7430, 7530
Premium Tractors

OPERATOR'S MANUAL

7430 and 7530 Premium Tractors

OMAL171363 ISSUE A2 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

John Deere Werke Mannheim
(This manual replaces OMAL171363 J0)
European Version
PRINTED IN U.S.A.

DCY

OMAL171363

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 the 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 metric units. The customary U.S. unit equivalents are also quoted. 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. Please note all numbers exactly. In the event of theft, these numbers may prove vital in tracing your property. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

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

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection. After operating for the first 100 hours, schedule an after-sale inspection with your dealer to ensure best performance.

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

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

If you are not the first owner of this machine, we recommend to contact your local John Deere dealer to tell him the serial number of this unit. This will help John Deere to inform you of relevant issues or product improvements.

OU12401,0001CAE -19-17AUG09-1/1

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

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Identification View

LX1044438

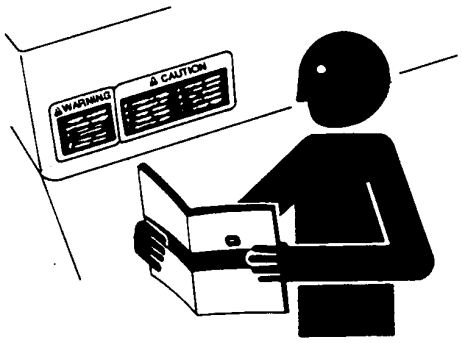
LX1044438 —UN—11DEC07

OU12401,000190C -19-06DEC07-1/1

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—23AUG88

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

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—07DEC88

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

Understand Signal Words

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

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

⚠ DANGER

⚠ WARNING

⚠ CAUTION

TS187 —19—30SEP88

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

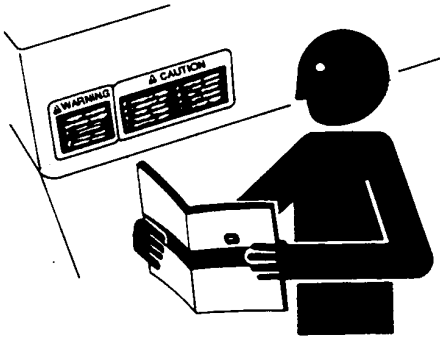
Follow Safety Instructions

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—23AUG88

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

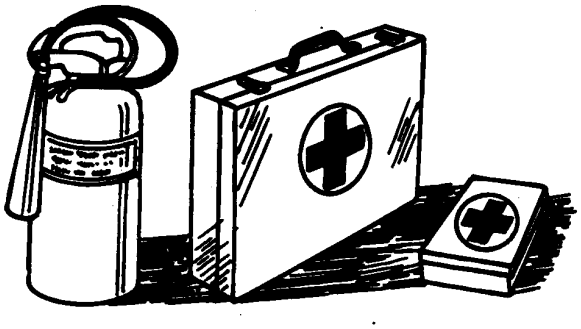
DX,READ -19-16JUN09-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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



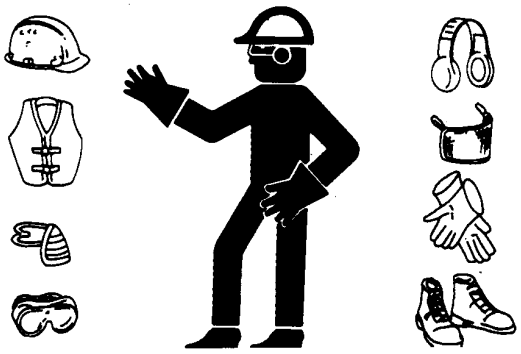
TS291 —UN—23AUG88

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.



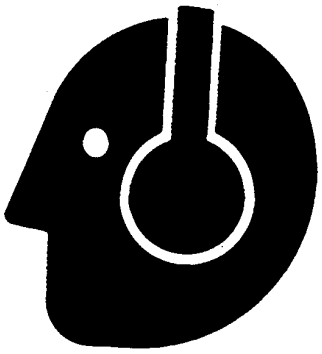
TS206 —UN—23AUG88

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

Protect Against Noise

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

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



TS207 —UN—23AUG88

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

Handle Fuel Safely—Avoid Fires

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

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

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

Use only an approved fuel container for transporting flammable liquids.

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

TS202 —UN—23AUG88

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

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

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.

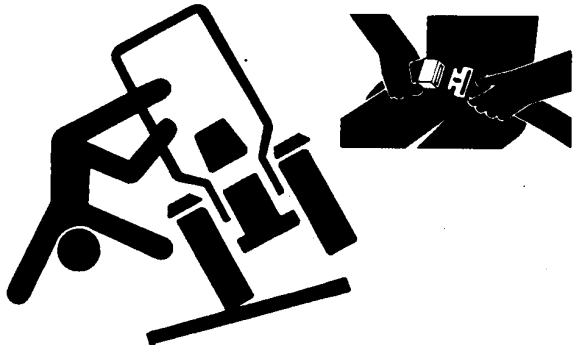
Follow all operational and safety procedures posted on the machine and the Operator's Manual. Be careful of hot engine and exhaust components during inspection and cleaning. Before carrying out any inspection or cleaning, always shut OFF the engine, place the transmission in PARK or set parking brake,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

Use Foldable ROPS and Seat Belt Properly

If this tractor is equipped with a foldable ROPS, keep the ROPS in the fully extended and locked position. If the tractor is ever operated with ROPS folded (e.g., to enter a low building), drive with extreme caution. Do NOT use seat belt with the ROPS folded.

Return the ROPS to the raised, fully extended and locked position as soon as the tractor is operated under normal conditions. Always fasten your seat belt when the ROPS is fully extended and locked.



TS205 —UN—23AUG88

DX,FOLDROPS -19-31AUG99-1/1

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

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

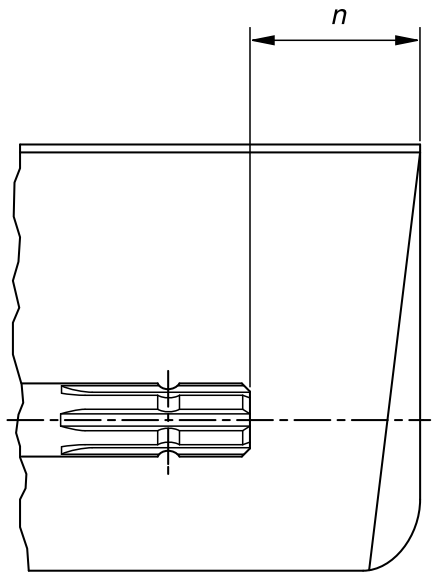
Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

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

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

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

TS1644 —UN—22AUG95



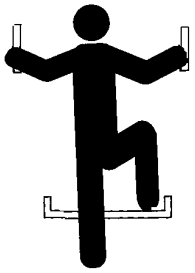
H96219 —UN—29APR10

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

Use Steps and Handholds Correctly

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

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



T133468 —UN—30AUG00

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

Read Operator Manuals for ISOBUS Implements

In addition to GreenStar Applications, this display can be used as a display device for any implement that meets ISO 11783 standard. This includes capability to control ISOBUS implements. When used in this manner, information and implement control functions placed on the display are provided by the implement and are the responsibility of the implement manufacturer. Some of these implement functions could provide a hazard either to the Operator or a bystander. Read the operator manual provided by the implement manufacturer and observe all safety messages in manual and on implement prior to use.

NOTE: ISOBUS refers to the ISO Standard 11783

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

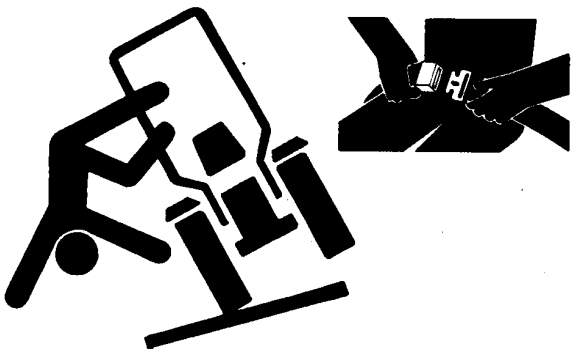
Use Seat Belt Properly

Use a seat belt when you operate with a roll-over protective structure (ROPS) or cab to minimize chance of injury from an accident such as an overturn.

Do not use a seat belt if operating without a ROPS or cab.

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.



TS205 —UN—23AUG88

DX,ROPS1 -19-29OCT07-1/1

Vibration

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

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

Measures to reduce vibration may include:

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

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

Operating the Tractor Safely

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

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

Driving Concerns

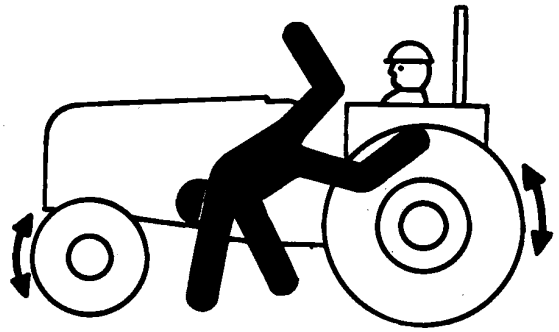
- Never get on or off a moving tractor.
- Keep all children and nonessential personnel off tractors and all equipment.
- Never ride on a tractor unless seated on a John Deere approved seat with seat belt.
- Keep all shields/guards in place.
- Use appropriate visual and audible signals when operating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

Towing Loads

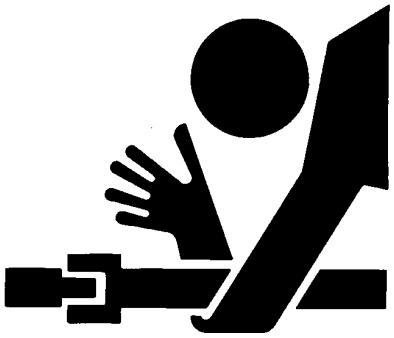
- Be careful when towing and stopping heavy loads. Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control.
- Consider the total weight of the equipment and its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

Parking and Leaving the Tractor

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



TS290 —UN—23AUG88



TS276 —UN—23AUG88

Common Accidents

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

The most common accidents involving tractors:

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

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

Avoid Backover Accidents

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

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

PC10857XW —UN—24JUN10

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.

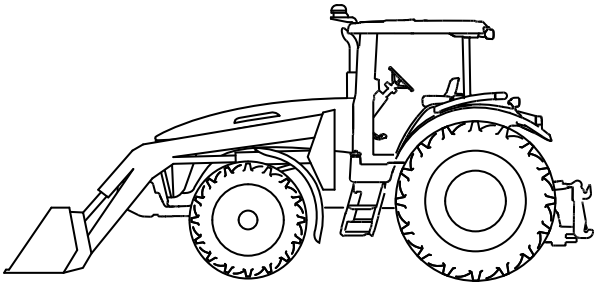
Never allow anyone to walk or work under a raised loader.

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).



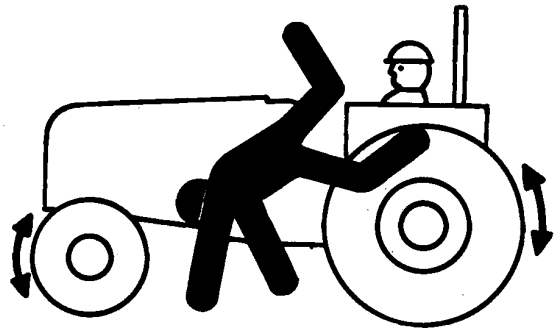
TS1692 —UN—09NOV09

DX,WW,LOADER -19-11NOV09-1/1

Keep Riders Off Machine

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

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



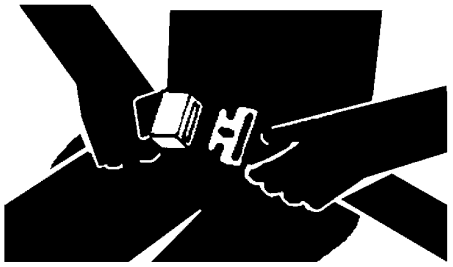
TS290 —UN—23AUG88

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

Passenger Seat

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

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



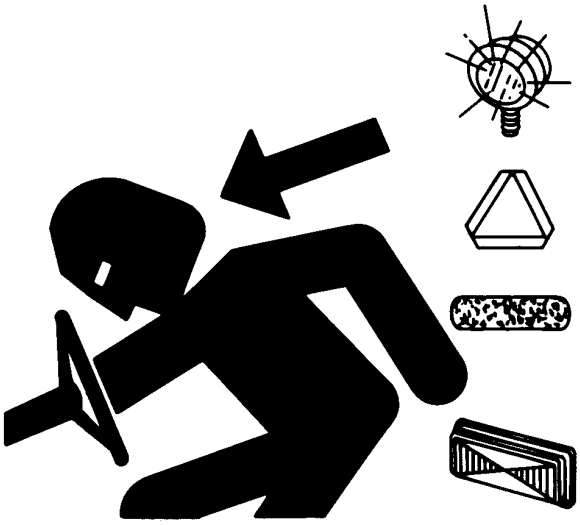
RXA0103436 —UN—15JUN09

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

Use Safety Lights and Devices

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

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

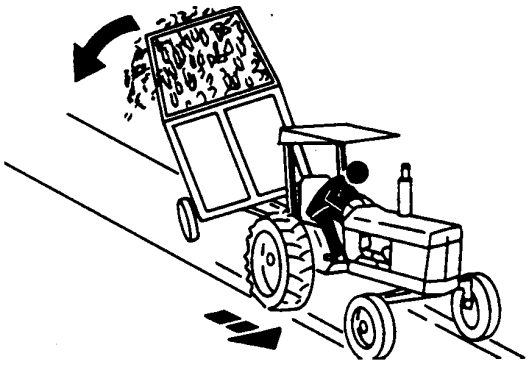


TS951 —UN—12APR90

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

Towing Trailers/Implements Safely (Mass)

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



TS216 —UN—23AUG88

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

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

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

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

Use Caution On Slopes and Uneven Terrain

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

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

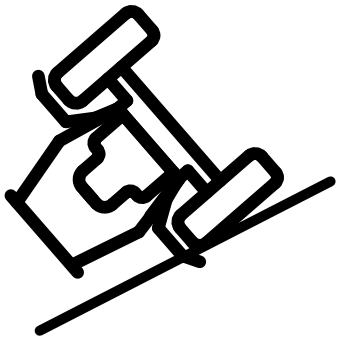
Danger of overturn increases greatly with narrow tread setting, at high speed.

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

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

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

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



RXA0103437 —UN—01JUL09

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

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

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

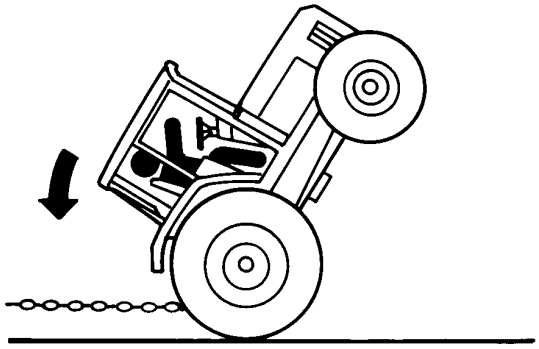
Freeing a Mired Machine

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

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

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

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



TS1645 —UN—15SEP95

TS263 —UN—23AUG88

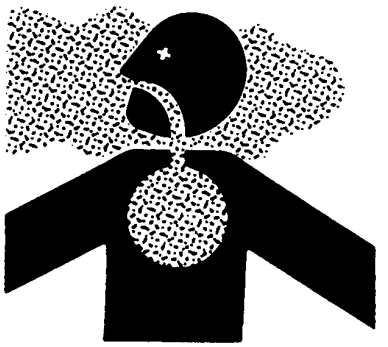
DX,MIRED -19-07JUL99-1/1

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—23AUG88

TS272 —UN—23AUG88

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

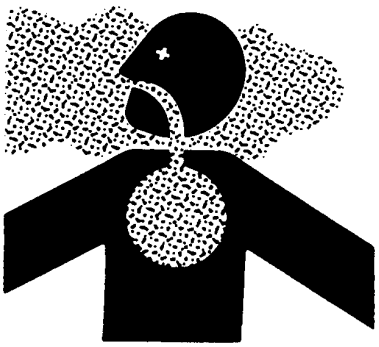
Handle Agricultural Chemicals Safely

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

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

Reduce risk of exposure and injury:

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



TS220 —UN—23AUG88

A34471 —UN—11OCT88

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

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

Handling Batteries Safely

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

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

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

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

Avoid hazards by:

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

If acid is spilled on skin or in eyes:

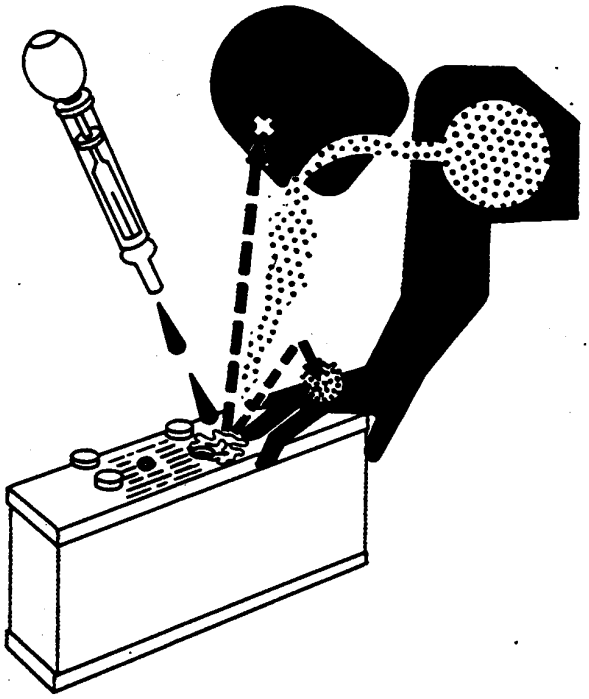
1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

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

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

TS204 —UN—23AUG88



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

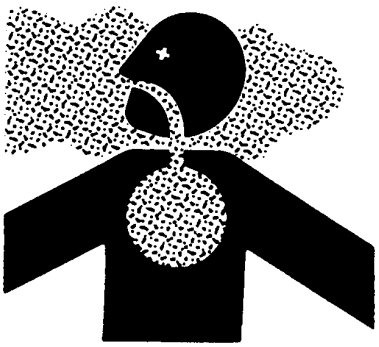
Avoid potentially toxic fumes and dust.

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—23AUG88

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

Welding Near Electronic Control Units

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

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

TS953 —UN—15MAY90

6. After welding, reverse Steps 1—5.

DX,WW,ECU02 -19-14AUG09-1/1

Handle Electronic Components and Brackets Safely

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

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

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

TS249 —UN—23AUG88

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

Practice Safe Maintenance

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

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

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

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

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

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

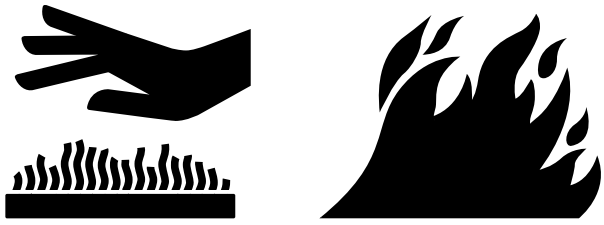
TS218 —UN—23AUG88

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

Avoid Hot Exhaust

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

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



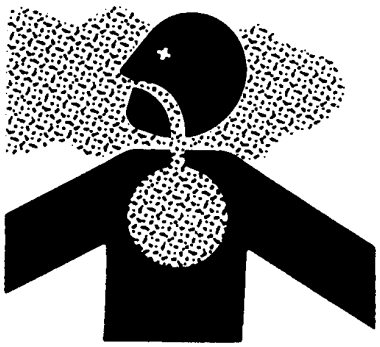
RG17488 —UN—21AUG09

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

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—23AUG88

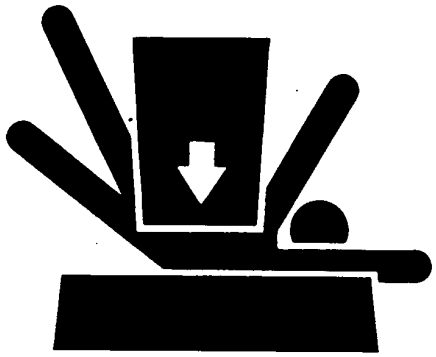
DX,AIR -19-17FEB99-1/1

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.

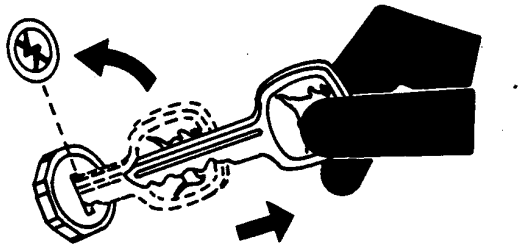
TS177 —UN—11JAN89

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

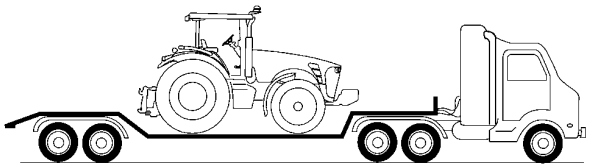
DX,PARK -19-04JUN90-1/1

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—23AUG88

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—23AUG88

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

Service Tires Safely

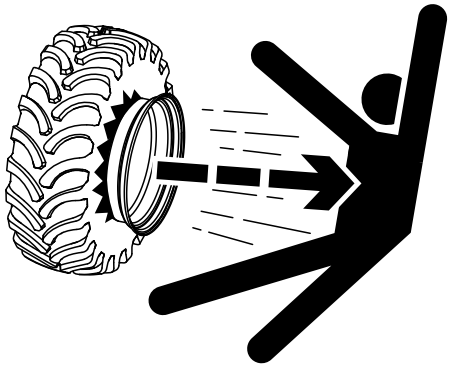
Explosive separation of a tire and rim parts can cause serious injury or death.

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

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

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

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

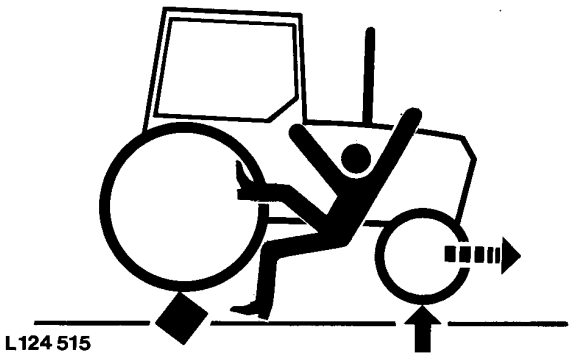


RXA0103438 —UN—11JUN09

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

Service Front-Wheel Drive Tractor Safely

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

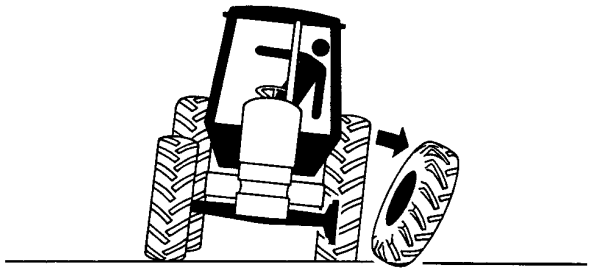


L124515 —UN—06AUG94

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

Tightening Wheel Retaining Bolts/Nuts

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



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.

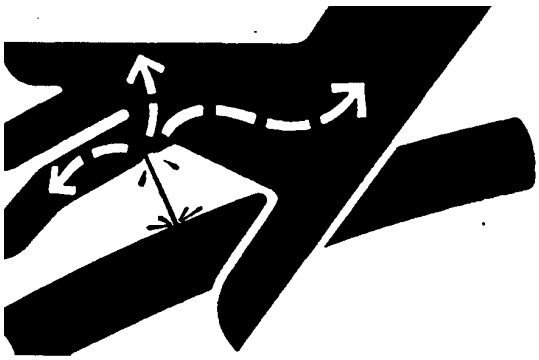
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

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

Dispose of Waste Properly

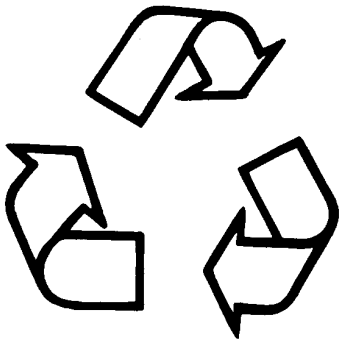
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

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

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

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

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



TS1133 —UN—26NOV90

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

Safety Decals

Pictorial Safety Signs

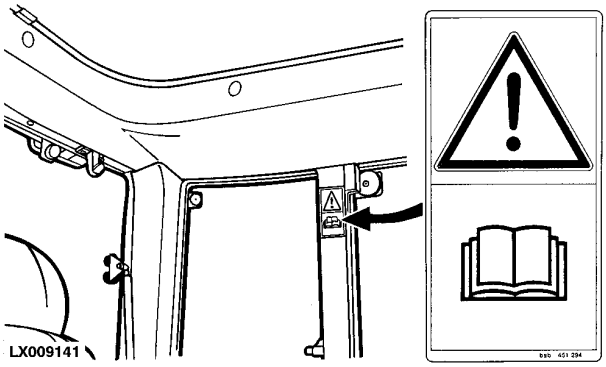
At several important places of this machine safety signs are affixed intended to signify potential danger. The hazard is identified by a pictorial in a warning triangle. An adjacent pictorial provides information how to avoid personal injury. These safety signs, their placement on the machine and a brief explanatory text are shown below.

TS231 —19—07OCT88

LX,LABEL 002079 -19-02MAY92-1/1

Operator's Manual

This operator's manual contains important information necessary for safe machine operation. Carefully observe all safety rules to avoid accidents.

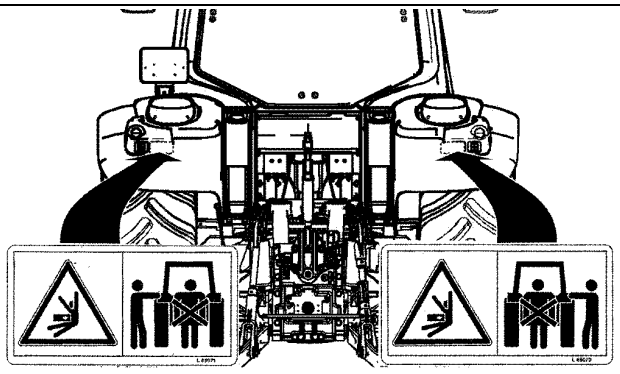


LX009141 —UN—04JAN95

LX,OLABEL003052 -19-01OCT94-1/1

Hitch Remote Control

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

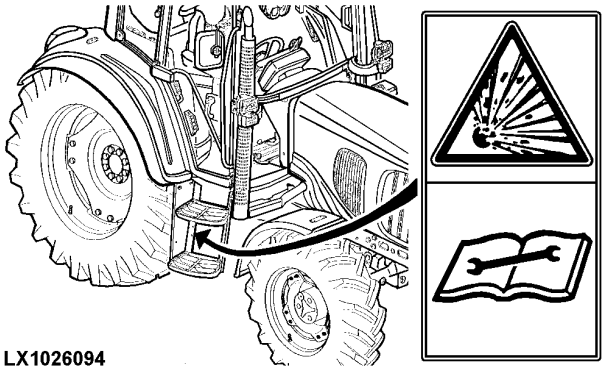


LX1050002 —UN—12AUG11

OU12401,000193D -19-11DEC07-1/1

Compressed Air Tank for Trailer Brake

The compressed air tank is under pressure. Have the tank removed and repaired by your John Deere dealer only. The dealer must follow the instructions in the Technical Manual.



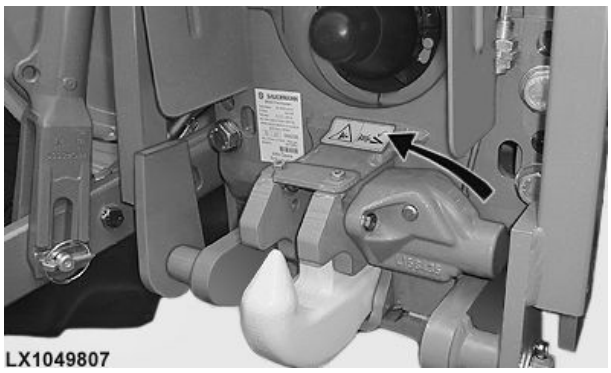
LX1026094

LX1026094 —UN—09MAR01

OU12401,00005BF -19-26FEB01-1/1

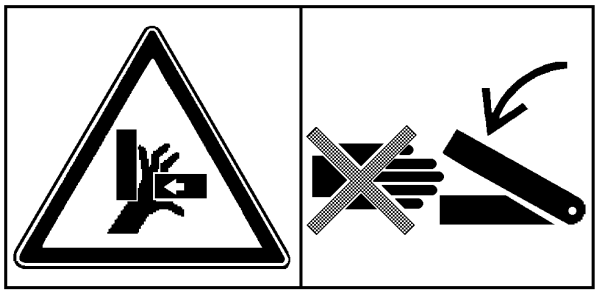
Pick-Up Hitch

NEVER put your hand in the opening of the pick-up while the pick-up is lowered! Danger of injury!



LX1049807

LX1049807 —UN—08SEP10



LX1033454

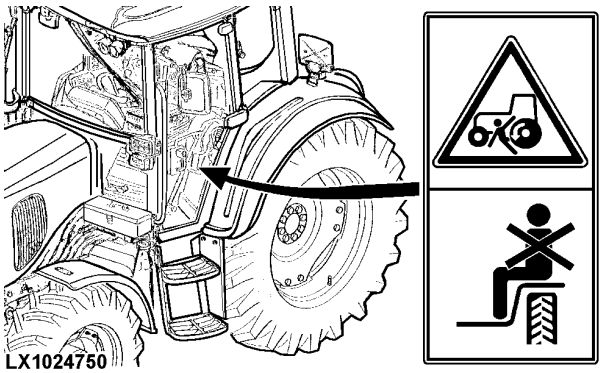
LX1033454 —UN—16SEP03

Decal on Pick-Up Hitch

OULXBER,0001B6D -19-13DEC11-1/1

No Riders without a Suitable Instructional Seat

No riders are permitted unless a suitable seat (for instructional purposes) is installed[1].



[1]Applies to all countries; however, the safety decal is required only on 50 km/h tractors for Germany, the Netherlands and Spain.

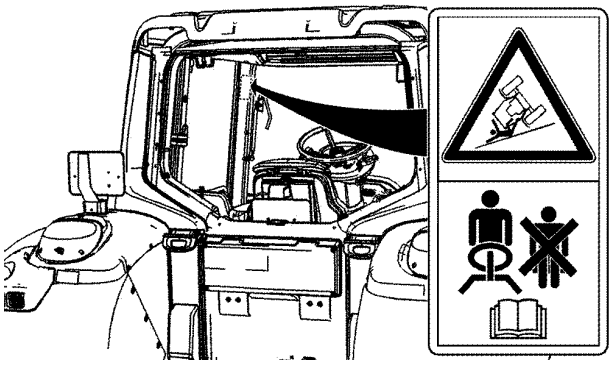
OULXBER,0001981 -19-06SEP10-1/1

Riders on Tractors with Passenger Seat

NOTE: Applies to countries of the European Union plus Switzerland, Norway, Croatia, Turkey and Iceland.

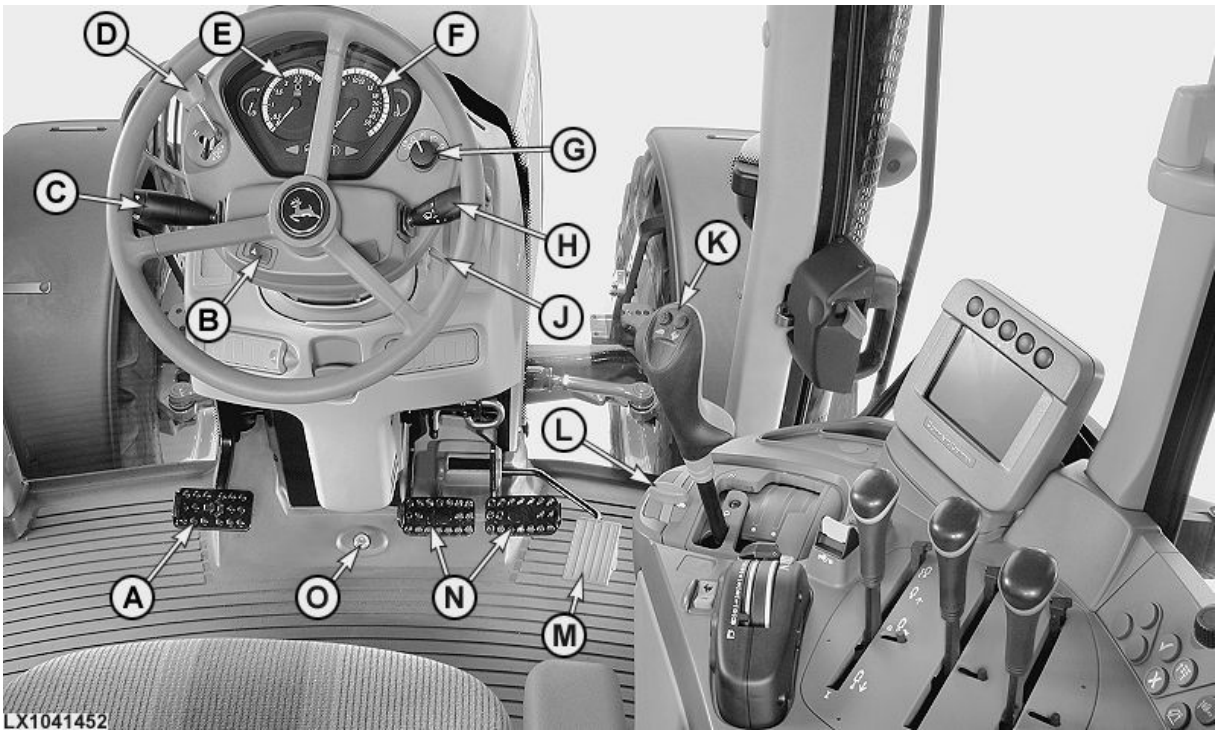
The passenger seat must NOT be used during field operation.

Riders are permitted only on a properly installed passenger seat that has been approved by John Deere.



OULXBER,0001982 -19-06SEP10-1/1

Vehicle Controls



LX1041452 —UN—24NOV06

A—Clutch pedal
B—Hazard warning switch
C—Turn signal lever/horn
D—Reverser lever
E—Tachometer (engine rpm)
F—Speedometer, km/h or mph
G—Light switch
H—Windshield wiper switch
J—Main (key) switch
K—Range shift lever with speed buttons
L—Hand throttle
M—Accelerator pedal
N—Left and right brake pedals
O—Differential lock

LX1036605 —UN—04OCT05

Tractors with CommandArm

Continued on next page

Different arrangement with AutoPowr

D—Reverser lever
P—Speed control lever
Q—Speed wheel (for setting maximum speed)

LX1037176 —UN—24APR06

Reverser lever for AutoPowr

LX1036193 —UN—04OCT05

OU12401,000158A -19-20NOV06-2/2

Emergency and Park Brake System

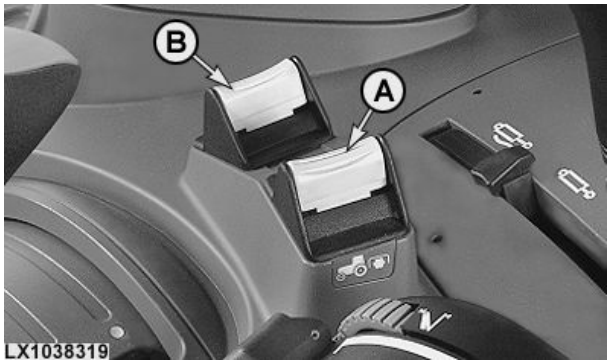
In the event of service brake failure, the emergency brake system can be used to brake the tractor.

LX1048561 —UN—12OCT09

OU12401,0001CD4 -19-21SEP09-1/1

PTO Controls

A—Rear PTO switch
B—Front PTO switch
C—Rear PTO speed button



LX1038319 —UN—27APR06

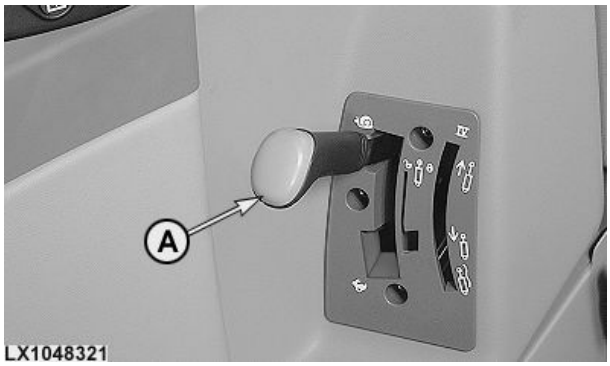
LX1036611 —UN—05OCT05

LX1038320 —UN—06NOV06

OULXE59,0010888 -19-19APR06-1/1

Creeper Control

A—Creeper lever



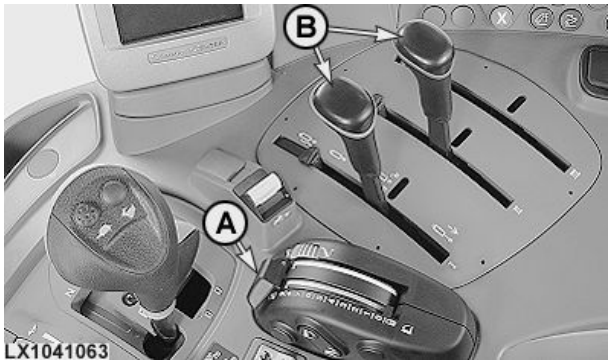
LX1038321 —UN—24NOV06

OULXE59,0010889 -19-19APR06-1/1

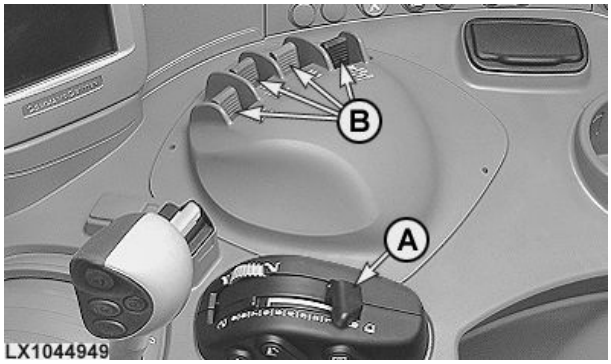
Attachment Controls

A—Three-point hitch control unit

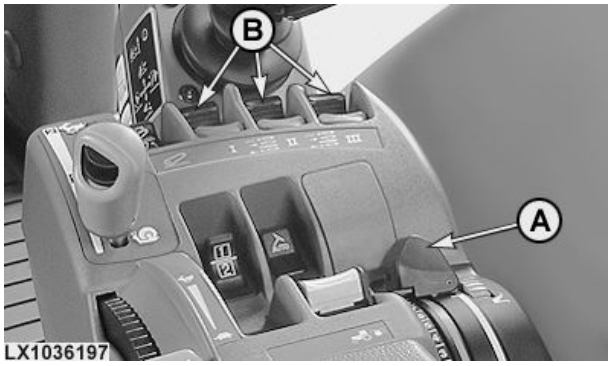
B—Levers for selective control valves



LX1041063 —UN—20NOV06



LX1044949 —UN—09JAN08



LX1036197 —UN—04OCT05

OU12401,000196E -19-23DEC07-1/1

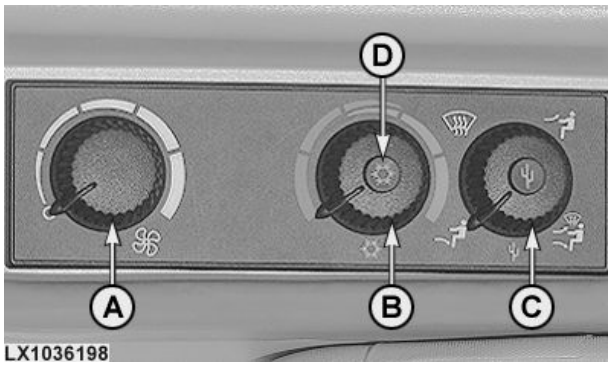
Heater and Air-Conditioning Controls (Tractors without ClimaTrak System)

A—Fan switch

B—Heater and air-conditioning regulator

C—Airflow regulator

D—Air-conditioning switch

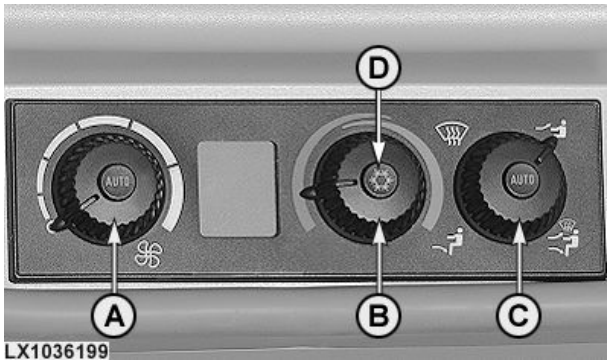


LX1036198 —UN—19SEP05

OU12401,0001401 -19-13MAY06-1/1

Heater and Air-Conditioning Controls (Tractors with ClimaTrak System)

A—Fan switch with automatic mode
B—Heater and air-conditioning regulator
C—Airflow regulator with automatic function
D—Air-conditioning switch



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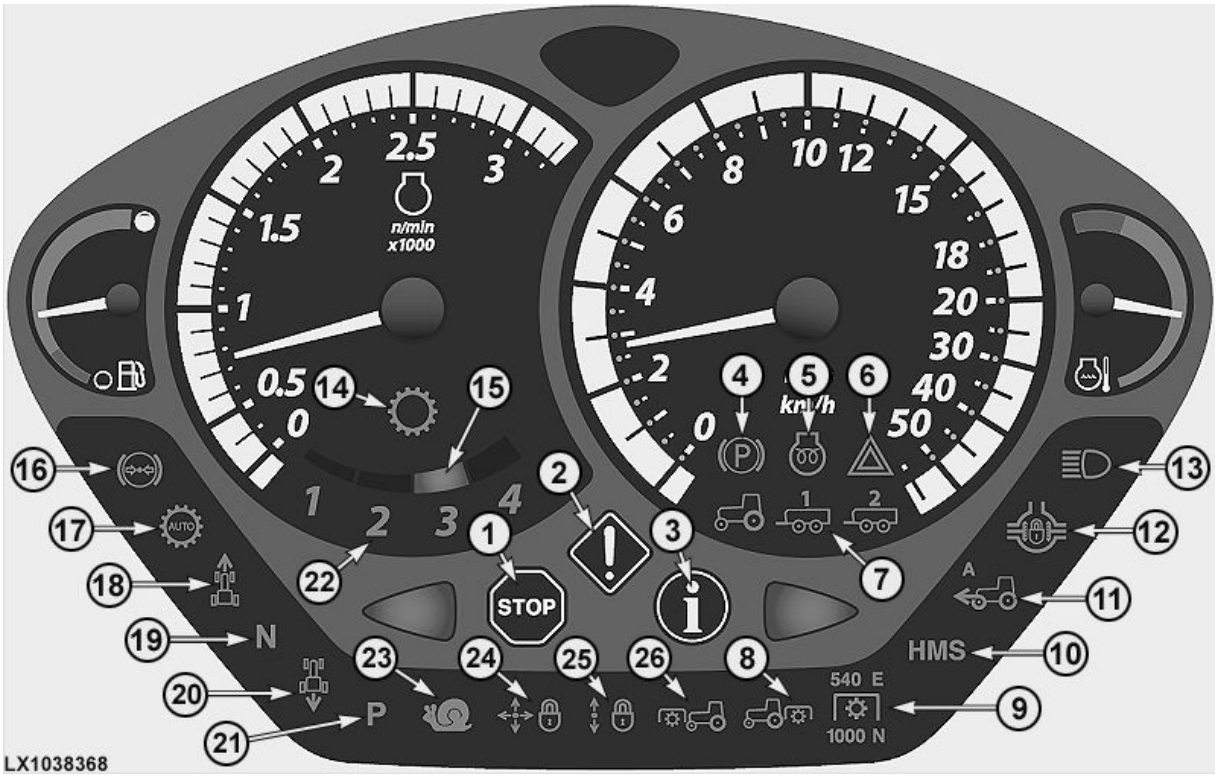
OU12401,0001658 -19-05MAR07-1/1

Indicator Lights and Displays

Indicator lights



LX1038368 —UN—31MAY06

1-The red STOP light flashes when a serious malfunction occurs. Switch off the engine IMMEDIATELY and determine the cause (review the error message in the CommandCenter).

2-The yellow CAUTION light flashes when a malfunction occurs (review the error message in the CommandCenter). This light also flashes if the park brake is applied with the engine running and the reverser lever set to any position other than neutral.

3-The blue INFO light comes on when there is a fault in an electrical component associated with the hydraulic system or transmission. See your John Deere dealer.

4-This indicator light comes on when park brake is applied and engine is running. Depending on how the tractor is equipped, an additional acoustic warning signal may be heard.

5-This light comes on when the main (key) switch is turned one position to the right. Wait till the light goes out before starting the engine.

6-This flashing warning light comes on when the hazard warning lights are selected.

7-The flashing indicator lights (for tractor and trailer(s), if any) start flashing when turn-signal or hazard warning lights are switched on.

8-This light comes on when the rear PTO is engaged.

9-These lights indicate which rear PTO speed is selected.

10-This light comes on when HMS Plus is selected.

11-This light comes on when front-wheel drive is engaged. When front-wheel drive is in its automatic mode, the letter A also lights up.

12-This light comes on when the differential lock is engaged.

13-The high beam indicator light comes on when the headlights are switched on at high beam.

14-With PowrQuad Plus or AutoQuad Plus transmission, this light comes on together with a number that indicates which gear is selected.

15-These illuminated sectors indicate the setting for highest possible gear (with AutoQuad Plus transmission).

16-On tractors with air brakes, this light comes on if air pressure is not sufficient to operate with a trailer.

17-This light comes on whenever the automatic mode of an AutoQuad Plus or AutoPowr / IVT transmission is activated.

18-This light comes on when the reverser lever is in forward position.

19-This light comes on when the reverser lever is in neutral position.

Continued on next page

20-This light comes on when the reverser lever is in reverse position.

21-This light comes on when the reverser lever is in park position (with AutoPowr / IVT transmission).

22-With PowrQuad Plus or AutoQuad Plus transmission, figures 1-4 indicate which gear is selected.

23-This light comes on when the AutoPowr / IVT transmission is in creeper mode.

24-This light comes on whenever the transport lock of the electrical multi-function lever is activated.

25-This light comes on whenever the transport lock of the E-SCV/E-ICV is activated.

26-This light comes on when front PTO is engaged.

Light test: As the engine is started, all the lights should come on for approx. 1 second. If this is not the case, a defective bulb or blown fuse may be the cause. Check and replace parts as necessary.

The indicator lights should go out as soon as the engine is running.

NOTE: Travel speed can be displayed in km/h or MPH. This setting can be made at the CommandCenter. In this section, see the Units of measurement screen in CommandCenter settings.

OU12401,0001CEF -19-28JUL10-2/4

Fuel gauge

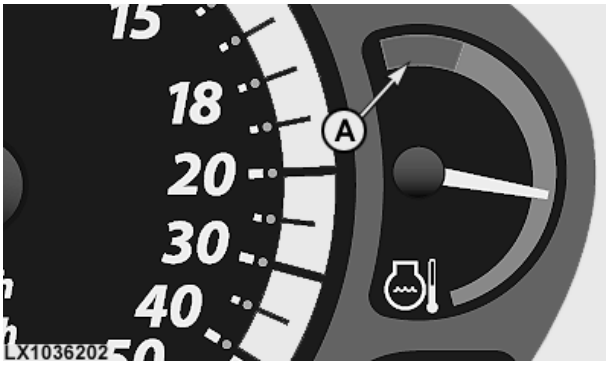
The fuel gauge shows the amount of fuel in the tank, from full to empty (end of red). When the indicator needle enters the red, there are still approx. 35 liters (9.2 U.S. gal.) remaining.

LX1036201 —UN—31MAY06

OU12401,0001CEF -19-28JUL10-3/4

Coolant temperature gauge

If the coolant gauge needle moves into the red (A), the engine is overheating. Immediately reduce load or shift to a lower gear. If the needle remains in the red, shut off engine and determine cause of overheating (coolant level low, dirty radiator or dirty radiator screen).



LX1036202 —UN—31MAY06

OU12401,0001CEF -19-28JUL10-4/4

Controls and Displays

CommandCenter

The CommandCenter is used to display various tractor functions; it allows the user to change the settings for these functions. In addition, it can display certain calculations (average fuel consumption, area worked, etc).

NOTE: The screens on the CommandCenter shown in this Operator's Manual are all in English. The language and units of measurement that actually appear on the tractor can be selected by the operator.

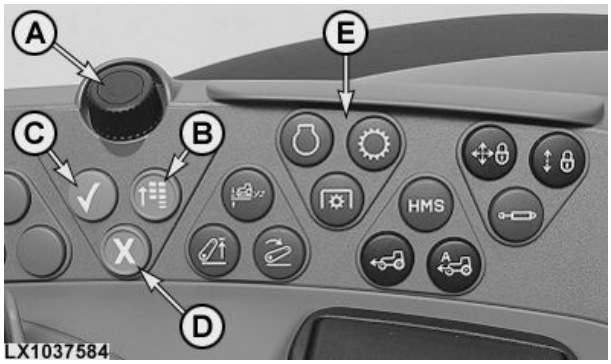
Operating the CommandCenter

The CommandCenter can be operated as follows:

- With selection wheel (A), the main menu key (B), confirm key (C) and cancel key (D).
- With the 8 brown quick-access keys (E) (the ones that are assigned predefined functions).
- With the 5 hot keys (F), the functions of which are set by the user.

Selection wheel (A) allows you to scroll through the different screen cells. Key (B) gives access to the main menu of the CommandCenter. Key (C) is used to select or confirm an input. Key (D) is used to cancel an input.

The functions of keys (E) are explained in the relevant Sections (e.g. Hitch, Power Take-Off, Additional Equipment).



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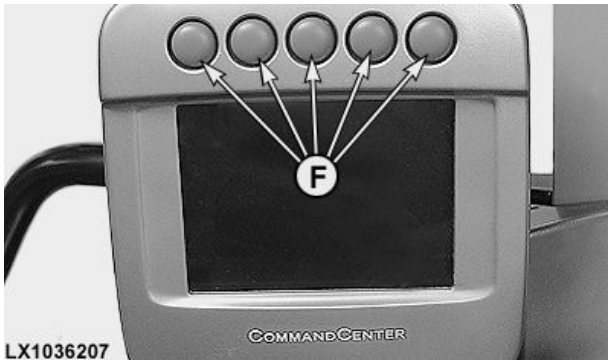


LX1036207 —UN—16AUG05

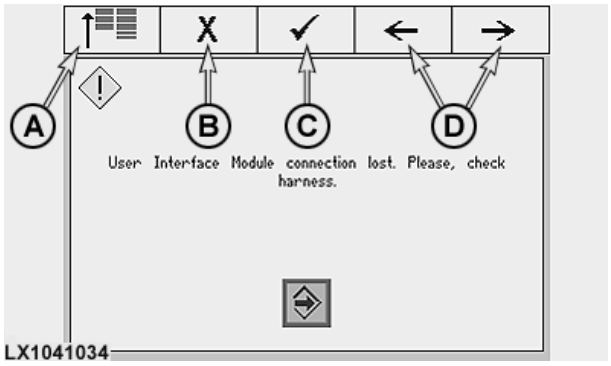
A—Selection wheel
B—Main menu key
C—Confirm key
D—Cancel key
E—Quick-access keys
F—Hot keys

OU12401,0001CEA -19-16NOV09-1/16

Emergency operation

If the connection between the CommandCenter and the regular keys is interrupted, the screen shown opposite appears. The CommandCenter can still be used via the 5 hot keys above the cells shown in the illustration.

A—Cell for main menu
B—Cell for cancel
C—Cell for confirm
D—Cells for selection



LX1041034 —UN—09JUN06

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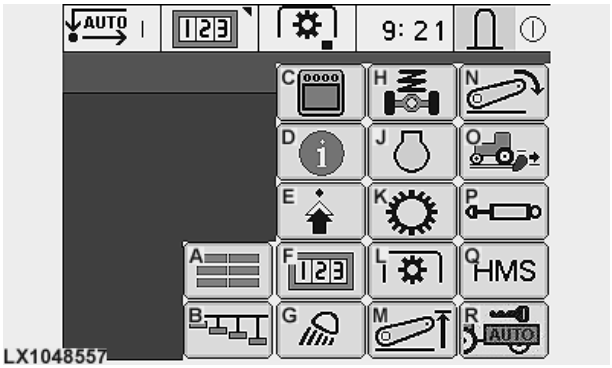
OU12401,0001CEA -19-16NOV09-2/16

Main menu

The content of this screen varies depending on how the tractor is equipped.

A—Main screen. Described on the following pages.
B—Hotkey screen. Described under Assignment of hot keys on the following pages.
C—Display screen. Described under CommandCenter settings on the following pages.
D—Information screen. Described in Section 135, Diagnostic Trouble Codes and Customization.
E—Option screen. Described in Section 20, Lights and Section 25, Operator's Cab.
F—Performance monitor screen. Described under Performance monitor on the following pages.
G—Lights screen. Described in Section 20, Lights.
H—TLS Plus screen. Described in Section 45, Operating the Tractor.
J—Engine screen. Described in Section 40, Operating the Engine.
K—Transmission screen. Described in Section 45, Operating the Tractor.
L—PTO screen. Described in Section 55, Power Take-Off.
M—Lift limit screen. Described in Section 50, Hitch.
N—Rate-of-drop screen. Described in Section 50, Hitch.
O—Load/depth control screen. Described in Section 50, Hitch.
P—SCV screen. Described in Section 70, Additional Equipment.
Q—HMS screen. Described in Section 51, HMS.
R—Tractor-Implement Automation (TIA) screen. Described in Section 52, TIA.



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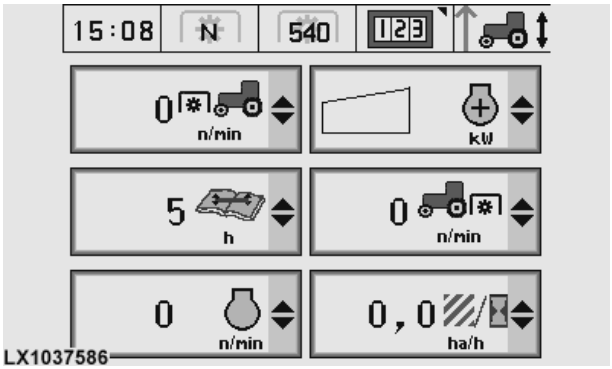
OU12401,0001CEA -19-16NOV09-3/16

Main screen

On this screen, six cells are available; they can be assigned any of the symbols in the selection lists. Selection depends on how the tractor is equipped.



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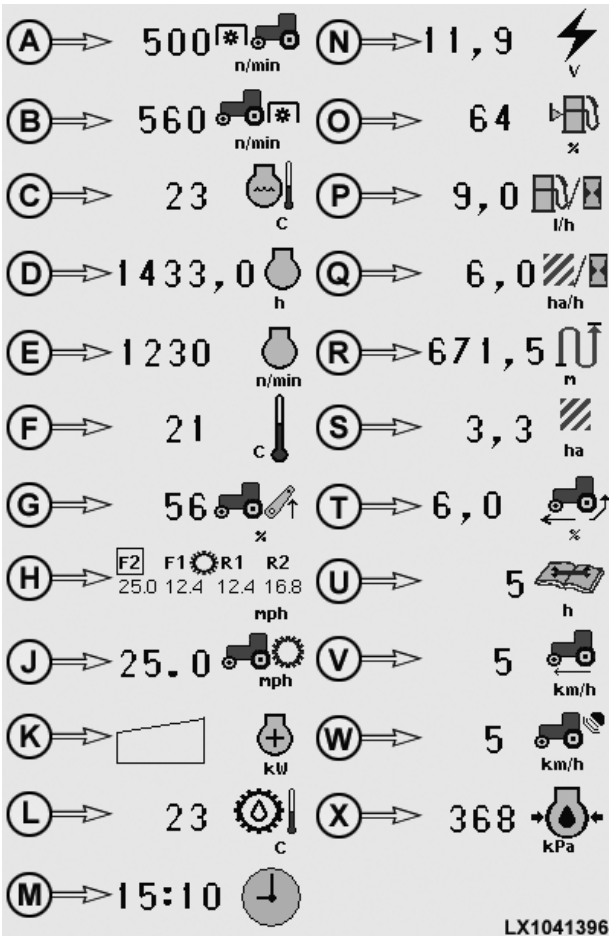
OU12401,0001CEA -19-16NOV09-4/16

Main screen - selections

A—Front PTO speed
B—Rear PTO speed
C—Coolant temperature
D—Engine operating hours
E—Engine speed
F—Ambient temperature
G—Lift height of three-point hitch
H—Set speeds (AutoPowr/IVT)
J—Selected speed (AutoPowr/IVT)
K—Engine power
L—Temperature of transmission/hydraulic oil
M—Time (clock)
N—Voltage of electrical system
O—Fuel reserve in percent
P—Fuel consumption per hour
Q—Area covered per hour
R—Distance covered
S—Area covered
T—Rear wheel slip
U—Service interval
V—Travel speed
W—Travel speed (radar)
X—Engine oil pressure



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OU12401,0001CEA -19-16NOV09-5/16

Hot keys - assignment

Press the main menu key (A) and select hot keys (B) on the screen.

On the following screen, a function may be selected from the selection list for each of the 5 hot keys. The functions depend on how the tractor is equipped.

A—Main menu key **B—Hot keys**

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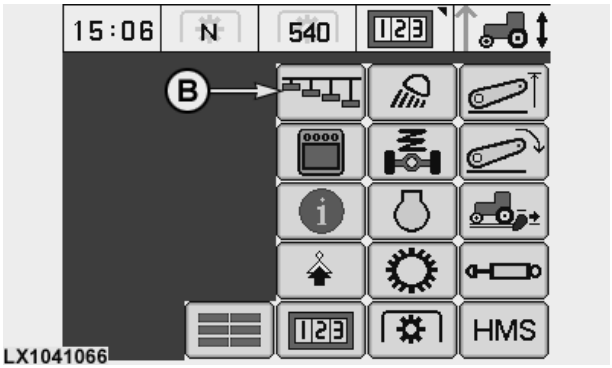

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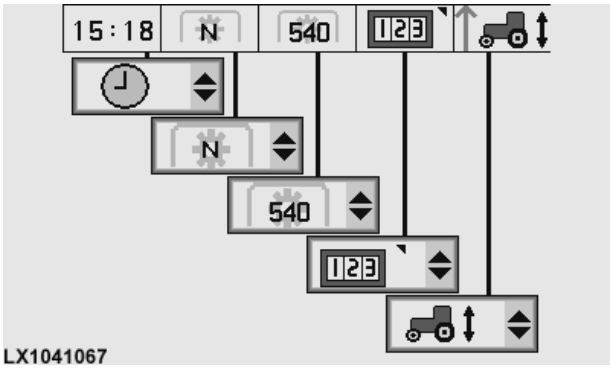

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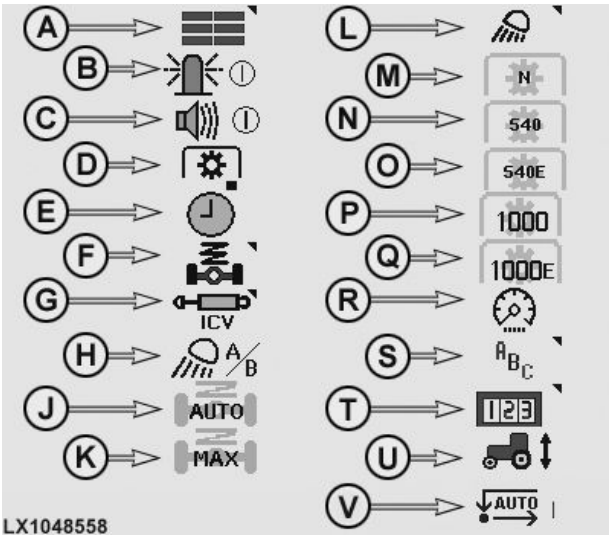
OU12401,0001CEA -19-16NOV09-6/16

Hot keys - selection of functions

A—Main screen
B—Beacon light
C—Back-up alarm
D—PTO remote (external) control
E—Clock
F—TLS Plus screen
G—Selective control valves for functions at front of tractor
H—Worklights A/B
J—TLS Plus automatic
K—TLS Plus (maximum hardness)
L—Worklights
M—PTO (neutral)
N—PTO (540)
O—PTO (540E)
P—PTO (1000)
Q—PTO (1000E)
R—Dimming the screen
S—Language selection
T—Performance monitor
U—Manual area recording
V—Tractor-Implement Automation (TIA)



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OU12401,0001CEA -19-16NOV09-7/16

CommandCenter settings

Press the main menu key (A) and select Display (B) on the screen.

On the following screen, brightness and the highlight color can be selected. **Dimming cell (C)** considerably reduces the brightness of the display (for night time operation). To reset the brightness to normal, press any key. Symbol (D) gives access to the next screen.

A—Main menu key
B—Display
C—Dimming cell
D—Next screen

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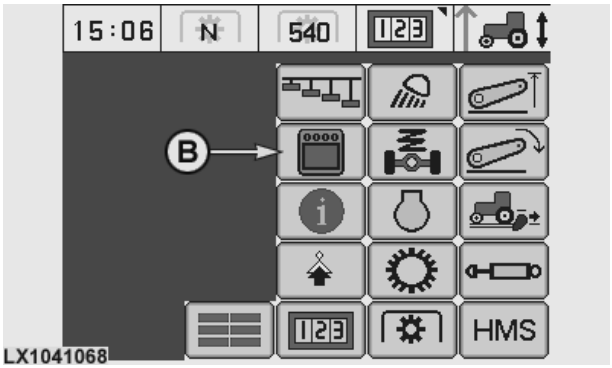

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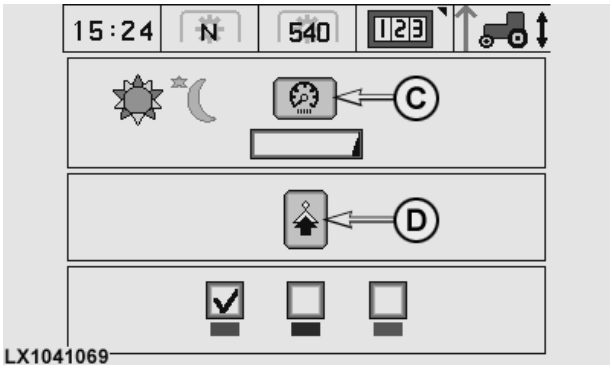
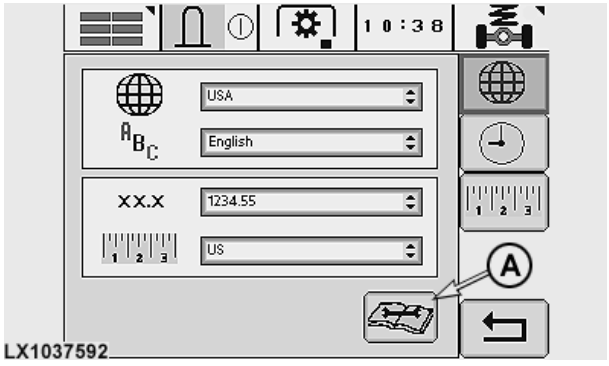


LX1041069 —UN—11OCT06

OU12401,0001CEA -19-16NOV09-8/16

On this screen, the selection lists can be used to select country, language, numeric format and units.

Symbol (A) provides access to other screens on which a graphic test, equipment information and copyright details are shown.



LX1037592 —UN—31MAY06

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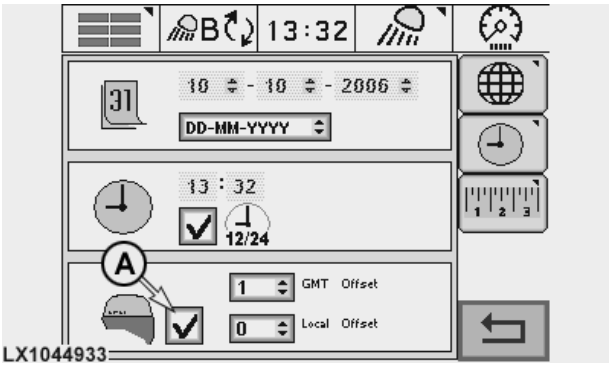
OU12401,0001CEA -19-16NOV09-9/16

Date and time of day can be set on this screen.

If the tractor is equipped with a GPS receiver, cell (A) can be used to determine whether date and time of day are to be synchronized with the GPS signal.

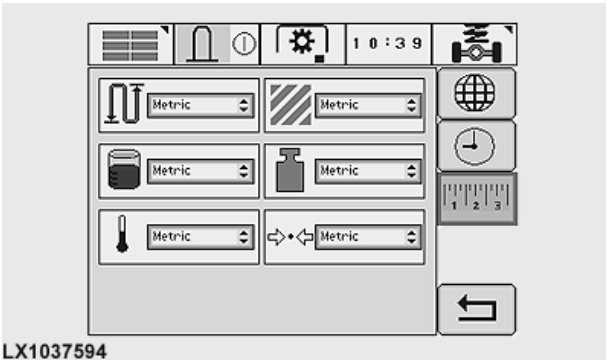
A—Date and time synchronization



LX1044933 —UN—12DEC07

OU12401,0001CEA -19-16NOV09-10/16

Various units of measurement can be selected on this screen.



LX1037594 —UN—31MAY06

OU12401,0001CEA -19-16NOV09-11/16

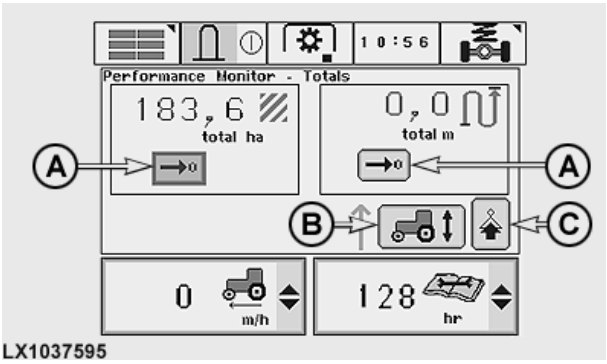
Performance monitor - totals

This screen shows area worked and distance covered. Cells (A) allow the stored values to be set back to zero (the user is first asked if he is sure he wants to make the change).

Cell (B) allows manual recording to be started and ended (provided this type of recording is selected under Performance monitor - Implement Selection).

Cell (C) gives access to the next screen.

A—Zeroing the values
B—Manual recording
C—Next screen



LX1037595 —UN—31MAY06

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OU12401,0001CEA -19-16NOV09-12/16

Performance monitor - settings

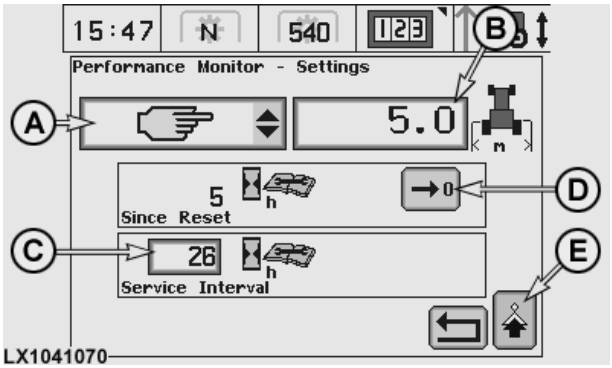
Selection list (A) allows the implement/device to be selected that is required for calculating area.

Implement width can be keyed in at cell (B).

The service interval can be keyed in at cell (C). During the last 20 hours before reaching this interval a corresponding message will be displayed each time the tractor is started. After a service, the Since Reset hour-meter can be set back to zero at cell (D).

Cell (E) gives access to the Performance Monitor - Calibration screen.

A—Implement/device selection
B—Implement width
C—Service interval
D—Zeroing the value
E—Next screen



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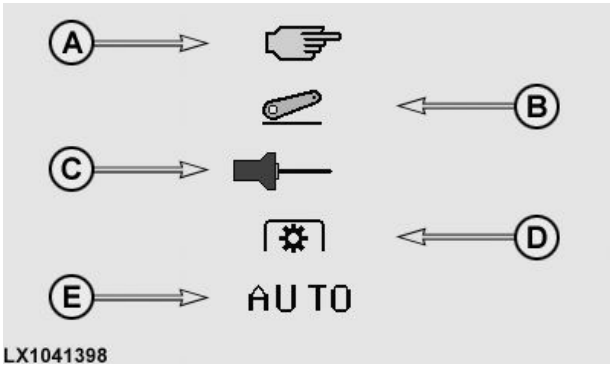
OU12401,0001CEA -19-16NOV09-13/16

Performance monitor - implement selection

Manual recording can be started and stopped via a cell on the Performance Monitor - Totals screen. A hot key may also be used to perform this function (see Hot Keys - Selection of Functions).

For automatic recording, the first implement that is activated starts the recording process. Recording is interrupted as soon as this implement is deactivated.

A—Manual recording
B—Hitch
C—Implement switch
D—Power take-off (PTO)
E—Automatic recording



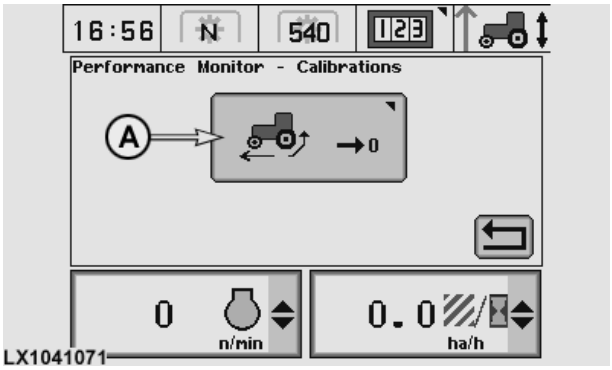
LX1041398 —UN—11OCT06

OU12401,0001CEA -19-16NOV09-14/16

Performance monitor - calibration

Cell (A) gives access to the page shown below.

A—Setting slip to 0



LX1041071 —UN—11OCT06

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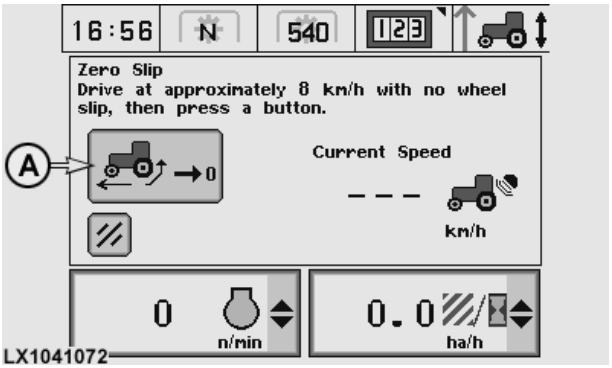
OU12401,0001CEA -19-16NOV09-15/16

Performance monitor - zero rear wheel slip

This setting is required after changing the tires or when the tires are bald.

Drive tractor at approx. 8 km/h (5 mph) and select cell (A).

A message appears saying whether the setting was successful or unsuccessful.



LX1041072 —UN—11OCT06

OU12401,0001CEA -19-16NOV09-16/16

GreenStar Display (Optional)

This display is used to operate additional components (e.g. ISO implements, GreenStar™ or AutoTrac).

Operation of display and components is described in separate operator's manuals.

LX1044963 —UN—29FEB08

GreenStar is a trademark of Deere & Company

OU12401,0001991 -19-15FEB08-1/1

AutoTrac (Optional)

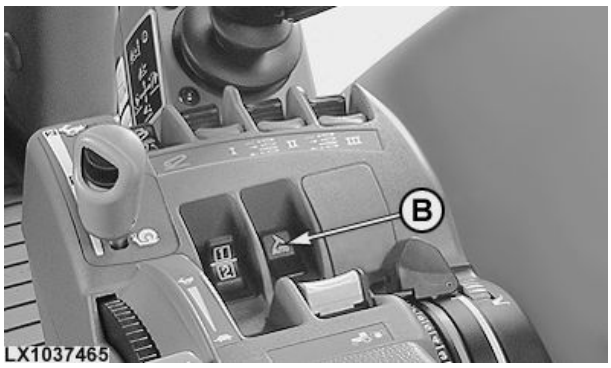
The AutoTrac switch is located in side console (A) or in CommandArm (B). This switch activates the AutoTrac system.

Operation of the AutoTrac system is described in a separate operator's manual.

A—AutoTrac switch (side console)

B—AutoTrac switch (CommandArm)

LX1037463 —UN—08AUG06



LX1037465 —UN—21APR06

OU12401,00014EA -19-08AUG06-1/1

Software Update

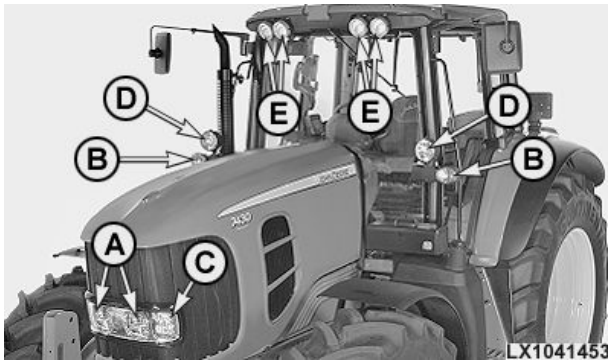
After a software or hardware update, there may be new or additional functions available on the tractor that are not described in this Operator's Manual. Ask your John Deere dealer.

OU12401,0001AE1 -19-11NOV08-1/1

Lights

NOTE: H9 bulbs must NOT be used in front corner worklights (C).

A—Headlights
B—Turn signal and clearance lights
C—Front corner worklights[1]
D—Cab frame worklights[1]
E—Front roof worklights[1]
F—Tail, brake and turn signal lights
G—Rear roof worklights[1]
H—Socket for trailer lighting



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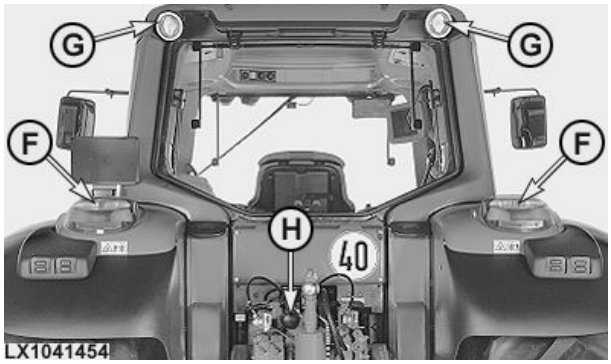

LX1041454 —UN—24NOV06

[1]*If equipped*

OU12401,000158B -19-21NOV06-1/1

Xenon Worklights

The tractor may be equipped with high-performance xenon worklights.

⚠ CAUTION: High voltage. Risk of injury. Changing bulbs on xenon lights and work on the ballast unit must be performed ONLY by your John Deere sales partner or in a professional workshop.

OU12401,0000902 -19-01MAY01-1/1

Additional Headlights

Additional headlights may be attached to the cab frame. Switch (A) allows the operator to choose between normal headlights and these additional lights (e.g. when front attachments are installed).

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OU12401,0001402 -19-13MAY06-1/1

Light Switches

Light switch (A) can be set to the following positions:

- 1 = Egress light “on”
- 2 = Light switch in “off” position
- 3 = Parking lights “on”
- 4 = Headlights "on"
- 5 = Headlights and worklights "on"

Switch headlights to “low beam” or “high beam” position by means of switch (B).

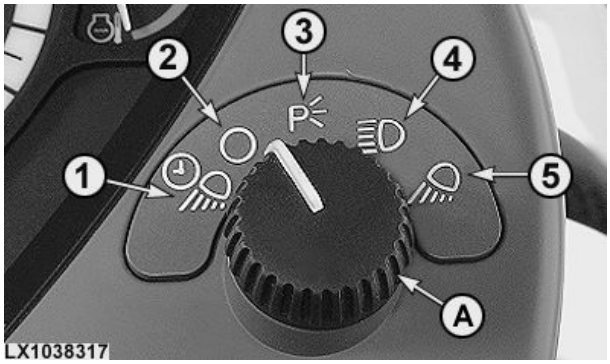
- Pull switch toward steering wheel = Headlight flasher (“flash-to-pass”)
- Switch in center = Low beam
- Push switch away from steering wheel = High beam

Indicator light (C) will glow when headlight switch is in “high beam” position.

NOTE: If the egress light is activated at the CommandCenter (see “Worklights” in this Section), the headlights and any worklights that are activated come on for several seconds if the light switch is turned briefly to position 1 once or several times.

Frequency of switch actuation	Egress light "on" time
Once	90 seconds
Twice	120 seconds
Three times	150 seconds
Four times	180 seconds

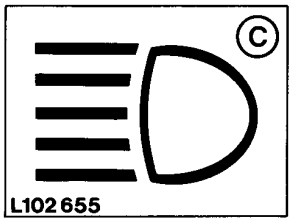
A—Light switch
B—Switch for high-/low-beam headlights
C—High-beam indicator



LX1038317 —UN—27APR06

LX1041415 —UN—11OCT06

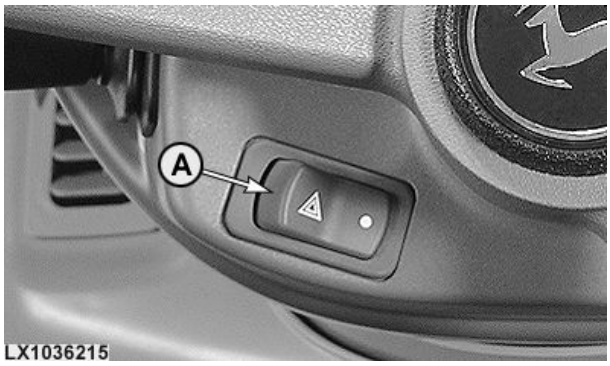
L102655 —UN—15AUG94



OU12401,000158C -19-21NOV06-1/1

Operating the Hazard Warning Light Switch

If any trouble is encountered on the tractor when driving on public roads, switch on the hazard warning light switch (A).



LX1036215 —UN—04NOV05

OU12401,0001403 -19-13MAY06-1/1

Switch for Turn Signal Lights and Horn

A—Switch for turn signal lights and horn
1— Left-turn signal
2— Right-turn signal
3— Horn (push towards steering column)

LX1041416 —UN—11OCT06

OU12401,000152E -19-08OCT06-1/1

Worklights

⚠ CAUTION: Switch off worklights when driving on public roads. Worklights might blind or confuse other drivers.

Press the main menu key (A) and select the “Lights” screen (B).

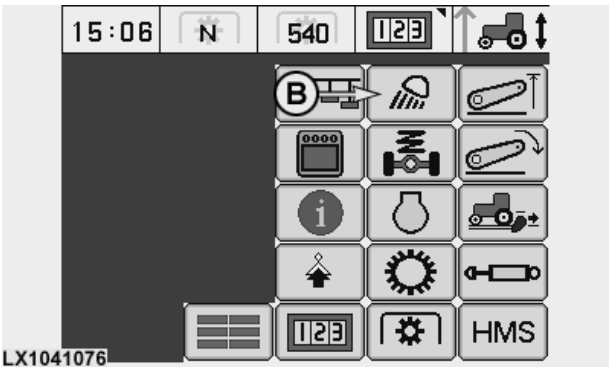
The content of the following screen varies depending on how the tractor is equipped.

Two combinations of worklights may be specified (option A and option B). The option marked with the clock symbol determines whether the egress light is activated.

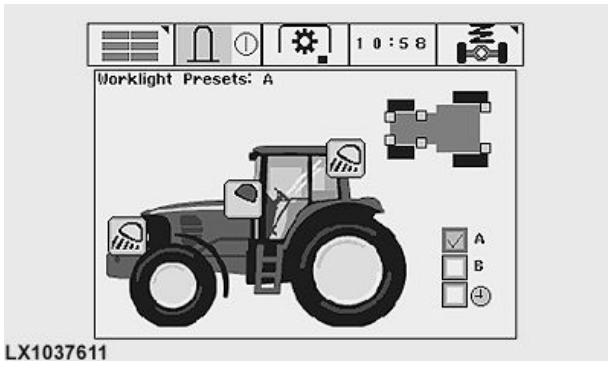
The selected worklights come on when the light switch is set to position 5.

A—Main menu key
B—“Lights” screen

LX1037587 —UN—06NOV06



LX1041076 —UN—11OCT06



LX1037611 —UN—31MAY06

OU12401,00014B1 -19-07OCT06-1/1

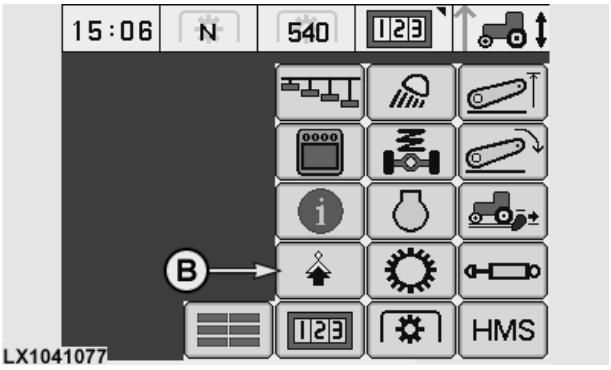
Beacon Light (Optional Equipment)

The beacon light should be used as recommended by local laws (e.g. when driving extremely slowly and when tractor width is excessive).

