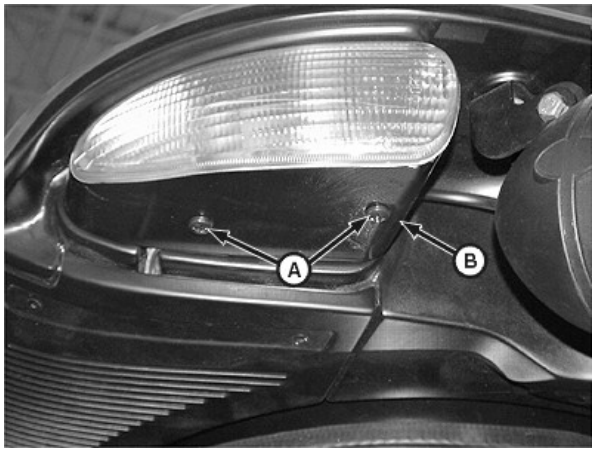
NOTE: Bulb replacement procedures for front and rear warning lights are the same. Rear left side shown.

1. Remove mounting screws (A) securing housing (B) to cab roof.
2. Remove bulb and socket (C) from housing.
3. Pull bulb from socket.
4. Install new bulb and socket into housing.

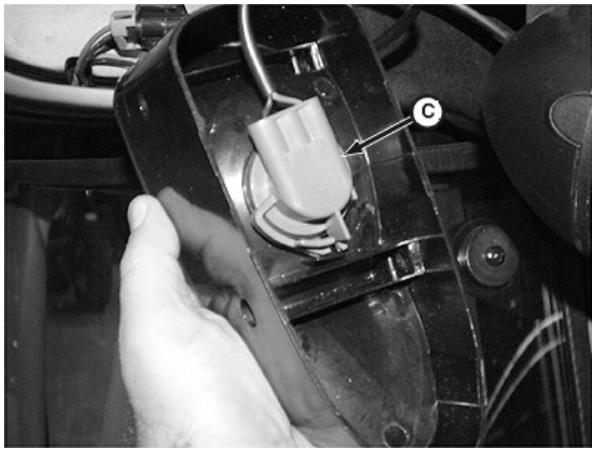
NOTE: If equipped with auxiliary work light kit: Apply thread lock and sealer (medium strength) to threads of mounting screws (A).

5. Install housing and screws to cab roof.

A—Mounting Screw (2 used)
B—Housing
C—Bulb and Socket



LV5559—UN—29NOV00



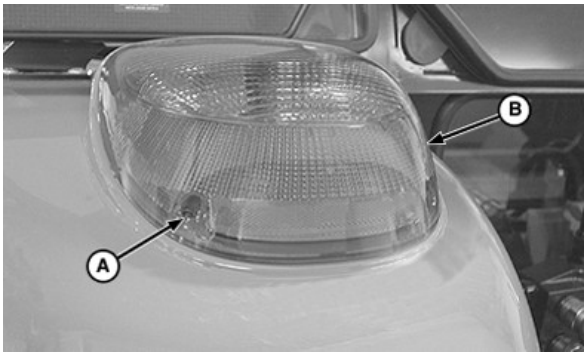
LV5560—UN—29NOV00

JZ81662,0000814-19-10MAY12-1/1

Replacing Taillight Bulb—Cab

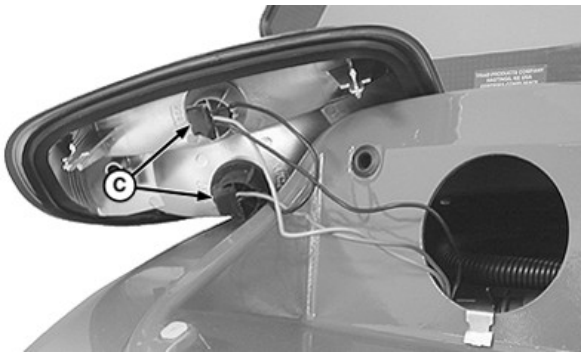
1. Remove screws (A).
2. Pull housing (B) away from fender.
3. Rotate socket (C) and remove from housing.
4. Pull bulb to remove from socket.
5. Install new bulb and socket in housing.
6. Install housing and screws to fender.

A—Screw (2 used)
B—Housing
C—Socket (2 used)



LV12531—UN—13APR05

Left Side Shown



LV12532—UN—13APR05

JZ81662,0000815-19-10MAY12-1/1

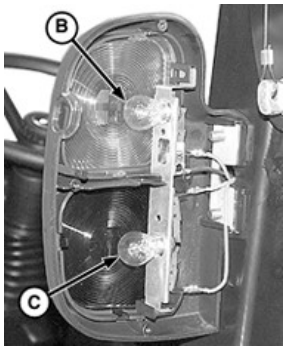
Replace Tail Light and/or Warning Light Bulb —Open Operator's Station

NOTE: Bulb replacement is the same for tail light and warning light. Left side shown.

1. Remove screws and lens housing (A).
2. Push and twist bulb (B or C) to remove from socket.
3. Install new bulb, lens housing and screws.

A—Lens Housing
B—Warning Light Bulb
C—Tail Light Bulb

LV12521—UN—13APR05



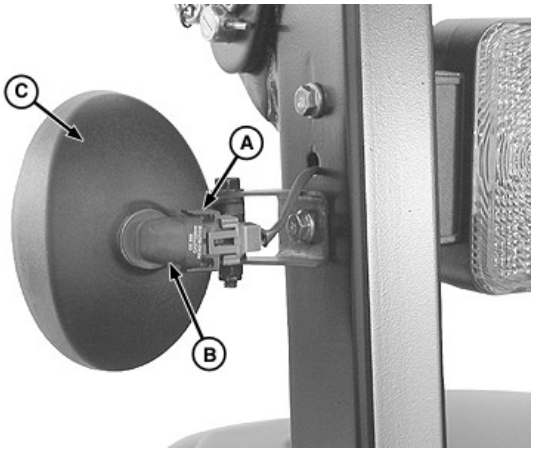
LV12522—UN—13APR05

JZ81662,0000BD8-19-11MAY12-1/1

Replace Work Light Bulb—Open Operator's Station

1. Disconnect wiring harness connector (A).
2. Rotate bulb (B) counterclockwise and remove from housing (C).
3. Install new bulb into housing and rotate clockwise.
4. Connect wiring harness connector.

A—Wiring Harness Connector
B—Bulb
C—Housing



Open Operator's Station

JZ81662,0000BD9-19-10MAY12-1/1

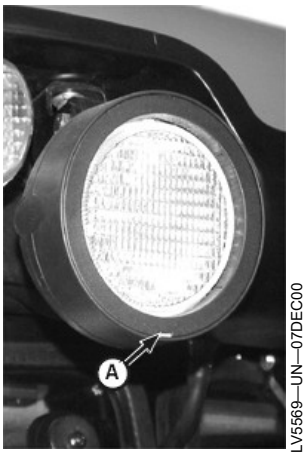
Replacing Work Light Bulb

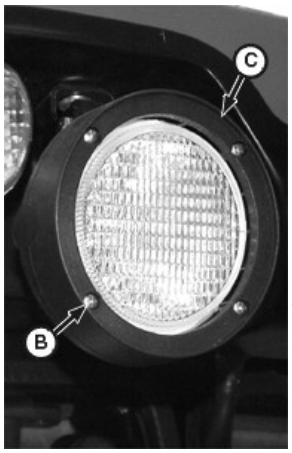
CAUTION: Halogen bulbs contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. (See Handling Halogen Light Bulbs Safely in this section.)

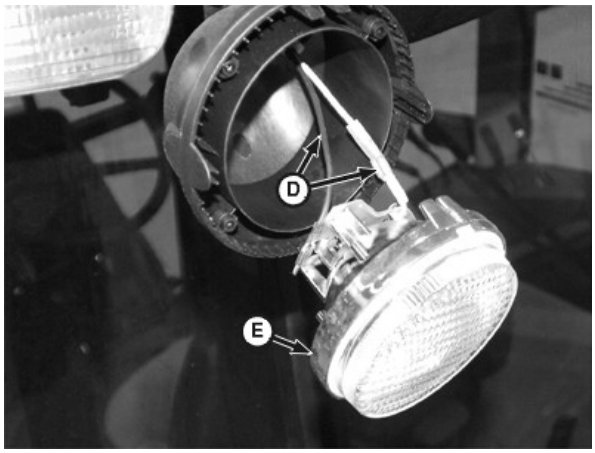
NOTE: Bulb replacement procedures for front and rear work lights and optional auxiliary work lights are the same. Rear left side shown.

1. Remove screw cover by prying in screw cover slot (A) with a screwdriver.
2. Remove retaining ring screws (B), retaining ring (C) and bulb (E).
3. Disconnect wiring connectors (D).
4. Install new bulb and connect wiring connectors.
5. Install bulb, retaining ring and screws.
6. Install cover.

A—Screw Cover Slot
B—Retaining Ring Screw (4 used)
C—Retaining Ring
D—Wiring Connector (2 used)
E—Bulb







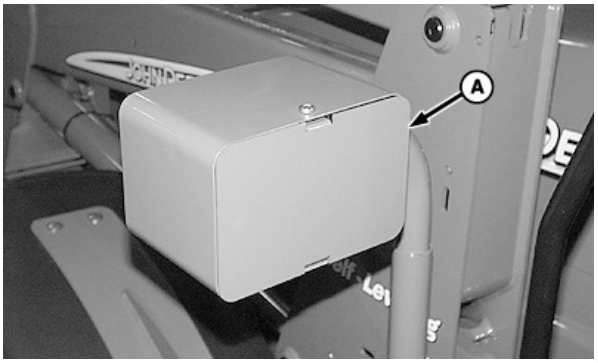
JZ81662,0000816-19-09MAR12-1/1

Replacing Loader Light Bulb—If Equipped

CAUTION: Halogen bulbs contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. (See Handling Halogen Light Bulbs Safely in this section.)

1. Remove two screws and cover (A).

A—Cover

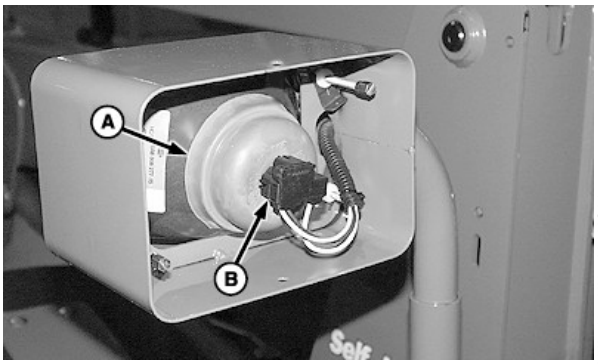


LV9548—UN—03AUG04

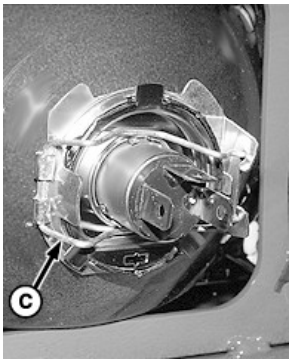
JZ81662,0000817-19-09MAR12-1/2

2. Disconnect wiring harness plug (B).
3. Remove dust boot (A).
4. Unlatch retaining spring (C) and remove light bulb (D).
5. Install new bulb in reverse order of removal.
6. Adjust, if necessary.

A—Dust Boot
B—Wiring Harness Plug
C—Retaining Spring
D—Light Bulb



LV9549—UN—03AUG04



LV9550—UN—03AUG04

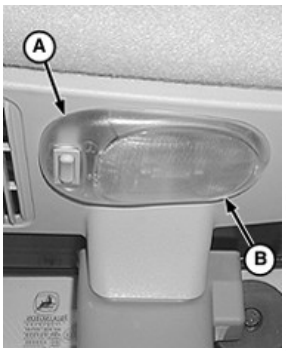
LV9512—UN—01AUG04

JZ81662,0000817-19-09MAR12-2/2

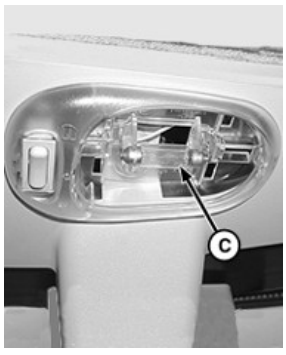
Replacing Dome Light Bulb

1. Remove cover (B) from housing (A) using a screwdriver.
2. Pull bulb (C) from socket.
3. Install new bulb and cover.

A—Housing
B—Cover
C—Bulb



LV12533—UN—13APR05



LV12534—UN—13APR05

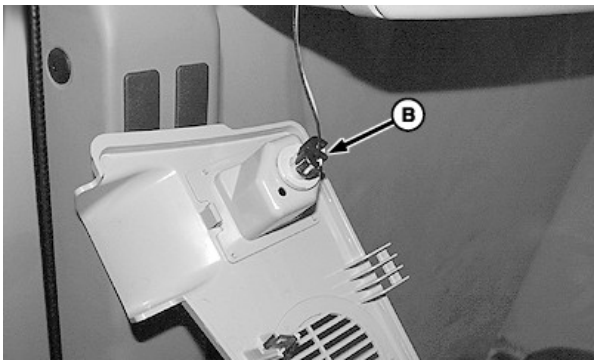
JZ81662,0000818-19-09MAR12-1/1

Replacing Controls Illumination Light Bulb

1. Pry off panel (A).
2. Rotate light bulb retainer (B) counterclockwise approximately 1/4 turn and remove.
3. Pull out light bulb.
4. Install new bulb in reverse order of removal.

A—Panel **B—Light Bulb Retainer**

LV9515—UN—07AUG04



LV9598—UN—07AUG04

JZ81662,0000819-19-09MAR12-1/1

Replacing Rotary Beacon Light Bulb—If Equipped

⚠ CAUTION: Halogen bulbs contain gas under pressure. Handling a bulb improperly could cause it to shatter into flying fragments. (See Handling Halogen Light Bulbs Safely in this section.)

1. Loosen wing nut (A) and remove rotary beacon light assembly.
2. Install rubber cap (B).

A—Wing Nut **B—Rubber Cap**

LV12523—UN—13APR05

LV12524—UN—13APR05

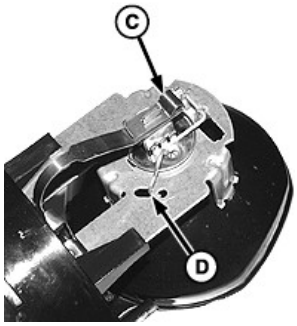
Continued on next page

JZ81662,000081A-19-09MAR12-1/2

3. Depress tab (A) and rotate lens (B) counterclockwise to remove.
4. Pull tab (C) away from bulb.
5. Unlatch retaining spring (D) and remove light bulb (E).
6. Install new bulb in reverse order of removal.

A—Tab
B—Lens
C—Tab
D—Retaining Spring
E—Bulb

LV9695—UN—19AUG04



LV9696—UN—19AUG04

LV9697—UN—19AUG04

JZ81662,000081A-19-09MAR12-2/2

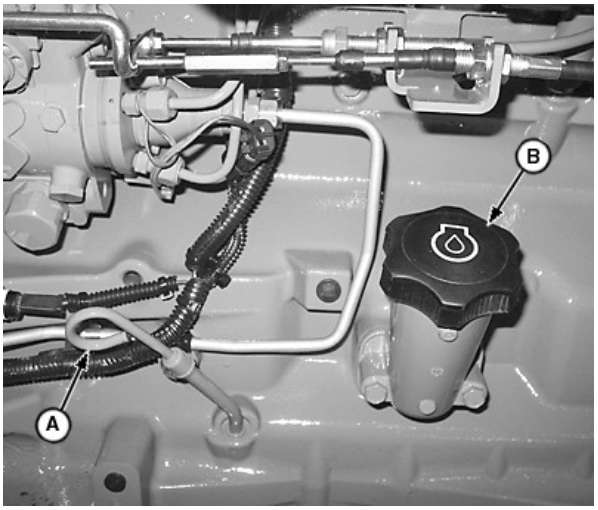
Checking Engine Oil Level

IMPORTANT: During the first 100 hours of operation, fill with John Deere DIESEL ENGINE BREAK-IN OIL. (See Fuel, Lubricants, and Coolant section for oil specifications.)

NOTE: Make sure to push dipstick all the way in to check oil level.

1. Park tractor on level ground, place transmission in park, turn off engine and remove key.
2. Pull out engine oil dipstick (A). Oil level should be between two marks on dipstick.
3. If level is low, remove engine oil filler cap (B) and add oil through oil filler hole until even with upper mark. DO NOT overfill. Use seasonal viscosity grade oil. (See Diesel Engine Oil in Fuel, Lubricants, and Coolant section.)

IMPORTANT: Do not operate engine with oil level below low mark on dipstick.



LV14175—UN—27APR11

A—Engine Oil Dipstick **B—Engine Oil Filler Cap**

JZ81662,00007B8-19-08MAR12-1/1

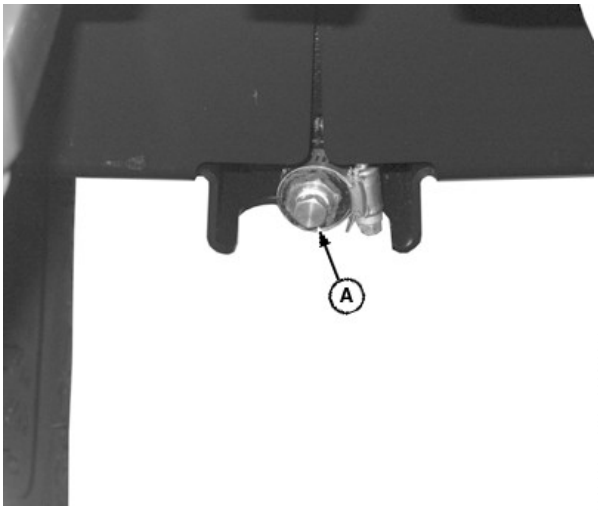
Drain Water and Sediment from Fuel Tank and Fuel Filter

NOTE: Place a small container under drain fitting to catch draining fuel. Dispose of waste properly.

1. Open fuel tank drain plug (A) to bleed accumulated moisture and sediment from the fuel tank. Tighten plug when clear fuel runs from fitting.
2. Raise hood and open fuel filter/water separator drain (B) to bleed accumulated moisture and sediment from filter. Tighten drain when clear fuel runs from drain.

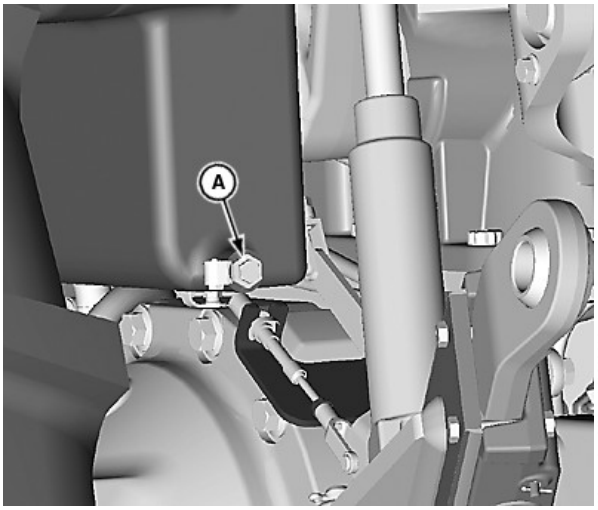
A—Fuel Tank Drain Plug

B—Fuel Filter/Water Separator Drain



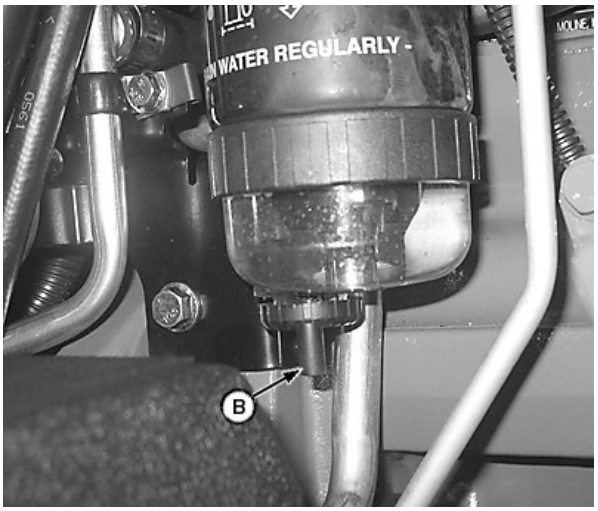
LV14231—UN—03MAY11

Fuel Tank Drain Plug; Cab



LV15752—UN—11MAY12

Fuel Tank Drain Plug; OOS



LV14232—UN—03MAY11

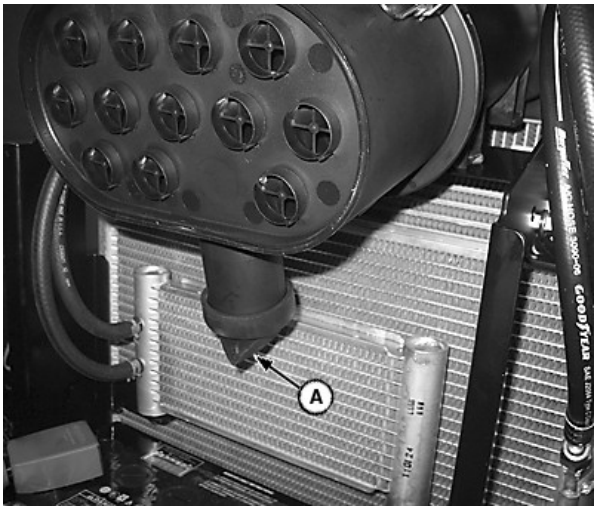
JZ81662,00007B9-19-10MAY12-1/1

Cleaning Air Filter Dust Unloading Valve

IMPORTANT: Avoid damage! Prevent damage to the engine. Never operate engine without air cleaner elements and rubber dust unloading valve installed.

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Raise hood.
3. Clean out dust unloading valve (A) by squeezing the end to open and remove any excessive buildup of dust and dirt. Replace if damaged.
4. Lower hood.

A—Dust Unloading Valve



LV14238—UN—10MAY11

JZ81662,00007BA-19-08MAR12-1/1

Checking Coolant Level

CAUTION: Avoid injury from hot, spraying fluid. Add make-up coolant through the coolant recovery tank, not directly to the radiator. If cap must be removed, do not remove when engine is hot. Shut engine off and wait until cap is cool enough to touch with bare hands. Slowly loosen cap to relieve pressure before removing completely.

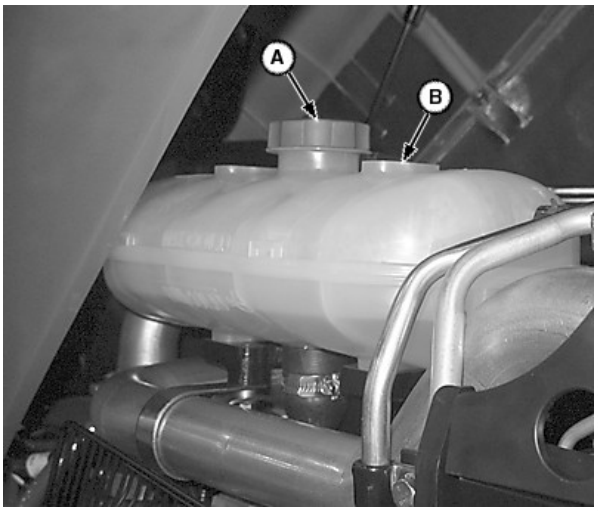
TS281—UN—15APR13

IMPORTANT: Periodically check coolant level in radiator. If cap should become defective, coolant would not be drawn from recovery tank and could cause the engine to overheat. Replace cap as necessary.

1. Raise hood and check level in coolant recovery tank (B), BEFORE starting tractor.

NOTE: Coolant level should be checked when engine is COOL.

2. If engine is COOL and level is below **"MIN"** mark, remove cap (A) and add coolant to recovery tank to bring level between **"MIN"** and **"MAX"** marks. (See Heavy Duty Diesel Engine Coolant in Fuel, Lubricants, and Coolant section.)
3. Install cap and lower hood.



LV14233—UN—03MAY11

A—Cap **B—Coolant Recovery Tank**

JZ81662,00007BB-19-08MAR12-1/1

Checking Transmission-Hydraulic System Oil Level

1. Operate engine at approximately 1000 rpm for at least one minute.
2. Stop engine and wait an additional three minutes before checking oil level.

NOTE: Tractor should be on level ground, hitch in the lowered position, engine stopped and transmission in park when checking oil level.

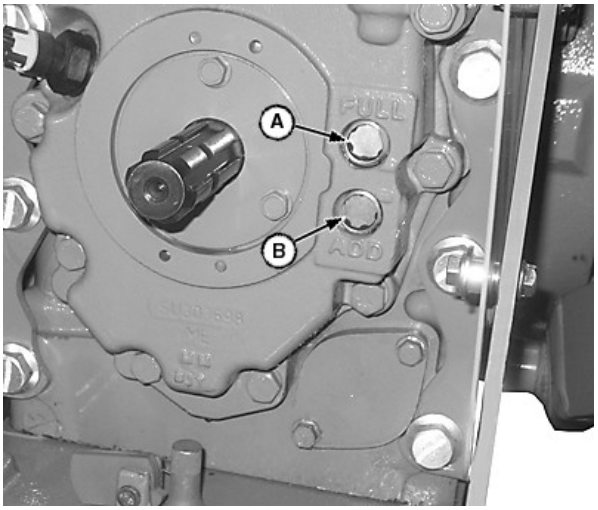
Oil temperature should be approximately 45°C (113°F). Sight glass observations will be significantly higher with hotter oil temperatures and lower with colder oil.

3. Observe oil level in sight glasses at rear of tractor. Oil level should appear at BOTTOM of sight glass (A).

IMPORTANT: Oil level below top sight glass can result in power loss and heat generation during transport.

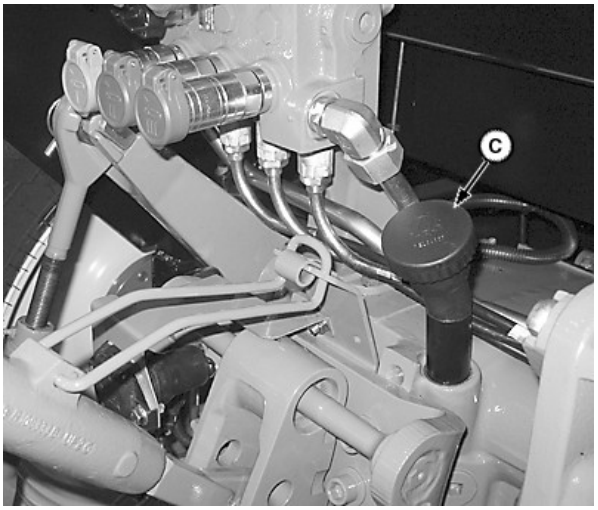
4. If oil level is at TOP of sight glass (B), remove filler cap (C) and add hydraulic oil. (See Transmission and Hydraulic Oil in Fuel, Lubricants, and Coolant section.)

A—FULL Sight Glass
B—ADD Sight Glass
C—Filler Cap



LV14234—UN—03MAY11

Rear of Tractor



LV14235—UN—03MAY11

JZ81662,00007BC-19-08MAR12-1/1

Check MFWD for Oil Leaks

1. Check MFWD axle housing and MFWD axle wheel hub for leaks.
2. Make sure that no oil leaks from drain plug and fill port.

NOTE: If oil leaks replace drain plug and fill port.

If oil leaks in excess, see your John Deere Dealer.

JZ81662,00007BD-19-08MAR12-1/1

Checking MFWD Axle Housing Oil Level

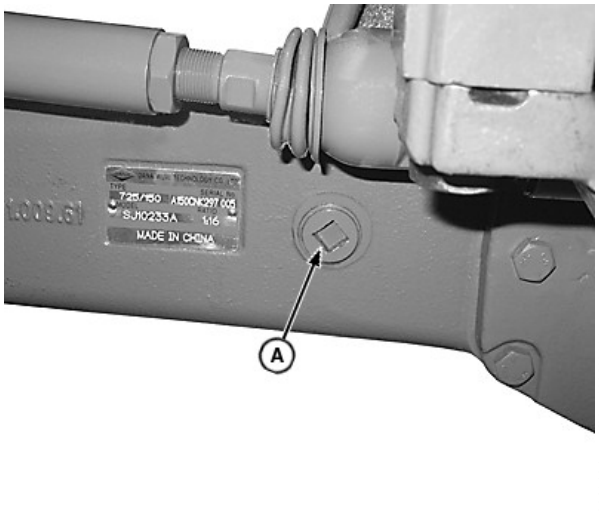
1. PARK tractor on level ground and SHUT OFF engine. Remove key.
2. Remove oil level/filler plug (A). Oil level should be even with bottom of the filler plug hole.
3. If level is low, add oil through same hole. John Deere Hy-Gard™ oil is recommended. (See MFWD Axle Housing and Wheel Hub Oil in Fuel, Lubricants, and Coolant section.)

NOTE: Approximate MFWD axle housing oil capacity is 5 L (1.32 gal).

4. Apply thread sealant to threads of plug.
5. Install plug and tighten to specifications.

Specification

Plug to Axle Housing—Torque. . . . . 70 N·m (52 lb-ft)



LV14247—UN—10MAY11

A—Oil Level/Filler Plug

Hy-Gard is a trademark of Deere & Company

JZ81662,0000BEE-19-16MAY12-1/1

Checking MFWD Axle Wheel Hub Oil Level

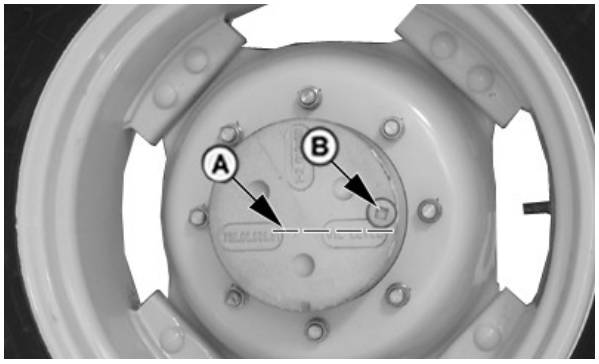
1. Park tractor so that oil fill mark (A) on MFWD hub is level with the ground.
2. Remove filler plug (B). Oil level should be even with bottom of the filler plug hole.
3. If level is low, add oil through same hole. John Deere Hy-Gard™ oil is recommended. (See MFWD Axle Housing and Wheel Hub Oil in Fuel, Lubricants, and Coolant section.)

NOTE: Approximate MFWD wheel hub oil capacity is 0.8 L (0.2112 gal).

4. Apply thread sealant to threads of plug.
5. Install plug and tighten to specifications.

Specification

Plug-to-Hub—Torque. . . . . 70 N·m (52 lb-ft)



PULV0006612—UN—19MAR08

Oil fill mark and filler plug

A—Oil fill mark **B—Oil filler plug**

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JZ81662,0000BEF-19-16MAY12-1/1

Inspecting Tires

1. Check tires daily for damage or noticeably low pressure.
2. Have any cuts or breaks repaired as soon as possible.
3. Protect tires from exposure to sunlight, petroleum products and chemicals.
4. Drive carefully. Try to avoid rocks and sharp objects.

IMPORTANT: Minimum pressures may be used only for light loads and only if tractor has no added weight. If you install ballast or mounted implements, or if you pull heavy loads, increase pressure.

5. At least every week or 50 hours of operation, check tires with an accurate gauge having 10 kPa (0.1 bar) (1 psi) graduations. If tires contain liquid ballast, use a special air-water gauge and measure with valve stem at bottom. (See Check Tire Inflation Pressure and Tire Inflation Pressure Charts in Wheels, Tires, and Treads section.)

PULV007068—UN—08MAR10

JZ81662,00007BE-19-16MAY12-1/1

Inspecting Tractor for Loose Hardware

Tighten all wheel bolts. (See Tighten Wheel/Axle Hardware Correctly and Tighten Wheel Bolts—MFWD Axle and Tighten Wheel Bolts—Rear Axle in Wheels, Tires, and Treads section.)

See Keeping Cab Protection System Installed Properly, in Maintenance—As Required/Per Condition section, for hardware torque specifications.

PULV007068—UN—08MAR10

JZ81662,00007BF-19-16MAY12-1/1

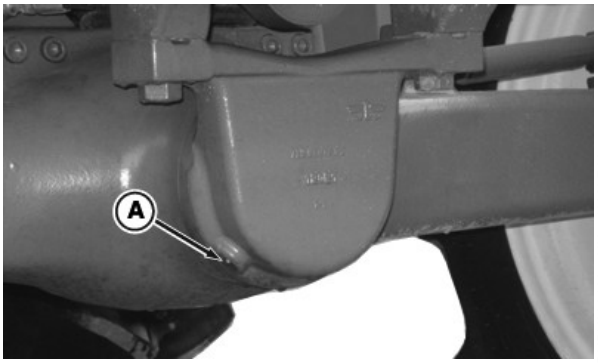
Lubricate MFWD Axle Trunnion

Apply several shots of multipurpose grease (see Grease, in Section 75) to trunnion.

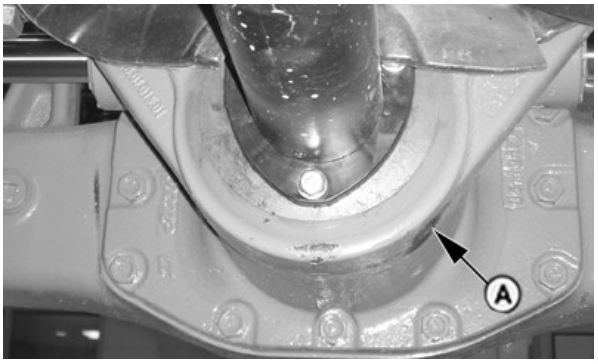
NOTE: Daily service is necessary when operating in extremely wet and muddy conditions.

Greasing too frequently can cause seal fatigue.

A—Trunnion grease points



Front Side Trunnion of MFWD Axle



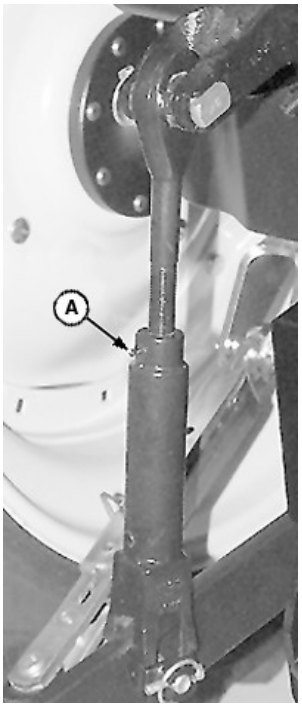
Back Side Trunnion of MFWD Axle

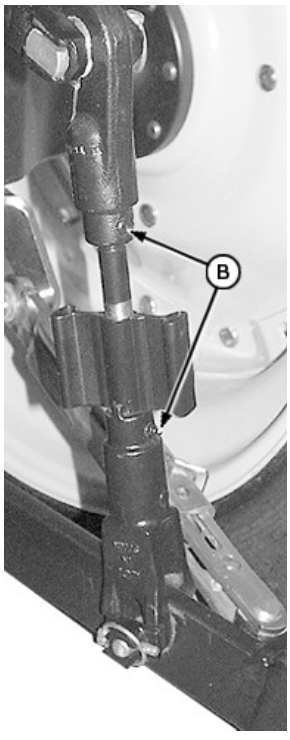
JZ81662,00007C0-19-08MAR12-1/1

Lubricating 3-Point Hitch

Lubricate fittings on BOTH left and right lift links with several shots of multipurpose grease. (See Grease in Fuel, Lubricants, and Coolant section.)