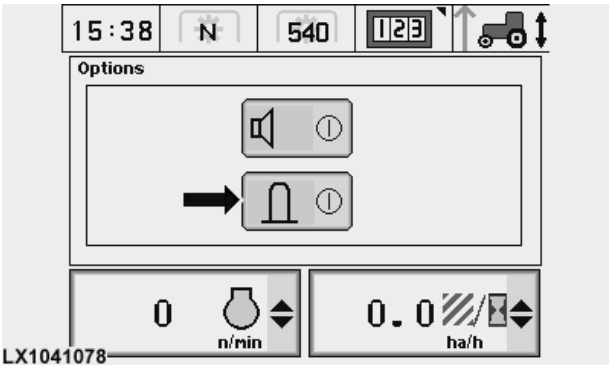
Press the main menu key (A) and then select the “Option” screen (B).

A—Main menu key **B—Option screen**

LX1037587 —UN—06NOV06



LX1041077 —UN—11OCT06



LX1041078 —UN—11OCT06

OU12401,00014B2 -19-04JUL06-1/1

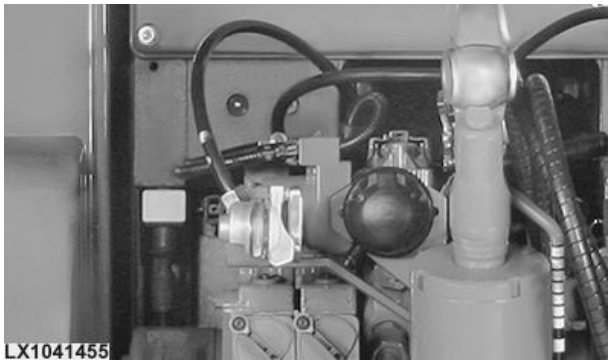
Seven-Terminal Trailer Socket

The socket allows lights, turn signals and other electrical equipment on a trailer or implement to be connected. Always use additional lighting on a mounted implement if this conceals the turn signals and other lights at the rear of the tractor.

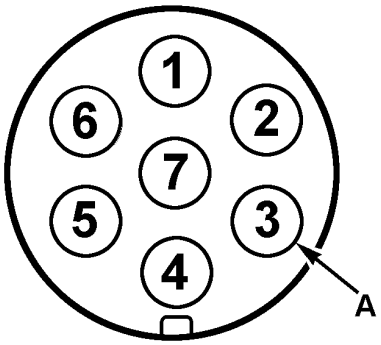
NOTE: Suitable plugs can be obtained from your John Deere dealer.

Terminal (A) is the ground connection.

Connection	Function	Color of wire
1	L.h. turn signal	Dark green
2	—	—
3	Ground	Black
4	R.h. turn signal	Purple
5	R.h. tail light	Gray
6	Brake lights	Pale blue
7	L.h. tail light	Gray



LX1041455 —UN—24NOV06



LX1019770

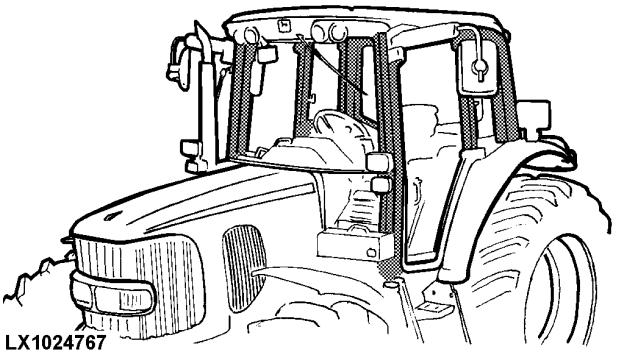
LX1019770 —UN—17NOV00

OU12401,000158D -19-21NOV06-1/1

Roll-Over Protective Structure

CAUTION: A roll-over protective structure (ROPS) is incorporated into each operator's cab. On this construction do not under any circumstances modify structural members by welding on additional parts, drilling holes, cutting or grinding etc. Disregarding this instruction will affect the rigidity of the ROPS.

A tractor roll-over places a severe strain on the ROPS. Therefore, replace the ROPS immediately if structural members have been bent, buckled or otherwise damaged.

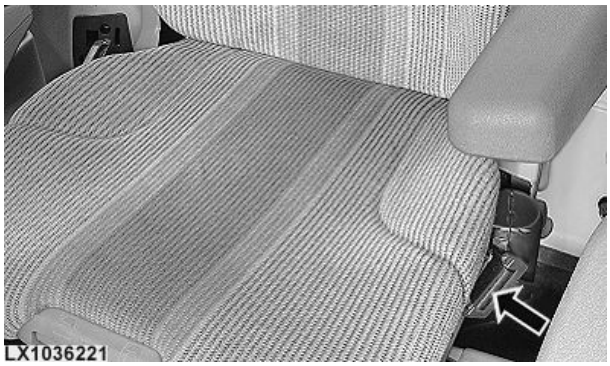


LX1024767 —UN—09MAR01

OU12401,00101D6 -19-26NOV00-1/1

Seat Belt

CAUTION: When driving tractors, always wear the seat belt.



LX1036221 —UN—02JUN05

OU12401,000121B -19-11AUG11-1/1

Cab Classification According to EN 15695-1 (for Application of Crop Protection Chemicals and Liquid Fertilizer)

Cab classification according to EN 15695-1 provides information on the effectiveness of protection against harmful substances offered by the cab.

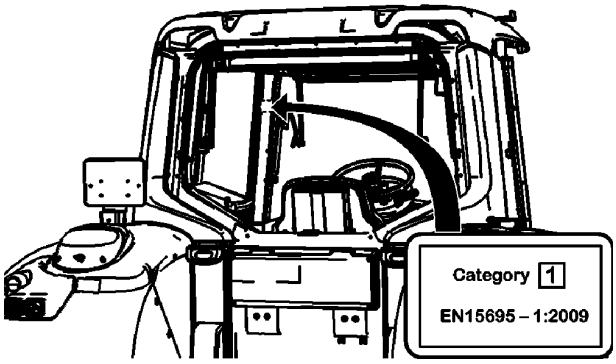
Categories 1 to 4 are used for classification and specified on a label inside the cab.

Replace label if missing or damaged. See your John Deere dealer.

A — Category 1 - The cab does not offer any protection against substances which are harmful to health.
B — Category 2 - The cab offers protection against solid airborne particles such as dust, but not against aerosols and vapors.
C — Category 3 - The cab offers protection against dust and aerosols (liquid airborne substances such as spray), but not against vapors.
D — Category 4 - The cab offers protection against dust, aerosols and vapors.

CAUTION: Before working in an environment containing hazardous substances, i.e. when using pesticides, check whether the cab offers sufficient protection. Refer to the product data sheets of the spraying liquid manufacturer specifying the category required for the cab.

CAUTION: For category 3 and 4 cabs, check whether the installed filters have been tested according to EN 15695-2:2009 and whether they are suitable for the chemical being used (refer to the manufacturer's information) before working in an environment containing hazardous substances.



LX1054617 —UN—18OCT11

Label Shown for Illustration Purposes Only (May Not Indicate the Category of the Cab Installed)

CAUTION: The cab air filters must be serviced as specified. See Section "Lubrication and Periodic Service" or "Service - As Required" and "Service - Once a Year" in this Operator's Manual.

CAUTION: Refer to product data sheets and product identification of the crop protection chemicals. These contain important information on how to avoid hazards.

The following requirements must be met to offer best protection:

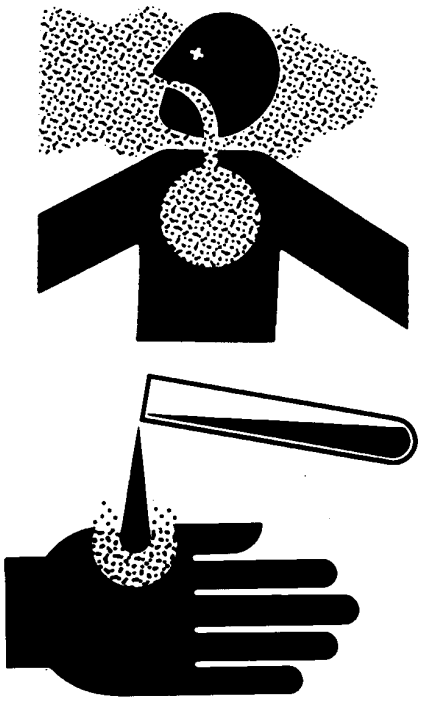
1. All seals (doors, windows and roof) in good condition
2. Doors, windows and roof closed
3. Grommets for cables in the cab sealed properly
4. Fan ON
5. Cab air filters in good condition

OULXBER,0001B4F -19-18OCT11-1/1

Avoid Contact with Agricultural Chemicals

CAUTION: This enclosed cab does not protect against inhaling vapor, aerosol or dust.

1. When operating in an environment where pesticides are present, wear a long-sleeved shirt, long-legged pants, shoes, and socks.
2. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.
3. Wear personal protective equipment as required by the pesticide use instructions when leaving the enclosed cab:
   - into a treated area
   - to work with contaminated application equipment such as nozzles which must be cleaned, changed or redirected
   - to become involved with mixing and loading activities
4. Before re-entering the cab, remove protective equipment and store either outside the cab in a closed box or some other type of sealable container or inside the cab in a pesticide resistant container, such as a plastic bag.
5. Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.



TS220 —UN—23AUG88

TS272 —UN—23AUG88

DX,CABS1 -19-25MAR09-1/1

Clean Vehicle of Hazardous Pesticides

CAUTION: During application of hazardous pesticides, pesticide residue can build up on the inside or outside of the vehicle. Clean vehicle according to use instructions of hazardous pesticides.

When exposed to hazardous pesticides, clean exterior and interior of vehicle daily to keep free of the accumulation of visible dirt and contamination.

1. Sweep or vacuum the floor of cab.
2. Clean headliners and inside cowlings of cab.
3. Wash entire exterior of vehicle.
4. Dispose of any wash water with hazardous concentrations of active or non-active ingredients according to published regulations or directives.

DX,CABS2 -19-24JUL01-1/1

Super Comfort Seat

To adjust the seat upward, raise it until it clicks into place (3 detent positions). To adjust downward, raise the seat to the stop position then lower it.

IMPORTANT: Shut off engine before swivelling the seat. Accidental contact with the controls could cause the tractor or implement to operate.

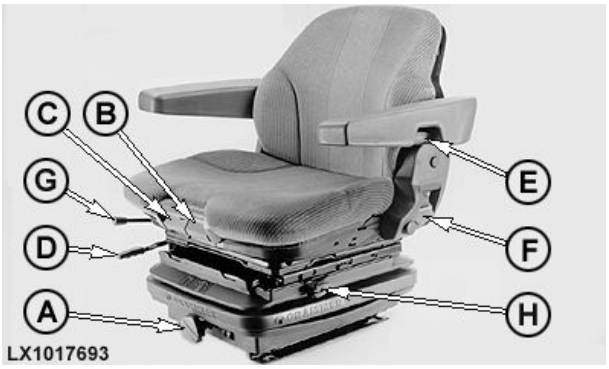
If the seat is equipped with a swivel (optional equipment), this is operated by means of lever (G) as follows:

Lift the lever up. The seat turns 200° to the left and 20° to the right. The seat locks at 10° intervals.

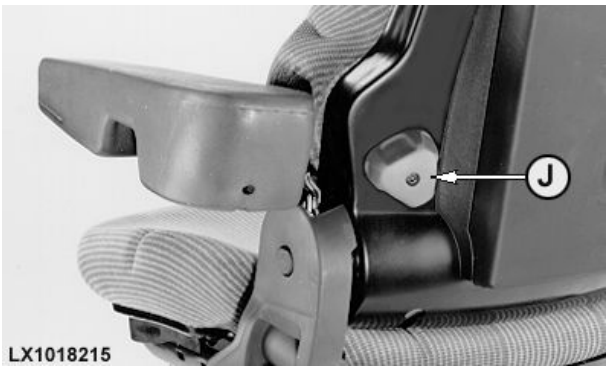
As a further option, the seat may be equipped with the same type of swivel described at "Air Comfort Seat".

To lower the armrest through 30°, press the armrest tilt adjuster (E) into the armrest.

A—Crank for adjusting to operator's weight
B—Lever for seat tilt[1]
C—Lever for adjusting the cushion position[1]
D—Fore-and-aft
E—Armrest tilt
F—Backrest tilt
G—Lever for swivel[1]
H—Lever for fore/aft spring[1]
J—Lumbar support



LX1017693 —UN—24OCT97



LX1018215 —UN—24OCT97

[1] *If equipped*

OULXE59,00107E3 -19-26JUL05-1/1

Air Comfort Seat

1. **Adjust weight**

   There must be weight on the seat for it to be adjusted to suit the weight of the operator. Start the engine, allow the seat to settle, then pull lever (E) up briefly. The seat adjusts itself automatically to the weight of the operator.

2. **Adjust height**

   After the weight adjustment has been made, the seat can be adjusted to any height. To adjust the height, pull lever (E) upward as high as it will go or push it down. If the top or bottom limit is reached during height adjustment, automatic height adjustment takes place to ensure a minimum amount of travel up and down (suspension).

3. **Adjust fore/aft spring**

   - Lever (D) forward - no fore/aft suspension
   - Lever (D) backward - fore/aft suspension

4. **Adjust lateral spring**

   - Lever (G) forward - lateral suspension
   - Lever (G) backward - no lateral suspension

Adjust swivel

The seat swivel is operated by means of lever (F) as follows:

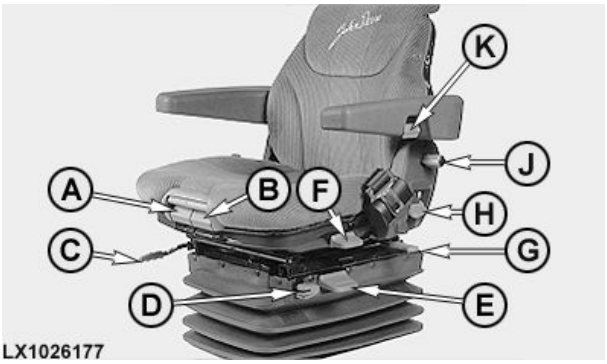
Lifting the lever up allows the seat to turn 15° to the left and right. The seat can be locked at 7.5° intervals.

If equipped with a Premium Plus cab and armrest control console:

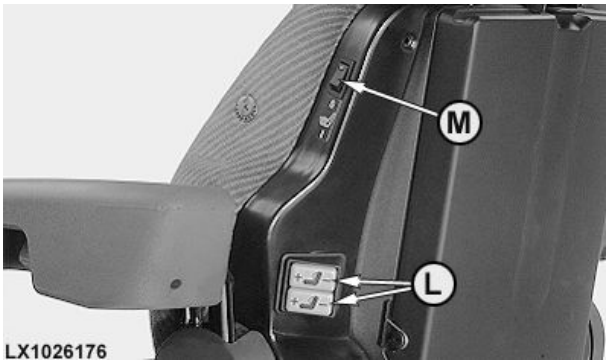
When driving the tractor, never swivel the seat beyond its **7.5° lock**. Do not let the control console collide against the steering wheel.

IMPORTANT: Shut off engine before swivelling the seat. Accidental contact with the controls could cause the tractor or implement to operate.

[1]If equipped



LX1026177 —UN—05FEB02



LX1026176 —UN—29JAN02

A—Lever for adjusting the cushion position[1]
B—Lever for seat tilt adjustment[1]
C—Fore-and-aft adjustment
D—Lever for fore/aft suspension
E—Height adjustment
F—Lever for swivel movement
G—Lever for lateral suspension
H—Backrest tilt
J—Armrest height adjustment
K—Armrest tilt adjustment
L—Pneumatic lumbar support adjustment
M—Seat heater switch[1]

Adjust the armrests

To lower the armrest through 30°, press the armrest tilt adjuster (K) into the armrest. Knob (J) allows the height of the armrests to be adjusted to any of 5 positions.

OU12401,00019A4 -19-03JUN08-1/1

Instructional Seat

Press lock (A).

LX1036222 —UN—02JUN05

Continued on next page

OU12401,000164E -19-16JAN07-1/4

Tip instructional seat forward.

LX1036223 —UN—02JUN05

OU12401,000164E -19-16JAN07-2/4

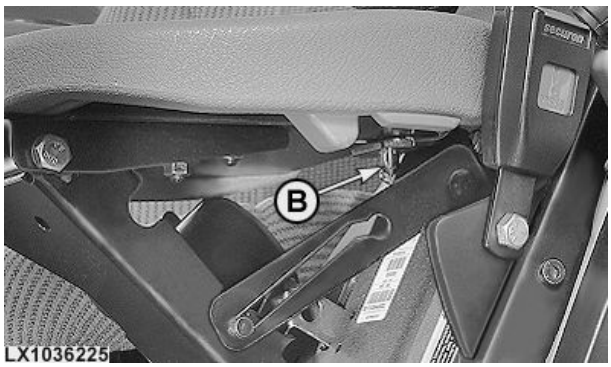
Rotate seat clockwise 90°.

LX1036224 —UN—02JUN05

OU12401,000164E -19-16JAN07-3/4

Tip seat backward. Make sure that pin (B) engages in the appropriate bore.

⚠ CAUTION: When driving, always wear the seat belt (if equipped).

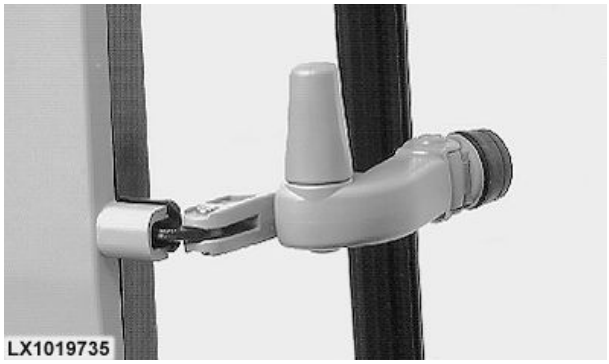


LX1036225 —UN—02JUN05

OU12401,000164E -19-16JAN07-4/4

Opening Windows

The windshield[1], side and rear windows can all be opened for better ventilation.



LX1019735 —UN—08FEB00

LX1036226 —UN—02JUN05

[1]*Opening windshield is optional equipment.*

OU12401,000121D -19-24MAY05-1/1

Windshield Wiper and Washer System

Windshield wiper rotary switch (A) has four positions:

- 0 = off
- --- = Intermittent wipe
- 1 = Slow wipe
- 2 = Fast wipe

The windshield washer is operated using switch (B).

Rear window wiper lever (C) has three positions:

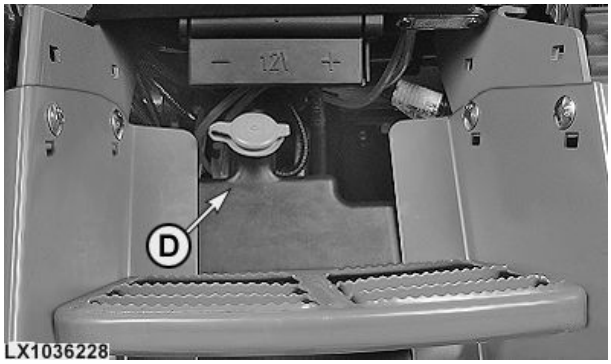
- 0 = off (lever to front)
- 1 = Intermittent wipe (lever centered)
- 2 = Constant wipe (lever to rear)

The rear window washer system is operated by pulling the lever toward the steering wheel.

Add anti-freeze solution to water in reservoir (D) if temperature is liable to drop below freezing point.

The windshield and rear window washer systems both have an automatic wipe/wash function: if the washer is actuated for longer than 0.5 seconds, the wiper operates in conjunction with the washer pump and then wipes for 8 seconds after the pump has switched off. After a 5-second delay, the wiper comes on once more.

LX1038322 —UN—27APR06



LX1036228 —UN—02JUN05

A—Rotary switch for windshield wiper
B—Switch for windshield washer
C—Lever for rear window wiper
D—Reservoir for washer

OULXE59,001088A -19-19APR06-1/1

Fan and Air Louvers (Tractors without ClimaTrak System)

Fan switch (A) controls the fan speed. The direction of airflow can be altered by means of switch (B).

De-icing or defogging the windshield

Set the heater to maximum heat. Set switch (B) to defog symbol (D) and turn switch (A) (fan) to its maximum.

If the airflow is to be directed **at the operator**, set switch (B) to symbol (E). Turn on the fan at switch (A). The direction and force of the airflow can be further adjusted at louvers (C).

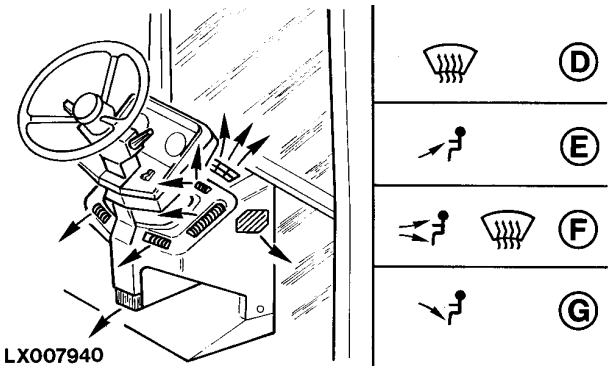
If the airflow is to be directed **evenly around the cab**, set switch (B) to symbol (F). Turn on the fan at switch (A).

If the airflow is to be directed **into the footwell**, set switch (B) to symbol (G). Turn on the fan at switch (A).

A—Fan switch
B—Switch for selecting direction of airflow
C—Louvers
D—Airflow to windshield
E—Airflow to operator
F—Airflow to windows, operator and footwell
G—Airflow to footwell

LX1036229 —UN—04OCT05

LX1036230 —UN—03JUN05

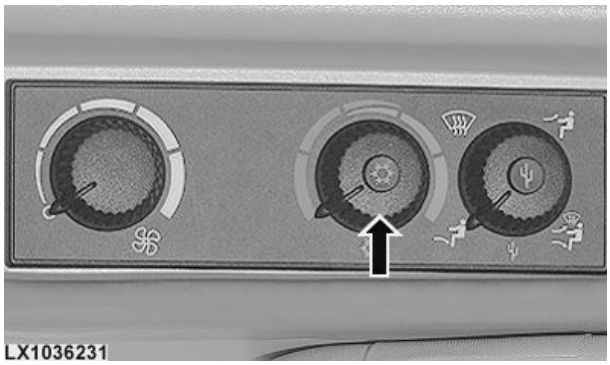


LX007940 —UN—15AUG94

OU12401,00012C9 -19-19SEP05-1/1

Heater (Tractors without ClimaTrak)

Heating is infinitely variable by means of the heater control. To increase heating, turn switch clockwise. Set the fan and louvers as desired.



LX1036231 —UN—19SEP05

OU12401,0001220 -19-24MAY05-1/1

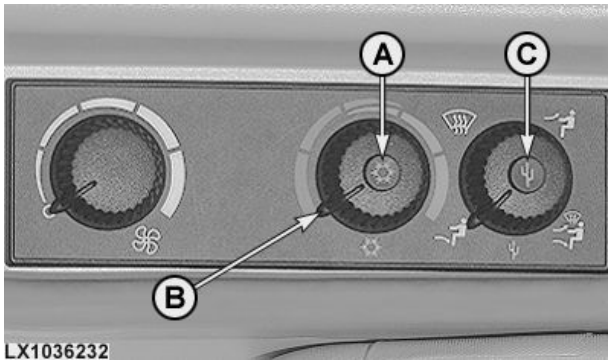
Air-Conditioning (Tractors without ClimaTrak)

Turn on air-conditioning at switch (A). Regulate the cooling at control (B). The cooling is increased by turning the knob counterclockwise. Set the fan and louvers as desired.

IMPORTANT: To maintain consistently high performance, turn on the air-conditioning for two or three minutes every month, regardless of weather conditions or season (with engine at low idle). Control (B) should be set for maximum cooling.

At ambient temperatures below 4°C (39°F), the cab should first be heated (using the heating system) so that the temperature inside the cab is as high as possible.

NOTE: When switch (C) is activated, the air-conditioning operates without regard to ambient temperature. This is necessary in winter, when the air-conditioning has to be operated once a month, and when the system has to be operated in conjunction with the heater to dehumidify the cab.



LX10362232 —UN—19SEP05

A—Air-conditioning switch
B—Cooling regulator
C—Switch for special operation

OU12401,00012CA -19-19SEP05-1/1

Tips on Using Air-Conditioning

Preventing the windows from fogging up

NOTE: First check that the condensation drain is not blocked.

1.) During the day:

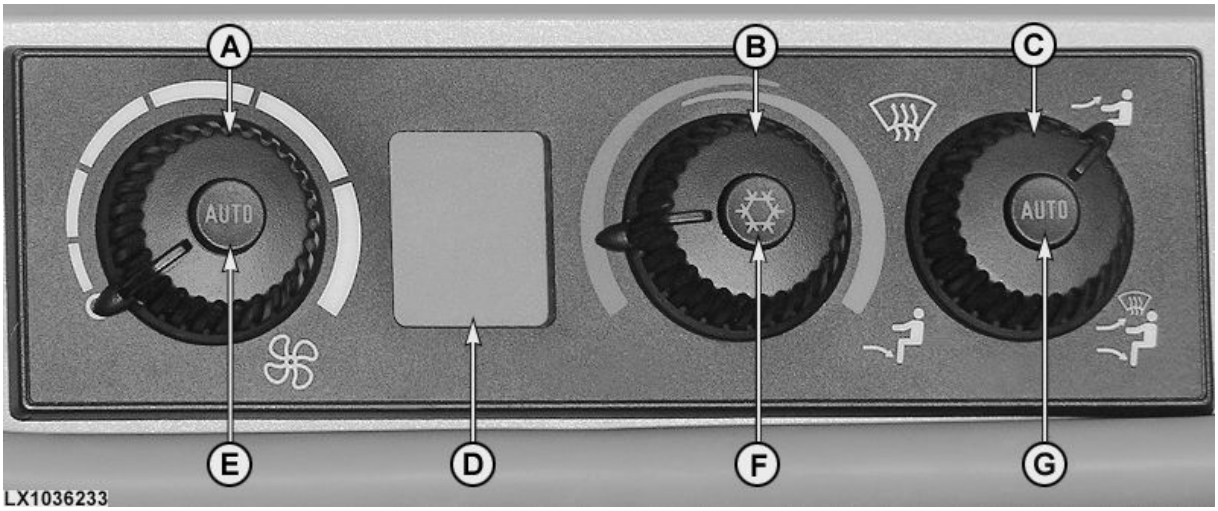
- Do not blow cold air at the windshield! (do not use ”window” mode while running the air-conditioning at ”max. cool”).
- If you feel too cool with air-conditioning at ”max. cool”:
  - Keep the fan running
  - Turn the temperature control to a warmer position
  - Leave the air-conditioning on
- If you still feel too cold:
  - Keep the fan running
  - Turn the temp. control to a warmer setting (in the red zone)
  - Leave the air-conditioning on
  - If windows fog, slowly turn the temperature control to a ”cooler” position until the windows start to clear
- Before you stop the tractor:
  - Keep the fan running
  - Switch off the air-conditioning
  - Turn the temp. control to a warmer setting or leave it if it already is at ”warm”
  - Keep the fan running for a couple of minutes to dry the evaporator core

2.) In the morning (if air-conditioning was in use the day before)

- During the first start-up
  - Set air-flow to ”footwell” - NOT to ”window”!
  - Run the fan
  - Turn the temp. control to ”max. heating” (in the red)
  - If you are not driving the tractor, it may help to open the cab door or window
- As soon as hot, dry air comes out the louvers:
  - Set air-flow to ”window” - this will defog the windows
- When the windows are clear:
  - Set air-flow and temperature to a comfortable setting
- If ambient humidity is high or there is moisture inside the cab
  - With the temperature regulator set to ”warm”, switch the air-conditioning on at the dehumidify switch for special operation (cactus symbol).

OU12401,00012CB -19-19SEP05-1/1

Using the ClimaTrak System (Automatic Temperature Control)



LX1036233 —UN—08AUG06

A—Fan speed control
B—Temperature selection knob
C—Air-flow control
D—LCD temperature display
E—AUTO fan control mode
F—Economy mode ON/OFF switch
G—AUTO air-flow mode

System controls and display

There are three controls and an LCD window on the ClimaTrak (ATC) console.

1. Fan speed control (A) with AUTO switch (E)
2. Temperature control (B) with economy mode switch (F)
3. Four-position air-flow control (C) with AUTO switch (G)
   - Defog/windshield
   - Defog/dashboard/footwell
   - Dashboard
   - Footwell

The desired temperature is displayed on the LCD display (D). To select alternating display of desired and ambient air temperature, change the settings in address ATC033. See ”Customization” in the ”Diagnostic Trouble Codes and Customization” section.

When in automatic fan mode, a fan symbol and the word AUTO are displayed. When the air-conditioning clutch is engaged (not in economy mode), the snowflake symbol is displayed. Direction of air-flow is displayed by an arrow pointing towards the feet or head, and the defog symbol appears. The word AUTO appears below the man when the system is in automatic air-flow mode.

In AUTO air-flow mode, selection is infinitely variable between defog, footwell and footwell/dashboard.

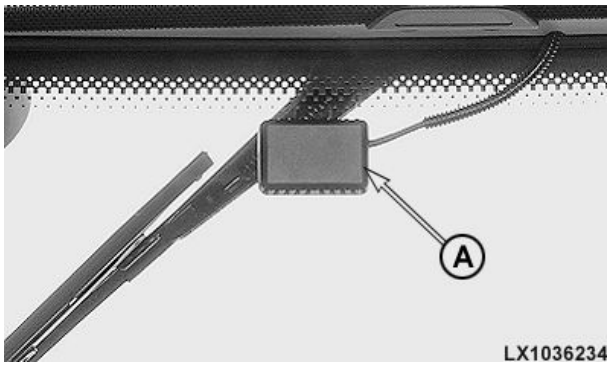
- Dashboard — Air is directed to the louvers in the dashboard.
- Footwell — Air is directed to the footwell, unless defogging is required.
- Defog — Air is directed to the windshield.
- Defog/dashboard/footwell — Variable settings to direct air-flow as needed.

NOTE: To ensure that ClimaTrak gives its best performance, clean the recirculated-air filters in the cab regularly (see ”Service - As Required”).

OU12401,0001222 -19-13MAY06-1/2

Defog sensor

IMPORTANT: Do not expose defog sensor (A) to large quantities of water.



LX1036234 —UN—03JUN05

OU12401,0001222 -19-13MAY06-2/2

Changing the ClimaTrak Display (ATC)

How to change the temperature display from °C to °F and back

The unit of measurement in which temperature is displayed is set on the ”Units of Measure” screen (customary/metric units). See ”CommandCenter settings” in the ”Controls and Instruments” section.

OU12401,00012B6 -19-23AUG05-1/1

Storage Box

The tractor is equipped with a storage box. A cooler may be integrated into this storage box.

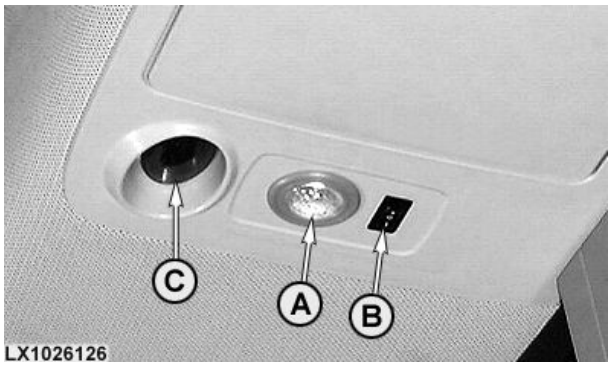
LX1036235 —UN—03JUN05

OU12401,0001223 -19-24MAY05-1/1

Dome Light

Dome light (A) remains on all the time switch (B) is set to position 1. With the switch at position 2, it comes on whenever the door is opened. It is switched off in position 0.

Light (C) illuminates the transmission control levers when the parking lights or headlights are switched on.



LX1026126 —UN—16MAY01

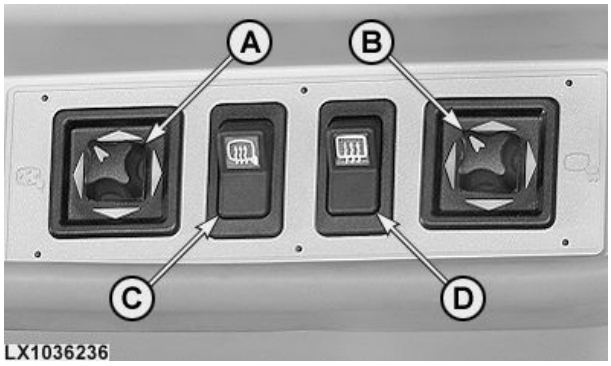
OU12401,0000903 -19-01MAY01-1/1

Control Switches for Rear-View Mirror and Rear-Window Heater (If Equipped)

Turn the arrow on knobs (A) and/or (B) towards the mirror that is to be adjusted. Press knob (A) up/down or left/right to adjust the mirror surface. Press knob (B) left/right to extend or retract the mirror's arm.

Switch (C) is for switching the mirror heater on and off. Switch (D) is for switching the rear-window heater on and off.

A—Mirror adjuster
B—Mirror arm adjuster
C—Mirror heater switch
D—Rear window heater switch



LX1036236 —UN—03JUN05

OU12401,0001224 -19-02AUG05-1/1

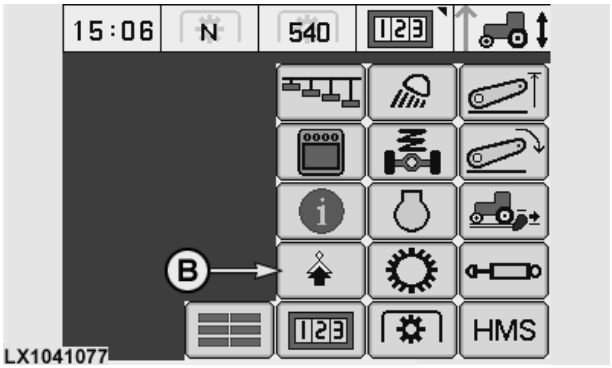
Back-Up Alarm (Optional Equipment)

If the tractor is equipped with this option and it is activated at the CommandCenter, an alarm signal is triggered whenever the reverser lever is set to reverse travel position.

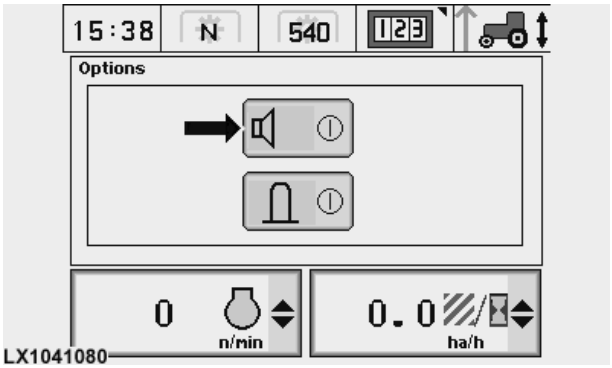
Press the main menu key (A) and then select the “Option” screen (B).

A—Main menu key **B—Option screen**

LX1037587 —UN—06NOV06



LX1041077 —UN—11OCT06



LX1041080 —UN—11OCT06

OU12401,00014B3 -19-08OCT06-1/1

Adjusting the Steering Wheel

To adjust the angle of the steering wheel, pull lever (A), move steering wheel to desired angle and release the lever.

If only the lever is pulled, the steering wheel will rise to its highest position.

To adjust height, pull lever (B) to the rear. Push the lever forward when the adjustment is completed.

A—Lever for tilting the steering wheel **B—Lever for adjusting the height of the steering wheel**

LX1036237 —UN—24AUG05

OU12401,0001225 -19-23AUG05-1/1

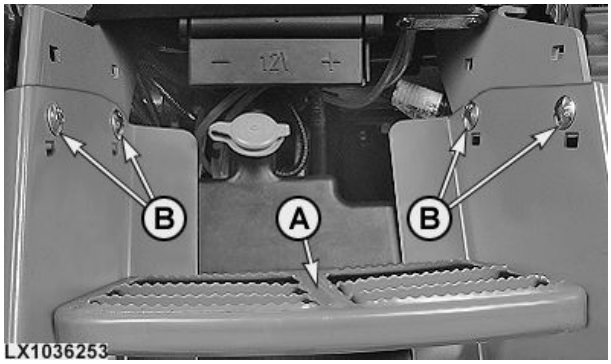
Adjusting the Height of Access Step

The height of step (A) can be adjusted.

Take out screws (B). Move access step to desired position. Put screws (B) back in.

NOTE: If the rear tires have an index radius of 820 mm (32.3 in.) or over, the step must be set at the bottom position.

A—Access step **B—Screws**



LX1036253 —UN—03JUN05

OU12401,000122E -19-25MAY05-1/1

Installing the Monitor

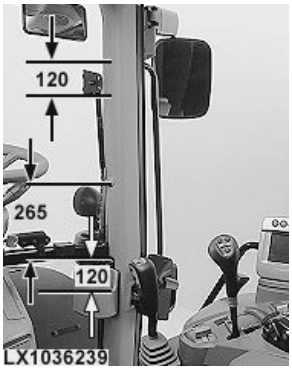
Attaching the performance monitor and controls

There are several possible locations for attaching monitors and controls in the cab:

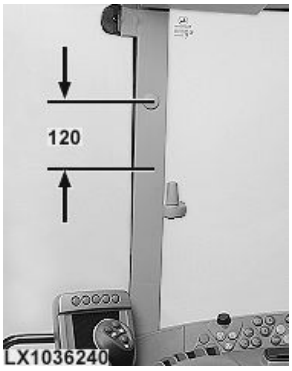
- On the front right post.
- On the center posts.
- On the rear posts.

NOTE: Gap between holes at attaching points is 120 mm (4.72 in.); thread is M10.

Take off the relevant trim and turn it over. The positions where holes may be made are already marked.



LX1036239 —UN—03JUN05



LX1036240 —UN—03JUN05

LX1036241 —UN—03JUN05

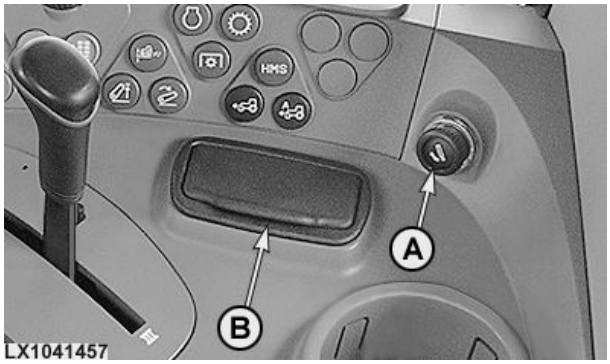
LX1036242 —UN—03JUN05

OU12401,0001227 -19-24MAY05-1/1

Cigarette Lighter and Ashtray

Open and press down the ashtray to take it out.

A—Cigarette lighter **B—Ashtray**



LX1041457 —UN—24NOV06

OU12401,000158F -19-23NOV06-1/1

Electrical Sockets (If Equipped)

Signal socket

Terminal	Wire color	Description
1	red	Speed determined by radar
2	brown	Speed of wheels
3	orange	Rear PTO speed
4	—	—
5	—	—
6	blue	Power supply
7	black	Ground

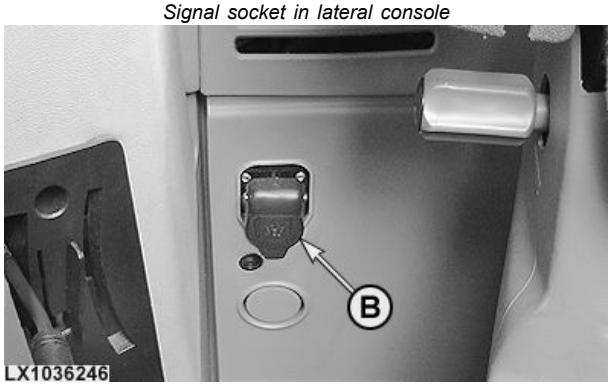
The 7-terminal signal socket (A) is protected by a 30-amp fuse.

LX1036245 —UN—03JUN05

Signal socket in lateral console

ISOBUS socket in cab

An implement monitor meeting ISO Standard 11783 may be connected to socket (C).



LX1036246 —UN—03JUN05

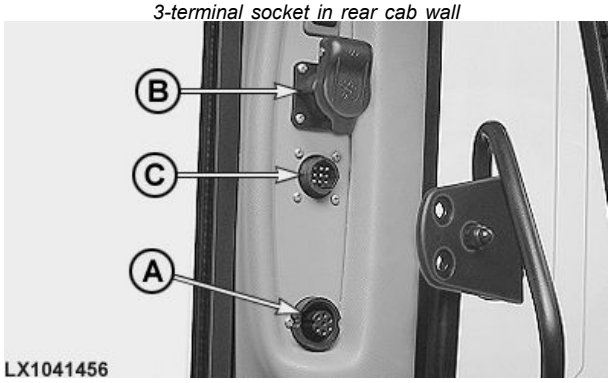
3-terminal socket in rear cab wall

3-terminal power outlet socket

Terminal 15/30 of 3-terminal power outlet socket (B) is protected by a 30-amp fuse, and terminal 82 by a 10-amp fuse. Terminal 31 is ground.

Turn key in main (key) switch to the right to supply power to terminal 82. Terminal 15/30 is supplied with power even when the ignition is switched off.

IMPORTANT: Electrical equipment requiring high current inputs may be operated, and the use of multiple power outlets is permitted, but the supply circuit must never be overloaded. Remember, total load comprises the sum of all the current consumers connected to the on-board circuit at any one time. This also applies if the consumers are connected to the on-board circuit at different sockets.



LX1041456 —UN—24NOV06

Sockets in cab frame

A—Signal Socket
B—3-Terminal Power Outlet Socket
C—ISOBUS Socket

Continued on next page

Routing the cables

The rear window of the cab is provided with two openings, allowing the cables to be routed. Open the window and take out the rubber stoppers. Cut the rubber stoppers at the incisions provided to enable the cables to be routed. Connect the connectors, insert the rubber stoppers and close the window.

LX1026097 —UN—09MAR01

OU12401,0001B92 -19-24AUG10-2/2

Multiple Power-Outlet Socket Strip (If Equipped)

A strip of extra sockets may be installed on the front of the switch console. Terminal A on the socket strip is protected by a 30-amp fuse. Terminal C is protected by a 10-amp fuse, and terminal B is ground.

Turn key in main (key) switch to the right to supply power to terminal C. Terminal A is supplied with power even when the ignition is switched off.

IMPORTANT: Electrical equipment requiring high current inputs may be operated, and the use of multiple power outlets is permitted, but the supply circuit must never be overloaded. Remember, total load comprises the sum of all the current consumers connected to the on-board circuit at any one time. This also applies if the consumers are connected to the on-board circuit at different sockets.

LX1036247 —UN—24APR06

OU12401,0001B93 -19-24AUG10-1/1

Service ADVISOR™ Socket

This socket is suitable **only** for service and diagnostic purposes. Do not connect any other equipment.

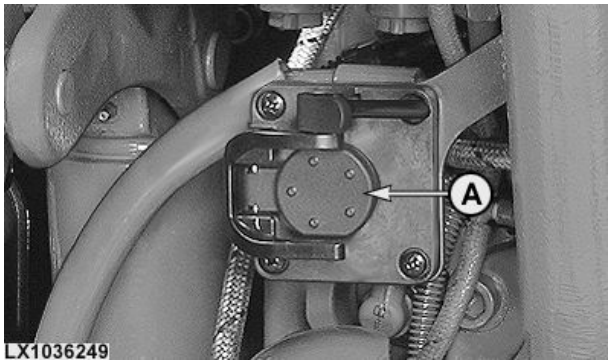
LX1036248 —UN—03JUN05

SERVICE ADVISOR is a trademark of Deere & Company

OU12401,000122A -19-24MAY05-1/1

ISOBUS Socket

Implements meeting ISO Standard 11783 may be connected to this socket (A). Read the operator's manual provided by the implement manufacturer and observe all safety messages in the manual and on the implement prior to use.



LX1036249 —UN—24APR06

OU12401,000122B -19-13MAY06-1/1

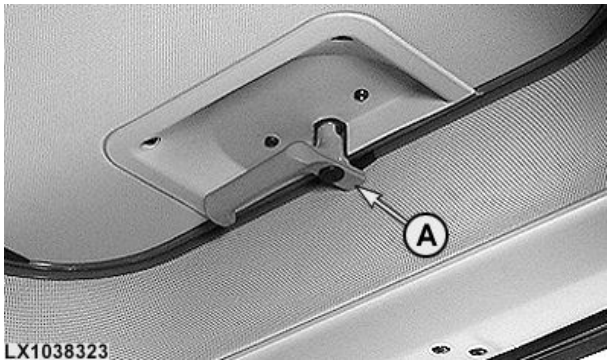
Roof Hatch (If Equipped)

The roof hatch can be opened and closed using handle (A).

If the roof hatch is equipped with a glass panel, direct sunlight can be prevented from entering by using cover (B).

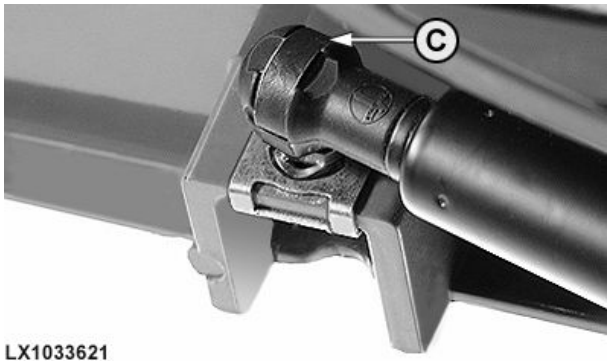
The roof hatch can be adjusted to a narrower or wider angle. To adjust the angle, remove retaining clip (C), pull gas spring from its retainer and remove retainer. Install retainer in the desired position (D) or (E), re-install gas spring and secure with the clip.

A—Handle
B—Cover
C—Retaining clip
D—Narrow angle
E—Wide angle

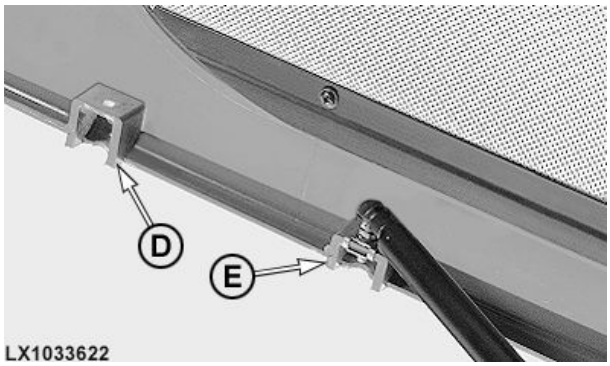


LX1038323 —UN—27APR06

LX1038324 —UN—27APR06



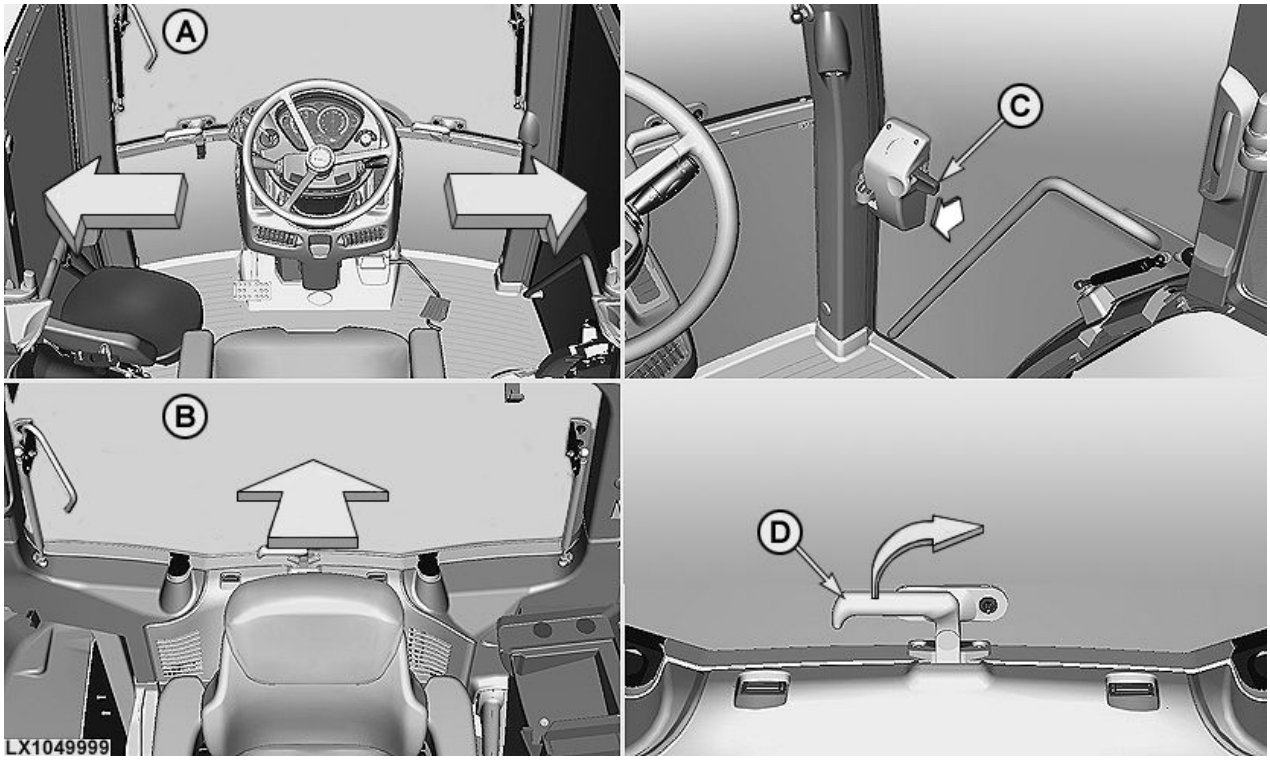
LX1033621 —UN—14APR04



LX1033622 —UN—14APR04

OULXE59,001088B -19-19APR06-1/1

Emergency Exits



LX1049999 —UN—09AUG11

In an emergency, it is possible to exit the cab through the two doors (A). To do this, pull lever (C) to release the door and then push it open.

In an emergency it is also possible to exit the cab through the opening of the rear window (B). Turn lever (D) to the right to release the window and then push it open.

If not equipped with a right door, either break the glass by using an emergency hammer (if equipped) or open it by pulling out the cotter pin.

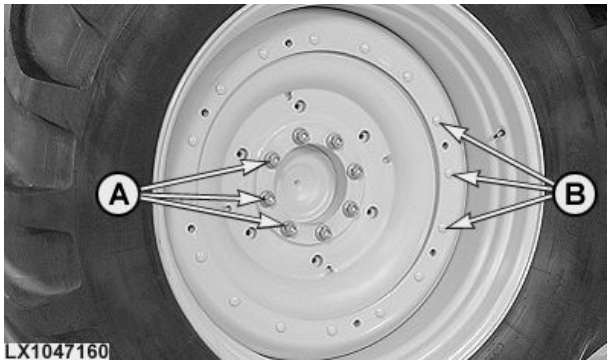
OU12401,0001CD5 -19-18OCT11-1/1

Break-in Period

After the First 4 and 8 Hours of Operation

Tighten rear wheel retaining bolts/nuts

A—500 Nm (370 lb-ft) **B—250 Nm (185 lb-ft)**

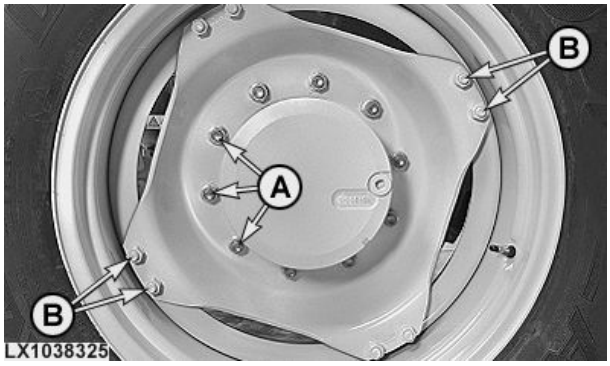


LX1047160 —UN—25SEP08

OU12401,0001AB9 -19-22SEP08-1/2

Tighten front wheel retaining bolts/nuts

A—480 Nm (355 lb-ft) **B—250 Nm (185 lb-ft)**



LX1038325 —UN—06MAY08

OU12401,0001AB9 -19-22SEP08-2/2

Within the First 100 Hours of Operation

Wheel bolts

Check torque at wheel retaining bolts frequently.

Engine oil

For the correct use of engine oil, see Section 80, FUEL, LUBRICANTS, HYDRAULIC OIL AND COOLANT.

The first oil and filter change must take place after the first 100 operating hours at the earliest but within the first 500 operating hours at the latest.

OU12401,00019C8 -19-11AUG11-1/1

After the First 100 Hours of Operation

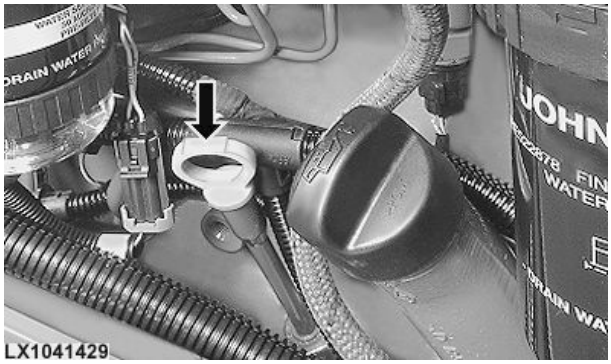
The service jobs listed under “After the First 100 Hours” in Section 85, “Lubrication and Periodic Service” must be carried out.

OU12401,00019C9 -19-06MAY08-1/1

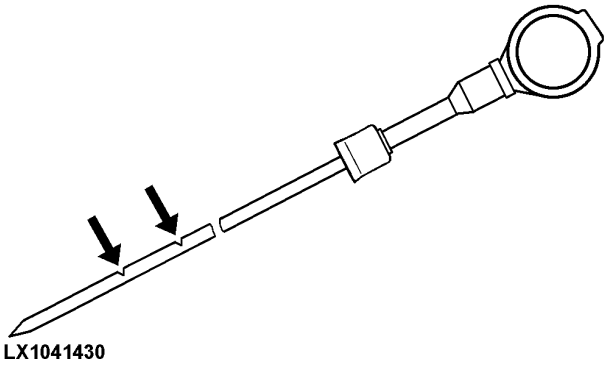
Prestarting Checks

Engine crankcase oil level

Engine oil level should be between the marks on the dipstick. Do not start the engine if oil level is below lower mark on dipstick.



LX1041429 —UN—20NOV06



LX1041430 —UN—17NOV06

After long storage period

Check whether dirt or other foreign bodies have collected under the hood. If so, remove them.

Continued on next page

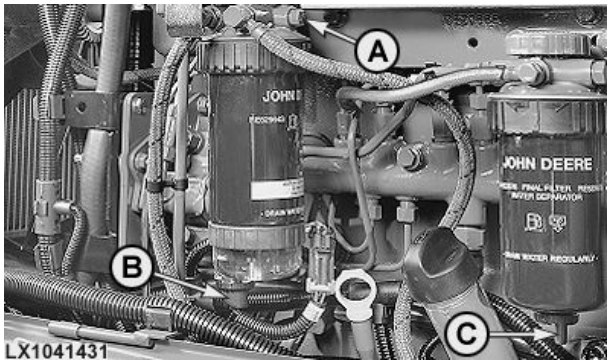
OU12401,0001593 -19-24NOV06-1/2

Fuel filter

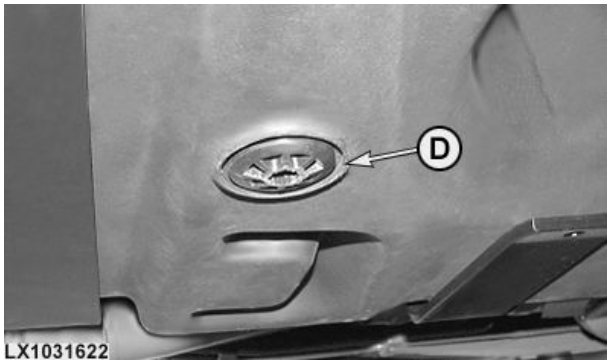
If water or sediment deposits have settled in filter, proceed as follows:

1. Open bleed screw (A).
2. Open drain plug (B) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
3. Open drain plug (C) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
4. Tighten bleed screw (A).
5. Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.

If water was present in fuel filter, use a 1/2-inch square-section key to loosen drain plug (D) under the fuel tank by one turn. After draining off any water and sediment deposits, retighten drain plug until hand-tight.



LX1041431 —UN—20NOV06



LX1031622 —UN—23JAN06

A—Bleed screw
B—Drain plug
C—Drain plug
D—Drain plug (fuel tank)

Other checks

If the tractor is used to power external hydraulic equipment, check the level of the transmission/hydraulic oil every day.

This check is described in “Service / Every 250 Hours”.

If the tractor is used in particularly wet and muddy terrain, apply extra lubrication as follows:

- Lubricate front axle and front-wheel drive shaft.
- Lubricate rear axle
- Lubricate three-point hitch
- Lubricate the pick-up hitch (if equipped).

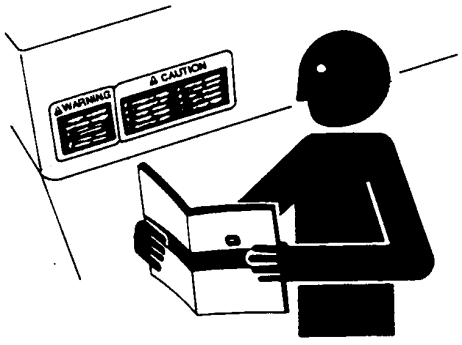
These jobs are described in “Service / Every 250 Hours” and “Service / Every 500 Hours”.

OU12401,0001593 -19-24NOV06-2/2

Comply with Operator's Manuals of Implement Manufacturers

CAUTION: Before operating the tractor in conjunction with a mounted implement or trailer, it is the responsibility of the operator to make himself familiar with the relevant Operator's Manuals. Operator errors may have serious consequences.

Operator's Manuals and the safety decals on mounted implements and trailers provide important information on how to operate them safely. For this reason, it is important to make yourself familiar with them before starting work. Operator's Manuals must be provided for all operators of the tractor.



TS201 —UN—23AUG88

OULXBER,0001A5A -19-21FEB11-1/1

Operating the Engine

Important Information Regarding the Engine

The warranty does not cover damage to the engine and driveline elements caused by unauthorized engine settings.

Unauthorized settings contravene the emissions regulations that apply to this engine and may result in criminal prosecution.

OU12401,000198A -19-25JAN08-1/1

Starting the Engine

⚠ CAUTION: Never operate the engine in a closed building. Make sure there is plenty of ventilation. Danger of asphyxiation!

Before starting the engine, close the hood.

1. Set selective control valve levers (A) to neutral position.
2. Set reverser lever (C) to neutral position (or to positions N or P on tractors with AutoPowr).
3. Turn key in main switch (D) one position to the right. Wait until light (E) goes out.
4. Turn key in main switch (D) clockwise to end position. As soon as engine starts, release key.

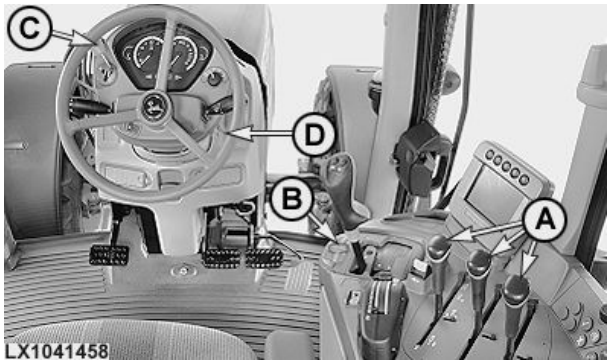
Do not operate starting motor for more than 30 seconds at a time. Turn key in main switch to zero. Wait at least one minute before attempting to start again.

After starting the engine, wait 2 seconds before operating switches or controls since the electronic system of the tractor is checked.

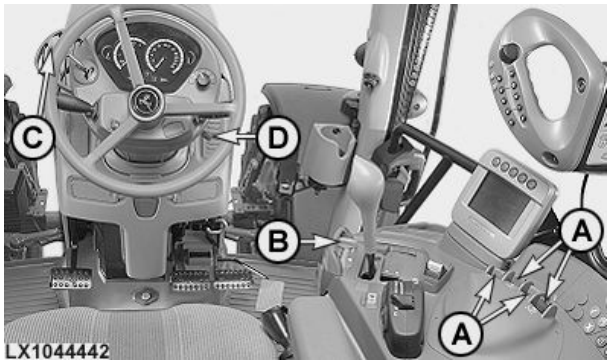
IMPORTANT: During the warm-up phase, operate the tractor at moderate load only. Once operating temperature has been reached (see temperature gauge), full power becomes available.

NOTE: The engine control unit (ECU) allows the engine to run at a higher slow idle speed (1050 rpm) until coolant temperature reaches 20°C (68°F).

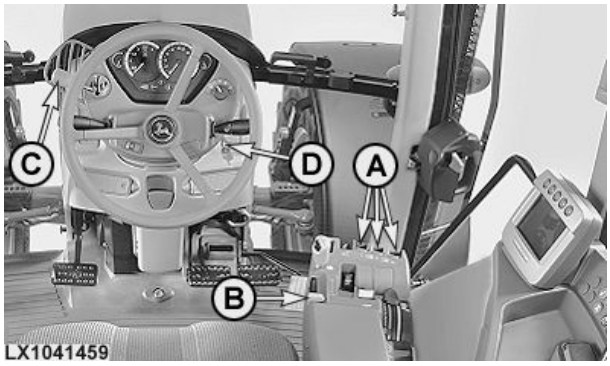
A—SCV Levers
B—Hand Throttle
C—Reverser Lever
D—Main (Key) Switch
E—Glow-Plug Indicator Light



LX1041458 —UN—18DEC06



LX1044442 —UN—11DEC07



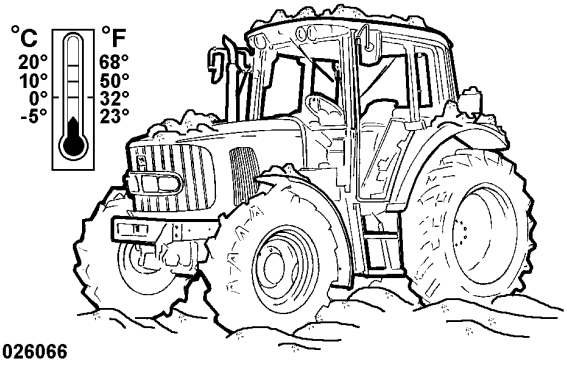
LX1041459 —UN—18DEC06

LX1036259 —UN—31MAY06

OU12401,0001CEB -19-17JUN10-1/1

Cold-Weather Starting Aids

Depending on tractor equipment, various cold-weather starting aids are available to assist in starting the engine at temperatures below 0°C (32°F).



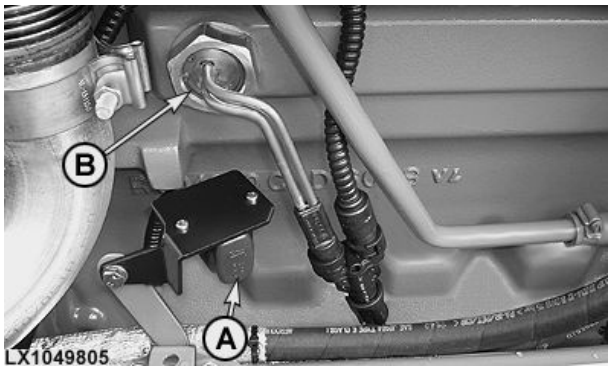
OU12401,0000581 -19-02DEC00-1/1

Coolant Heater

Connect connector (A) of coolant heater (B) to a 220-volt power source.

At an ambient temperature of -15°C (5°F), the heating process takes approx. 2 hours. Extend the heating period if ambient temperature is lower.

IMPORTANT: Pay attention to regional differences in the power grid.



OU12401,0001D24 -19-30AUG10-1/1

Starting the Engine With a Slave Battery

IMPORTANT: If the engine is to be run for a short time without battery (using a slave battery for starting), do not raise engine speed above 1000 rpm. Furthermore, use additional current (lights) while engine is running. Insulate battery end of disconnected starter cable properly to avoid damage to both alternator and regulator.

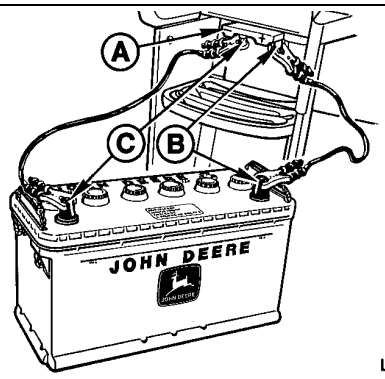
LX,OMOT 000166 -19-01FEB94-1/1

Starting with a Booster Battery

CAUTION: Gas given off by batteries is highly explosive. Keep sparks and flames away from batteries. Be sure polarity is correct before making connections: ground cable to negative pole and starter cable to positive pole of battery.

Reversed polarity will damage the electrical system. Always connect ground cable to negative pole last.

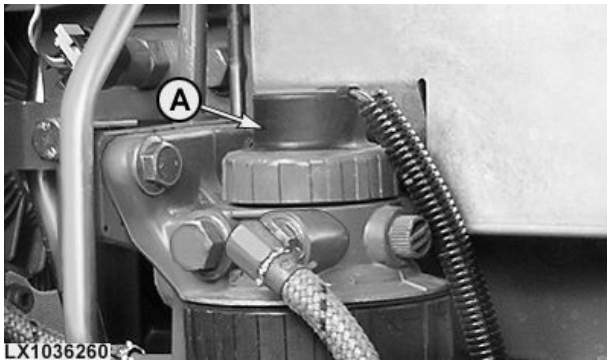
The tractor is equipped with connections to allow an additional 12-volt battery to be brought into the circuit. Lift up cover (A), and connect positive poles (B) before connecting negative poles (C).



OULXE59,001071C -19-18FEB05-1/1

Fuel Preheater

Fuel preheater (A) switches on and off automatically (ambient temperature).



LX1036260 —UN—16AUG05

OU12401,0001404 -19-13MAY06-1/1

Engines with Turbocharger

Most damage to the turbocharger is caused by not following the correct procedure when starting and shutting off the engine. After starting and before shutting off, idle the engine without load for at least 30 seconds.

IMPORTANT: If the engine "stalls" when in operation, restart it IMMEDIATELY. This will prevent the turbocharger from overheating.

OULXE59,0010944 -19-14NOV07-1/1

Intelligent Power Management (Power Boost) — Optional Equipment

NOTE: Power boost is activated automatically when starting the engine.

To de-activate or re-activate power boost, press engine button (A) and make a choice on the screen.

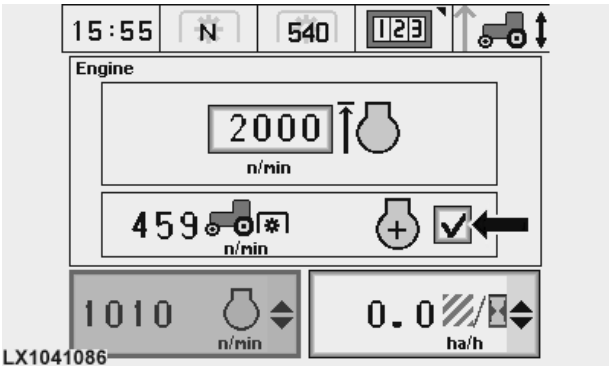
If power boost is activated at the CommandCenter, then the following applies:

a) Transport work
Engine power is increased automatically when ground speed exceeds 15 km/h (9.3 mph). This power boost persists until the ground speed drops below 10 km/h (6.2 mph).

b) PTO operation
When using PTO-driven implements, engine power is increased gradually when ground speed exceeds 1 km/h (0.6 mph), if the tractor electronic system detects a correspondingly high PTO power requirement. Full power becomes available from a speed of 2.5 km/h (1.5 mph).

A—Engine button

LX1037624 —UN—06NOV06



LX1041086 —UN—20NOV06

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OU12401,00019B0 -19-23APR08-1/2

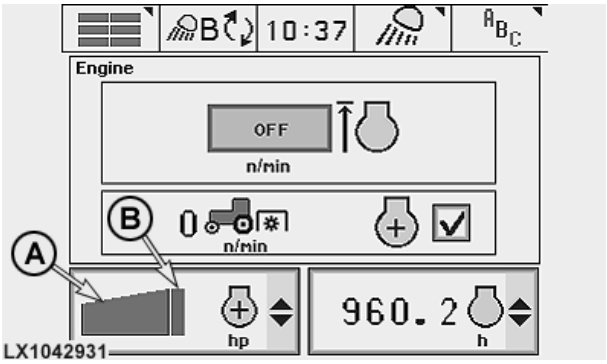
Engine power display

Fields (A) and (B) display the current engine power (light green color).

- Field (A) represents the power range up to rated engine power.
- Field (B) represents the John Deere power bulge (above rated power).
- The power boost achieved by the “Intelligent Power Management” system for PTO operation and transport work is displayed in field (B) (dark green color).

A—Engine power below rated power

B—Engine power above rated power



LX1042931 —UN—02MAY07

OU12401,00019B0 -19-23APR08-2/2

Engine Protection

Malfunctions in the fuel system and engine are indicated by the red STOP light, yellow CAUTION light and blue INFO light coming on. In addition, a message appears on the CommandCenter.

To protect the engine and prevent damage, there is an engine protection program that functions as follows when a serious malfunction occurs:

Malfunction	Light	Diagnostic trouble code	Effect
Incorrect signal from the crankshaft speed sensor	blue yellow yellow	000637.10 000637.02 000637.08	Engine power is reduced by 50%
Coolant too hot	yellow red	000110.16 000110.00	Engine power is reduced by 20% Engine power is reduced by 60%
Engine control unit too hot	red	001136.00	Engine speed is reduced to 1200 rpm
Exhaust Gas Recirculation (EGR) exhaust temperature too high	blue yellow red	000412.15 000412.16 000412.00	Engine power is reduced by 5 to 50%
Exhaust gas recirculation valve in wrong position	blue yellow yellow	002791.02 002791.13 002659.17	Engine power is reduced by 20%
Intake air temperature (VGT) too high	yellow red	001180.16 001180.00	Engine power is reduced by 5 to 50%
Fuel temperature too high	red	000174.00	Engine power is reduced by 20%
Fresh air temperature of Exhaust Gas Recirculation (EGR) too high	yellow red	002630.16 002630.00	Engine power is reduced by 20% Engine power is reduced by 60%
Mixed air temperature of Exhaust Gas Recirculation (EGR) too high	yellow red	000105.16 000105.00	Engine power is reduced by 20% Engine power is reduced by 60%
Engine oil pressure too low	yellow red	000100.18 000100.01	Engine power is reduced by 20% Engine power is reduced by 60%
Incorrect signal from sensor for fuel rail pressure	red red	000157.03 000157.04	Engine power is reduced by 50%
Problem with transmission on the CAN BUS	yellow yellow yellow	000237.02 000237.13 000237.31	Engine power is reduced in increments of 10% to an engine speed of 1200 rpm
Turbocharger speed too high	yellow	000103.00	Engine power is reduced by 50%
Turbocharger compressor outlet temperature too high	yellow	002790.16	Engine power is reduced by 50%
Turbocharger actuator error	yellow	002795.07	Engine power is reduced by 50%
Water detected in fuel	yellow	000097.16	Engine power is reduced by 50%
Coolant and transmission oil too hot, ground speed over 40 km/h (25 mph) *	—	—	Engine speed is reduced, ground speed in reduced to 40 km/h (25 mph)

* Tractors with AutoPowr

OU12401,0001AF6 -19-24NOV08-1/1

Towing the Tractor

IMPORTANT: Never tow the tractor to start the engine!

A disabled tractor is best transported on a flatbed carrier. Comply with the instructions in the “Transport” section.

OULXE59,0010945 -19-14NOV07-1/1

Parking the Tractor (Tractors Without AutoPowr)

IMPORTANT: Engage park only when the tractor is stationary.

Engage park lock and apply park brake when parked or operating the tractor from a stationary position.

LX1044921 —UN—11DEC07

OU12401,0001CF0 -19-12OCT09-1/1

Parking the Tractor (Tractors With AutoPowr)

IMPORTANT: Engage park only when the tractor is stationary.

Engage park lock and apply park brake when parked or operating the tractor from a stationary position.

NOTE: In extremely cold temperatures, it may take up to 20 seconds for park to engage.

When engaging park on slopes, remember to actuate the brake pedals as well.

An acoustic alarm warns the operator if he vacates his seat with park disengaged.

LX1037175 —UN—06JUN06

OU12401,0001CF1 -19-30SEP09-1/1

Stopping the Engine

CAUTION: Do NOT shut off the engine while the tractor is moving (not even when it is rolling to a stop). To do so could damage the electronics as well as the transmission.

CAUTION: After heavy-duty work or driving at high engine speeds, do not shut off the engine immediately; wait for a few minutes with the engine running at slow idle speed. This prevents the engine compartment from becoming too hot.

CAUTION: Lower mounted implement(s) or equipment to the ground before leaving the tractor. Pull the key out of the main switch.

LX1036262 —UN—05SEP05

Stop the tractor. Engage park and apply the park brake. Then turn main (key) switch (A) to the left to shut off the engine.

OU12401,0001CDF -19-22JUN10-1/1

Battery Cut-Off Switch (If Equipped)

This switch allows the battery to be cut off from the tractor's electrical system. To do this, main switch must be in OFF-position.

CAUTION: Never switch off the power at the battery cut-off switch while the engine is running! This may damage the tractor's electronics, and the voltage peaks that will occur at the alternator may be dangerous.

IMPORTANT: During a long storage period always turn battery cut-off switch to the OFF-position (tractor electrical system disconnected from battery power supply). Battery will be discharged if the tractor is not used and the battery cut-off switch is in the ON-position

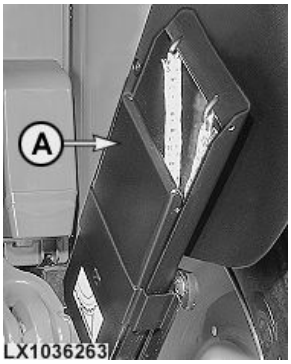
LX1037621 —UN—26APR06

OU12401,00013F2 -19-06APR06-1/1

Chock Block

When parking the tractor on sloping ground, proceed as follows:

1. Press chock block (A) together.
2. Pull chock block out of holder.
3. Press in pin (B) and open the chock block fully.
4. Place chock block in front of or behind rear wheel.



LX1036263 —UN—16AUG05

LX1049296 —UN—03AUG10

L102664 —UN—03JAN95

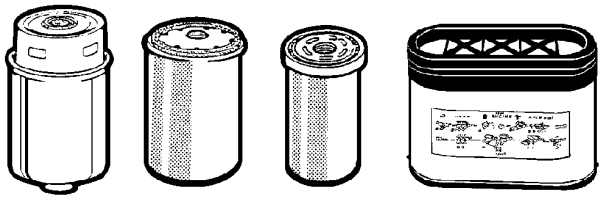
OU12401,0001237 -19-22JUN10-1/1

Reduce Fuel Consumption

Service correctly

Replace air cleaner element and fuel, engine oil and transmission/hydraulic filter elements at specified service intervals (see Service section).

Use only John Deere filters!

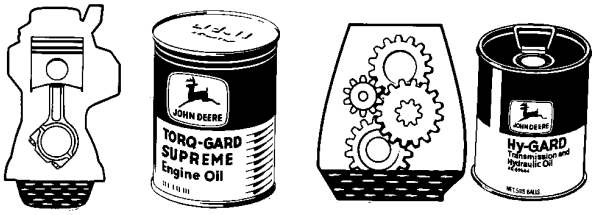


LX1031683

LX1031683 —UN—27MAR03

OU12401,000197F -19-24DEC07-1/7

Use recommended oils and lubricants only (see Fuel, Lubricants, Hydraulic Oil and Coolant section).

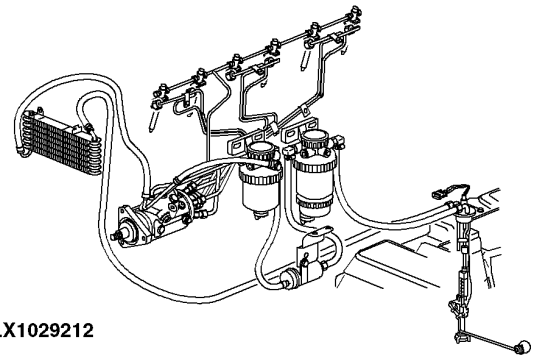


L103 642

L103642 —UN—15AUG94

OU12401,000197F -19-24DEC07-2/7

Have the fuel system checked regularly by your John Deere dealer.



LX1029212

LX1029212 —UN—07MAY03

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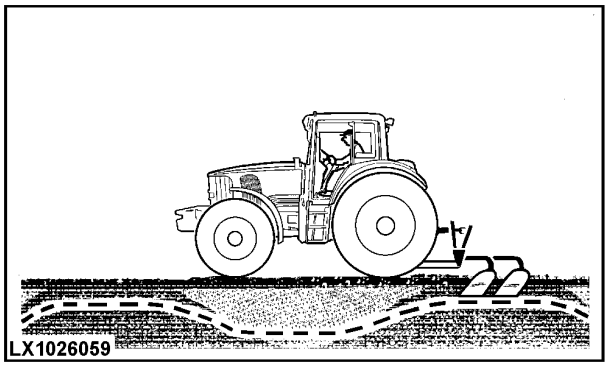
OU12401,000197F -19-24DEC07-3/7

Have draft link control functions of the hitch checked regularly by your John Deere dealer.

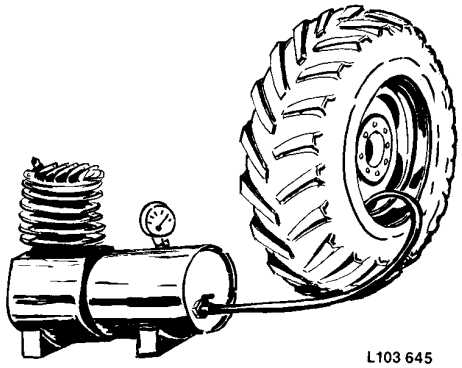


LX1026059 —UN—18MAY01

OU12401,000197F -19-24DEC07-4/7

Drive with correct tire pressures

Adapt tire pressures to type of work and ground conditions (consult your John Deere dealer or local tire agent).



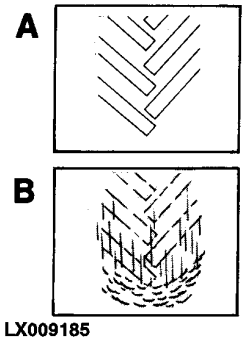
L103645 —UN—15AUG94

OU12401,000197F -19-24DEC07-5/7

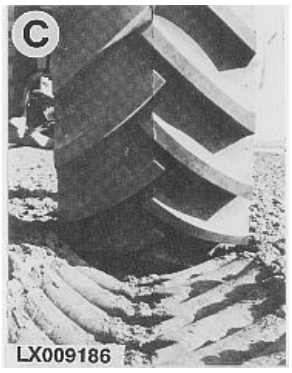
Choose correct ballast

Choose ballast to obtain 10 to 15% wheel slip. Use no more ballast than necessary, reduce ballast for light work.

A—Too much ballast
B—Too little ballast
C—Correct ballast



LX009185 —UN—01SEP94



LX009186 —UN—01SEP94

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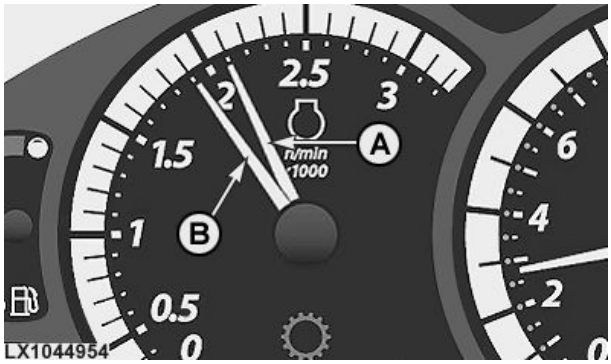
OU12401,000197F -19-24DEC07-6/7

Select correct gear

Always drive in the highest possible gear with reduced engine speed.

Choose a gear so that engine speed (A) with engine under no load drops 150 to 250 rpm when the tractor is operating with the engine under load (B).

NOTE: For light work, reduce engine speed below 2000 rpm. Select a gear so that engine speed drops 200 to 300 rpm when operating.



LX1044954 —UN—09JAN08

OU12401,000197F -19-24DEC07-7/7

Select Correct Ground Travel Speed

Number of gears on:

PowrQuad transmission (40 km/h; 25 mph)*:
20 forward gears, 20 reverse gears

AutoQuad transmission (Eco version) (40 km/h; 25 mph):
20 forward gears, 20 reverse gears

PowrQuad transmission (50 km/h; 31 mph):
20 forward gears, 20 reverse gears

* depending on legal requirements, the maximum speed may be limited to 35 km/h (21 mph)

AutoQuad Plus transmissions have the same number of gears and the same travel speeds as the corresponding PowrQuad Plus transmission.

Gears should be selected so as to avoid prolonged overloading of the engine. Ground travel speeds with engine running at rated speed are shown on the following pages.

OU12401,00015A4 -19-05DEC06-1/1

Travel Speed Tables

NOTE: The ground travel speeds shown in the following tables are theoretical. The actual speeds vary with rolling circumference, load, tire pressure, make of tire, wheel slip etc. If the precise speed is required for specific applications, then it must be obtained by measurement.