A—Left Link Lift Grease Point B—Right Lift Link Grease Point





JZ81662,00007C1-19-08MAR12-1/1

Changing Engine Oil and Filter

SERVICE INTERVAL

INITIAL — 100 HOURS Maximum

REGULAR — 300 HOURS Can be extended to 500 Hours if John Deere Plus-50™ II oil and John Deere filter are used.

Plus-50 is a trademark of Deere & Company

IMPORTANT: During the first 100 hours of operation, fill with John Deere DIESEL ENGINE BREAK-IN OIL. (See Fuel, Lubricants, and Coolant section for oil specifications.)

If diesel fuel has a high sulfur content, refer to Diesel Engine Oil in Fuel, Lubricants, and Coolant section.

1. Operate engine to warm oil.
2. Park tractor on level ground, place transmission in park, turn off engine and remove key. Raise hood.
3. Remove engine oil drain plug (A) and drain oil into an adequate size container.
4. Remove engine oil filter (B).

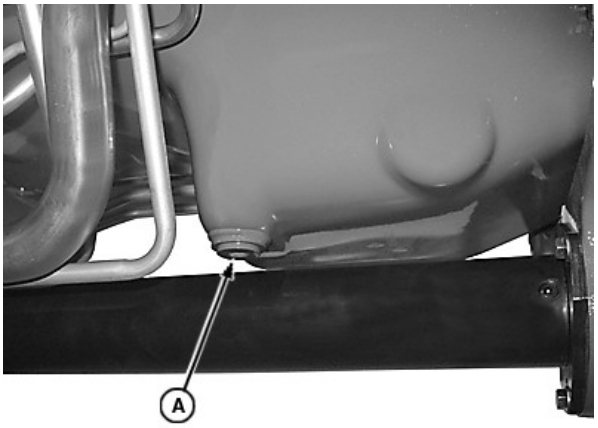
NOTE: Make sure old filter gasket is completely removed from manifold before installing new filter.

5. Apply a film of oil on new oil filter gasket and install new filter. Hand-tighten plus 1/2 turn.
6. Install drain plug.
7. Add oil to crankcase filler (C).

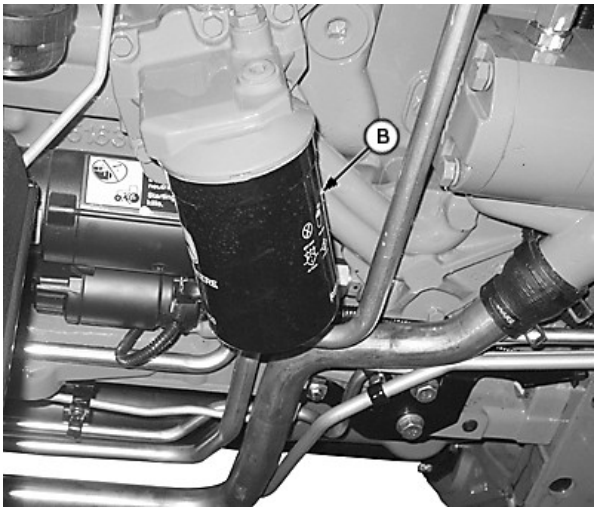
Specification	
Engine Crankcase Oil—Capacity	8.5 L (9.0 qt)

8. Start engine and check for leaks.
9. Stop engine and remove key. Recheck oil level.
10. Lower hood.

A—Engine Oil Drain Plug
B—Engine Oil Filter
C—Crankcase Filler

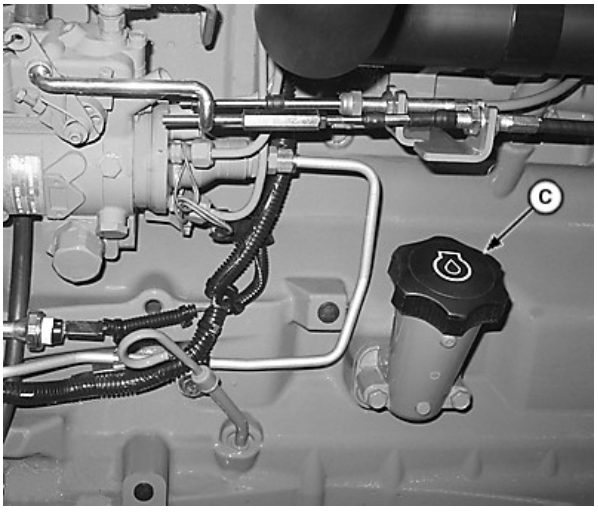


LV14239—UN—10MAY11



LV14240—UN—10MAY11

Engine Oil Filter (Right Side)



LV14241—UN—10MAY11

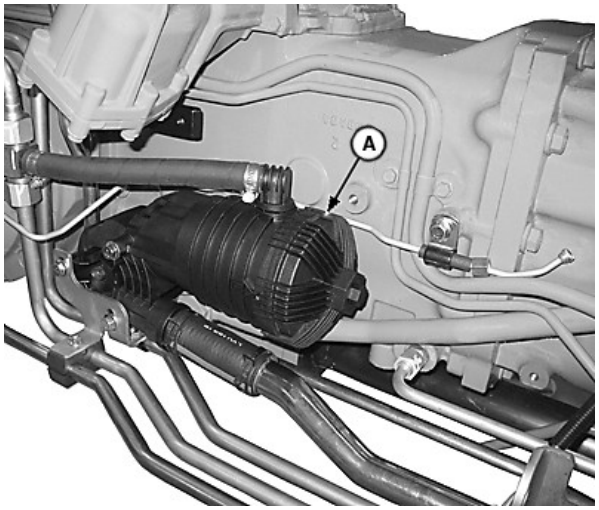
Engine Oil Filler Port (Left Side)

JZ81662,00007C2-19-17MAY12-1/1

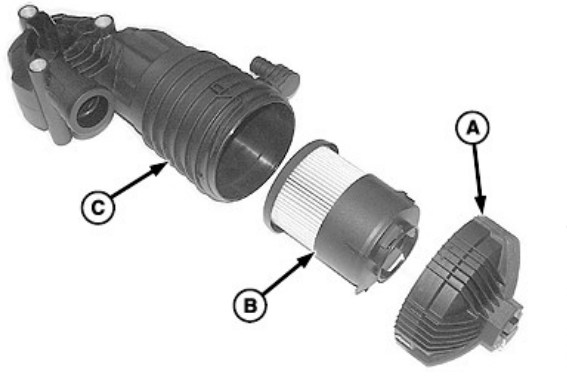
Replacing Transmission-Hydraulic Filter

SERVICE INTERVAL
INITIAL — 100 HOURS
REGULAR — 600 HOURS

1. Remove cover (A) and filter.
2. Separate filter element (B) from cover. Discard filter element.
3. Clean cover, threads on filter housing and seal inside cover.
4. Assemble filter and cover. (Filter should “snap” into cover.)
5. Install cover and filter assembly.
6. Run engine several seconds and recheck transmission-hydraulic oil level.
7. Add transmission-hydraulic oil as required. (See Transmission and Hydraulic Oil in Fuel, Lubricants, and Coolant section.)



LV14242—UN—10MAY11

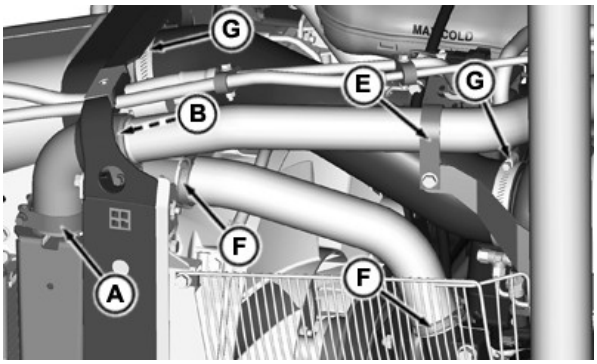


LV9610—UN—10AUG04

A—Cover
B—Filter Element
C—Housing

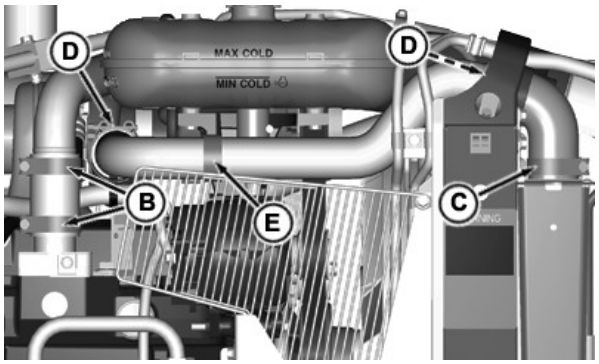
JZ81662,00007C3-19-08MAR12-1/1

Inspect Hose Clamps on Air Intake System and Engine Cooling System



PULV007077—UN—22MAR10

Left Side View



PULV007078—UN—22MAR10

Right Side View

A—Charge Air Cooler (CAC) Outlet Hose Clamp
B—Engine Intake Pipe Clamp
C—Charge Air Cooler (CAC) Inlet Hose Clamp
D—Turbocharger to Charge Air Cooler Pipe Clamp
E—Charge Air Cooler (CAC) Pipe Mounting Clamp
F—Engine to Radiator Hose Clamp
G—Air Cleaner to Turbocharger Hose Clamp

Inspect air intake system and engine cooling system for leaks.

Inspect hose clamps of air intake system and engine cooling system for loose hose clamps and tighten if found.

JZ81662,00007C4-19-08MAR12-1/1

Inspecting Tractor for Loose Hardware

Tighten all wheel bolts. (See Tighten Wheel/Axle Hardware Correctly and Tighten Bolts MFWD Axle and Tighten Bolts —Rear Axle in Section 70.)

See Keeping Cab Protection System Installed Properly, in Section 65, for hardware torque specifications.

PULV007068—UN—08MAR10

JZ81662,00007C5-19-08MAR12-1/1

Changing Engine Oil and Filter

SERVICE INTERVAL

INITIAL — 100 HOURS Maximum

REGULAR — 300 HOURS Can be extended to 500 Hours if John Deere Plus-50™ II oil and John Deere filter are used.

Plus-50 is a trademark of Deere & Company

IMPORTANT: During the first 100 hours of operation, fill with John Deere DIESEL ENGINE BREAK-IN OIL. (See Fuel, Lubricants, and Coolant section for oil specifications.)

If diesel fuel has a high sulfur content, refer to Diesel Engine Oil in Fuel, Lubricants, and Coolant section.

1. Operate engine to warm oil.
2. Park tractor on level ground, place transmission in park, turn off engine and remove key. Raise hood.
3. Remove engine oil drain plug (A) and drain oil into an adequate size container.
4. Remove engine oil filter (B).

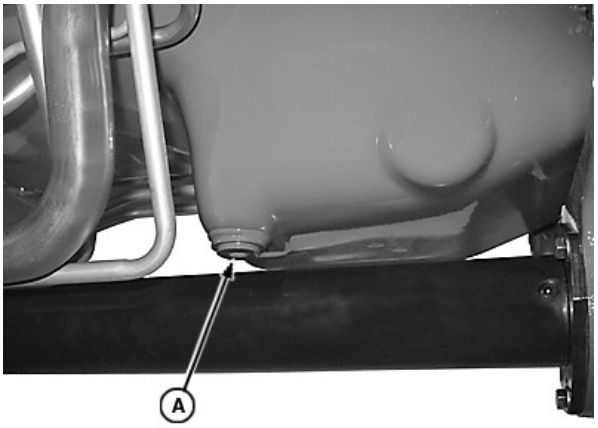
NOTE: Make sure old filter gasket is completely removed from manifold before installing new filter.

5. Apply a film of oil on new oil filter gasket and install new filter. Hand-tighten plus 1/2 turn.
6. Install drain plug.
7. Add oil to crankcase filler (C).

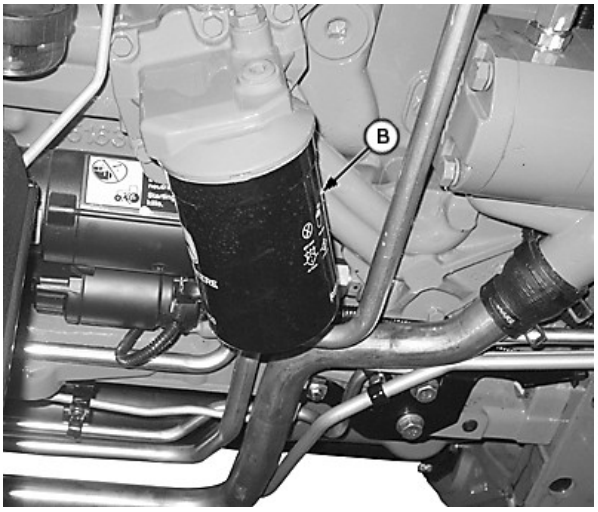
Specification	
Engine Crankcase Oil—Capacity	8.5 L (9.0 qt)

8. Start engine and check for leaks.
9. Stop engine and remove key. Recheck oil level.
10. Lower hood.

A—Engine Oil Drain Plug
B—Engine Oil Filter
C—Crankcase Filler

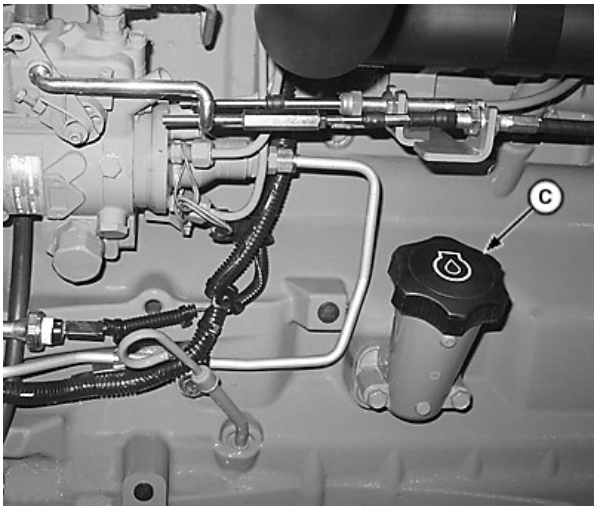


LV14239—UN—10MAY11



LV14240—UN—10MAY11

Engine Oil Filter (Right Side)



LV14241—UN—10MAY11

Engine Oil Filler Port (Left Side)

JZ81662,0000C03-19-21MAY12-1/1

Checking MFWD Axle Housing Oil Level

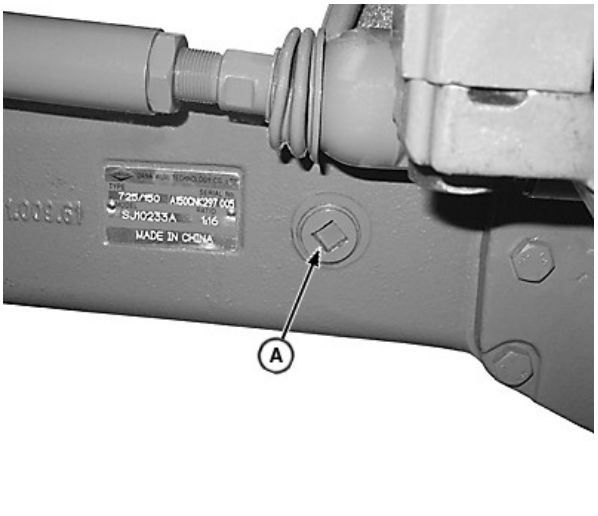
1. PARK tractor on level ground and SHUT OFF engine. Remove key.
2. Remove oil level/filler plug (A). Oil level should be even with bottom of the filler plug hole.
3. If level is low, add oil through same hole. John Deere Hy-Gard™ oil is recommended. (See MFWD Axle Housing and Wheel Hub Oil, in Section 75.)

NOTE: Approximate MFWD axle housing oil capacity is 5 L (1.32 gal).

4. Apply thread sealant to threads of plug.
5. Install plug and tighten to specifications.

Specification

Plug to Axle Housing—Torque. . . . . 70 N·m (52 lb-ft)



LV14247—UN—10MAY11

A—Oil Level/Filler Plug

Hy-Gard is a trademark of Deere & Company

JZ81662,00007CB-19-08MAR12-1/1

Checking MFWD Axle Wheel Hub Oil Level

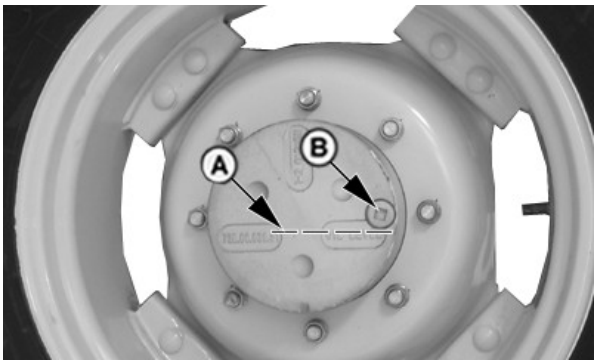
1. Park tractor so that oil fill mark (A) on MFWD hub is level with the ground.
2. Remove filler plug (B). Oil level should be even with bottom of the filler plug hole.
3. If level is low, add oil through same hole. John Deere Hy-Gard™ oil is recommended. (See MFWD Axle Housing and Wheel Hub Oil, in Section 75.)