OULXE59,001089F -19-08MAY06-1/1

Travel Speeds, PowrQuad Plus Transmission (20/20)

40 km/h (25 mph)*; rated engine speed 2100 rpm; 650/75-38 tires

(* depending on legal requirements, the maximum speed may be limited to 35 km/h (21 mph))

Range	Gear	km/h	mph
A	1	2,6	1.6
	2	3,1	1.9
	3	3,7	2.3
	4	4,5	2.8
B	1	5,4	3.4
	2	6,5	4.0
	3	7,8	4.8
	4	9,6	6.0
C	1	8,6	5.3
	2	10,4	6.5
	3	12,5	7.8
	4	15,3	9.5
D	1	16,0	9.9
	2	19,3	12.0
	3	23,1	14.4
	4	28,3	17.6
E	1	23,7	14.7
	2	28,6	17.8
	3	34,2	21.3
	4	41,9	26.0
A	R1	2,7	1.7
	R2	3,2	2.0
	R3	3,9	2.4
	R4	4,7	2.9
B	R1	5,7	3.5
	R2	6,8	4.2
	R3	8,2	5.1
	R4	10,0	6.2
C	R1	9,0	5.6
	R2	10,9	6.8
	R3	13,0	8.1
	R4	15,9	9.9
D	R1	16,7	10.4
	R2	20,1	12.5
	R3	24,1	15.0
	R4	29,5	18.3
E	R1	24,8	15.4
	R2	29,8	18.5
	R3	35,7	22.1
	R4	43,7	27.2

Other tires (supplied by factory):

710/70-38	same	620/70-42	same
520/85-42	same	650/65-42	same
580/70-42	same	VF 710/60-42	same

OU12401,00015A5 -19-05DEC06-1/1

Travel Speeds, AutoQuad Plus Eco Transmission (20/20)

40 km/h (25 mph); rated engine speed 2100 rpm; 650/75-38 tires
(40 km/h; 25 mph are achieved at less than 2100 rpm)

Range	Gear	km/h	mph
A	1	2,8	1.7
	2	3,3	2.1
	3	4,0	2.5
	4	4,9	3.0
B	1	5,9	3.7
	2	7,1	4.4
	3	8,5	5.3
	4	10,4	6.5
C	1	9,4	5.8
	2	11,3	7.0
	3	13,5	8.4
	4	16,6	10.3
D	1	17,3	10.7
	2	20,9	13.0
	3	25,0	15.5
	4	30,6	19.0
E	1	30,0	18.6
	2	36,1	22.4
	3	43,2	26.8
	4	43,2	26.8
A	R1	2,9	1.8
	R2	3,5	2.2
	R3	4,2	2.6
	R4	5,1	3.2
B	R1	6,1	3.8
	R2	7,4	4.6
	R3	8,9	5.5
	R4	10,9	6.8
C	R1	9,8	6.1
	R2	11,8	7.3
	R3	14,1	8.8
	R4	17,3	10.7
D	R1	18,1	11.2
	R2	21,8	13.5
	R3	26,1	16.2
	R4	32,0	19.9
E	R1	31,3	19.4
	R2	37,7	23.4
	R3	45,1	28.0
	R4	45,1	28.0

Other tires (supplied by factory):

710/70-38	same	620/70-42	same
520/85-42	same	650/65-42	same
580/70-42	same	VF 710/60-42	same

OU12401,00015A6 -19-05DEC06-1/1

Travel Speeds, PowrQuad Plus Transmission (20/20)

50 km/h (31 mph); rated engine speed 2100 rpm; 650/75-38 tires
(50 km/h; 31 mph are achieved at less than 2100 rpm)

Range	Gear	km/h	mph
A	1	2,8	1.7
	2	3,3	2.1
	3	4,0	2.5
	4	4,9	3.0
B	1	5,9	3.7
	2	7,1	4.4
	3	8,5	5.3
	4	10,4	6.5
C	1	9,4	5.8
	2	11,3	7.0
	3	13,5	8.4
	4	16,6	10.3
D	1	17,3	10.7
	2	20,9	13.0
	3	25,0	15.5
	4	30,6	19.0
E	1	30,0	18.6
	2	36,1	22.4
	3	43,2	26.8
	4	50,0	31.1
A	R1	2,9	1.8
	R2	3,5	2.2
	R3	4,2	2.6
	R4	5,1	3.2
B	R1	6,1	3.8
	R2	7,4	4.6
	R3	8,9	5.5
	R4	10,9	6.8
C	R1	9,8	6.1
	R2	11,8	7.3
	R3	14,1	8.8
	R4	17,3	10.7
D	R1	18,1	11.2
	R2	21,8	13.5
	R3	26,1	16.2
	R4	32,0	19.9
E	R1	31,3	19.4
	R2	37,7	23.4
	R3	45,1	28.0
	R4	50,0	31.1

Other tires (supplied by factory):

710/70-38	same	620/70-42	same
520/85-42	same	650/65-42	same
580/70-42	same	VF 710/60-42	same

OU12401,00019DF -19-28MAY08-1/1

Engage the Front-Wheel Drive

Front-wheel drive can be engaged and disengaged in all gears (forward and reverse), on-the-go and under load without using the clutch.

NOTE: Disengage front-wheel drive before driving at high speed on public roads.

NOTE: When braking with both brake pedals, front-wheel drive engages automatically regardless of the position selected at the front-wheel drive switch. The front-wheel drive indicator light comes on.

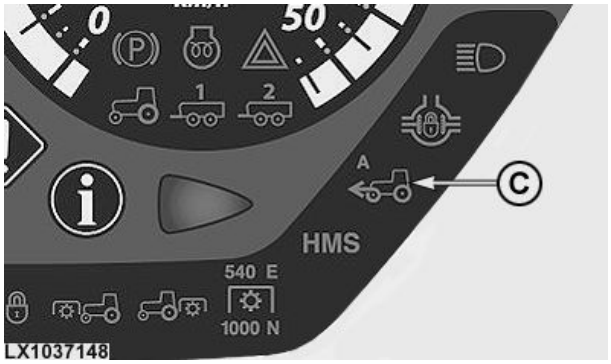
Automatic mode

When the automatic mode is selected, front-wheel drive disengages automatically whenever tractor speed exceeds 23.3 km/h (14.5 mph).

When tractor speed drops below 21 km/h (13 mph), front-wheel drive re-engages automatically.

A—Engage / disengage front-wheel drive
B—On/off switch for automatic mode
C—Indicator light comes on when front-wheel drive is engaged

LX1038296 —UN—06NOV06



LX1037148 —UN—06JUN06

OU12401,0001676 -19-22MAR07-1/1

Tractors with TLS Front Axle

CAUTION: When the engine is started and when a different suspension setting is selected, the front axle may move briefly, even if the tractor is stationary. Make sure everyone is clear of the area of potential danger.

IMPORTANT: If faults occur in the regulating system, a message appears at the CommandCenter. The suspension system is out of action. Drive slowly so as not to inhibit safety or damage components. See your John Deere Dealer immediately.

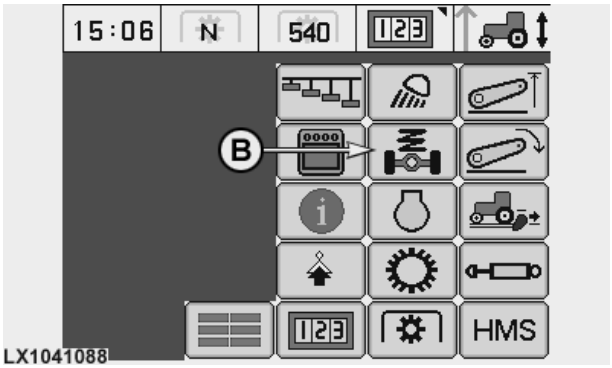
Press the main menu key (A) and select “TLS Plus” on the screen. Axle settings can be selected on the screen that follows.

If “AUTO” is selected, suspension reacts automatically in response to changing conditions. Travel speed, surface characteristics, tractor load and heavy implements at the rear are all taken into account. The best possible comfort is achieved. The suspended front axle engages whenever the tractor's speed exceeds 1.5 km/h (0.9 mph).

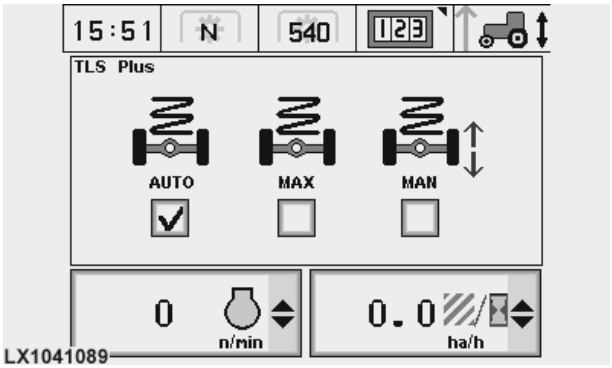
If “MAX” is selected, suspension is set to maximum hardness (e.g. for operation with a front loader). The suspended front axle engages whenever the tractor's speed exceeds 1.5 km/h (0.9 mph), and there is a delay in control when pulling away from stationary: control does not become active until the tractor has moved 5 m (16 ft.). When speed exceeds 35 km/h (22 mph), the “MAX” setting is de-activated. When speed drops below 25 km/h (15 mph) again, the “MAX” setting is re-activated.

A—Main menu key **B—TLS Plus**

LX1037587 —UN—06NOV06



LX1041088 —UN—20NOV06



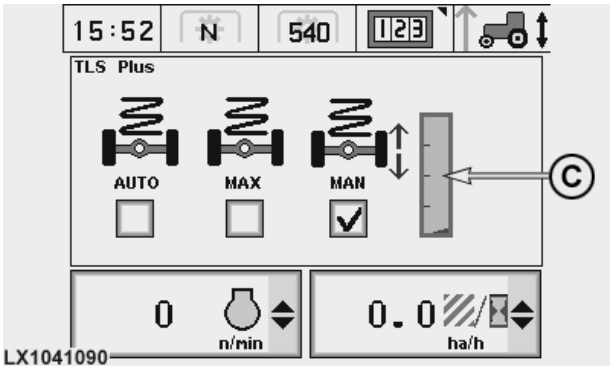
LX1041089 —UN—20NOV06

OU12401,00014BF -19-12NOV06-1/2

If MAN is selected, the axle settles in its mid-position. Thereafter, the front of the tractor can be raised and lowered manually (e.g. to facilitate the attachment of mounted implements). Do this by selecting bar graph (C) and turning the selection wheel. Turn it clockwise to raise the front of the tractor, and counterclockwise to lower the front of the tractor. To leave this screen, press the “confirm” or “abort” buttons. As speed rises above 1.5 km/h (0.9 mph), the axle settles in its mid-position.

The manual setting is overridden as soon as travel speed exceeds 5 km/h (3 mph). The system returns to its previous setting (“AUTO” or “MAX”).

C—Bar graph



LX1041090 —UN—20NOV06

OU12401,00014BF -19-12NOV06-2/2

Engaging Creeper Transmission

To engage or disengage creeper transmission, depress clutch pedal.

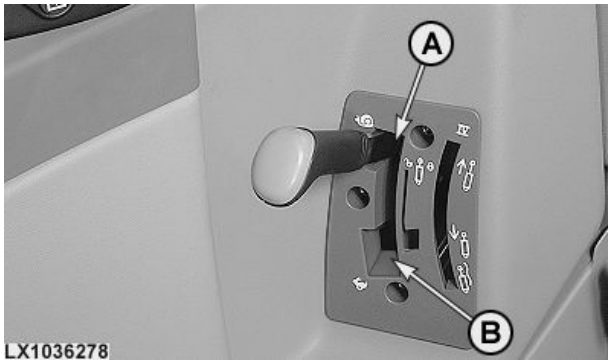
Select creeper as follows:

1. Select range.
2. Engage creeper.

Never engage creeper transmission with engine speed higher than 1000 rpm.

IMPORTANT: Do not use creeper transmission when working with implements that penetrate the soil and require high tractive force.

Never use the creeper transmission in range D or higher. Using the creeper transmission under any of these circumstances may lead to mechanical failure.



LX1036278 —UN—24NOV06

A—Creeper speed **B—High speed**

OU12401,00015AA -19-05DEC06-1/1

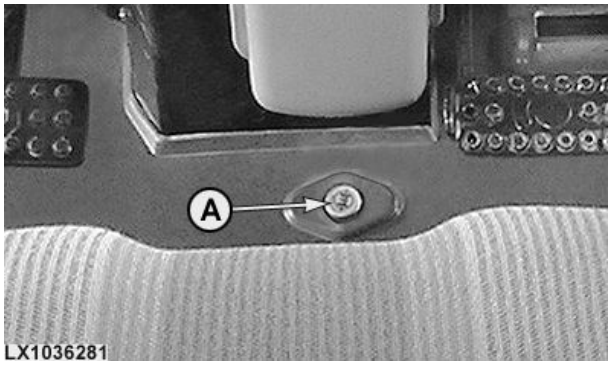
Engage the Differential Lock

⚠ CAUTION: Do not attempt to steer the tractor with the differential lock engaged.

If wheel slip varies greatly between rear wheels, engage differential lock by means of button (A) (only if the difference in speed is not too high). To disengage the differential lock, depress brake pedal or actuate button (A) again.

If tractor speed exceeds 23.3 km/h (14.5 mph) with the differential lock engaged, the differential lock switches off automatically.

When tractor speed drops below 23.3 km/h (14.5 mph) again, the differential lock must be engaged manually by the driver.



LX1036281 —UN—17AUG05

OU12401,0001677 -19-22MAR07-1/1

Hydraulic Foot Brakes

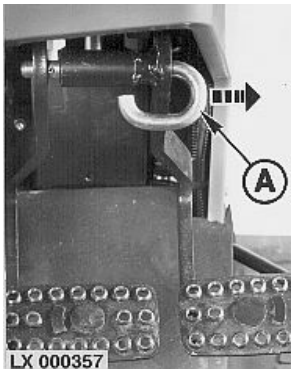
CAUTION: When the engine is not running, pedal travel is longer (no hydraulic assistance).

IMPORTANT: Brake pedals must be coupled together by means of pedal coupler (A) when driving on public roads.

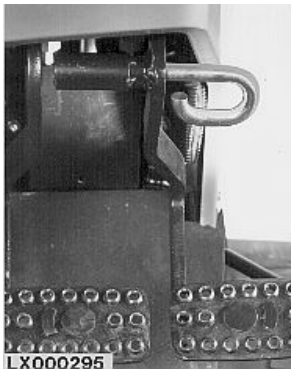
For field operation, pull pedal coupler (A) outward. The brake pedals can now be operated individually. In this case, only the l.h. or r.h. rear wheel is braked. Use individual brakes to assist in making sharp turns. Use brake to assist steering at low tractor speeds only.

When stopping the tractor, press down on both brake pedals at the same time.

When braking with both brake pedals together, front-wheel drive engages automatically. The front-wheel drive indicator light comes on.



LX000357 —UN—12AUG94



LX000295 —UN—12AUG94

OULXE59,001066E -19-05AUG04-1/1

Hydraulic Trailer Brake

Pull dust cover off coupler (A). Connect the pressure hose. Make sure the connections are absolutely clean.

Press down on brake pedals to operate hydraulic trailer brake. The braking effect depends on pressure applied to the brake pedals.

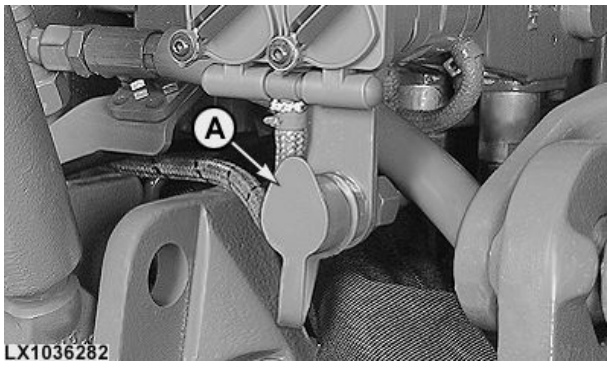
CAUTION: Never exceed a speed of 25 km/h (15 mph) when travelling with hydraulically braked trailers.

IMPORTANT: To prevent undue wear on the brakes, observe the following points:

Make sure that the pressure hose is connected.

When driving downhill, select the same gear you would for driving uphill.

Check the hydraulic trailer brake regularly to make sure that it is functioning correctly.



LX1036282 —UN—26APR06

NOTE: The tractor's park brake has no effect on the hydraulic trailer brake. Operate the trailer in accordance with the manufacturer's instructions. This is particularly important when operating the park brake of the trailer.

OU12401,0001BC1 -19-02JUL09-1/1

Trailer Air Brakes

The air brake is available as dual-line system or as combined single-line and dual-line system. Trailers with single-line brakes may be connected at connection (A). Trailers with dual-line brakes may be connected at connections (B) and (C).

Ensure that the connections are clean before joining the compressed air hoses. Seal the connections with the dust caps whenever the hoses are disconnected.

CAUTION: The single-line trailer brake may be used at speeds up to 25 km/h only.

When travelling with the tractor, keep within the legal speed limit.

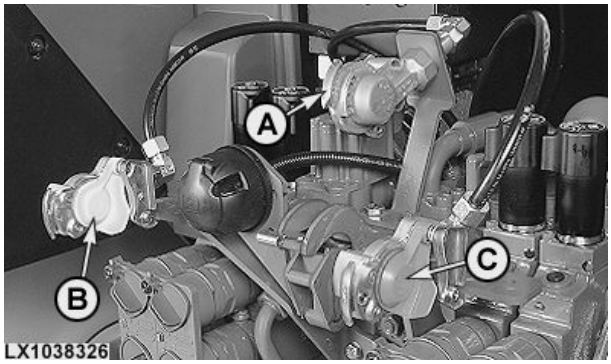
IMPORTANT: If air pressure is not sufficient to operate with a trailer, the relevant message appears on the CommandCenter. In addition, light (D) comes on when air pressure is too low.

To prevent undue wear on the brakes, observe the following points:

- **Make sure that the pressure hoses are connected.**
- **When driving downhill, select the same gear you would for driving uphill.**
- **Check the air brake on the trailer regularly to make sure that it is functioning correctly.**

CAUTION: When operating with a trailer:

1. **Remember to set the manually-operated brake valve on the trailer's air brake system (if equipped) in accordance with the weight of the trailer's load.**
2. **Drain the water from the compressed air tank every day (see Service - Daily or Every 10 Hours)!**



LX1038326 —UN—27APR06

LX1038383 —UN—06JUN06

A—Black (single-line brake, if equipped)
B—Yellow (dual-line brake)
C—Red (dual-line brake, supply)
D—Warning light (air pressure too low)

NOTE: Loss of pressure may cause the brake to become less effective. Operate the trailer in accordance with the manufacturer's instructions.

OU12401,0001BC2 -19-09NOV09-1/1

Shift the PowrQuad Plus Transmission

Gears are shifted using range shift lever (A), gear-shift buttons (B) - or switch (E) - and reverser lever (C). The hand clutch is operated via button (D).

Before starting the engine, move reverser lever (C) to neutral position. To drive, **first** move range-shift lever (A) to the desired range and then move the reverser lever to the desired direction of travel.

CAUTION: If the reverser lever is actuated when the engine is running and a range is selected, the tractor will start to move.

To change the ranges, the clutch pedal must be depressed or the hand clutch button must be actuated. There is no need to actuate the clutch to shift gears or to change the direction of travel.

To park the tractor, move reverser lever (C) to neutral and engage park at range-shift lever (A).

IMPORTANT: Engage park only when the tractor is stationary.

NOTE: If shift lever (A) is moved to park when reverser lever (C) is not in neutral, an audible alarm is triggered and the blue "INFO" light comes on. When the engine is shut off, the reverser lever remains in its selected position but the transmission shifts into neutral.

If the reverser lever is not in neutral when the engine is started, an audible alarm is triggered and the relevant message appears on the CommandCenter to alert the operator.

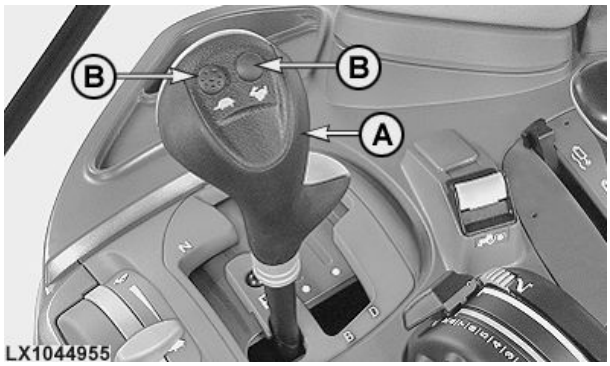
If the reverser lever is moved out of neutral while park is engaged, an audible alarm is triggered and the blue "INFO" light comes on. To make the tractor move, first put the reverser lever in neutral and then move it to the desired position.

Hand clutch (if equipped)

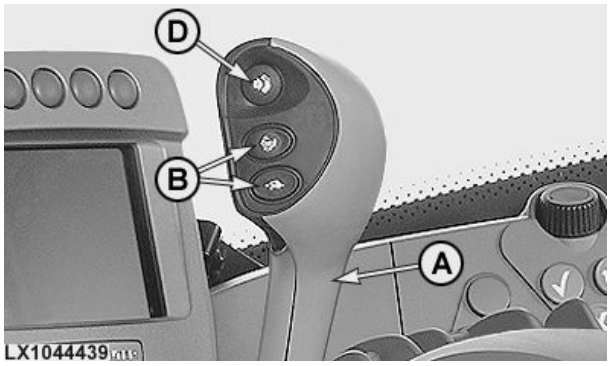
Press button (D), the clutch separates. Ranges may be selected or the tractor can be halted.

Release button (D), the clutch engages with modulation. On tractors equipped with a seat switch (operator presence switch), the following applies: If, within the last 3 seconds before the button is released, there was no weight on the seat and no actuation of the clutch pedal or brake pedal, the tractor does not move, even although the reverser lever is in the forward or reverse position. A message appears on the CommandCenter. To make the tractor move, move the reverser lever to neutral and then back into the desired direction.

NOTE: The hand clutch is not suitable for "creeping" up to an implement.



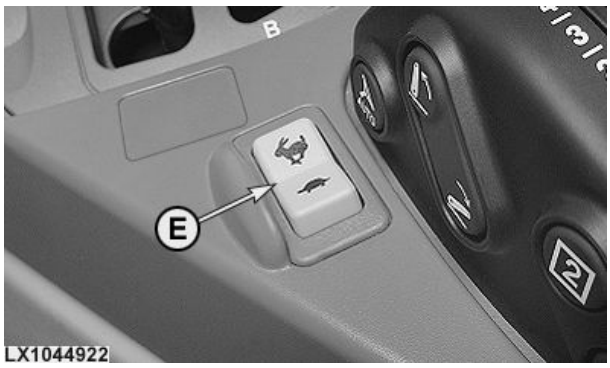
LX1044955 —UN—09JAN08



LX1044439 —UN—11DEC07

Range-shift lever and buttons (with hand clutch)

LX1036266 —UN—06JUN06



LX1044922 —UN—11DEC07

A—Range-shift lever
B—Gear-shift buttons
C—Reverser lever
D—Hand clutch button
E—Gear shift switch (extra)

Continued on next page

The hand clutch can be activated and de-activated at address EPC167. See “Customization” in the “Diagnostic Trouble Codes and Customization” section.

Optimum gear-shifting for driving under load (transport):

1. Select a range suitable for driving under load.
2. Engage the first gear.
3. Drive and shift up through the ranges until the top range is reached.
4. Shift up through the gears.

Cold-weather operation

If the oil is cold (0°C, 32°F), it may affect how the reverser lever operates. At temperatures below -10°C (14°F), it may take longer to change the direction of travel. Below +5°C (41°F), the automatic engine-speed matching is de-activated.

In certain circumstances, the reverser lever may have to be actuated several times before the tractor starts to move. When the oil has had time to warm up, operation becomes normal again.

"Come-home" mode

Under certain circumstances, the tractor can still be driven in “come-home” mode even if there is an electrical fault in the transmission.

To do this, stop the engine, remove plug K07/4 (relay box K07) and re-install it at a position 90° from its original position. The wording “Come Home” must be at the top.

NOTE: In the come-home mode, engine speed is limited to 1500 rpm and only the first gear in each range is available. The hand clutch is NOT available.

Restriction in the event of a missing speed signal

If the control unit notices that the speed signal is missing, only the first three gears in each range are available.

OU12401,00019B1 -19-18APR08-2/2

PowrQuad Plus Transmission — Settings

Speed-matching when changing ranges

If this option is activated, when changing ranges at travel speeds at or above approx. 7 km/h (4.4 mph), the transmission is automatically shifted into a gear that matches the travel speed. This automatic function can be overridden by holding down one of the gear shift buttons.

Press transmission button (A) and select speed-matching (B).

Engine-speed matching when shifting gears

If this option is activated, engine speed is altered temporarily by the electronics to achieve a smoother shift.

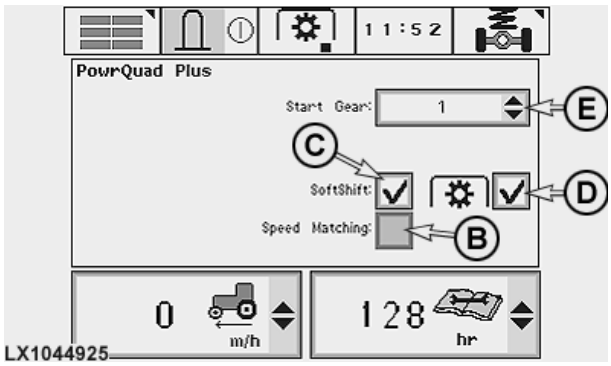
Press transmission button (A) and select engine-speed matching (C) and - if desired - PTO operation (D). Engine speed can then be matched in the following ways:

- Switched off all the time, if (C) is **not** activated
- Switched on, but off for PTO operation if **only** (C) is activated
- Switched on all the time, if (C) **and** (D) are activated

Initial gear (at start-up)

The figure in cell (E) determines which gear will be automatically selected at the transmission immediately after the engine is started.

LX1037622 —UN—06NOV06



LX1044925 —UN—11DEC07

A—Transmission button
B—Speed-matching
C—Engine-speed matching
D—PTO operation
E—Initial gear (at start-up)

Continued on next page

OU12401,000196F -19-23DEC07-1/2

Setting an upper limit for engine speed

This option allows you to set an upper limit for engine speed when performing certain work such as operating an hydraulic motor.

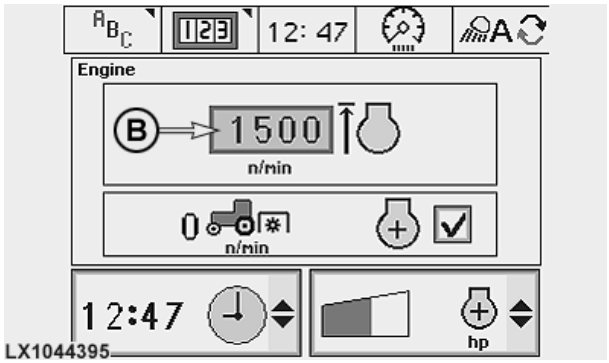
Run the engine, set the hand throttle to maximum speed, then press engine button (A) and set the desired engine speed in cell (B).

In the lowest setting, engine speed is limited to 1050 rpm. In the highest setting, the engine can run at maximum speed. Individual engine speed limits can be set between these two positions.

A—Engine button

B—Upper limit for engine speed

LX1037624 —UN—06NOV06



LX1044395 —UN—06MAR08

OU12401,000196F -19-23DEC07-2/2

Shift the AutoQuad Plus Transmission

Gears are shifted using range shift lever (A), gear-shift buttons (B) - or switch (F) - and reverser lever (C). Automatic selection is activated and de-activated by means of button (D). The hand clutch is operated via button (E).

Before starting the engine, move reverser lever (C) to neutral position. To drive, **first** move range-shift lever (A) to the desired range and then move the reverser lever to the desired direction of travel.

CAUTION: If the reverser lever is actuated when the engine is running and a range is selected, the tractor will start to move.

To change the ranges, the clutch pedal must be depressed or the hand clutch button must be actuated. There is no need to actuate the clutch to shift gears or to change the direction of travel.

To park the tractor, move reverser lever (C) to neutral and engage park at range-shift lever (A).

IMPORTANT: Engage park only when the tractor is stationary.

NOTE: If shift lever (A) is moved to park when reverser lever (C) is not in neutral, an audible alarm is triggered and the blue INFO light comes on. When the engine shuts off, the reverser lever remains in its selected position but the transmission shifts into neutral.

If the reverser lever is not in neutral when the engine is started, an audible alarm is triggered and the relevant message appears on the CommandCenter to alert the operator.

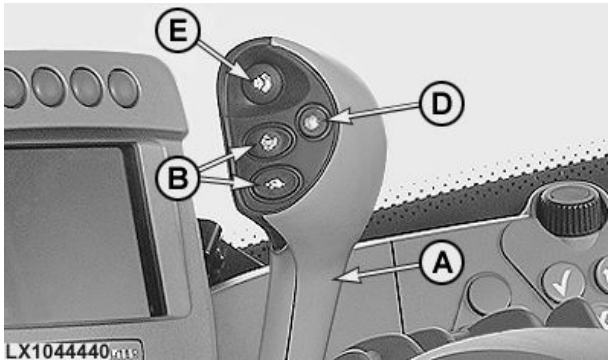
If the reverser lever is moved out of neutral while park is engaged, an audible alarm is triggered and the blue INFO light comes on. To make the tractor move, first put the reverser lever in neutral and then move it to the desired position.

Hand clutch

Press button (E), the clutch separates. Ranges may be selected or the tractor can be halted.

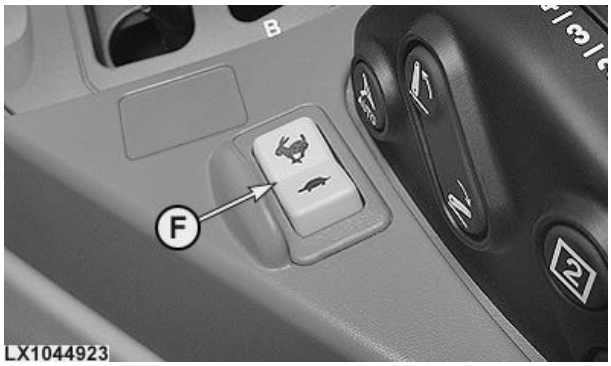
Release button (E), the clutch engages with modulation. On tractors equipped with a seat switch (operator presence switch), the following applies: If, within the last 3 seconds before the button is released, there was no weight on the seat and no actuation of the clutch pedal or brake pedal, the tractor does not move, even although the reverser lever is in the forward or reverse position. A message appears on the CommandCenter. To make the tractor move, move the reverser lever to neutral and then back into the desired direction.

NOTE: The hand clutch is not suitable for creeping up to an implement.



LX1044440 —UN—11DEC07

LX1036266 —UN—06JUN06



LX1044923 —UN—11DEC07

A—Range-shift lever
B—Gear-shift buttons
C—Reverser lever
D—Automatic button
E—Hand clutch button
F—Gear shift switch (extra)

The hand clutch can be activated and de-activated at address EPC167. See Customization in the Diagnostic Trouble Codes and Customization section.

Optimum gear-shifting for driving under load (transport):

1. Select a range suitable for driving under load.
2. Engage the first gear.
3. Drive and shift up through the ranges until the top range is reached.
4. Shift up through the gears.

Continued on next page

Cold-weather operation

If the oil is cold (0°C, 32°F), it may affect how the reverser lever operates. At temperatures below -10°C (14°F), it may take longer to change the direction of travel. Below +5°C (41°F), the automatic engine-speed matching is de-activated.

In certain circumstances, the reverser lever may have to be actuated several times before the tractor starts to move. When the oil has had time to warm up, operation becomes normal again.

Come-home mode

Under certain circumstances, the tractor can still be driven in come-home mode even if there is an electrical fault in the transmission.

To do this, stop the engine, remove plug K07/4 (relay box K07) and re-install it at a position 90° from its original position. The wording Come Home must be at the top.

NOTE: In the come-home mode, engine speed is limited to 1500 rpm and only the first gear in each range is available. The hand clutch is NOT available.

Restriction in the event of a missing speed signal

If the control unit notices that the speed signal is missing, only the first three gears in each range are available.

OU12401,000198D -19-29JAN08-2/4

Automatic gear shifting

This automatic function is activated by pressing button (A) once.

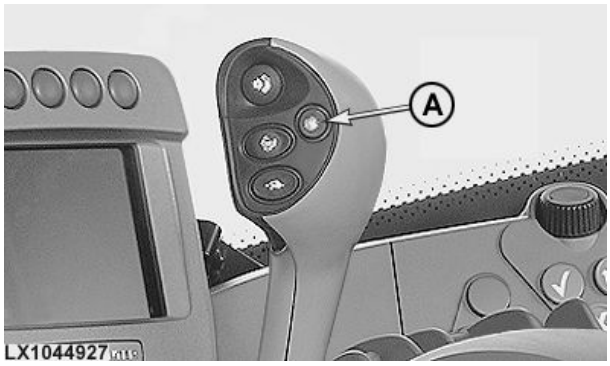
The gears in each range are shifted in relation to the position of the hand throttle or accelerator pedal as soon as engine speed reaches a maximum or minimum value. These values can be set at the CommandCenter (see AutoQuad Plus Transmission — Settings on the following pages).

The automatic function can be de-activated by pressing button (A) once again or by selecting a gear manually.

IMPORTANT: Eco mode is suitable ONLY for light work in the field and for driving on roads when the load being pulled is not heavy.

Eco mode: Hand throttle / accelerator pedal more than 85% towards top speed and engine revs over 1700 rpm: transmission shifts up.
Hand throttle / accelerator pedal more than 55% towards top speed and engine revs under 1220 rpm: transmission shifts down.
Hand throttle / accelerator pedal less than 55% towards top speed and engine revs under 1100 rpm: transmission shifts down.

Power mode: Hand throttle / accelerator pedal more than 85% towards top speed and engine revs over 2052 rpm: transmission shifts up.



LX1044927 —UN—11DEC07

A—Automatic button

Hand throttle / accelerator pedal more than 55% towards top speed and engine revs under 1600 rpm: transmission shifts down.
Hand throttle / accelerator pedal less than 55% towards top speed and engine revs under 1100 rpm: transmission shifts down.

Intermediate settings: The engine speeds at which the transmission shifts can be customized at the CommandCenter to change the shift point to an intermediate level between Eco mode and Power mode.

Continued on next page

OU12401,000198D -19-29JAN08-3/4

Programmable highest gear in automatic gear shifting

NOTE: For programming, automatic gear shifting must be switched off.

In addition to activating the automatic gear-shift function, button (A) may be used to determine the highest possible gear. The following applies:

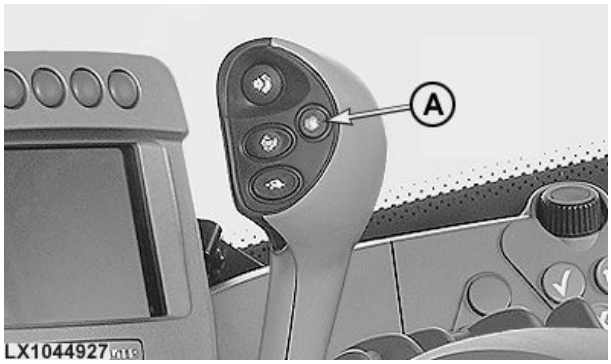
- Press once = the highest gear is 4th.
- Press twice (briefly) in succession = the highest gear is 3rd.
- Press three times (briefly) in succession = the highest gear is 2nd.

This setting is lost as soon as automatic gear shifting is switched off.

In the example opposite, the highest gear (B) is 3rd (third sector).

A—Button for automatic gear shifting

B—Highest gear



LX1044927 —UN—11DEC07

LX1038381 —UN—06JUN06

OU12401,000198D -19-29JAN08-4/4

AutoQuad Plus Transmission — Settings

Selecting automatic gear-shifting

Press transmission button (A) and select automatic gear-shift (B).

Select the forward/reverse ratio

The relationship between forward and reverse gears can be selected on the CommandCenter screen from a maximum of 3 gears higher in reverse to 3 gears lower (+3 to -3).

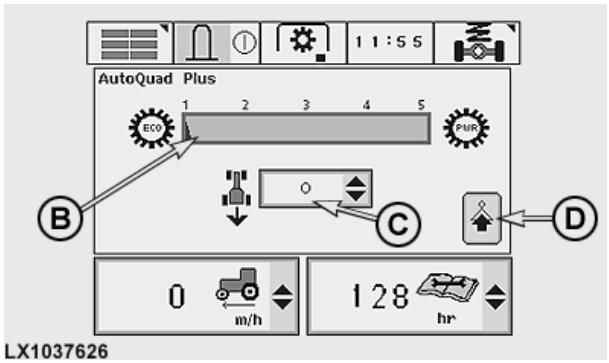
Press transmission button (A) and select the desired relationship in cell (C).

The relationship remains in effect when automatic gear shifting is switched off, and is stored after ignition is switched off.

If smart is selected, the electronic system will learn the forward and reverse gear manually selected by the operator and will shift into the relevant gear when changing the direction of travel.

NOTE: When automatic gear shifting is activated, a set maximum gear takes priority over the selected relationship.

LX1037622 —UN—06NOV06



LX1037626 —UN—31MAY06

A—Transmission button
B—Cell for setting automatic gear-shifting
C—Forward/reverse ratio
D—Next page

Continued on next page

OU12401,0001970 -19-23DEC07-1/3

Speed-matching when changing ranges

If this option is activated, when changing ranges at travel speeds at or above approx. 7 km/h (4.4 mph), the transmission is automatically shifted into a gear that matches the travel speed. This automatic function can be overridden by holding down one of the gear shift buttons.

Press transmission button (A) and select speed-matching (B).

Engine-speed matching when shifting gears

If this option is activated, engine speed is altered temporarily by the electronics to achieve a smoother shift.

Press transmission button (A) and select engine-speed matching (C) and - if desired - PTO operation (D). Engine speed can then be matched in the following ways:

- Switched off all the time, if (C) is **not** activated
- Switched on, but off for PTO operation if **only** (C) is activated
- Switched on all the time, if (C) **and** (D) are activated

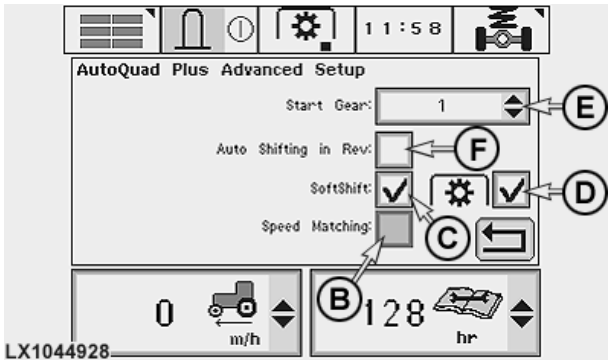
Initial gear (at start-up)

The figure in cell (E) determines which gear will be automatically selected at the transmission immediately after the engine is started.

Automatic gear-shifting in reverse

In cell (F), you can select whether or not automatic gear-shifting is active in reverse as well.

LX1037622 —UN—06NOV06



LX1044928 —UN—11DEC07

A—Transmission button
B—Speed-matching
C—Engine-speed matching
D—PTO operation
E—Initial gear (at start-up)
F—Automatic gear-shifting in reverse

Continued on next page

Setting an upper limit for engine speed

This option allows you to set an upper limit for engine speed when performing certain work such as operating an hydraulic motor.

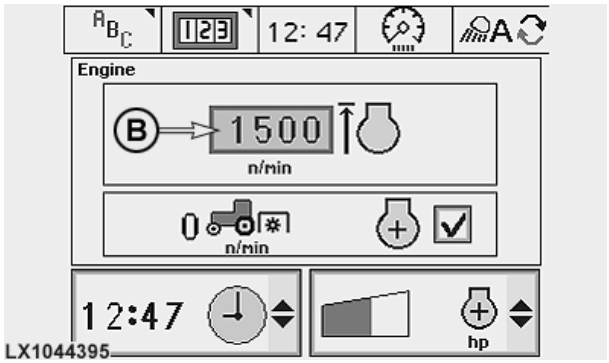
Run the engine, set the hand throttle to maximum speed, then press engine button (A) and set the desired engine speed in cell (B).

In the lowest setting, engine speed is limited to 1050 rpm. In the highest setting, the engine can run at maximum speed. Individual engine speed limits can be set between these two positions.

A—Engine button

B—Upper limit for engine speed

LX1037624 —UN—06NOV06



LX1044395 —UN—06MAR08

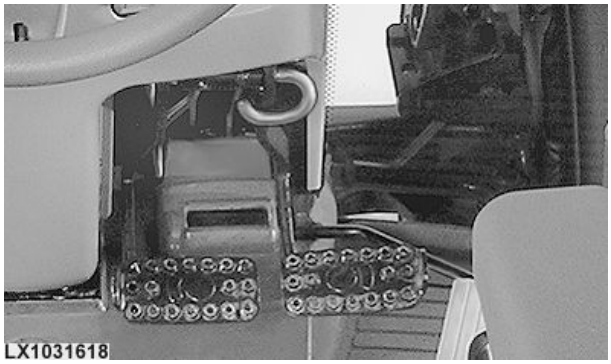
OU12401,0001970 -19-23DEC07-3/3

Special Features on Tractors with AutoPowr Drive Unit

The brake pedals also control the automatic clutch. Partially depressing **both** of the brake pedals allows the tractor to “creep” - this makes it easier to back up to an implement, for example. Fully depressing the two brake pedals stops the tractor with power still at the transmission. There is no need to press the clutch pedal. In consequence, watch out for the following points (they affect safety!):

- Full torque remains available even at very slow speeds. In certain conditions, even obstacles will not bring the tractor to a standstill.
- After the brakes are released, the tractor automatically accelerates up to the speed currently commanded by the hand throttle or accelerator pedal.
- If only **one** of the brake pedals is depressed (to assist with steering), the tractor will **not** come to a standstill (unless it is idling).
- If you go back to a tractor with a conventional transmission again, remember that the transmission is **not** disconnected when the brake pedals are depressed. Also, park **cannot** be selected on such tractors while the tractor is still in motion.

NOTE: When engaging park on slopes, remember to actuate the brake pedals as well.



LX1031618 —UN—23JAN06

Also use the brake pedals when turning on a downhill slope, as this will make the tractor change direction faster.

IMPORTANT: The speed control lever makes it possible to command a large reduction in speed in a short time. For safety reasons (e.g. preventing trailers from jack-knifing), the AutoPowr drive unit reduces its speed at a more moderate rate. Always use the brake pedals to decelerate quickly.

OULXE59,001083E -19-05MAY06-1/1

AutoPowr™ — Operating on Hillsides in Slippery Conditions

CAUTION: Personal injury may result if control of the tractor is lost while operating on hillsides. The tractor's wheels may lock on slippery slopes, causing skidding. Observe the following precautions:

- **Select a travel speed that ensures safe operation on hillsides.**
- **Do not use the speed lever to decelerate too quickly.**

OULXA64,00028A8 -19-13DEC11-1/1

AutoPowr — Cold Weather Starting

To avoid damage at temperatures below freezing, an automatic function prevents the drive system from engaging too soon. After the engine is started, diagnostic trouble code UIC 305057.01 (INFORMATION FOR OPERATOR: Transmission Warm-up Routine is Active) appears on the display.

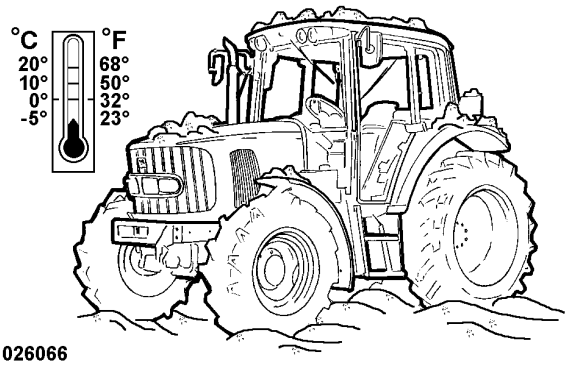
The warm-up routine can only be started if the reverser lever is in the "corner park" position. If the reverser lever is in any position other than park, code UIC 305058.01 (INFORMATION FOR OPERATOR: Transmission Warm-up Routine Cannot be Activated, Park must be Engaged) is displayed.

The time required for the transmission to warm up will vary depending on temperature:

Temperature range	Warm-up time
above -7° C (19.4° F)	none
between -8° C (17.6° F) and -15° C (5° F)	96 seconds
between -16° C (3.2° F) and -20° C (-4° F)	156 seconds
between -21° C (-5.8° F) and -30° C (-22° F)	246 seconds

At temperatures below -30° C (-22° F) only the transmission input shaft is turned. The warm-up routine starts as soon as the transmission oil temperature has reached -30° C (-22° F).

NOTE: Engine speed may rise up to 1500 rpm during the warm-up routine.



LX1026066

LX1026066 —UN—10MAY01

LX1037175

LX1037175 —UN—06JUN06

OULXE59,001083F -19-09NOV05-1/1

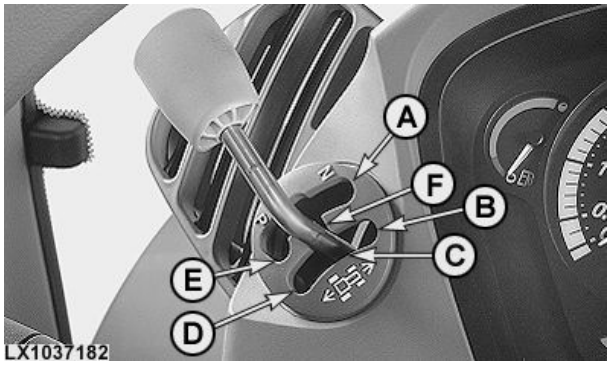
AutoPowr Operation

Reverser lever

To drive the tractor, move the lever to forward (B) or reverse (D). If the lever is moved from forward or reverse back to the center park position (F), the tractor will continue to roll and the transmission goes to its “Power Zero” mode. Ten seconds after the tractor stops rolling, park will automatically engage. If the lever is moved from forward or reverse directly to the corner park position (E), the tractor will brake to a stop using the transmission. Park will then engage. Remember to actuate the brake pedals as well when driving downhill.

If the lever is moved from forward or reverse to the "Power Zero" position (C), the tractor will continue to roll but it will **not** be braked by the transmission. When the tractor is stationary, power remains at the transmission. For “Power Zero”, the lever must be held firmly in this position. If the lever is released from the “Power Zero” position, it will automatically go to the center park position (F).

When the tractor is stopped, move the lever back to the corner park position. If the lever is moved to neutral (A), the direction clutches are opened and there will be no power in the transmission. The tractor may roll away.



LX1037182

LX1037182 —UN—06JUN06

A—Neutral
B—Forward
C—“Power Zero”
D—Reverse
E—Corner park
F—Center park

Continued on next page

OULXE59,0010840 -19-27APR06-1/4

Speed control lever

Travel speed is regulated using the speed control lever. Two speed ranges are available.

Speed range 1 allows a maximum forward speed of 20 km/h (12.4 mph). Speed range 2 allows a maximum forward speed of 40 km/h (25 mph) or 50 km/h (31 mph). The maximum speed in range 1 is always the minimum speed in range 2. This implies that speed does not change when the range is changed.

The maximum speed in a speed range is adjusted using speed wheel (B). See “AutoPowr Settings” on the following pages for details.

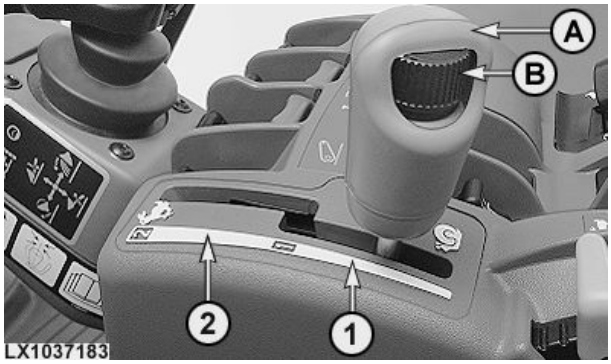
The maximum speed of a range is reached with the engine at full throttle and the speed control lever at the end of its travel in the speed range (provided tire dimension match the set values precisely). If the accelerator pedal is not at the end of its travel, the tractor will move at a corresponding speed (not proportional). If the speed control lever is not at the end of its travel in a speed range, the tractor will similarly operate at a corresponding speed.

Speed wheel (B) does not have a stop and can be “infinitely” adjusted. It makes a change in relation to the previous setting. If the maximum speed setting is changed with wheel (B) while the tractor is moving, the change is always based on the last setting. Turning the wheel will directly increase or decrease the last maximum speed setting. Any changes are stored by the tractor's electronics.

Creeper

If a forward travel speed below 2 km/h (1.24 mph) is used in speed range 1, the tractor will automatically shift to creeper mode. The possible minimum travel speed is 0.05 km/h (0.03 mph).

The maximum speed in range 2 is 2.5 times higher than in range 1. In both speed ranges, maximum speed in creeper mode is not more than 2.5 times higher than



LX1037183 —UN—10OCT05

A—Speed control lever
B—Speed wheel (for setting maximum speed)
1— Speed range 1
2— Speed range 2

the minimum speed. For example, if a maximum speed of 0.50 km/h (0.33 mph) is set in range 1, the minimum speed is 0.20 km/h (0.12 mph).

At speeds below 0.6 km/h (0.37 mph), changing engine speed does not have any effect on travel speed.

The following occurs if the speed-adjusting wheel is used to increase travel speed while the tractor is in motion in range 2 with creeper mode selected:

- If the speed selected is below 10 km/h (6.2 mph), the transmission remains in creeper mode. This means the originally set values will apply on changing back to range 1. Speed range 1 will flash on the digital display.
- Creeper mode also remains in effect if the 10 km/h (6.2 mph) speed is temporarily exceeded and then reduced to under 10 km/h (6.2 mph) before returning to range 1.
- Creeper mode will be exited if the 10 km/h (6.2 mph) speed is exceeded and range 1 is re-engaged. Forward speed range 1 will be automatically adjusted (to 2 km/h; 1.24 mph).

Continued on next page

Accelerator pedal and hand throttle

The stronger signal is always used for transmission control.

If the accelerator pedal or hand throttle are moved to command a higher engine speed, engine speed increases. In Eco mode, once the set travel speed is reached, engine speed is reduced (load controlled).

If the reverser lever is in forward or reverse, the tractor can be accelerated to the set speed using the accelerator pedal or hand throttle. The immediate travel speed is directly dependent on the setting of the accelerator pedal or hand throttle. Engine speed is indirectly determined by the position of the accelerator pedal.

When the accelerator pedal or hand throttle are actuated, the values set in the CommandCenter for automatic control and engine-speed limitation are always taken into account. For example, the value set for engine-speed limitation is not exceeded, even at full throttle. In Eco mode, the engine turns only as fast as needed, even if the operator applies full throttle.

LX1037184 —UN—10OCT05

A—Hand throttle

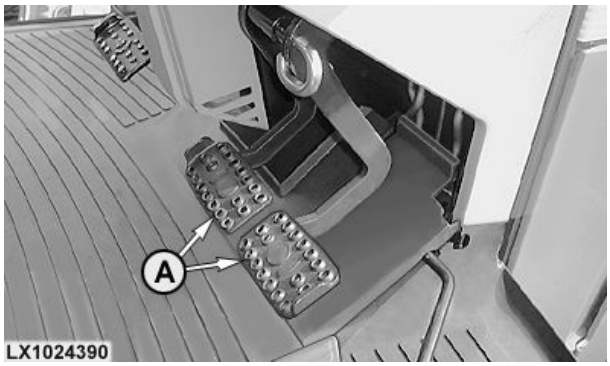
OULXE59,0010840 -19-27APR06-3/4

Brake pedals

If when driving the tractor **both** brake pedals are depressed, the tractor's speed will be reduced until it stops. Thanks to the automatic clutch function, there is no need to depress the clutch pedal when braking.

When the brakes are released again, the tractor automatically accelerates up to the speed currently commanded by the hand throttle or accelerator pedal.

The higher the engine speed, the greater is the force required at the brake pedals to stop the tractor.



LX1024390 —UN—03JUL00

A—Brake pedals

Clutch pedal

The clutch pedal normally does not need to be depressed to stop the tractor. If the clutch pedal is depressed, the corresponding clutch signal has priority over other commands.

OULXE59,0010840 -19-27APR06-4/4

AutoPowr — Settings

Ground speed

The maximum speed in a speed range is adjusted using speed wheel (A) and speed control lever (B).

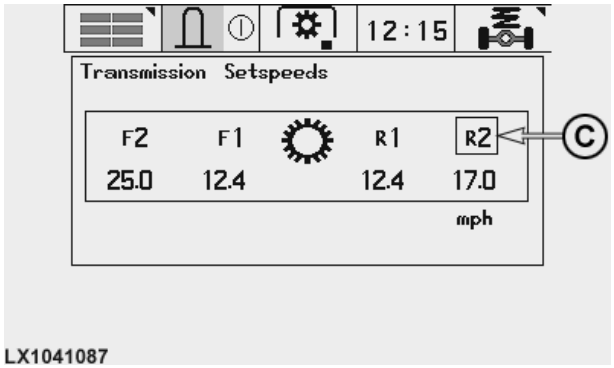
To set a forward speed range only, switch on the ignition and move the reverser lever to forward. Use speed control lever (B) to select the desired range and set the desired travel speed with wheel (A).

To set a reverse speed range only, switch on the ignition and move the reverser lever to reverse. Use speed control lever (B) to select the desired range and set the desired travel speed with wheel (A).

To set both a forward and reverse speed range, switch on the ignition and move the reverser lever to neutral. Range (C) alternates every 2 seconds between the forward and reverse speed ranges. Use speed control lever (B) to select the desired range and set the desired travel speed with wheel (A).

A—Speed Wheel (for setting maximum speed)
B—Speed Control Lever
C—Range Mark

LX1038339 —UN—18MAY06



LX1041087 —UN—20NOV06

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OU12401,0001971 -19-25MAY10-1/7

Setting the transmission's automatic control

Press transmission button (A). The screen shown controls the extent to which the transmission is controlled automatically.

When cell (B) is activated, fully automatic comes into force. The electronic system reacts automatically to the demands made on the engine by the PTO, hitch, electronic SCVs and steering brake. For more details, see Setting for fully automatic on the following pages.

When cell (B) is de-activated, the following applies per the setting in cell (C):

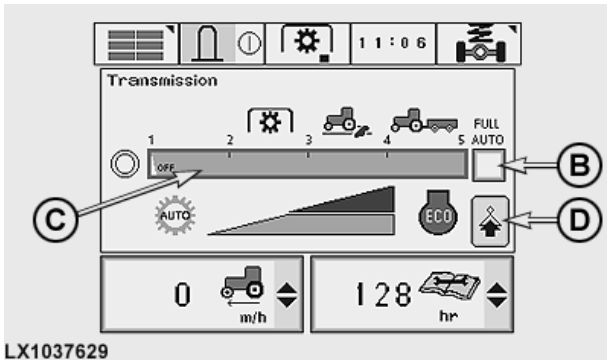
In setting 0 (manual), the only automatic intervention is to prevent the engine from stalling.

In setting 1, transmission control is minimally influenced by the electronic system. In setting 5, transmission control is most influenced by the electronic system. The extent of transmission automation progressively increases in settings 1 to 3, between 3 and 5 there is additional automation of engine control.

Engine load control is set in settings 1 to 3. In settings from greater than 3 to 5 (Eco mode), the engine turns only as fast as needed. This results in fuel savings and noise reduction. If the operator sets a specific engine speed in Eco mode and the electronic control system recognizes that this speed is not necessary, engine speed will be automatically reduced to a level adequate for tractor operation. Travel speed remains constant, however. Eco mode is not suited for lifting operations (where engine speed determines hydraulic pump output) and PTO operation (where engine speed directly determines PTO speed).

In Eco mode, you can override the set engine speed by operating the accelerator pedal and hand throttle at the same time.

LX1037622 —UN—06NOV06



LX1037629 —UN—31MAY06

A—Transmission Button
B—Fully Automatic on/off
C—Degree of Automation
D—Next Page

Setting 0 — Manual transmission control

Setting 1 — Approx. 30% engine load control before transmission intervenes, i.e. the transmission ratio changes.

Setting 2 — Approx. 18% engine load control before transmission intervenes.

Setting 3 — Approx. 4% engine load control before transmission intervenes.

Setting 4 — Approx. 16% engine load control* before transmission intervenes. Engine speed can be reduced electronically to a speed not lower than 1500 rpm in the partial load range.

Setting 5 — Approx. 16% engine load control before transmission intervenes. Engine speed can be reduced electronically to a speed not lower than 1200 rpm in the partial load range.

* If Intelligent Power Management (power boost) is activated (see Operating the Engine section), engine load control lies between 13% and 16%, depending on travel speed.

Continued on next page

OU12401,0001971 -19-25MAY10-2/7

The following list shows which automation settings are suitable for various types of tasks.

Range A — PTO operation

Range B — Towing operations with hydraulic power requirements

Range C — Any towing operation (field or road) without any hydraulic power requirement (since hydraulic power is not sufficient at an engine speed of 1200 rpm)

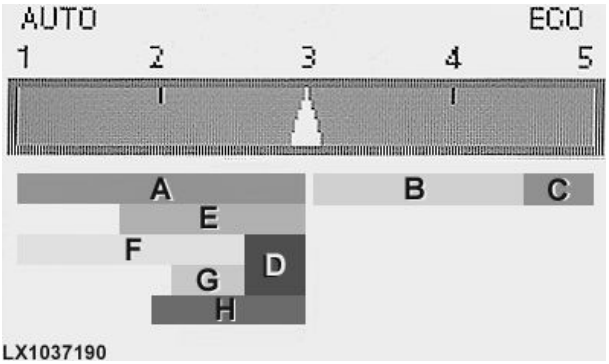
Range D — PTO operation, with precise PTO speeds (for example, when using a manure spreader)

Range E — Operation of balers

Range F — Tillage

Range G — Operation of mowers

Range H — Other operations requiring hydraulic power (e.g. use of front loaders)



LX1037190 —UN—11OCT05

The following may be regarded as basic settings:

Setting 1-2 — Work in which the engine's flywheel mass (PTO operation) and vehicle inertia (earth-moving) are adequate to meet transient peaks in the power requirements (caused by the implement or task in hand).

Setting 2.5 — Operations where engine speed is important.

Setting 5 — Operations where engine speed is not important.

Summary of different types of work

Procedure	Setting for automatic	Comment
Crop protection, liquid fertilizer	1	The transmission behaves like a conventional one with stepped gears. As engine speed drops due to increased load, travel speed also drops. The simultaneous reduction in PTO speed causes the output of pesticide to drop in step with travel speed. Adjust and operate pesticide equipment in accordance with the manufacturer's guidelines and the instructions provided by the pesticide/fertilizer producer. The less the engine is subjected to load control (e.g. 5 %), the greater the danger of excessive pesticide being metered as a result of the stepless change in the transmission ratio as load increases while engine and PTO speeds remain constant. Select other settings between 1 and 3, but take into account the technical aspects of the pesticide machine (metering, electronic regulation). The user must ensure that the pesticide is metered correctly.
Fertilizing (spreader for mineral-based fertilizers; manure spreader, liquid fertilizer)	3	A constant width of spray can be achieved only if PTO speed remains constant. If metering is not achieved on the basis of distance travelled, preselect a travel speed that can be sustained over the entire field. If the spreader functions independently of engine speed (e.g. a hydraulically-driven spreader), a different engine load control setting may be selected, provided the user makes sure that the material being sprayed is metered and distributed correctly.
Balers (large, round and high-pressure)	2-3	Select travel speed and engine load control so that the engine can cope with differences in terrain and windrow, to overcome load peaks with rising engine torque and the inertia of the driveline. PTO speed must be kept high enough for the machine to work properly. The operator may vary travel speed infinitely at any time as he pleases, without changing the engine speed, and thus adapt his speed to the requirements.
Mowers, mowers with conditioners, self-loading wagons	2-3	Same as for balers.
Turning, making and spreading windrows	1-3	Select a setting appropriate to your requirements.
PTO-driven tillage equipment (rotary harrow, rotary cultivator, tined rotor, also in combination with seed drills and spacing seeders)	2-3	Drive in a manner appropriate to the terrain, soil conditions and desired results. To achieve the desired crumb structure, there should not be too great an imbalance between PTO speed and travel speed.
Mechanical drills (metered via a wheel on the ground, with no PTO-assisted tillage)	greater than 3-5	Select a setting greater than 3 for economical driving.
Pneumatic drills and spacing seeders (without tillage)	2-3	PTO speed must be sufficiently high for pneumatic distribution of the seeds.

Continued on next page

Summary of different types of work

Procedure	Setting for automatic	Comment
Transport, driving on roads, towed tillage implements (plow, seedbed combination implements etc.)	greater than 3-5	Select a setting greater than 3 for economical driving.
Front loaders and hydraulically driven machines (silage cutters, feed mixers etc.)	2-4	Select any setting suitable for the work load (light or heavy loads on front loader). To achieve the desired machine speed, the hydraulic system must be able to provide sufficient oil.

IMPORTANT: When applying pesticides and fertilizers, always comply with the guidelines provided by the machine manufacturer and the pesticide/fertilizer producers, and with the relevant legal requirements.

OU12401,0001971 -19-25MAY10-4/7

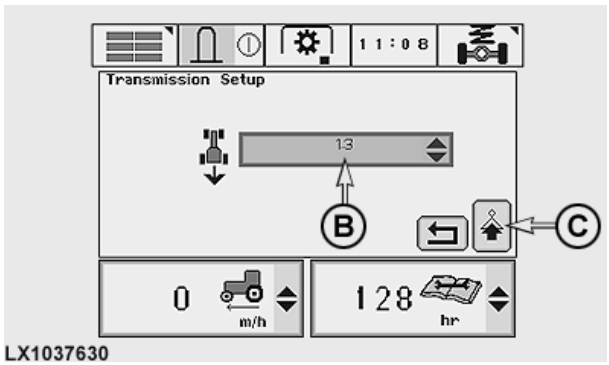
Setting the relationship of forward to reverse speed

Press transmission button (A). At the first screen, confirm the next page cell. Then, at the following screen, the desired relationship can be set at cell (B). There are 2 variants:

- In range 1, reverse speeds can be set to a maximum of 30% higher (selection 1.3) and 70% lower (selection 0.3) than forward speeds. A setting such as this only takes effect if the maximum speed in a speed range is adjusted using the speed wheel.
  In range 2 the forward-to-reverse speed ratio is 1:1 up to 22 km/h (14 mph). Above that, it changes automatically to 40:30 or 50:30.
- If **independent** is selected, any speed can be set in speed ranges 1 and 2 for each direction of travel. This does not apply to creeper mode.

A—Transmission Button
B—Forward/Reverse Relationship
C—Next Page

LX1037622 —UN—06NOV06



LX1037630 —UN—31MAY06

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OU12401,0001971 -19-25MAY10-5/7

Setting for fully automatic

Press transmission button (A) and confirm next page at each of the following two screens. Then, at the next screen, the electronic engine/transmission control can be altered to suit the operating conditions.

In cell (B), the following selections can be made:

- Auto
  16% engine load control, or 13% to 16% if Intelligent Power Management (power boost) has been activated (see Operating the Engine section).
- low
  4% engine load control
- med
  9% engine load control
- high
  14% engine load control

In cell (C), the following selections can be made:

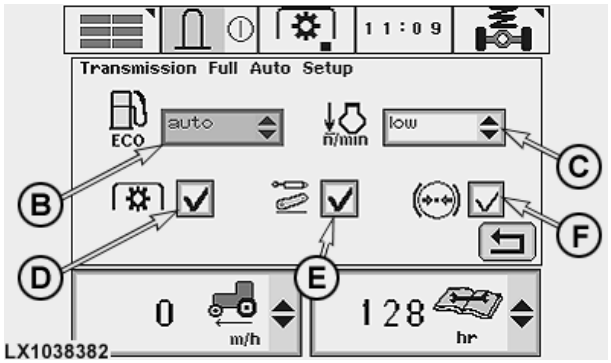
- low
  Engine speed may fall to 1200 rpm
- med
  Engine speed may fall to 1400 rpm
- high
  Engine speed may fall to 1600 rpm

If cell (D) is activated, the automatic control changes to the 2.5 setting whenever the PTO is selected.

If cell (E) is activated, the following applies:

- If the three-point hitch is raised or lowered, the automatic control moves to setting 4 until the hitch has completed its movement.
- If an electronic SCV is operated, the automatic control moves to setting 4 for the duration of this condition.
- The automatic control does NOT move to setting 4 if an electronic SCV is moved to float position.
- If engine speed is increased at the accelerator pedal or hand throttle while an electronic SCV is operating, the automatic control moves to a setting of 2.5. If the speed is reduced using the accelerator pedal or hand throttle, the automatic control switches to a setting of 4.

LX1037622 —UN—06NOV06



LX1038382 —UN—19JUN06

A—Transmission Button
B—ECO
C—Engine Speed (n/min)
D—PTO
E—Hitch/Selective Control Valves
F—Air Brake

If cell (F) is activated, the following applies:

- If the display shows the compressed air tank is empty for longer than 15 seconds, the automatic control moves in increments of 0.1 units per second to the 2.5 setting.

If the tractor's electronics register that the steering brake is in use, the automatic control moves down one unit (from setting 5 to setting 4 or from setting 4 to setting 3).

Continued on next page

OU12401,0001971 -19-25MAY10-6/7

Setting an upper limit for engine speed

This option allows you to set an upper limit for engine speed when performing certain work such as operating an hydraulic motor.

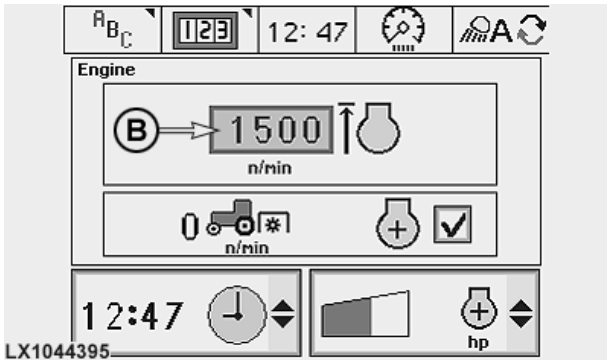
Run the engine, set the hand throttle to maximum speed, then press engine button (A) and set the desired engine speed in cell (B).

In the lowest setting, engine speed is limited to 1050 rpm. In the highest setting, the engine can run at maximum speed. Individual engine speed limits can be set between these two positions.

A—Engine Button

B—Upper Limit for Engine Speed

LX1037624 —UN—06NOV06



LX1044395 —UN—06MAR08

OU12401,0001971 -19-25MAY10-7/7

AutoPowr Come-Home Mode

In the event of a transmission malfunction, the tractor can still be operated at a maximum speed of 9 km/h (5.6 mph).

To do this, stop the engine, remove plug K07/4 (relay box K07) and re-install it at a position 90° from its original position. The wording “Come Home” must be at the top.

The clutch pedal must then be used to start, stop and operate the reverser lever. Comply with instructions on CommandCenter screen.

OULXE59,0010946 -19-14NOV07-1/1

Towing Tractor with AutoPowr™ Transmission

If the tractor needs to be towed and the park lock cannot be disengaged, follow the instructions given at Manual Park Lock Release in the Transport section.

OULXA64,00028A9 -19-13DEC11-1/1

Maximum Lifting Force

Information on maximum lifting force can be found in the Specifications section.

NOTE: Legal restrictions relating to axle loads and tire load capacity must be complied with. Due to these legal restrictions, maximum permitted lifting force may be less than the stated value.

OU12401,0001BBF -19-23MAY09-1/1

Hitch Control

The hitch is controlled by means of hitch control lever (A) and raise/lower switch (B). Button (C) is used to select the lift-limit screen.

To prepare the hitch for operation, start the engine and either:

- move control (A) to the position that corresponds to the position of draft links,
- move control (A) to one of the end positions, or
- actuate switch (B).

Pull control (A) towards “0” to raise implement
Push control (A) towards “9” to lower implement

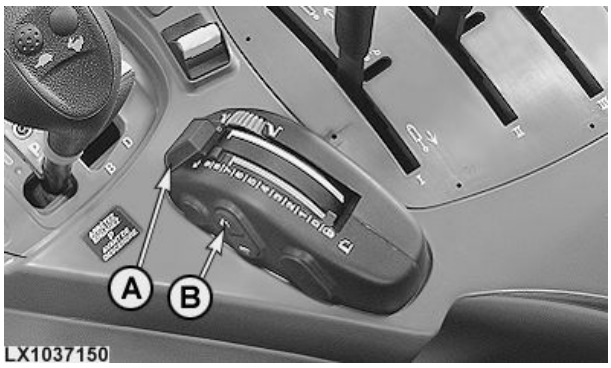
The implement can be raised and lowered independently of control lever (A) by means of raise/lower switch (B). This is of assistance when **turning at the end of a field**, for example. If the upper part of raise/lower switch (B) is pressed, the implement is raised as high as the raise-limit setting. If the lower part of raise/lower switch (B) is pressed, the implement is lowered as far as the setting at control lever (A).

To obtain working depth quickly in compact soil at the headland (quick lower), keep switch (B) pressed. As long as switch (B) is pressed, the adjusted draft force is not active (override function). If switch (B) is released, the implement returns to the previous settings.

This "quick lower" function will only work if:

- the implement has been raised using switch (B)
- the implement is lowered continuously from raised position using switch (B)

A—Hitch control lever
B—Raise/lower switch
C—Lift-limit button



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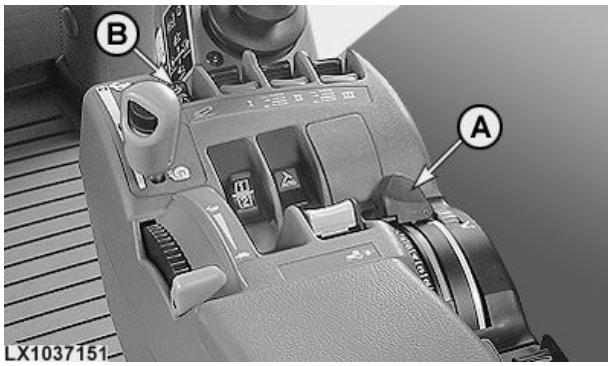

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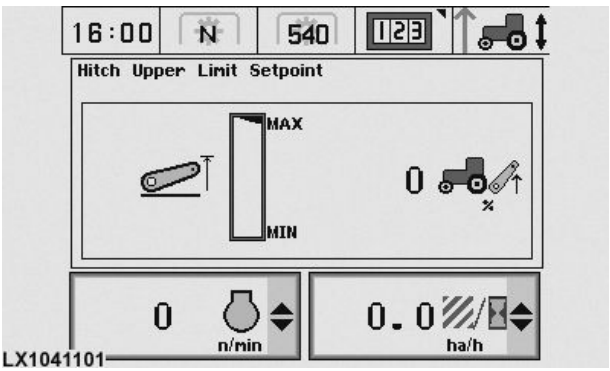
LX1038300 —UN—06NOV06



LX1041101 —UN—06NOV06

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OU12401,000193E -19-11DEC07-1/2

Pull control lever as far as it will go (beyond "0") - hitch is locked.

LX1037154 —UN—28SEP05

OU12401,000193E -19-11DEC07-2/2

Hitch Remote Control

These switches allow the hitch to be operated from the fender. For safety reasons, the hitch rises and drops at a slower rate. The height and depth values are ignored.

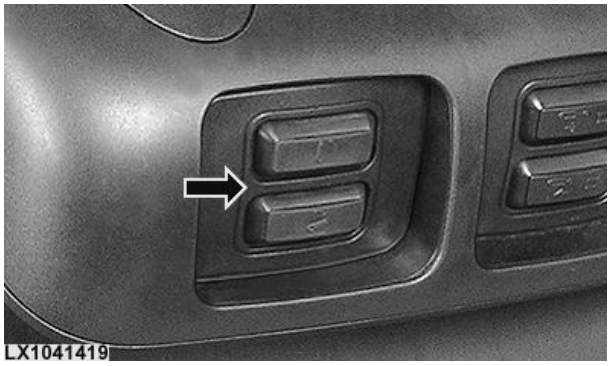
Push upper switch - Raise implement

Push lower switch - Lower implement

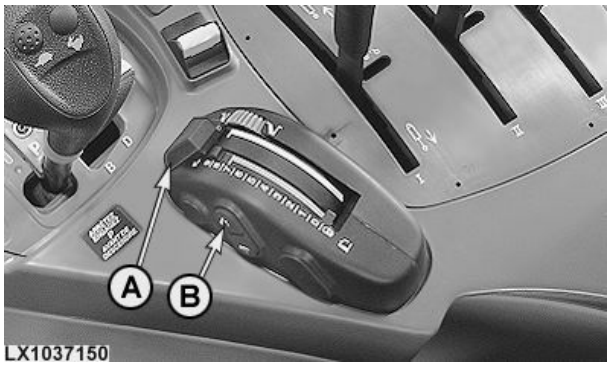
NOTE: Once the fender control has been activated, the hitch is prevented from moving accidentally. To prepare the hitch for operation again, either:

- *move hitch control (A) to the position that corresponds to the position of the draft links,*
- *move control (A) to one of the end positions, or*
- *actuate raise/lower switch (B).*

A—Hitch control **B—Raise/lower switch**



LX1041419 —UN—06NOV06



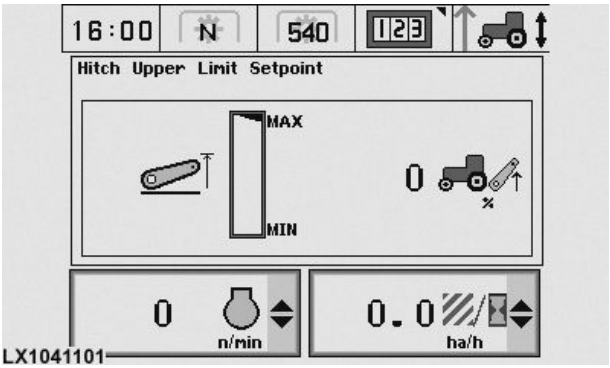
LX1037150 —UN—28SEP05

OU12401,000193F -19-11DEC07-1/1

Lift Limit

Button (A) is used to select the lift-limit screen. There, you can set the raise height of the three-point hitch to any desired value.

LX1038302 —UN—06NOV06



LX1041101 —UN—06NOV06

OU12401,0001940 -19-11DEC07-1/1

Transport Mounted Implements

Raise mounted implement fully by pulling hitch control lever as far as it will go to the rear (beyond ”0”) (A).

For a towed implement, push the hitch control lever as far as it will go to the front (B).

A—Implement without wheels **B—Implement with wheels**

LX1037157 —UN—28SEP05

OU12401,00012D5 -19-25SEP05-1/1

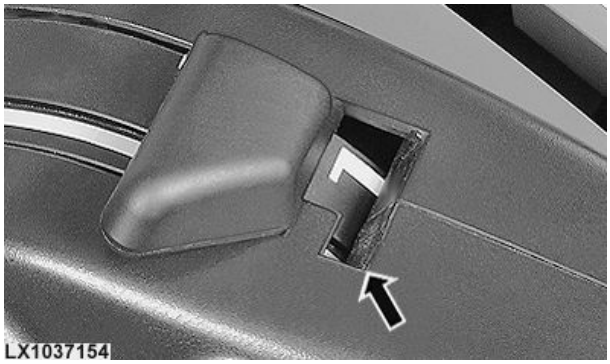
Hitch Dampening

The tractor is equipped with a hitch dampening function that prevents the tractor from "pitching" when travelling with a raised implement.

To activate the dampening function, first move the hitch control lever (with the engine running) to the position that corresponds to the position of the draft links. Then pull it as far as it will go to the rear (beyond ”0”) to the transport position (see arrow). Rate of drop must not be set at the minimum value.

To switch off the dampening function, push the hitch control lever forward from the transport position to a position beyond ”0” (in the "lower" direction).

NOTE: Using the remote control and switching off the engine both have the effect of switching off the hitch dampening function.



LX1037154 —UN—28SEP05

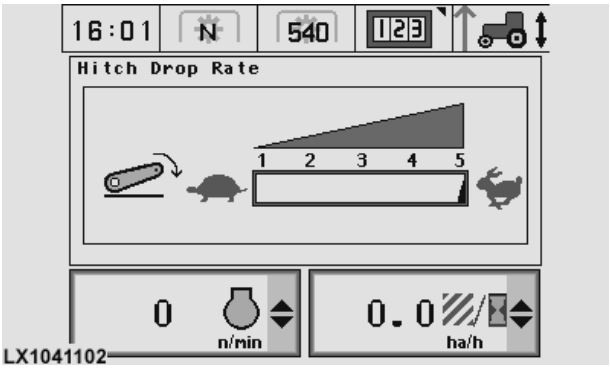
OU12401,00012D6 -19-25SEP05-1/1

Adjusting Rate of Implement Drop

Button (A) is used to select this screen. There, you can set the rate at which mounted implements will drop.

The rate-of-drop varies with this setting and the weight of the mounted implement. The heavier the implement, the faster the rate-of-drop and the lighter the implement, the slower the rate-of-drop.

LX1038303 —UN—06NOV06



LX1041102 —UN—06NOV06

OU12401,00014C3 -19-07JUL06-1/1

Rate of Lift Adjustment

It is possible to adjust the rate of lift individually at address BCU165 (see ”Customization” in the ”Diagnostic Trouble Codes and Customization” section).

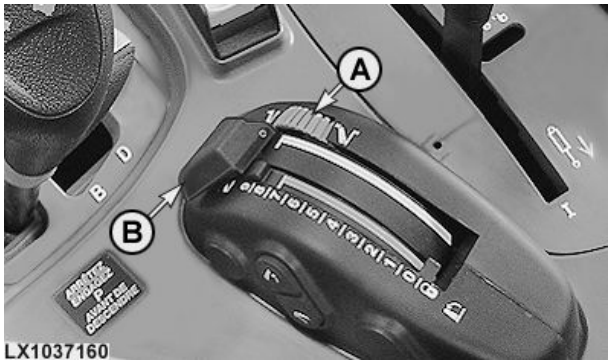
OU12401,00013F0 -19-06APR06-1/1

Depth Adjustment

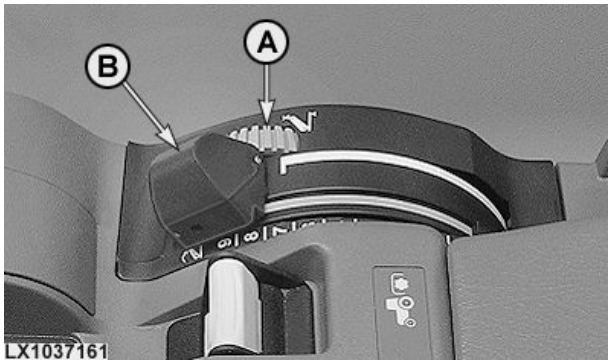
Push down hitch control stop (A) and set the desired working depth.

After lifting the implement, the same working depth will be selected the next time the implement is lowered. This depth is indicated by resistance at hitch control lever (B).

A—Hitch control stop **B—Hitch control lever**



LX1037160 —UN—28SEP05



LX1037161 —UN—28SEP05

OU12401,00012D8 -19-26SEP05-1/1

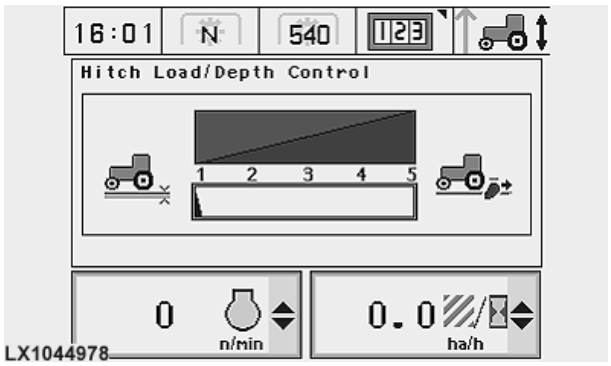
Load/Depth Adjustment

Button (A) is used to select this screen. There, you can set the hitch between load control and depth control. The positions have the following meanings:

- 1 = Depth control
- over 1 but less than 5 = Mixed control
- 5 = Load control

CAUTION: Before connecting implements to the three-point hitch, position 1 (depth control) must be selected to prevent unintentional raising or lowering of the hitch.

LX1038305 —UN—06NOV06



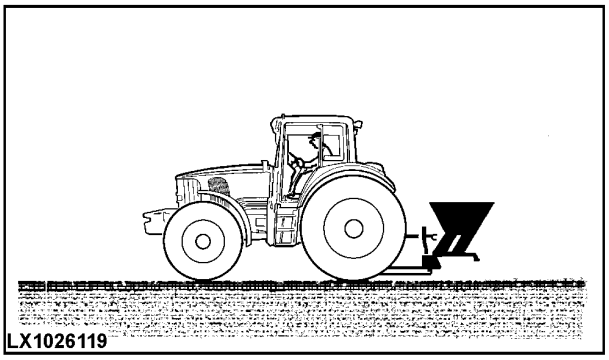
LX1044978 —UN—17MAR08

Continued on next page

OU12401,00019F8 -19-23JUN08-1/4

1 Depth Control

With load/depth control in this position, the implement is held at the selected position.

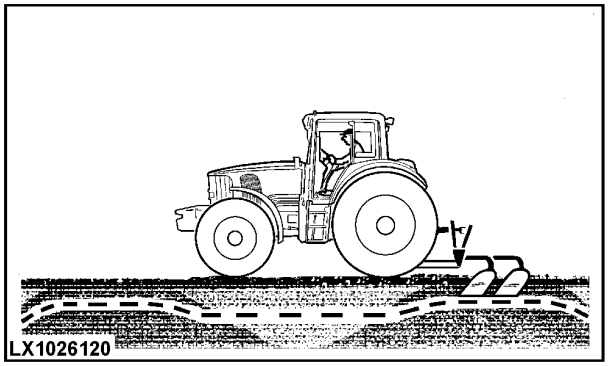


LX1026119 —UN—10MAY01

OU12401,00019F8 -19-23JUN08-2/4

Over 1 but less than 5 Mixed Control

The intermediate positions of the load/depth control allow the effects of depth control and/or load control to be infinitely varied as the ground conditions require.

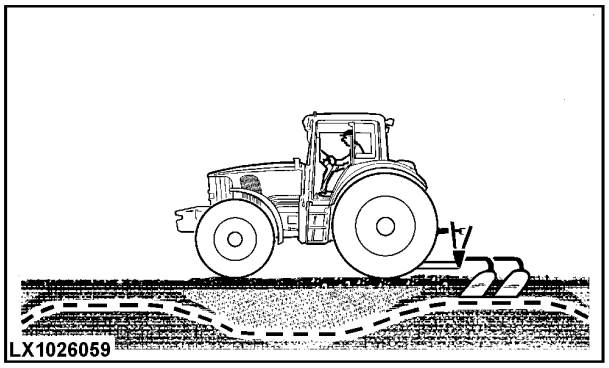


LX1026120 —UN—10MAY01

OU12401,00019F8 -19-23JUN08-3/4

5 Load Control

With load/depth control in this position, the implement is raised as resistance (soil density) increases and lowered as resistance decreases, thus maintaining the preselected load.



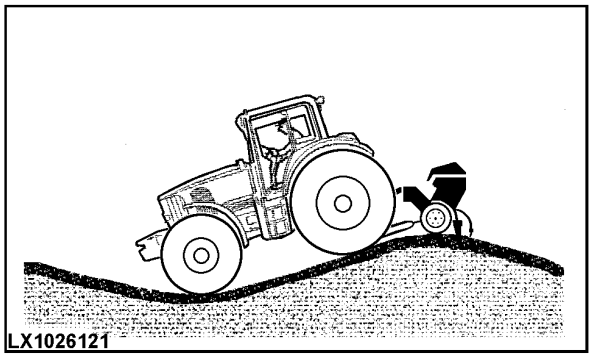
LX1026059 —UN—18MAY01

OU12401,00019F8 -19-23JUN08-4/4

Float Position

In float position (for implements with gauge wheel), implement can move freely up and down to follow ground contours independently of the tractor. To obtain a "floating" action, set load/depth to ”0” and move hitch control lever (A) as far as it will go to the front.

LX1037164 —UN—28SEP05



LX1026121 —UN—10MAY01

OU12401,0001465 -19-17JUN06-1/1

Direct Actuation

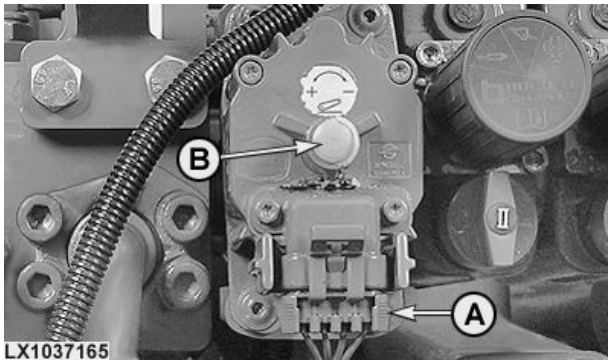
In the event of an electrical failure, the hitch can be actuated as follows:

Pull out plug (A).

Run the engine. Take off protective cap (B).

From the operator's seat, turn the screw with a 3 mm (0.12 in.) hex. socket wrench until the three-point hitch is in the desired position.

See your John Deere dealer.



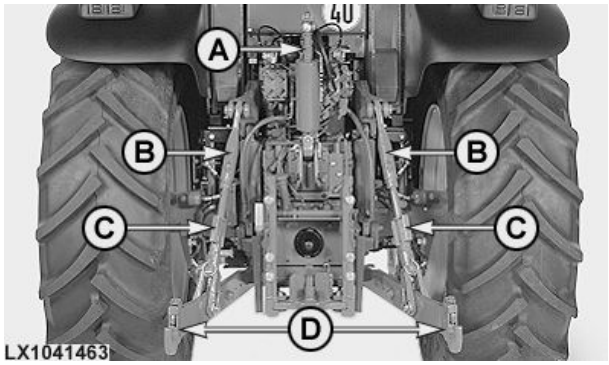
LX1037165 —UN—28SEP05

OU12401,0001942 -19-11DEC07-1/1

Three-Point Hitch

The tractors are equipped with quick-coupling (hook-type) draft links.

A—Center link
B—Lift links
C—Cranks for adjusting lift links
D—Draft links



LX1041463 —UN—15DEC06

OU12401,00015B0 -19-14DEC06-1/1

Quick-Coupling (Hook-Type) Draft Links

These draft links are intended for Category III implement balls.

IMPORTANT: The balls must be the correct size.

Category	Ball diameter (a)
III	64 mm (2.5 in.)

LX1033644 —UN—17MAY04

OU12401,00015B1 -19-14DEC06-1/6

How to use the coupler hooks

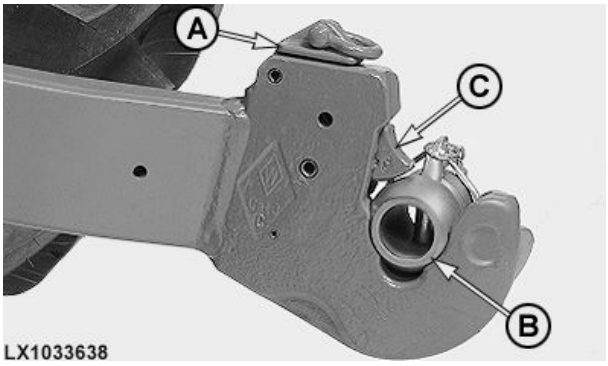
The couplers are operated by means of lever (A), which can be actuated either by hand or by a control cable.

IMPORTANT: Make certain that the coupler hooks are locked:

Lever (A) must be in contact with the coupler hook, there must be no play noticeable at ball (B), and pin (C) must enclose the ball.

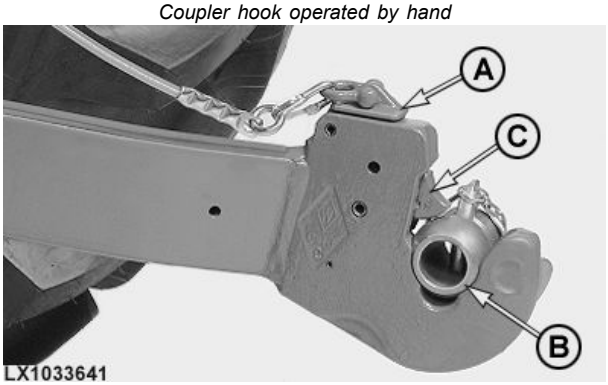
If coupler hooks have a control cable, note how the cable runs after the implement has been attached. If the cable droops excessively or gets tangled in undergrowth or branches, the hooks may be opened by accident.

A—Lever
B—Ball
C—Pin



LX1033638 —UN—17MAY04

Coupler hook operated by hand



LX1033641 —UN—17MAY04

Coupler hook operated by means of a control cable

Continued on next page

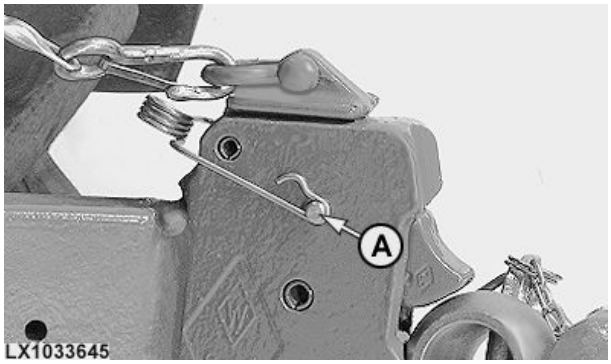
OU12401,00015B1 -19-14DEC06-2/6

Lock for draft link hooks

CAUTION: When implements with asymmetrical load (e.g. side-mounted mowing unit) are attached, or when driving through high-growing bushes and trees (e.g. when working in the forest), the draft links must be prevented from opening accidentally.

Use John Deere AL165485 lock parts kit at both of the coupler hooks.

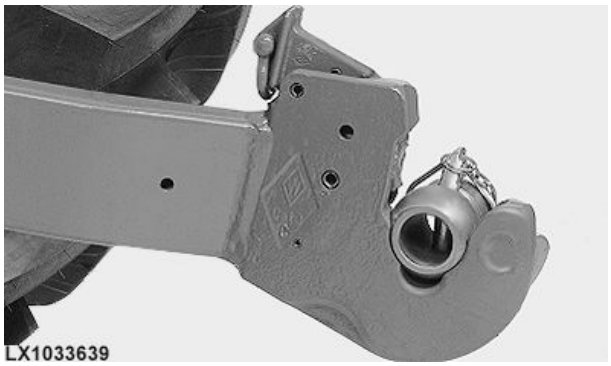
A—Lock parts kit



LX1033645 —UN—17MAY04

OU12401,00015B1 -19-14DEC06-3/6

The coupler hooks can be locked in their "open" position.



LX1033639 —UN—17MAY04

OU12401,00015B1 -19-14DEC06-4/6

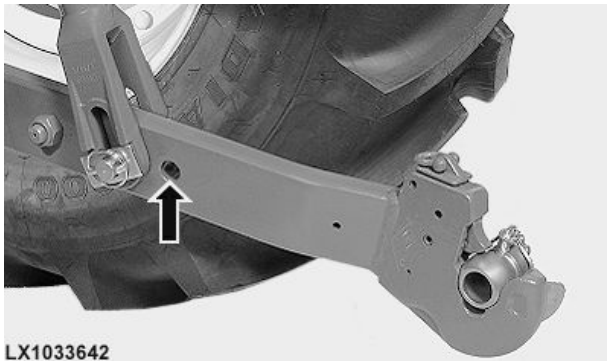
To close the coupler hook again, first pull the lever up at an oblique angle.

LX1033640 —UN—17MAY04

Continued on next page

OU12401,00015B1 -19-14DEC06-5/6

NOTE: On very heavy, compact implements, the lift links can be attached at the rear hole in the draft links. This reduces the lifting height, but maximizes the lifting force.



LX1033642 —UN—17MAY04

OU12401,00015B1 -19-14DEC06-6/6

Attach Three-Point Hitch Mounted and Drawn Implements

Be sure not to damage exposed parts of cab (see arrows) or other tractor components when attaching three-point hitch mounted or drawn implements.

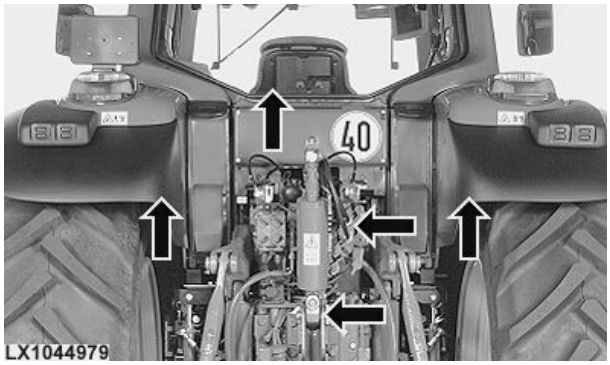
⚠ CAUTION: Do not stand between tractor and implement unless park lock and park brake are both engaged.

IMPORTANT: When attaching three-point hitch mounted or drawn implements for the first time, conduct a trial to ensure that implement will not damage cab or other tractor components in any position. With hitch-mounted implements, pay attention to the highest lift position; with drawn implements, be careful when turning sharply.

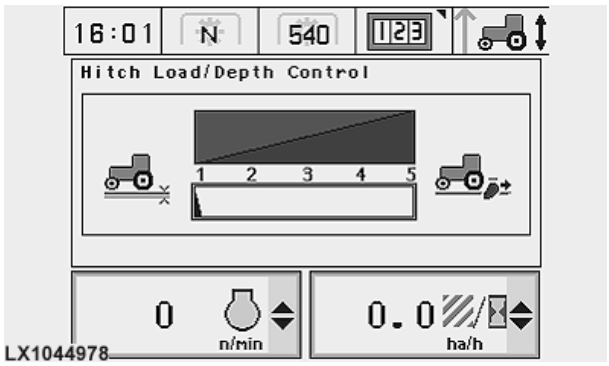
Also comply with instructions under Hydraulic Center Link, where applicable.

If a swinging drawbar is installed, set it in the front, short position. The swinging drawbar can also be swung to the right or left and secured there.

When attaching an implement, first make sure that load/depth control is set to 1.



LX1044979 —UN—17MAR08



LX1044978 —UN—17MAR08

OU12401,0001CE0 -19-21SEP09-1/1

Leveling the Implement

To level implement from side-to-side, adjust one of the lift links. Adjust center link to level front-to-rear.

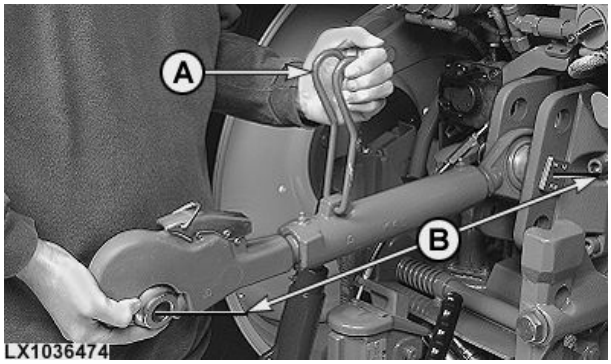
LX,OREGEL004251 -19-01JUL93-1/1

Center Link

Length of center link can be adjusted using adjusting handle (A).

- Minimum length 587 mm (23.1 in.)
- Maximum length 782 mm (30.8 in.)

Do not deviate from the specified dimensions. Grooves in the thread indicate the maximum permitted setting. The threads must not be unscrewed any further out of the receiver. After adjusting, push handle down again over center link. Insert attaching pin through implement mast and center link, and secure.



LX1036474 —UN—24APR06

A—Adjusting handle **B—Length**

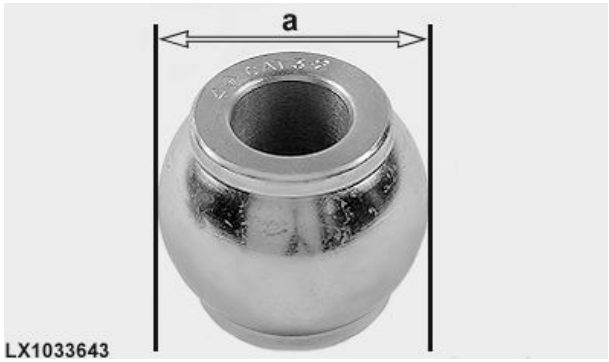
OU12401,00015B3 -19-14DEC06-1/1

Quick-Coupling (Hook-Type) Center Link

This center link is intended for Category III implement balls.

IMPORTANT: The ball must be the correct size.

Category	Ball diameter (a)
III	60 mm (2.4 in.)



LX1033643 —UN—17MAY04

Continued on next page

OU12401,00015B4 -19-14DEC06-1/2

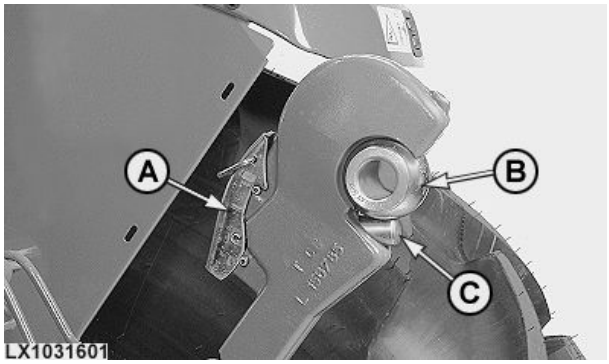
How to use the coupler hook

The coupler is operated by means of lever (A), which can be actuated either by hand or by a control cable.

IMPORTANT: Make certain that the coupler hook is locked:

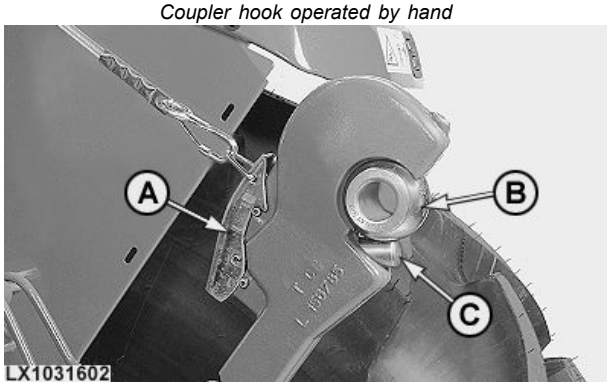
Lever (A) must be in contact with the coupler hook, there must be no play noticeable at ball (B), and pin (C) must enclose the ball.

A—Lever
B—Ball
C—Pin



LX1031601 —UN—16SEP04

Coupler hook operated by hand



LX1031602 —UN—16SEP04

Coupler hook operated by means of a control cable

OU12401,00015B4 -19-14DEC06-2/2

Hydraulic Center Link

The length of the hydraulic center link can be adjusted from the driver's seat using the 3rd selective control valve. In addition, the center link can be actuated from the remote control switches on the fender.

Attached to the hydraulic center link is a measuring rod which is intended to facilitate adjustment of the center link when in operation. For this purpose, the rod has marks on it to assist in positioning. The rod is not suitable for use as a handhold when in transport or during installation and removal.

Route the hydraulic hoses so that the loops face upwards away from coupling area of the center link. Connect supply line (A) to the top port on SCV 3; connect supply line (B) to the bottom port on SCV 3.

With the hydraulic center link, before starting any journey or operating in the field the operator must be certain that the three-point hitch has sufficient clearance for all possible movements. The center link must not come into contact with other parts of the tractor at any point within its vertical and horizontal ranges.

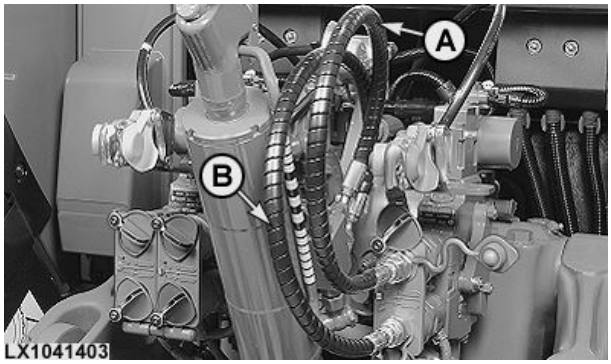
With mounted implement, retract the center link fully. On the CommandCenter screen, set the mark to “MIN”. Use the hitch control to raise the implement fully. **Carefully** move the mark in the CommandCenter towards "MAX" until the implement reaches its highest possible position.

IMPORTANT: To avoid damaging the center link and its bracket on the tractor, the hydraulic center link may be operated only in the top and center holes of the center link bracket.

If severe wear occurs at guide rails (C) on the PTO housing, the rails must be replaced with new ones in order to prevent the center link from coming into contact with the hydraulic block.

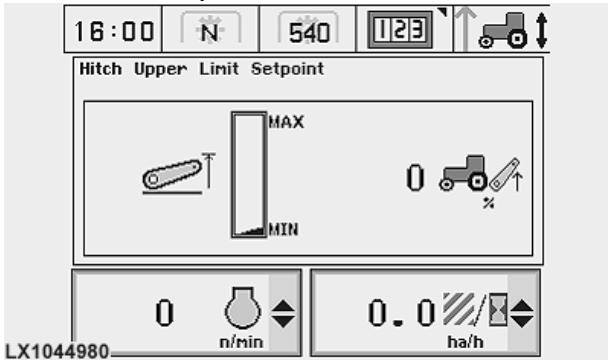
When attaching the center link to or removing it from the tractor, remember that the center link is very heavy.

A—Top line
B—Bottom line
C—Guide rail



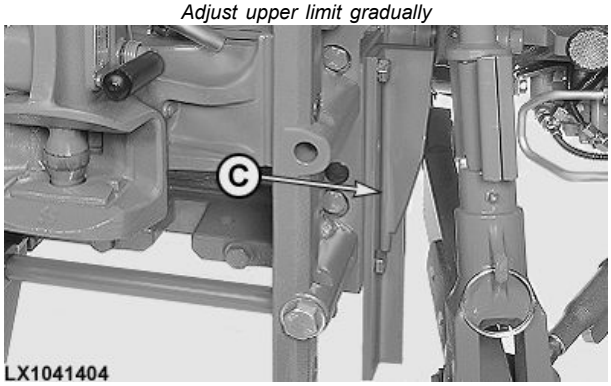
LX1041403 —UN—10NOV06

Hydraulic line connections



LX1044980 —UN—17MAR08

Adjust upper limit gradually



LX1041404 —UN—18OCT06

Guide rails

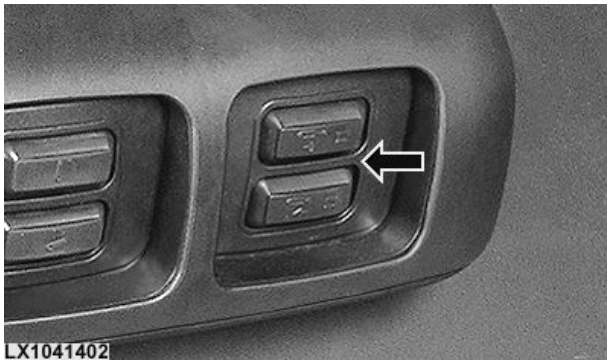
OU12401,00019E7 -19-13JUN08-1/1

Remote Control of Hydraulic Center Link

These switches are for actuating the hydraulic center link from outside the operator's cab.

Pressing the top switch extends the center link.

Pressing the bottom switch retracts the center link.



LX1041402 —UN—18OCT06

OU12401,0001519 -19-13OCT06-1/1

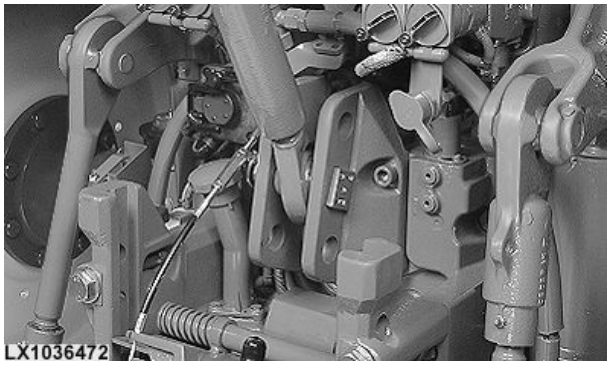
Center Link Positions

The center link can be attached to the tractor in any one of three different positions.

The lowest position provides maximum tilt angle but less lifting force and should be used when working with a plow.

The highest position provides greater lifting force and minimum tilt angle, and can be used when working with machines such as direct drills.

IMPORTANT: The lowest position must NOT be used with the hydraulic center link.



LX1036472 —UN—24APR06

OU12401,0001984 -19-21JAN08-1/1

Lift Links

A greater transport clearance is obtained by shortening the links. Extra working depth is obtained by lengthening the links.

To level implement from side-to-side, adjust one link. Use handle (A) to adjust the link. Do this by lifting handle (A) out of lock (B) and setting the lift link to the length desired. After adjustment is completed, push handle (A) down and secure it with lock (B).

To adjust left lift link:

- If equipped with an adjusting handle, proceed in the same way as for the right link.
- If not equipped with an adjusting handle, remove the lift link from the draft link and screw yoke end (C) of lift link in or out.

Length (D) of links must be kept within the limits stated. A groove in the thread of each lift link indicates the maximum permitted setting. The threads must not be unscrewed any further out of the receiver.

- Minimum length 875 mm (34.4 in.)
- Maximum length 1035 mm (40.7 in.)

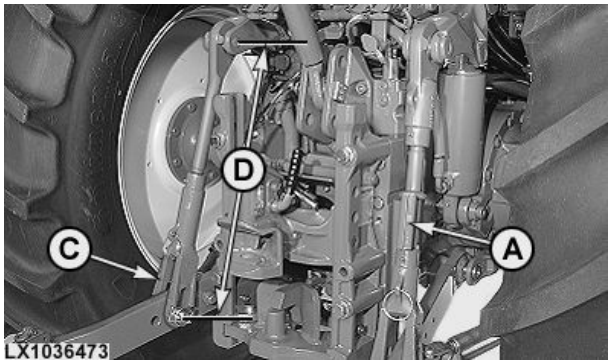
NOTE: The lift link dimensions quoted above are with lift links locked in draft links (no vertical float).

NOTE: A short lift link provides a short lifting height and maximum lifting force.

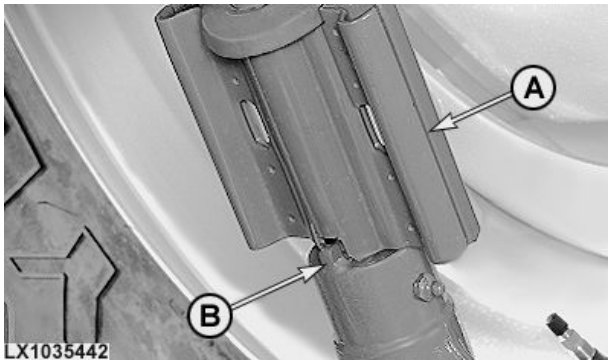
A long lift link provides a long lifting height and less lifting force.

IMPORTANT: When engaging the lift links in the lift arms, make sure that stops (E) are always at the rear as shown.

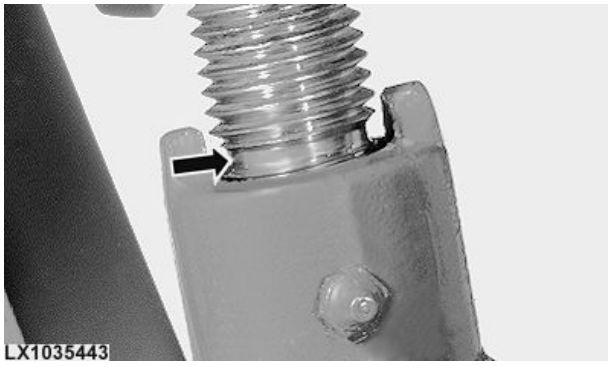
A—Adjusting Handle
B—Lock
C—Yoke End
D—Length of Links
E—Stops (2 on Each Lift Link)



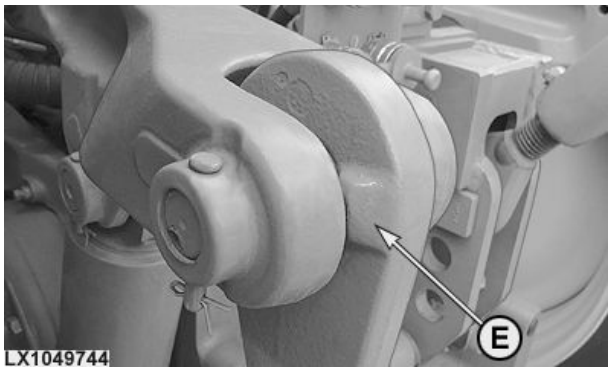
LX1036473 —UN—24APR06



LX1035442 —UN—13JAN05



LX1035443 —UN—13JAN05



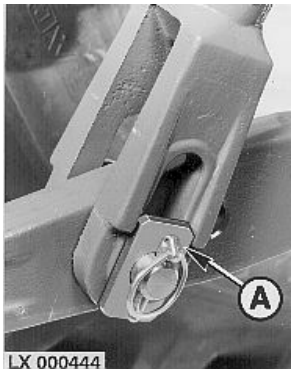
LX1049744 —UN—03MAY10

OU12401,00015B5 -19-30APR10-1/1

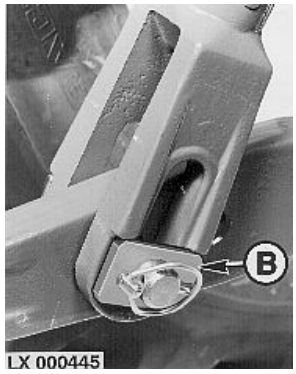
Adjust for Vertical Float

Depending on the position of the steel plates, draft links can be adjusted to allow for vertical float or to lock out float.

A—Vertical float **B—No float**

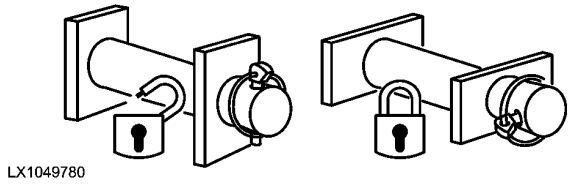


LX000444 —UN—12AUG94



LX000445 —UN—12AUG94

LX1049780 —UN—23JUL10



LX1049780

LX,OREG 000329 -19-23JUL10-1/1

Sway Blocks (If Equipped)

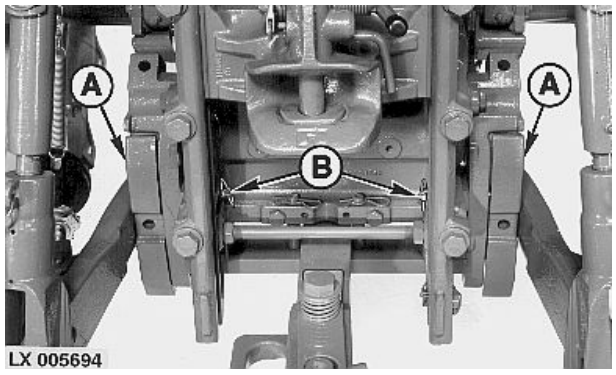
Sway blocks (A) are used to limit sideways motion of draft links during operation and transport.

Sway blocks must be fitted when working with attachments which follow exactly the line of the tractor.

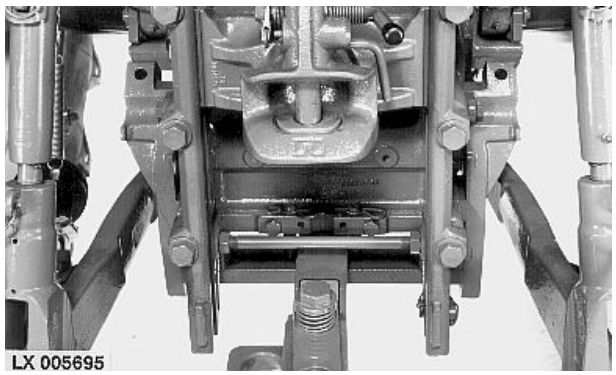
NOTE: If sideways motion is excessive even with sway blocks installed, additional spacers can be used between the PTO housing and the sway-block mountings. See your John Deere dealer for suitable spacer rings.

If the attachments (plow, disk harrow etc.) require sideways motion in the operating position, remove quick-lock pins (B) and take off the sway blocks.

With sway blocks in this position, draft links will sway in operating position. However, sway is locked out in transport position.



LX005694 —UN—07AUG95

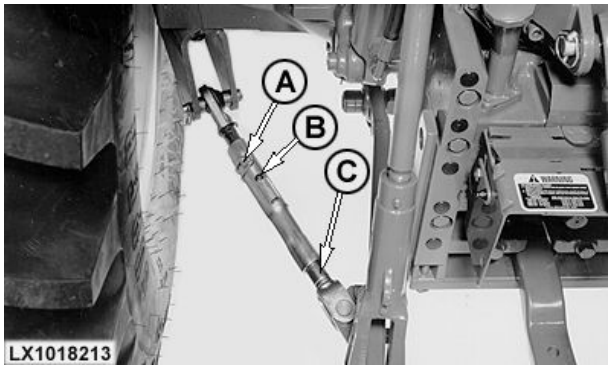


LX005695 —UN—07AUG95

LX,OREGEL004263 -19-01APR97-1/1

Stabilizer Bar (If Equipped)

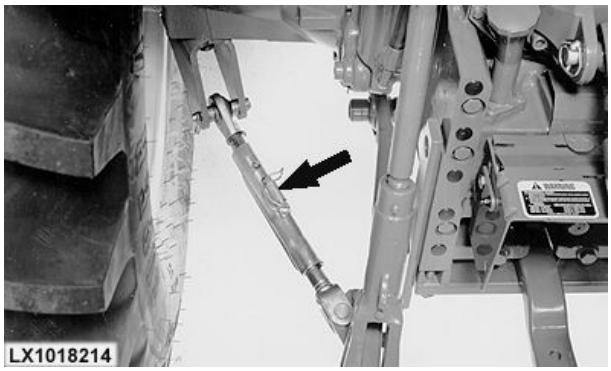
The bar can be adjusted to suit any category by means of pin (A) and/or threaded rod (B). Alternative bolt position (C) also alters the category. The different categories are marked on the threaded rod by grooves.



LX1018213 —UN—24OCT97

OU12401,0001407 -19-13MAY06-1/2

If pin (A) is not required (it must be removed to allow the draft links to sway), it can be stored in the tubular retainer.



LX1018214 —UN—24OCT97

OU12401,0001407 -19-13MAY06-2/2

Stabilizing System (If Equipped)

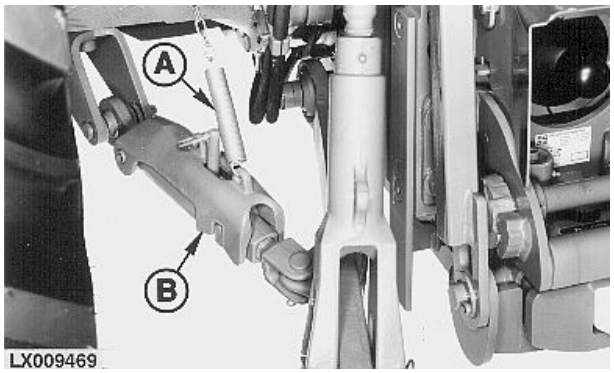
The stabilizing system is operated by means of chain (A) and flap cover (B). If flap cover (B) is raised, the draft links have lateral play, otherwise they are locked.

Chain (A) short:

Draft links are locked in raised position (rigid setting), in lowered position they have lateral play.

Chain (A) long:

Draft links are locked in all positions.



LX009469 —UN—02JAN95

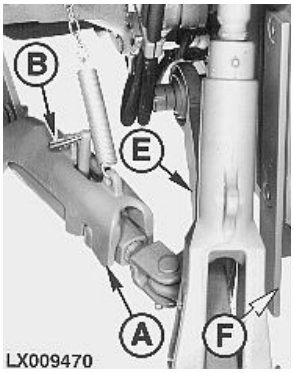
LX,OREGEL000331 -19-01SEP95-1/1

Adjusting Spreading Dimension

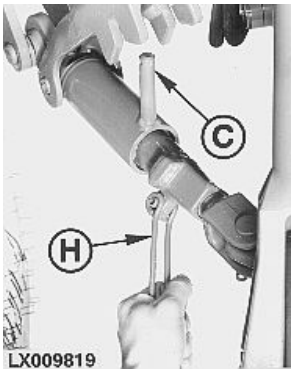
Drive tractor to the center of the implement. Remove ring (B) and lift flap cover (A). Use lever (H) to adjust the spreading dimension.

Category	Groove
II + IIIN	3
III	2
II + IIIN	3
III	2

Groove 1 is used on Category II tractors.



LX009470 —UN—03JAN95



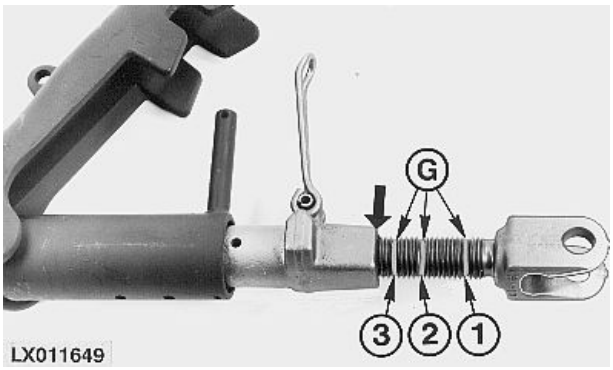
LX009819 —UN—03JAN95

Grooves (G) provide a guide in adjusting the spreading dimension.

The groove (G) that corresponds to the relevant category should be aligned with the edge (see arrow).

Then locate lever (H) on pin (C), put down flap cover (A) and secure with ring (B). Finally, adjust spacer (D).

IMPORTANT: The spreading dimension must be large enough to prevent the draft links (E) from getting caught on sway blocks (F). If not, mechanical damage may occur.



LX011649 —UN—31JUL95

A—Flap cover
B—Ring
C—Pin
D—Spacer
E—Draft link
F—Sway block
G—Grooves corresponding to Category
H—Lever

LX001750 —UN—05APR00

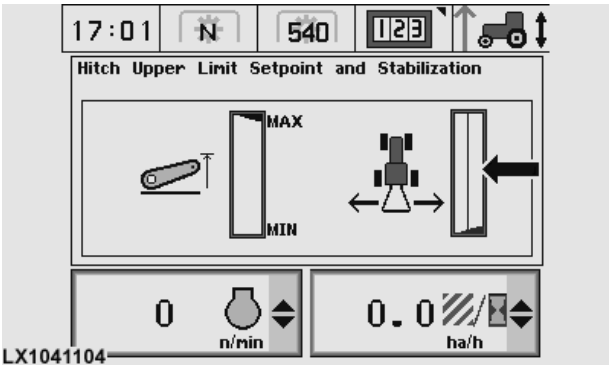
OU12401,00015B6 -19-14DEC06-1/1

Hydraulic Stabilizer Bars (If Equipped)

These bars operate automatically. Press button (A) and set the desired ratio of draft-link lock to draft-link lateral sway on the screen. In the upper sector, draft links are locked; in the lower sector, they can sway from side to side.

LX1036475 —UN—23JAN06

LX1038302 —UN—06NOV06



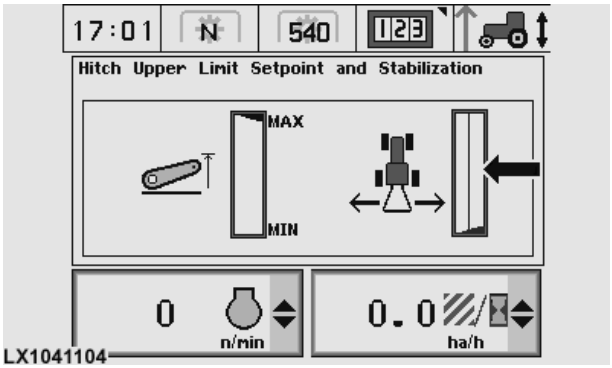
LX1041104 —UN—13NOV06

OU12401,00014C6 -19-08JUL06-1/1

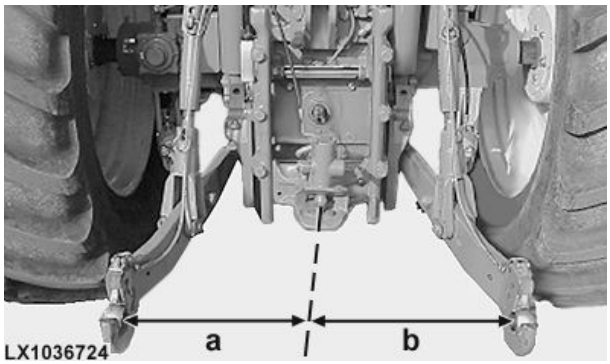
Adjusting the Spreading Dimension on Hydraulic Stabilizer Bars

CAUTION: Adjustment and test must be performed on a level road! If performed at an incline there is a danger of accidents! Depending on the incline, the implement could swing to the left or to the right, when changing from the float position to the no-float position and vice versa. For this reason, do NOT permit bystanders to come into range of the implement.

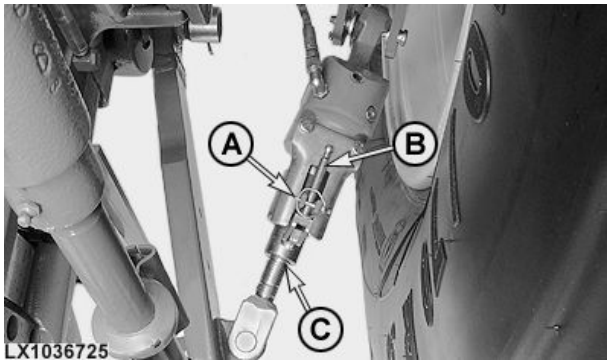
1. Start the engine.
2. On the screen, move the mark all the way down (this locks the draft links over the entire lift range).
3. Measure the distance between the two attaching points on the implement.
4. Remove lock pin (A).
5. Adjust the distance of the draft links to the measured value using adjusting lever (B) of the stabilizer bars. Make sure that the distances (a) and (b) are identical.
6. Attach the implement to the three-point hitch.
7. Check the setting and re-adjust, if necessary.
   - There must be neither lateral sway nor preload.
   - Distances (a) and (b) must be equal.
   - The spindles must not be unscrewed beyond the third and last groove (C).
8. Move adjusting lever (B) back to its storing position and install lock pin (A).
9. Set the lock to the desired value on the screen.
10. Check the setting by raising and lowering the hitch several times.



LX1041104 —UN—13NOV06



LX1036724 —UN—12DEC05



LX1036725 —UN—12DEC05

A—Lock pin
B—Adjusting lever
C—Groove

OU12401,00014C7 -19-08JUL06-1/1

HMS — Headland Management System (If Equipped)

CAUTION: Avoid injury due to losing control of tractor.

If a high gear is stored in a program, activating the program may result in rapid gear shifts.

IMPORTANT: A front loader must NOT be operated using HMS. Make sure that front loader is de-activated on the page for selective control valves at the CommandCenter. See "Additional Equipment" section.

HMS makes it possible to record and save sequences of functions that occur repeatedly and to call them up as programs when they are required. Five memories **(memories A-E)** are provided for five different implements each of them providing 2 programs. Example: one program for the sequence of functions used at start of field, another program for the sequence of functions used at end of field. Each program can include up to 20 functions. The programs remain in the memory until they are deleted or overwritten, even if the electrical current is switched off.

The functions of the following tractor sub-assemblies may be stored: Differential lock, hitch, rear PTO, front PTO, front-wheel drive, electronic selective control valves, PowrQuad Plus/AutoQuad Plus transmission (gear shifts), AutoQuad Plus transmission (automatic gear shifting), AutoPowr (maximum speed) and upper limit for engine speed.

The distance the tractor moves between functions is also stored.

There are two ways to program sequences of functions:

- With tractor stationary = **Edit Mode**
- With moving tractor = **Learn Mode**

OU12401,00019AC -19-07MAY08-1/1

HMS, Possible Functions

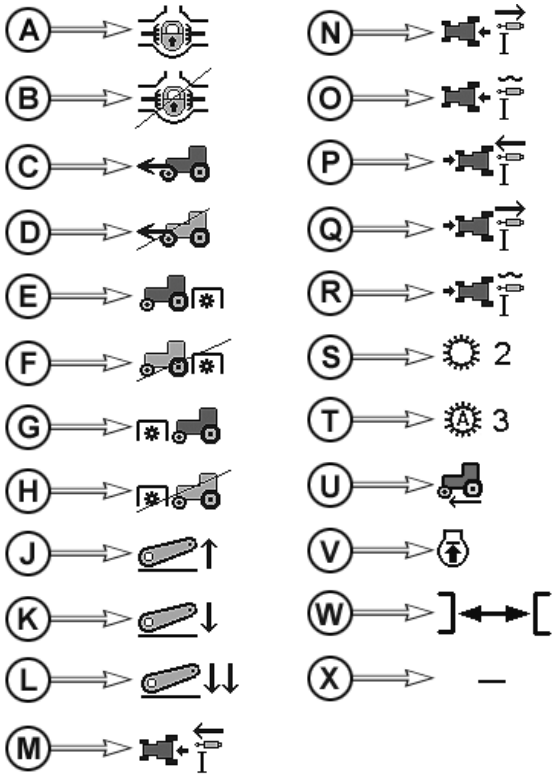
The functions shown here can

- be selected from the drop-down lists when the tractor is stationary (edit mode)
- be “learned” via the tractor's controls when the tractor is moving (learn mode)

On functions that can be selected via the controls (e.g. front-wheel drive on/off and differential lock on/off), the opposite condition can be selected by actuating the control again within 2 seconds.

NOTE: For functions (M) to (R), the electronic selective control valves must be unlocked, and learning requires the time setting to be other than 0.

Function (S) determines which gear the transmission shifts to (gears 1-4). Function (T) determines the highest gear to which the AutoQuad Plus transmission's automatic gear-shift function can shift (gears 2-4).



LX1044436

LX1044436 —UN—29NOV07

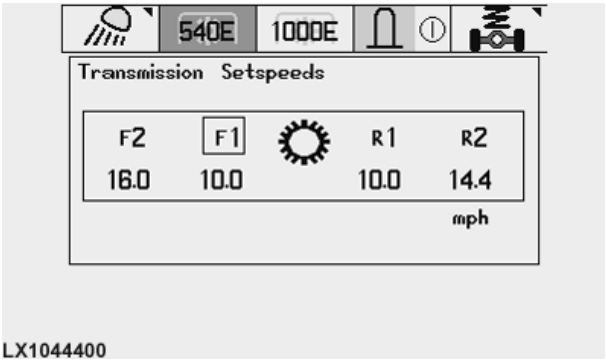
A—Differential lock on
B—Differential lock off
C—Front-wheel drive on
D—Front-wheel drive off
E—Rear PTO on
F—Rear PTO off
G—Front PTO on
H—Front PTO off
J—Three-point hitch, raise
K—Three-point hitch, lower
L—Three-point hitch (quick withdrawal)
M—Selective control valves (rear), extend
N—Selective control valves (rear), retract
O—Selective control valves (rear), float position
P—Selective control valves (front), extend
Q—Selective control valves (front), retract
R—Selective control valves (front), float position
S—Transmission - specified gear
T—Transmission - automatic gear-shifting
U—Maximum speed (AutoPowr)
V—Upper limit for engine speed
W—Add function (edit mode)
X—Delete function (edit mode)

OU12401,000196B -19-20DEC07-1/4

Maximum speed (AutoPowr)

This screen appears if the speed wheel on the speed control lever is turned during “learning”. Maximum speed in the speed range (dependent on whether the control lever is in forward range F1 or F2) can now be changed. In HMS, the permitted speed range is from 1.5 to 16 km/h (0.9 to 9.4 mph). Faster or slower speeds are not accepted by the HMS. Press the HMS button to return to the HMS screen.

NOTE: Set speed is not attained until the speed control lever reaches its relevant end position.



LX1044400

LX1044400 —UN—29NOV07

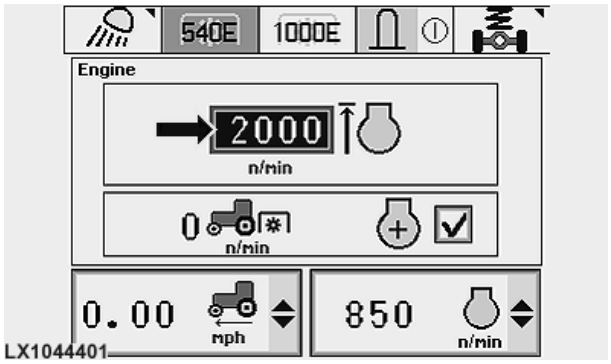
Continued on next page

OU12401,000196B -19-20DEC07-2/4

Upper limit for engine speed

This screen appears if the engine button is pressed during “learning”. The upper limit for engine speed can be set here. Press the HMS button to return to the HMS screen.

NOTE: The speed set here is not attained unless top speed is commanded and there is no intervention by any automatic transmission function.

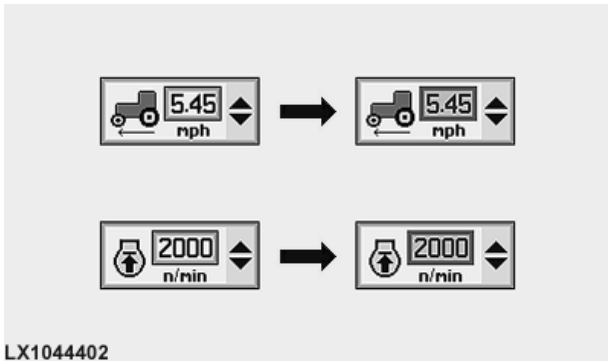


LX1044401 —UN—30NOV07

OU12401,000196B -19-20DEC07-3/4

Editing of maximum speed (AutoPowr) and upper limit for engine speed

Maximum speed and upper limit for engine speed can be changed in the edit mode. To do so, go to the relevant box and select the small window with figures in it.



LX1044402 —UN—29NOV07

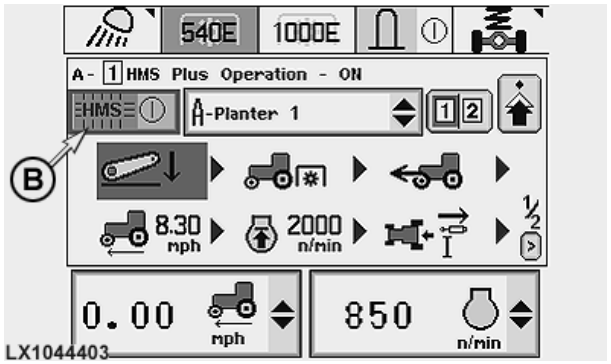
OU12401,000196B -19-20DEC07-4/4

HMS, Controls

NOTE: On all HMS pages, use the program switch (C) to toggle between the two programs.

A—Button, HMS main page
B—HMS on/off
C—Program switch
D—HMS indicator light on dashboard

LX1037561 —UN—06NOV06



LX1044403 —UN—29NOV07

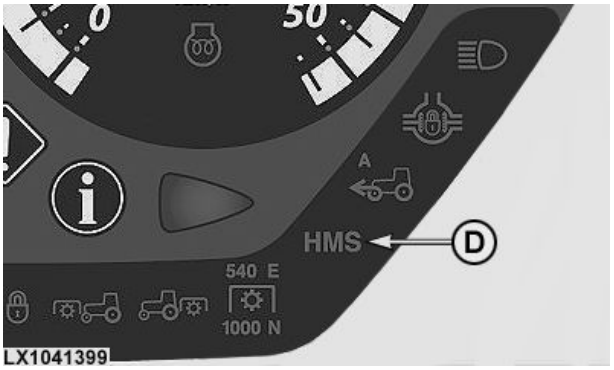
HMS main page

LX1041113 —UN—21SEP06

Switch, without CommandArm

LX1041387 —UN—21SEP06

Switch, with CommandArm



LX1041399 —UN—21SEP06

HMS indicator light on dashboard

OU12401,0001755 -19-28NOV07-1/1

HMS, Programming with Tractor Stationary (Edit Mode)

On the screen, switch on HMS by actuating cell (A) (the HMS indicator light lights up on the dashboard). In cell (B), select the desired implement memory **(A-E)**. A suitable implement name can be selected later via cell (E). The HMS select page (edit/learn mode) is displayed after pressing symbol (C). On this page the edit mode can be accessed via symbol (D). From list (E), choose the desired implement and then the desired program (1 or 2) using the program switch or cell (F). Select the desired functions from the selection lists and use the selection wheel to determine the distances between the functions. Use cell (G) to save the program and to display the HMS main page. For details regarding the programming process, see next page.

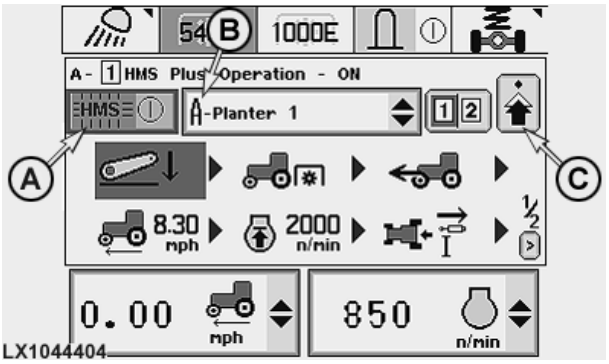
NOTE: To delete a single function from a program, select the empty cell from the selection list.

To overwrite a single function, choose the new function from the selection list.

To add a function, go to the desired position and select the add cell from the drop-down list. The other functions (including the one already selected) move down one position.

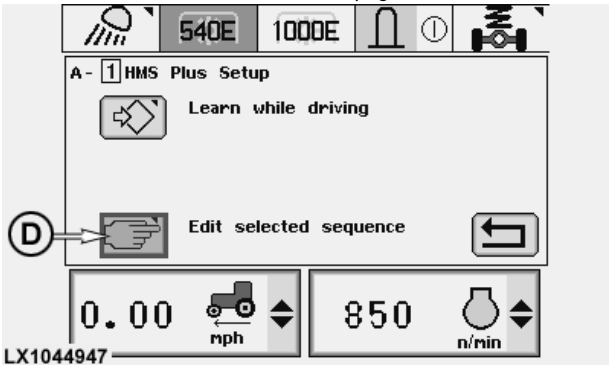
The following applies to the rear PTO function:
PTO is switched off once the three-point hitch has reached 25% of the lift height. PTO is switched on **AFTER** the tractor has moved the set distance. If the PTO is switched on too early or too late, change the set distance to achieve optimum function timing.

A—HMS on/off
B—Memory (A-E)
C—"Next page" symbol
D—Edit mode
E—Implement application
F—Program select cell
G—"Back to HMS main page" symbol
H—Page indicator
J—"Next function page" symbol
K—"Previous function page" symbol



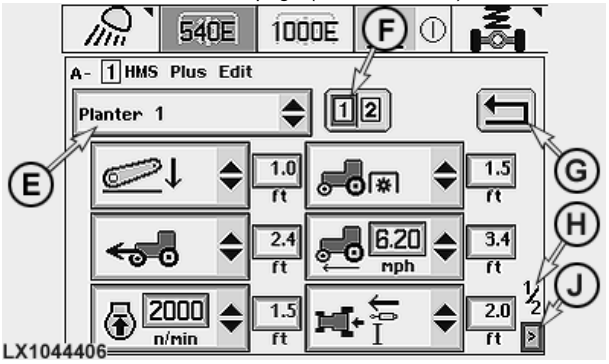
LX1044404 —UN—29NOV07

HMS main page



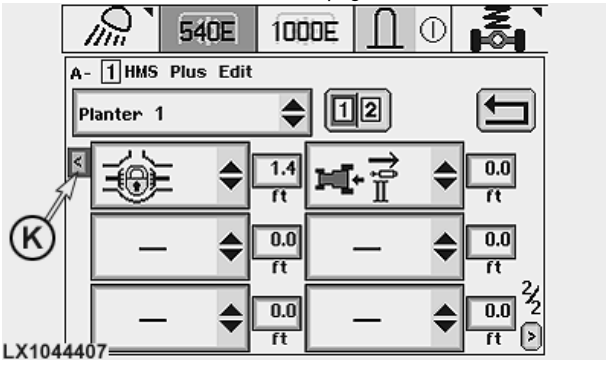
LX1044947 —UN—19DEC07

HMS select page (edit/learn mode)



LX1044406 —UN—29NOV07

HMS Edit - page 1

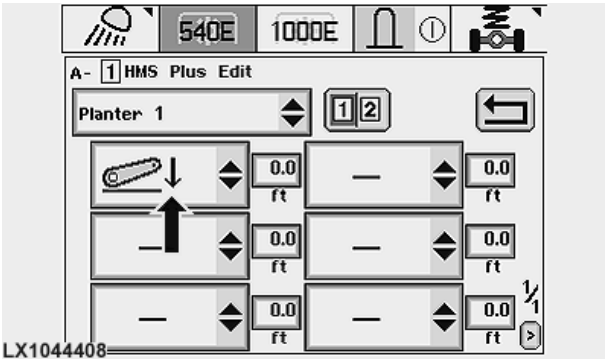


LX1044407 —UN—29NOV07

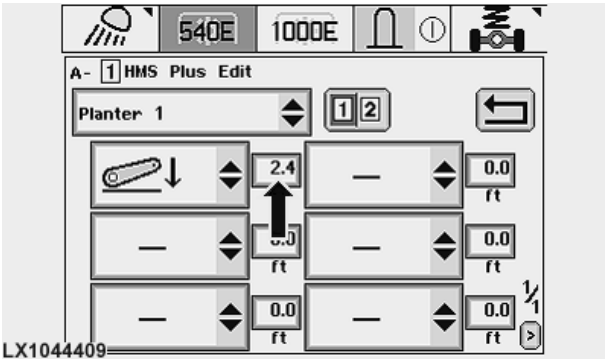
HMS Edit - page 2

OU12401,000196C -19-19DEC07-1/1

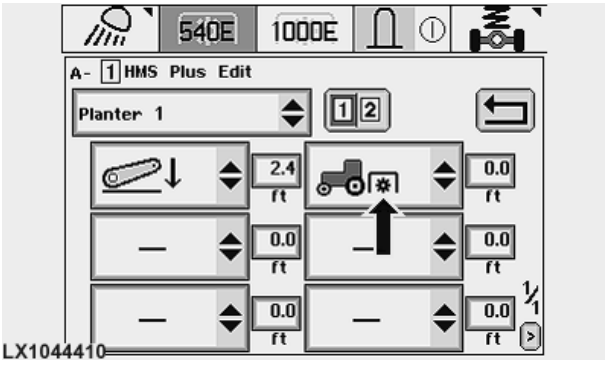
HMS, Programming with Tractor Stationary, Example



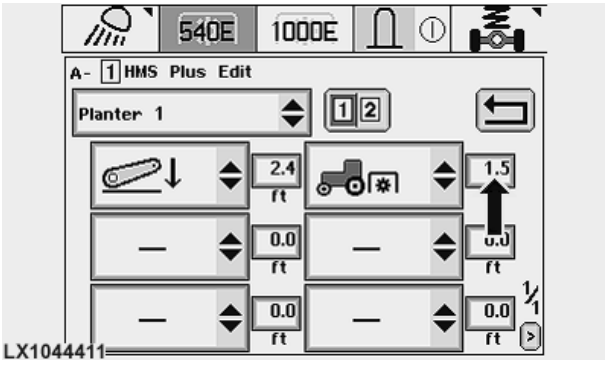
Step 1: Select 1st function



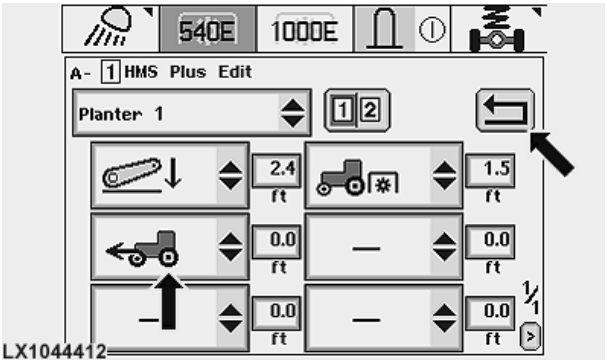
Step 2: Enter distance the tractor moves until the next function is activated



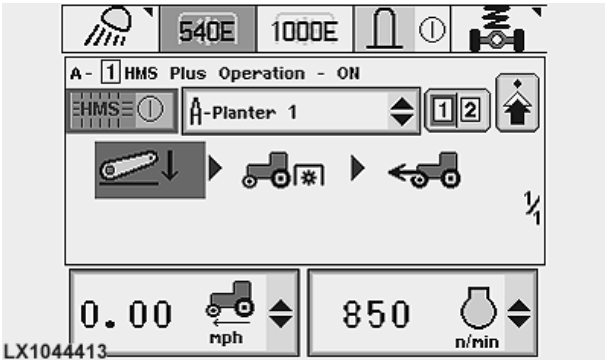
Step 3: Select 2nd function



Step 4: Enter distance the tractor moves until the next function is activated



Step 5: Select 3rd function, then save settings



HMS main page

OU12401,0001757 -19-28NOV07-1/1

HMS, Programming with Moving Tractor (Learn Mode)

On the screen, switch on HMS by actuating cell (A) (the HMS indicator light lights up on the dashboard). In cell (B), select the desired implement memory **(A-E)**. A suitable implement name can be selected later via cell (E). The HMS select page (edit/learn mode) is displayed after pressing symbol (C). On this page the learn mode can be accessed via symbol (D). From list (E), choose the desired implement and then the desired program (1 or 2) using the program switch or cell (F). To start the recording, select cell (G). If there is a program already saved under this name, it will be **lost**. With tractor moving in forward direction (travel speed at least 0.5 km/h; 0.31 mph), perform the desired functions. To end the recording, select cell (J). The sequence of functions is now stored as a program. For details regarding the programming process, see next page.

"Learned" programs can be altered in the edit mode (with tractor stationary).

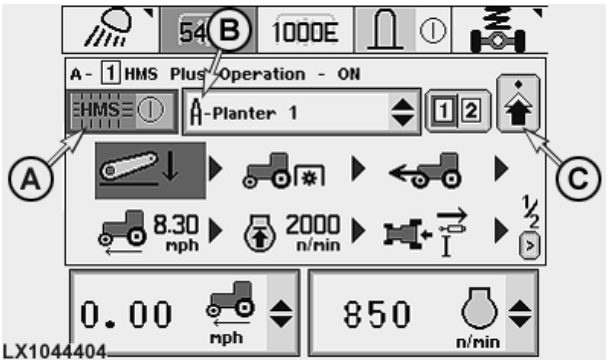
NOTE: If no tractor function is performed within 60 seconds after recording has started, the learn mode is aborted.

Learn mode is also aborted if cell (K) is selected.

A program can be deleted completely by choosing cell (G) and immediately afterwards cell (J).

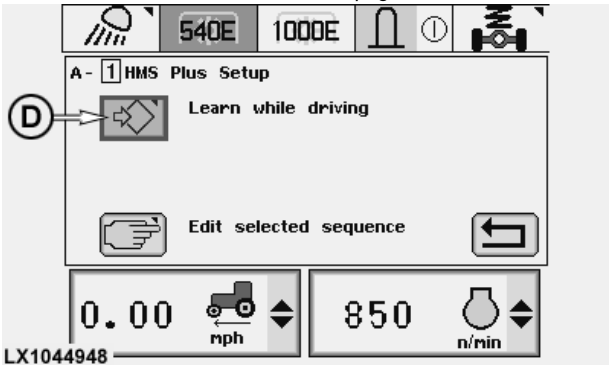
The following applies to the rear PTO function:
PTO is switched on once the three-point hitch has dropped below the learned lift height **AND** the learned distance has been travelled. The PTO **ALWAYS** switches off as soon as the learned lift height is exceeded.

A—HMS on/off
B—Memory (A-E)
C—"Next page" symbol
D—Learning mode
E—Implement application
F—Program select cell
G—Start of recording
H—"Back to HMS main page" symbol
J—End of recording
K—Abortion of recording



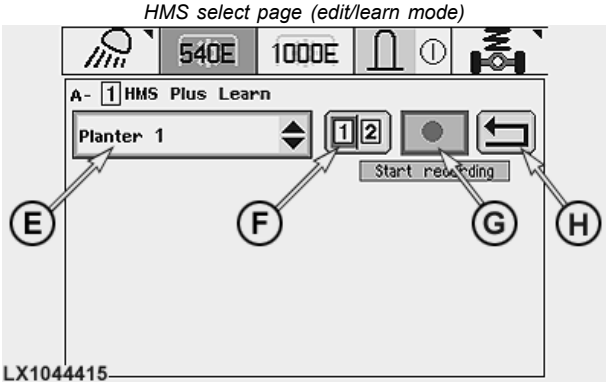
LX1044404 —UN—29NOV07

HMS main page



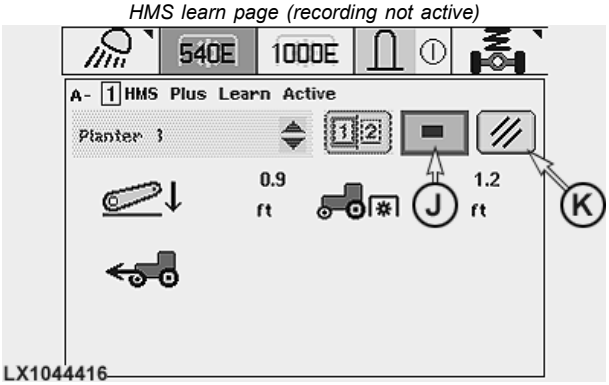
LX1044948 —UN—19DEC07

HMS select page (edit/learn mode)



LX1044415 —UN—29NOV07

HMS learn page (recording not active)

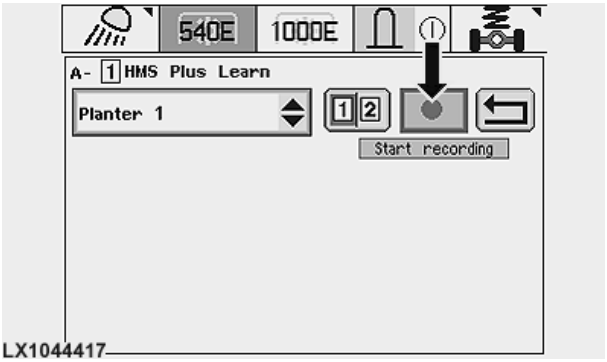


LX1044416 —UN—29NOV07

HMS learn page (recording active)

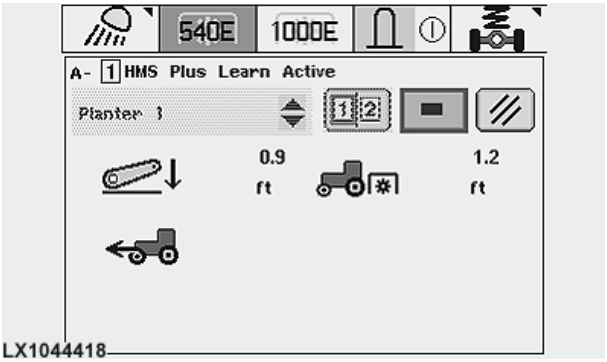
OU12401,000196D -19-19DEC07-1/1

HMS, Programming with Tractor Moving, Example



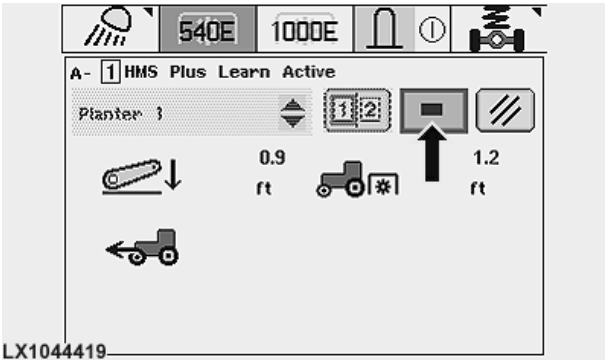
LX1044417 —UN—29NOV07

Step 1: Start of recording



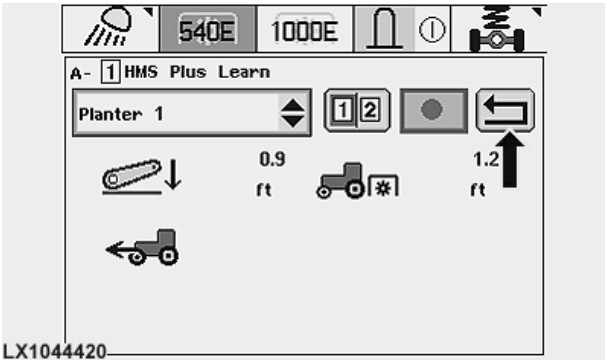
LX1044418 —UN—29NOV07

Step 2: Perform desired functions



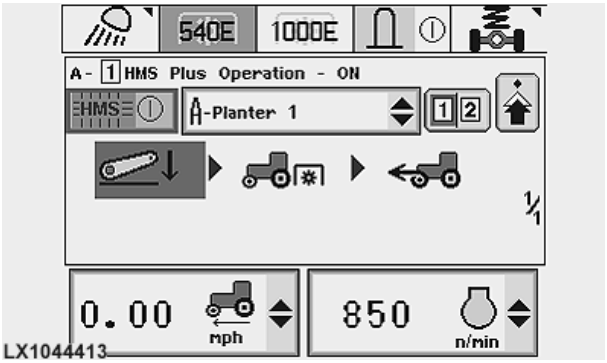
LX1044419 —UN—29NOV07

Step 3: End of recording and saving settings



LX1044420 —UN—29NOV07

Step 4: Back to main page



LX1044413 —UN—29NOV07

HMS main page

OU12401,0001759 -19-28NOV07-1/1

HMS, Performing the Stored Programs

NOTE: To enable the recorded programs to be performed, the tractor must be driven at a speed of at least 0.5 km/h (0.31 mph).

When performing programs which include PTO functions, a message is displayed telling the operator to switch on the PTO. HMS cannot physically "turn on" the relevant switches.

Before programs are performed that include selective control valve functions, the relevant levers/switches must be in neutral position.

1. Switch on HMS via cell (A); indicator light (B) comes on.
2. To start the desired program, select "1" or "2" using program switch (C). An alarm signal sounds and the HMS light flashes until the program has been completed.

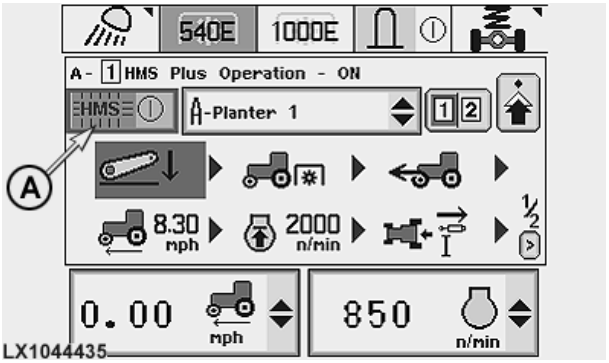
A program sequence is displayed by highlighting the currently activated function in green.

After a program has ended, the "opposing" program is displayed and its first function is highlighted in green.

A manual intervention can be made in a running program at any time. Such an intervention takes priority. The affected function will be ignored by the HMS for the rest of the program.

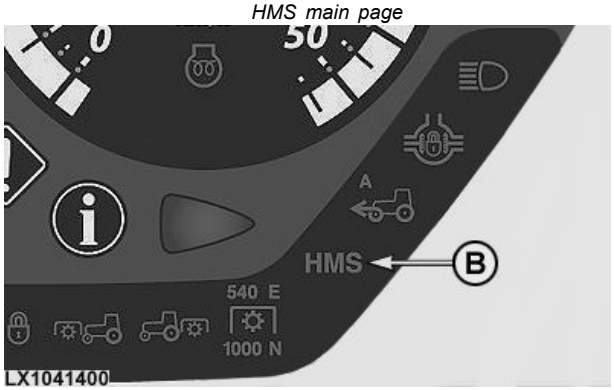
IMPORTANT: To abort a program immediately, use program switch (C) to select the "opposing" program ("2" instead of "1" or "1" instead of "2").

A—HMS on/off
B—HMS display light
C—Program switch



HMS main page

LX1044435 —UN—29NOV07



LX1041400 —UN—21SEP06

LX1041113 —UN—21SEP06

Switch, without CommandArm

LX1041387 —UN—21SEP06

Switch, with CommandArm

OU12401,000175A -19-30NOV07-1/1

TIA — Tractor-Implement Automation

Tractor-Implement Automation (TIA)

With TIA certain John Deere approved implements can request and control individual functions of the tractor. Contact your John Deere dealer for more information about TIA-compatible implements.

GreenStar is a trademark of Deere & Company

The tractor must be GreenStar™-compliant plus a specific activation is required to be able to use TIA. Contact your John Deere dealer.

For further information on how to operate TIA, see the separate TIA operator's manual.

OU12401,0001CCE -19-16NOV09-1/1

Tractor-Implement Automation — Safety

CAUTION: The operator of the tractor is responsible for the safe operation of the Tractor-Implement Automation.

Tractor-Implement Automation must not be put in operation when driving on public roads or when other persons are close by.

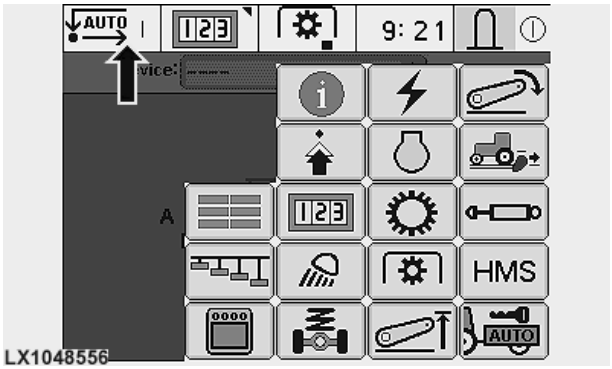
OU12401,0001D18 -19-16NOV09-1/1

Operating the Tractor-Implement Automation

Assignment of the hot key is described in Section 15, Hot keys - assignment.

Actuating this key (confirmation by operator) will allow the implement to control selected tractor functions.

NOTE: An implement may expect that the hot key is actuated several times (e.g. John Deere baler)



LX1048556 —UN—10SEP09

OU12401,0001CCF -19-16NOV09-1/1

Requirements for PTO

- The implement can engage and disengage the PTO.
- The implement can change the standard speed of the rear PTO (tractor with shiftable PTO).

To transfer control to the implement, the following preconditions have to be met:

- Operator sitting on seat.
- No malfunctions present in the PTO system.
- PTO remote control is off.
- PTO is engaged (PTO switch).

Before transferring control to the implement, perform all necessary steps to prepare the implement as indicated in the operator's manual of the implement. Transfer control using the hot key.

To withdraw control:

- Turn PTO switch off.
- Change standard speed of PTO (prevents future speed changes by the implement).

NOTE: When the PTO is controlled by an implement, it can disengage the PTO, change the standard speed and re-engage the PTO.

If the implement is not authorized to engage the PTO when the tractor is stationary, it will be prevented by the tractor.

OU12401,0001CD1 -19-15DEC09-1/1

Requirements for E-SCVs/E-ICVs

- The implement can move the SCVs in all of their 4 positions (retract, extend, neutral, and float).
- The implement can change the maximum flow of the SCVs up to the limit set by the operator.

NOTE: The operator sets the limit in the CommandCenter of the tractor; this limit set by the operator cannot be exceeded by the implement.

To transfer control to the implement, the following preconditions have to be met:

- Operator sitting on seat.
- No malfunctions present at the SCVs.
- Control levers of SCVs are in their neutral positions.
- SCVs are not locked (transport lock).

Before transferring control to the implement, perform all necessary steps to prepare the implement as indicated in the operator's manual of the implement. Transfer control using the hot key.

To withdraw control:

- Actuate control lever of the corresponding SCV.
- Lock SCVs (transport lock).
- Actuate remote control switch on the fender.

NOTE: If the implement is not authorized to change oil flow when the tractor is stationary, it will be prevented by the tractor. However, it is allowed to shut off the oil flow.

OU12401,0001CD2 -19-11NOV09-1/1

Requirements for AutoPowr

- The implement can accelerate the tractor up to the limit set by the operator.
- The implement can stop the tractor. It can start to drive the tractor again, with the approval of the operator.

NOTE: The limit is determined by the maximum speed setting and the position of the speed control lever; this limit set by the operator cannot be exceeded by the implement.

To transfer control to the implement, the following preconditions have to be met:

- Operator sitting on seat.
- No malfunctions present at the AutoPowr.
- Reverser lever must be in center park, power zero position, or forward position.

Before transferring control to the implement, perform all necessary steps to prepare the implement as indicated in the operator's manual of the implement. Transfer control using the hot key.

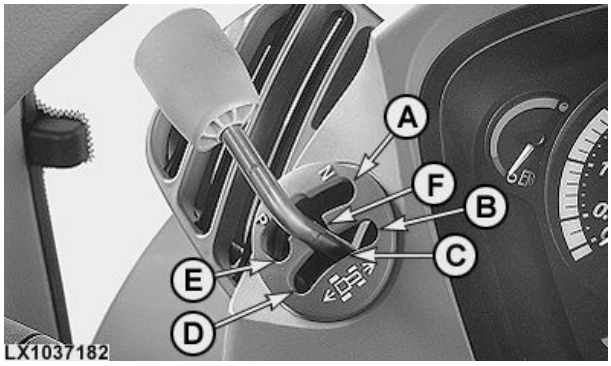
Approval to start driving the tractor again after stopping:

- Move reverser lever from center park via power zero to forward position.
- Actuate clutch pedal or brake pedal while the tractor rolls to a stop and hold the pedal while the tractor is stationary. Releasing the pedal causes the tractor to start moving.

To withdraw control using the reverser lever:

- During driving: Move lever out of forward position.
- During stopping: Move lever to reverse position, neutral position or corner park position.

To withdraw control using the speed control lever or the speed wheel:



LX1037182 —UN—06JUN06

A—Neutral
B—Forward
C—Power zero position
D—Reverse
E—Corner park
F—Center park

- Increasing the speed if the implement commands stopping the tractor will end the travel speed Auto Mode.
- Increasing the speed **can** end the Auto Mode. The implement has all information to inform the operator that this intervention will end the travel speed Auto Mode (see operator's manual of the implement).

NOTE: Reducing the speed is always allowed.

It is allowed to increase the limit set by the operator within 2 seconds after starting the travel speed Auto Mode.

The current travel speed can be limited by other processes (e.g. HMS). This limit will be observed, however, it will not be considered as an intervention by the operator.

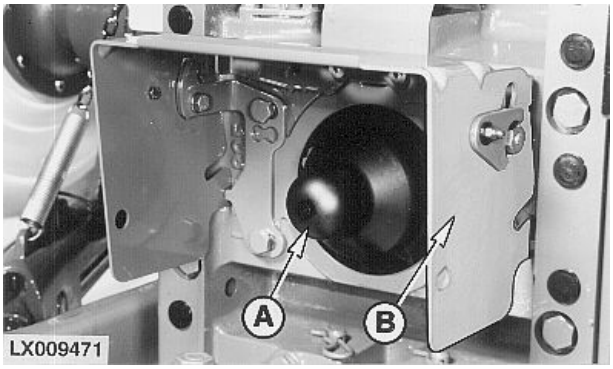
OU12401,0001CD3 -19-11NOV09-1/1

PTO Guard

CAUTION: Remove PTO cap (A) only when the PTO is to be used.

As soon as PTO-driven implement is removed, re-install cap over PTO stub shaft.

The master shield (B) can be folded up to allow an implement to be connected, but it must be folded down again afterwards. *There are various versions of PTO guard that are not shown here.*



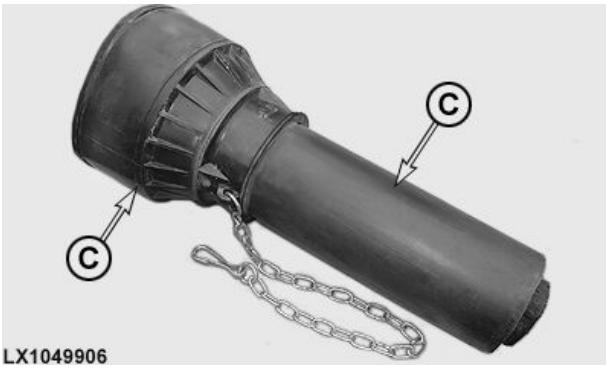
LX009471 —UN—02JAN95

CAUTION: Never operate PTO unless the master shield is in the position shown. Switch off the PTO before raising the implement.

CAUTION: Before using the PTO, the maximum permissible angle of articulation on the drive shaft must be ascertained. During operation, there must be no contact between the PTO guard and the drive shaft. This is particularly important when turning corners.

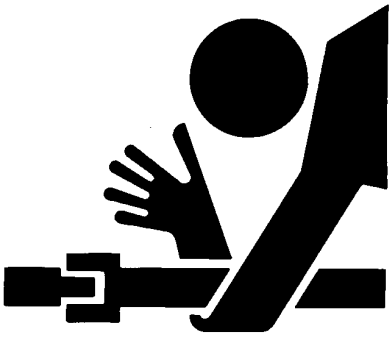
With Type 3 PTOs (dia. 45 mm, 20 splines), clearance in the area of the PTO guard may be restricted. Bear this in mind when operating; avoid unnecessary damage.

When connecting the PTO, wear gloves.



LX1049906 —UN—18FEB11

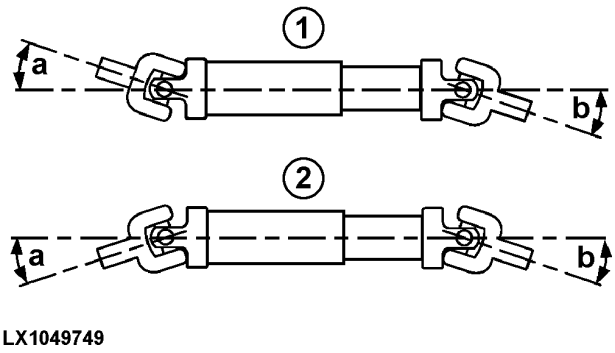
CAUTION: Always put a guard (C) on the drive shaft and take action to prevent it from turning with the shaft. Do not operate the drive shaft unless a guard is installed that covers the PTO shaft completely and does not turn with the shaft.



TS276 —UN—23AUG88

LX,OZAP 000351 -19-24JAN12-1/1

Operating Instructions

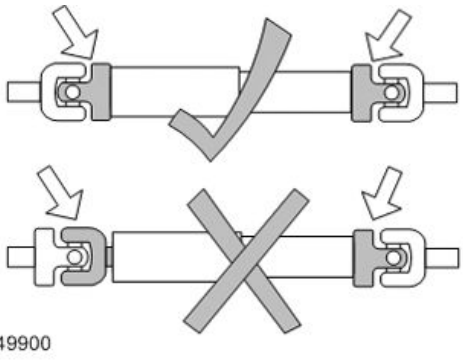


LX1049749

LX1049749 —UN—21MAY10

Articulation on drive shaft

1— Z-shaped layout **2— W-shaped layout**



LX1049900 —UN—22FEB11

Align forks correctly

As far as possible, angles (a) and (b) at the universal joints should be the same at both ends of the drive shaft.

In applications where this is not the case (e.g. sharp turns with PTO engaged), it is recommended to use a continuous-velocity drive shaft.

NOTE: The two schematic drawings do not show any guards on the drive shaft. A guard is mandatory when using drive shafts.

IMPORTANT: Only operating conditions described in the Operator's Manuals of the various implements are permitted. This applies particularly to maximum permissible angle of articulation, to the use of freewheel clutches and overload clutches, and to the prescribed amount of overlap when shaped pipes are pushed together.

IMPORTANT: Before using a PTO-driven implement, take action to ensure that the drive shaft is lubricated regularly. Comply with instructions in the Operator's Manual provided by the manufacturer.