NOTE: Approximate MFWD wheel hub oil capacity is 0.8 L (0.2112 gal).

4. Apply thread sealant to threads of plug.
5. Install plug and tighten to specifications.

Specification

Plug-to-Hub—Torque. . . . . 70 N·m (52 lb-ft)



PULV000612—UN—19MAR08

Oil fill mark and filler plug

A—Oil fill mark **B—Oil filler plug**

Hy-Gard is a trademark of Deere & Company

JZ81662,00007CC-19-08MAR12-1/1

Drain and Flush Fuel Tank

Ask your John Deere dealer to drain and flush fuel tank.

JZ81662,00007CD-19-08MAR12-1/1

Cleaning and Checking Battery

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

Avoid the hazard by:

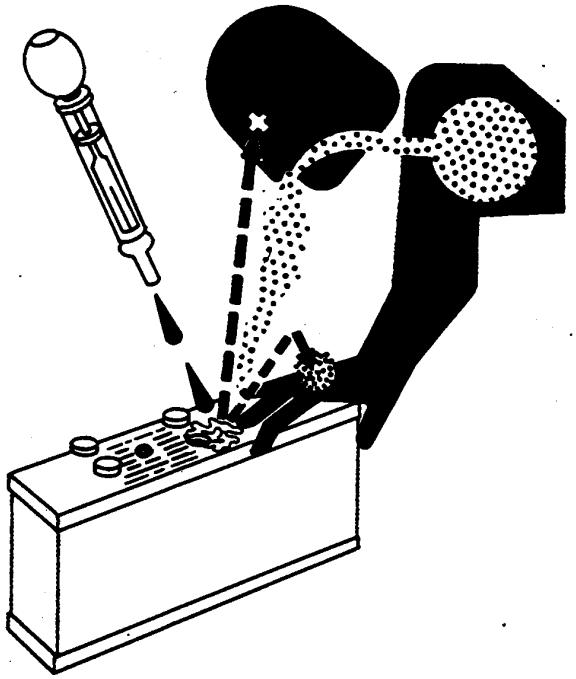
1. **Filling batteries in a well-ventilated area.**
2. **Wearing eye protection and rubber gloves.**
3. **Avoiding breathing fumes when electrolyte is added.**
4. **Avoiding spilling or dripping electrolyte.**
5. **Using proper jump start procedure.**

If you spill acid on yourself:

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

If acid is swallowed:

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



TS203—UN—23AUG88

Continued on next page

JZ81662,00007CE-19-08MAR12-1/2

CAUTION: 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.

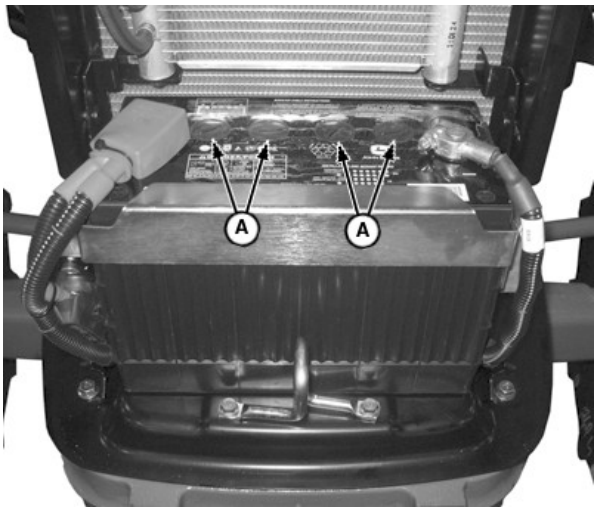
Always remove grounded (—) battery clamp first and replace it last.

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

1. Raise hood and side-screen panels to access battery.
2. Check level of electrolyte in each cell (A) at least every 250 hours. Ensure that every cell has fluid level HIGHER than top of plates. Only use CLEAN, SOFT water to fill up electrolyte level.

IMPORTANT: DO NOT add water in freezing weather unless tractor will be run at least 30 minutes to ensure thorough mixing.

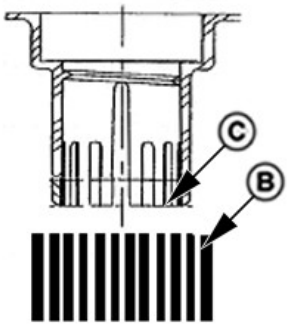


LV14228—UN—03MAY11

3. Use a battery hydrometer to check specific gravity of electrolyte in each cell. Charge battery if reading is below 1.215. Replace battery if difference between cells is more than 0.050 or if battery will not charge above 1.225.
4. Always correct specific gravity reading for electrolyte temperature variation. Add 0.007 to the reading obtained in step one for every 10° above 27°C (add 0.004 to the reading for every 10°F above 80°F). Subtract at same rate if electrolyte temperature is below 27°C (80°F). Corrected specific gravity of a fully charged battery is from 1.265—1.280.
5. A battery is considered fully charged when three consecutive hydrometer readings, taken at hourly intervals, show no rise in specific gravity.

Wipe battery with a damp cloth. Clean and tighten connections if needed. Check fluid level in each cell. Fill to bottom of filler neck with clean mineral-free water.

Coat terminals with a small amount of grease.



PULV000655—UN—05MAY08

A—Cell
B—Plates
C—Electrolyte Level

JZ81662,00007CE-19-08MAR12-2/2

Changing Engine Oil and Filter

SERVICE INTERVAL

INITIAL — 100 HOURS Maximum

REGULAR — 300 HOURS Can be extended to 500 Hours if John Deere Plus-50™ II oil and John Deere filter are used.

Plus-50 is a trademark of Deere & Company

IMPORTANT: During the first 100 hours of operation, fill with John Deere DIESEL ENGINE BREAK-IN OIL. (See Fuel, Lubricants, and Coolant section for oil specifications.)

If diesel fuel has a high sulfur content, refer to Diesel Engine Oil in Fuel, Lubricants, and Coolant section.

1. Operate engine to warm oil.
2. Park tractor on level ground, place transmission in park, turn off engine and remove key. Raise hood.
3. Remove engine oil drain plug (A) and drain oil into an adequate size container.
4. Remove engine oil filter (B).

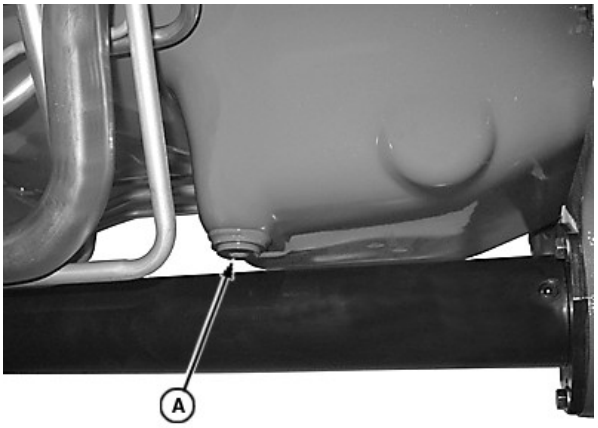
NOTE: Make sure old filter gasket is completely removed from manifold before installing new filter.

5. Apply a film of oil on new oil filter gasket and install new filter. Hand-tighten plus 1/2 turn.
6. Install drain plug.
7. Add oil to crankcase filler (C).

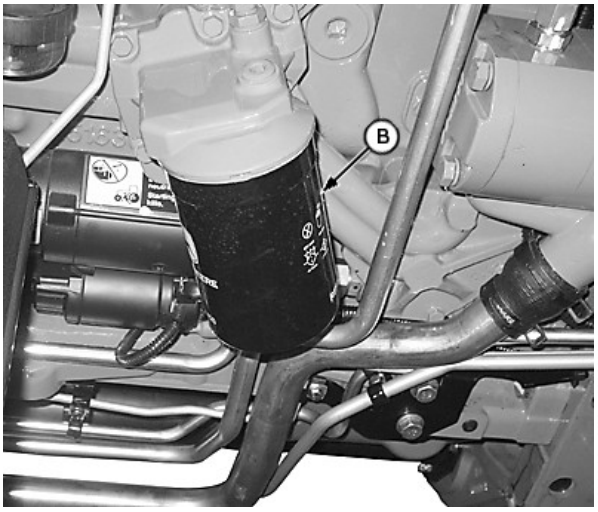
Specification	
Engine Crankcase Oil—Capacity	8.5 L (9.0 qt)

8. Start engine and check for leaks.
9. Stop engine and remove key. Recheck oil level.
10. Lower hood.

A—Engine Oil Drain Plug
B—Engine Oil Filter
C—Crankcase Filler

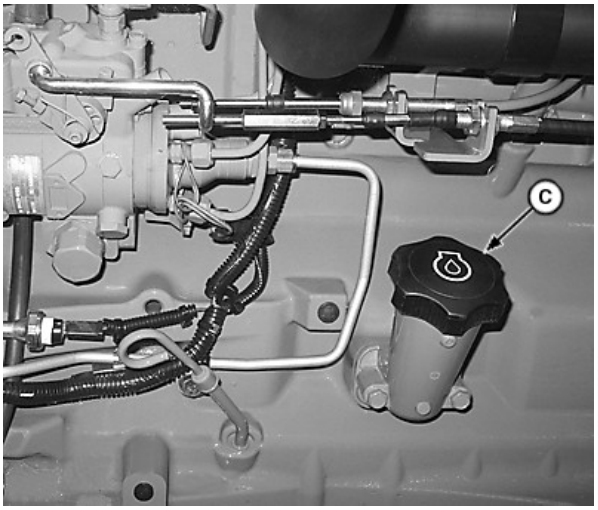


LV14239—UN—10MAY11



LV14240—UN—10MAY11

Engine Oil Filter (Right Side)



LV14241—UN—10MAY11

Engine Oil Filler (Left Side)

JZ81662,00007CF-19-17MAY12-1/1

Service Engine Air Cleaner

CAUTION: Dirty air cleaner element is indicated when air cleaner restriction indicator (A) illuminates. Dirty air cleaner results in loss of power or excessive smoke.

1. Open hood.
2. Remove latch (B), cover (C) and pull out primary air cleaner element (E).

IMPORTANT: If primary element does not pull out with ease, move side-to-side to remove safely. Do not remove secondary element of air cleaner unless you are replacing it.

3. When primary air cleaner element (E) must be serviced in the field, tap it on the palm of your hand as a temporary measure.

IMPORTANT: The air cleaner element seal (F) must not be damaged or deformed.

4. Clean out dust unloader valve (D) by squeezing the end to open and remove any excessive buildup of dust or dirt.

CAUTION: High pressure compressed air or vibration may damage primary air cleaner element (E).

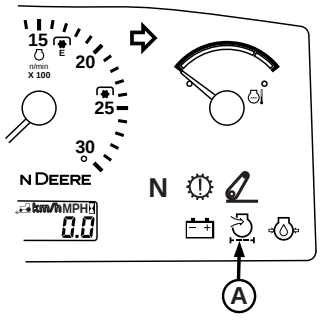
5. If tapping primary air cleaner element (E) does not remove dust, blow out dust with low pressure compressed air. Do NOT exceed 600 kPa (6 bar) (90 psi). Blow air from engine end of element (air cleaner element seal [F]) to outside air end. Do NOT insert nozzle into element material.
6. Replace both filter elements (primary and secondary) after the primary filter has been cleaned five times. Clean out and inspect canister interior before installing new elements.

IMPORTANT: Before installation, review decals on canister and primary cleaner.

7. Replace elements if core material or element seal is damaged, or if air cleaner restriction indicator remains illuminated after elements have been cleaned.
8. Install elements as necessary and latch cover.
9. Lower hood.

NOTE: If frequency of restriction increases, replace air cleaner elements.

Service air cleaner more often in extremely dusty condition.



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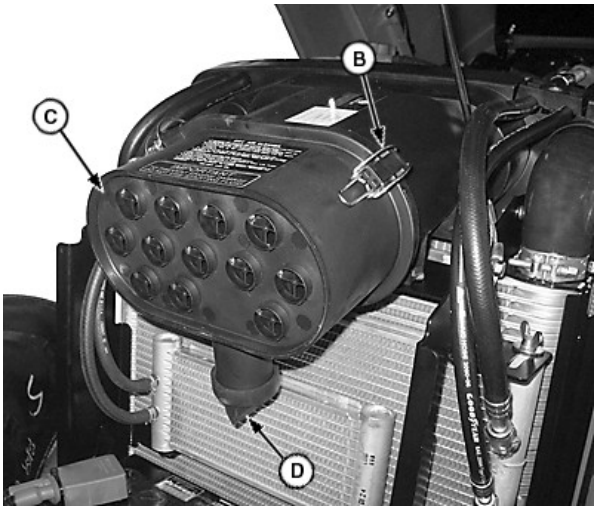


LV14249—UN—10MAY11

LV14250—UN—10MAY11

A—Air Cleaner Restriction Indicator
B—Latch
C—Cover
D—Dust Unloader Valve
E—Primary Air Cleaner Element
F—Air Cleaner Element Seal

JZ81662,00007D0-19-08MAR12-1/1

Checking Neutral Start System

Your tractor is equipped with interlocks to prevent inadvertent movement when the engine is started.

Transmission Controls

1. Depress clutch pedal and brake pedals.
2. Move gear shift lever (A) to any position except PARK or NEUTRAL position.

   Move EH Directional Reverser lever (B) to forward or reverse position.
3. Start engine. If engine starts in any of these positions, neutral start system should be repaired. See your John Deere dealer **immediately**.

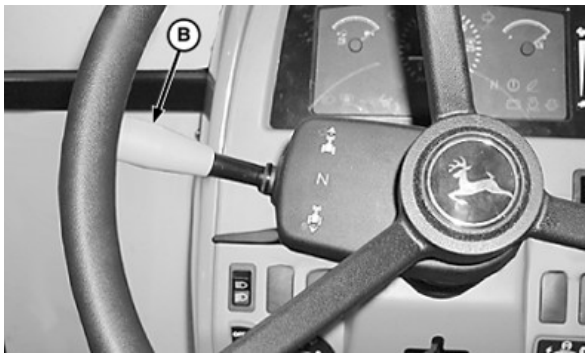
Engine should start in NEUTRAL or PARK positions only.

A—Gear Shift Lever

B—EH Directional Reverser Lever

LV12880—UN—05DEC06

Gear Shift Lever



LV12881—UN—05DEC06

EH Directional Reverser Lever

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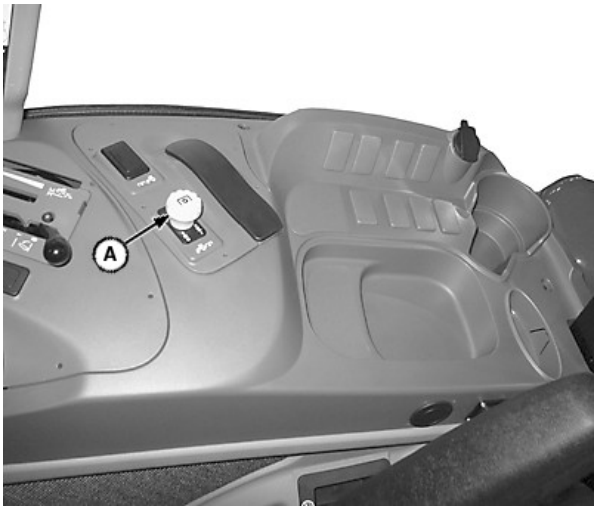
JZ81662,00007D1-19-23MAY12-1/2

PTO Switch

1. Depress clutch pedal and brake pedals.
2. Lift PTO switch knob (A) up to the “I” position to engage PTO.
3. Start engine. If engine starts in this position, neutral start system should be repaired. See your John Deere dealer **immediately**.

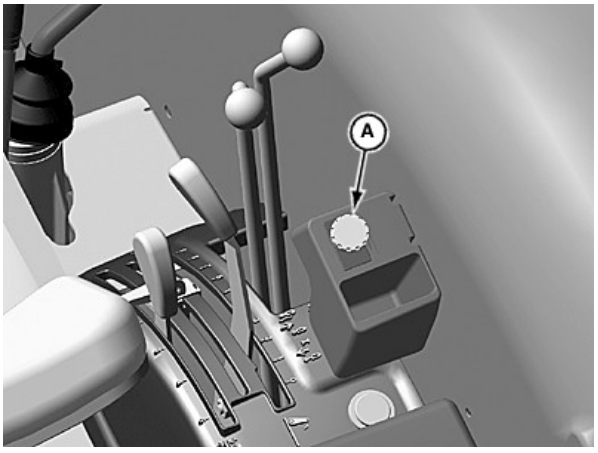
Engine should start with switch in disengaged position only.

A—PTO Switch



LV14213—UN—02MAY11

PTO Switch; Cab



LV15726—UN—18MAY12

PTO Switch; OOS

JZ81662,00007D1-19-23MAY12-2/2

Cleaning Cab Air Filters

CAUTION: The air quality system air filters are not designed to filter out harmful chemicals. Follow the instructions in the implement operator's manual and those given by the chemical manufacturer when using agricultural chemicals.

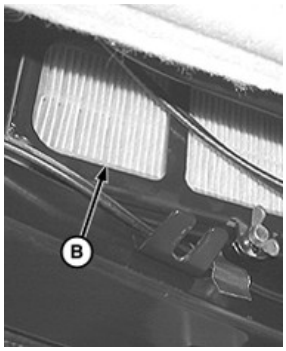
Remove filter covers (A) and filters (B). Clean filters with compressed air. Cleaning filters may be required more often in dusty conditions.

NOTE: A fresh air intake filter is located above each cab door, under roof.