IMPORTANT: On multi-component, telescopic drive shafts, the yokes at each end must be aligned as shown. The yokes at each end must NOT be at 90° to one another (see arrows in illustration on the right).

OULXBER,00018EA -19-15FEB11-1/1

PTO Options

IMPORTANT: Implements may be driven at 540 rpm only if their power input never exceeds 70 kW (95 hp).

The tractor may be equipped with one of the following PTO versions:

- Shiftable PTO for 540/540E/1000 rpm
- Shiftable PTO for 540E/1000/1000E rpm
- 1000 rpm front PTO

OU12401,0001BA7 -19-08MAY09-1/1

PTO Speeds

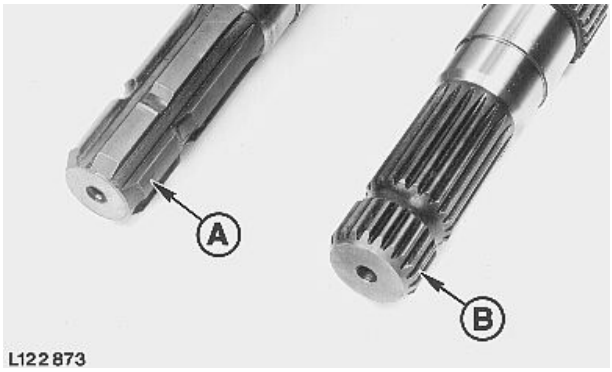
The engine speeds at which standard PTO speeds are achieved are listed under ”Engine” in the ”Specifications” section.

OU12401,00014A0 -19-29JUN06-1/1

Front PTO

CAUTION: Both front PTO versions operate at a rated speed of 1000 rpm. This applies to the clockwise rotating PTO with 6 splines (A) as well as to the counterclockwise rotating PTO with 21 splines (B).

NOTE: Direction of rotation of front PTO is seen in relation to the tractor's direction of forward travel.



L122873 —UN—02JAN95

LX,OZAP 000514 -19-01FEB92-1/1

Operating Power Take-Offs

CAUTION: Always disengage the PTO when not in use.

CAUTION: High-inertia implements do not stop the moment the PTO control lever is shifted to the disengaged position. Do NOT approach the implement while it is coasting down. Do not work on the implement until it has stopped.

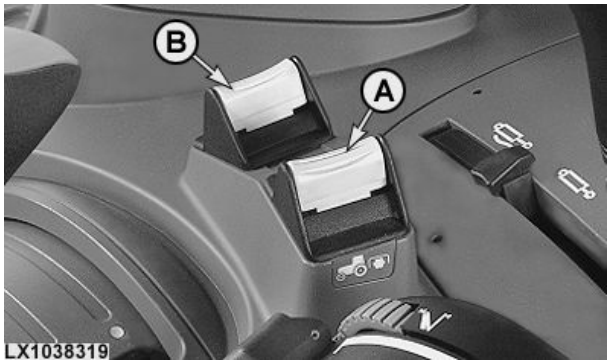
NOTE: On tractors with PowrQuad Plus or AutoQuad Plus transmission, the electronic engine-speed matching should be turned off during PTO operation. See Settings for the relevant transmission in the Operating the Tractor section.

To switch on the PTO, press switch (A) or (B) down and then forward. To switch off the PTO, pull the switch back.

NOTE: If the engine is switched off and then restarted while the PTO is running, the PTO will not operate. Even so, indicator lights (C) remain on. Switch off PTO and then restart.

On tractors with AutoPowr transmission, an audible alarm warns the operator if he leaves his seat while the PTO is still running.

A—Switch for rear PTO
B—Switch for front PTO
C—Indicator lights



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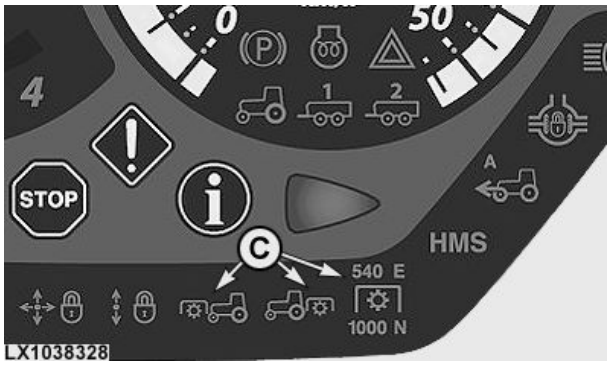
LX1036611 —UN—05OCT05



LX1038328 —UN—31MAY06

Continued on next page

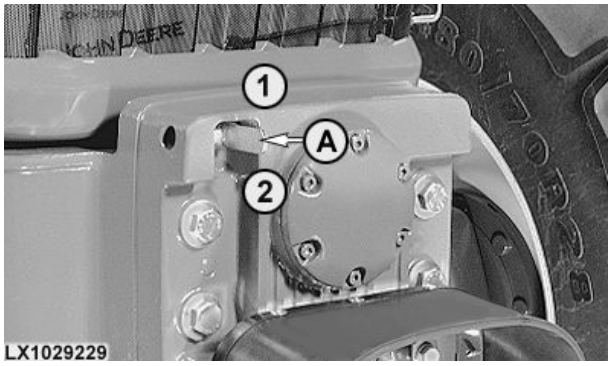
OULXE59,001087C -19-24APR06-1/2

If the front PTO is not required for a lengthy period, the PTO gear can be disengaged by means of lever (A). This prevents the gear train components from turning unnecessarily.

To disengage the gear train, pull lever (A) up; to engage, push the lever down.

IMPORTANT: Engage PTO gear only when the engine is shut off.

A—Lever
1— Disengaged
2— Engaged



LX1029229 —UN—02APR03

OULXE59,001087C -19-24APR06-2/2

Select Standard Speed of Rear PTO (Shiftable PTO)

CAUTION: Before engaging the PTO, make sure that selected PTO speed is correct for the implement attached. Incorrect speed can result in serious damage to the implement.

Avoid accidents!

The PTO is engaged and disengaged as described under "Operating Power Take-Offs". The PTO must be disengaged to select standard PTO speed.

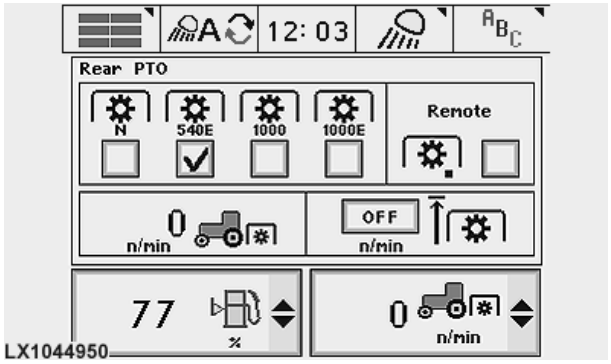
Press button (A) and select the desired speed on the screen (e.g. 540E).

The selected PTO speed is indicated by lights (B).

CAUTION: The engine must be shut off when an implement is being connected.

A—PTO button
B—Indicator lights for PTO speeds

LX1038310 —UN—06NOV06



LX1044950 —UN—03MAR08

LX1041054 —UN—29JUN06

OU12401,0001972 -19-13JUN08-1/1

Fine Adjustment of Rear PTO Speed (Shiftable PTO)

Press button (A) and select the desired standard speed of rear PTO (B) on the screen (e.g. 540E). If desired, select the exact speed in cell (C).

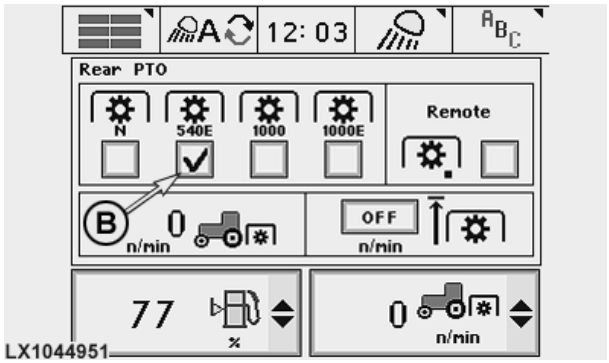
When the PTO is switched on, engine speed is limited so that set PTO speed is not exceeded even at full throttle. When the PTO is switched off, the engine can be operated over its full speed range again.

NOTE: When standard speed is changed, cell (C) must read "OFF".

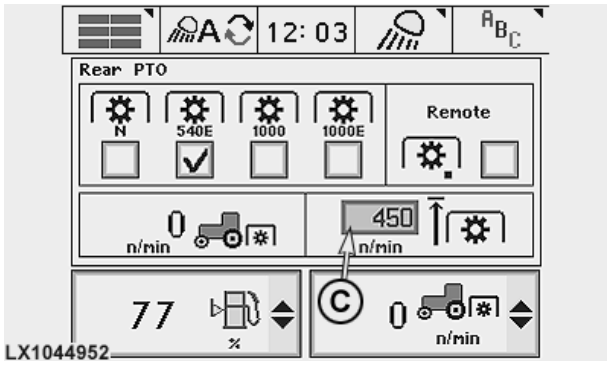
If an engine speed limit is set on the transmission settings page (see "Transmission Settings" in the "Operating the Tractor" section), the lower limit applies.

A—PTO button
B—Standard speed of rear PTO
C—Cell for speed

LX1038310 —UN—06NOV06



LX1044951 —UN—03MAR08



LX1044952 —UN—03MAR08

OU12401,0001973 -19-13JUN08-1/1

Operating the PTO by Fender Control

The rear PTO is engaged and disengaged as described above.

If the PTO is to be operated from outside the cab, this function must be selected **first**. Do this by pressing PTO button (A) and selecting fender control at the cell on the screen. Then switch on the rear PTO at switch (B) (PTO does not turn yet; hazard warning lights flash). Once this has been done, the rear PTO can be switched on from outside the cab as follows:

Press control switch (C) on the fender. The rear PTO starts to turn (the turn-signal lights stop flashing and stay on all the time).

Release fender control switch (C) within less than 4 seconds. The rear PTO stops (the hazard warning lights flash).

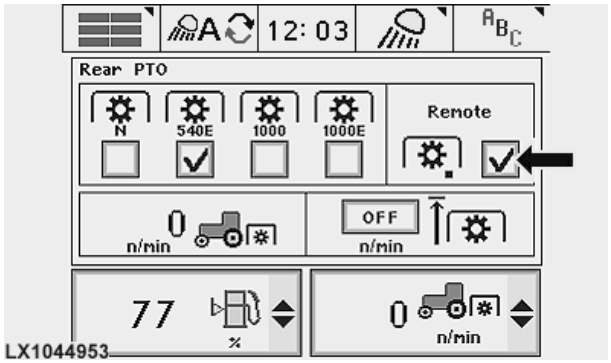
If the rear PTO is to be operated for a lengthy period, press remote-control switch (C) for at least 4 seconds until the turn-signal lights (which were on all the time) go out.

To switch off the rear PTO, actuate fender control switch (C) -- the hazard warning lights flash -- or press the rear PTO switch (B) in the cab.

NOTE: If the rear PTO is switched on in the cab, the rear PTO may be switched off at fender control switch (C), but it cannot be switched on again without re-entering the cab.

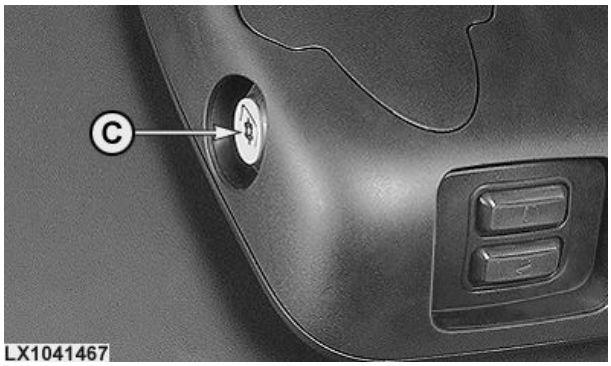
A—PTO button
B—Switch for rear PTO
C—Remote control switch

LX10388310 —UN—06NOV06



LX1044953 —UN—03MAR08

LX1047154 —UN—15SEP08



LX1041467 —UN—15DEC06

OU12401,0001AA2 -19-14SEP08-1/1

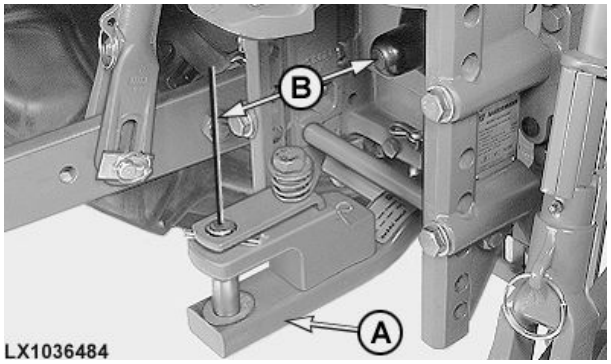
Attaching PTO-Driven Equipment

CAUTION: Shut off engine and disengage PTO before attaching PTO-driven equipment.

CAUTION: High-inertia implements do not brake to a standstill the moment the PTO control lever is shifted to the disengaged position. Do NOT approach the implement while it is "coasting down". Do not work on the implement until it has stopped.

CAUTION: Before attempting to clean, adjust or lubricate a PTO-driven machine, the three-point hitch or u.j. shaft, always make sure the PTO is switched off and stopped, the tractor engine is shut off and the ignition key is removed.

1. Align swinging drawbar (A) parallel to PTO shaft and lock it in position.
2. Distance (B) from end of PTO shaft to hole in drawbar end should be 350 mm (13.8 in.) for the 540 rpm PTO and 400 mm (15.7 in.) for the 1000 rpm PTO.



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If PTO splines are not aligned with the grooves in the u.j. shaft, keep the engine shut off and select "N" cell at the CommandCenter. Then turn the PTO shaft manually to the correct position.

OULXE59,001087F -19-16APR06-1/1

Ballast

Selecting Ballast

CAUTION: When determining front and rear axle ballast, ensure that permissible axle loads and the maximum permissible machine weight (including mounted implements) are not exceeded (see Specifications).

Comply with local regulations regarding installation and maximum permissible number of weights. In order to maintain steerability, at least 20% of unladen mass must be on the front axle. Unladen mass is the mass of the tractor without special equipment, attachments, trailer or ballast, but with hydraulic oil and lubricants, a full fuel tank and an operator weighing 75 kg.

CAUTION: Use suitable lifting tackle/hoists when handling weights.

Safety and performance of your tractor depend on correct ballasting of front axle (front weights) and rear axle (wheel weights, filling tires with liquid ballast, pick-up weight).

OU12401,0001AA7 -19-17SEP08-1/1

Ballasting Rear Wheels

Rear wheel ballast should be chosen so as to give 10 to 15% wheel slippage when operating. Field tests have shown that maximum horsepower available at the drawbar occurs in this range.

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

Too little ballast leads to:

- Excessive wheel spin and thereby loss of power
- Increased tire wear
- High fuel consumption

Too much ballast leads to:

- Increased load and thereby loss of power
- Overloading of tires and gearbox
- Soil compaction
- High fuel consumption

NOTE: Do not use more than 3 weights on each rear wheel. Comply with the legal limits on tractor width.

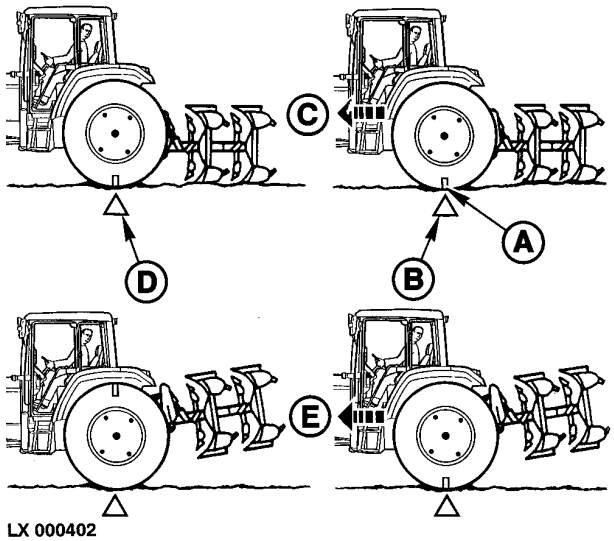
OU12401,0000CBE -19-02JAN03-1/1

Measuring Rear Wheel Slip

1. Mark tire (A).
2. Mark starting point on the ground (B).
3. Drive tractor forward with implement lowered until ten revolutions of the rear wheel have been made (C).
4. Again place a marker on the ground (D).
5. Now raise implement and again drive between the two markers on the ground. Note number of revolutions made between the two markers (E).

The number of revolutions gives the following percentage of wheel slip:

- 10.0 revolutions = 0% wheel spin
- 9.5 revolutions = 5% wheel spin
- 9.0 revolutions = 10% wheel spin
- 8.5 revolutions = 15% wheel spin
- 8.0 revolutions = 20% wheel spin
- 7.5 revolutions = 25% wheel spin
- 7.0 revolutions = 30% wheel spin



LX 000402

LX000402 —UN—15AUG94

LX,OSPU 000247 -19-01APR92-1/1

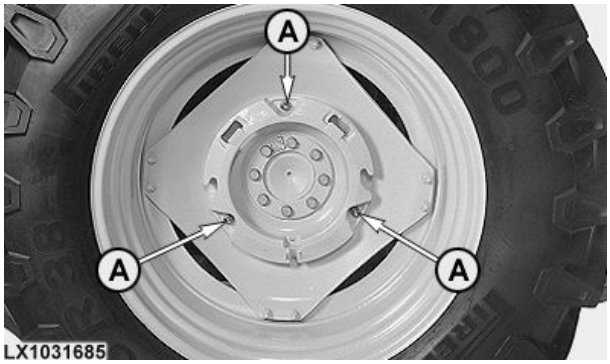
Installing Weights on Flanged Axle

CAUTION: When installing and removing weights, always position wheels so that retainer jaws are at the top. This prevents weights from falling down.

Attach first weight to wheel dish using three cap screws (A). Tighten screws (A) to 305 N·m (225 lb.-ft.).

When installing further weights, always position wheel so that retainer jaws (B) are at the top. Position additional weight in retainer jaws on top and screw it onto the existing weight with a cap screw (C) at the bottom. Tighten screw (C) to 215 N·m (159 lb.-ft.).

IMPORTANT: After the first drive with wheel weights, retighten the screws. Then, check the screws at the same interval as the wheel bolts.



LX1031685

LX1031685 —UN—03APR03

LX1031686

LX1031686 —UN—03APR03

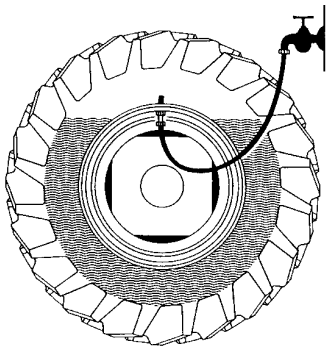
OU12401,0000CFB -19-16FEB11-1/1

Filling Tires With Liquid Ballast

To fill a tire, jack up the wheel and turn it so that the tire valve is at the top. Remove the valve insert and screw water valve onto valve stem. While the water is entering, air escapes through lateral bore in water valve. Stop filling tire when water drains from vent hole of valve. Filling a tire takes 15 to 30 minutes, depending on tire size. Then screw in air valve and pump up tire to the normal inflation pressure. The quantity of liquid ballast required varies depending on tire size and type. If in doubt, consult your John Deere dealer or tire manufacturer.

If low temperatures are expected, an anti-freeze solution should be used. Tire manufacturers recommend a mixture of water and calcium chloride.

The anti-freeze solution may be sucked from an elevated tank. To speed up the filling operation, a pump may be used (flush pump with clear water afterwards). To provide protection down to -25°C (-13°F), dissolve 34 kg (75 lb) of calcium chloride in 86 liters (22.7 U.S. gal.) of water to obtain 100 liters (26.4 U.S. gal.) of anti-freeze solution.


LX009450

LX009450 —UN—03JAN95

This solution produces an increase in weight of 120 kg (269 lb). Add calcium chloride to the water - not vice versa. Do not fill radiator with this anti-freeze solution.

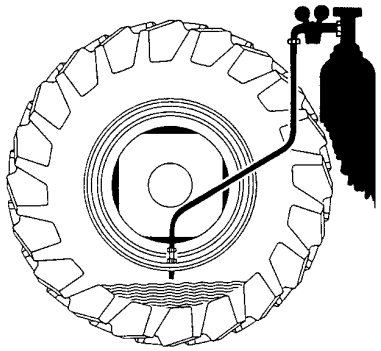
NOTE: On tractors with 50 km/h (31 mph) transmissions, filling tires with liquid ballast is NOT recommended.

LX,OSPU 000250 -19-01MAR00-1/1

Draining the Tires

Jack up wheel. Remove air valve and allow water to drain out.

To clear the remainder of the water from the tire, insert the drain tube with the hose extension and pump air into the tire. The air pressure will push the remaining water out of the tire.



LX009451

LX009451 —UN—03JAN95

LX,OSPU 000251 -19-01OCT94-1/1

Pre-Assembling the Pick-Up Weight

CAUTION: When performing the work described below, comply with the safety instructions.

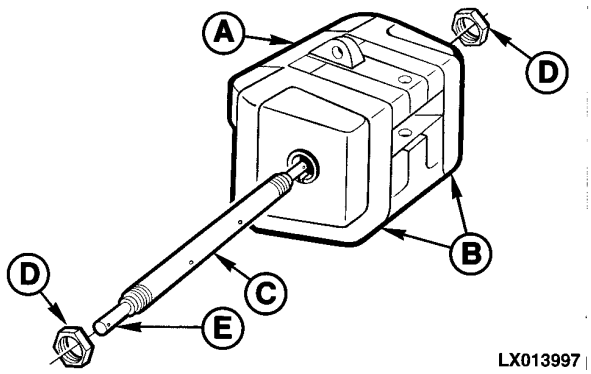
CAUTION: Equipment used to raise and transport the weight must be capable of bearing at least 900 kg (1985 lb) or 1150 kg (2535 lb).

CAUTION: Use approved lifting equipment only.

CAUTION: Observe safety rules. Do not stand under suspended loads.

NOTE: To facilitate the transport of the weight, it is a good idea to pre-assemble it on a pallet. Make sure the bearing weight of the pallet is sufficient.

Use a hoist to lower the center weight (A) onto a level surface.



LX013997

LX013997 —UN—02APR96

Arrange the side weights (B) alongside the center weight and install bearing shaft (C).

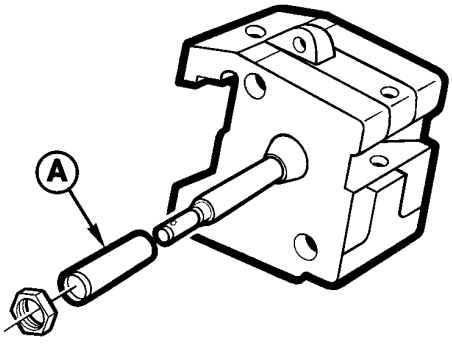
Tighten nuts (D) to 300 Nm (220 lb-ft).

If attaching to a three-point hitch, adjust pins (E) to their maximum lengths.

OULXE59,0010880 -19-16APR06-1/4

If attaching the center weight only, install a spacer bushing (A) at each end of the bearing shaft.

Tighten the nuts to 300 Nm (220 lb-ft).



LX013999

LX013999 —UN—02APR96

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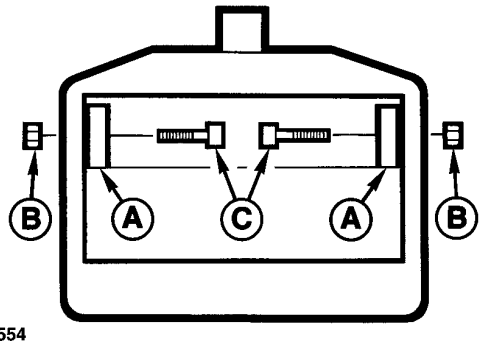
OULXE59,0010880 -19-16APR06-2/4

When attaching to a 80 kg (175 lb) basic weight, install a spacer (A) at both inner sides.

When attaching to a 110 kg (240 lb) basic weight, spacers are not needed.

Insert the hex. socket screws (C) from the inner side and install nuts (B).



LX012554

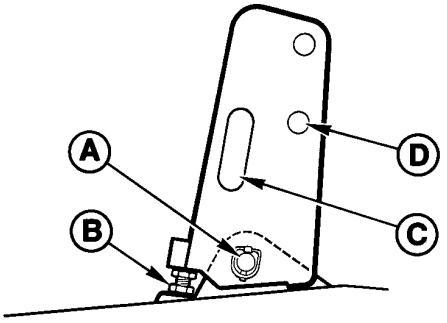
LX012554 —UN—27JUN96

OULXE59,0010880 -19-16APR06-3/4

If attaching to the three-point hitch, install the center link bracket. Install and secure pin (A). Adjust the depth to which screw (B) is screwed into the center link bracket until the screw is in contact with the pick-up weight, and then counter-lock the screw.

The center link bracket has a recess (C) where the spacers can be stored when not in use.

When the center link bracket is not in use, it can be folded over and secured to the weight by means of hole (D).



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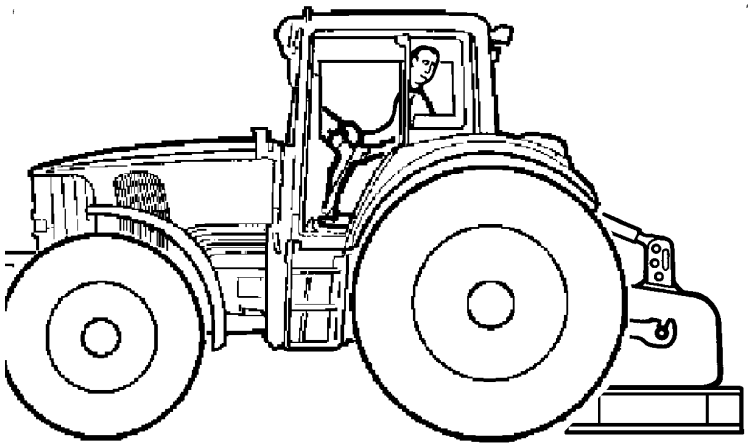
LX014001 —UN—02APR96

OULXE59,0010880 -19-16APR06-4/4

Attaching to Three-Point Hitch (Rear-End Attachment)



LX1026083

LX1026083 —UN—18MAY01

Remove the adjusting rod and eye-bolts.

Put the swinging drawbar to its shortest position and swing it to the side.

Remove the height-adjustable trailer hitch (hitch only).

Install the center link bracket on the pick-up weight.

Reverse the tractor to the pick-up weight and procede as for any other implement.

NOTE: On tractors with extra-large tires, it may be necessary to adjust the lift links to their maximum length.

CAUTION: Make sure that the hooks on the draft links are closed properly.

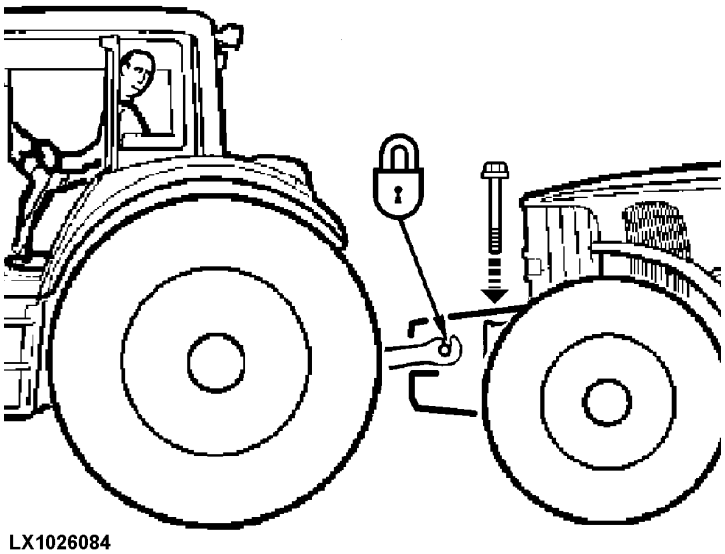
CAUTION: Install all retaining pins.

CAUTION: Steering may be adversely affected unless there is sufficient weight at the front end of the tractor (e.g. a front loader).

IMPORTANT: Remember to engage the center link.

OU12401,0000595 -19-09DEC00-1/1

Attaching to Basic Weight



LX1026084

LX1026084 —UN—18MAY01

Suspend the pick-up weight from the draft links of any suitable tractor, and back up the tractor in front of the tractor to which the pick-up weight is to be attached.

NOTE: Once the pick-up weight has been attached, it is no longer possible to use the conventional additional front weights. The one exception to this is the 180 kg (400 lb) weight pack.

Lower the pick-up weight onto the basic weight. Notice how the weight engages.

Do NOT disengage the weight from the draft links of the supporting tractor at this stage. First insert and tighten the retaining screw, and refer to the following description.

CAUTION: Make sure no-one is standing in the danger zone.

CAUTION: On the tractor that is to receive the pick-up weight, engage park brake and park lock.

CAUTION: Select depth control for the hitch of the support tractor.

CAUTION: Make sure that the hooks on the draft links are engaged properly.

IMPORTANT: Front-end installation is authorized only for tractors with front-wheel drive!

IMPORTANT: Comply with permissible axle loads and tire and wheel rim bearing capacities. See Operator's Manual and manufacturer's notes.

IMPORTANT: When attaching, do NOT use the center link.

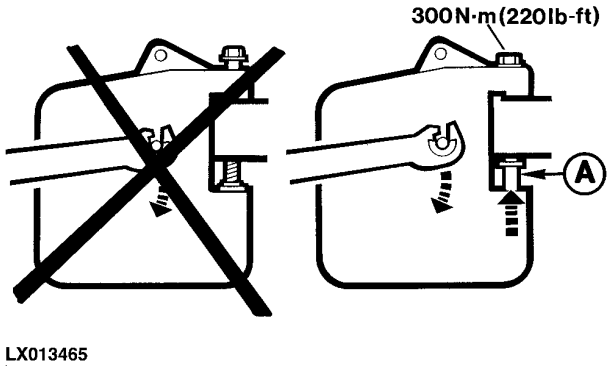
Continued on next page

OU12401,0001CE1 -19-21SEP09-1/3

CAUTION: Keep the pick-up weight suspended until the retaining screw has been screwed in fully and is seated tightly. Also make sure that retaining nut (A) is in contact with the basic weight.

Tighten the screw to 300 Nm (220 lb-ft).

Now disengage the draft links and screw in the weight receiving pin as far as it will go.



OU12401,0001CE1 -19-21SEP09-2/3

The pick-up weight may be attached using a crane or suitable hoist. Suspend the weight by the cast eyelet.

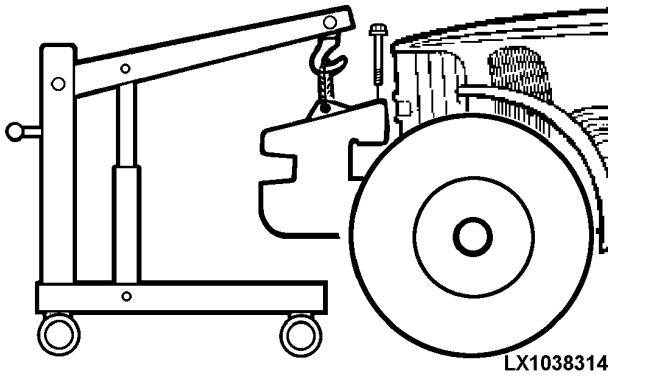
Once the weight is located on the basic weight, install the retaining screw. Do not disengage the hoist until the screw is installed.

Tighten the retaining screw to 300 Nm (220 lb-ft).

CAUTION: Keep the pick-up weight suspended until the retaining screw has been screwed in fully and the retaining nut is in contact with the basic weight.

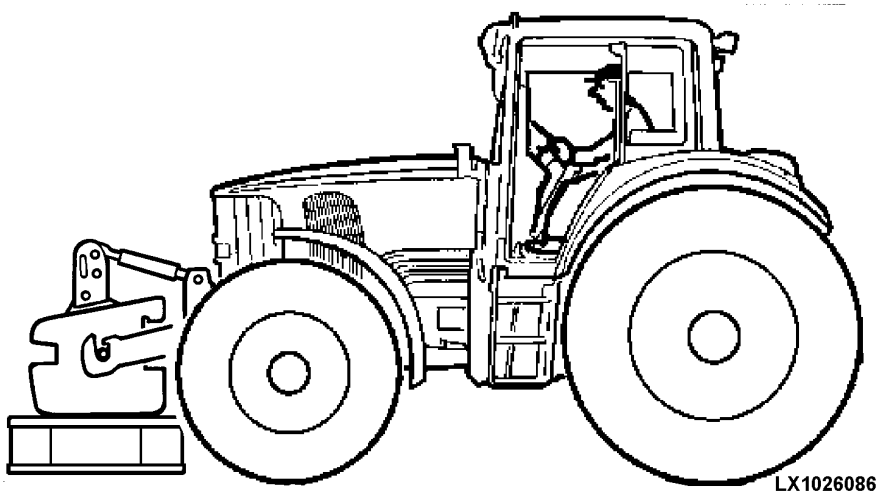
CAUTION: When using commercially available lifting equipment, make sure that its bearing capacity is sufficient.

CAUTION: Use approved lifting equipment only.



OU12401,0001CE1 -19-21SEP09-3/3

Attaching to Three-Point Hitch (Front-End Attachment)



LX1026086 —UN—18MAY01

NOTE: On tractors with extra-large tires, it may be necessary to place the pick-up weight a little higher (e.g. on a pallet).

Install the center link bracket on the pick-up weight.

Procede as for any other implement.

IMPORTANT: Remember to engage the center link.

CAUTION: Make sure that the hooks on the draft links are closed properly.

CAUTION: Install all retaining pins.

OU12401,0000597 -19-09DEC00-1/1

Weight in the Three-Point Hitch

NOTE: Keep the three-point hitch raised when driving. This maximizes ground clearance.

CAUTION: When the tractor is parked, always lower the pick-up weight to the ground.

IMPORTANT: Always make sure the tractor is balanced/ballasted properly.

IMPORTANT: Never use the hitch jaw in the front of the pick-up weight for towing loads.

OU12401,0001408 -19-13MAY06-1/1

Installing Front Weights

One basic weight (A) and up to 18 front weights (B) may be installed.

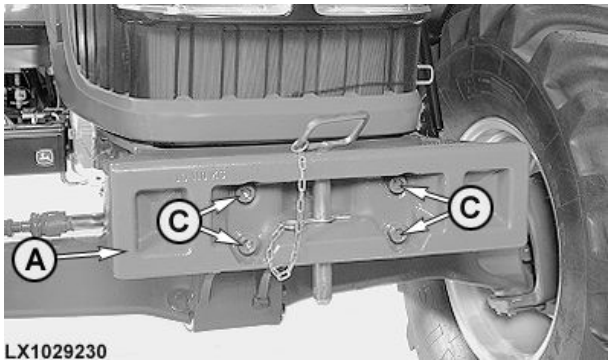
IMPORTANT: Tighten attaching screws (C) on basic weight (A) to 600 Nm (440 lb-ft) and screws (D) of additional weights (B) to 230 Nm (170 lb-ft).

Up to 18 additional weights (B) may be installed on the tractor.

Each additional weight weighs 50 kg (110 lb). Each increase in weight of 10 kg (22 lb) increases the front axle load by approx. 12 kg (26.5 lb).

IMPORTANT: When installing six or more additional weights, they must be installed to form a jaw (E).

The jaw hitch should be used for shunting and towing on hard-surfaced roads only.



LX1029230

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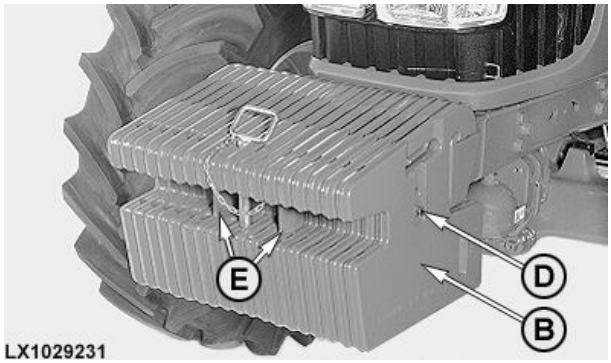


LX1029231

LX1029231 —UN—02APR03

OU12401,00015BB -19-15DEC06-1/1

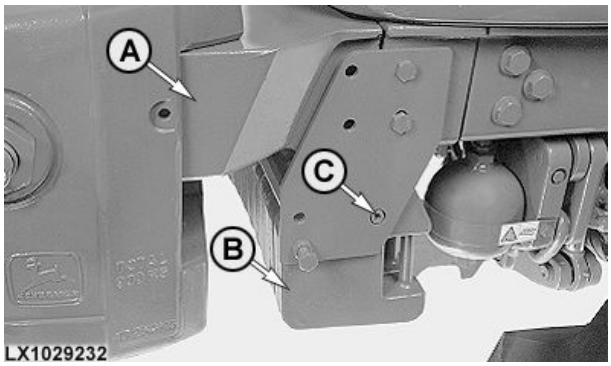
Additional Weight Package 180 kg (400 lb)

The additional weight package of 180 kg (400 lb) may be used only in conjunction with the 110 kg (240 lb) basic weight (A).

Up to eight quick-attachment weights (B) may be installed, each weighing 20 kg (44 lb).

Each increase in weight of 10 kg (22 lb) increases the front axle load by approx. 12 kg (26.5 lb).

To remove or install, take off hex. nut (C). Install or remove the quick-attachment weights one at a time.



LX1029232

LX1029232 —UN—02APR03

OU12401,00103DF -19-01MAR03-1/1

Use of Dual Wheels (easy-to-attach)

Dual wheels may be used on the rear axles of tractors for the purpose of floatation or soil compaction reduction only.

They are only recommended for use in the field and should be removed prior to driving on public roads.

IMPORTANT: When installing, wheel disc reinforcements must be fitted These discs are available from your John Deere dealer either as a field attachment or as an integrated part of a drum design coupling system as Allied Equipment.

NOTE: Retighten the wheel nuts regularly to the specified torque. See Break-in Period or Service / Every 250 Hours.

OULXBER,0001980 -19-03SEP10-1/1

Change Wheels Safely

Due to the big size and the heavy weight of tractor wheels, pay attention to the following points when changing wheels:

- Before changing wheels, place tractor on firm, level ground.
- Engage park lock and prevent the tractor from rolling away by putting down chock blocks.
- Remove the ignition key to prevent unauthorized operation.
- When removing rear wheels, prevent front axle oscillation by using wedges.
- When jacking up the tractor, only use the recommended lifting points, see Jack Up the Tractor - Lifting Points in Section 85 of this Operator's Manual.
- Use a stable jack with sufficient lifting force. See Specifications, Loads and Weights in Section 145.
- Stop jacking up the tractor when the wheel is completely off the ground.
- Use a suitable wheel dolly, especially when removing a rear wheel. This is available from your John Deere dealer as special tool KJD10581.
- Support the tractor when a wheel is removed. Jack stands are available from your John Deere dealer as special tools JT02043 and JT02044.
- When installing wheels, make sure that the correct torques are applied, see Tighten Wheel Bolts and Wheel Weights in Section 95 of this Operator's Manual.

CAUTION: Do not operate the tractor until the wheel change has been completed.

When changing wheels, make sure that no-one is standing in the danger zone.

When removing a wheel, make sure that the tractor is supported safely.

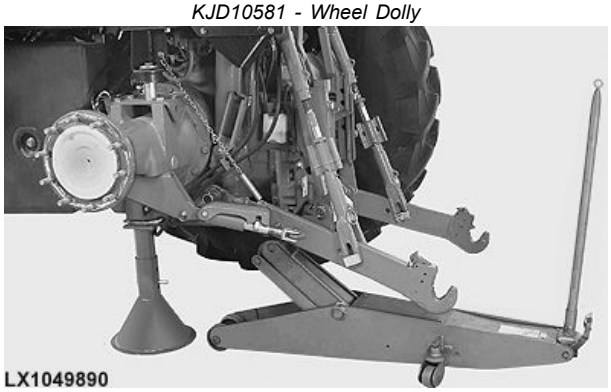
When storing removed wheels, make sure that they cannot fall.

JT02043—Jack Stand, 482 to 736 mm (19 to 29 in.)

JT02044—Jack Stand, 863 to 1117 mm (34 to 44 in.)

LX1049987 —UN—15JUL11

KJD10581 - Wheel Dolly



LX1049890 —UN—11FEB11

Jack Stand JT02043 or JT02044

LX1053310 —UN—23SEP11

Jack Stand JT02043 or JT02044

OULXBER,0001AA7 -19-13JAN12-1/1

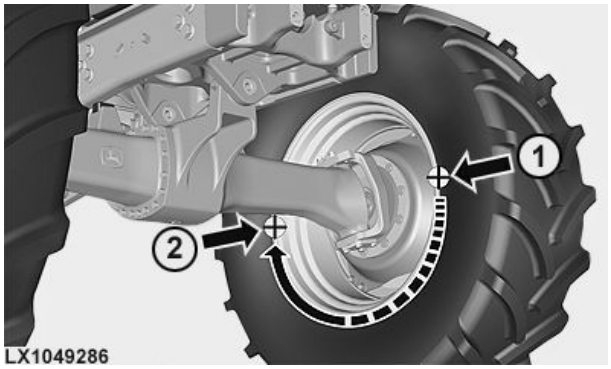
Check Front Wheel Toe-In

1. Make sure tires are in the straight forward position by driving tractor in a straight line for approx. 15 m (50 ft).

CAUTION: Keep the engine switched off while making the measurements, and secure the tractor so that it cannot roll away.

2. First, put marks (+) at axle height on the front (1) of each of the two front wheels.
3. At the front, measure distance (1) from the edge of the right rim to the edge of the left rim, and make a note of this measurement.
4. Roll the tractor forward by half the circumference of the front wheel, bringing the (+) mark to the rear (2).
5. At the rear, measure distance (2) from the edge of the right rim to the edge of the left rim, and make a note of this measurement.

Dimension (1) at the front must correspond to dimension (2) at the rear. A deviation of ± 1.5 mm is permissible.



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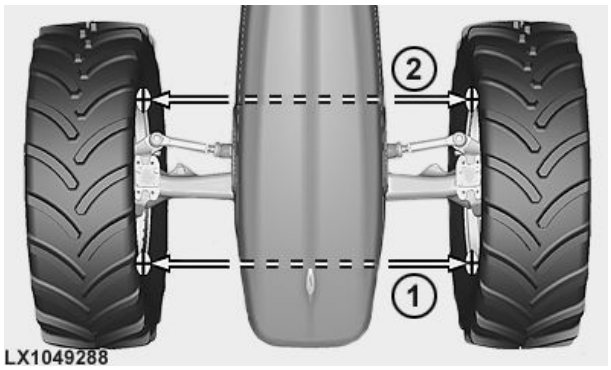

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OULXBER,00018ED -19-14JUN10-1/1

Adjust Toe-In (Tractors with Front-Wheel Drive Axle)

1. Align front wheels for travelling straight ahead, shut off the engine, move the transmission to park position and remove the ignition key.
2. Loosen locknut (A).

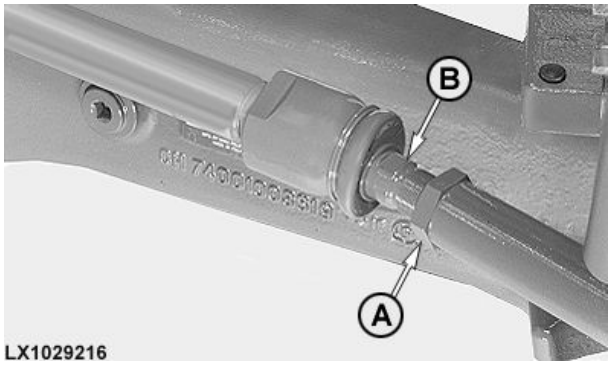
NOTE: Toe-in of ± 1.5 mm (0.06 in.) is permissible. See Check Toe-In in this section.

3. Turn rod (B) to obtain desired toe-in or toe-out.

Specification	
Maximum toe-in or toe-out—Clearance	1.5 mm (0.06 in.)

4. Tighten locknut (A) to specified torque.

Specification	
Locknut—Torque	328 to 363 Nm 242 to 267 lb.-ft.

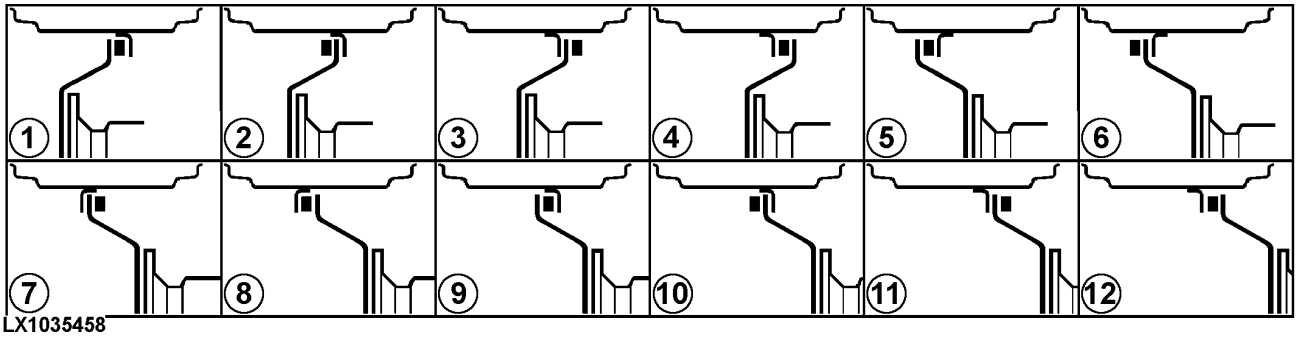


LX1029216 —UN—02APR03

A—Locknut **B—Rod**

OULXBER,0001918 -19-15SEP10-1/1

Adjusting Tread on Front Wheels (Adjustable Rims)



Wheel tread can be adjusted by replacing or reversing the wheel rims. Additional tread widths can be achieved by using spacers.

In addition the complete wheel can be installed on the other side of the tractor. In doing so, maintain the direction of tire rotation.

NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.90 m (75 in.).

	Positions of rims, wheel disks and spacers											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
mm (in.)	1618 (63.7)	1648 (64.9)	1680 (66.1)	1710 (67.3)	1814 (71.4)	1844 (72.6)	1878 (73.9)	1908 (75.1)	2018 (79.4)	2048 (80.6)	2080 (81.9)	2110 (83.1)
Tires:												
16.9R30	—	—	—	—	x	x	x	x	x	x	x	x
420/85-30	—	—	—	—	x	x	x	x	x	x	x	x
480/70-30	—	—	—	—	x	x	x	x	x	x	x	x
540/65-30	—	—	—	—	x*	x*	x*	x	x	x	x	x

* With pivoting fenders only

OU12401,0001AB6 -19-18SEP08-1/1

Tighten Wheel Nuts on Front Wheels

After adjusting tread, tighten nuts (A).

IMPORTANT: After adjusting tread, check the tightening torque of these wheel nuts after 4 and 8 hours and then frequently during next 100 hours of operation.

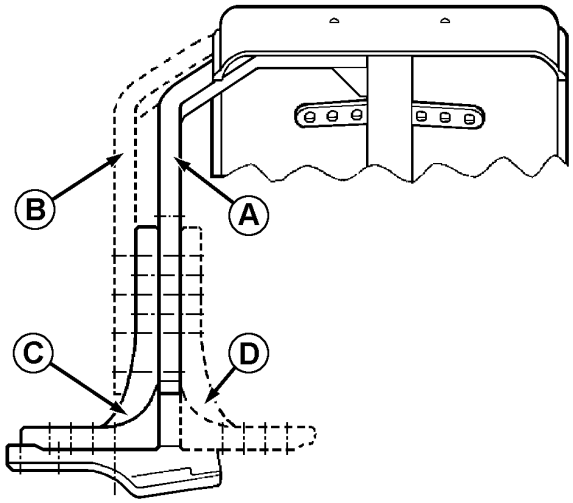
A—480 Nm (355 lb-ft)

OULXE59,0010839 -19-17FEB11-1/1

Adjusting the Fixed Fenders

The fenders may be adjusted individually. Several adjusting positions are possible. Tilt, width and height of the fenders can be adjusted depending on tire size. To do so, proceed as follows:

A—Support to base plate (wheel side)
B—Support to base plate (tractor side)
C—Base plate (tractor side)
D—Base plate (wheel side)



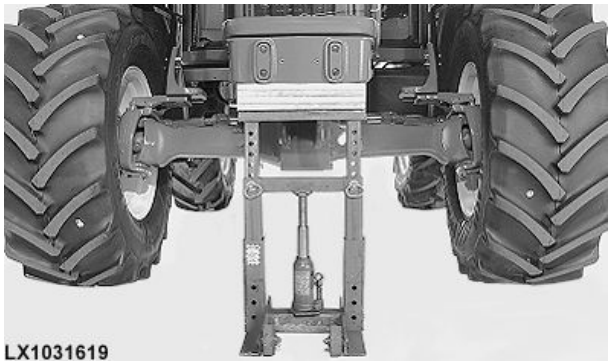
LX1033634

LX1033634 —UN—08AUG06

OU12401,0001B7F -19-03MAR09-1/4

1. Raise front of tractor so that the front wheel drive axle can pivot freely.
2. Turn steering wheel in both directions and pivot the axle to determine the most suitable fender mounting position.
3. Adjust fender position so that the minimum clearances (see illustration) are met. There must not be any contact with the tractor frame.

   A = 40 mm (1.57 in.), B = 60 mm (2.36 in.)



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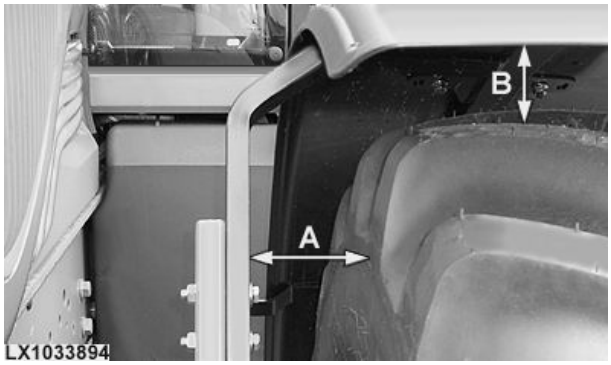

LX1033894 —UN—11MAR04

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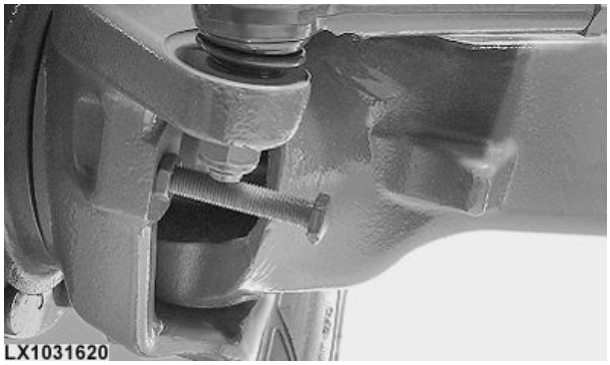
OU12401,0001B7F -19-03MAR09-2/4

4. Also adjust the steering stops to make sure that neither the wheel nor the fender come into contact with tractor components (e.g. fuel tank).



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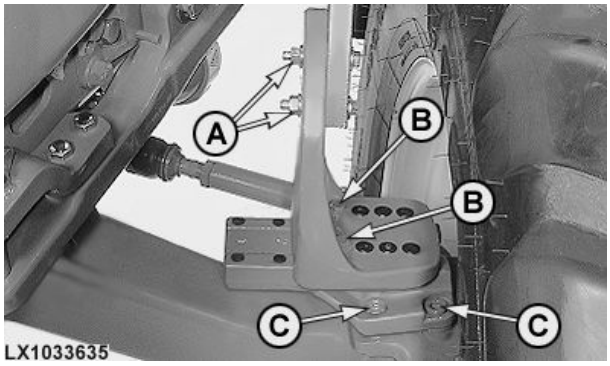
OU12401,0001B7F -19-03MAR09-3/4

Tighten the screws to the following torque values:

Screws (A)	140 Nm (105 lb-ft)
Screws (B)	140 Nm (105 lb-ft)
Screws (C)	190 Nm (140 lb-ft)

A—Cap screws, support to base plate
B—Cap screws, base plate to base
C—Hex. socket screws, base to knuckle housing



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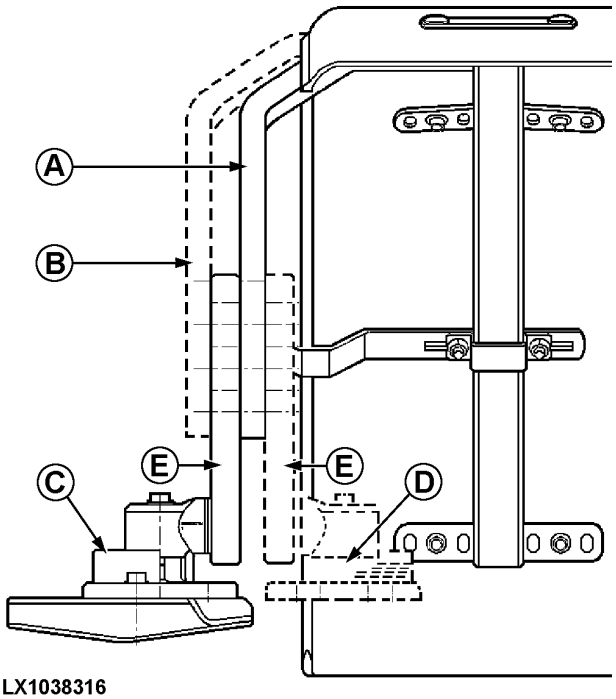
OU12401,0001B7F -19-03MAR09-4/4

Adjusting the Pivoting Fenders

The fenders may be adjusted individually. Several adjusting positions are possible. Tilt, width and height of the fenders can be adjusted depending on tire size. If the intention is to change between positions C and D, turn the part around (do NOT install it on the other side of the tractor). Then adjust the front-to-rear angle of adjusting arm (E). To make the adjustment, follow this procedure:

A—Support to adjusting arm (wheel side)
B—Support to adjusting arm (tractor side)
C—Pivot plate (tractor side)
D—Pivot plate (wheel side)
E—Adjusting arm



LX1038316

LX1038316 —UN—08AUG06

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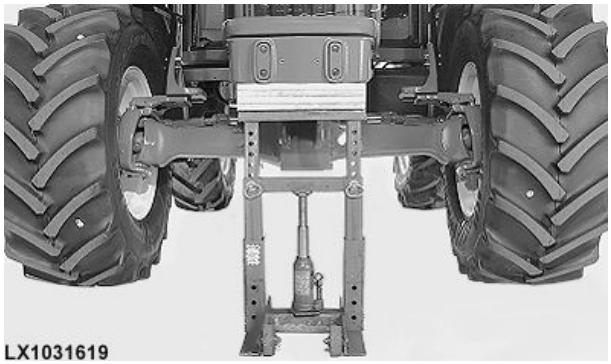
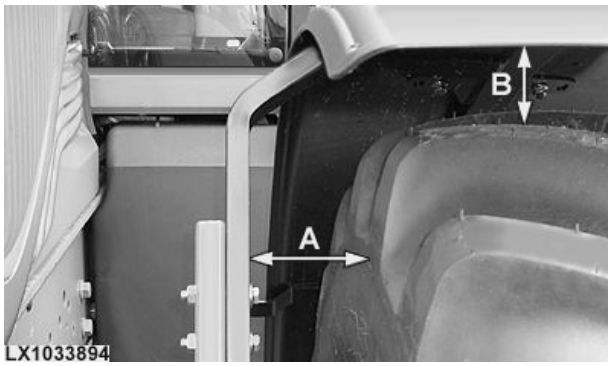
OU12401,0001B80 -19-03MAR09-1/4

1. Raise front of tractor so that the front wheel drive axle can pivot freely.
2. Turn steering wheel in both directions and pivot the axle to determine the most suitable fender mounting position.
3. Adjust fender position so that the minimum clearances (see illustration) are met. There must not be any contact with the tractor frame.

   A = 40 mm (1.57 in.), B = 60 mm (2.36 in.)
4. Adjust fender stop to prevent it from being seized at the edges with steering wheel fully turned and axle pivoting. Make sure that the stop contacts the tractor frame before the fender can hit the frame.



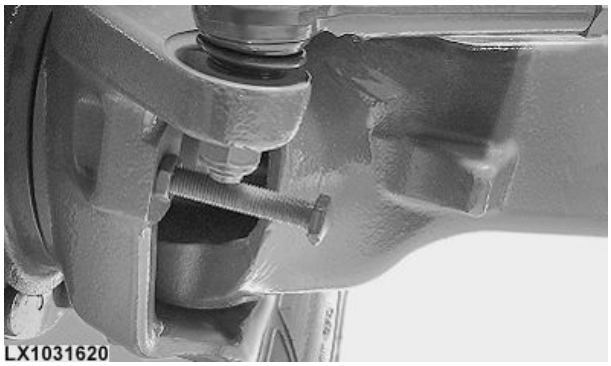
LX1031619 —UN—31MAY06



LX1033894 —UN—11MAR04

OU12401,0001B80 -19-03MAR09-2/4

5. Also adjust the steering stops to make sure that neither the wheel nor the fender come into contact with tractor components (e.g. fuel tank).



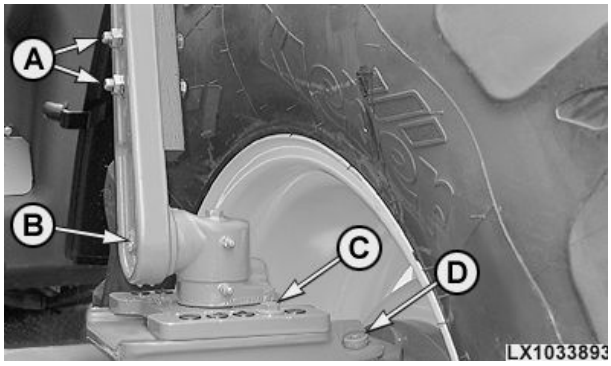
LX1031620 —UN—24APR06

OU12401,0001B80 -19-03MAR09-3/4

Tighten the screws to the following torque values:

Screws (A)	140 Nm (105 lb-ft)
Screw (B).....	300 Nm (220 lb-ft)
Screws (C)	140 Nm (105 lb-ft)
Screws (D)	190 Nm (140 lb-ft)

A—Cap screws, support to adjusting arm
B—Cap screw, adjusting arm to joint
C—Cap screws, pivot plate to base
D—Hex. socket screws, base to knuckle housing



LX1033893 —UN—11MAR04

OU12401,0001B80 -19-03MAR09-4/4

Adjusting Tread on Rear Wheels (Adjustable Rims)

IMPORTANT: The distance between the side wall of the tire and the fender must not be less than 50 mm (1.97 in.).

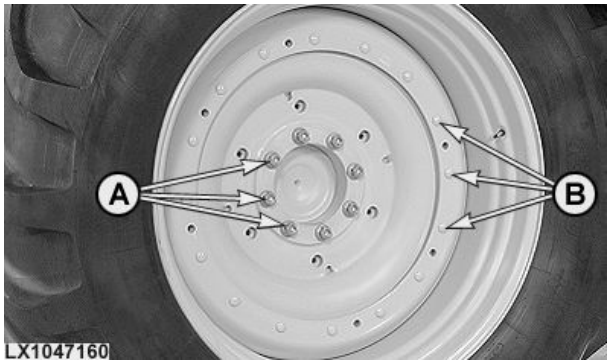
The distance between the running surface (edge) of the tire and the fender must not be less than 60 mm (2.36 in.).

Wheel tread can be adjusted by repositioning or reversing the wheel rims. Additional tread widths can be achieved by using spacers.

In addition the complete wheel can be installed on the other side of the tractor. In doing so, maintain the direction of tire rotation.

After adjustment has been completed, tighten wheel retaining bolts to specified torque (see Section “Break-In Period”).

The relationship of the rear wheel disk and rim in obtaining the different tread settings is shown in the following drawings. A study of these drawings before attempting to change tread setting will save time and unnecessary labor.



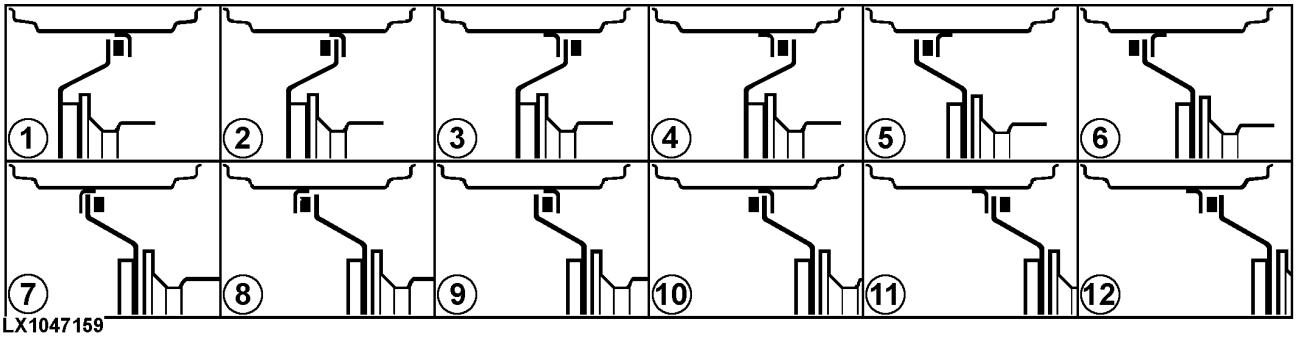
LX1047160 —UN—25SEP08

A—500 Nm (370 lb.-ft.) **B—210 Nm (155 lb.-ft.)**

IMPORTANT: After adjusting wheel tread, retighten all wheel attaching nuts after 4 and 8 hours of operation. Check tightness of these nuts frequently during the next 100 hours of operation.

OU12401,0001AB7 -19-23FEB11-1/1

Tread Widths



LX1047159 —UN—22SEP08

	Positions of rims, wheel disks and spacers											
	1	2	3	4	5	6	7	8	9	10	11	12
mm (in.)	1632 (64.3)	1662 (65.4)	1708 (67.2)	1738 (68.4)	1724 (67.9)	1754 (69.1)	1800 (70.9)	1830 (72.0)	1928 (75.9)	1958 (77.1)	2004 (78.9)	2034 (80.1)
Tires:												
650/65R38	—	—	—	—	—	x	x	x	x	x	x	x
710/70R38	—	—	—	—	—	—	—	x	x	x	x	x
20.8R42	x	x	x	x	x	x	x	x	x	x	x	x
520/85R42	x	x	x	x	x	x	x	x	x	x	x	x
580/70R42	—	—	x	x	x	x	x	x	x	x	x	x
620/70R42	—	—	—	x	x	x	x	x	x	x	x	x
650/65R42	—	—	—	—	—	x	x	x	x	x	x	x

NOTE: In certain countries, overall vehicle width for driving on public roads must not exceed 2.55 m (100 in.).

OU12401,0001AB8 -19-18SEP08-1/1

Tire Pressures

Long life and satisfactory performance of the tires depend on proper tire inflation. Under-inflation of tires leads to rapid wear. Over-inflated tires reduce traction and increase wheel slippage.

Since correct tire pressures depend not only on working conditions and load but also on tractor model, tire size and manufacturer, we recommend that you approach your John Deere dealer or tire company for advice.

AG,OU12401,170 -19-28MAR00-1/1

Service Tires Safely

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

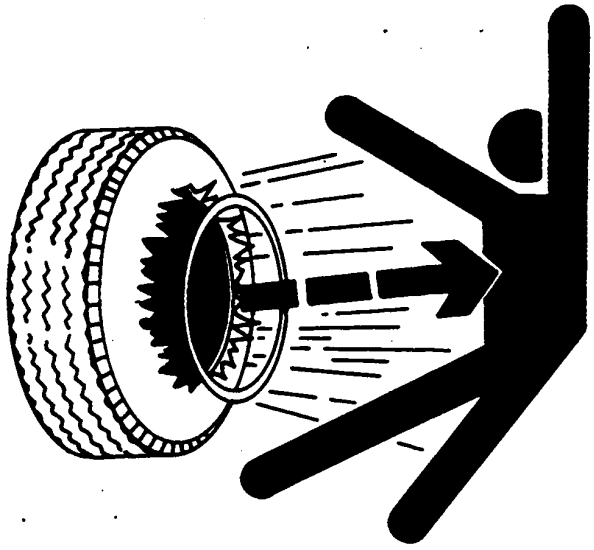
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

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—23AUG88

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

Tire Combinations (up to 40 km/h; 25 mph)

The size ratio of the front wheels to the rear ones is precisely determined in order to produce a positive front wheel lead of between 1.5 and 4%. Otherwise the tires will become deformed or suffer undue wear. To ascertain the correct ratio when changing tires, proceed as follows:

Ascertain tractor data:

1. Transmission ratio of the differential gear pair. These values are displayed on the product information plate on the l.h. side of the radiator. The following pairs are possible:

Gear pair	Transmission ratio
48/10	4,8
52/10	5,2

2. Transmission ratio of front axle. This figure is displayed on the front axle serial number plate. The following ratios are possible:

   • 13,160

3. Transmission ratio of gear pair for front-wheel drive axle output. These values are displayed on the product information plate on the l.h. side of the radiator. The following pairs are possible:

   • 1,697
   • 1,727
   • 1,758
   • 1,833
   • 1,875
   • 1,917

Ascertain tire data:

1. Select tires with suitable load-bearing capability.
2. Select tires appropriate to the tractor's top speed.
3. From the manual, ascertain the rolling circumference of the tire desired for the rear wheel.
4. From the manual, ascertain the rolling circumference of the tire desired for the front wheel.

Ascertain the following data:

IMPORTANT: Tires used on the front wheels must have a Speed Radius Index (SRI) of 700 mm (27.6 in.).

Calculate the overall transmission ratio using the following formula:

$$I = \frac{A1 * I1 * I3 * 100}{A2 * I2 * 102.75}$$

A1 = Rolling circumference of front tires
A2 = Rolling circumference of rear tires
I1 = Rear axle ratio (6.40)
I2 = Transmission ratio of front axle
I3 = Transmission ratio of the differential gear pair

Ascertain the gear pair that is appropriate for the overall transmission ratio.

Calculated transmission ratio	Transmission ratio of the required gear pair
(corresponds to a pos. front wheel lead of 1.5 - 4.0%)	(corresponds to desired average value of pos. front wheel lead)
1,676 — 1,713	1,697
1,714 — 1,740	1,727
1,741 — 1,779	1,758
1,811 — 1,854	1,833
1,855 — 1,895	1,875
1,896 — 1,940	1,917

Sample calculation

The intention is to fit a tractor with 710/70R38 and 600/65R28 tires, made by a certain manufacturer.

1. The transmission ratio of the differential gear pair is 5.2.
2. The transmission ratio of the front axle is 13.160.
3. The transmission ratio of the gear pair for the front wheel drive axle is 1.875.
4. The rolling circumference of the tire on the rear wheel is 5812 mm (228.8 in.).
5. The rolling circumference of the tire on the front wheel is 4398 mm (173.1 in.).
6. Calculate the overall transmission ratio.

$$\frac{4398 * 6,4 * 5,2 * 100}{5812 * 13,160 * 102,75} = 1,862$$

The gear pair that is required must have a ratio of 1.875.

OU12401,0001A79 -19-15SEP08-1/1

Tire Combinations (up to 50 km/h; 31 mph)

The size ratio of the front wheels to the rear ones is precisely determined in order to produce a positive front wheel lead of between 1.5 and 4%. Otherwise the tires will become deformed or suffer undue wear. To ascertain the correct ratio when changing tires, proceed as follows:

Ascertain tractor data:

1. Transmission ratio of the differential gear pair. These values are displayed on the product information plate on the l.h. side of the radiator. The following pairs are possible:

Gear pair	Transmission ratio
48/10	4,8

2. Transmission ratio of front axle. This figure is displayed on the front axle serial number plate. The following ratios are possible:
   - 13,160
3. Transmission ratio of gear pair for front-wheel drive axle output. These values are displayed on the product information plate on the l.h. side of the radiator. The following pairs are possible:
   - 1,697
   - 1,727
   - 1,758

Ascertain tire data:

1. Select tires with suitable load-bearing capability.
2. Select tires appropriate to the tractor's top speed.
3. From the manual, ascertain the rolling circumference of the tire desired for the rear wheel.
4. From the manual, ascertain the rolling circumference of the tire desired for the front wheel.

Ascertain the following data:

IMPORTANT: Tires used on the front wheels must have a Speed Radius Index (SRI) of 700 mm (27.6 in.).

Calculate the overall transmission ratio using the following formula:

$$I = \frac{A1 * I1 * I3 * 100}{A2 * I2 * 102.75}$$

A1 = Rolling circumference of front tires
A2 = Rolling circumference of rear tires
I1 = Rear axle ratio (6.40)
I2 = Transmission ratio of front axle
I3 = Transmission ratio of the differential gear pair

Ascertain the gear pair that is appropriate for the overall transmission ratio.

Calculated transmission ratio (corresponds to a pos. front wheel lead of 1.5 - 4.0%)	Transmission ratio of the required gear pair (corresponds to desired average value of pos. front wheel lead)
1,676 — 1,713	1,697
1,714 — 1,740	1,727
1,741 — 1,779	1,758

Sample calculation

The intention is to fit a tractor with 710/70R38 and 600/65R28 tires, made by a certain manufacturer.

1. The transmission ratio of the differential gear pair is 4.8.
2. The transmission ratio of the front axle is 13.160.
3. The transmission ratio of the gear pair for the front wheel drive axle is 1.727.
4. The rolling circumference of the tire on the rear wheel is 5812 mm (228.8 in.).
5. The rolling circumference of the tire on the front wheel is 4398 mm (173.1 in.).
6. Calculate the overall transmission ratio.

$$\frac{4398 * 6{,}4 * 4{,}8 * 100}{5812 * 13{,}160 * 102{,}75} = 1{,}719$$

The gear pair that is required must have a ratio of 1.727.

OU12401,0001A7A -19-15SEP08-1/1

Selective Control Valves

The tractor may be equipped with four different types of selective control valves: 100 series, 200 series, 300 series or 350 series.

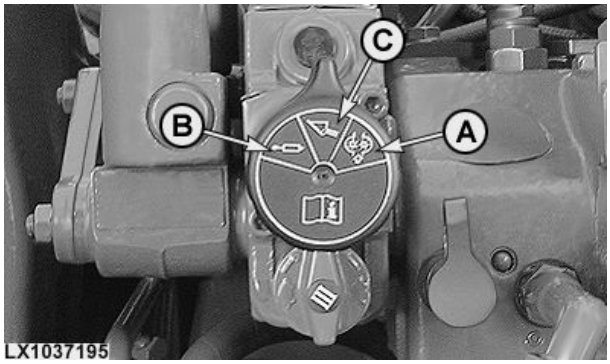
100 Series control valves provide the functions Raise and Lower plus a Float Position.

Besides these functions, 200 Series control valves provide a lock function (A) which holds the control lever in the Raise or Lower position until it is moved manually.

300 and 350 Series control valves also have an additional lock function (B), which holds the control lever in the Raise or Lower position until the pressure in the oil circuit has reached a predetermined value (e.g. when the remote control cylinder has reached its end position).

Neither locking function is activated in position (C). The control lever returns to neutral as soon as it is released.

If an implement (e.g. hydraulic cylinder) is connected, pressure connection (e.g. extending cylinder) has to be connected to the lower coupler. With 200 and 300 Series selective control valves, a valve prevents sudden loss of pressure caused by leakage (e.g. retracting cylinder) when the engine is shut off. On 350 Series selective control valves, the likelihood of leakage is further diminished. 100 Series selective control valves are NOT equipped with such a valve.



LX1037195 —UN—17MAY06

A—Lock function 1
B—Lock function 2
C—No lock function

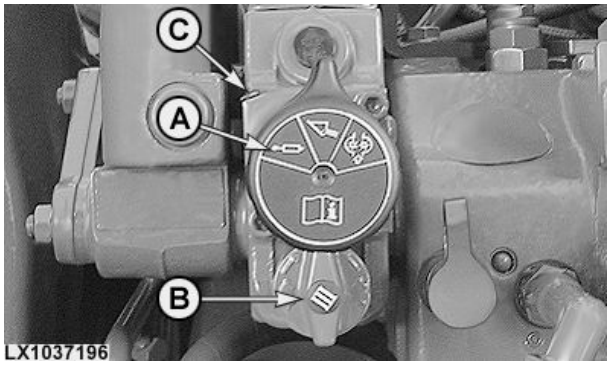
OU12401,0001B5F -19-11FEB09-1/1

Adjustment of Pressure Limit at Series 300 and 350 Selective Control Valves

NOTE: All selective control valves are factory adjusted to 18000 kPa (180 bar; 2610 psi).

If the selective control valve in lock function switches off too early (control lever goes to neutral too early), or if it switches off too late or not at all (lever goes to neutral too late or not at all), proceed as follows:

1. If equipped, disconnect hydraulic hoses at the connectors.
2. Engage the locking function (A) (as far as it will go to the right) and move flow control valve (B) to the mid-position.
3. Take out plug (C) and insert a 1.5 mm (0.06 in.) hex. socket key.
4. Start the engine and turn the screw clockwise as far as it will go.
5. Move SCV control lever to the raise or lower position (the control lever remains in the raise or lower position).
6. Turn the screw counter-clockwise until the control lever returns to neutral.



LX1037196 —UN—17MAY06

A—Lock function
B—Flow control valve
C—Plug

NOTE: One full turn changes the pressure by approx. 2000 kPa (20 bar; 290 psi).

7. Re-install the plug.

OU12401,0001B60 -19-11FEB09-1/1

Levers for Mechanical Selective Control Valves

Control lever positions

The control lever has four positions.

(A) - Retract

The remote cylinder retracts when the lever is moved to the *Retract* position.

(B) - Extend

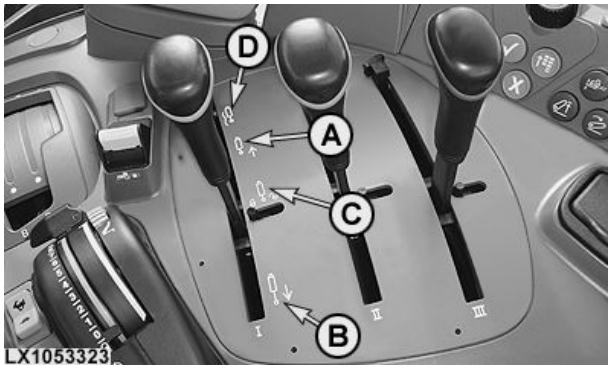
The remote cylinder extends when the lever is moved to the *Extend* position.

(C) - Neutral

The remote cylinder is held in place when the lever is in *Neutral*.

(D) - Float

The mounted implement follows the ground contours when the lever is in *Float* position (piston moves freely inside remote cylinder).



LX1053323 —UN—27OCT11

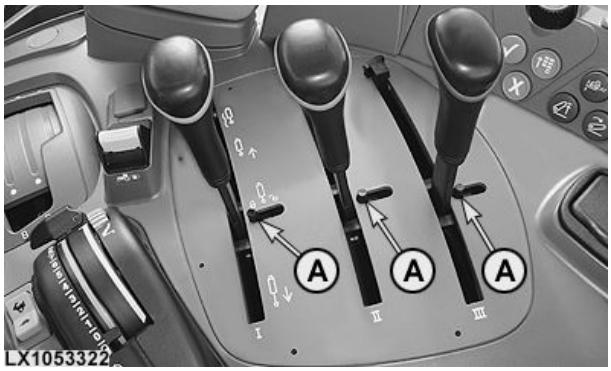
NOTE: If additional external valves are used, move the control lever to neutral when shutting off each hydraulic function.

OU12401,0001301 -19-03NOV11-1/2

Transport lock

With locks (A) each lever for selective control valves can be locked in neutral position (transport lock) or released for all functions.

CAUTION: Use locks (A) to lock the control levers when driving on roads and whenever the control levers are in neutral because they are not required. If this is not done, the control levers may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.



LX1053322 —UN—27OCT11

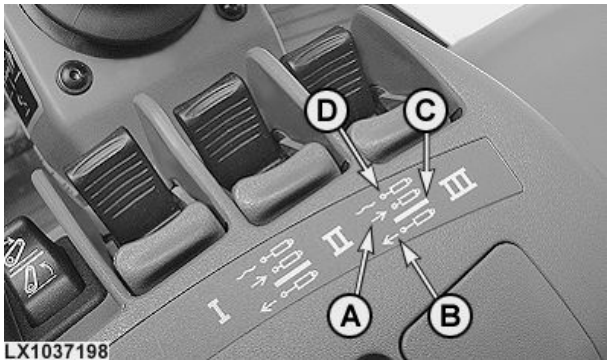
OU12401,0001301 -19-03NOV11-2/2

Levers for Electronically Controlled Selective Control Valves (E-SCVs)

The control lever has four settings.

The remote cylinder retracts when the lever is moved to the Retract position.
The remote cylinder extends when the lever is moved to the Extend position.
The remote cylinder is held in place when the lever is in Neutral.
When the lever is in the Float position (i.e. piston moves freely inside remote cylinder), the mounted implement follows the ground contours. To obtain this position, move the lever as far as it will go in Retract, press it downward and then press it further to the front.

NOTE: If additional external valves are used, move the control lever to neutral when shutting off each hydraulic function.



LX1037198 —UN—13OCT05

A—Retract
B—Extend
C—Neutral position (between retract and extend)
D—Float position

OU12401,00015C8 -19-16DEC06-1/1

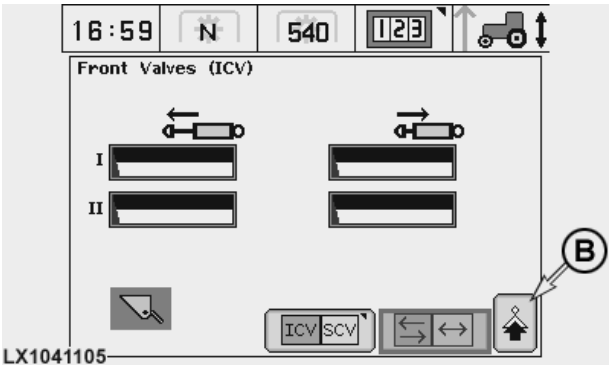
Additional Functions for Electronic Control Valves (E-SCVs and E-ICVs)

IMPORTANT: For E-ICVs, make sure that the correct machine (front loader or front-mounted implement) is set.

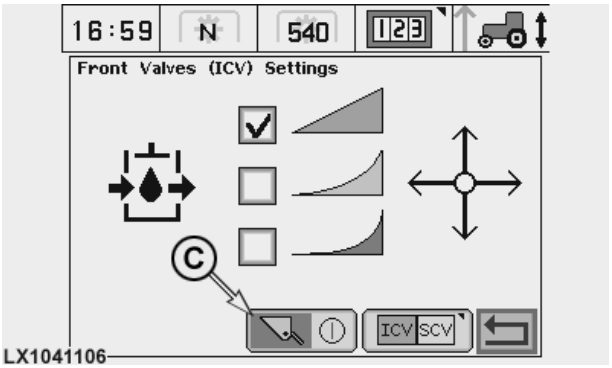
Press button (A) for selective control valves and select ICV, then select next page (B) and finally, select or deselect the front loader symbol (C).

A—Button for Selective Control Valves
B—Next Page
C—Front Loader

LX1037199 —UN—06NOV06



LX1041105 —UN—20NOV06



LX1041106 —UN—20NOV06

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Transport lock

All selective control valves (E-SCVs) can be locked at once (transport lock) using button (A). This is indicated by light (C). The selective control valves go to neutral.

All independent control valves (E-ICVs) of the multi-function lever can be locked at once (transport lock) using button (B). This is indicated by light (D). The selective control valves go to neutral.

CAUTION: Transport lock buttons (A) and (B) must be activated when driving on roads and whenever the selective control valves or the front loader are not required. If this is not done, the selective control valves or the front loader may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.

A—Transport Lock Button, Selective Control Valves (E-SCVs)
B—Transport Lock Button, Multi-Function Lever (E-ICVs)
C—Transport Lock Indicator Light, Selective Control Valves (E-SCVs)
D—Transport Lock Indicator Light, Multi-Function Lever (E-ICVs)

LX1037202 —UN—06NOV06

LX1041056 —UN—29JUN06

Continued on next page

OU12401,0001663 -19-28OCT11-2/5

Adjusting the SCV values

The following values may be adjusted for the E-SCVs and E-ICVs:

- Maximum flow
- Automatic shut-off time

Press button (A) for selective control valves and set the desired values at the following screens using the selector wheel.

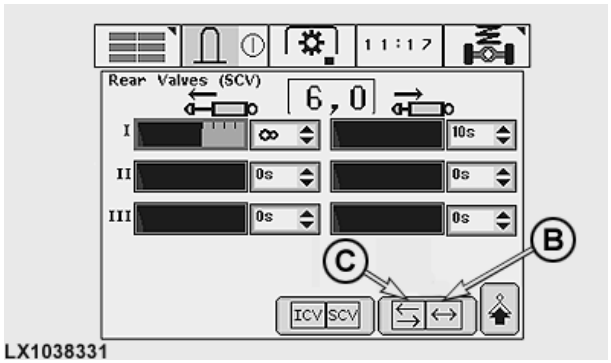
The values for maximum flow can be set in increments of 0.1. The minimum is 0.2, and the maximum 10.

The values for the shut-off time can be set in variable increments between 0 and infinity. Infinity means **no** automatic shut-off.

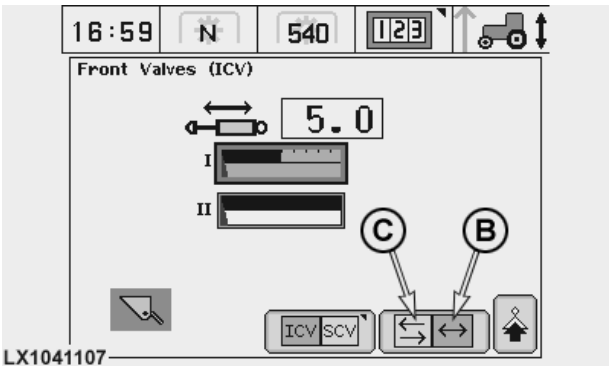
NOTE: If cell (B) is activated, the set values for maximum flow and automatic shut-off time at each of the SCVs are identical in both directions (extend/retract). If cell (C) is activated, the values for the two directions of movement can be set separately (see illustrations).

A—Button for Selective Control Valves
B—Joint Adjustment
C—Separate Adjustment

LX1037199 —UN—06NOV06



LX1038331 —UN—31MAY06



LX1041107 —UN—20NOV06

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Further adjustments

Press button (A) for selective control valves, then select next page (B).

On this screen, the response characteristics of the SCVs can be adjusted:

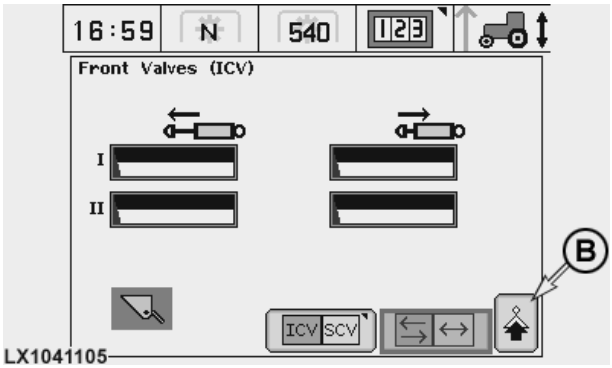
- **Linear** (C) means that the distance travelled by the SCV corresponds to the distance travelled by the control lever / multi-function lever
- **Progressive** (E) means that initially the distance travelled by the SCV is less than that travelled by the control lever / multi-function lever (giving a more sensitive start to the movement)
- **Combination** (D) is an intermediate stage between the two settings described above

In addition, you can select whether or not a front loader or front-mounted implement can be operated via the electrical multi-function lever.

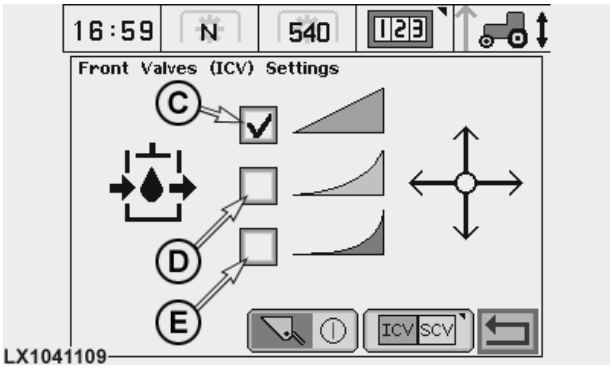
IMPORTANT: For E-ICVs, make sure that the correct machine (front loader or front-mounted implement) is set.

A—Button for Selective Control Valves
B—Next Page
C—Linear
D—Combination
E—Progressive

LX1037199 —UN—06NOV06



LX1041105 —UN—20NOV06



LX1041109 —UN—20NOV06

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Automatic shut-off

Provided the transport lock is not active and a shut-off time greater than zero is set for the SCV, the following applies:

If the SCV control lever (see arrow) is in the maximum extend or retract position and then moved past the point of resistance (a definite click can be perceived), the relevant SCV will be brought to its maximum flow position and held there until the set shut-off time elapses. Then the control valve is moved to its neutral position.

This procedure is aborted if:

- the SCV control lever is not returned to its neutral position within one second
- the SCV control lever is moved out of its neutral position before the shut-off period has elapsed
- the SCV control lever is moved in the opposite direction

In all above-mentioned cases, the SCV will react according to the movements of the SCV control lever.

LX1037207 —UN—13OCT05

To re-activate the automatic shut-off, cycle the SCV control lever back from beyond the point of resistance and then past the point of resistance again.

OU12401,0001663 -19-28OCT11-5/5

Multi-Function Lever (Mechanical)

Multi-function lever (A) permits two SCVs to be operated at the same time. Buttons (B) enable other functions to be carried out.

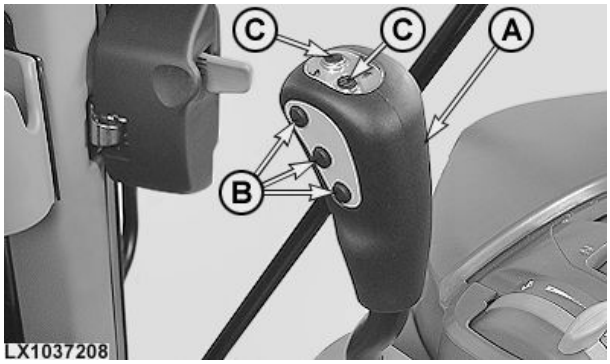
Gear shift buttons (C) allow the gears at the transmission to be shifted. Slide control (D) locks the lever.

Pulling lever (A) back raises the front loader. Pushing the lever forward until resistance is reached lowers the front loader. If the lever is pushed forward beyond the resistance, it engages in a detent and the front loader is in its float position.

Moving the lever to the left makes the loader bucket tip up. Moving the lever to the right makes the loader bucket dump.

CAUTION: The multi-function lever must be locked when driving on roads and whenever the front loader is not required. Move the multi-function lever to neutral position and lock it using slide control (D). Make sure that the multi-function lever can no longer move. Otherwise, the front loader may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.

A — Multi-Function Lever
B—Buttons for 3rd, 4th and 5th Functions
C—Gear Shift Buttons
D—Transport Lock Slide Control



LX1037208

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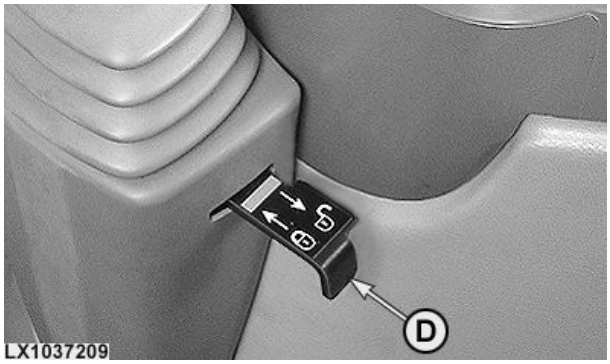

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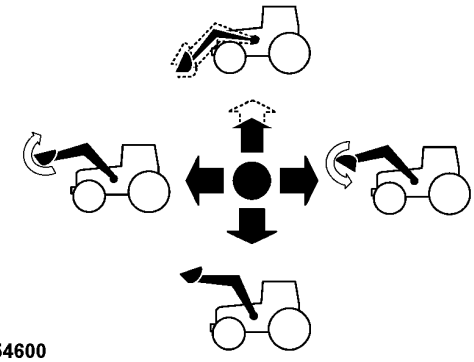
LX1054600

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OU12401,0001307 -19-27OCT11-1/1

Mechanical Multi-Function Lever with Front-Loader Dampening

Basic functions:

- Lever to rear = Raise front loader
- Lever to front as far as perceptible resistance = Lower front loader
- Lever to front beyond perceptible resistance (detent) = Front loader in float position
- Lever to left = Bucket tips up
- Lever to right = Bucket tips down

Advanced functions and programming:

Multi-function lever (A) permits two control valves (M-ICVs) to be operated at the same time. A third control valve is actuated via rocker switch (H), permitting an additional function to be controlled.

If Memo™ button (B) is pressed during raising or lowering, the front loader will only move as far as the preset position.

Pressing buttons (E) and (F) actuates the diverter valves of the implement, permitting additional functions to be controlled.

NOTE: For more information, see implement operator's manual. Front-loader dampening must be activated before it can be used.

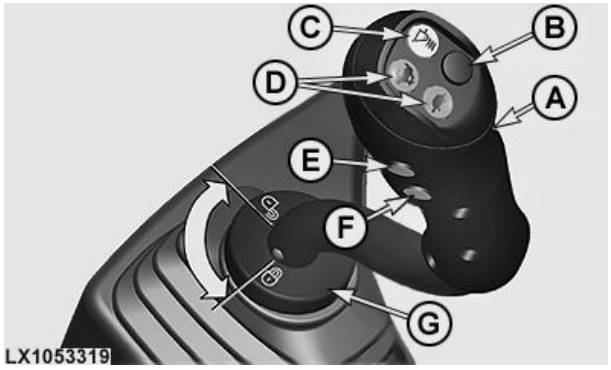
Front-loader dampening is switched on and off at button (C). When front-loader dampening is switched on, the LED in button (C) lights up.

Gear-shift switches (D) allow the gears at the transmission to be shifted.

CAUTION: When the front loader is not in use, the multi-function lever must be locked. To do this, turn locking ring (G) and check that the multi-function lever cannot be moved. If this is not done, the front loader may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.

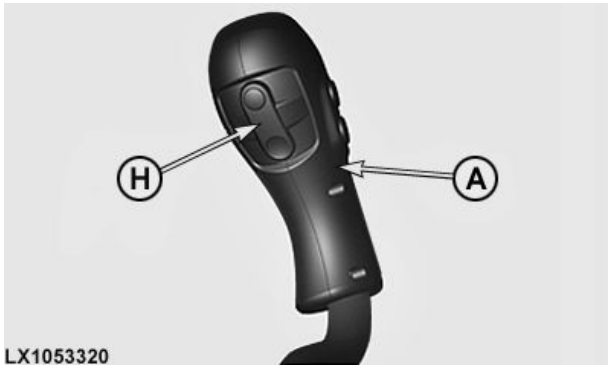
Activate and de-activate front-loader dampening

1. Hold button (C) and then switch on the ignition.
2. Hold button (C) for another 5 seconds at least until the LED in the button starts to flash.
3. Release the button and press it again within 5 seconds to gain access to the programming mode.
4. The current programming of front-loader dampening is shown as follows:
   LED off all the time ==> Front-loader dampening de-activated
   LED on all the time ==> Front-loader dampening activated
5. Press button (C) to activate or de-activate front-loader dampening.



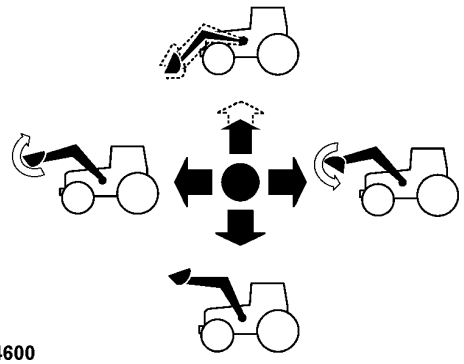
LX1053319

LX1053319 —UN—10OCT11



LX1053320

LX1053320 —UN—10OCT11


LX1054600

LX1054600 —UN—10OCT11

A—Multi-Function Lever
B—Memo™ Button (not for North America)
C—Button for Activating Front-Loader Dampening
D—Gear Shift Switches
E—Button, Diverter Valve 1 on Front Implement (not for North America)
F—Button, Diverter Valve 2 on Front Implement (not for North America)
G—Locking Ring (Transport Lock)
H—Raise/Lower Rocker Switch

6. To leave the programming mode and save the setting, press any button on the multi-function lever or switch off the ignition.

OULXA64,0002874 -19-04OCT11-1/1

Multi-Function Lever (Electrical)

CAUTION: Before operating a front loader, make sure that none of the detent positions have programmed time limits. For this, *front-loader operation* must be selected. See *Additional Functions of the Electronic Selective Control Valves* in this Section.

CAUTION: Transport lock button (F) must be activated when driving on roads and whenever the front loader is not required. If this is not done, the front loader may be inadvertently actuated while the tractor is in motion, which could lead to serious accidents.

Multi-function lever (A) permits two SCVs to be operated at the same time. By means of rocker switch (B) an additional SCV can be operated (3rd function).

Switches (D) and (E) allow other functions.

Interlock switch actuator (C) prevents accidental actuation of the multi-function lever. The lever can operate only when the actuator is open (the operator's hand must hold it open). If the loader does not respond after the hand has been placed in the interlock switch actuator, it is possible that the lever has not been in the center detent position when the actuator was opened. Move the lever back to the center detent position to activate the system.

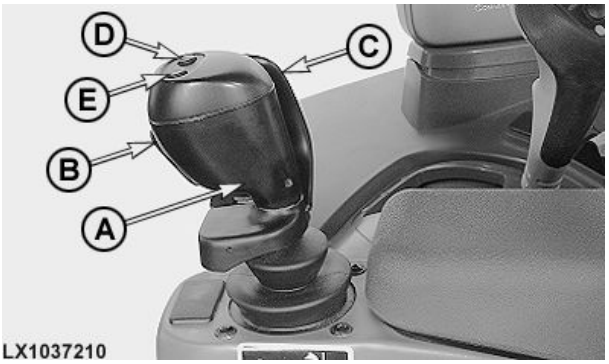
If the lever is held in neutral position for longer than 10 minutes, the hydraulic functions are locked out. To overcome this lock-out, take your hand out of the actuator and re-insert hand. In case of malfunctions (e.g. part of system not working or operating error) the system can also be reactivated completely or partly by the procedure above.

Pulling lever (A) back raises the front loader. Pushing the lever forward until resistance is reached lowers the front loader. If the lever is pushed forward beyond the resistance, it engages in a detent and the front loader is in its float position.

Moving the lever to the left makes the loader bucket tip up. Moving the lever to the right until resistance is reached makes the loader bucket dump.

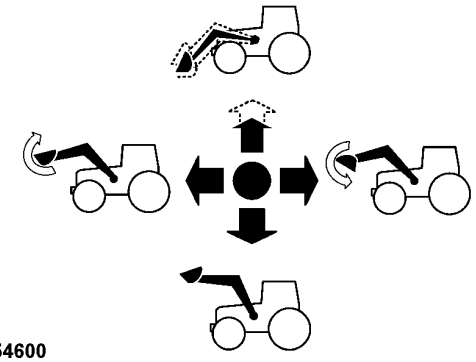
If the lever is moved to the right beyond the resistance twice in quick succession and held there, the loader bucket will vibrate.

NOTE: In cold weather, there may be brief periods when the loader does not operate. When the temperature drops below -15°C (5°F), the stepper motors for the valves that operate the boom, bucket and grapple become slower and may stop functioning altogether. They automatically go into an internal warm-up mode, which will warm up the stepper motor until they start to function again. These valves are mounted externally and may also be affected by the wind. If the E-ICV control valves have not been in use for a longer period of time, or if the tractor has been transported, the stepper motors may need to be warmed up before the loader will function. The warm-up period will vary depending on the weather conditions, but it should not take more than a few minutes.



LX1037210 —UN—21OCT05

LX1053321 —UN—28OCT11



LX1054600

LX1054600 —UN—10OCT11

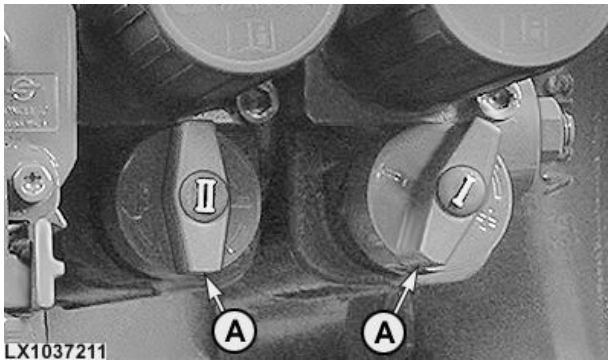
A — Multi-Function Lever
B—Rocker Switch, 3rd Function
C—Interlock Switch Actuator
D—Switch, 4th Function
E—Switch, 5th Function
F — Transport Lock Button, Multi-Function Lever

OULXE59,0010822 -19-28OCT11-1/1

Rate of Cylinder Operation

Flow control valves (A) can be used to regulate the rate at which remote cylinders extend and retract (raise and lower). When lowering, make sure that the SCV control lever is NOT moved to float position.

IMPORTANT: Full extension and retraction of a remote cylinder must require more than 1.5 seconds. Faster speeds may cause damage.



LX1037211 —UN—21OCT05

OU12401,0001CD9 -19-27MAY10-1/1

Couplers

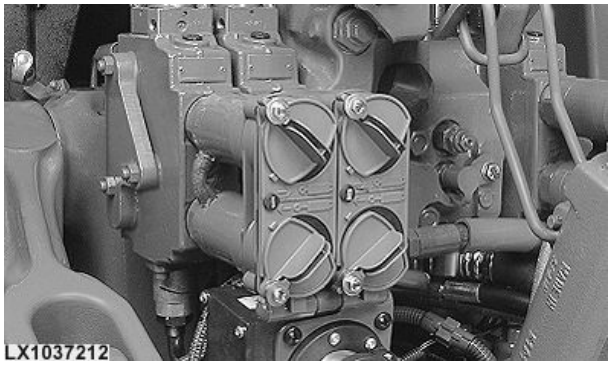
CAUTION: The hydraulic system has a maximum system pressure of 20000 kPa (200 bar; 2900 psi). For your own protection and to assure proper functioning of the system, use only genuine John Deere parts.

Couplers allow hydraulic hoses to be coupled or uncoupled without loss of oil, even if the tractor engine is running.

If a malfunction or accident causes the hose to break loose from the coupler, the oil flow through the coupler is stopped immediately.

To connect the hose union, press it firmly into the coupler.

NOTE: When connecting, comply with the symbols on the couplers.



LX1037212 —UN—21OCT05

To disconnect the hose, give it a firm pull.

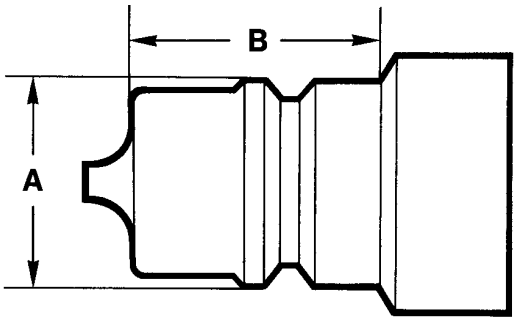
OU12401,000130A -19-13OCT05-1/1

Hose Unions

The hose unions used must comply with ISO standards.

Dimension (A) must be between 23.66 and 23.74 mm (0.931 and 0.934 in.).

Dimension (B) must be at least 24 mm (0.945 in.).



LX 006613

LX006613 —UN—15AUG94

LX,OZUSAT004842 -19-02AUG93-1/1

Maximum Permissible Oil Withdrawal

To operate large hydraulic cylinders such as those used on tipping trailers, 10 liters (2.6 U.S. gal.) of oil may be drawn from the transmission case through the connecting lines.

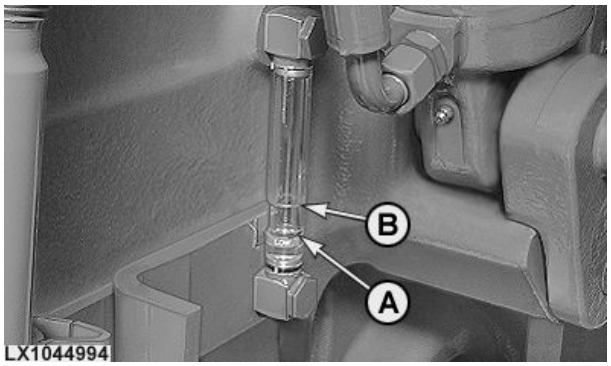
This figure applies when the oil in the transmission case is at the minimum mark on the sight-glass. If the oil is up to the maximum mark, a further 10 liters (2.6 U.S. gal.) may be withdrawn.

Never perform heavy jobs such as towing, operating a PTO or driving fast when withdrawal results in the oil level dropping below the minimum mark.

If required, a further 15 liters (4.0 U.S. gal.) may be added to the transmission case; this increases the amount that may be withdrawn accordingly. If oil level is above the maximum mark on the sight-glass, do NOT perform any transport tasks at speeds above 40 km/h (25 mph).

During oil withdrawal, the tractor should not be inclined in any direction by more than 18°. If the tractor is inclined by more than 18°, only a correspondingly lower quantity of oil may be withdrawn.

HY-GARD is a trademark of Deere & Company.



LX1044994 —UN—12JUN08

A—Minimum mark **B—Maximum mark**

For refilling, use only John Deere HY-GARD® Transmission and Hydraulic Oil or its equivalent.

OU12401,00019E5 -19-12JUN08-1/1

Oil Withdrawal with Hydraulic Motor

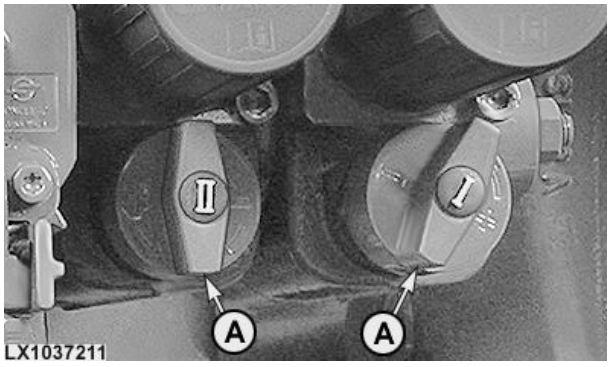
IMPORTANT: Never regulate the flow rate by means of an external valve. Always use flow control valves (A).

The maximum rate of transmission/hydraulic oil flow that can be achieved is 109 l/min (28.8 gpm).

Shut off engine. Connect the hydraulic hose from the hydraulic motor. Comply with the symbols on the couplers.

Start the engine. Move the control lever to lower position. To switch off the hydraulic motor, move the control lever to the float position. Shut off the engine and take out the hydraulic hose.

IMPORTANT: Do not move the control lever to the neutral position, as this may result in back-pressure causing damage to the hydraulic motor and hoses.



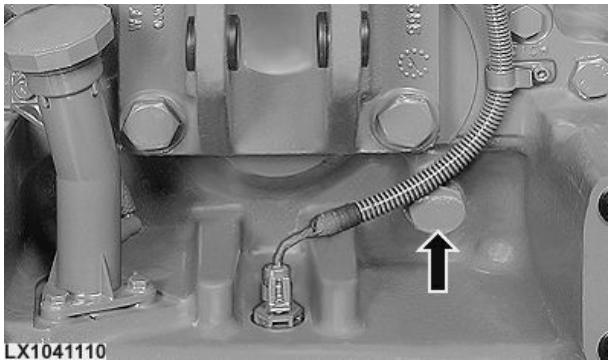
LX1037211 —UN—21OCT05

OU12401,0001B6C -19-12FEB09-1/1

Pressure-Free Return Circuit

This connection ensures pressure-free oil return.

Ask your John Deere dealer for the relevant accessories.



LX1041110 —UN—24NOV06

OU12401,00015C1 -19-15DEC06-1/1

Additional Oil Reservoir

The additional oil reservoir (A) has a capacity of 14 liters (3.7 US.gal.).

Additional oil reservoir (A) may be used with large tipping trailers and in other applications which require a larger amount of oil to operate large hydraulic cylinders.

Oil withdrawals in excess of 15 liters (or 25 liters if 10 extra liters are added) may be made only if the oil is at its operating temperature and engine speed is restricted to 1500 rpm.

LX1044965 —UN—29FEB08

OU12401,0001996 -19-17FEB08-1/1

Additional Equipment — Other

Drawbar

The drawbar is used to pull drawn equipment of all types, particularly PTO-driven implements.

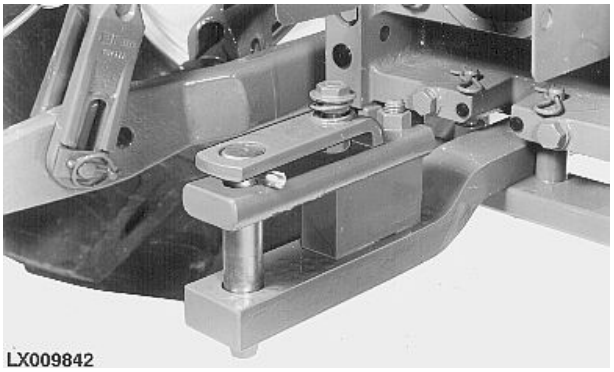
The drawbar is located to increase the rear axle load and slightly reduce load on the front axle.

Besides having a variable swinging range, the drawbar can also be adjusted lengthwise.

Maximum permissible static vertical loads and towable loads are stated in the “Specifications” section.

NOTE: Drawbar components that are subject to wear have to be checked every 250 hours (see “Service / Every 250 Hours”). Replace them if necessary.

NOTE: Towing on public roads with the drawbar set to one side is not permitted!

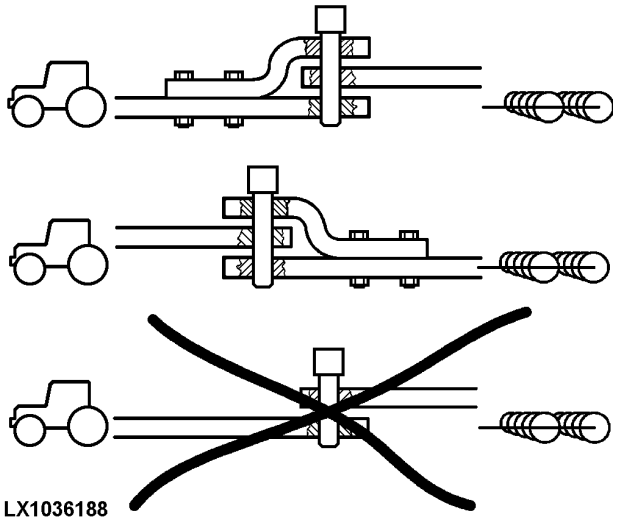


LX009842 —UN—02JAN95

OU12401,0001540 -19-09NOV06-1/1

Proper Use of Drawbar

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



LX1036188 —UN—02MAY05

OU12401,0001205 -19-02MAY05-1/1

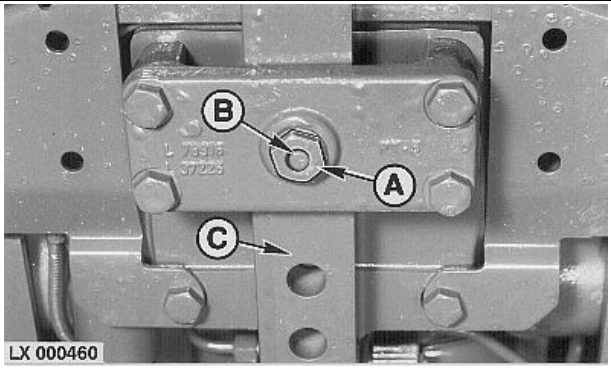
Adjustment of Drawbar

The drawbar can be adjusted to three different lengths:

250 mm (9.8 in.), 350 mm (13.8 in.) and 400 mm (15.7 in.).

These lengths determine the distance from the end of the PTO shaft to the attachment point of the drawbar.

1. Remove hex. plug (A).
2. Remove locking pin (B).
3. Move drawbar (C) to desired position and reinstall locking pin.
4. Tighten hex. plug (A) to 250 Nm (185 lb-ft).



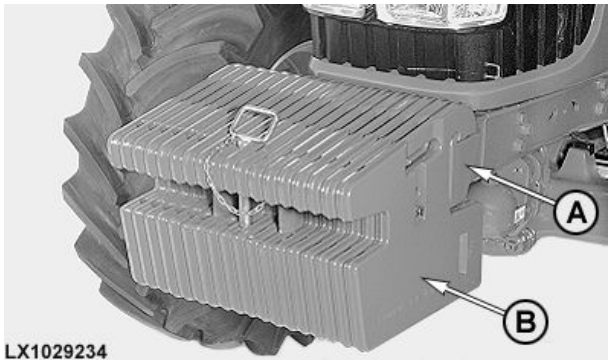
LX000460 —UN—09AUG94

OU12401,00015C2 -19-15DEC06-1/1

Front Jaw Hitch

A jaw hitch is integrated into basic weight (A) and the additional ballast weights (B).

IMPORTANT: The jaw hitch should be used for shunting and towing on hard-surfaced roads only.



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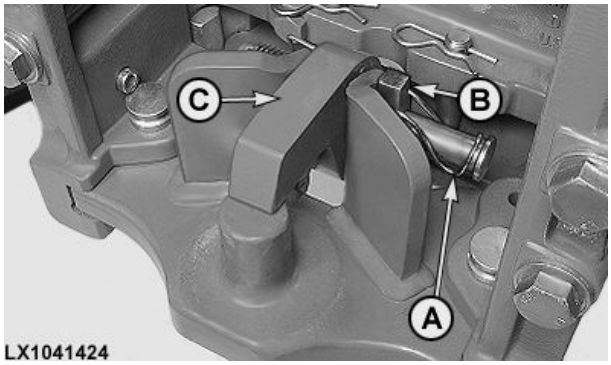
OU12401,00103E4 -19-01JAN03-1/1

Tow Hitch (Piton-Fix/Ball-Type)

NOTE: Components of the piton-fix/ball-type tow hitch that are subject to wear have to be checked every 250 hours (see "Service / Every 250 Hours"). Replace, if necessary.

Piton-fix tow hitch

To attach an implement, pull up spring (A) and slide pin (B) to the right. Retainer (C) is forced upwards by a spring. Once the implement is attached, push retainer (C) down and slide pin (B) all the way to the left. Move spring (A) back down to its locked position (the position shown in the illustration).



LX1041424 —UN—10NOV06

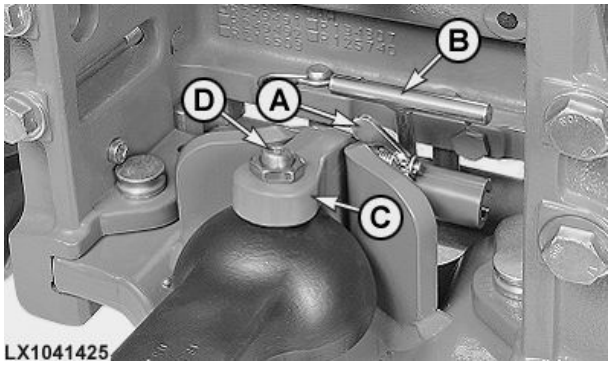
A—Spring
B—Pin
C—Retainer

OU12401,000153C -19-10AUG11-1/5

Ball-type tow hitch (old version)

To attach an implement, push lock (A) to the front and slide pin (B) to the right. Retainer (C) is forced upwards by a spring. Once the implement is attached, push retainer (C) down and slide pin (B) to the left. Lock (A) springs back as soon as pin (B) reaches its locked position. If necessary, use an 8 mm (0.3 in.) hex. socket wrench to adjust the retainer set screw (D) to the eyelet of the trailed implement. Then tighten the lock nut to 300 Nm (220 lb-ft) using a 30 mm (1.2 in.) wrench.

A—Lock
B—Pin
C—Retainer
D—Set Screw



LX1041425 —UN—19DEC06

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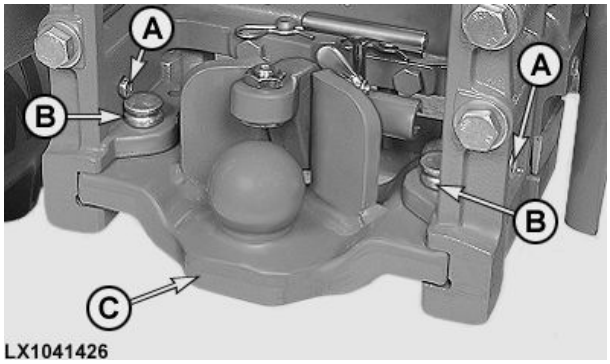
OU12401,000153C -19-10AUG11-2/5

Replacing with drawbar (old version)

The piton-fix tow hitch or the ball-type tow-hitch can easily be removed, e.g. to install a drawbar. Pull out locking pins (A), take out retaining pins (B) and pull support (C) out to the rear.

A—Locking Pin
B—Retaining Pin
C—Support



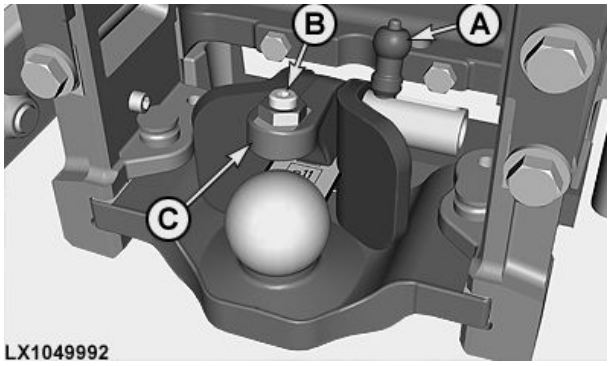
LX1041426 —UN—10NOV06

OU12401,000153C -19-10AUG11-3/5

Ball-type tow hitch (new version)

For attaching an implement, pull handle (A) upward and slide to the right. This will open the locking device and retainer (C) can be moved upwards. After attaching the implement, push down retainer (C) and engage handle (A) in its initial position. Handle (A) will only engage properly when the locking pin is pushed all the way to the left. If necessary, use an 8 mm (0.3 in.) hex. socket wrench to adjust the retainer set screw (B) to the eyelet of the trailed implement. Then tighten the lock nut to 300 Nm (220 lb-ft) using a 30 mm (1.2 in.) wrench.

A—Handle
B—Set Screw
C—Retainer



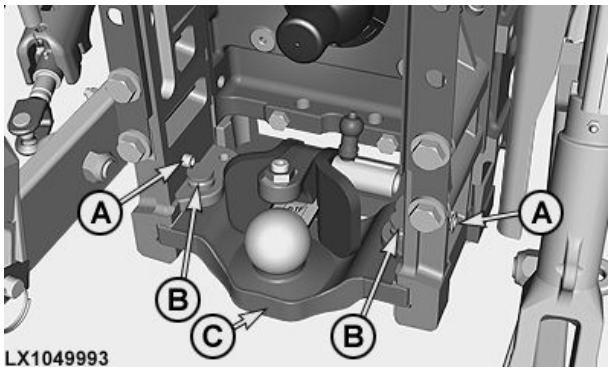
LX1049992 —UN—27JUL11

OU12401,000153C -19-10AUG11-4/5

Replacing with drawbar (new version)

The piton-fix tow hitch or the ball-type tow-hitch can easily be removed, e.g. to install a drawbar. Pull out locking pins (A), take out retaining pins (B) and pull support (C) out to the rear.

A—Locking Pin
B—Retaining Pin
C—Support



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OU12401,000153C -19-10AUG11-5/5

Height-Adjustable Trailer Hitch

The tractor can be equipped with one of four different hitch versions (1-4) which are operated in different ways.

The height of all hitches can be adjusted using lever (A).

On hitch 1, lock button (B) must be pressed additionally.

The hitches can be opened and closed by means of lever (C).

Hitches 3 and 4 are closed when the trailer towing eye enters the hitch. Hitches 3 and 4 can also be operated from the operator's seat by means of a remote control.

Hitches 3 and 4 are locked when the indicator pin is flush with the housing.

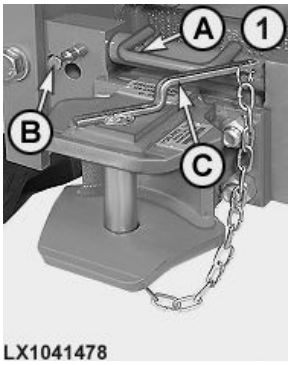
IMPORTANT: Use only trailers with a towing eye that matches the hitch pin diameter.

Hitches that turn must never be used to tow trailers with tow-bars that turn in relation to the trailer.

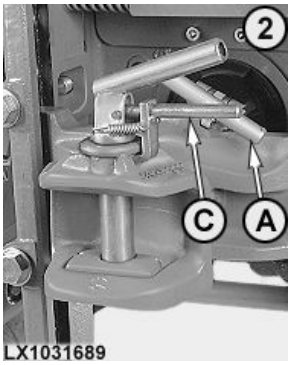
Maximum permissible static vertical loads and towable loads are stated in the “Specifications” section.

NOTE: Hitch components that are subject to wear have to be checked every 250 hours (see “Service / Every 250 Hours”). Replace them if necessary.

A—Height adjustment lever
B—Lock button
C—Actuating lever
D—Indicator pin



LX1041478 —UN—19DEC06



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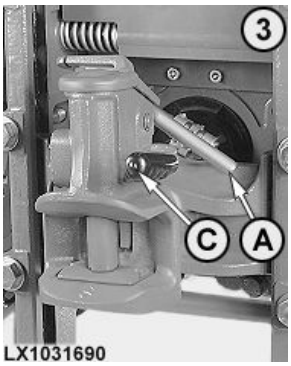
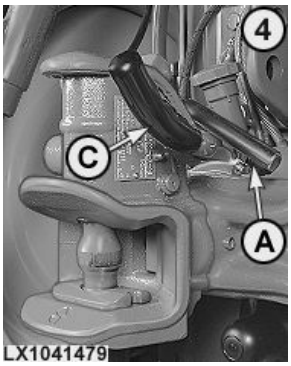
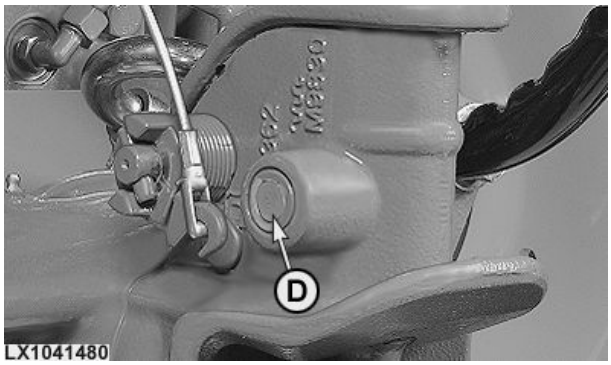


LX1031690 —UN—15APR03



LX1041479 —UN—19DEC06



LX1041480 —UN—19DEC06

OU12401,00015C3 -19-18DEC06-1/1

Remote Control (If Equipped)

The height-adjustable trailer hitch can be opened from the operator's seat via lever (A).

LX1036503 —UN—23JAN06

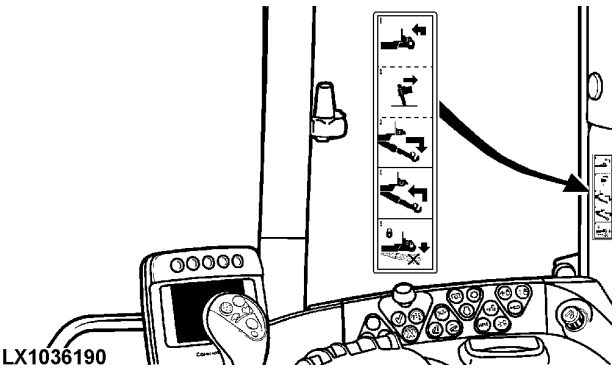
OULXE59,001083A -19-28OCT05-1/1

Pick-Up Hitch

This type of hitch can be operated using the hitch controls and one selective control valve.

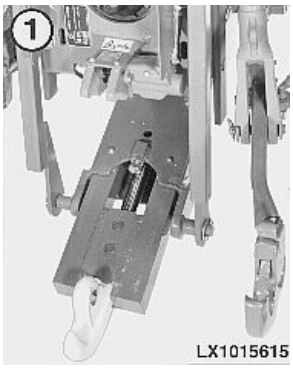
1. Raise draft links to maximum height and use SCV to retract the hitch hook fully.
2. Pull release lever (A) and lower the draft links. Hold the release lever until the hitch hook has moved from the stored position (lever remains in open position).
3. Extend the hitch hook fully by actuating the selective control valve.
4. Lower draft links/hitch hook to desired height.
5. Raise draft links to engage hitch hook in trailer towing eye, then continue to raise the hitch fully.
6. Retract the hitch hook fully by means of selective control valve until it is **fully locked** (lever A returns to its starting position).
7. Lower the draft links.
8. Check that the hitch is locked correctly. It will **not lower** when the draft links are lowered and **not extend** when the selective control valve is operated.

IMPORTANT: If the release lever is hard to operate or locking the hitch hook is not performed automatically (step 2 or step 6 above), have your John Deere dealer check the setting of the lift links or of the pick-up hitch hook.



LX1036190 —UN—31MAY06

LX1036503 —UN—23JAN06



LX1015615 —UN—11DEC96

LX012578 —UN—03SEP96

A—Release Lever
1— Hitch in Position for Attaching Trailer
2— Hitch in Stored Position

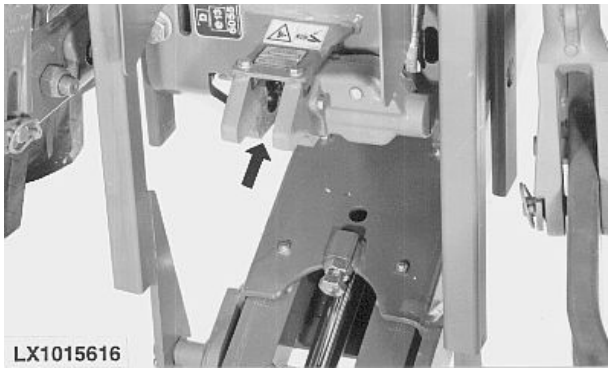
OU12401,0001985 -19-06SEP10-1/3

CAUTION: Before driving away, make sure the hitch is fully raised and locked in both horizontal and vertical positions.

With the hitch lowered, NEVER reach into the receiver opening (see arrow). Risk of injury!

NOTE: Pick-up hitch components that are subject to wear have to be checked every 250 hours (see Service / Every 250 Hours). Replace if necessary.

Maximum permissible static vertical loads and towable loads are stated in the Specifications section.



LX1015616 —UN—11DEC96

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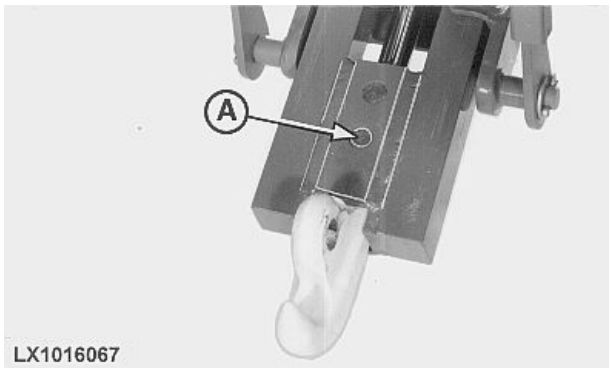
OU12401,0001985 -19-06SEP10-2/3

Hook of pick-up hitch can be replaced by a drawbar without the use of tools. To do so, lift out pin (A).

The part not required can be stored in a holder on the side-frame.



LX1016067 —UN—08APR97

OU12401,0001985 -19-06SEP10-3/3

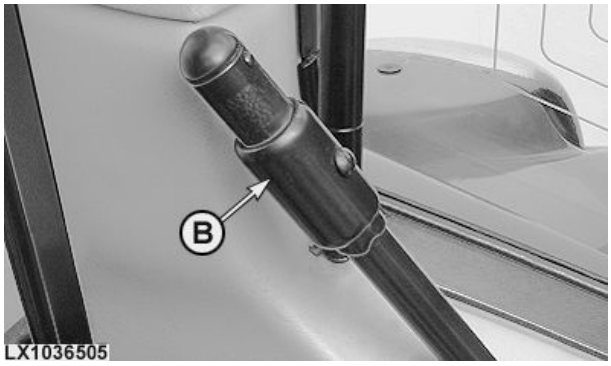
Electro-Hydraulic Pick-Up Hitch

This pick-up hitch can be operated via the rear hitch and switch (A).

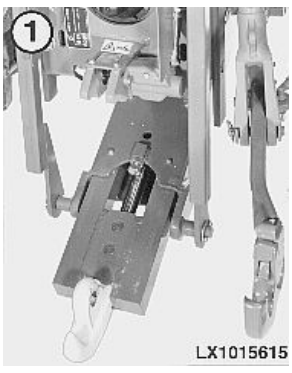
1. Raise the draft links as high as they go and use switch (A) to retract the hitch hook fully (press the top part of the switch).
2. Pull release lever (B) and hold it until the hitch hook has moved from the stored position (lever remains in "open" position).
3. Use switch (A) to extend the hitch hook fully (press the bottom part of the switch).
4. Lower draft links/hitch hook to desired height.
5. Raise draft links to engage hitch hook in trailer towing eye, then continue to raise the hitch fully.
6. Use switch (A) to retract the hitch hook fully until it is **fully locked** (lever (B) returns to its starting position).
7. Lower the draft links.
8. Check that the hitch is locked correctly. It will **not lower** when the draft links are lowered and **not extend** when the switch is operated.

IMPORTANT: If the release lever is hard to operate or locking the hitch hook is not performed automatically (step 2 or step 6 above), have your John Deere dealer check the setting of the lift links or of the pick-up hitch hook.

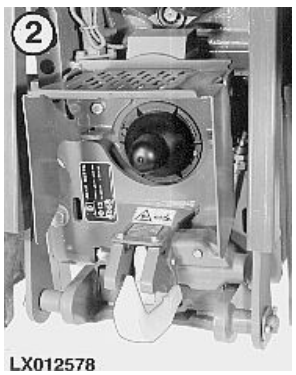
LX1041473 —UN—18DEC06



LX1036505 —UN—23JAN06



LX1015615 —UN—11DEC96



LX012578 —UN—03SEP96

A—Switch
B—Release lever

1— Hitch in position for attaching trailer
2— Hitch in stored position

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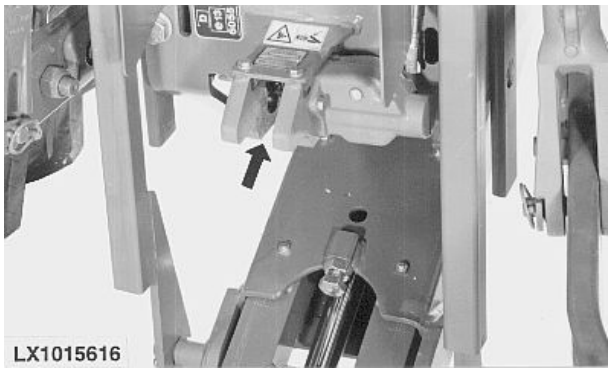
OU12401,0001986 -19-22JAN08-1/3

CAUTION: Before driving away, make sure the hitch is fully raised and locked in both horizontal and vertical positions.

With the hitch lowered, NEVER reach into the receiver opening (see arrow). Danger of injury!

NOTE: Pick-up hitch components that are subject to wear have to be checked every 250 hours (see "Service / Every 250 Hours"). Replace them if necessary.

Maximum permissible static vertical loads and towable loads are stated in the "Specifications" section.

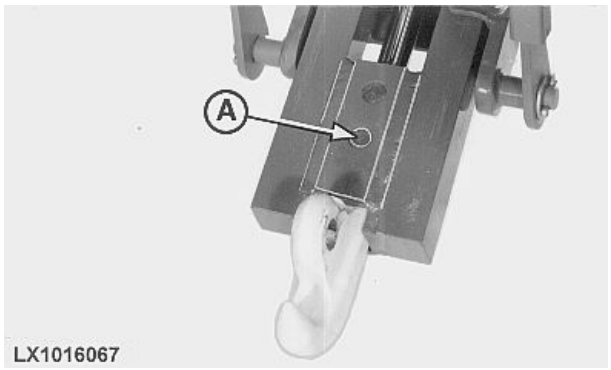


LX1015616 —UN—11DEC96

OU12401,0001986 -19-22JAN08-2/3

Hook of pick-up hitch can be replaced by a drawbar without the use of tools. To do so, lift out pin (A).

The part not required can be stored in a holder on the side-frame.

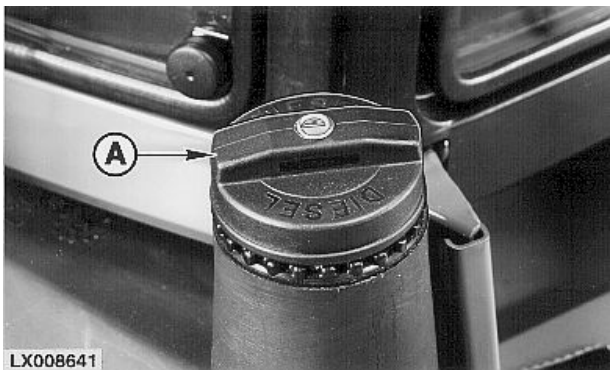


LX1016067 —UN—08APR97

OU12401,0001986 -19-22JAN08-3/3

Lockable Tank Filler Cap

The tractor can be equipped with a lockable tank filler cap (A).



LX008641 —UN—15AUG94

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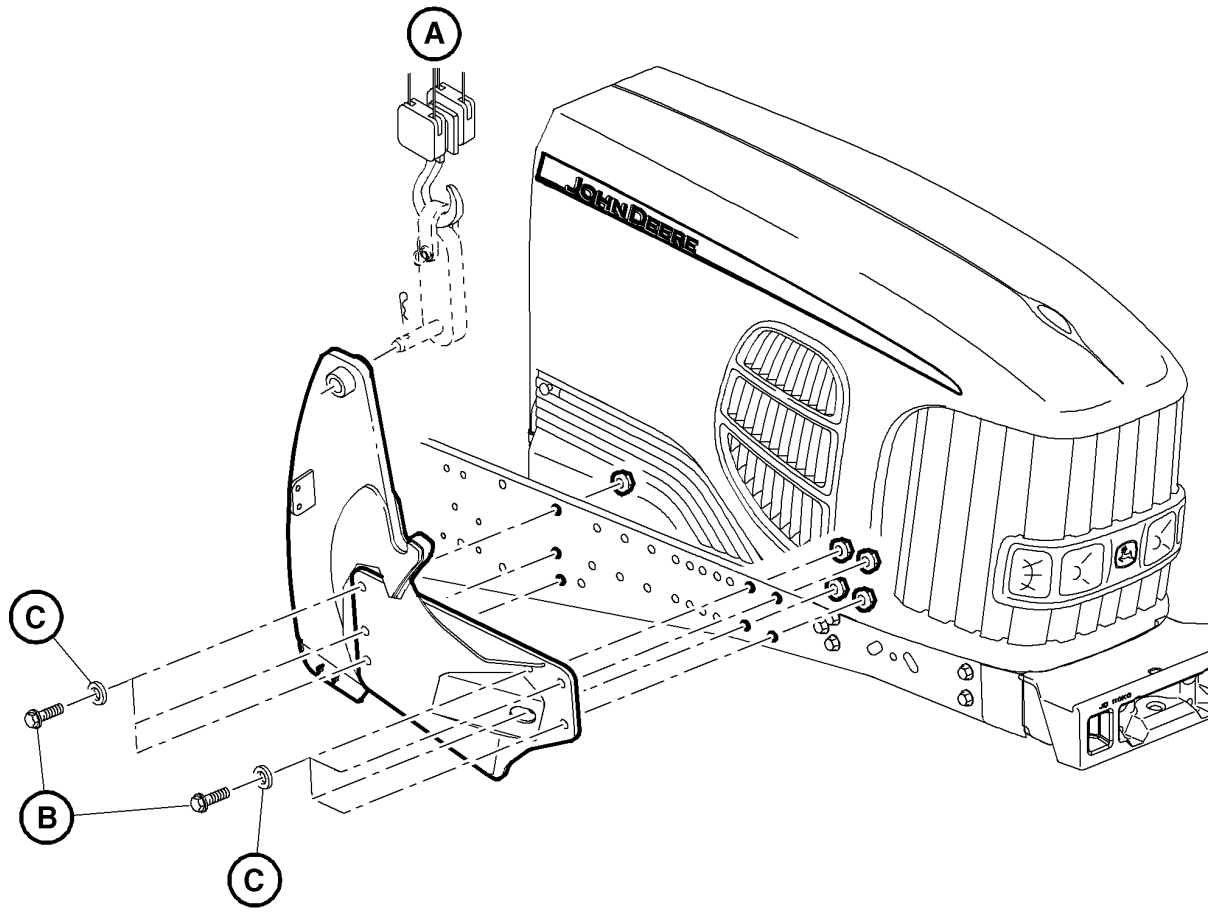
Front Loader Installation - Front Loader Brackets



CC1028532 —UN—01SEP06

CC1028532

Hardware for John Deere front loader brackets							
Item	Description	Width across flats	Torque	Standard	Thread	Length	Identification / Grade
A	Weight of front loader bracket, 100 kg (220 lb)	-	-	-	-	-	-
B	Cap screws (7 used)	30 mm	620 N•m (460 lb.-ft.)	ISO4017	M20 x 2.5	60 mm (2.36 in.)	10.9
C	Washers (7 used)	-	-	-	-	21.4 x 22 x 5 mm	-
	Nuts (5 used)	30 mm	-	ISO4161	M20 x 2.5	-	10

Using a suitable hoist, position the front loader brackets on the main frame of the tractor and tighten the screws to the specified torque. Check the torque regularly; see Section 85, Lubrication and Periodic Service.

A front loader checked and approved by John Deere is available for purchase. When installing John Deere front-loader brackets, use appropriate hardware only, as shown in the illustration above. Comply also with Operator's Manual and Installation Instructions of the front loader.

OULXBER,0001B56 -19-15NOV11-1/1

Transporting the Tractor

A disabled tractor is best transported on a flatbed carrier.

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

OU12401,00009BF -19-01JUL02-1/1

Towing the Tractor

CAUTION: Never tow the tractor at a speed greater than 10 km/h (6 mph).

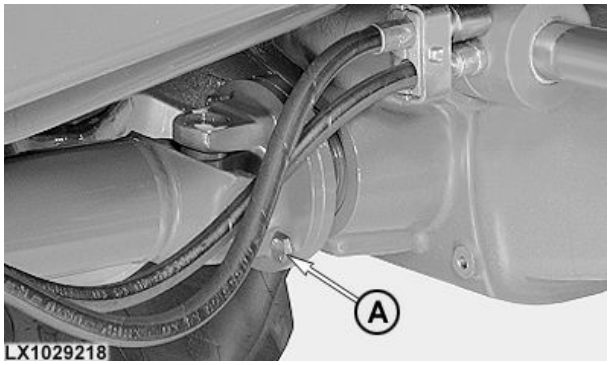
When the engine is not running, more force is required to turn the steering wheel and pedal travel is longer (no hydraulic assistance).

Shift both range and reverser levers to neutral position.

Make sure that the transmission oil level is between the marks on the sight-glass. If the tractor is to be towed with the front wheels raised, observe the following points:

- Never raise the wheels more than 30 cm (12 in.).
- For every 15 cm (6 in.) that the front wheels are raised, add 4 liters (1 U.S. gal.) of transmission/hydraulic oil to the transmission.
- When towing is completed, drain the excess oil.

IMPORTANT: If the engine is capable of running, switch off front-wheel drive. If the engine is not capable of running, disconnect universal-jointed drive shaft by taking out screws (A). This prevents excessive wear on the tires.



LX1029218 —UN—11APR03

IMPORTANT: The jaw hitch at the front weights may be used for towing on metalled roads only.

OU12401,000142A -19-06JUN06-1/1

Manual Park Lock Release (Tractors with AutoPowr)

CAUTION: Perform the manual park lock release procedure only when the tractor needs to be towed and park cannot be released normally via the reverser lever.

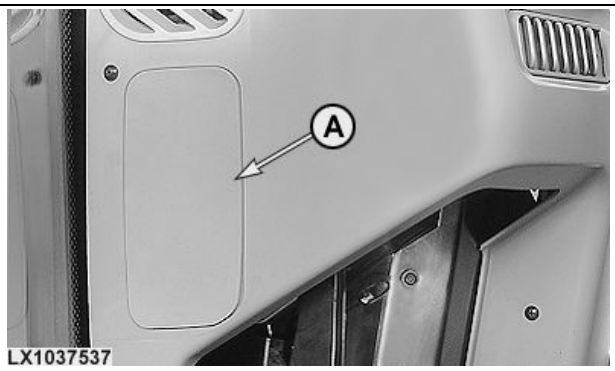
CAUTION: The reverser lever must be in the Park position ”P” to manually release the park lock.

CAUTION: The tractor must never be operated (even for short test drives) when park is manually released.

CAUTION: The tractor can roll away when park is disengaged. Secure the tractor so that it cannot roll either forwards or backwards.

CAUTION: After towing, the manual park lock release cable must be disconnected.

1. Remove cover (A).



LX1037537 —UN—02NOV05

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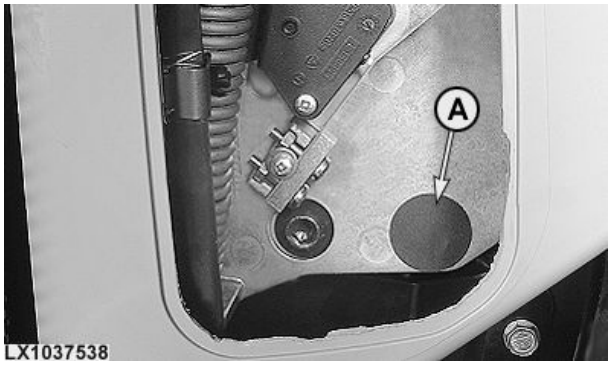
OULXE59,001082C -19-20OCT05-1/7

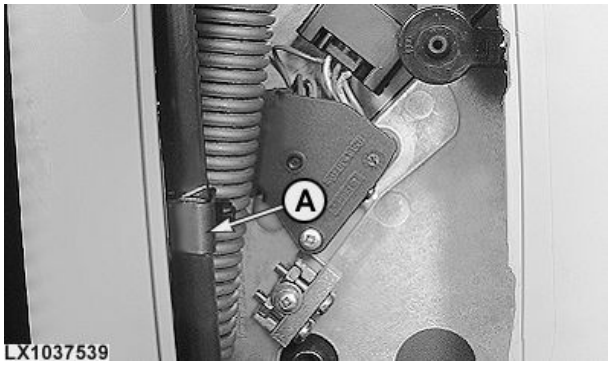
2. Take plug (A) out of the threaded bore.



LX1037538 —UN—02NOV05

OULXE59,001082C -19-20OCT05-2/7

3. Disconnect the bowden cable from clamp (A).



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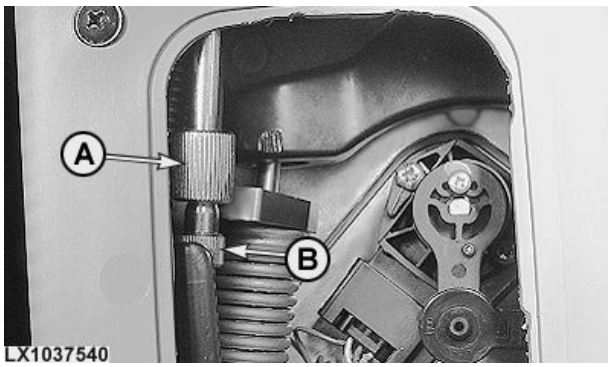
OULXE59,001082C -19-20OCT05-3/7

4. Unscrew threaded stud (A) and knurled nut (B).



LX1037540 —UN—02NOV05

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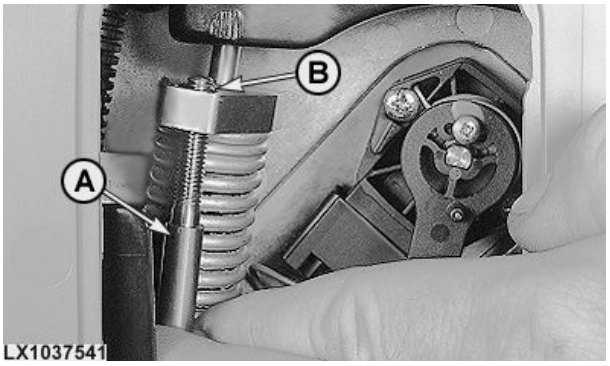
OULXE59,001082C -19-20OCT05-4/7

5. Slightly depress the clutch pedal.
6. Thread the bowden cable (A) through the eye (B) on the clutch pedal or adapter.

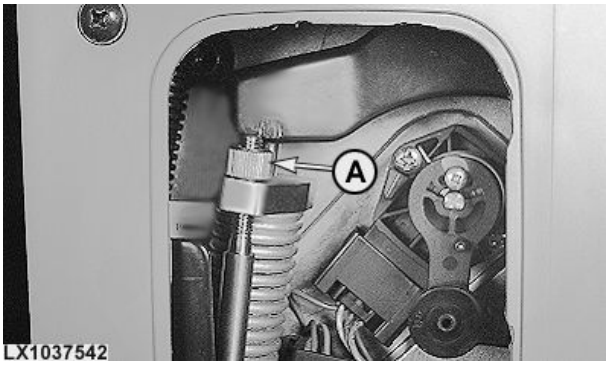


LX1037541 —UN—02NOV05

OULXE59,001082C -19-20OCT05-5/7

7. Adjust cable with knurled nut (A) until slack is removed. Knurled section must be uppermost.

IMPORTANT: The cable must be tight in order to assure complete release of park.



LX1037542 —UN—02NOV05

OULXE59,001082C -19-20OCT05-6/7

8. Fully depress clutch pedal.

IMPORTANT: If the clutch pedal cannot be depressed to the stop and the threaded stud cannot be adjusted further, unscrew the knurled nut until the clutch pedal can be depressed against its stop.

9. Screw threaded stud (A) into the opening in order to secure the clutch in this position and maintain park in the released position.

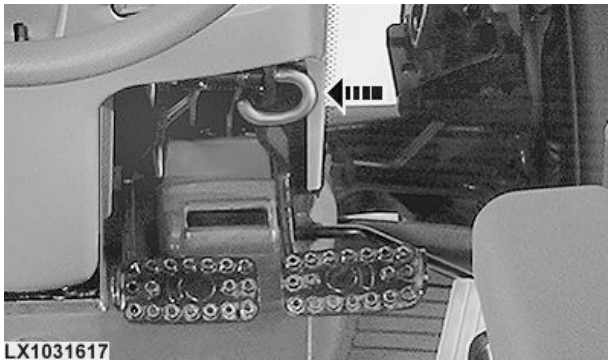
LX1037543 —UN—02NOV05

OULXE59,001082C -19-20OCT05-7/7

Driving on Public Roads

Check that the lights are working properly before driving on public roads.

Use the coupler to lock the brake pedals together.



LX1031617 —UN—23JAN06

OULXE59,001083D -19-02NOV05-1/1

Fuel, Lubricants, Hydraulic Oil and Coolant

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.

Required fuel properties

In all cases, the fuel shall meet the following properties:

Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5000 ft).

Cold Filter Plugging Point (CFPP) below the expected low temperature OR **Cloud Point** at least 5°C (9°F) below the expected low temperature.

Fuel lubricity should pass a minimum level of 3100 grams as measured by ASTM D6078 or maximum scar diameter of 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

Sulfur content

- Diesel fuel quality and sulfur content must comply with existing emissions regulations for the area in which the engine operates.
- Use of diesel fuel with sulfur content less than 0.1% (1000 ppm) is STRONGLY recommended.
- Use of diesel fuel with sulfur content 0.2% (2000 ppm) to 0.5% (5000 ppm) results in REDUCED oil and filter service intervals.
- BEFORE using diesel fuel with sulfur content greater than 0.5% (5000 ppm), contact your John Deere dealer.
- DO NOT use diesel fuel with sulfur content greater than 1.0%

IMPORTANT: Do not mix used engine oil or any other type of lubricating oil with diesel fuel.

IMPORTANT: Improper fuel additive usage may cause damage on fuel injection equipment of diesel motors.

OU12401,00013D9 -19-03APR06-1/1

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 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

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 -19-14APR11-1/1

Handling and Storing Diesel Fuel

CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

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

Keep all storage tanks as full as practicable to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using biodiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and prevent water condensation. Contact your fuel supplier for recommendations.

DX,FUEL4 -19-14APR11-1/1

Bio-Diesel Fuel

Consult your local fuel distributor for properties of the bio-diesel fuel available in your area.

Bio-diesel fuels may be used ONLY if the bio-diesel fuel properties meet the latest edition of ASTM D6751, EN 14214 or equivalent specification.

Consult you John Deere dealer before using bio-diesel fuel.

OU12401,00013D7 -19-03APR06-1/1

Diesel Engine Break-In Oil

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 250 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

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.

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

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

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

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

DX,ENOIL4 -19-20APR11-1/1

Diesel Engine Oil and Filter Service Intervals

The oil and filter service intervals in the table below should be used as guidelines. Actual service intervals also depend on operation and maintenance practices. It is suggested to use oil analysis to determine the actual useful life of the oil to aid in selection of the proper oil and filter service interval. 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.

Diesel fuel sulfur level will affect engine oil and filter service intervals. Higher fuel sulfur levels reduce oil and filter service intervals as shown in the table:

- Use of diesel fuel with sulfur content less than 0.1% (1000 ppm) is strongly recommended.
- Use of diesel fuel with sulfur content 0.2% (2000 ppm) to 0.5% (5000 ppm) may result in REDUCED oil and filter service intervals as shown in the table.
- BEFORE using diesel fuel with sulfur content greater than 0.5% (5000 ppm), contact your John Deere dealer.
- DO NOT use diesel fuel with sulfur content greater than 1.0% (10000 ppm).

Oil types (premium or standard) in the table include:

- Premium oils include John Deere PLUS-50™, ACEA E7 or ACEA E6 oils.
- Standard oils include John Deere TORQ-GARD SUPREME™, API CI-4 PLUS, API CI-4, ACEA E5 or ACEA E4 oils.

Use of lower specification oils in Stage III A engines may result in premature engine failure. The 500 hour extended oil and filter change interval is allowed if the following conditions are met:

- Use of diesel fuel with sulfur content less than 0.2% (2000 ppm).
- Use of premium oil John Deere PLUS-50, ACEA E7 or ACEA E6 and approved John Deere oil filter

	Service interval
Sulfur content of fuel	Less than 0.2% (2000 ppm)
Standard oil	250 hours
Premium oil	500 hours
Sulfur content of fuel	0.2% to 0.5% (2000 to 5000 ppm)
Standard oil	200 hours
Premium oil	300 hours
Sulfur content of fuel	0.5% to 1.0% (5000 to 10000 ppm)
Standard oil	Contact your John Deere dealer
Premium oil	Contact your John Deere dealer

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

OU12401,00013D8 -19-03APR06-1/1

Transmission and Hydraulic Oil

Use oil with a 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 HY-GARD LOW VISCOSITY

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

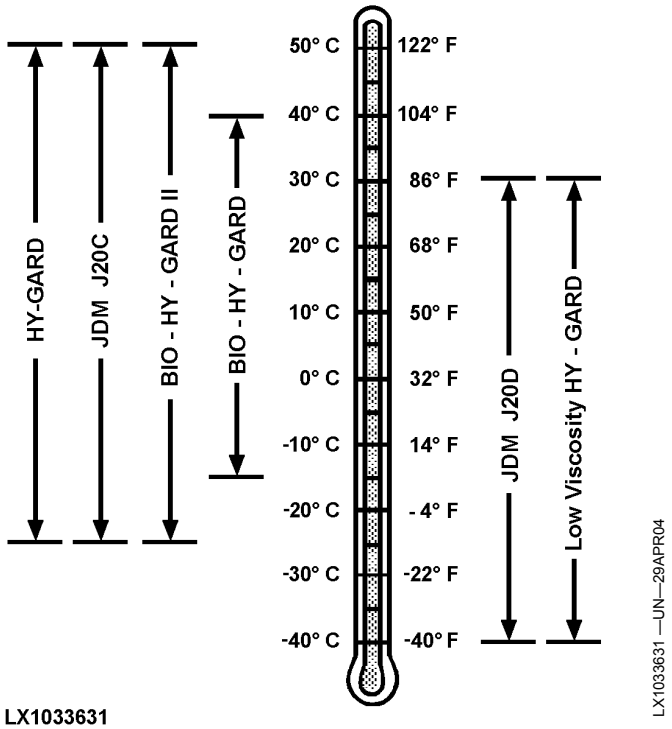
- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Use John Deere BIO-HY-GARD II™[1] or BIO-HY-GARD™[1] when a biodegradable fluid is required.

IMPORTANT: On tractors with AutoPowr:

Only John Deere HY-GARD or John Deere BIO-HY-GARD II may be used.

Do NOT use HY-GARD LOW VISCOSITY.
Do NOT use BIO-HY-GARD.



LX1033631

HY-GARD is a trademark of Deere & Company.
BIO-HY-GARD II 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-A-93 test method. BIO-HY-GARD meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-T-82 test method. These oils should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.

OU12401,000198E -19-12FEB08-1/1

Front-Wheel Drive Axle Oil

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

The following oil is preferred.

John Deere HY-GARD™

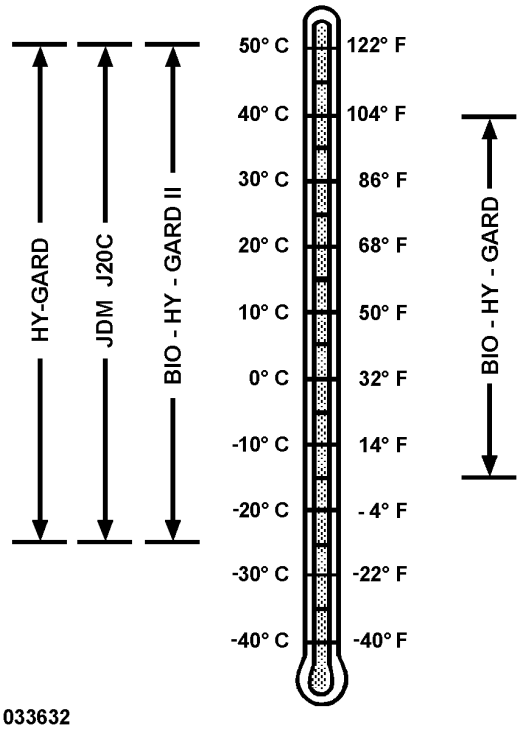
Other oils may be used if they meet the following:

John Deere Standard JDM J20C

Use one of the following oils when a biodegradable fluid is required:

John Deere BIO-HY-GARD II™[1] or BIO-HY-GARD™[1]

NOTE: Do NOT use BIO-HY-GARD on braked axles.



HY-GARD is a trademark of Deere & Company.
BIO-HY-GARD II 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-A-93 test method. BIO-HY-GARD meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-T-82 test method. These oils should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.

LX,OILFA1 -19-30APR04-1/1

Grease

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

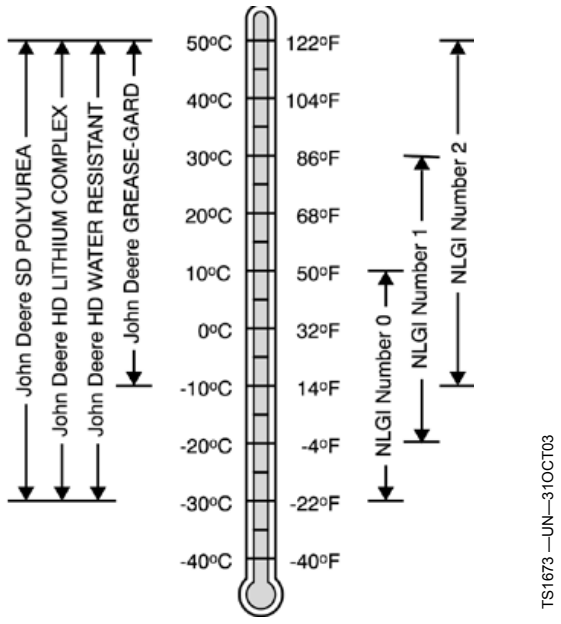
The following greases are also recommended:

- John Deere HD Lithium Complex Grease
- John Deere HD Water Resistant Grease
- John DeereGREASE-GARD™

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB

IMPORTANT: Some types of grease thickeners are not compatible with others. Consult your grease supplier before mixing different types of grease.



Greases for Air Temperature Ranges

GREASE-GARD is a trademark of Deere & Company

DX,GREA1 -19-14APR11-1/1

Oil Filters

Filtration of oils is critical to proper operation and lubrication.

Always change filters regularly as specified in this manual.

Use filters meeting John Deere performance specifications.

DX,FILT -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

Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX -19-18MAR96-1/1

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic lubricants.

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

DX,ALTER -19-11APR11-1/1

Heavy Duty Diesel Engine Coolant

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

The following engine coolants are preferred:

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

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

Additional Recommended Coolants

The following engine coolant is also recommended:

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

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

Other Coolants

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

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

- Is formulated with a quality nitrite-free additive package.
- Provides cylinder liner cavitation protection according to either the John Deere Cavitation Test Method or a fleet study run at or above 60% load capacity
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion

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

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

Water Quality

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

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

Do not mix ethylene glycol and propylene glycol base coolants.

Do not use coolants that contain nitrites.

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DX,COOL3 -19-14APR11-1/1

John Deere COOL-GARD™ II Coolant Extender

Some coolant additives will gradually deplete during engine operation. For John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, and COOL-GARD II Concentrate, replenish coolant additives between drain intervals by adding John Deere COOL-GARD II Coolant Extender.

John Deere COOL-GARD II Coolant Extender should not be added unless indicated by coolant testing.

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

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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 may result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

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

DX,COOL16 -19-20APR11-1/1

Operating in Warm Temperature Climates

John Deere engines are designed to operate using glycol base engine coolants.

Always use a recommended glycol base engine coolant, even when operating in geographical areas where freeze protection is not required.

John Deere COOL-GARD™ II Premix is available in a concentration of 50% ethylene glycol. However, there are situations in warm temperature climates where a coolant with lower glycol concentration (approximately 20% ethylene glycol) has been approved. In these cases, the low glycol formulation has been modified to provide the same level of corrosion inhibitor as John Deere COOL-GARD II Premix (50/50).

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IMPORTANT: Water may be used as coolant *in emergency situations only.*

Foaming, hot surface aluminum and iron corrosion, scaling, and cavitation will occur when water is used as the coolant, even when coolant conditioners are added.

Drain cooling system and refill with recommended glycol base engine coolant as soon as possible.

DX,COOL6 -19-03NOV08-1/1

Drain Intervals for Diesel Engine Coolant

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

John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix and COOL-GARD II Concentrate are maintenance free coolants for up to six years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix or COOL-GARD II PG Premix.

Test the coolant condition annually with Coolant Test Strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II Coolant Extender as directed.

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If John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, or COOL-GARD II Concentrate is used, but the coolant is not tested OR additives are not replenished by adding John Deere COOL-GARD II Coolant Extender, the drain interval is four years or 4000 hours of operation. This drain interval only applies to COOL-GARD II coolants that have been maintained within a 40—60% mixture of concentrate with quality water.

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

DX,COOL11 -19-14APR11-1/1

Additional Information About Diesel Engine Coolants and John Deere LIQUID COOLANT CONDITIONER

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

Coolant Specifications

Some products, including John Deere COOL-GARD™ Premix coolant, are fully formulated coolants that contain all three components in their correct concentrations. Do not add an initial charge of supplemental coolant additives or water to John Deere COOL-GARD Premix.

John Deere COOL-GARD Concentrate contains both ethylene glycol and inhibiting coolant additives. Mix COOL-GARD Concentrate with quality water, but do not add an initial charge of supplemental coolant additives.

Replenish Coolant Additives

Some coolant additives will gradually deplete during engine operation. Periodic replenishment of inhibitors is required, even when John Deere COOL-GARD Premix, COOL-GARD Concentrate, or COOL-GARD PG Premix is used. Follow the recommendations in this manual for the use of supplemental coolant additives.

Why use John Deere LIQUID COOLANT CONDITIONER?

Operating without proper coolant additives will result in increased corrosion, cylinder liner erosion and pitting, and other damage to the engine and cooling system. A simple mixture of ethylene glycol or propylene glycol and water will not give adequate protection.

John Deere LIQUID COOLANT CONDITIONER is an additive system designed to reduce corrosion, erosion, and pitting when used with nitrite-containing diesel engine coolants such as John Deere COOL-GARD Premix, COOL-GARD Concentrate, and COOL-GARD PG Premix. Maintaining John Deere COOL-GARD coolants with John Deere LIQUID COOLANT CONDITIONER provides optimum protection for up to 5 years or 5000 hours of operation.

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Avoid Automotive-type Coolants

Never use automotive-type coolants (such as those meeting ASTM D3306). These coolants do not contain the correct additives to protect heavy-duty diesel engines. They often contain a high concentration of silicates and may damage the engine or cooling system. Do not treat an automotive engine coolant with a supplemental coolant additive because the high concentration of additives can result in additive fallout.

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate. All water used in the cooling system should meet the following minimum specifications for quality:

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

Freeze Protection

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

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

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

DX,COOL7 -19-03NOV08-1/1

Testing Diesel Engine Coolant

Maintaining adequate concentrations of glycol and inhibiting additives in the coolant is critical to protect the engine and cooling system against freezing, corrosion, and cylinder liner erosion and pitting.

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

Coolant Test Strips

Coolant test strips are available from your John Deere dealer. These test strips provide a simple, effective method to check the freeze point and additive levels of your engine coolant.

When Using John Deere COOL-GARD II

John Deere COOL-GARD II Premix™ , COOL-GARD II PG Premix and COOL-GARD II Concentrate are maintenance free coolants for up to six years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix or COOL-GARD II PG premix. Test the coolant condition annually with coolant test strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II Coolant Extender as directed.

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

When Using Nitrite-Containing Coolants

Compare the test strip results to the supplemental coolant additive (SCA) chart to determine the amount of inhibiting additives in your coolant and whether more John Deere Liquid Coolant Conditioner should be added.

Add only the recommended concentration of John Deere Liquid Coolant Conditioner. DO NOT add more than the recommended amount.

Coolant Analysis

For a more thorough evaluation of your coolant, perform a coolant analysis. The coolant analysis can provide critical data such as freezing point, antifreeze level, pH, alkalinity, nitrite content (cavitation control additive), molybdate content (rust inhibitor additive), silicate content, corrosion metals, and visual assessment.

Contact your John Deere dealer for more information on coolant analysis.

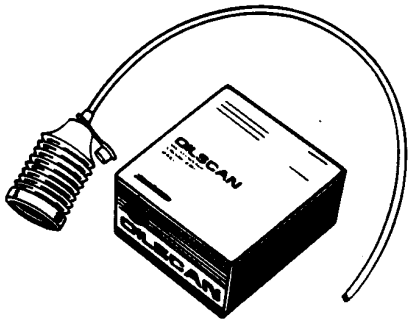
DX,COOL9 -19-11APR11-1/1

Oilscan™ and CoolScan™

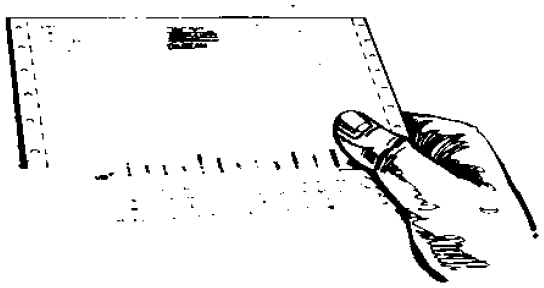
Oilscan™ and CoolScan™ are John Deere sampling programs to help you monitor machine performance and identify potential problems before they cause serious damage.

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.



T6828AB —UN—15JUN89



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Oilscan is a trademark of Deere & Company
CoolScan is a trademark of Deere & Company

DX,OILSCAN -19-13SEP11-1/1

Safe Maintenance and Cleaning

TS249 —UN—23AUG88

CAUTION: To perform service work at locations that are difficult to reach, it is essential to use suitable platforms or safety ladders.

Particular care is required to perform service work and cleaning jobs at locations that are difficult to reach, e.g. adjusting roof-mounted lights, servicing the cooling system, adjusting the right outside mirror on tractors without a door on the right side and many other similar tasks.

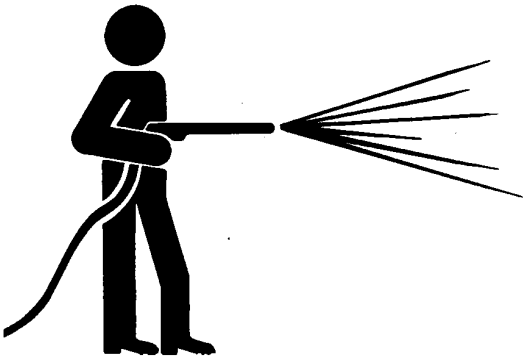
CAUTION: It is NOT permissible to stand on tractor components to perform such tasks unless the tractor components are intended for this purpose. There is an acute risk of falling, especially if the tractor components are wet, dirty, or coated with ice.

OULXBER,0001A59 -19-21FEB11-1/1

Using High Pressure Washers

IMPORTANT: High-pressure washers are a very effective means of cleaning the tractor. To avoid damage to the tractor, do not go closer than 1 m (39 in.) and spray at an angle between 45 and 90° when cleaning sealing surfaces, seals and decals. Maximum pressure must not exceed 12000 kPa (120 bar; 1740 psi).

Do not, under any circumstances, spray or wash components (e.g. the engine) with cold water when hot. Do not use rotary nozzles or water at temperatures over 50°C (122°F), and do not aim at seals. Keep the water jet moving at all times. Cooling units, the hitch jaw, bearings and electronic/electrical equipment must not be cleaned with high-pressure washers. Follow the instructions in the high-pressure washer operator's manual and manuals of attached equipment.



T6642EJ —UN—18OCT88

OU12401,0001C6B -19-24JUN09-1/1

Lubrication and Periodic Service

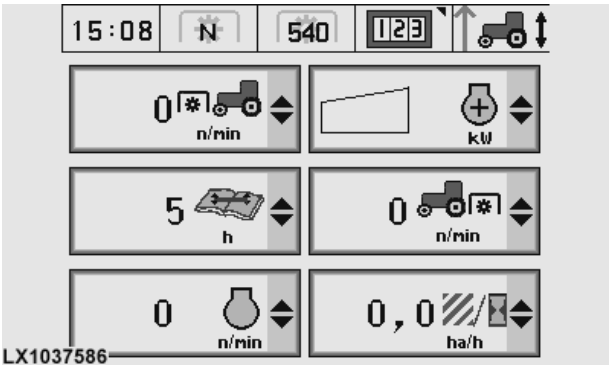
CAUTION: Do not lubricate or adjust the tractor while the engine is running unless recommended to do so.