Remove screws (C), filter cover (D), retainer plate (E) and filter (F). Clean filters with compressed air. Inspect filters for damage. Replace as necessary.

A—Filter Cover—Upper Right Side Shown (Left Side Similar)
B—Recirculated Air Filters
C—Screws (2 used)
D—Filter Cover
E—Retainer Plate (2 used)
F—Fresh Air Filter (2 used)

LV12557—UN—13APR05



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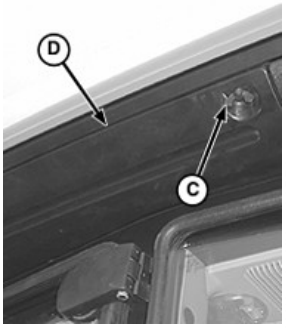

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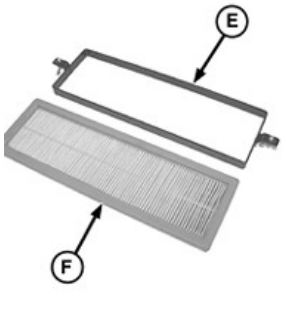


LV12560—UN—13APR05

JZ81662,00007D2-19-08MAR12-1/1

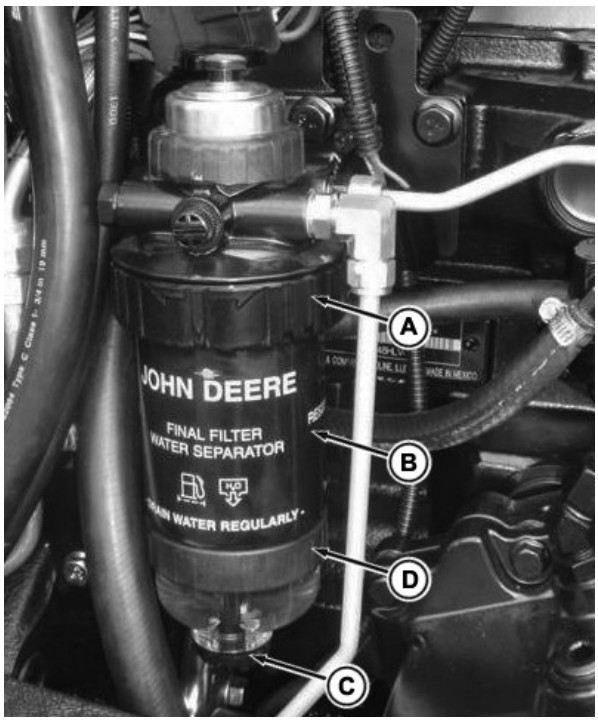
Replacing Fuel Filter

1. Raise hood.
2. Open drain valve (C) and drain fuel.
3. Lift up and rotate retaining ring (A) counterclockwise. Remove ring with filter (B).
4. Remove separator (D) from filter.
   a. Drain and clean separator. Dry with compressed air.
   b. Install water separator on new filter.
5. Install new filter assembly. Tighten retaining ring hand-tight.

NOTE: It is recommended to change the in-line fuel filter also. It is located on top of the coolers next to the air cleaner (see Replacing In-Line Fuel Filter in Section 15).

6. Bleed the fuel system. (See Bleeding Fuel System in Section 105.)

A—Retaining Ring
B—Fuel Filter
C—Drain Valve
D—Water Separator



PULV007140—UN—22JUL10

JZ81662,00007D3-19-27NOV23-1/1

Replacing Transmission-Hydraulic Filter

See Replacing Transmission-Hydraulic Filter in Maintenance - First 100 Hours section of this manual.

JZ81662,00007D4-19-30JUL20-1/1

Changing MFWD Axle Wheel Hub Oil

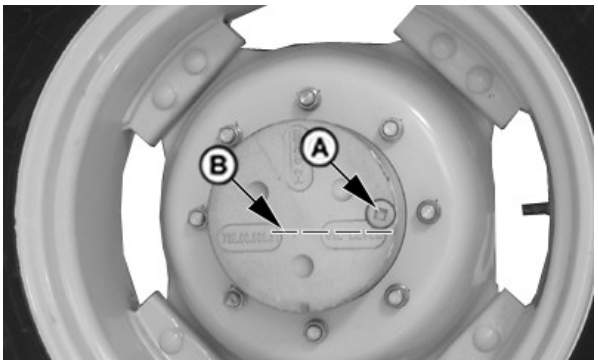
1. Park tractor on level surface, with wheel rotated until drain/filler plug (A) at bottom of hub.
2. Remove plug (A) and drain oil.
3. After oil has drained, move and park tractor so that "OIL LEVEL" mark at drain/filler plug (A) is parallel to ground.
4. Add oil until it reaches level (B) at bottom of drain/filler plug (A). (See MFWD Axle Housing and Wheel Hub Oil, in Fuel, Lubricants, and Coolant section.)

NOTE: Approximate MFWD wheel hub oil capacity is 0.8 L (0.2112 gal).

5. Apply pipe sealant with thread sealant to threads of plug (A).
6. Install plug and tighten to specifications.

Specification

Plug to Hub—Torque. . . . . 70 N·m (52 lb-ft)



PULV000620—UN—19MAR08

Check oil level

A—Drain/filler plug **B—Oil level**

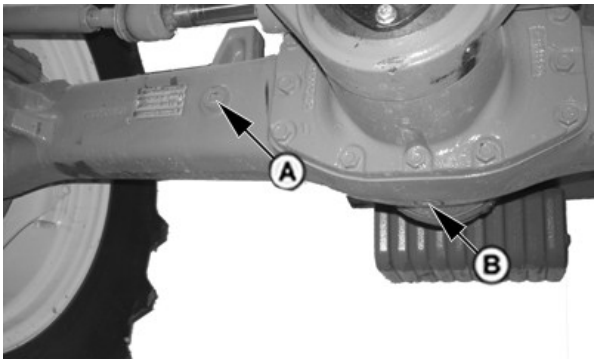
JZ81662,00007D5-19-08MAR12-1/1

Changing MFWD Axle Housing Oil

1. PARK tractor on level ground and SHUT OFF engine. Remove key.
2. Open both plugs (A and B).
3. After oil drained, apply thread sealant on threads of drain plug (B).
4. Install plug (B) and tighten to specifications.
5. Add oil until even with bottom of filler plug (A). (See MFWD Axle Housing and Wheel Hub Oil, in Fuel, Lubricants, and Coolant section.)

NOTE: Approximate MFWD axle housing oil capacity is 5 L (1.32 gal).

6. Apply thread sealant on threads of filler plug (A).
7. Install filler plug (A) and tighten to specification.



PULV000621—UN—19MAR08

A—Filler plug **B—Drain plug**

Specification

Plug to Housing—Torque. . . . . 70 N·m (52 lb-ft)

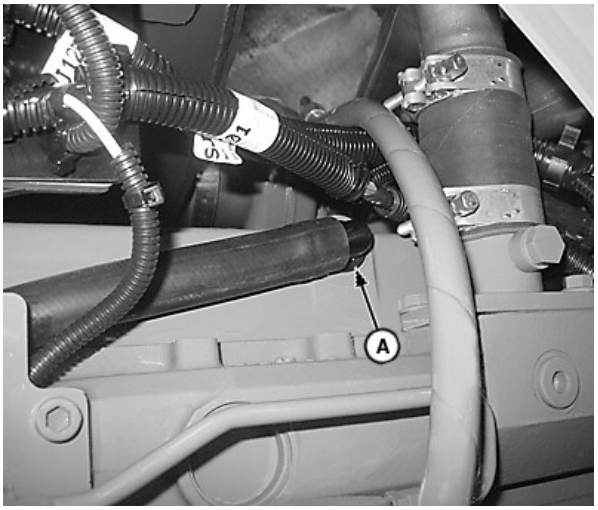
JZ81662,00007D6-19-08MAR12-1/1

Cleaning Engine Crankcase Vent Tube

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

Remove crankcase vent tube (A) from engine. Wash in solvent or blow clean with compressed air. Install vent tube to engine. Be sure vent tube is not kinked or pinched.

A—Crankcase Vent Tube



LV14251—UN—10MAY11

Right Side

JZ81662,00007D7-19-08MAR12-1/1

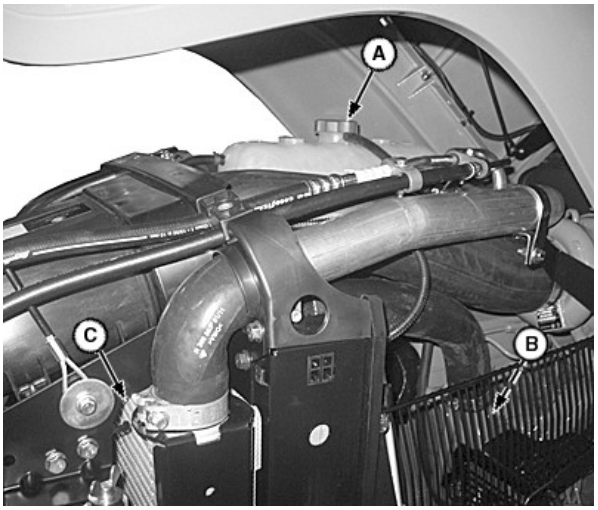
Check Engine Cooling System

IMPORTANT: Never pour cold water into the cooling system of a hot engine, as it might crack cylinder block or head. DO NOT operate engine without coolant for even a few minutes.

Check cooling system for leaks. Check and tighten all hoses and clamps if required. Inspect thermostat housing (B), radiator (C) and coolant recovery tank (A).

Make-up coolant is added to the coolant recovery tank rather than directly to the radiator.

A—Coolant Recovery Tank
B—Thermostat Housing
C—Radiator



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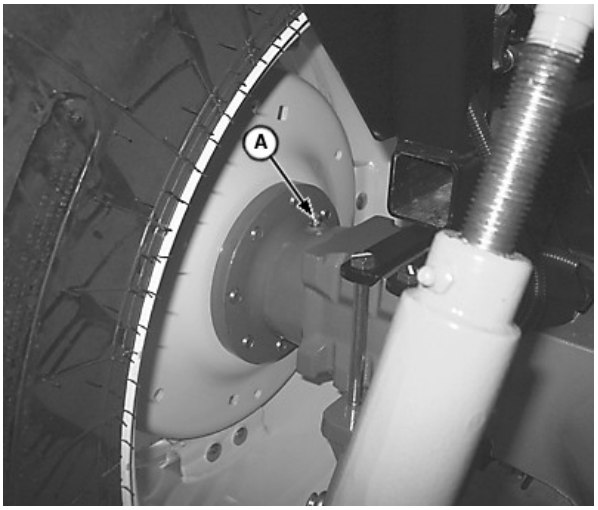
JZ81662,00007D8-19-08MAR12-1/1

Lubricating Rear Axle Bearings

Lubricate rear axle lubrication fittings (A) with several shots of multipurpose grease. (See Grease in Fuel, Lubricants, and Coolant section.)

A—Lubrication Fitting



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JZ81662,00007D9-19-08MAR12-1/1

Checking Engine Idle Speeds

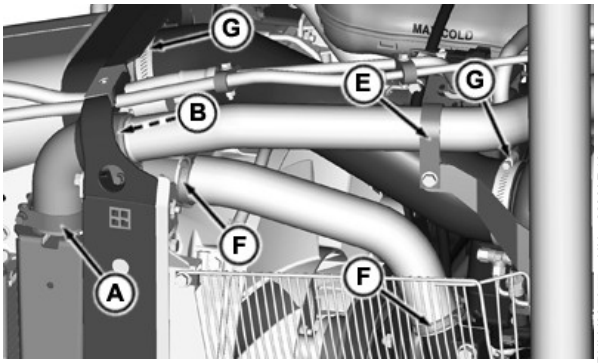
Idle speed should be within specifications.

Specification — Specification	
Engine Slow Idle—Speed	850 ± 50 rpm
Engine Fast Idle (with No Load)—Speed	2600 + 50/- 25 rpm

If idle speeds are not within specifications see your John Deere dealer.

JZ81662,00007DA-19-08MAR12-1/1

Inspect Hose Clamps on Air Intake System and Engine Cooling System



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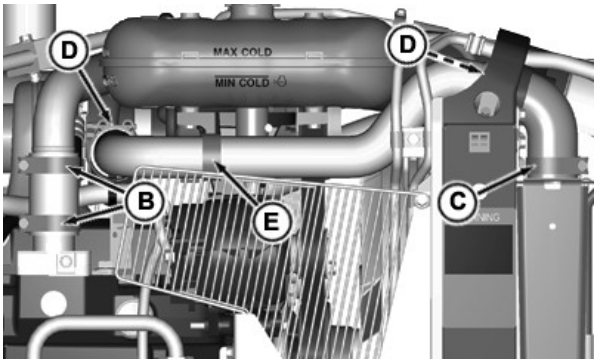
Left Side View



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Right Side View

A—Charge Air Cooler (CAC) Outlet Hose Clamp
B—Engine Intake Pipe Clamp
C—Charge Air Cooler (CAC) Inlet Hose Clamp
D—Turbocharger to Charge Air Cooler Pipe Clamp
E—Charge Air Cooler (CAC) Pipe Mounting Clamp
F—Engine to Radiator Hose Clamp
G—Air Cleaner to Turbocharger Hose Clamp

Inspect air intake system and engine cooling system for leaks.

Inspect hose clamps of air intake system and engine cooling system for loose hose clamps and tighten if found.

JZ81662,00007DB-19-08MAR12-1/1

Service Engine Air Cleaner

CAUTION: Dirty air cleaner element is indicated when air cleaner restriction indicator (A) illuminates. Dirty air cleaner results in loss of power or excessive smoke.

1. Open hood.
2. Remove latch (B), cover (C) and pull out primary air cleaner element (E).

IMPORTANT: If primary element does not pull out with ease, move side-to-side to remove safely. Do not remove secondary element of air cleaner unless you are replacing it.

3. When primary air cleaner element (E) must be serviced in the field, tap it on the palm of your hand as a temporary measure.

IMPORTANT: The air cleaner element seal (F) must not be damaged or deformed.

4. Clean out dust unloader valve (D) by squeezing the end to open and remove any excessive buildup of dust or dirt.

CAUTION: High pressure compressed air or vibration may damage primary air cleaner element (E).

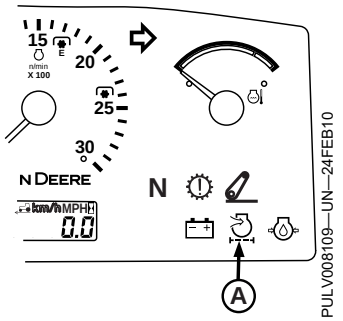
5. If tapping primary air cleaner element (E) does not remove dust, blow out dust with low pressure compressed air. Do NOT exceed 600 kPa (6 bar) (90 psi). Blow air from engine end of element (air cleaner element seal [F]) to outside air end. Do NOT insert nozzle into element material.
6. Replace both filter elements (primary and secondary) after the primary filter has been cleaned five times. Clean out and inspect canister interior before installing new elements.

IMPORTANT: Before installation, review decals on canister and primary cleaner.

7. Replace elements if core material or element seal is damaged, or if air cleaner restriction indicator remains illuminated after elements have been cleaned.
8. Install elements as necessary and latch cover.
9. Lower hood.

NOTE: If frequency of restriction increases, replace air cleaner elements.

Service air cleaner more often in extremely dusty condition.



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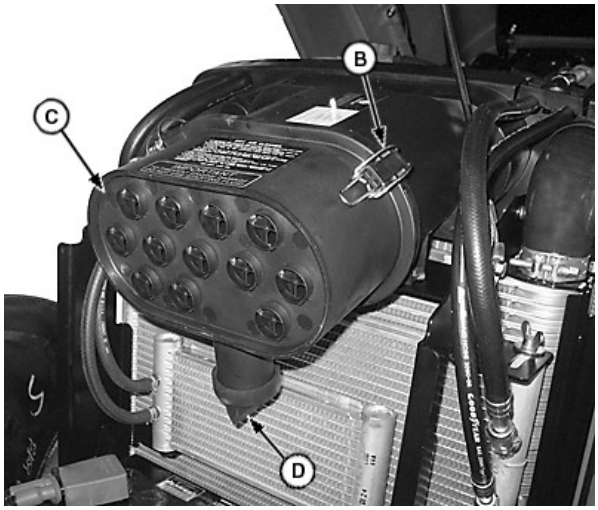


LV14249—UN—10MAY11

LV14250—UN—10MAY11

A—Air Cleaner Restriction Indicator
B—Latch
C—Cover
D—Dust Unloader Valve
E—Primary Air Cleaner Element
F—Air Cleaner Element Seal

JZ81662,00007DC-19-08MAR12-1/1

Changing Transmission-Hydraulic Oil and Filter

1. Lower rockshaft to remove trapped oil.
2. Remove drain plug(s).
   - MFWD Axle—Remove drain plugs (B and C)

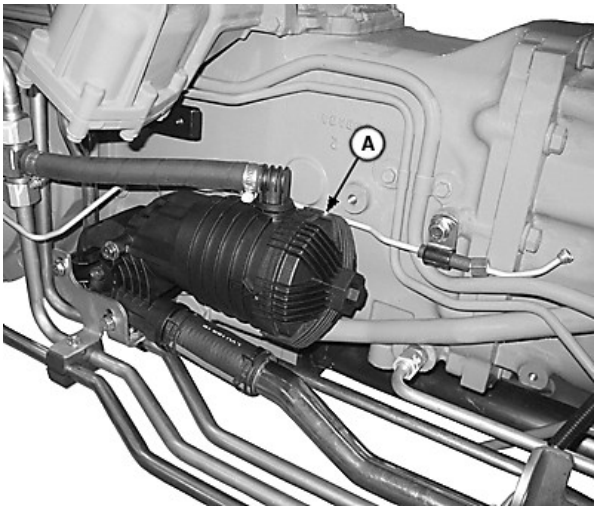
   Drain oil into pan and dispose of waste oil properly.
3. Replace filter (A) while changing oil. (See Replacing Transmission-Hydraulic Filter in Section 30.)
4. Fill system with transmission-hydraulic oil. (See Checking Transmission-Hydraulic System Oil Level Section 25.)

Specification

12/12 PowrReverser™
Transmission—Capacity. . . . . 43.5 L (11.5 gal)

5. Check oil level at sight glass (D) after filling, and again after operating for five minutes.

A—Filter
B—MFWD Drain Plug
C—Transmission Case Drain Plug
D—Sight Glass



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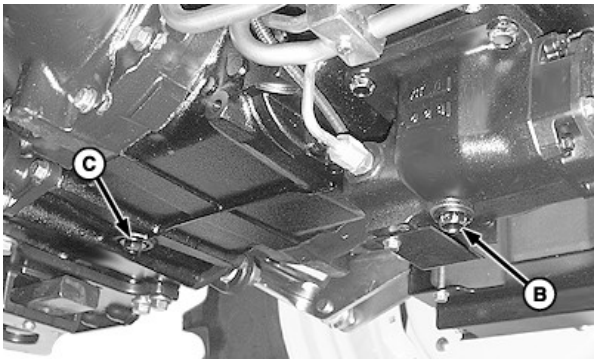
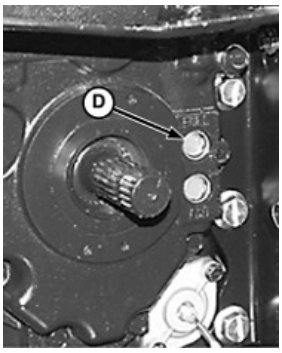


LV9622—UN—10AUG04



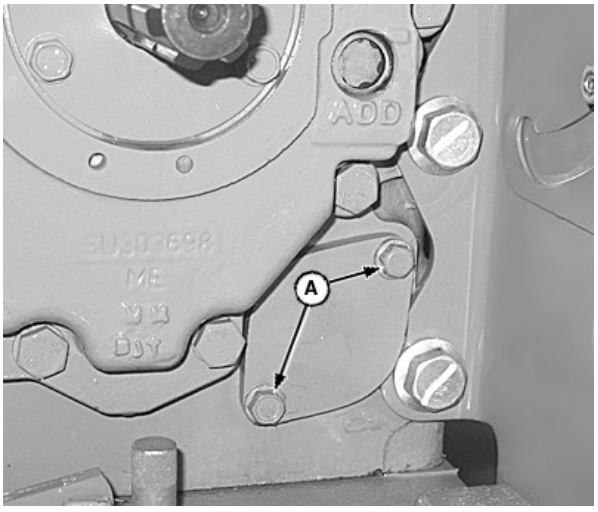
LV12927—UN—07DEC06

JZ81662,00007DD-19-08MAR12-1/1

Cleaning Transmission-Hydraulic Oil Pickup Screen

1. Drain transmission-hydraulic oil. (See Changing Transmission-Hydraulic Oil and Filter in Section 50.)
2. Remove two cap screws (A) and pickup screen cover (B).
3. Remove pickup screen (D) and inspect it for damage. Replace if necessary. Clean screen in solvent and blow dry with compressed air.
4. Inspect O-ring (C) for damage. Replace if necessary.
5. Carefully install screen so the front of screen is inserted in hole at front of differential case.
6. Install O-ring, cover and cap screws.
7. Fill system with transmission-hydraulic oil. (See Changing Transmission-Hydraulic Oil and Filter in Section 50.)
8. Check oil level at sight glass (E) after filling, and again after operating for five minutes.

A—Cap Screw (2 used)
B—Pickup Screen Cover
C—O-Ring
D—Pickup Screen
E—Sight Glass



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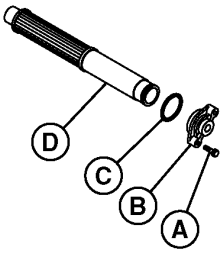
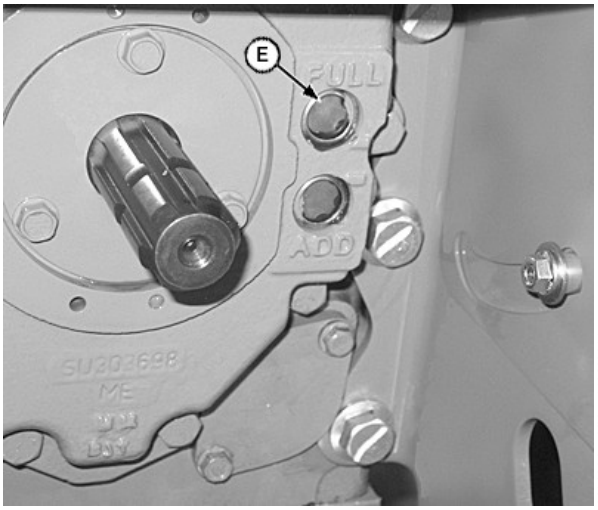


LV12562—UN—13APR05



LV14260—UN—11MAY11

JZ81662,00007DE-19-08MAR12-1/1

Inspecting Fan Belt Tensioner

NOTE: A belt tension gauge will not give an accurate measurement of the belt tension. Measure tensioner spring tension using a torque wrench.

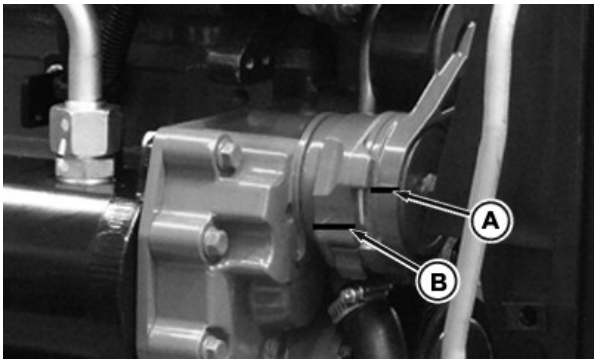
1. Remove fan belt. (See Replacing Fan Belt in Section 65.)
2. Put a mark (A) on swing arm of tensioner as shown.
3. Measure 21 mm (0.83 in.) from (A) and put a mark (B) on tensioner mounting base.
4. Rotate the swing arm using a torque wrench (C) until marks (A and B) are aligned.
5. Record torque wrench measurement and compare with specification. If recorded measurement is below specification, have your John Deere dealer replace tensioner assembly.

Specification

Belt Tensioner—Torque. . . . . 18—22 N·m (159—195 lb-in.)

6. Install fan belt. (See Replacing Fan Belt in Section 65.)

A—Mark on Swing Arm
B—Mark on Tensioner Mounting Base
C—Torque Wrench



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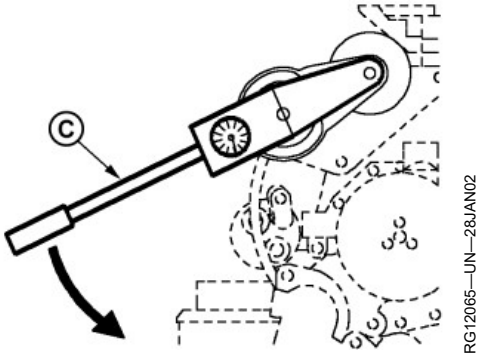

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Cleaning Cab Air Filters

CAUTION: The air quality system air filters are not designed to filter out harmful chemicals. Follow the instructions in the implement operator's manual and those given by the chemical manufacturer when using agricultural chemicals.

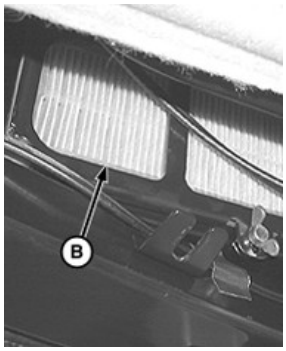
Remove filter covers (A) and filters (B). Clean filters with compressed air. Cleaning filters may be required more often in dusty conditions.

NOTE: A fresh air intake filter is located above each cab door, under roof.

Remove screws (C), filter cover (D), retainer plate (E) and filter (F). Clean filters with compressed air. Inspect filters for damage. Replace as necessary.

A—Filter Cover—Upper Right Side Shown (Left Side Similar)
B—Recirculated Air Filters
C—Screws (2 used)
D—Filter Cover
E—Retainer Plate (2 used)
F—Fresh Air Filter (2 used)

LV12557—UN—13APR05



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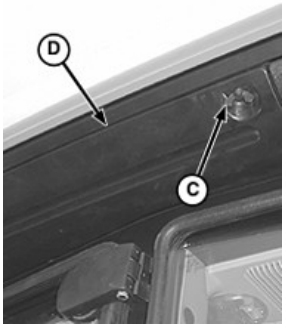

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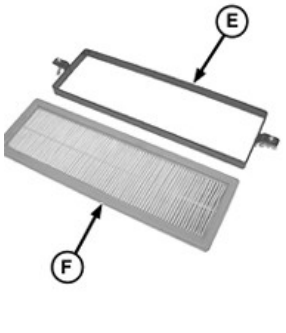

LV12560—UN—13APR05

JZ81662,00007E0-19-08MAR12-1/1

Inspecting Seat Belt

CAUTION: If the seat belt system, including the mounting hardware, buckle, belt, or retractor shows any sign of damage such as cuts, fraying, extreme or unusual wear, discoloring or abrasion, the entire seat belt system should be replaced immediately. Replace the belt system only with replacement parts approved for your machine.

Inspect seat belts and mounting hardware. If seat belt needs to be replaced, see your John Deere dealer.

A—Seat Belt

LV14261—UN—11MAY11

JZ81662,00007E1-19-08MAR12-1/1

Check Engine Coolant Properties

NOTE: Coolant replacement period is after three years or 3000 hours thereafter. It can be extended to five years or 5000 hours thereafter if coolant is checked annually and replaced by COOL-GARD™ II.

COOL-GARD is a trademark of Deere & Company

Ask your John Deere dealer to check engine coolant properties. (Refer to Heavy Duty Diesel Engine Coolant, in Section 75.)

JZ81662,00007E2-19-08MAR12-1/1

Adjusting Engine Valve Clearance

Have your John Deere dealer check and adjust engine valve clearance.

JZ81662,00007E6-19-08MAR12-1/1

Test injection nozzles

Have your John Deere dealer check and adjust fuel injection nozzles.

JZ81662,00007E7-19-08MAR12-1/1

Flush Cooling System and Replace Thermostat

IMPORTANT: Service interval can be extended to five years or 5000 hours thereafter if tractor coolant has been checked annually and serviced with pre-diluted John Deere COOL-GARD™ II.

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Have your John Deere dealer drain old coolant, flush the entire system, install new thermostat and fill with clean antifreeze solution after first three years and after every 3000 hours of operation.

JZ81662,00007E8-19-12FEB14-1/1

Flush Cooling System

Have your John Deere dealer drain old coolant, flush the entire system, install new thermostat and fill with clean antifreeze solution COOL-GARD™ II after first five years or after 5000 hours[1] of operation.

COOL-GARD is a trademark of Deere & Company

[1] If coolant is checked annually and replaced by COOL-GARD™

JZ81662,00007E9-19-25MAY12-1/1

Engine Troubleshooting

Symptom	Problem	Solution
Engine hard to start or will not start	Improper starting procedure.	Review starting procedure.
	No fuel.	Check fuel tank.
	Air in fuel tank.	Bleed fuel tank.
	Cold weather.	Use cold weather starting procedure.
	Slow starter speed.	See Starter Cranks Slowly in Electrical System Troubleshooting.
	Crankcase oil too heavy.	Use oil of proper viscosity.
	Improper type of fuel.	Consult fuel supplier; use proper type fuel for operating conditions.
	Water, dirt, or air in fuel system.	Drain, flush, fill and bleed system.
	Clogged fuel filter(s).	Replace filter(s) as needed.
	Dirty or faulty injectors.	Have John Deere dealer check injectors.
	Injection pump shutoff not reset.	Turn ignition switch to STOP, then to ON.
	Fuel transfer pump not running.	Check for blown fuse F6.
	Defective fuel transfer pump.	See your John Deere dealer.
Engine knocks	Insufficient oil.	Add oil.
	Injection pump out of time.	See your John Deere dealer.
	Low coolant temperature.	See your John Deere dealer.
Engine runs irregularly or stalls frequently	Low coolant temperature.	See your John Deere dealer.
	Clogged fuel filter(s).	Replace filter(s) as needed.
	Water, dirt, or air in fuel system.	Drain, flush, fill, and bleed system.
	Dirty or faulty injectors.	Have John Deere dealer check injectors.
Below normal engine temperature	Defective temperature gauge or sender.	Check gauge, sender, and conditions.
Lack of power	Engine overloaded.	Reduce load or shift to lower gear.
	Low fast idle speed.	See your John Deere dealer.
	Intake air restriction.	Service air cleaner.
	Clogged fuel filter(s).	Replace filter(s) as needed.

Continued on next page

Symptom	Problem	Solution
	Improper type of fuel.	Use proper fuel.
	Overheated engine.	Check coolant level, fan belt and debris in radiator fins.
	Below normal engine temperature.	See your John Deere dealer.
	Improper valve clearance.	See your John Deere dealer.
	Dirty or faulty injectors.	Have John Deere dealer check injectors.
	Injection pump out of time.	See your John Deere dealer.
	Turbocharger not functioning.	See your John Deere dealer.
	Leaking exhaust manifold gasket.	See your John Deere dealer.
	Implement improperly adjusted.	See implement operator's manual.
	Restricted fuel line.	See your John Deere dealer.
	Restricted return line.	See your John Deere dealer.
	Improper ballast.	Adjust ballast to load.
Low oil pressure	Low oil level.	Add oil.
	Improper type of oil.	Drain; fill crankcase with oil of proper viscosity and quality.
High oil consumption	Crankcase oil too light.	Use proper viscosity oil.
	Oil leaks.	Check for leaks in lines, around gaskets and drain plugs.
	Restricted crankcase vent tube.	Clean vent tube.
	Defective turbocharger.	See your John Deere dealer.
Engine emits white smoke	Improper type fuel.	Use proper fuel.
	Low engine temperature.	Warm up engine to normal operating temperature.
	Defective injection nozzles.	See your John Deere dealer.
	Engine out of time.	See your John Deere dealer.
	Cold start advance or light load advance not functioning.	See your John Deere dealer.
Engine emits black or gray exhaust smoke	Improper type of fuel.	Use proper fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load or shift to a low gear.

Continued on next page

Symptom	Problem	Solution
	Injection nozzles dirty.	See your John Deere dealer.
	Engine out of time.	See your John Deere dealer.
	Turbocharger not functioning.	See your John Deere dealer.
Engine overheats	Dirty radiator core or grille screen.	Remove all trash.
	Low engine oil level.	Check oil level. Add oil as required.
	Low coolant level.	Fill radiator to proper level. Check radiator, coolant recovery tank, and hoses for loose connection or leaks.
	Faulty radiator cap.	Replace cap.
	Loose or defective fan belt.	Check belt tension. Replace if necessary.
	Cooling system needs flushing.	See your John Deere dealer.
	Defective thermostat.	See your John Deere dealer.
	Defective temperature gauge or sender.	See your John Deere dealer.
	Incorrect grade of fuel.	Use proper fuel.
High fuel consumption	Improper type of fuel.	Use proper fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load or shift to a lower gear.
	Fuel leakage.	Check fuel supply and return line for leaks. Check fuel tank for leaks and tighten clamps.
	Improper valve clearance.	See your John Deere dealer.
	Injection nozzles dirty.	See your John Deere dealer.
	Engine out of time.	See your John Deere dealer.
	Implement improperly adjusted.	See implement operator's manual.
	Low engine temperature.	See your John Deere dealer.
	Excessive ballast.	Adjust ballast to load.
	Defective turbocharger.	See your John Deere dealer.
	Restricted air intake system.	Check system.
	Plugged crankcase vent tube.	Clean vent tube.

JZ81662,00007AF-19-08MAR12-3/3

Transmission Troubleshooting

Symptom	Problem	Solution
Transmission oil overheats	Low oil supply.	Fill system with correct oil.
	Clogged transmission-hydraulic oil filter.	Replace filter.
	Internal hydraulic leak.	See your John Deere dealer.
	Hitch feedback linkage improperly adjusted.	Reset linkage. See your John Deere dealer.
	Implement mounted hydraulic motor not plumbed correctly or matched to circuit.	See your John Deere dealer.
	SCV lever held in extend or retract position.	Return SCV lever to neutral position.
Low transmission pressure	Low oil supply.	Fill system with correct oil.
	Clogged transmission-hydraulic oil filter.	Replace filter.

JZ81662,00007B0-19-08MAR12-1/1

Hydraulic System Troubleshooting

Symptom	Problem	Solution
Entire hydraulic system fails to function	Low oil supply.	Fill system with correct oil.
	Clogged transmission-hydraulic oil filter.	Replace filter.
	Clogged transmission-hydraulic oil pickup screen.	Clean pickup screen.
	High-pressure internal leak.	See your John Deere dealer.
Hydraulic oil overheats	Low oil supply.	Fill system with correct oil.
	Clogged transmission-hydraulic oil filter.	Replace filter.
	Internal hydraulic leak.	See your John Deere dealer.
	Hitch feedback linkage improperly adjusted.	Reset linkage. See your John Deere dealer.
	Implement mounted hydraulic motor not plumbed correctly or matched to circuit.	See your John Deere dealer.
	Basic Valve: SCV lever held in extend or retract position.	Return SCV lever to neutral position.