The intervals at which the various parts should be checked, lubricated, serviced or adjusted are based on the actual hours of operation as shown on the hour meter. The meter operates whenever the engine is running and shows the accumulated hours of engine operation.

Every 250 hours, an acoustic warning signal goes off as the engine starts (for five consecutive engine starts). This reminds the operator that service work is due.

Always check to make sure that the hour meter is serviceable.

The lubrication and periodic service intervals are for normal working conditions. These intervals should be shortened when operating under adverse conditions.



LX1037586 —UN—11OCT06

IMPORTANT: After servicing, cleaning or repairing your tractor, reinstall any safety guards or shields before operating the tractor again.

OULXE59,0010890 -19-24APR06-1/1

General Instructions Regarding the Condition of the Tractor

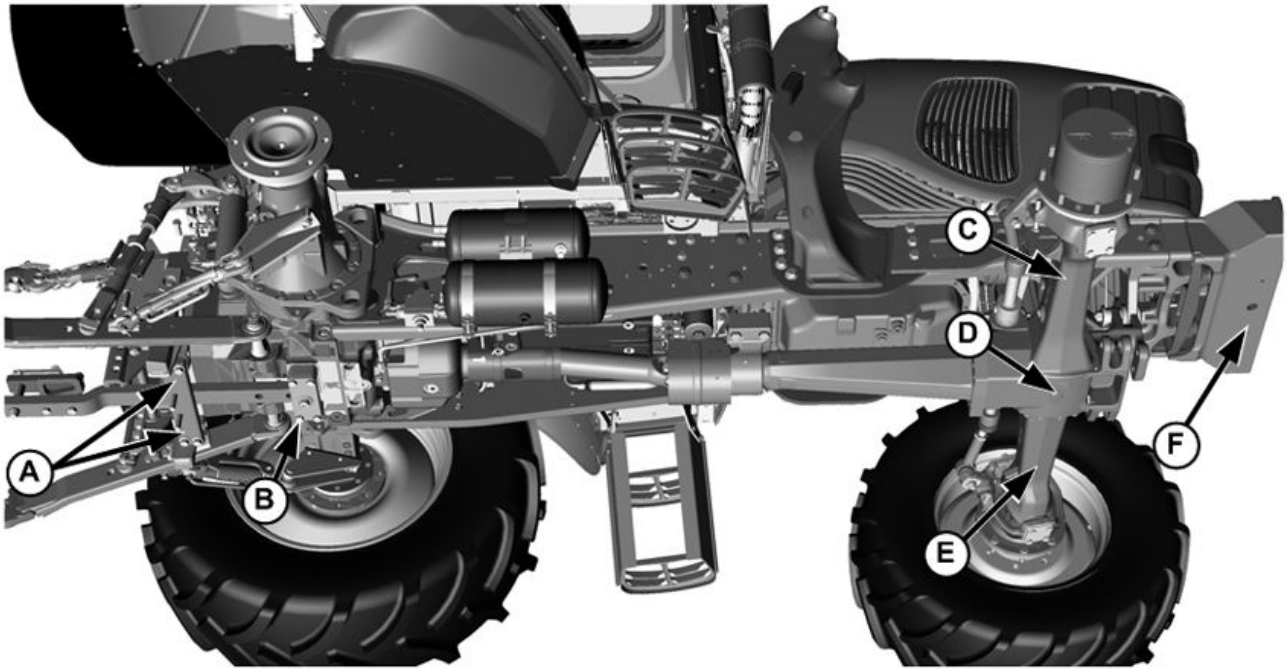
Perform a thorough visual inspection of the tractor on a regular basis or at every service interval at the latest. Ensure the following:

- Safety features and shields are in place and have been installed properly.
- All warning labels and decals are in place and are legible.
- Tires are in good condition.
- All lines and hoses are in good condition.
- Electrical wiring and ground connections are in good condition.
- There are no flammable materials in high heat emission areas.
- Tractor is free from leakage.

OU12401,00018FB -19-16NOV07-1/1

Jack Up the Tractor - Lifting Points

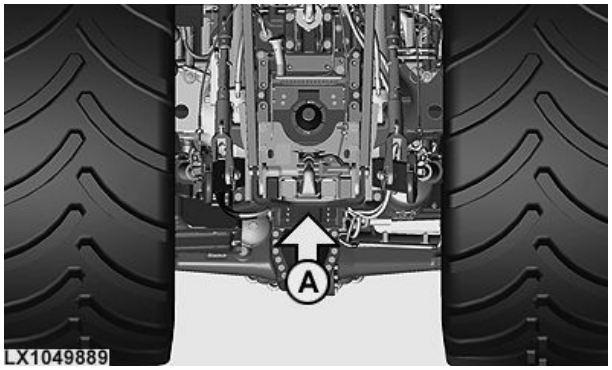
The illustrations show the recommended lifting points for jacking up the tractor. Use a stable jack with sufficient lifting force. See Specifications, Loads and Weights in Section 145.



LX1049994 —UN—03AUG11

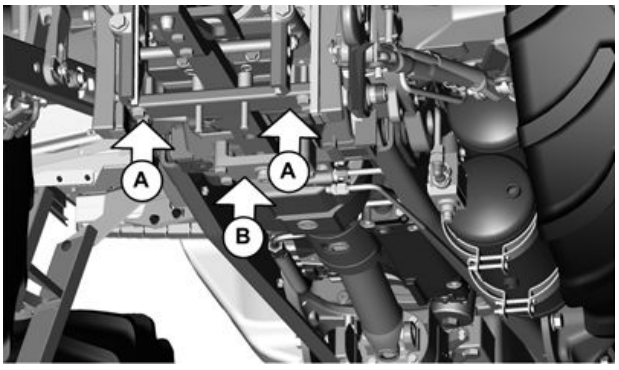
A—Raise Rear of Tractor, e.g. to Remove Rear Wheel
B—Raise Rear of Tractor, e.g. to Remove Rear Wheel
C—Raise Right End of Axle, e.g. to Remove Right Front Wheel
D—Raise Center of Axle (Use Wooden Wedges to Prevent Axle from Tilting)
E—Raise Left End of Axle, e.g. to Remove Left Front Wheel
F—Raise Front End of Tractor under the Basic Weight

OULXBER,0001AB2 -19-04AUG11-1/4



LX1049889 —UN—11FEB11

With Hydraulic Pick-Up Hitch



LX1049995 —UN—03AUG11

Without Hydraulic Pick-Up Hitch

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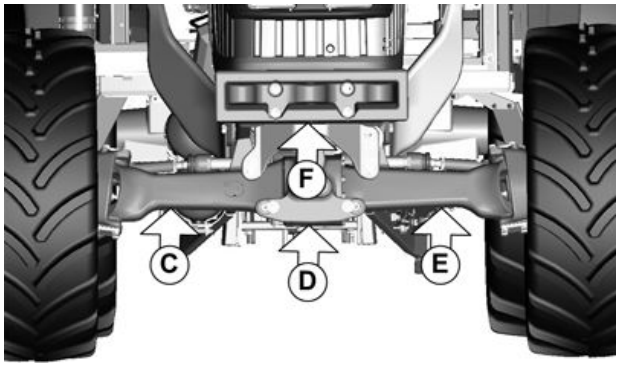
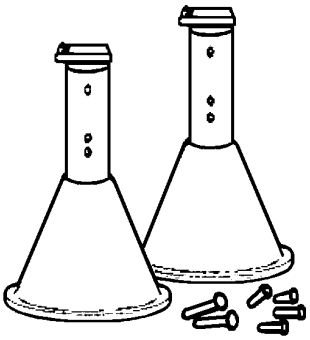
OULXBER,0001AB2 -19-04AUG11-2/4

C—Raise Right End of Axle, e.g. to Remove Right Front Wheel
D—Raise Center of Axle (Use Wooden Wedges to Prevent Axle from Tilting)
E—Raise Left End of Axle, e.g. to Remove Left Front Wheel
F—Raise Front End of Tractor under the Basic Weight



LX1049996 —UN—03AUG11

OULXBER,0001AB2 -19-04AUG11-3/4

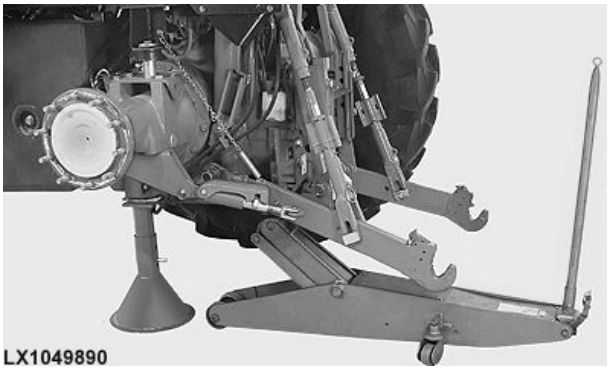


JT07211

JT02043 and JT02044 Support Stands

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

JT07211 —UN—14DEC06



LX1049890 —UN—11FEB11

Example

CAUTION: Use approved lifting equipment only.

Jack up tractor on firm, level ground only.

Before doing any further work on the tractor, first secure it using suitable support stands.

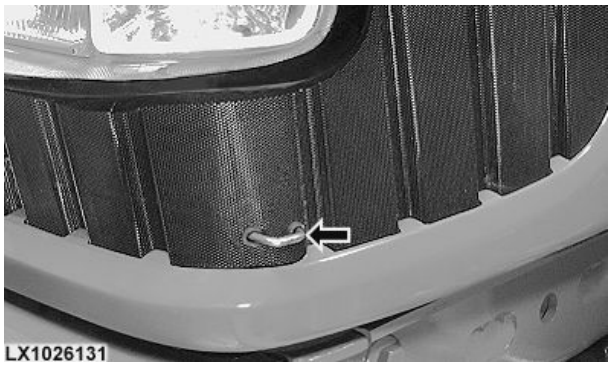
The special John Deere tools shown can be used for this purpose. These support stands are available from your John Deere dealer.

OULXBER,0001AB2 -19-04AUG11-4/4

Open the hood

Pull the catch and lift the hood up.

NOTE: If the tractor is equipped with a hood protector (front loader), the protector must be folded down before the hood can be opened.



LX1026131 —UN—21MAY01

OU12401,0001CDA -19-19SEP09-1/1

Access to Battery

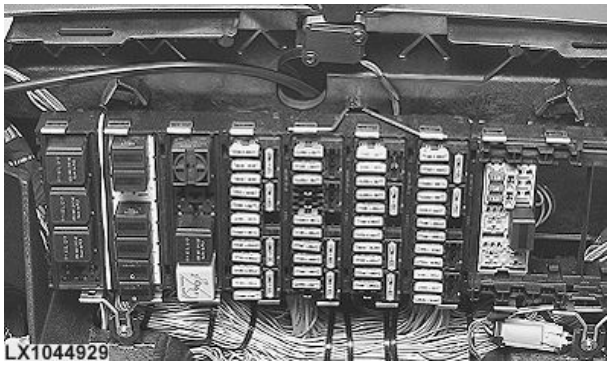
The battery is located in front of the radiator. To gain access, open the hood.

LX1037218 —UN—21OCT05

OULXE59,0010891 -19-24APR06-1/1

Access to Fuses

Most of the fuses are located behind the operator's seat. Other fuses are located in the engine compartment.



LX1044929 —UN—11DEC07

OU12401,0001915 -19-10DEC07-1/1

Important Instructions Regarding Alternator

NOTE: The alternator is equipped with over-voltage protection.

If engine is to be run for a short time without battery (using a slave battery for starting), do not run engine at a speed above 1000 rpm. Furthermore, use additional current (lights) while engine is running.

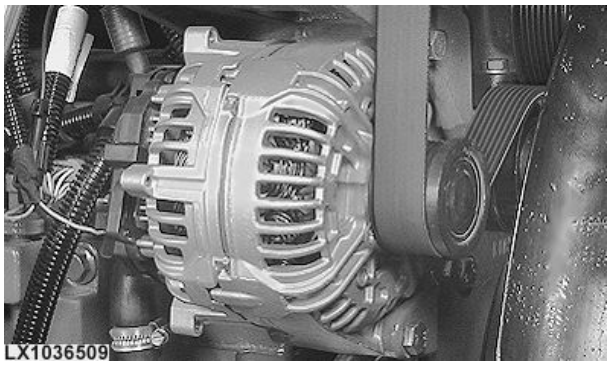
With the battery removed and when starting by means of a slave battery, insulate the battery end of the disconnected starter cable. This will avoid damage to the alternator and regulator.

Slave battery cables must be connected only to the poles provided for this purpose.

With the engine running, do not short-circuit or ground the alternator and regulator even momentarily.

Connect battery and charger with the correct polarity. If they are improperly connected (”+” and ”-”), the rectifier diodes will be destroyed immediately.

Before carrying out any electro-welding jobs on the tractor, **disconnect the two cables at the alternator and at the battery**.



LX1036509 —UN—19OCT05

Connect ground terminal of welding apparatus directly to the part being welded.

Before carrying out repairs on electrical system, disconnect battery ground strap. This will avoid the danger of a short circuit.

OULXE59,0010825 -19-13MAY06-1/1

Note Regarding the Service Interval for Engine Coolant

The interval may be shorter when a coolant other than COOL-GARD™ II is used. The most important service intervals are stated in the table.

NOTE: It is essential to comply with Drain Intervals for Diesel Engine Coolant in Section 80, Fuel, Lubricants, Hydraulic Oil and Coolant. There you will find details of service intervals and related circumstances.

Operating hours (after x years at the latest)	Coolant meets John Deere specification	COOL-GARD II
2000 (after 2 years)	X	—
4000 (after 4 years)	—	Valid if condition of COOL-GARD II is **not** checked once a year.
6000 (after 6 years)	—	Valid if condition of COOL-GARD II is checked once a year.

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OULXBER,000194A -19-24NOV11-1/1

Check/Replace Hydraulic Hoses

Check hydraulic hoses regularly – at least once a year – for leaks, kinks, cuts, tears, rubbing, bulges, corrosion, exposed fabric and other signs of wear and damage.

Replace worn or damaged hoses immediately.

Replacement hoses are available from your John Deere dealer.

OULXBER,0001A4B -19-10FEB11-1/1

Service After the First 100 Hours

Drain engine crankcase and refill with fresh oil after the first 100 hours the earliest, after 500 hours the latest (see Service / Every 500 Hours).
Replace engine oil filter element after the first 100 hours the earliest, after 500 hours the latest (see Service / Every 500 Hours).
Tighten screws on pick-up hitches (see Service / Every 250 Hours).
Tighten the screws on the front loader brackets. Bracket to main frame, 550 N•m (405 lb-ft).
Retighten the screws on the front hitch frame. Front hitch to main frame, 550 N•m (405 lb-ft).
Check air intake hoses (see Service / Every 500 Hours).
Replace transmission/hydraulic oil filter (see Service / Every 750 Hours).
Drain the axle housing and final drives, and refill with fresh oil (see Service / Every 1500 Hours).
Lubricate front PTO drive shaft (see Service / Every 250 Hours).
Retighten cab attaching screws.

OULXE59,0010990 -19-19AUG11-1/1

Service As Required

Clean air cleaner and cab air filters.
Clean radiator.
Check coolant level.
Check fuel filter, bleed fuel system.
Check tire pressures.
Lubrication points - lubricate, if tractor has been washed with high pressure water.
Check specific gravity of battery.
Replace fuses.

OU12401,0001D1A -19-26JUL11-1/1

Periodic Service

In the following tables, service work is only listed once. Example: **In addition to** the 500 hour services, the 10 hour and 250 hour services have to be carried out.

NOTE: When performing service work, always check for any damage (e.g. on hydraulic lines, wiring harnesses, etc.) and repair as necessary.

OU12401,00019D6 -19-22MAY08-1/1

Other Service Jobs

The tables below provide a list of service jobs that must be carried out by your John Deere dealer. These service jobs (e.g. checking the accumulators of the cab suspension or TLS front axle) require specialist knowledge and equipment.

OU12401,0001AE2 -19-14NOV08-1/1

Service (Daily / Every 10, Every 250, Every 500, Every 750 Hours)

Service	Daily or Every 10 Hours	Every 250 Hours	Every 500 Hours	Every 750 Hours
Check engine oil level.	•			
Check fuel filter.	•			
Air brake system - check compressed air tank for condensed water. If condensed water drains out, replace air-drier cartridge, otherwise do this every 1500 hours or every 2 years at the latest (see Service - Every 1500 Hours or 2 Years).	•			
Check lights.	•			
Lubricate front axle and front-wheel drive shaft. *	•			
Lubricate rear axle. *	•			
Lubricate three-point hitch. *	•			
Lubricate pick-up hitch. *	•			
Check oil level of transmission/hydraulic system. **	•			
Drain residue from fuel tank.		•		
Check oil level of transmission/hydraulic system.		•		
Check electrolyte level of battery.		•		
Lubricate the front axle, u.j. shafts and drive shaft.		•		
Check oil level in axle housing and final drives.		•		
Check the brakes.		•		
Lubricate front PTO drive shaft.		•		
Lubricate three-point hitch.		•		
Lubricate pivoting fenders.		•		
Lubricate cab suspension system.		•		
Lubricate trailer hitch and check that it functions properly.		•		
Lubricate pick-up hitch, tighten screws and check that it functions properly.		•		
Check neutral start circuit.		•		
Tighten wheel retaining bolts/nuts.		•		
Tighten screws on the front loader bracket.		•		
Check for wear at components of drawbar, tow hitch (piton-fix/ball-type) and pick-up hitches.		•		
Drain engine crankcase and refill with fresh oil. ***		•	•	
Replace engine oil filter element. ***		•	•	
Replace fuel filters.			•	
Lubricate rear axle.			•	
Lubricate the draft link bearings.			•	
Check the air intake hoses.			•	
Check ground connections (engine and cab).			•	
Check engine drive belt for wear.			•	
Replace cab air filters. ****			•	
Replace transmission/hydraulic oil filters.				•
Replace front PTO filter.				•
Drain final drives, and refill with fresh oil (axle with brake).				•

* only necessary when operating in extremely wet and muddy conditions
** only necessary if the tractor is driving external hydraulic equipment
*** Engine oil must be changed at least once a year. Service intervals vary depending on the type of engine oil used and the sulfur content of the fuel. See “Diesel Engine Oil and Filter Service Intervals” in the “Fuel, Lubricants, Hydraulic Oil and Coolant” section.
**** Ultra-Gard activated carbon filters only. Replace the filters with new ones at least once every year.

OU12401,00015C6 -19-17NOV11-1/1

Service (Annually, Every 1000, Every 1500 Hours)

Service	annually	1000 hours	1500 hours
Inspect seat belt.	•		
Drain engine crankcase and refill with fresh oil (see Service / Every 500 Hours).	•		
Check engine drive belt for wear (see Service / Every 500 Hours).	•		
Lubricate front PTO drive shaft (see Service / Every 250 Hours).	•		
Tighten screws on front loader bracket (see Service / Every 250 Hours).	•		
Replace cab air filters. *	•		
Use coolant test strip to test coolant (only if COOL-GARD II is used).	•		
Inspect hydraulic hoses.	•		
Have accumulator of cab suspension checked by your John Deere dealer.		•	
Have viscous fan drive checked by your John Deere dealer.		•	
Drain the axle housing and final drives, and refill with fresh oil.			•
Change oil in transmission/hydraulic system.			•
Replace air cleaner element and cab air filters.			•
Change front PTO oil and filter.			•
Have accumulator of TLS front axle checked by your John Deere dealer.			•
Air brake system - Change the air-drier cartridge (an earlier change may be necessary if condensed water drains out when checking compressed air tank, or every 2 years).			•
* Ultra-Gard activated carbon filters only.			

OU12401,00015C7 -19-12DEC11-1/1

Service (Every 2000, Every 6000 Hours, Every 10 Years)

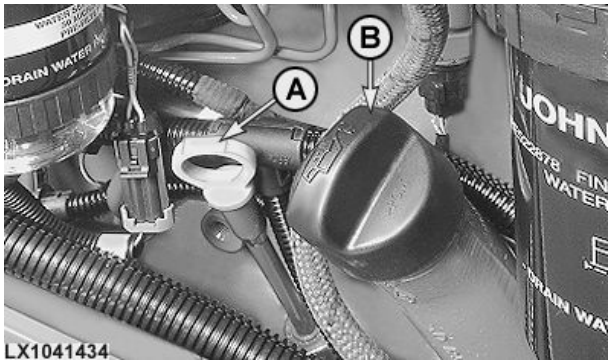
Service	2000 hours	6000 hours	10 years
Have valve clearance checked by your John Deere dealer.	•		
Have glow plugs checked by your John Deere dealer.	•		
Change the coolant* (if COOL-GARD II is used and it is checked regularly every year).		•	
Have accumulators of cab suspension and axle suspension replaced by your John Deere dealer.			•
* If John Deere COOL-GARD II is not used, the coolant change interval is reduced to 2 years or 2000 hours of operation.			

OU12401,0001D1C -19-12DEC11-1/1

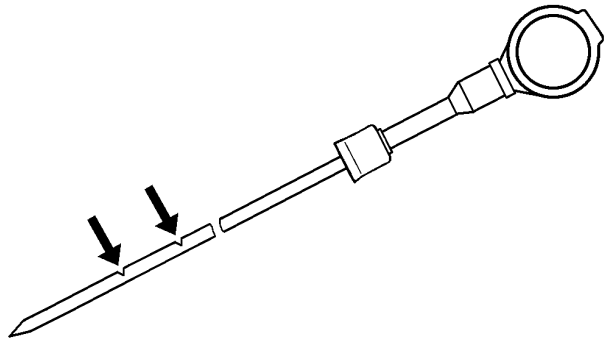
Checking the Engine Oil Level

Engine oil level should always be between the marks on the dipstick. Do not start the engine if oil level is below lower mark on dipstick.

A—Dipstick **B—Oil filler neck**



LX1041434 —UN—20NOV06



LX1041430 —UN—17NOV06

OU12401,0001578 -19-18NOV06-1/1

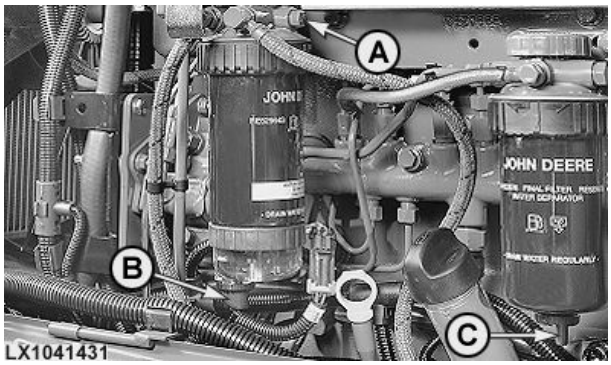
Checking the Fuel Filter

If water or sediment deposits have settled in filter, proceed as follows:

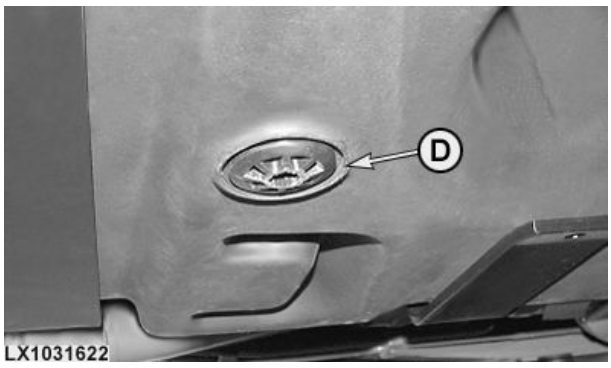
1. Open bleed screw (A).
2. Open drain plug (B) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
3. Open drain plug (C) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
4. Tighten bleed screw (A).
5. Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.

If water was present in fuel filter, use a 1/2-inch square-section key to loosen drain plug (D) under the fuel tank by one turn. After draining off any water and sediment deposits, retighten drain plug until hand-tight.

A—Bleed screw **C—Drain plug**
B—Drain plug **D—Fuel tank drain plug**



LX1041431 —UN—20NOV06



LX1031622 —UN—23JAN06

OU12401,0001579 -19-18NOV06-1/1

Drain the Compressed Air Trailer Brake

To drain water from the compressed air tank, push or pull valve pin (A) to the side. Do not use your hands to do this; use a suitable tool.

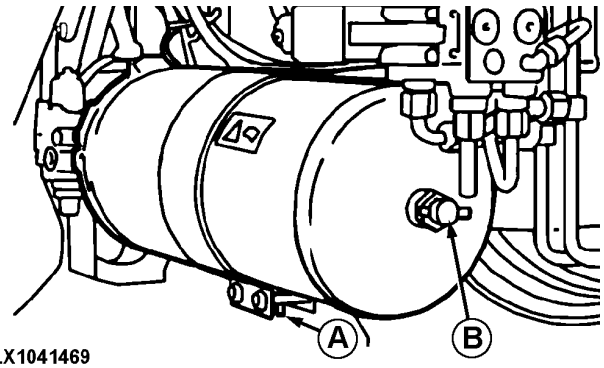
The air tank is also equipped with a connection (B) for inflating tires.

CAUTION: Wear protective goggles when draining water.

If condensation (water) is found during the daily check of the compressed-air tank, the air-drier cartridge must be replaced immediately.

Replace the air-drier cartridge every 1500 hours or every 2 years at the latest. See Service / Every 1500 Hours or 2 Years.

CAUTION: The air tank may be equipped with a connection for inflating tires.



LX1041469

LX1041469 —UN—18DEC06

The full pressure of the air tank (800 kPa; 8 bar; 116 psi) is present at the tire inflation connection. Do NOT over-inflate the tires!

OU12401,00015CD -19-17NOV11-1/1

Check the Lights

Check that the lights are operating correctly, especially before driving on public roads.

Comply with all legal regulations.

OULXE59,0010947 -19-18NOV07-1/1

Other Service Jobs

If the tractor is used to power external hydraulic equipment, check the level of the transmission/hydraulic oil.

If the tractor is used in particularly wet and muddy terrain, apply extra lubrication as follows:

- Front axle and front-wheel drive shaft.
- Rear axle
- Three-point hitch
- Pick-up hitch. The hitch will also need lubricating if it is used frequently.

These jobs are described in ”Service - Every 250 Hours” and ”Service - Every 500 Hours”.

OU12401,000140A -19-13MAY06-1/1

Servicing the Fuel Tank

Use a 1/2-inch square-section key to slacken off the drain screw by one turn. Drain water and contaminants. Re-insert drain screw and tighten by hand.

LX1024725 —UN—06NOV00

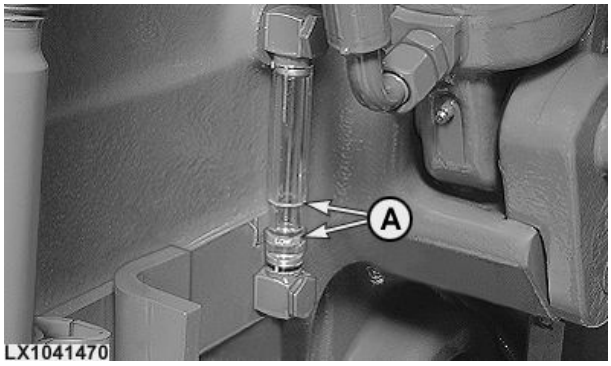
OU12401,0000504 -19-03NOV00-1/1

Check Transmission/Hydraulic System Oil Level

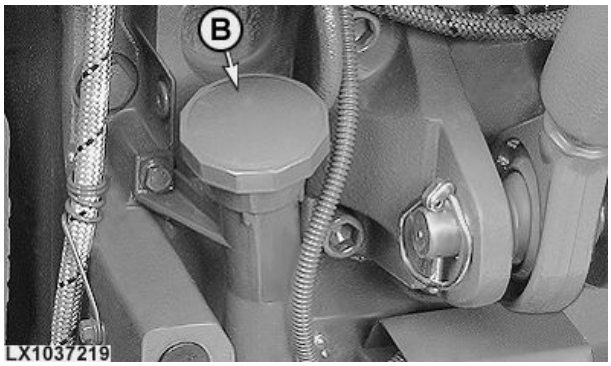
IMPORTANT: Check oil level when oil is cold. If possible, check the oil level in the morning after the tractor has been standing overnight.

1. Park tractor so that it is level.
2. Apply park brake or engage park lock.
3. Lower draft links, front loader, front implements and other implements that draw oil from the transmission.
4. Oil level should be between marks (A) on the sight-glass. If it is not, add more oil at filler neck (B).

A—Sight-glass (r.h. side of transmission) **B—Filler neck**



LX1041470 —UN—19DEC06



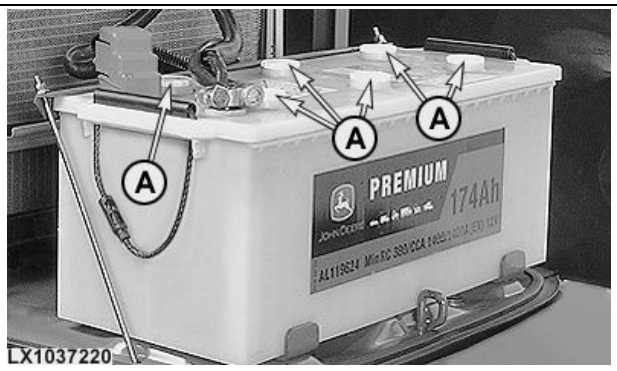
LX1037219 —UN—21OCT05

OU12401,0001CE2 -19-21SEP09-1/1

Checking Electrolyte Level of Battery

Remove filler caps (A). Level of electrolyte should be above the mark. Fill with distilled water only.

Check that the vent holes in the battery caps are open at all times. If terminal connectors are corroded, remove corrosion with a stiff bristle brush and then coat the terminals with an acid-free grease.



LX1037220 —UN—21OCT05

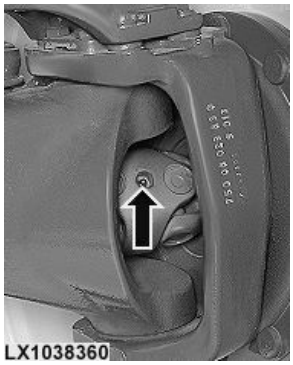
OU12401,0001323 -19-14OCT05-1/1

Lubricating the Front Axle and U.j. Shafts

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

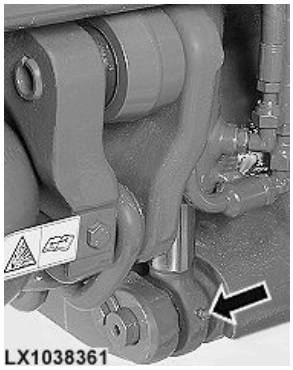
Apply John Deere multi-purpose grease to the grease fittings on the final drives (two on each drive), on the axle bridge (with suspended axle, one fitting on each side of tractor), on the rear drive shaft and the front drive shaft (suspended axle only).

IMPORTANT: Thoroughly clean all grease fittings prior to greasing. Replace damaged grease fittings immediately.



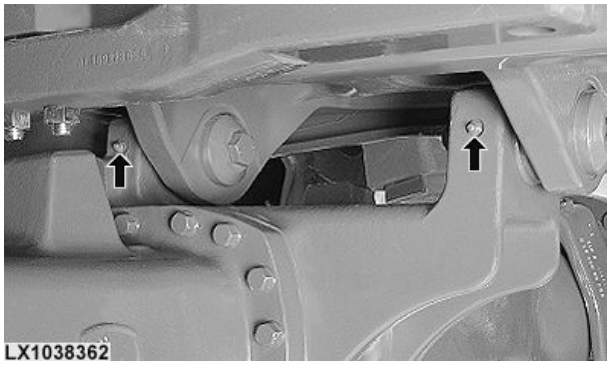
LX1038360 —UN—18MAY06

Final drive

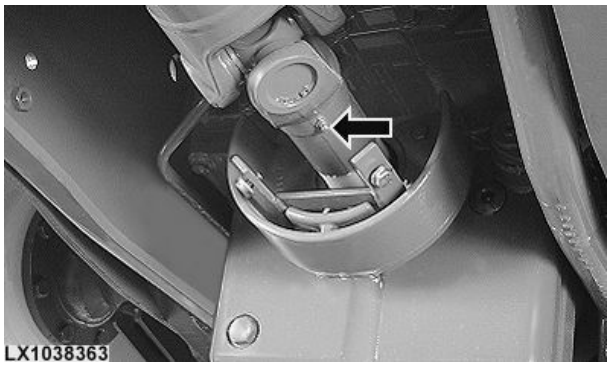


LX1038361 —UN—31MAY06

Suspended axle

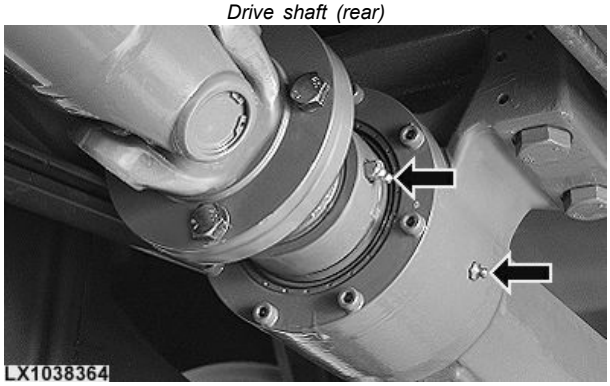


LX1038362 —UN—07OCT10



LX1038363 —UN—18MAY06

Drive shaft (rear)



LX1038364 —UN—18MAY06

Drive shaft (front)

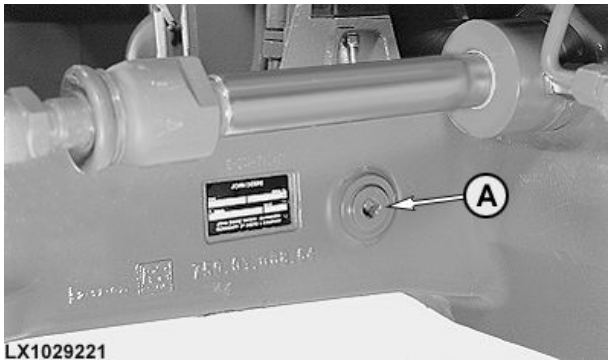
OU12401,0001416 -19-16MAY06-1/1

Check Oil Level in MFWD Axle Housing

CAUTION: If the oil is hot, it may be under pressure. Unscrew the level plug slowly.

Remove level plug (A). Oil must be level with screw bore. Fill to proper level, if necessary. Tighten level plug to 90 Nm (66 lb.-ft.). Always use a transmission oil listed in the Fuel, Lubricants, Hydraulic Oil and Coolant section.

NOTE: The position of the level plugs varies depending on axle type.



LX1029221 —UN—15APR03

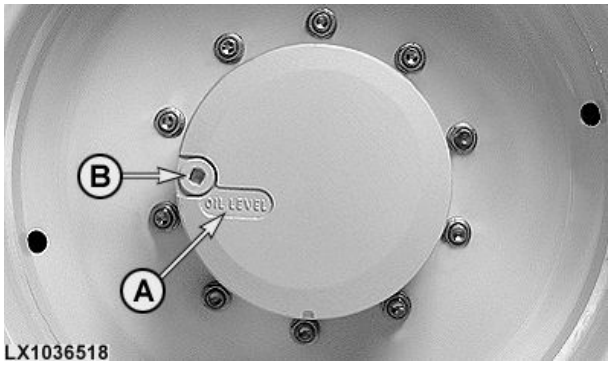
OU12401,0000E02 -19-18MAY10-1/1

Check Oil Level in MFWD Final Drives

CAUTION: If the oil is hot, it may be under pressure. Unscrew the level plug slowly.

1. Turn the wheel until OIL LEVEL mark (A) is horizontal.
2. Remove level plug (B). Oil must be level with screw bore.
3. If necessary, top up with oil at this point. Tighten level plug to 90 Nm (66 lb.-ft.). Always use a transmission oil listed in the Fuel, Lubricants, Hydraulic Oil and Coolant section.

NOTE: Change oil in axle housing and final drives after the first 100 hours of operation. Then change after every 1500 hours of operation or once every 2 years, whichever occurs first.



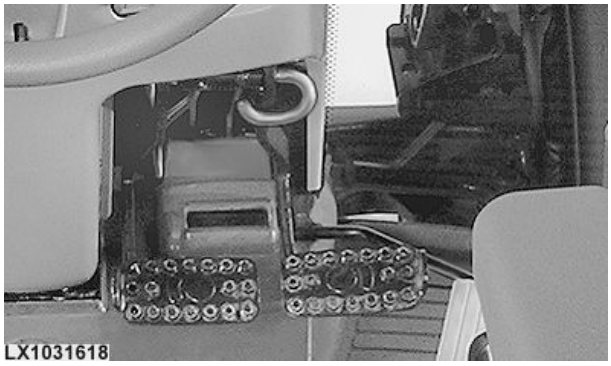
LX1036518 —UN—26APR06

OULXE59,0010830 -19-18MAY10-1/1

Check the Brakes

Shut off the engine and check that the brakes are operating properly:

1. One at a time, press down on the left and right brake pedals. Do this several times to each pedal. Distinct resistance should be noticeable at each of the two pedals. If no resistance can be felt at the pedals, get your John Deere dealer to bleed the air from the brakes.
2. Check to make sure the pedals do not settle to the end of stroke within 10 seconds after being applied. If leakage exceeds this rate or if one pedal settles faster than the other, see your John Deere dealer.
3. Press both pedals down at the same time. Distinct resistance should occur at both pedals at roughly the same height. If the height at which resistance can be felt differs by more than 51 mm (2 in.), get your John Deere dealer to bleed the air from the brakes.



LX1031618 —UN—23JAN06

IMPORTANT: Any noticeable drift downward from the point of resistance indicates brake leakage. See your John Deere dealer.

Distinct pedal resistance and balance between the left and right pedals are important for emergency braking with the two brakes coupled together.

OU12401,00015CF -19-16DEC06-1/1

Lubricating the Front PTO Drive Shaft

Lubricate grease fittings with several strokes of grease gun. Use John Deere multi-purpose grease.

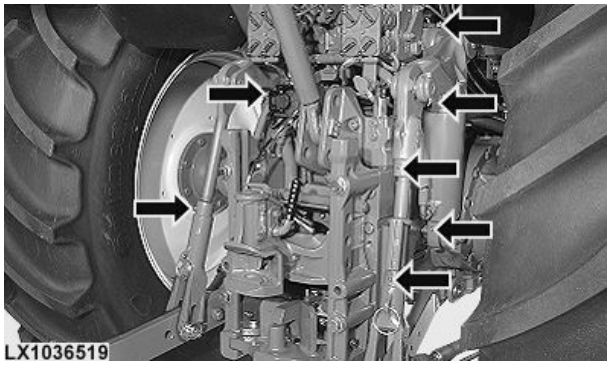
LX1038359 —UN—18MAY06

OULXE59,00108A2 -19-15MAY06-1/1

Lubricating the Three-Point Hitch

Lubricate grease fittings with several strokes of grease gun. Use John Deere multi-purpose grease.

NOTE: The grease fittings on the second lift cylinder and second lift link are not visible in this illustration.

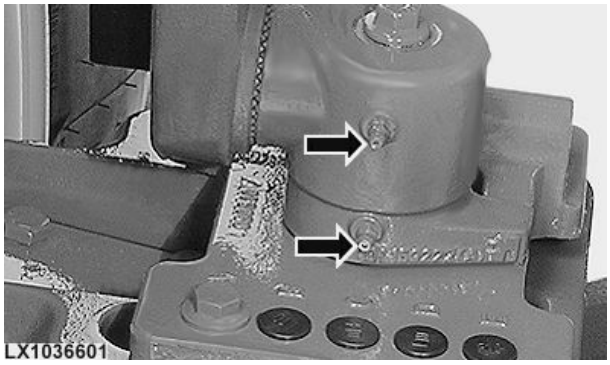


LX1036519 —UN—26APR06

OULXE59,0010847 -19-18DEC05-1/1

Lubricate the Pivoting Fenders

Lubricate grease fittings with several strokes of grease gun. Use John Deere multipurpose grease.

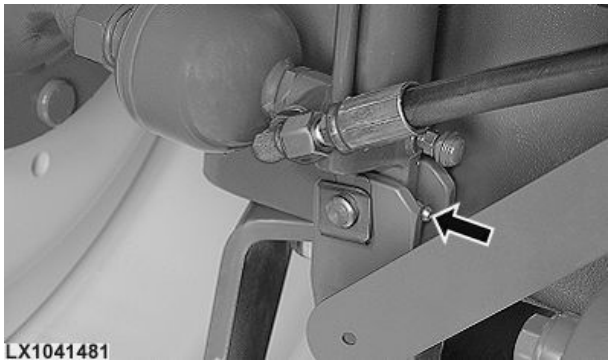


LX1036601 —UN—16AUG05

OU12401,0001286 -19-09AUG05-1/1

Lubricate the Cab Suspension System

Lubricate grease fittings with several strokes of grease gun. Use John Deere multi-purpose grease.



LX1041481 —UN—19DEC06

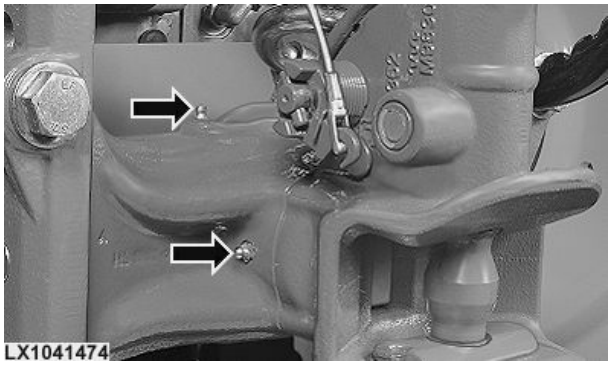
OU12401,00015DE -19-18DEC06-1/1

Lubricate Hitch Jaw

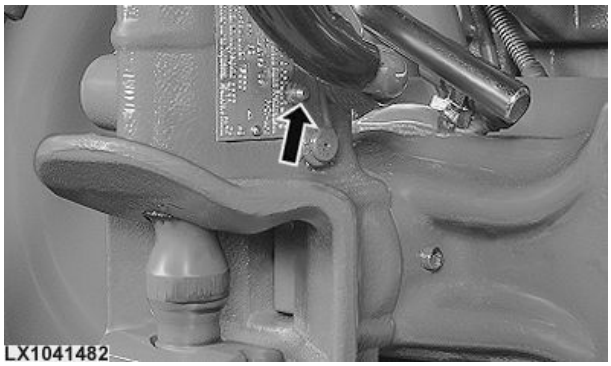
Lubricate hitch jaw periodically at grease fitting (A).

If the hitch jaw turns, make sure that hitch jaw bearing is thoroughly greased by turning the jaw through 180° when greasing.

Check that hitch jaw functions correctly.



LX1041474 —UN—18DEC06

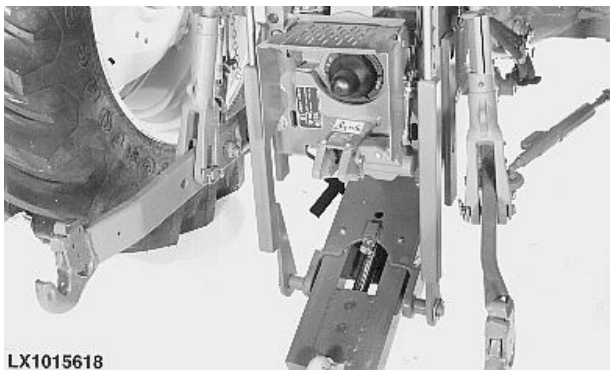


LX1041482 —UN—19DEC06

OU12401,00015D0 -19-18DEC06-1/1

Lubricating the Hydraulic or Electro-Hydraulic Pick-Up Hitch

Lubricate grease fittings with several strokes of grease gun. Use John Deere multipurpose grease.



LX1015618 —UN—08JAN97

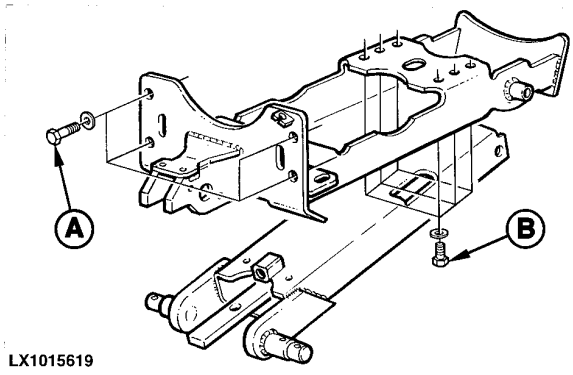
OU12401,0000E38 -19-01JUL03-1/1

Hydraulic or Electro-Hydraulic Pick-Up Hitch

Check torques of attaching bolts:

Tighten cap screws (A) to 450 Nm (330 lb-ft).

Tighten cap screws (B) to 265 Nm (190 lb-ft).



LX1015619 —UN—08JAN97

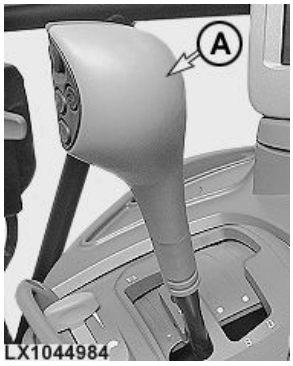
OU12401,0000E39 -19-01JUL03-1/1

Check the Neutral Start Circuit

Tractors with PowrQuad Plus or AutoQuad Plus transmissions

1. Move range-shift lever (A) to neutral.
2. Move the reverser lever (B) to "forward" or "reverse".
3. Start the engine and wait 6-7 seconds. The “N” display must light up.
4. Depress the clutch and engage any range. Slowly release the clutch pedal. The tractor must NOT start to move. If it does, see your John Deere dealer immediately.

LX1038393 —UN—08JUN06



LX1044984 —UN—28APR08

A—Range-shift lever

B—Reverser lever

OU12401,00019C5 -19-26APR08-1/2

Tractors with AutoPowr

1. Move reverser lever (A) to "forward" or "reverse".
2. Turn key in main switch as far as it will go to the right. The starting motor must NOT turn over. If it does, see your John Deere dealer immediately.
3. Repeat the test in the other direction of travel.

A—Reverser lever

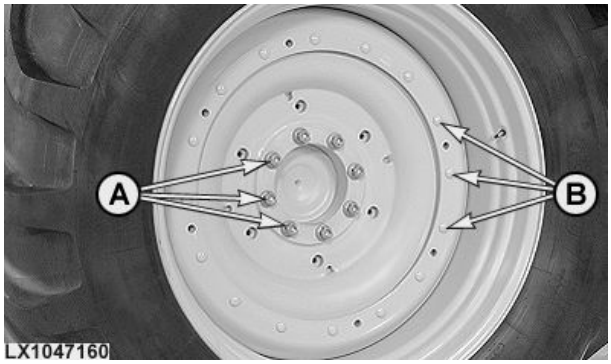
LX1041027 —UN—08JUN06

OU12401,00019C5 -19-26APR08-2/2

Wheel Retaining Bolts

Tighten rear wheel retaining bolts/nuts

A—500 Nm (370 lb-ft) **B—250 Nm (185 lb-ft)**

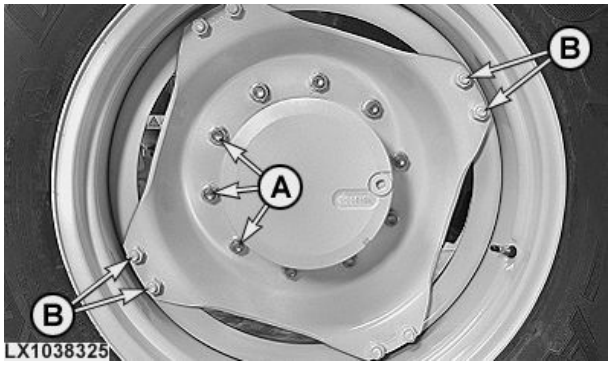


LX1047160 —UN—25SEP08

OU12401,0001ABA -19-22SEP08-1/2

Tighten front wheel retaining bolts/nuts

A—480 Nm (355 lb-ft) **B—250 Nm (185 lb-ft)**



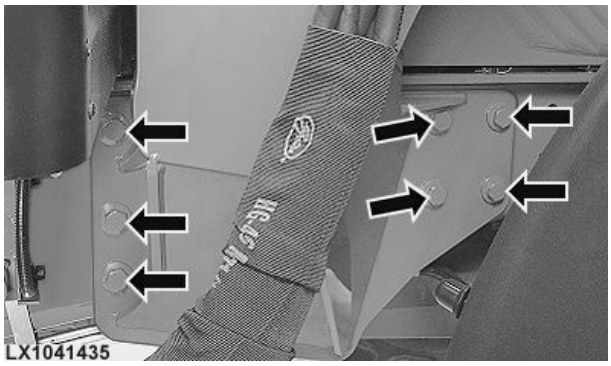
LX1038325 —UN—06MAY08

OU12401,0001ABA -19-22SEP08-2/2

Tighten Screws on Front Loader Bracket

Tighten the screws on the front loader bracket to 550 Nm (405 lb-ft).

See also “Front Loader Installation - Front Loader Brackets” in Section 71.



LX1041435 —UN—20NOV06

OU12401,000157A -19-11AUG11-1/1

Check the Manually-Operated Trailer Hitch for Wear

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check diameter (a) of the hitch pin.

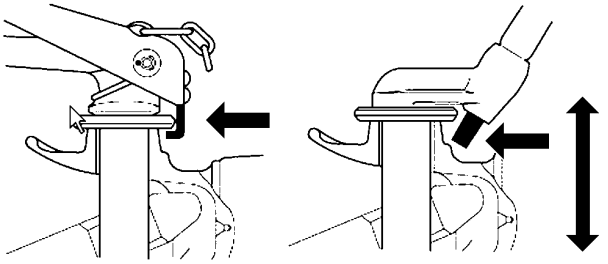
Specification	
Hitch Pin—Wear limit or diameter	min. 29.0 mm min. 1.14 in.

LX1031437 —UN—24SEP03

OULXBER,0001966 -19-30AUG10-1/4

Check permissible vertical play of the hitch pin.

Specification	
Hitch Pin—Play	max. 6 mm max. 0.24 in.



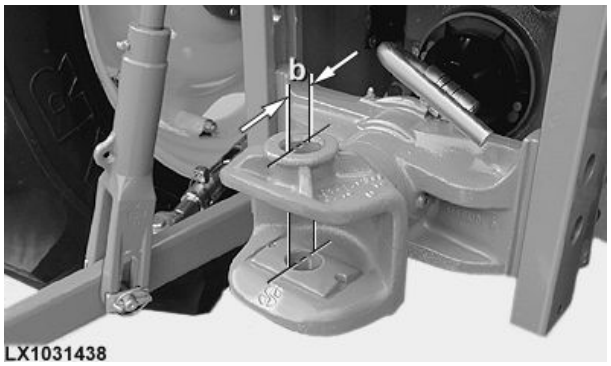
LX1047989

LX1047989 —UN—23SEP09

OULXBER,0001966 -19-30AUG10-2/4

Check diameter (b) of the receiver hole.

Specification	
Top and bottom receiver holes (measured in direction of travel)—Wear limit or diameter	max. 35.0 mm (oval) max. 1.38 in. (oval)



LX1031438 —UN—24SEP03

Continued on next page

OULXBER,0001966 -19-30AUG10-3/4

Determine play (c) between trailer hitch and receiver.

Specification	
Trailer Hitch and Rreceiver—Play	max. 3.0 mm max. 0.12 in.

LX1048786 —UN—09DEC09

OULXBER,0001966 -19-30AUG10-4/4

Check the Manually-Operated Hitch for Wear (Italy and Spain Only)

⚠ CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check diameter (a) of the hitch pin.

Check diameter (b) of the receiver hole.

Specifications for Cat. 2 hitch pins with a nominal diameter of 28.0 mm (1.10 in.)

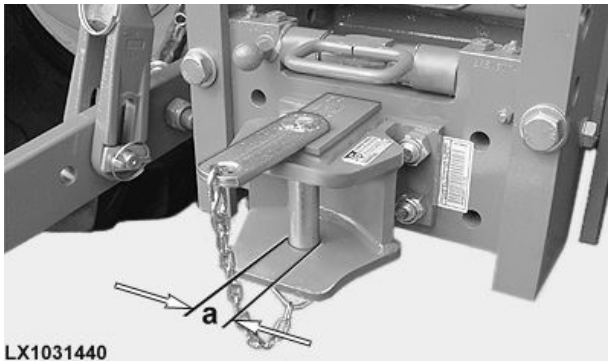
Specification	
Hitch Pin—Wear Limit or Minimum Diameter	26.5 mm 1.04 in.

Specification	
Top and bottom receiver holes (measured in direction of travel)—Wear Limit or Maximum Permissible Diameter	31.0 mm (oval) 1.22 in. (oval)

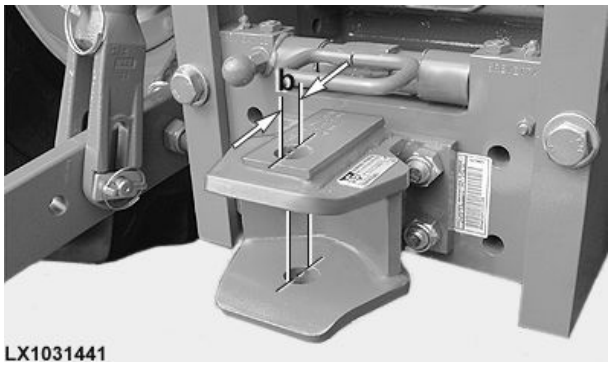
Specifications for Cat. 3 hitch pins with a nominal diameter of 43.0 mm (1.69 in.)

Specification	
Hitch Pin—Wear Limit or Minimum Diameter	41.0 mm 1.61 in.

Specification	
Top and bottom receiver holes (measured in direction of travel)—Wear Limit or Maximum Permissible Diameter	46.0 mm (oval) 1.81 in. (oval)



LX1031440 —UN—23SEP03



LX1031441 —UN—23SEP03

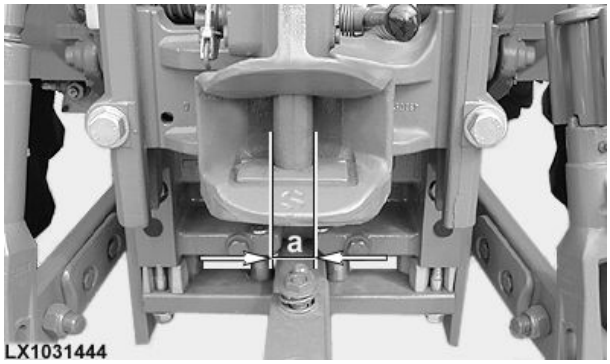
LX24888,00005D4 -19-22FEB11-1/1

Check the Remote-Controlled Trailer Hitch for Wear

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

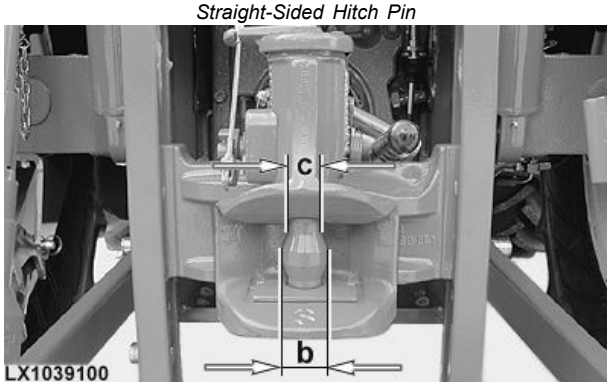
Check diameters (a, b and c) of the hitch pin.

Specification	
Straight-Sided Hitch Pin—Wear limit or diameter (a)	min. 29 mm min. 1.14 in.
Ball-Shaped Hitch Pin—Wear limit or diameter (b)	min. 36.5 mm min. 1.44 in.
Ball-Shaped Hitch Pin—Wear limit or diameter (c)	min. 27 mm min. 1.06 in.



LX1031444 —UN—23SEP03

Straight-Sided Hitch Pin



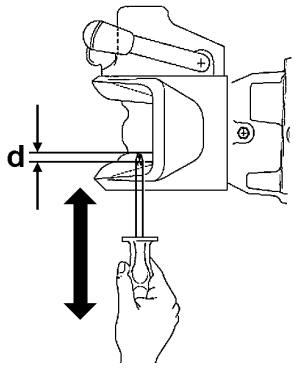
LX1039100 —UN—11JUL06

Ball-Shaped Hitch Pin

OULXBER,0001964 -19-30AUG10-1/5

Check vertical play (d) of the hitch pin.

Specification	
Hitch Pin—Play	max. 2.5 mm max. 0.1 in.



LX1047991

LX1047991 —UN—23SEP09

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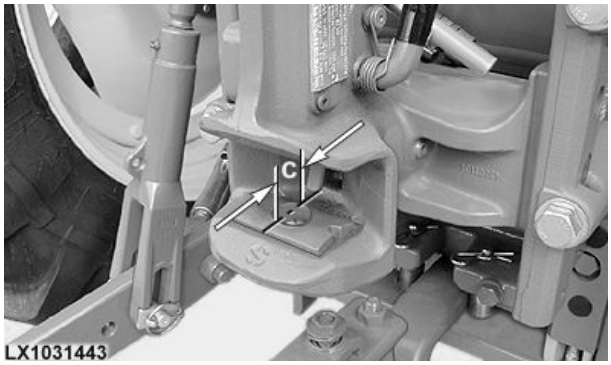
OULXBER,0001964 -19-30AUG10-2/5

Check diameter (c) of the receiver hole.

Specification

Bottom receiver hole (in direction of travel)—Wear limit or diameter	max. 34.0 mm (oval)
	max. 1.33 in. (oval)



LX1031443 —UN—23SEP03

OULXBER,0001964 -19-30AUG10-3/5

Check thickness (e) of wear plate.

Specification

Wear Plate—Thickness	min. 6 mm
	min. 0.24 in.

Check play in the bottom pin guide.

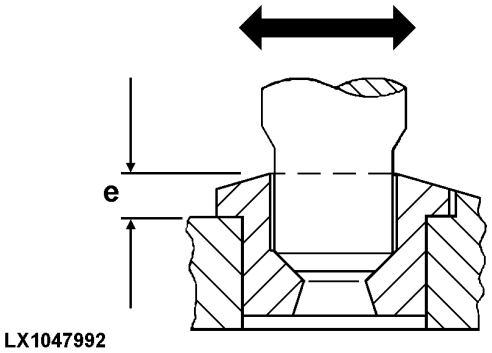
Specification

Pin in Bottom Pin Guide—Play	max. 2.5 mm
	max. 0.1 in.

Check wear of hitch pin or bore.

Specification

Hitch Pin and Hole—Wear	max. 1.5 mm
	max. 0.06 in.



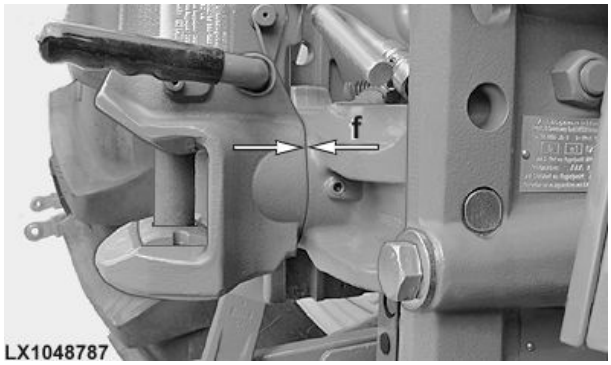
LX1047992 —UN—23SEP09

OULXBER,0001964 -19-30AUG10-4/5

Determine play (f) between trailer hitch and receiver.

Specification

Trailer Hitch and Receiver—Play	max. 3.0 mm
	max. 0.12 in.



LX1048787 —UN—09DEC09

OULXBER,0001964 -19-30AUG10-5/5

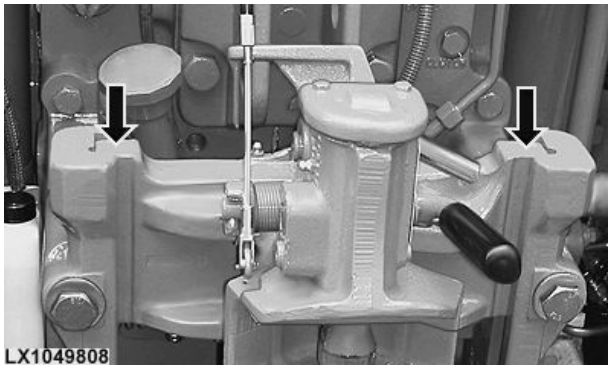
Trailer Hitch, Check the Guide Rails

Determine play and wear at components (d) and (f). To do this, lock the hitch jaw in all possible positions, and then measure play.

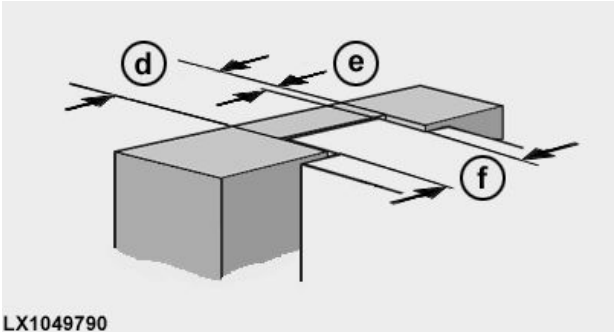
Specification

Guide components in pull/push direction (e)—Play	max. 2.4 mm max. 0.09 in.
Guide rails, groove (d) in trailer mounting—Wear	max. 1.2 mm max. 0.05 in.
Guide rails, trailer hitch guide (f)—Wear	max. 0.8 mm max. 0.03 in.

d— Width of guide rail
e— Play at guide rails
f— Thickness of slide



LX1049808 —UN—07SEP10



LX1049790 —UN—20AUG10

OULXBER,000194D -19-07SEP10-1/1

Check for Wear at Tow Hitch (Piton Fix)

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check gap (b) at catch.

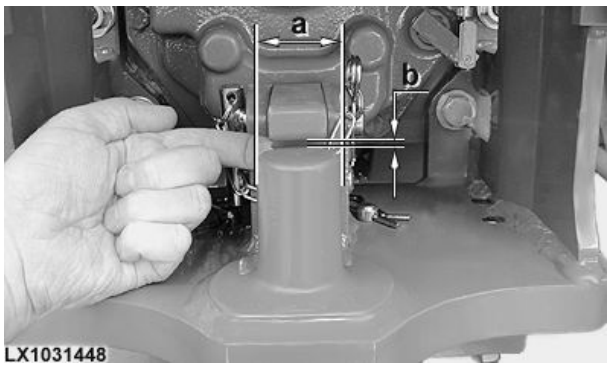
Specification

Gap at catch—Maximum permissible clearance	10.0 mm 0.39 in.

Check diameter (a) of the pin.

Specification

Pin—Wear limit or minimum diameter	41.5 mm 1.63 in.



LX1031448 —UN—09SEP03

OU12401,0001546 -19-09NOV06-1/1

Check for Wear at Ball-Type Tow Hitch

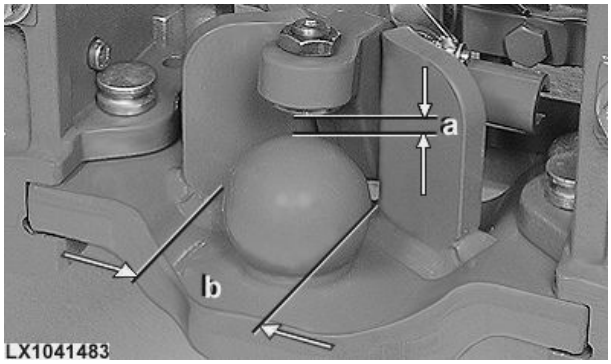
CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check gap (a) at catch.

Specification	
Gap at catch—Maximum permissible clearance	4.0 mm 0.16 in.

Check diameter (b) of the ball.

Specification	
Ball diameter—Wear limit or minimum diameter	78.0 mm 3.07 in.



LX1041483 —UN—19DEC06

OU12401,0001545 -19-19DEC06-1/1

Check the Drawbar for Wear

CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

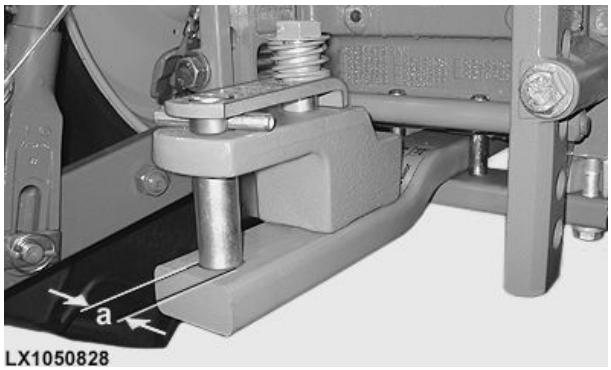
Check diameter (a) of the pin.

Specifications for Cat. 2 hitch pins with a nominal diameter of 31.5 mm (1.24 in.):

Specification	
Drawbar, Pin—Wear Limit or Minimum Diameter	29.5 mm 1.16 in.

Specifications for Cat. 3 hitch pins with a nominal diameter of 40.0 mm (1.57 in.):

Specification	
Drawbar, Pin—Wear Limit or Minimum Diameter	37.5 mm 1.48 in.



LX1050828 —UN—08OCT10

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LX24888,00005D2 -19-22FEB11-1/2

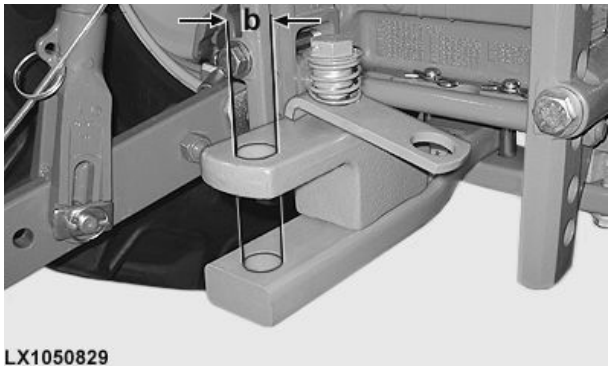
Check diameter (b) of the pin receiver hole.

Specifications for Cat. 2 receiver hole with a nominal diameter of 33.0 mm (1.30 in.):

Specification	
Top and bottom receiver holes (measured in direction of travel)—Wear Limit or Maximum Permissible Diameter	35.0 mm (oval) 1.38 in. (oval)

Specifications for Cat. 3 receiver hole with a nominal diameter of 41.0 mm (1.61 in.):

Specification	
Top and bottom receiver holes (measured in direction of travel)—Wear Limit or Maximum Permissible Diameter	43.0 mm (oval) 1.69 in. (oval)



LX1050829 —UN—08OCT10

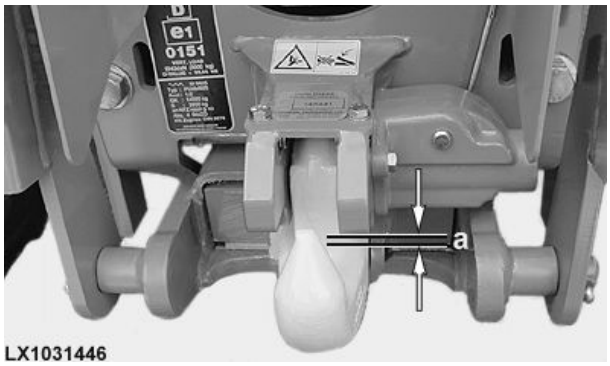
LX24888,00005D2 -19-22FEB11-2/2

Check Tow Hook on Pick-Up Hitch for Wear

⚠ CAUTION: Parts that have reached or exceeded their wear limit must be replaced with new parts.

Check gap (a) at catch.

Specification	
Gap at catch—Maximum permissible clearance	10.0 mm 0.39 in.



LX1031446 —UN—24SEP03

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LX24888,00005D0 -19-13NOV06-1/2

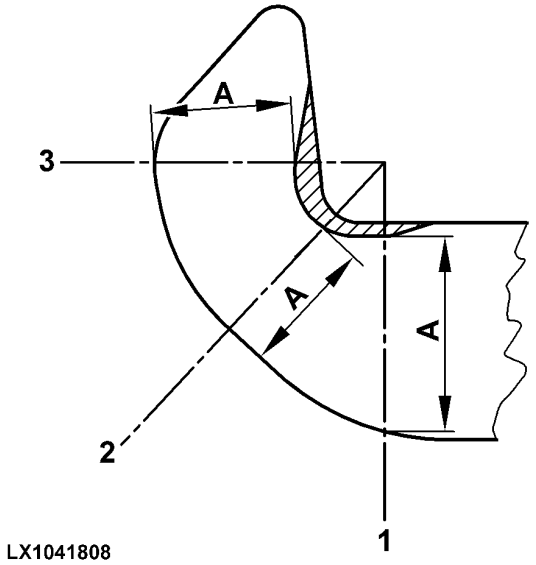
Read the “D” value (unit of measurement = kN) from pick-up hitch type plate.

If the “D” value indicated on the type plate is 65 or less, observe the following minimum dimensions (A).

Specification	
Tow hook, hook diameter (D = 65 or less)—Minimum value (A), diameter 1	43.5 mm 1.71 in.
Minimum value (A), diameter 2	42.0 mm 1.65 in.
Minimum value (A), diameter 3	40.5 mm 1.59 in.

If the “D” value indicated on the type plate exceeds 65, observe the following minimum dimensions (A).

Specification	
Tow hook, hook diameter (D = more than 65)—Minimum value (A), diameter 1	45.0 mm 1.77 in.
Minimum value (A), diameter 2	43.5 mm 1.71 in.
Minimum value (A), diameter 3	42.0 mm 1.65 in.



LX1041808

LX1041808 —UN—27NOV06

LX24888,00005D0 -19-13NOV06-2/2

Changing Engine Oil

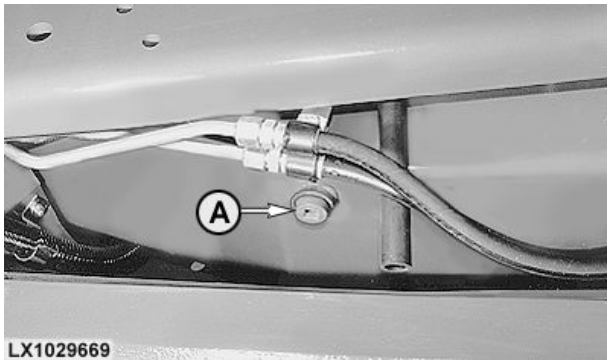
IMPORTANT: Use oil with a viscosity suitable for the relevant season.

NOTE: Carry out first oil change after first 100 hours of operation.

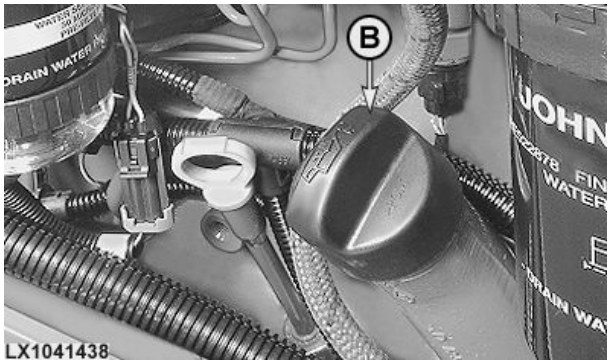
Drain oil with engine shut off, but with engine oil still warm.

1. Remove drain screw (A).
2. While crankcase is draining, replace filter element.
3. Reinstall drain screw and tighten to 50 Nm (37 lb-ft). Use a new seal ring.
4. Fill crankcase with fresh oil of proper viscosity at filler neck (B). See section “Fuel, Lubricants, Hydraulic Oil and Coolant”. Capacity is approx. 19.5 liters (5.2 U.S.gal.).
5. Check the oil level. Oil should be up to the top mark on the dipstick. If necessary, top up with oil.
6. Run engine for a short time and check for leaks at filter base and drain screw.
7. Shut off the engine.
8. Check oil level once again. It must be up to the top mark on the dipstick.

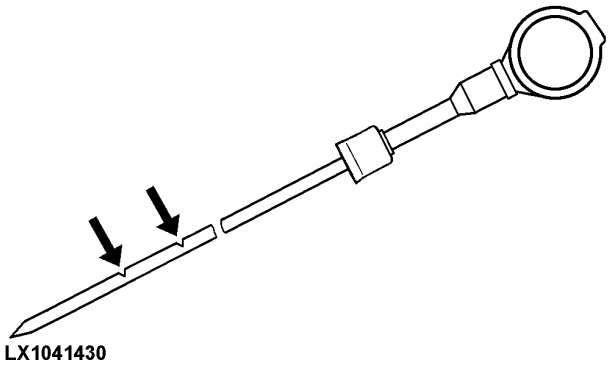
A—Oil drain screw **B—Oil filler neck**



LX1019669 —UN—17SEP99



LX1041438 —UN—20NOV06



LX1041430 —UN—17NOV06

OU12401,00014D2 -19-18NOV06-1/1

Changing Engine Oil Filter Element

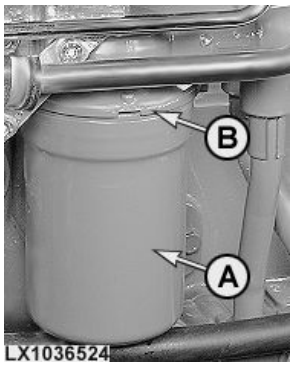
Remove filter element (A) and clean mounting surface (B). If necessary, replace the dust seal on the contact surface with a new one. Make sure that the lugs on the dust seal engage in the recesses in the contact surface of the filter element.

Apply a thin film of oil to sealing rings (C) of new filter. Install new filter and tighten by hand.

Start engine and check base of filter for leaks.

Shut off engine and check oil level.

NOTE: Carry out first oil filter change after first 100 hours of operation.



LX1036524 —UN—19OCT05

LX1029276 —UN—08JUL02

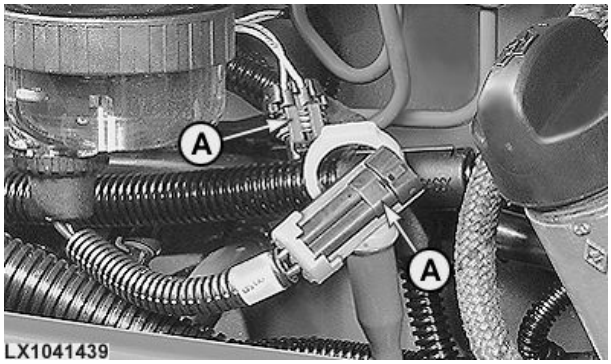
OU12401,000132C -19-16OCT05-1/1

Changing the Fuel Filters

Always change the two filters at the same time.

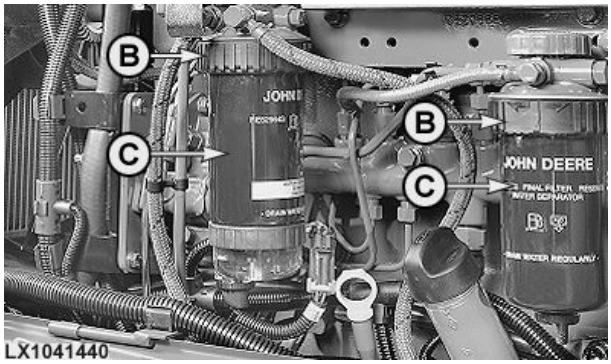
1. Disconnect cable (A) from the water sensor.
2. Unfasten filter retaining ring (B) and remove filter (C). Seal old filter with cover of the new one.
3. Remove water separator and install it on new filter.
4. Attach new filter. The marks on the filter must be aligned with those on the housing.
5. Tighten retaining ring (B) until it clicks into place.
6. Reconnect cable (A).
7. Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.

A—Cable
B—Retaining ring
C—Filter



LX1041439

LX1041439 —UN—20NOV06



LX1041440

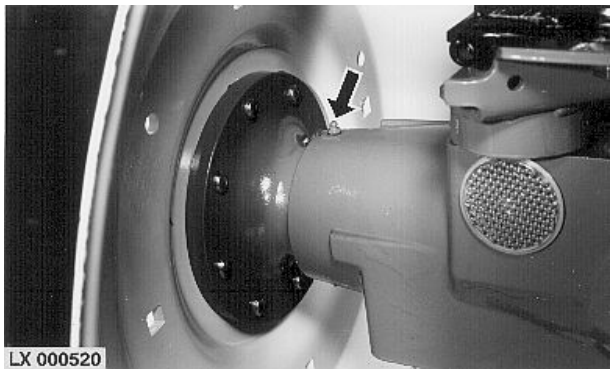
LX1041440 —UN—20NOV06

OU12401,000157C -19-18NOV06-1/1

Lubricating Rear Axle Bearings

IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.

Lubricate both bearings with six to eight strokes of John Deere multipurpose grease.

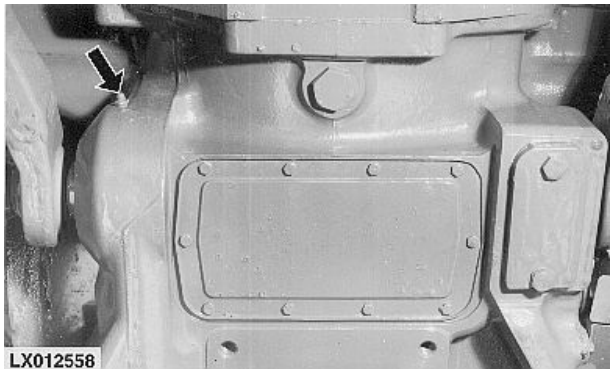

LX 000520

LX000520 —UN—03JAN95

LX,OACH 000413 -19-01MAY92-1/1

Lubricate the Draft Link Bearings

Lubricate grease fitting with several strokes of grease gun. Use John Deere multi-purpose grease.


LX012558

LX012558 —UN—27JUN96

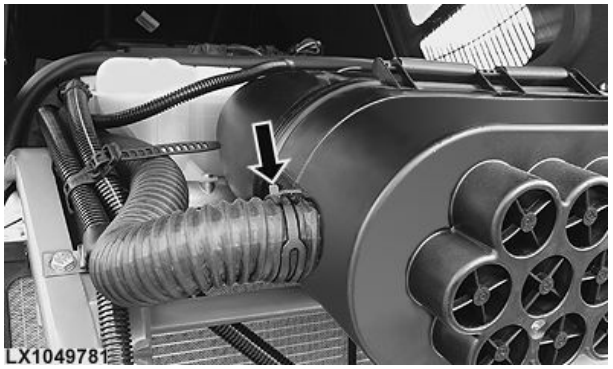
OU12401,00015D3 -19-16DEC06-1/1

Air Intake Hoses

The hoses vary depending on engine type.

Check hoses and tighten clamps.

Leaking or damaged hoses are the cause of dirt entering the engine.



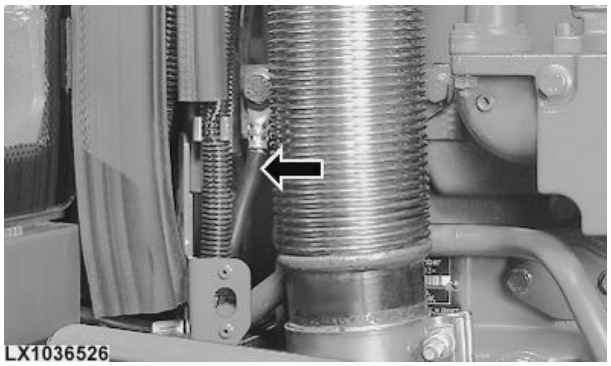
LX1049781 —UN—28JUL10

OU12401,000092B -19-28JUL10-1/1

Checking the Engine Ground Connection

Check the ground cable for signs of wear or damage. Check that the attaching screws are tight.

Replace the ground cable if it is damaged.



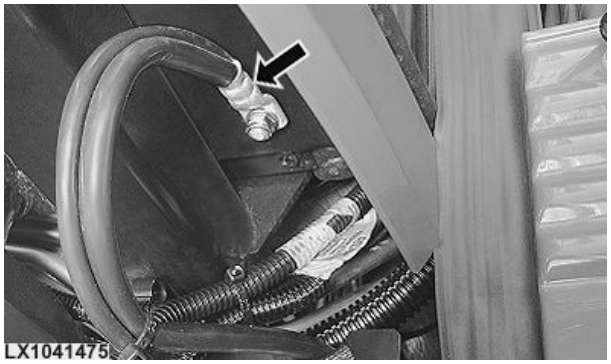
LX1036526 —UN—20OCT05

OU12401,000132F -19-16OCT05-1/1

Check the Cab Ground Connection

Check the ground cable for signs of wear or damage. Check that the attaching screws are tight.

Replace the ground cable if it is damaged.

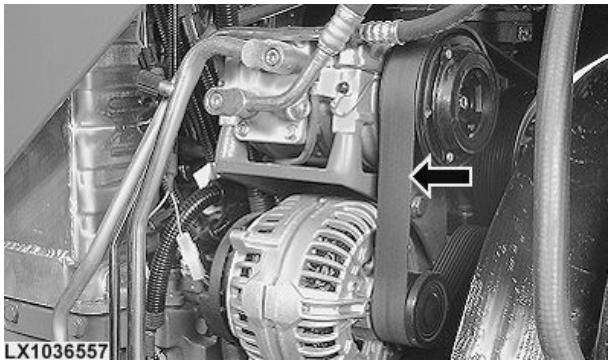


LX1041475 —UN—19DEC06

OU12401,00015D4 -19-17DEC06-1/1

Check Engine Drive Belt for Wear

If the drive belt shows any signs of wear, see your John Deere dealer.