JZ81662,00007B1-19-08MAR12-1/1

Brakes Troubleshooting

Symptom	Problem	Solution
No solid pedal feel	Air in system.	See your John Deere dealer.
Pedal settles	Rear brake piston seal leaking.	See your John Deere dealer.
Excessive pedal travel	Air in system.	See your John Deere dealer.
Brakes drag during transport	Brakes out of adjustment.	See your John Deere dealer.

JZ81662,00007B2-19-08MAR12-1/1

Rockshaft and Quick-Coupler/3-Point Hitch Troubleshooting

Symptom	Problem	Solution
Insufficient transport clearance	Center link too short.	Adjust center link.
	Lift links too short.	Adjust lift links.
	Implement not level.	Level implement.
	Implement not properly adjusted.	See implement operator's manual.
	Front of center link in upper holes.	Move center link to lower holes.
	Sway bars or chains too short.	Adjust sway bars or chains.
Hitch drops slowly	Rockshaft rate-of-drop control not properly set.	Adjust rate-of-drop.
Hitch fails to lift or lifts slowly	Excessive load on hitch.	Reduce load.
	Center link in wrong position.	Adjust center link.
	Low oil level.	Fill system with proper oil.
	Hydraulic oil too cold.	Allow oil to warm.
	Transmission-hydraulic oil filter clogged.	Replace filter.
	Transmission-hydraulic oil pickup screen clogged.	Clean or replace pickup screen.
Implement will not operate at desired depth	Lift links too short.	Adjust lift links.
	Lack of penetration.	See implement operator's manual.
	Improper setting of hitch control stop.	Readjust position.
	Improper setting of draft control.	See Rockshaft Controls section.
Insufficient or no hitch response to draft load	Front attachment of center link in upper holes.	Move center link attachment to lower bracket holes.
	Draft control lever in OFF position.	Move lever to desired position.
	Lift links too short.	Adjust lift links.
	Lack of penetration.	See implement operator's manual.
	Rate-of-drop too slow.	Adjust rate-of-drop.
Hitch too responsive	Front attachment on center link in lower bracket holes.	Move center link attachment to upper bracket holes.
	Improper draft control setting.	Adjust.
Hitch drops too fast	Rate-of-drop set too fast.	Adjust rate-of-drop.

Continued on next page

Symptom	Problem	Solution
Rockshaft levers “drift”, levers too loose	Friction disks are loose.	Adjust rockshaft control lever friction. See your John Deere dealer.
Hitch settles too fast after tractor is parked and engine shut off	Internal system leakage.	See your John Deere dealer.

JZ81662,00007B3-19-08MAR12-2/2

Remote Hydraulic Cylinder Troubleshooting

Symptom	Problem	Solution
Direction of remote cylinder travel is reversed	Improper hose connections.	Reverse hose connections.
Hoses will not couple	Improper hose male tips.	Replace tip with ISO standard tips.
Remote cylinder will not lift load	Excessive load.	Reduce load.
	Hoses not completely installed.	Attach hoses correctly.
	Incorrect remote cylinder size.	Use correct size cylinder.

JZ81662,00007B4-19-08MAR12-1/1

Electrical System Troubleshooting

Symptom	Problem	Solution
Battery will not charge	Loose or corroded connections.	Clean and tighten connections.
	Sulfated or worn-out battery.	Check electrolyte level and specific gravity.
	Loose or defective fan belt.	Check belt tension. Replace belt if necessary.
Charging system indicator glows with engine running	Low engine speed.	Increase speed.
	Defective battery.	Check electrolyte level and specific gravity.
	Defective alternator.	See your John Deere dealer.
	Slipping fan belt.	Check belt tension. Replace belt if necessary.
Starter inoperative	Gear shift lever not in PARK.	Move lever to PARK.
	PowrReverser™ Transmission: EH directional reverser lever in forward or reverse.	Move lever to NEUTRAL.
	PTO lever engaged.	Disengage PTO.
	Low battery output.	See your John Deere dealer.
	Blown fuse.	Replace fuse.
Starter cranks slowly	Low battery output.	Check electrolyte level and specific gravity.
	Crankcase oil too heavy.	Use proper viscosity oil.
	Loose or corroded connections.	Clean and tighten loose connections.
Light system does not function; rest of electrical system functions	Blown fuse.	Replace fuse.
Entire electrical system does not function	Faulty battery connections.	Clean and tighten connections.
	Sulfated or worn-out battery.	Check electrolyte level and specific gravity.
	Blown fuse.	Replace fuse.
Relay(s) sticking or nonfunctional; repeated failures	Diode to protect circuit from arcing has failed.	See your John Deere dealer.

PowrReverser is a trademark of Deere & Company

JZ81662,00007B5-19-08MAR12-1/1

Heater and A/C System Troubleshooting

Symptom	Problem	Solution
All cab electrical switches do not work	Loose, defective or blown fusible link.	See your John Deere dealer.
Blower malfunctioning	Blower does not work.	Check both blower fuses.
Blower operates only in purge position	One of two fuses blown.	Replace fuse.
	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	Fan belt loose or slipping.	Check belt tension. Replace belt if necessary.
	Blown fuse.	Replace fuse.
	Defective switch.	See your John Deere dealer.
	Faulty wiring or loose connections.	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 position.
Inadequate air flow	Clogged air filters.	Clean filters.
	Evaporator core air flow restricted.	Clean evaporator and housing with compressed air.
	Faulty blower fan motors.	See your John Deere dealer.
	Defective blower switch.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Water leaking or dripping from evaporator core compartment	Loose hose clamp.	Tighten clamp.
	A/C drip pan dirty.	Clean evaporator pan and outlet with compressed air.
	A/C drain tubes plugged.	Clean drain tubes.

Continued on next page

JZ81662,00007B6-19-08MAR12-1/3

Symptom	Problem	Solution
Strange odors inside operator cab	Dirty air filters.	Clean filters.
	Evaporator condenser pan dirty.	Clean pan and outlet with compressed air.
	Drain tubes plugged.	Clean drain tubes.
	Tobacco smoke and tar on evaporator exterior.	Clean filters.
Partial frosting and sweating of lines combined with poor cooling	Fan belt slipping.	Check belt tension. Replace belt if necessary.
	Loss of refrigerant.	Check system for leaks. See your John Deere dealer.
	Restricted or clogged liquid line.	See your John Deere dealer.
	Expansion valve malfunctioning.	See your John Deere dealer.
Ice flecks blowing from evaporator	Control dial set too low.	Adjust the temperature control to a warmer position.
Failure to cool	Insufficient blower speed.	Increase blower speed.
	Dirty air filters.	Clean filters.
	Debris on front grille.	Clean front grille.
	Lint or dirt on condenser fins.	Blow out condenser fins with compressed air.
	Refrigerant is lost or extremely low.	See your John Deere dealer.
	Loose fan belt.	Check belt tension. Replace belt if necessary.
	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.	See your John Deere dealer.
	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.

Continued on next page

Symptom	Problem	Solution
	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.	Check system for leaks. See your John Deere dealer.
	Restriction in refrigerant system.	Check for kinks in hoses.
		Check receiver-dryer for uniformity of temperature. (See your John Deere dealer.)

JZ81662,00007B6-19-08MAR12-3/3

Wipers, Work Lights, Dome Light and Radio Troubleshooting

Symptom	Problem	Solution
All cab electrical switches do not work	Loose, defective or blown fusible link.	See your John Deere dealer.
Window wiper(s) and washer will not run	Blown fuse.	Replace fuse.
	Defective switch(es).	See your John Deere dealer.
	Defective motor(s).	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Work lights do not work	Blown fuse.	Replace fuse.
	Defective bulb or switch.	Replace bulb or see your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Dome light does not work	Blown fuse.	Replace fuse.
	Defective bulb or switch.	Replace bulb or see your John Deere dealer.
	Defective door switch(es).	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Radio does not work	Blown fuse.	Replace fuse.

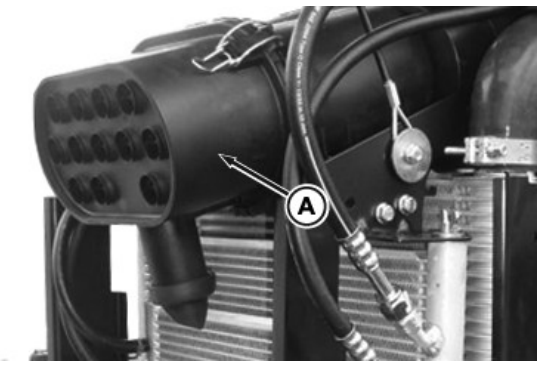
JZ81662,00007B7-19-08MAR12-1/1

Storing Tractor

IMPORTANT: Anytime tractor will not be used for several months, use this procedure to minimize corrosion and deterioration. Use an AR41785 Engine Storage Kit and an extra 0.95 L (1 pt) of AR41870 Corrosion Inhibitor.

1. Service air cleaner (A). (See Replacing Air Cleaner Elements in Section 42 of your Maintenance Guide.)
2. If coolant has been in tractor for two years, flush cooling system. (See your John Deere dealer.) Add 50 percent antifreeze-water mixture. Test coolant for adequate cold weather protection.
3. Change engine oil and filter (B). (See Changing Engine Oil and Filter in Section 30 of your Maintenance Guide.)
4. Drain fuel and add back 4 L (1 gal) of fuel. Then add 0.4 L (12 oz) of corrosion inhibitor.
5. Add 0.25 L (9 oz) of corrosion inhibitor to transmission-hydraulic system fill port (C).
6. Depress clutch and start engine. Run engine until it reaches operating temperature. Also raise and lower rockshaft several times. Shut off engine.
7. Add 0.5 L (16 oz) more inhibitor to fuel tank at filler/cap (D).

A—Air Cleaner
B—Engine Oil Filter
C—Transmission-Hydraulic System Fill Port
D—Fuel Tank Filler/Cap



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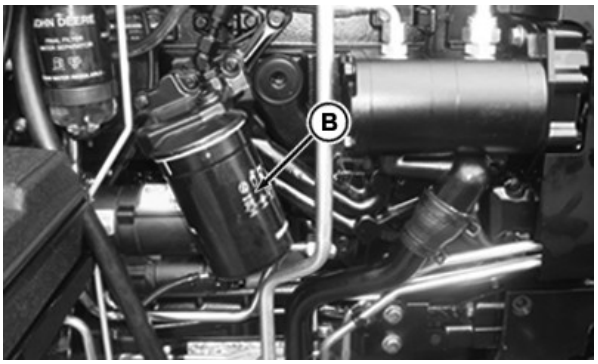

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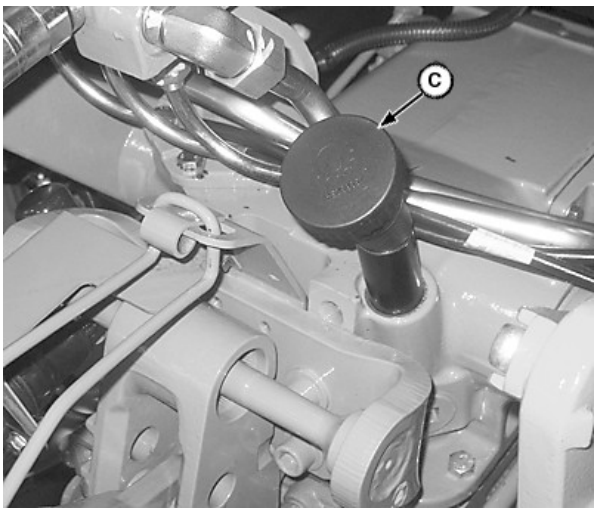

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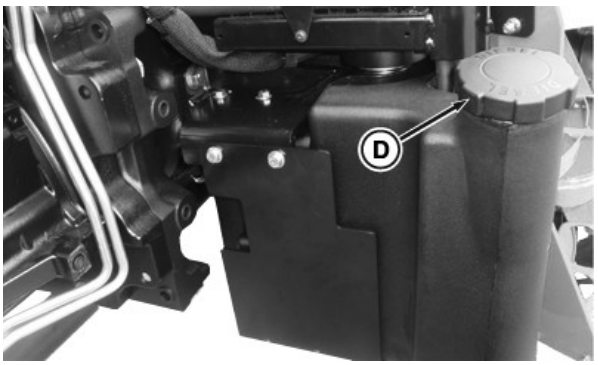

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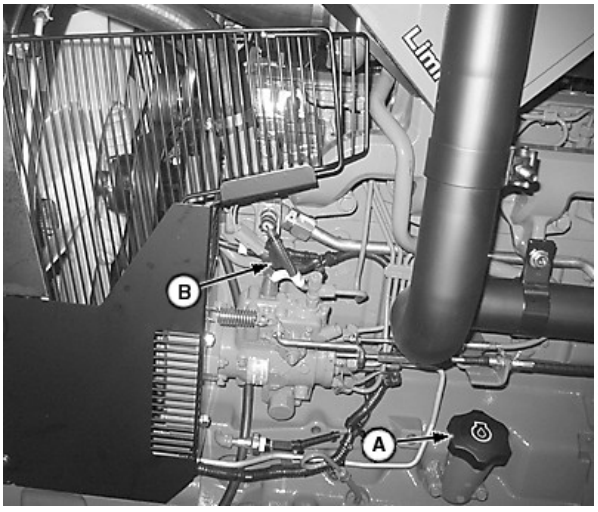
JZ81662,00002A3-19-14JUL11-1/2

8. Add 0.5 L (16 oz) inhibitor to engine crankcase at filler (A).
9. Disconnect fuel shut-off solenoid wiring lead/connector (B). (This will prevent engine from starting while cranking.)
10. Remove air intake hose at manifold. Pour 0.1 L (3 oz) inhibitor into manifold and replace hose. Pull hand throttle back to slow idle position. Crank engine only a few revolutions.
11. Remove fan belt after it has cooled.
12. Remove and clean battery. Store in a cool, dry place. Keep battery charged.[1]
13. Coat exposed metal surfaces, such as adjustable front axles, if extended, with grease or a corrosion inhibitor.
14. Use tape to seal air cleaner inlet hole (C), dust unloader valve (D), exhaust pipe, crankcase filler, fuel cap, coolant recovery tank, and transmission-hydraulic system filler/cap.
15. Cover dash with opaque material to prevent gauges from fading.
16. Raise tires off ground. Protect them from heat and sunlight.
17. Thoroughly clean tractor. Touch up any painted surfaces that are scratched or chipped.
18. If tractor must be stored outside, cover it with a waterproof material.
19. Rotate A/C compressor pulley (E) several turns once a month to prevent seizure of compressor.

A—Crankcase Filler
B—Fuel Shut-Off Solenoid Wiring Lead/Connector
C—Air Cleaner Inlet Hole
D—Dust Unloader Valve
E—A/C Compressor Pulley



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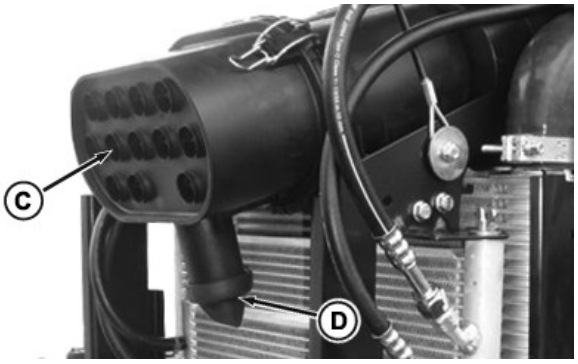

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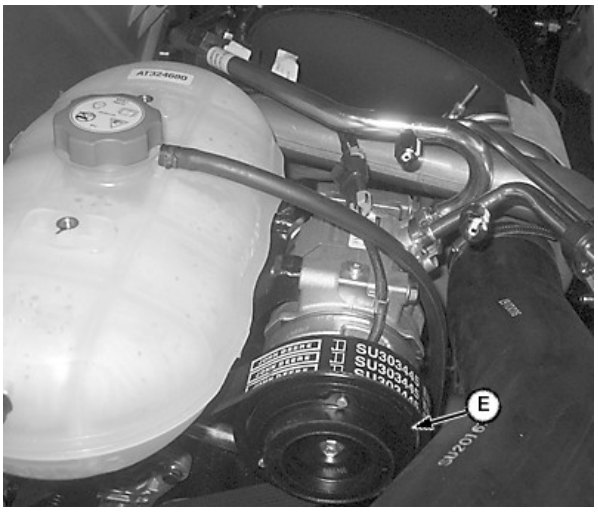


LV14220—UN—03MAY11

[1] *Disconnect battery ground cable for short-term storage periods (30 to 90 days).*

JZ81662,00002A3-19-14JUL11-2/2

Removing Tractor from Storage

1. Check tire pressure. See Tire Inflation Pressure Charts in Section 70 of your Maintenance Guide. Lower tires to ground.
2. Unseal all openings sealed in Storing Tractor in this section.
3. Install battery.

IMPORTANT: If air conditioning compressor is seized, engine operation with compressor clutch engaged will damage belt or compressor.

4. Check that A/C compressor pulley moves freely and is not seized.
5. Install fan belt.
6. Check levels of engine oil, transmission-hydraulic oil, and engine coolant. Add if necessary.
7. Drain a small amount of fuel from fuel tank to purge any moisture condensation that has collected.
8. Fill fuel tank.
9. Perform all appropriate 10-hour, weekly or 50-hour, 100-hour, 300-hour, 500-hour, and 600-hour services as instructed in Maintenance and Service Intervals of Maintenance Guide.

A—Hand Throttle

10. Check all instruments and indicators by turning ignition switch to ON position.

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

11. Pull hand throttle (A) all the way back, depress clutch pedal, and crank engine until oil pressure rises.
12. Connect fuel shut-off solenoid wiring lead/connector.
13. Depress clutch pedal and start engine. Operate engine at slow idle for several minutes. Warm up carefully and check all systems before placing tractor under load.

JZ81662,00002A4-19-14JUL11-1/1

Specifications

Machine Specifications

Power	
SAE Gross Engine Horsepower - 5083E	61 kW (82 hp)
PTO Horsepower - 5083E (Factory Observed)	51 kW (69 hp)
SAE Gross Engine Horsepower 5093E	68 kW (91 hp)
PTO Horsepower - 5093E (Factory Observed)	59 kW (79 hp)
SAE Gross Engine Horsepower 5101E	74 kW (99 hp)
PTO Horsepower - 5101E (Factory Observed)	64 kW (86 hp)
Rated Speed (All)	2400 rpm
Engine	
Slow Idle Speed	850 ± 50 rpm
Fast Idle Speed	2600 +50/-25 rpm
Electrical System	
Battery Voltage	12 volt
Battery Cold Cranking Amps	750
Reserve Capacity (minutes)	180
Battery BCI Group Size	31
Alternator	90 amp Optional: 120 amp
Power Take-Off (PTO)	
Speed—540E	1700 engine rpm
Speed—540	2400 engine rpm
Machine Weigh*t	
Approximate Shipping Weight	3350 kg (7385 lb)

JZ81662,0000C04-19-21MAY12-1/1

Drain and Refill Capacities

Drain and Refill Capacities	
Fuel Tank	Open Operator's Station—96.5 L (25.5 gal) Cab—126.8 L (33.5 gal)
Cooling System	11.4 L (12 qt.)
Crankcase with Filter	8.5 L (9.0 qt.)
Transmission Hydraulic System	43.5 L (11.5 gal)
Mechanical Front Wheel Drive (MFWD) Axle	
Differential Housing	5 L (5.3 qt.)
Wheel Hub (Each)	0.7 L (0.74 qt.)

JZ81662,0000BC6-19-24MAY12-1/1

Permissible Load Specifications

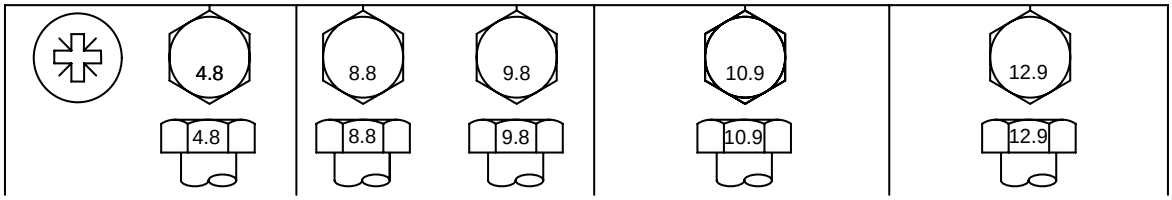
IMPORTANT: Always consult your tire manufacturers information, as permissible load varies per manufacturer, load capacity, inflation pressure, speed-radius index, and travel speed.

Maximum Permissible Axle Load	
Axle	**kg (lb)**
2WD Front	1470 (3241)
MFWD	2700 (5952)
Rear	3400 (7496)
2WD Total (Front and Rear)	4160 (9171)
MFWD Total (Front and Rear)	5220 (11508)

Maximum Unladen Permissible Weight	
Axle	**kg (lb)**
2WD Front	900 (1984)
MFWD	1700 (3748)
Rear	2200 (4850)
2WD Total (Front and Rear)	3100 (6834)
MFWD Total (Front and Rear)	3900 (8598)

AI68620,0000258-19-10JAN14-1/1

Metric Bolt and Screw Torque Values



TS1742—UN—31MAY18

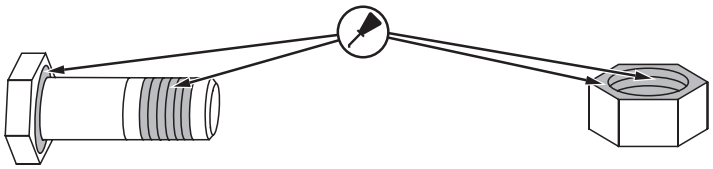
Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench.
DO NOT use these values if a different torque value or tightening procedure is given for a specific application.
For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.

TS1741—UN—22MAY18

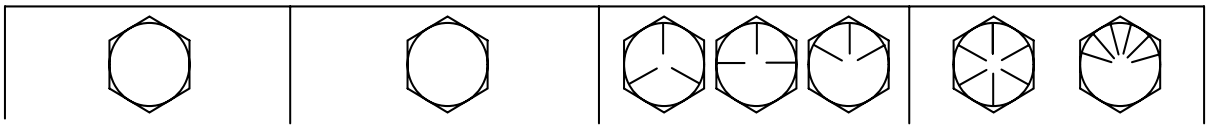


[a] Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[b] Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2-19-09MAY22-1/1

Unified Inch Bolt and Screw Torque Values

TS1671—UN—01MAY03



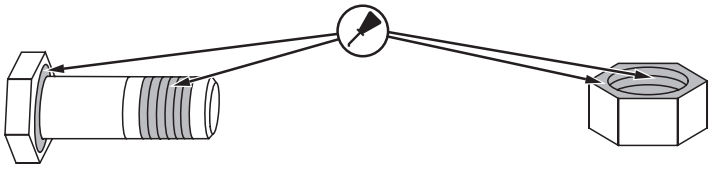
Bolt or Screw Size	SAE Grade 1[a]				SAE Grade 2[b]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
1/4	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
													N·m	lb·ft	N·m	lb·ft
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
									N·m	lb·ft	N·m	lb·ft				
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
					N·m	lb·ft	N·m	lb·ft								
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
	N·m	lb·ft	N·m	lb·ft												
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench.
DO NOT use these values if a different torque value or tightening procedure is given for a specific application.
For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.

TS1741—UN—22MAY18



[a] Grade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.
[b] Grade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.
[c] Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[d] Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1-19-09MAY22-1/1

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.

Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship will be eligible for warranty consideration.

This Warranty Does Not Cover

Breakage of the container, cover, or terminals.

Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

Transportation, mailing, or service call charges for warranty service.

Limitation of Implied Warranties and Purchaser's Remedies

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

No Dealer Warranty

The selling dealer makes no warranty of 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.

DX,BATWAR,NA-19-06AUG21-1/1

Identification Numbers

Each tractor has the identification plates and/or pin stamped markings shown in the following information. The letters and numbers stamped on the plates identify a component or assembly. ALL these characters are needed when ordering parts or identifying a tractor or component for any John Deere product support program.

Also, they are needed for law enforcement to trace your tractor if it is ever stolen. ACCURATELY record these characters in the spaces provided in each of the following photographs.

AI68620,0000259-19-03SEP10-1/1

Record Product Identification Number

Product Identification Number (PIN) plate is located on right front support member of the machine.

Product Identification Number_____

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

LV14221—UN—03MAY11

1	L	V	5	0	8	3	E	#	#	A	1	1	0	0	0	1
WMC	Build Factory		Machine Series	Engine Hp			Machine Family	Check Letter	Calendar Year	Transmission Identifier	Model Year	Operator Station Identifier	Build Sequence			
			Model Number								Serial Number					

WMC: World Manufacturing Code.

Build Factory: represents manufacturing location.

Machine Series: represents machine 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).

Transmission Identifier = represents options of the drive train (transmission, rear PTO, and front axle).

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 identifier.

Model Number: made up of series, Hp, and family; example shown 5083E.

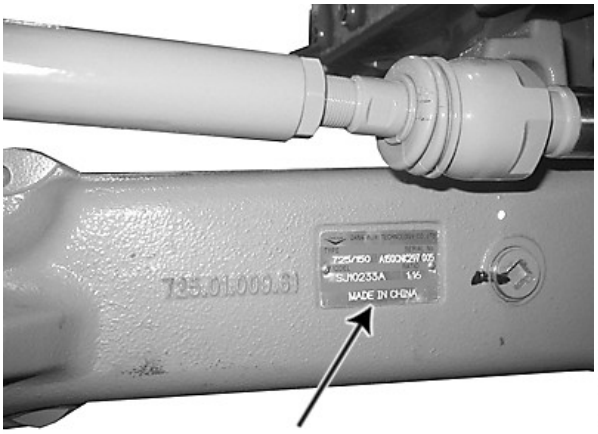
Serial Number: made up of model year, operator station, and build sequence; example shown 110001.

JZ81662,00009C5-19-03APR12-1/1

Record Front Axle Serial Number

Serial number plate is located on rear side of right axle housing.

Front Axle Serial Number _____



LV14222—UN—03MAY11

JZ81662,00002AB-19-14JUL11-1/1

Record Engine Serial Number

Serial number plate is located on right side of engine block between fuel and oil filters.

Engine Serial Number _____

LV14223—UN—03MAY11

JZ81662,00002AC-19-14JUL11-1/1

Record Transmission Serial Number

Serial number is stamped on the top left side of front housing.

Transmission Serial Number _____

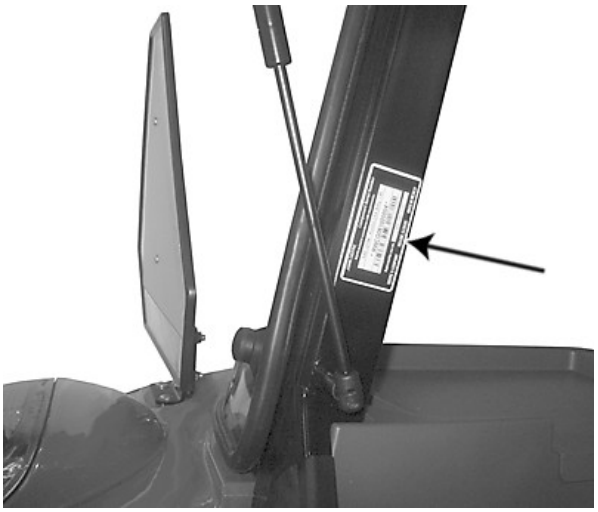
LV15796—UN—23MAY12

JZ81662,0000C0B-19-23MAY12-1/1

Record Cab Serial Number

Serial number label is located on inside of rear left post.

Cab Serial Number _____

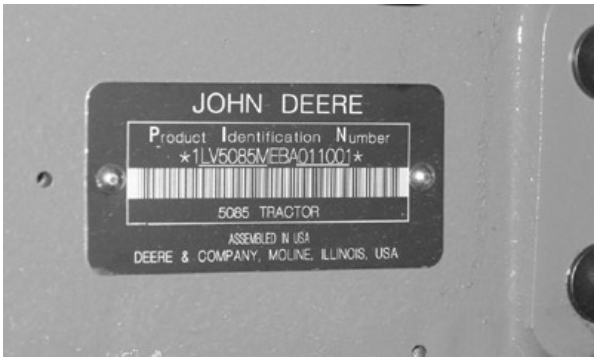


LV14224—UN—03MAY11

JZ81662,00002AE-19-14JUL11-1/1

Keep Proof of Ownership

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
   - Mark your machine with your own numbering system
   - Take color photographs from several angles of each machine

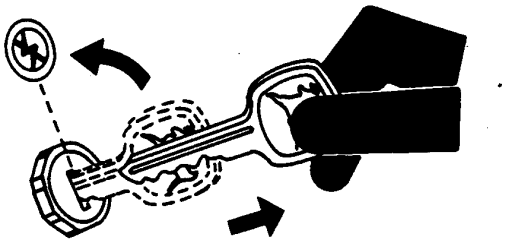


LV15771—UN—17MAY12

JZ81662,0000BF0-19-16MAY12-1/1

Keep Machines Secure

1. Install vandal-proof devices.
2. When machine is in storage:
   - Lower equipment to the ground
   - Set wheels to widest position to make loading more difficult
   - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
6. Notify your John Deere dealer of any losses.



TS230—UN—24MAY89

DX,SECURE2-19-18NOV03-1/1

Service and Maintenance Record

First 100 Hour Service

SERVICE PROCEDURE		
□ Change engine oil and filter	□ Replace transmission-hydraulic filter	□ Inspect hose clamps on the air intake system and coolant system
□ Inspect Tractor for Loose Hardware		

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

JZ81662,00007FB-19-08MAR12-1/1

300 Hour Service

SERVICE PROCEDURE			
□ Change Engine Oil and Filter (When NOT using John Deere Plus-50™ engine oil with John Deere filter)	□ Check MFWD oil level	□ Drain and flush fuel tank sump (Per local conditions and dealer recommendation)	□ Battery electrolyte check (If recommended by John Deere or dealers for a local market's higher temperature working condition)

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

Plus-50 is a trademark of Deere & Company

JZ81662,00007FC-19-17MAY12-1/1

500 Hour Service

SERVICE PROCEDURE			
□ Change Engine Oil and Filter (When using John Deere Plus-50™ engine oil and John Deere filter)	□ Inspect Engine Air Cleaner[a]	□ Check Neutral Start System	□ Clean Cab Air Filters[a]
□ Change fuel filter(s)[b]			

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

[a] *Service more often if operated in extremely dusty conditions.*
[b] *Make sure to replace with fuel filter(s) of part numbers correct for the tractor's model and specifications due to critical differences in mount, filter performance specifications, direction of internal flow, etc.*

Plus-50 is a trademark of Deere & Company

JZ81662,00007FD-19-08MAR12-1/1

600 Hour Service

SERVICE PROCEDURE			
□ Replace transmission-hydraulic oil filter	□ Change MFWD hub and axle housing oil	□ Clean Engine Crankcase Vent Tube	□ Check Cooling System for Leaks
□ Lubricate rear axle bearings[a]	□ Check Engine Idle Speeds	□ Check front axle pivot pin end play[b]	□ Inspect hose clamps on the air intake system and coolant system

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

[a] *Daily Service is only necessary when operating in extremely wet and muddy conditions. Greasing too frequently can cause seal fatigue.*
[b] *See your John Deere dealer for service.*

JZ81662,00007FE-19-08MAR12-1/1

1200 Hour Service

SERVICE PROCEDURE			
□ Service/clean primary and secondary engine air filter elements	□ Check belt tensioner		

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

JZ81662,00007FF-19-08MAR12-1/1

Annual Service

SERVICE PROCEDURE			
□ Replace and /or clean cab air filters[a]	□ Inspect Seat Belt	□ Check coolant properties[b]	

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

[a] *Service more often if operated in extremely dusty conditions.*
[b] *See your John Deere dealer for service.*

JZ81662,0000800-19-08MAR12-1/1

2000 Hour/Two Years Service

SERVICE PROCEDURE			
□ Adjust Engine Valve Clearances[a]	□ Test injection nozzles[a]		

Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp

[a] *See your John Deere dealer for service.*

JZ81662,0000801-19-08MAR12-1/1

3000 Hour/First Three Years Service

SERVICE PROCEDURE			
□ Drain, flush and replace coolant (When coolant is NOT checked annually or not serviced with the pre-diluted John Deere COOL-GARD™)[a]	□ Test or Replace Thermostat[a]		
Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp	

[a] *See your John Deere dealer for service.*

COOL-GARD is a trademark of Deere & Company

JZ81662,0000802-19-08MAR12-1/1

5000 Hour/First Five Years Service

SERVICE PROCEDURE			
□ Drain, flush and replace coolant			
Hours: Date: Work Carried Out By:	Comments:	Dealer's Stamp	

JZ81662,0000803-19-08MAR12-1/1

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)

JZ81662,0000804-19-08MAR12-1/1

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)

JZ81662,0000805-19-08MAR12-1/1

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)

JZ81662,0000806-19-08MAR12-1/1

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John Deere Service

Technical Information

Technical information can be purchased from John Deere. Publications are available in print or CD-ROM format.

Orders can be made using one of the following:

- John Deere Technical Information Store: **www.JohnDeere.com/TechInfoStore**
- Call 1-800-522-7448
- Contact your John Deere dealer

Available information includes:

DX,SERVLIT-19-07DEC16-1/5

PARTS CATALOGS list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.

TS189—UN—17JAN89

DX,SERVLIT-19-07DEC16-2/5

OPERATOR'S MANUALS providing safety, operating, maintenance, and service information.

TS191—UN—02DEC88

DX,SERVLIT-19-07DEC16-3/5

TECHNICAL MANUALS outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in a separate component technical manual.

TS224—UN—17JAN89

Continued on next page

DX,SERVLIT-19-07DEC16-4/5

EDUCATIONAL CURRICULUM including five comprehensive series of books detailing basic information regardless of manufacturer:

- Agricultural Primer series covers technology in farming and ranching.
- Farm Business Management series examines “real-world” problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
- Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
- Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.
- Fundamentals of Compact Equipment manuals provide instruction in servicing and maintaining equipment up to 40 PTO horsepower.

TS1663—UN—10OCT97

DX,SERVLIT-19-07DEC16-5/5

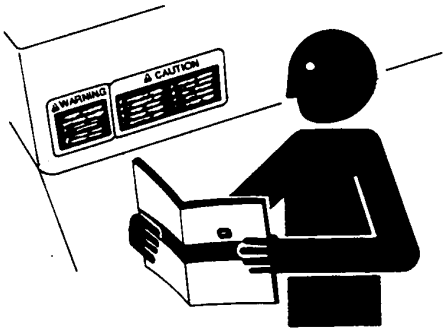
John Deere Is At Your Service

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

–Maintenance and service parts to support your equipment.

–Trained service technicians and the necessary diagnostic and repair tools to service your equipment.



TS201—UN—15APR13

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

–Machine model and product identification number

–Date of purchase

–Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance. Or contact the Ag Customer Assistance Center at 1-866-99DEERE (866-993-3373) or e-mail us at www.deere.com/en_US/ag/contactus/.

DX,IBC,2-19-02APR02-1/1