LX1036557 —UN—20OCT05

OU12401,0001330 -19-16OCT05-1/1

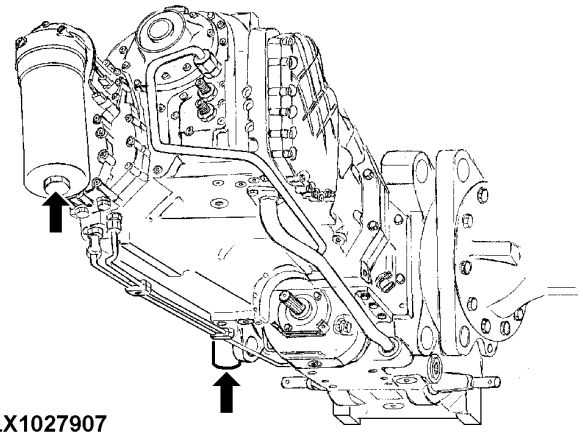
Replacing Transmission/Hydraulic System Filter Elements

NOTE: Replace transmission/hydraulic system filter elements after the first 100 hours of operation. Then replace after the first 750 hours of operation, and regularly every 750 hours thereafter.

1. Unscrew filter elements.
2. Coat sealing rings of new filter elements with grease and screw in filter elements.

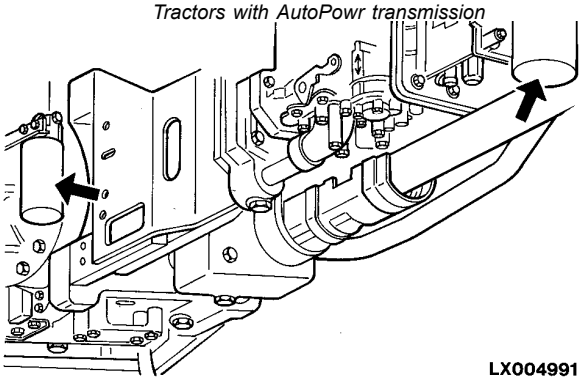
Use original John Deere filter elements only!

IMPORTANT: Always replace both filters at the same time. Never change one only.



LX1027907 —UN—10DEC01

Tractors with AutoPowr transmission



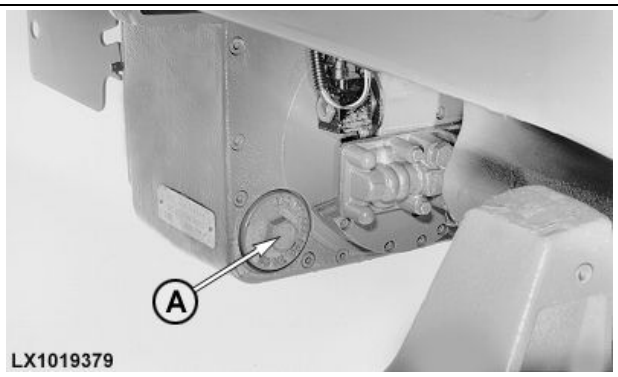
LX004991 —UN—18AUG95

Tractors without AutoPowr transmission

OU12401,00103F8 -19-01JAN03-1/1

Changing the Filter on the Front PTO (If Equipped)

Unscrew plug (A). Remove filter and put in a new one. Screw in the plug again.



LX1019379 —UN—15MAY98

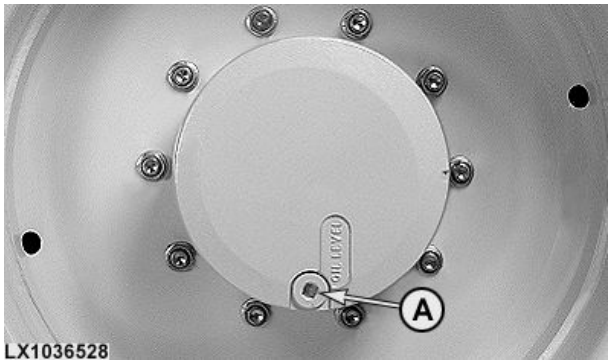
LX,OMWAR 017457 -19-01MAY98-1/1

Changing Oil in Final Drives (Front-Wheel Drive Axle with Brake)

Replace oil in the final drives after the first 100 hours of operation. Then replace after every 750 hours of operation. Always use a transmission oil listed in the “Fuel, Lubricants, Hydraulic Oil and Coolant” section.

CAUTION: If the oil is hot, it may be under pressure. Remove drain screw slowly.

1. Turn wheel until drain screw (A) is at the bottom. Remove drain screw and drain oil into a suitable container.
2. Turn the wheel through 90° so that the line marked “OIL LEVEL” is horizontal (see “Service / Every 250 Hours”), and fill with fresh oil at drain screw bore. Oil should be level with screw bore.



LX1036528 —UN—26APR06

3. Reinstall drain screw and tighten to 120 Nm (90 lb-ft).

For capacities, see “Specifications”.

OU12401,00015D6 -19-17DEC06-1/1

Service / Once a Year

Check the Seat Belt

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 if the belt needs to be changed.

OULXE59,0010948 -19-18NOV07-1/1

Check Engine Coolant

John Deere COOL-GARD™ II Premix and COOL-GARD II Concentrate are maintenance-free coolants for up to 6 years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix coolant. Test the coolant condition annually with coolant test strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II EXTENDER as directed.

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OULXBER,000194B -19-03AUG10-1/1

Check/Replace Hydraulic Hoses

Check hydraulic hoses regularly – at least once a year – for leaks, kinks, cuts, tears, rubbing, bulges, corrosion, exposed fabric and other signs of wear and damage.

Replace worn or damaged hoses immediately.

Replacement hoses are available from your John Deere dealer.

OULXBER,0001A4B -19-10FEB11-1/1

Changing Oil in Front-Wheel Drive Axle and Final Drives

Change oil in axle housing and final drives after the first 100 hours of operation. Then change after every 1500 hours of operation or once every 2 years, whichever occurs first. Always use a transmission oil listed in the “Fuel, Lubricants, Hydraulic Oil and Coolant” section.

Always drain oil while it is still warm, i.e. immediately after a prolonged period of operation.

OULXE59,0010949 -19-18NOV07-1/1

Change Oil In Front-Wheel Drive Axle Housing

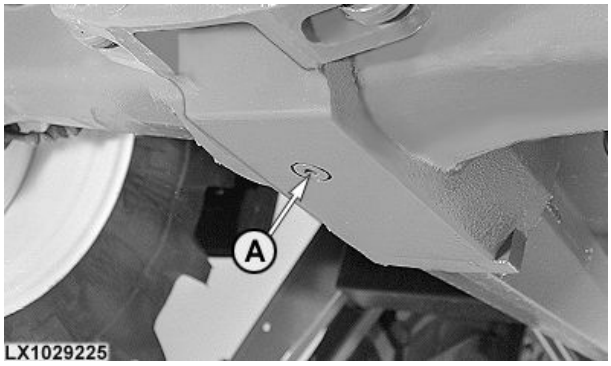
CAUTION: If the oil is hot, it may be under pressure. Remove drain screw slowly.

1. Remove drain screw (A) and drain oil into a suitable container.
2. Re-install drain screw and tighten to 90 Nm (66 lb.-ft.).
3. Remove oil level/filler plug (B). Fill with fresh oil. The oil level must be up to the filler hole. Re-install plug.

For capacities, see Specifications.

NOTE: Location of screws varies depending on axle type.

Recommended oil	Hy-Gard™ transmission/hydraulic oil. See also Section 80 (Fuel, Lubricants, Hydraulic Oil and Coolant).
Capacity	8.2 L (2.2 US.gal.)



LX1029225 —UN—15APR03

LX1029226 —UN—15APR03

Hy-Gard is a trademark of Deere & Company

OU12401,0000E07 -19-18MAY10-1/1

Change Oil in Front-Wheel Drive Final Drives

CAUTION: If the oil is hot, it may be under pressure. Remove drain screw slowly.

1. Turn wheel until drain screw (A) is at the bottom. Remove drain screw and drain oil into a suitable container.
2. Turn the wheel through 90° so that the line marked OIL LEVEL is horizontal (see Service / Every 250 Hours), and fill with fresh oil at drain screw bore. Oil must be level with screw bore.
3. Re-install drain screw and tighten to 90 Nm (66 lb.-ft.).

Recommended oil	Hy-Gard™ transmission/hydraulic oil. See also Section 80 (Fuel, Lubricants, Hydraulic Oil and Coolant).
Capacity (axle without brake)	1.7 L (0.4 US.gal.)
Capacity (axle with brake)	2.6 L (0.7 US.gal.)

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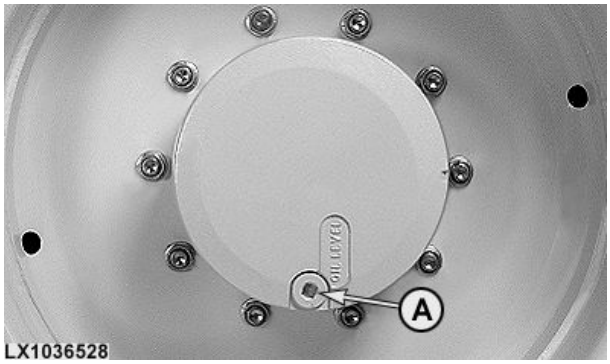

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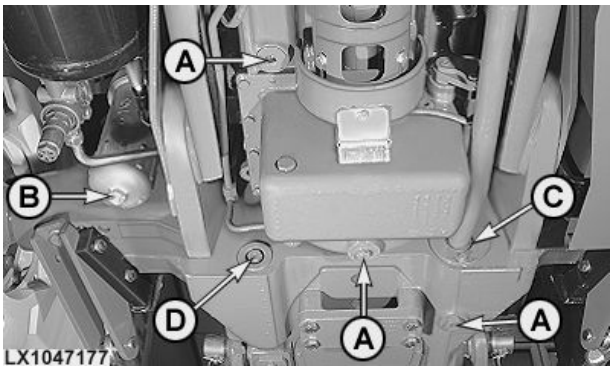
OU12401,00015D7 -19-18MAY10-1/1

Change Transmission/Hydraulic Oil (Tractors with AutoPowr)

1. Start engine and operate several hydraulic functions to heat up oil.
2. Park tractor so that it is level. Lower draft links, front loader, front implements and other implements that draw oil from the transmission.
3. Shut off engine and remove the key.
4. Engage park brake (transmission in park).
5. Remove drain screws (A).
6. Replace transmission/hydraulic oil filter element (B).
7. Remove oil line (C) and screw-plug (D). Pull out intake screens and wash them in fuel. Clean the area where the intake screens are installed. Re-install the intake screens.
8. Before refilling with fresh oil, replace seals and tighten drain screws to 50 Nm (35 lb-ft).
9. Add transmission/hydraulic oil to the transmission case. For capacities, see Specifications.

Run engine briefly and operate hydraulic functions. Shut off engine.

Wait for between 10 and 15 minutes before checking the oil level. It should be between the marks on the sight-glass. If not, correct oil level.



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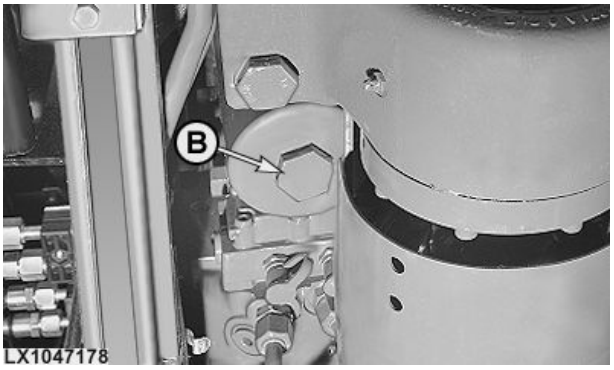


LX1047178 —UN—11MAY09

A—Drain screws
B—Transmission/hydraulic oil filter
C—Oil line
D—Screw-plug

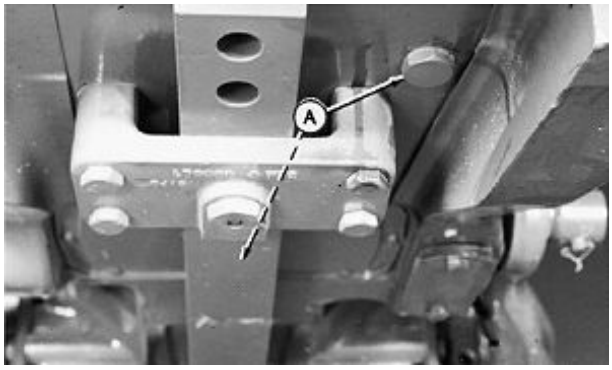
OU12401,0001CF4 -19-03OCT09-1/1

Change Transmission/Hydraulic Oil (Tractors not equipped with AutoPowr)

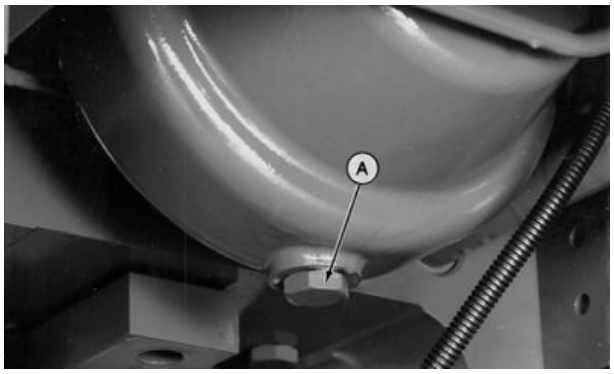
1. Start engine and operate several hydraulic functions to heat up oil.
2. Park tractor so that it is level. Lower draft links, front loader, front implements and other implements that draw oil from the transmission.
3. Shut off engine and remove the key.
4. Apply the park brake (transmission in neutral).
5. Remove drain screws (A).
6. Change transmission/hydraulic oil filter. See Service / Every 750 Hours.
7. Pull out intake screen and wash it in fuel (see next block).
8. Before refilling with fresh oil, replace seals and tighten drain screws to 50 Nm (35 lb-ft).
9. Add transmission/hydraulic oil to the transmission case. For capacities, see Specifications.

Run engine briefly and operate hydraulic functions. Shut off engine.

Wait for between 10 and 15 minutes before checking the oil level. It should be between the marks on the sight-glass. If not, correct oil level.



RW20384 —UN—28JUL92



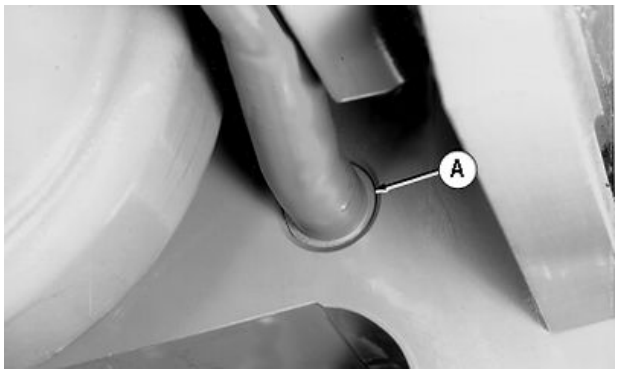
RW55745 —UN—08JUL96

OU12401,0001CF5 -19-03OCT09-1/2

Clean the intake screen

As soon as you have drained the transmission/hydraulic oil, remove oil line (A) at the front left of the differential housing. Take out the intake screen, wash it in fuel and then clean it with compressed air. Clean the area where the screen is installed.

Re-insert the screen, and re-install the seal, O-ring and oil line.



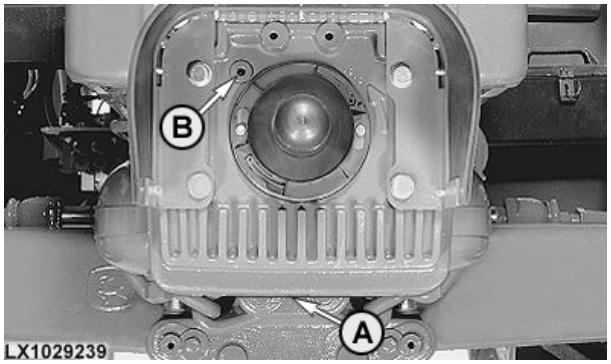
RW55746 —UN—11JUL96

OU12401,0001CF5 -19-03OCT09-2/2

Changing the Oil at the Front PTO (If Equipped)

Unscrew plugs (A) and (B) and drain the oil.

Screw in plug (A) again. Add 3.5 liters (0.9 U.S.gal.) of transmission/hydraulic oil to the PTO housing. Screw in plug (B) again.



LX1029239 —UN—15APR03

OU12401,00103ED -19-01JAN03-1/1

Air Brake System - Change Air-Drier Cartridge (If Equipped)

CAUTION: Before starting this work, it is essential to relieve the pressure in the compressed-air system.

CAUTION: It may be necessary to change the air-drier cartridge sooner. If condensation (water) is found during the daily check of the compressed-air tank, the air-drier cartridge must be replaced immediately.

Replace the air-drier cartridge every 1500 hours or every 2 years.

Unscrew the air-drier cartridge and remove the O-ring.

LX1053327 —UN—17NOV11

Put on a new O-ring and tighten the new air-drier cartridge.

OULXBER,0001AB5 -19-17NOV11-1/1

Note Regarding the Service Interval for Engine Coolant

The interval may be shorter when a coolant other than COOL-GARD™ II is used. The most important service intervals are stated in the table.

NOTE: It is essential to comply with Drain Intervals for Diesel Engine Coolant in Section 80, Fuel, Lubricants, Hydraulic Oil and Coolant. There you will find details of service intervals and related circumstances.

Operating hours (after x years at the latest)	Coolant meets John Deere specification	COOL-GARD II
2000 (after 2 years)	X	—
4000 (after 4 years)	—	Valid if condition of COOL-GARD II is **not** checked once a year.
6000 (after 6 years)	—	Valid if condition of COOL-GARD II is checked once a year.

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OULXBER,000194A -19-24NOV11-1/1

Change the Coolant

CAUTION: Do not open cap (A) of expansion tank before coolant temperature is below boiling point. First loosen the cap to relieve pressure, then remove cap completely.

NOTE: If COOL-GARD is not used, the drain interval is reduced to 2 years or 2000 hours of operation.

1. On tractors with cab, turn the heater control as far as it will go to the right.
2. First loosen cap (A) and then take it off.
3. Turn connect/disconnect control (B) anti-clockwise as far as it will go.
4. Place a container under the drains to trap the coolant as it emerges. Open drain plug (C).

As soon as system is empty, close drain plug (C) and fill the system with clean water.

IMPORTANT: Never pour cold water or coolant into the hot engine. Always use warm water or wait until engine has cooled down.

CAUTION: Before starting the engine, always close the hood.

Run the engine until it reaches operating temperature. Shut off engine and drain cooling system.

Close drain plug again and fill the system with clean water.

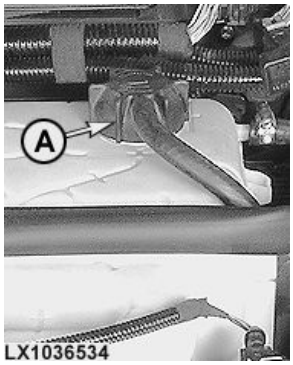
Again run engine until it has reached operating temperature. Shut off engine and drain system again.

Close the drain plug and disconnect line (D). Fill the system with the prescribed coolant (see Fuel, Lubricants, Hydraulic Oil and Coolant section) until coolant emerges from line (D). Retighten line (D).

Add coolant up to the max. mark on both tanks.

Start the engine and run it for 5 minutes.

Shut down the engine and add coolant up to the max. mark on both tanks.



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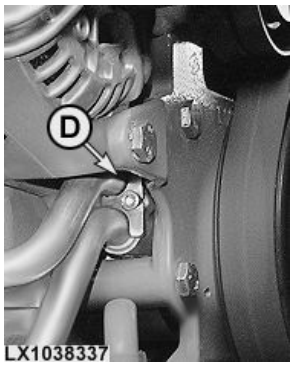
LX1036579 —UN—10JUN05

LX1036535 —UN—20OCT05



LX1038337 —UN—27APR06

A—Filler cap
B—Connect/disconnect control (front of radiator)
C—Drain plug (rear of radiator)
D—Lines

Start the engine and bring it up to operating temperature.

Shut down the engine and add coolant up to the max. mark on both tanks.

Turn connect/disconnect control (B) clockwise as far as it will go.

Re-install and close the filler cap (A).

For efficient cooling, the radiator screen must be kept clean. Remove any dust or oil and carefully straighten any bent fins.

OU12401,0001C84 -19-16OCT09-1/1

Engine Air Cleaner

If a message appears at the CommandCenter saying that the engine air cleaner is contaminated, the air cleaner's primary element must be taken out and cleaned.

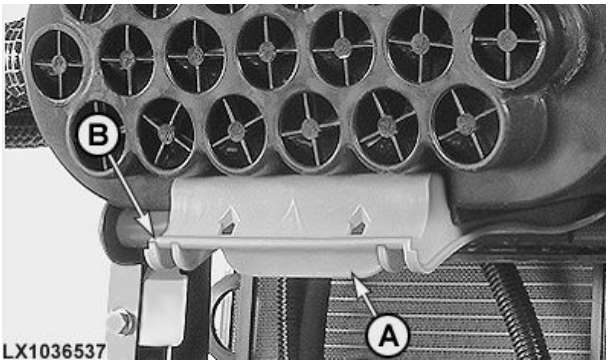
The service interval may be extended briefly, e.g. until the next suitable opportunity. Provided the cleaner is serviced properly, this will not adversely affect its performance.

The primary element can be cleaned up to five times. Thereafter, or at the latest after 1500 hours of operation (or 2 years), it must be replaced.

Open the hood, pull lug (A) forward and swing catch (B) down. Fold cover (C) up. Pull the primary filter element out of the cleaner housing.

IMPORTANT: Never run the engine without the primary filter element!

A—Lug
B—Catch
C—Cover



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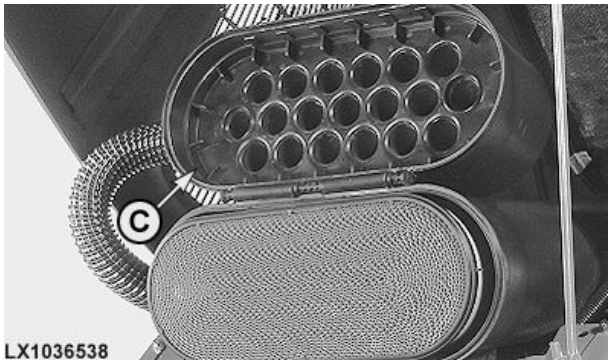


LX1036538 —UN—20OCT05

OU12401,0001338 -19-18OCT05-1/1

Cleaning the Primary Filter Element

When the element must be serviced in the field, tap it on the palm of your hand as a temporary measure.

IMPORTANT: The guide ring must not be damaged or deformed.

When you return to your service area, clean the filter element thoroughly, or replace it with a new one.

LX1026150 —UN—21MAY01

OU12401,0000933 -19-01MAY01-1/1

Cleaning a Dusty Element

If tapping element does not remove dust, blow out dust with compressed air (not exceeding 600 kPa; 6 bar; 90 psi) by inserting nozzle inside the element and blowing from the inside of the filter to the outside.

Replace element if air cleaner indicator light continues glowing after the element has been cleaned.

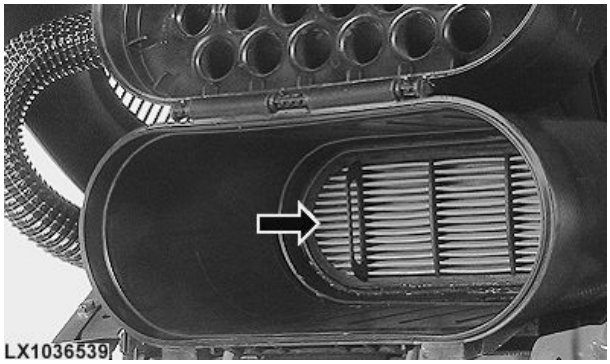
LX1026151 —UN—21MAY01

OU12401,00102DE -19-01SEP01-1/1

Secondary (Safety) Element

This filter must be changed if it becomes damaged. Change it at every fifth change of the air cleaner primary element, and at the latest after 1500 hours of operation.

IMPORTANT: Always replace secondary (safety) filter element, do not attempt to clean it.



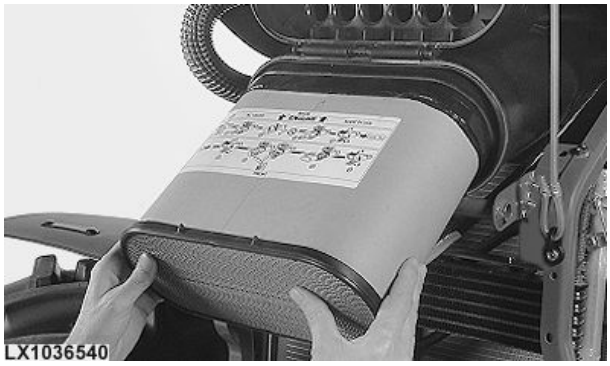
LX1036539 —UN—20OCT05

OU12401,0001339 -19-17OCT05-1/1

Installation

With the rubber seal first (arrows on decal pointing into the filter housing), slide a serviced or new primary filter element as far as it will go into the filter housing. Fold down the cover and let the catch click into place.

IMPORTANT: Never close the hood or start the engine unless the filter is locked securely.



LX1036540 —UN—20OCT05

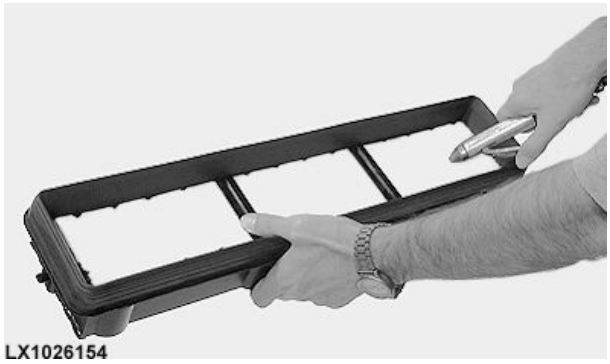
OU12401,000133A -19-17OCT05-1/1

Clean the Cab Air Filters

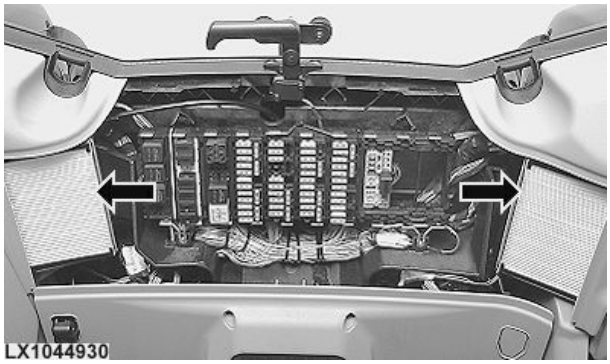
NOTE: On tractors equipped with Ultra-Gard activated carbon filters, the filters cannot be cleaned. These filters must be replaced with new ones every 500 hours or once a year at the latest.

Every time the primary filter is serviced, also remove the two cab air filters and the recirculated air filters, and clean them with compressed air directed from the clean side.

Replace cab air filters together with engine primary air filter element.



LX1026154 —UN—21MAY01



LX1044930 —UN—11DEC07

OU12401,0001916 -19-10DEC07-1/1

Clean Radiator and Condenser (if equipped)

For efficient cooling, the radiator screen must be kept clean.

Pull the screen (if equipped) out to the side. Remove any dirt from radiator and radiator screen.

Replace radiator screen.

NOTE: If the tractor is equipped with an air-conditioning system, pull the condenser of the air-conditioning system out to the side before cleaning the radiator (see description below).

LX1037231 —UN—02NOV05

Continued on next page

OU12401,000133C -19-17OCT05-1/2

Tractors with Air-Conditioning

For efficient cooling, the exterior of the condenser must be kept clean.

Pull the screen (if equipped) out to the side. Remove any contamination.

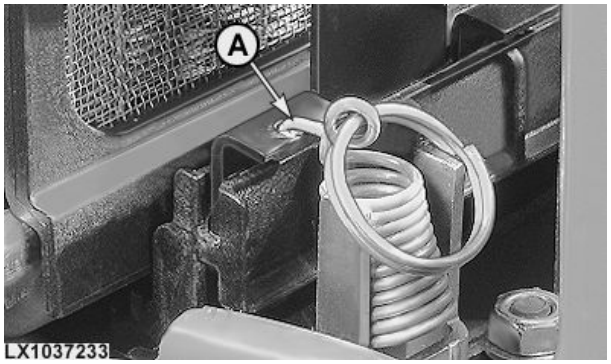
Disconnect spring (A) on both tractor sides and pull the condenser out to the side. Remove any contamination.

When re-installing condenser, make sure that it engages properly in the lower and upper guide rails (B and C respectively). Also make sure that the condenser is centered in relation to the radiator. Re-connect springs (A) on both sides.

Replace condenser and radiator screens.

A—Spring
B—Lower guide rail
C—Upper guide rail

LX1037232 —UN—02NOV05



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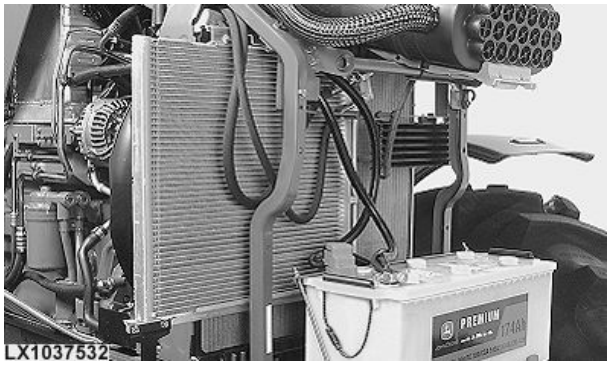

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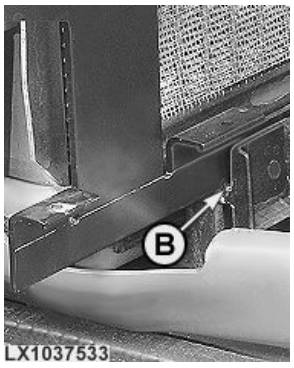
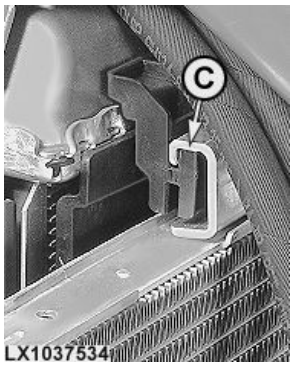


LX1037533 —UN—02NOV05



LX1037534 —UN—02NOV05

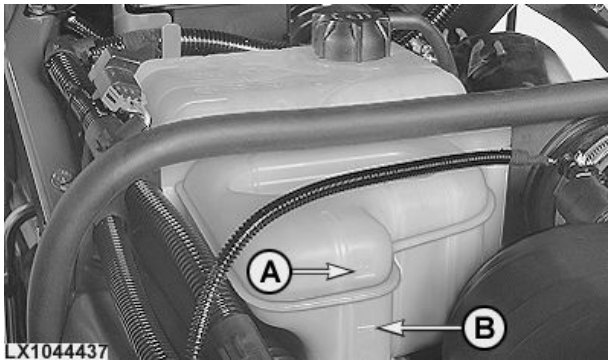
OU12401,000133C -19-17OCT05-2/2

Check Coolant Level

If coolant temperature is too high, rectify the cause (dirty radiator, clogged screen, coolant level too low).

Coolant level should be close to the max. mark (A). It must under no circumstances fall below the min. mark (B).

A—Max. mark **B—Min. mark**



LX1044437 —UN—11DEC07

OU12401,0001D1F -19-15OCT09-1/1

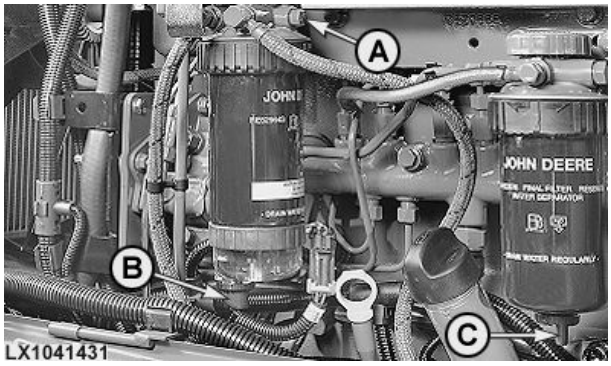
Checking the Fuel Filter

If water or sediment deposits have settled in filter, proceed as follows:

1. Open bleed screw (A).
2. Open drain plug (B) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
3. Open drain plug (C) by 3/4 of a turn. Retighten the plug as soon as water and sediment deposits have drained out.
4. Tighten bleed screw (A).
5. Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.

If water was present in fuel filter, use a 1/2-inch square-section key to loosen drain plug (D) under the fuel tank by one turn. After draining off any water and sediment deposits, retighten drain plug until hand-tight.

A—Bleed screw
B—Drain plug
C—Drain plug
D—Fuel tank drain plug



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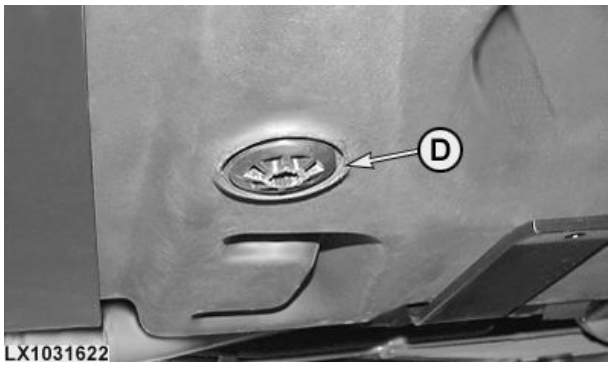


LX1031622 —UN—23JAN06

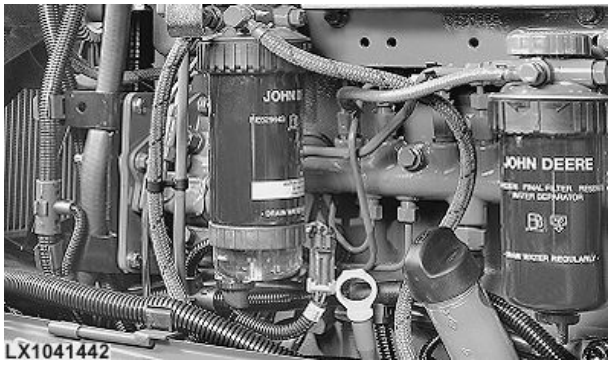
OU12401,0001579 -19-18NOV06-1/1

Bleeding Air from the Fuel System

⚠ CAUTION: High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt to repair fuel lines, sensors or any other components between injection pump and nozzles.

The fuel system must be bled whenever the fuel tank has been run dry or the fuel filters have been replaced.

Turn key in main switch to the right to the first switch position so that the fuel transfer pump is operating. Keep the pump running for approx. 40 seconds.



LX1041442 —UN—21NOV06

OU12401,000157D -19-18NOV06-1/1

Lubricate All Lubricating Points

If the tractor has been washed with high-pressure water, lubricate all lubricating points with John Deere multi-purpose grease.

OU12401,000133E -19-17OCT05-1/1

Operator's Seat

Lubricate the slide rails with John Deere multi-purpose grease.

OU12401,000133F -19-17OCT05-1/1

Prevent Battery Explosions

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

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

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

TS204 —UN—23AUG88

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

Battery - Checking Specific Gravity

Use an hydrometer to check the specific gravity of the electrolyte in each battery cell.

A fully charged battery should have a specific gravity reading of 1.28. Recharge battery if reading drops below 1.20.

NOTE: In tropical regions, the battery is fully charged when the reading is 1.23.

LX1037218 —UN—21OCT05

OU12401,0001340 -19-17OCT05-1/1

Starter Motor

If the starter motor fails to operate after the starter switch has been operated, the complete starter system must be thoroughly checked. Check specific gravity of battery with an hydrometer and make sure that none of the cables are broken or worn through and that none of the cable connections are loose or corroded.

If the above checks fail to improve the operation of the starter motor, see your John Deere dealer.

OU12401,000093E -19-01MAY01-1/1

Fuses and Relays in the Engine Compartment

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a higher rating than the one already installed.

NOTE: Depending on how the tractor is equipped, it may not have all the fuses and relays shown below.

The fuse and relay box is located at the upper right-hand side of the engine compartment.

Open the hood.

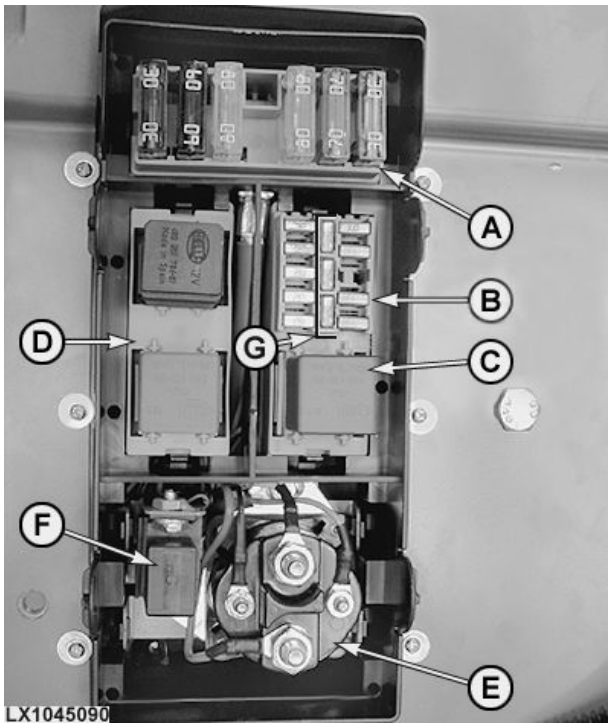
Take cover (A) off the fuse and relay box.

LX1037381 —UN—20FEB06

OU12401,0001561 -19-17NOV06-1/1

Fuses and Relays (Engine Compartment)

A—Fuses F01PLB
B—Fuses F02PLB
C—Relay K02PLB
D—Relays K03PLB
E—Relay K01PLB
F—Not used
G—Spare fuses

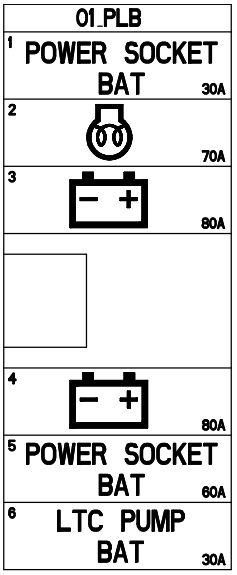


LX1045090 —UN—24APR08

OU12401,00019C3 -19-24APR08-1/1

Fuses F01PLB (Engine Compartment)

Number	Capacity (amps)	Consumer
F01PLB-/01	30 amps	ISOBUS socket at rear (power supply to implement control units)
F01PLB-/02	70 amps	Heating element of electrical starting aid
F01PLB-/03	80 amps	Main fuse
F01PLB-/04	80 amps	Main fuse
F01PLB-/05	60 amps	ISOBUS socket at rear (power supply to components)
F01PLB-/06	—	Not used



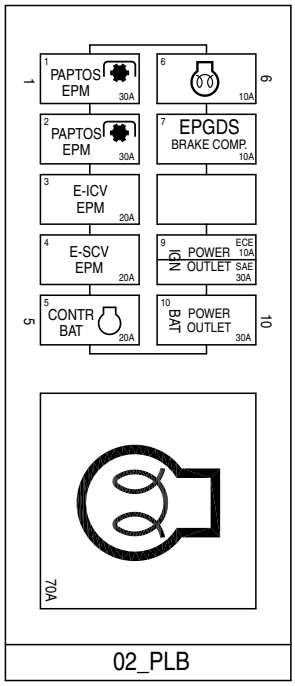
LX1037972

LX1037972 —UN—22AUG06

OU12401,0001563 -19-17NOV06-1/1

Fuses F02PLB (Engine Compartment)

Number	Capacity (amps)	Consumer
F02PLB-/01	30 amps	Magnetic coils for PTO speeds
F02PLB-/02	30 amps	Magnetic coils for PTO speeds
F02PLB-/03	20 amps	E-ICV stepper motors
F02PLB-/04	20 amps	E-SCV stepper motors
F02PLB-/05	20 amps	ECU (engine control unit)
F02PLB-/06	10 amps	Monitoring of electrical starting aid
F02PLB-/07	—	Not used
F02PLB-/08	—	Not used
F02PLB-/09	30 amps	3-terminal socket, power outlet strip, 7-terminal socket (SAE)
	10 amps	3-terminal socket, socket strip (ECE)
F02PLB-/10	30 amps	3-terminal socket, socket strip

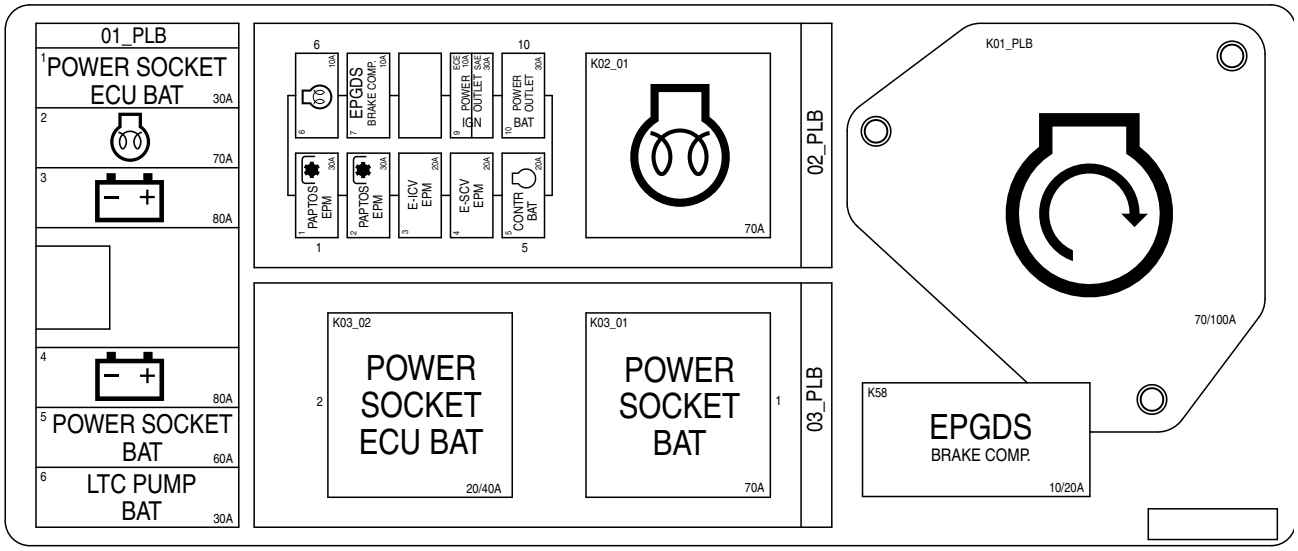


LX1044656

LX1044656 —UN—23NOV07

OU12401,0001918 -19-10DEC07-1/1

Relays K01PLB to K03PLB (Engine Compartment)



LX1044666

Number	Capacity (amps)	Designation
K01PLB	70/100 amps	Starting motor relay
K02PLB-/01	70 amps	Relay for electrical starting aid
K03PLB-/01	70 amps	Relay for power supply to ISOBUS socket at rear
K03PLB-/02	20/40 amps	Relay for power supply to implement control units (ISOBUS socket) at rear
K58	—	Not used

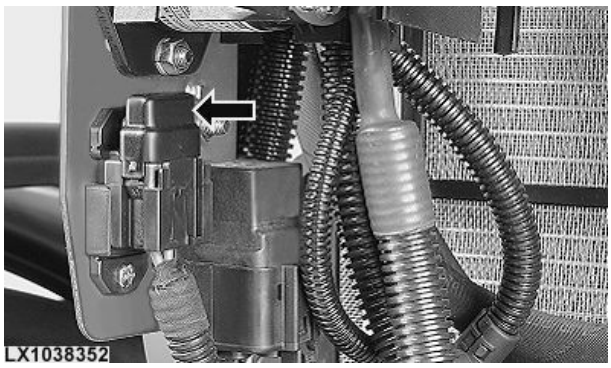
OU12401,0001919 -19-10DEC07-1/1

Fuse on Tractors with a Battery Cut-Off Switch

This fuse is located in front of the radiator.

Number	Consumer	Capacity (amps)
F27	Unswitched power for radio, CommandCenter and GreenStar Display	10 amps

NOTE: Replace blown fuse with a new 10-amp fuse.



OU12401,00015DB -19-27MAY10-1/1

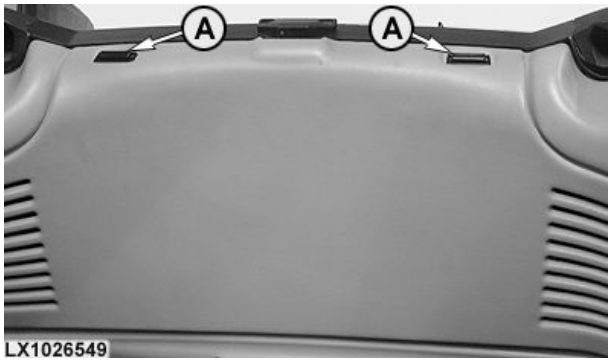
Fuses and Relays in the Cab (Tractors with PowrQuad Transmission)

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a higher rating than the one already installed.

NOTE: Depending on how the tractor is equipped, it may not have all the fuses and relays shown below.

The fuse and relay box is located behind the operator's seat just below the rear window.

Press down latches (A) and lift off the trim panel.

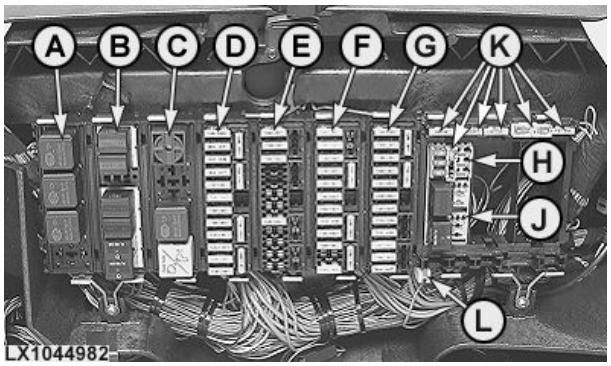


LX1026549 —UN—30JUL01

OU12401,0001566 -19-17NOV06-1/1

Fuses and Relays (PowrQuad Transmission)

A—Relays K01
B—Relays K02
C—Relays K03
D—Fuses F04
E—Fuses F05
F—Fuses F06
G—Fuses F07
H—Fuses F08
J—Relays K08
K—Spare fuses
L—Tool for changing fuses

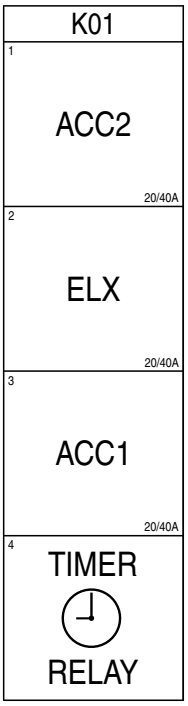


LX1044982 —UN—24APR08

OU12401,00019C1 -19-23APR08-1/1

Relays K01 (PowrQuad Transmission)

Number	Capacity (amps)	Designation
K01/01	20/40 amps	Relay for power supply to accessories
K01/02	20/40 amps	Relay for power supply to electronics
K01/03	20/40 amps	Relay for power supply to accessories
K01/04	—	Timer



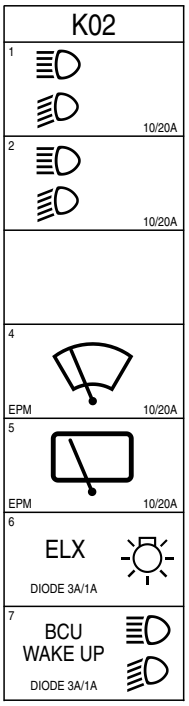
LX1044663

LX1044663 —UN—23NOV07

OU12401,000191B -19-10DEC07-1/1

Relays / Diodes K02 (PowrQuad Transmission)

Number	Capacity (amps)	Designation
K02/01	10/20 amps	Relay for low/high beam headlights
K02/02	10/20 amps	Relay for lights
K02/03	-	Not used
K02/04	10/20 amps	Relay for windshield wiper
K02/05	10/20 amps	Relay for rear window wiper
K02/06	1 amp	Diode for power supply to electronics
K02/06	3 amps	Diode for lights
K02/07	1 amp	Diode for low/high beam headlight relay
K02/07	3 amps	Diode for power supply to control units PC0 and PC6, BCU activation



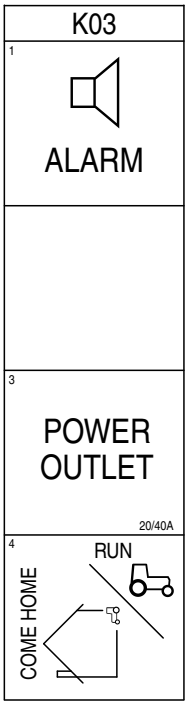
LX1044664

LX1044664 —UN—23NOV07

OU12401,000191C -19-10DEC07-1/1

Relays K03 (PowrQuad Transmission)

Number	Capacity (amps)	Designation
K03/01	-	Acoustic alarm
K03/02	-	Not used
K03/03	20/40 amps	Relay for 3-terminal socket, power outlet strip, 7-terminal socket (SAE)
K03/04	-	Plug for "come home" mode



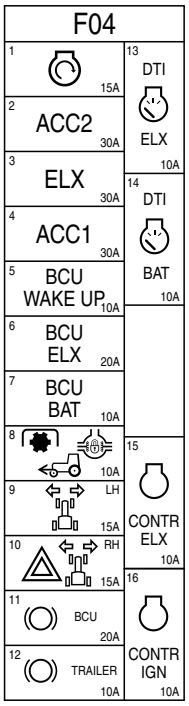
LX1044665

LX1044665 —UN—23NOV07

OU12401,000191D -19-10DEC07-1/1

Fuses F04 (PowrQuad Transmission)

Number	Rating (amps)	Consumer
F04/01	15 A	Main (key) switch
F04/02	30 A	Power supply for accessories
F04/03	30 A	Power supply for electronics
F04/04	30 A	Power supply for accessories
F04/05	10 A	PC0 control unit, PC6 control unit, CAN-BUS (vehicle), BCU activation
F04/06	20 A	BCU control unit
F04/07	10 A	BCU control unit
F04/08	10 A	BCU control unit (rear PTO, front PTO, front-wheel drive, differential lock, HMS Plus, park brake monitor, radar)
F04/09	15 A	Left turn signal
F04/10	15 A	Right turn signal, hazard warning lights
F04/11	20 A	Brake switch
F04/12	10 A	Brake lights
F04/13	10 A	BIF control unit, BIF control unit (wipers), DTI control unit
F04/14	10 A	BIF control unit, DTI control unit
F04/15	10 A	ECU control unit
F04/16	10 A	ECU control unit



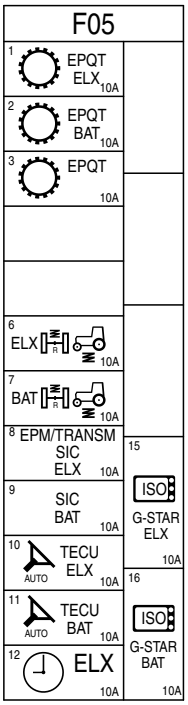
LX1044658

LX1044658 —UN—23NOV07

OU12401,0001CF6 -19-03OCT09-1/1

Fuses F05 (PowrQuad Transmission)

Number	Capacity (amps)	Consumer
F05/01	10 amps	EPC control unit
F05/02	10 amps	EPC control unit
F05/03	10 amps	EPC control unit (transmission speed sensor, hydraulic oil filter sensor)
F05/04	-	Not used
F05/05	-	Not used
F05/06	10 amps	TSC control unit
F05/07	10 amps	TSC control unit
F05/08	10 amps	SIC control unit, PC5 control unit, CAN-BUS (E-SCV/E-ICV)
F05/09	10 amps	SIC control unit
F05/10	10 amps	TEC control unit, SSU control unit
F05/11	10 amps	TEC control unit, SSU control unit
F05/12	10 amps	Timer
F05/13	-	Not used
F05/14	-	Not used
F05/15	10 amps	GreenStar
F05/16	10 amps	GreenStar



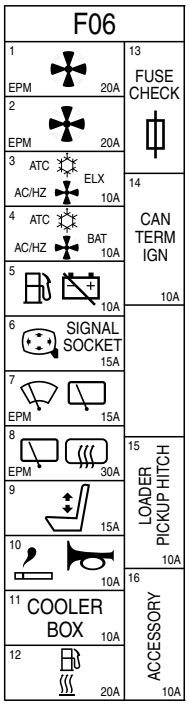
LX1044660

LX1044660 —UN—23NOV07

OU12401,0001920 -19-10DEC07-1/1

Fuses F06 (PowrQuad Transmission)

Number	Capacity (amps)	Consumer
F06/01	20 amps	Fan motor
F06/02	20 amps	Fan motor
F06/03	10 amps	ATC/ETC/HTC control unit
F06/04	10 amps	ATC/ETC/HTC control unit, radio
F06/05	10 amps	Fuel pump, battery cut-off switch
F06/06	15 amps	Electrical rear-view mirrors, signal socket
F06/07	15 amps	Windshield wiper motor, rear window wiper motor
F06/08	30 amps	Rear window wiper motor, rear window heater
F06/09	15 amps	Operator's seat
F06/10	10 amps	Cigarette lighter, horn
F06/11	10 amps	Electrical cooling compartment
F06/12	20 amps	Fuel preheater
F06/13	-	Fuse tester
F06/14	10 amps	CAN BUS (power train)
F06/15	10 amps	Plug for front loader, electro-hydraulic pick-up hitch
F06/16	10 amps	Plug for accessories



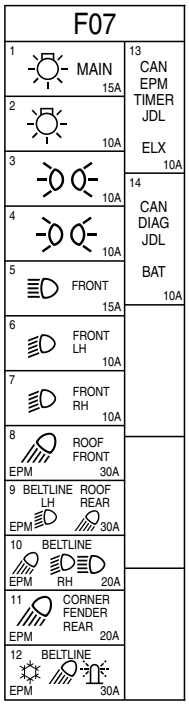
LX1044659

LX1044659 —UN—23NOV07

OU12401,0001921 -19-10DEC07-1/1

Fuses F07 (PowrQuad Transmission)

Number	Capacity (amps)	Consumer
F07/01	15 amps	Light switch
F07/02	10 amps	Lights
F07/03	10 amps	Left-hand tail light, right-hand clearance light (ECE), license plate light (ECE)
F07/04	10 amps	Right-hand tail light, left-hand clearance light (ECE)
F07/05	15 amps	High-beam headlights
F07/06	10 amps	Low-beam headlight (left)
F07/07	10 amps	Low-beam headlight (right)
F07/08	20 amps	Worklights on front of roof
F07/09	30 amps	Worklights on rear of roof, xenon (HID) worklights on rear of roof, lights on cab frame (left-hand low-beam)
F07/10	20 amps	Lights on cab frame (high beam), lights on cab frame (right-hand low-beam), worklights on cab frame
F07/11	20 amps	Front corner worklights, worklights on rear fender
F07/12	30 amps	Beacon light, air-conditioning system, worklights on cab frame, xenon (HID) worklights on cab frame
F07/13	10 amps	JDL control unit, CAN BUS (vehicle)
F07/14	10 amps	JDL control unit, service socket
F07/15	-	Not used
F07/16	-	Not used



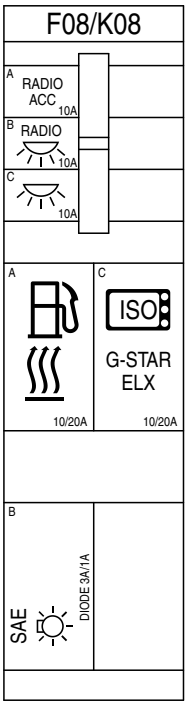
LX1044661

LX1044661 —UN—26NOV07

OU12401,0001922 -19-10DEC07-1/1

Fuses F08 (PowrQuad Transmission)

Number	Capacity (amps)	Consumer
F08/A	10 amps	Radio
F08/B	10 amps	Console light, radio light
F08/C	10 amps	Dome light, access-step light
F08/D	-	Not used
F08/E	-	Not used
F08//F	-	Not used



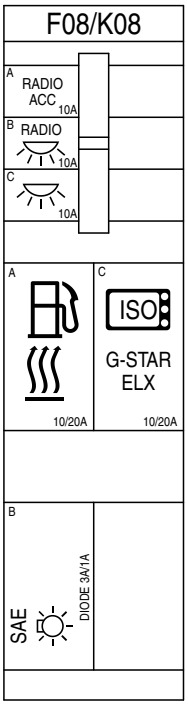
LX1044662

LX1044662 —UN—23NOV07

OU12401,0001923 -19-10DEC07-1/1

Relays / Diodes K08 (PowrQuad Transmission)

Number	Capacity (amps)	Designation
K08/A	10/20 amps	Fuel preheater relay
K08/B	1 amp	Not used
K08/B	3 amps	Diode for lights (SAE)
K08/C	10/20 amps	Relay for GreenStar display
K08/D	-	Not used



LX1044662

LX1044662 —UN—23NOV07

OU12401,000191E -19-10DEC07-1/1

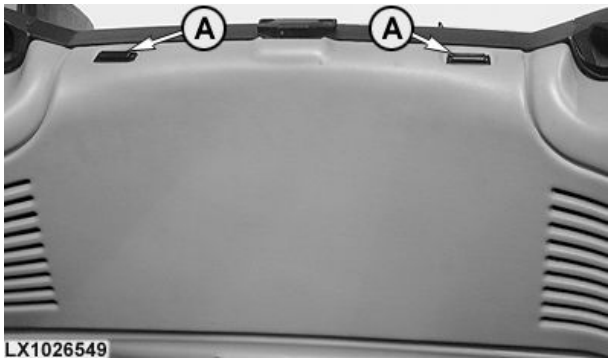
Fuses and Relays in the Cab (Tractors with AutoPowr/IVT)

IMPORTANT: To prevent damage to the electrical system, never use a fuse with a higher rating than the one already installed.

NOTE: Depending on how the tractor is equipped, it may not have all the fuses and relays shown below.

The fuse and relay box is located behind the operator's seat just below the rear window.

Press down latches (A) and lift off the trim panel.

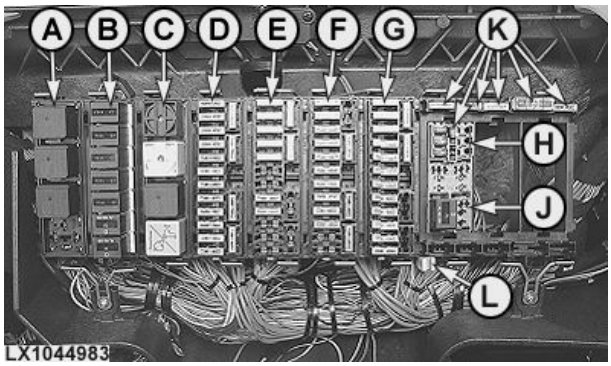


LX1026549 —UN—30JUL01

OU12401,000156F -19-17NOV06-1/1

Fuses and Relays (AutoPowr/IVT)

A—Relays K01
B—Relays K02
C—Relays K03
D—Fuses F04
E—Fuses F05
F—Fuses F06
G—Fuses F07
H—Fuses F08
J—Relays K08
K—Spare fuses
L—Tool for changing fuses

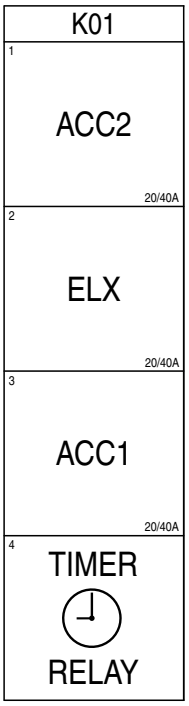


LX1044983 —UN—24APR08

OU12401,00019C2 -19-23APR08-1/1

Relays K01 (AutoPowr/IVT)

Number	Capacity (amps)	Designation
K01/01	20/40 amps	Relay for power supply to accessories
K02/02	20/40 amps	Relay for power supply to electronics
K01/03	20/40 amps	Relay for power supply to accessories
K01/04	-	Timer



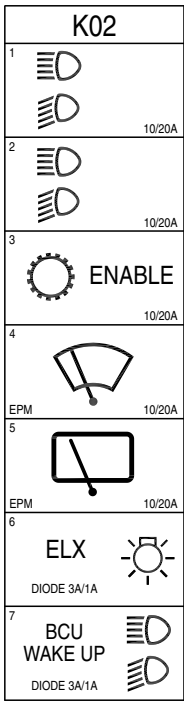
LX1044663

LX1044663 —UN—23NOV07

OU12401,000192A -19-10DEC07-1/1

Relays / Diodes K02 (AutoPowr/IVT)

Number	Capacity (amps)	Designation
K02/01	10/20 amps	Relay for low/high beam headlights
K02/02	10/20 amps	Relay for lights
K02/03	10/20 amps	Transmission enable relay
K02/04	10/20 amps	Relay for windshield wiper
K02/05	10/20 amps	Relay for rear window wiper
K02/06	1 amp	Diode for power supply to electronics
K02/06	3 amps	Diode for lights
K02/07	1 amp	Diode for low/high beam headlight relay
K02/07	3 amps	Diode for power supply to control units PC0 and PC6, BCU activation



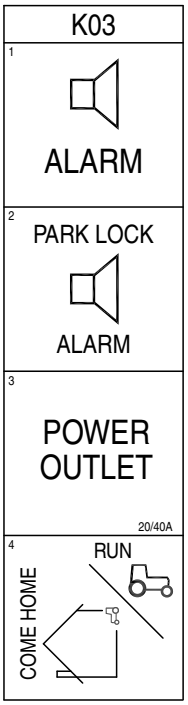
LX1044668

LX1044668 —UN—23NOV07

OU12401,000192B -19-10DEC07-1/1

Relays K03 (AutoPowr/IVT)

Number	Capacity (amps)	Designation
K03/01	-	Acoustic alarm
K03/02	-	Acoustic alarm for park lock
K03/03	20/40 amps	Relay for 3-terminal socket, power outlet strip, 7-terminal socket (SAE)
K03/04	-	Plug for "come home" mode



LX1044669

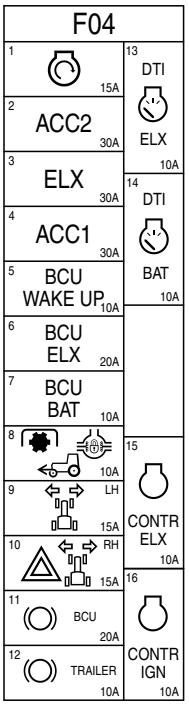
LX1044669 —UN—23NOV07

OU12401,000192C -19-10DEC07-1/1

Fuses F04 (AutoPowr/IVT)

Number	Rating (amps)	Consumer
F04/01	15 A	Main (key) switch
F04/02	30 A	Power supply for accessories
F04/03	30 A	Power supply for electronics
F04/04	30 A	Power supply for accessories
F04/05	10 A	PC0 control unit, PC6 control unit, CAN-BUS (vehicle), BCU activation
F04/06	20 A	BCU control unit
F04/07	10 A	BCU control unit
F04/08	10 A	BCU control unit (rear PTO, front PTO, front-wheel drive, differential lock, HMS Plus, park brake monitor, radar)
F04/09	15 A	Left turn signal
F04/10	15 A	Right turn signal, hazard warning lights
F04/11	20 A	Brake switch
F04/12	10 A	Brake lights
F04/13	10 A	BIF control unit, BIF control unit (wipers), DTI control unit
F04/14	10 A	BIF control unit, DTI control unit
F04/15	10 A	ECU control unit
F04/16	10 A	ECU control unit

LX1044658



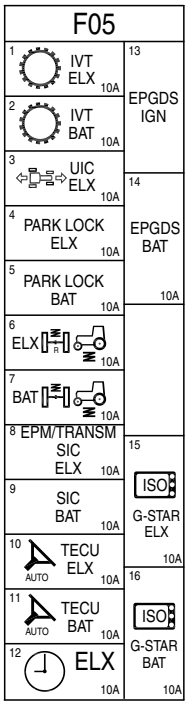
LX1044658 —UN—23NOV07

OU12401,0001CE5 -19-21SEP09-1/1

Fuses F05 (AutoPowr/IVT)

Number	Capacity (amps)	Consumer
F05/01	10 amps	TCU control unit
F05/02	10 amps	TCU control unit
F05/03	10 amps	UIC control unit
F05/04	10 amps	PLC control unit
F05/05	10 amps	PLC control unit
F05/06	10 amps	TSC control unit
F05/07	10 amps	TSC control unit
F05/08	10 amps	SIC control unit, PC5 control unit, CAN-BUS (E-SCV/E-ICV)
F05/09	10 amps	SIC control unit
F05/10	10 amps	TEC control unit, SSU control unit
F05/11	10 amps	TEC control unit, SSU control unit
F05/12	10 amps	Timer
F05/13	-	Not used
F05/14	-	Not used
F05/15	10 amps	GreenStar
F05/16	10 amps	GreenStar

LX1044667



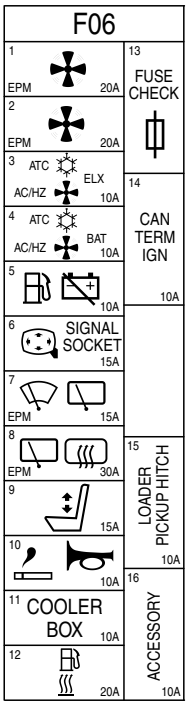
LX1044667 —UN—23NOV07

OU12401,000192F -19-10DEC07-1/1

Fuses F06 (AutoPowr/IVT)

Number	Capacity (amps)	Consumer
F06/01	20 amps	Fan motor
F06/02	20 amps	Fan motor
F06/03	10 amps	ATC/ETC/HTC control unit
F06/04	10 amps	ATC/ETC/HTC control unit, radio
F06/05	10 amps	Fuel pump, battery cut-off switch
F06/06	15 amps	Electrical rear-view mirrors, signal socket
F06/07	15 amps	Windshield wiper motor, rear window wiper motor
F06/08	30 amps	Rear window wiper motor, rear window heater
F06/09	15 amps	Operator's seat
F06/10	10 amps	Cigarette lighter, horn
F06/11	10 amps	Electrical cooling compartment
F06/12	20 amps	Fuel preheater
F06/13	-	Fuse tester
F06/14	10 amps	CAN BUS (power train)
F06/15	10 amps	Plug for front loader, electro-hydraulic pick-up hitch
F06/16	10 amps	Plug for accessories

LX1044659



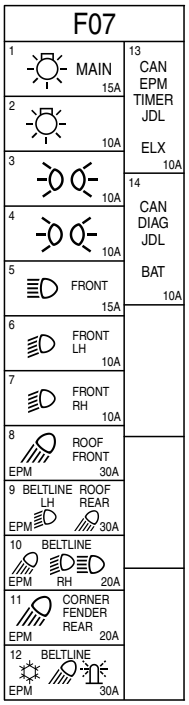
LX1044659 —UN—23NOV07

OU12401,0001930 -19-10DEC07-1/1

Fuses F07 (AutoPowr/IVT)

Number	Capacity (amps)	Consumer
F07/01	15 amps	Light switch
F07/02	10 amps	Lights
F07/03	10 amps	Left-hand tail light, right-hand clearance light (ECE), license plate light (ECE)
F07/04	10 amps	Right-hand tail light, left-hand clearance light (ECE)
F07/05	15 amps	High-beam headlights
F07/06	10 amps	Low-beam headlight (left)
F07/07	10 amps	Low-beam headlight (right)
F07/08	20 amps	Worklights on front of roof
F07/09	30 amps	Worklights on rear of roof, xenon (HID) worklights on rear of roof, lights on cab frame (left-hand low-beam)
F07/10	20 amps	Lights on cab frame (high beam), lights on cab frame (right-hand low-beam), worklights on cab frame
F07/11	20 amps	Front corner worklights, worklights on rear fender
F07/12	30 amps	Beacon light, air-conditioning system, worklights on cab frame, xenon (HID) worklights on cab frame
F07/13	10 amps	JDL control unit, CAN BUS (vehicle)
F07/14	10 amps	JDL control unit, service socket
F07/15	-	Not used
F07/16	-	Not used

LX1044661

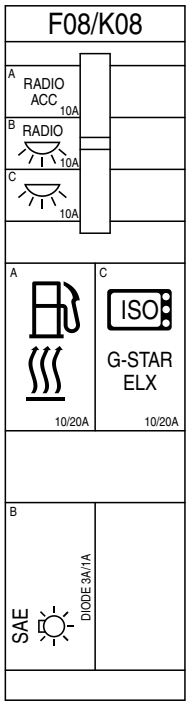


LX1044661 —UN—26NOV07

OU12401,0001931 -19-10DEC07-1/1

Fuses F08 (AutoPowr/IVT)

Number	Capacity (amps)	Consumer
F08/A	10 amps	Radio
F08/B	10 amps	Console light, radio light
F08/C	10 amps	Dome light, access-step light
F08/D	-	Not used
F08/E	-	Not used
F08//F	-	Not used



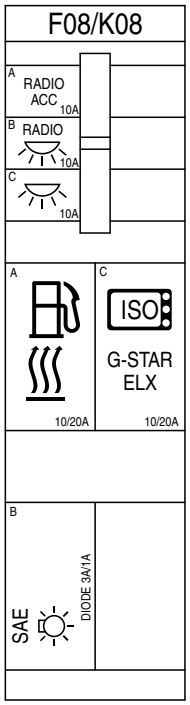
LX1044662

LX1044662 —UN—23NOV07

OU12401,0001932 -19-10DEC07-1/1

Relays / Diodes K08 (AutoPowr/IVT)

Number	Capacity (amps)	Designation
K08/A	10/20 amps	Fuel preheater relay
K08/B	1 amp	Not used
K08/B	3 amps	Diode for lights (SAE)
K08/C	10/20 amps	Relay for GreenStar display
K08/D	-	Not used



LX1044662

LX1044662 —UN—23NOV07

OU12401,000192D -19-10DEC07-1/1

Replacing the Drive Belt

NOTE: On tractors with front PTO, the drive belt must be replaced by your John Deere dealer.

Pull the catch and lift the hood up.

LX1026131 —UN—21MAY01

OU12401,00015DC -19-18DEC06-1/4

Relieving tension on the drive belt

CAUTION: Disconnect negative (—) cable from battery.

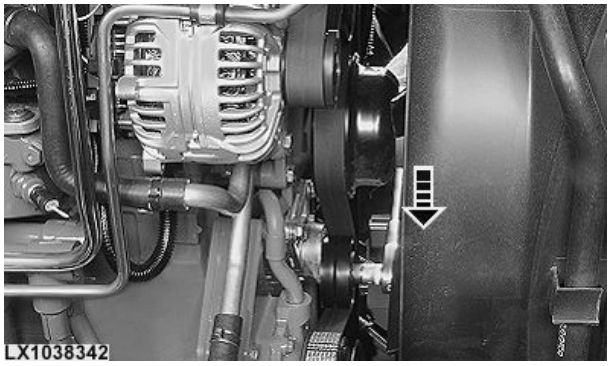
Remove cover on tensioner roll (C). Turn tensioner roll cap screw using a 15 mm (19/32 in.) wrench (see arrow). The drive belt tensioner automatically goes back to tensioning position.

The drive belt tensioner can be kept in relieved position as follows:

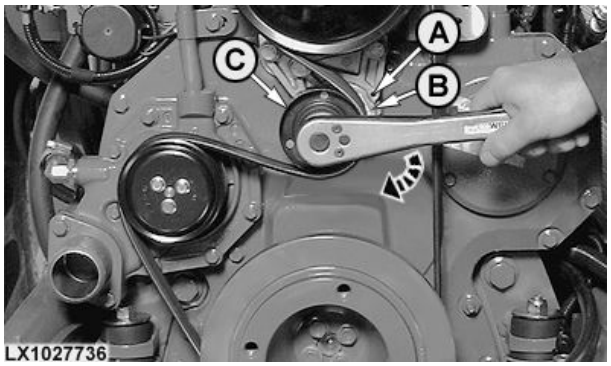
Turn tensioner roll cap screw (see arrow) until bores (A) and (B) are aligned. Insert a 5 mm (0.2 in.) dia. pin into the two bores that are in alignment.

For tensioning, turn tensioner roll slightly to release metal pin and pull it from the bores. The drive belt tensioner returns to its tensioning position automatically.

A—Bore (cam)
B—Bore (base plate)
C—Tensioner roll



LX1038342 —UN—18MAY06



LX1027736 —UN—28AUG01

Continued on next page

OU12401,00015DC -19-18DEC06-2/4

Replacing the drive belt

Take the six screws (A) out of the fan.

Take drive belt (B) off over fan (C) and put on a new drive belt (see below for routing of belt).

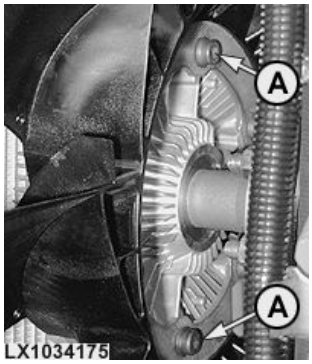
IMPORTANT: When installing, always use new corrugated-head screws.

Tighten corrugated-head screws to the following specification.

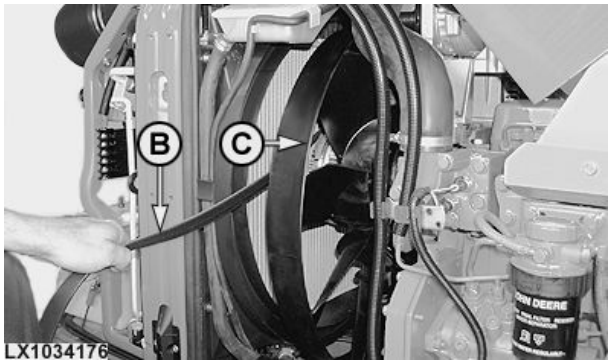
Specification

Attachment to fan—Torque.....22 – 28 Nm
16 – 21 lb-ft

A—Corrugated-head screws
B—Drive belt
C—Fan



LX1034175 —UN—14JUN04



LX1034176 —UN—14JUN04

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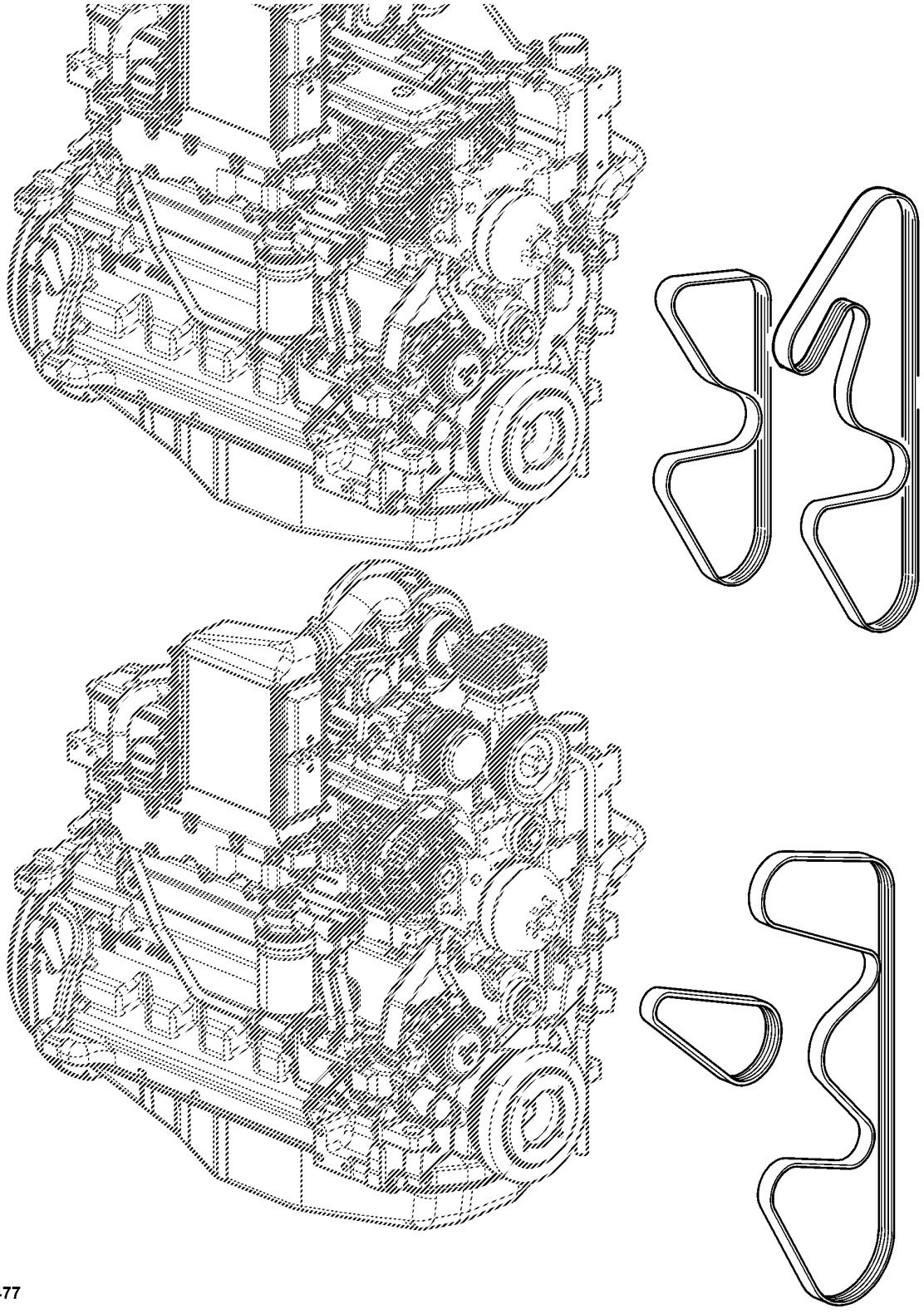
OU12401,00015DC -19-18DEC06-3/4



LX1041477 —UN—18DEC06

LX1041477

Install the drive belt correctly and slacken drive belt tensioner again.

OU12401,00015DC -19-18DEC06-4/4

Hydraulic System

Symptom	Problem	Solution
Hydraulic system fails to function	Not enough oil in the system	Correct oil level.
	Open electrical circuit	Check fuses.
Filter plugged/by-passed warning is active	Filter plugged	Replace filter.
Hydraulic oil overheats	Cooling system overloaded	Dirty oil cooler. Coolant level low.
	Selective control valve accidentally locked in operating position	Move selective control valve to neutral position.
Hitch fails to lift load	Excessive load on hitch	Reduce load.
Hitch rate-of-drop too slow	Rate-of-drop not adjusted properly	Adjust rate-of-drop.
Insufficient sensitivity to load control	System regulator in depth control or mixed control position	Move system regulator to load control position.
Excessive sensitivity when attaching implements	System regulator in load control position	Place system regulator in depth control position.
SCVs not operating	Hoses not connected properly	Connect hoses properly.
Remote control cylinder operates too fast or too slow	Incorrect setting for rate-of-flow	With M-SCVs/M-ICVs, adjust the flow control valve. With E-SCVs/E-ICVs, adjust the rate of flow at the CommandCenter.

OU12401,0001D20 -19-15OCT09-1/1

Engine

Symptom	Problem	Solution
Engine hard to start or will not start	No fuel	Fill tank with proper fuel.
	Air in fuel system	Bleed air from fuel system
	Low ambient air temperature	Use cold weather starting aids.
	Fuel filter contaminated	Replace filter element.
	Crankcase oil too heavy	Use correct viscosity oil
	Faulty glow plugs	See your dealer.
Engine knocks	Insufficient oil in engine	Add more oil.
	Fuel injection pump incorrectly timed	See your dealer.
Engine overheats	Low coolant level	Fill radiator to proper level. Check cooling system for leaks.
	Loose or defective fan belt	Check belt and replace, if necessary.
	Cooling system needs flushing	Drain, flush and refill cooling system.
	Dirty oil cooler or grille screens	Clean oil cooler and screens.
	Defective thermostat	Remove and check thermostat.
Engine oil pressure too low	Low engine oil level	Add more engine oil.
High oil consumption	Oil of too low viscosity	Drain and refill with oil of correct viscosity.
	Leakage	Check for leaks in lines and around gaskets.
Excessive fuel consumption	Unsuitable fuel grade	Use a suitable fuel grade.
	Incorrect valve clearance	See your dealer.
	Fuel injection nozzles dirty or damaged	See your dealer.
	Engine incorrectly timed	See your dealer.
	Clogged or dirty air cleaner	Clean air cleaner.
Engine emits black or grey exhaust smoke	Unsuitable fuel grade	Use a suitable fuel grade.
	Clogged air cleaner	Clean air cleaner.

Continued on next page

Symptom	Problem	Solution
	Defective muffler	Replace muffler.
	Fuel injection nozzles dirty or damaged	See your dealer.
Engine emits white smoke	Unsuitable fuel grade	Use a suitable fuel grade.
	Cold engine	Run engine until normal operating temperature is reached.
	Defective thermostat	Replace thermostat.
	Engine incorrectly timed	See your dealer.
	Faulty glow plugs	See your dealer.

OU12401,0001D21 -19-13JUL11-2/2

Electrical System

Symptom	Problem	Solution
Battery will not charge	Loose or corroded connections	Clean and tighten battery connections.
	Fault in alternator	See your John Deere dealer
	Sulfated battery	Check specific gravity and electrolyte level of battery.
	Loose or defective alternator belt	Adjust belt tension or replace belt.
Starter inoperative	Loose or corroded connections	Clean and tighten loose connections.
	Low battery output	Check and recharge battery.
	Blown fuse	Put in a new fuse.
	Defect in starting motor	See your John Deere dealer.
Starter cranks slowly	Low battery output	Check and recharge battery.
	Crankcase oil too heavy	Drain crankcase and add correct oil.
	Loose or corroded connections	Clean and tighten loose connections.
	Defect in starting motor	See your John Deere dealer.

LX,OMTRO 013415 -19-01SEP97-1/1

What the Diagnostic Trouble Codes Mean

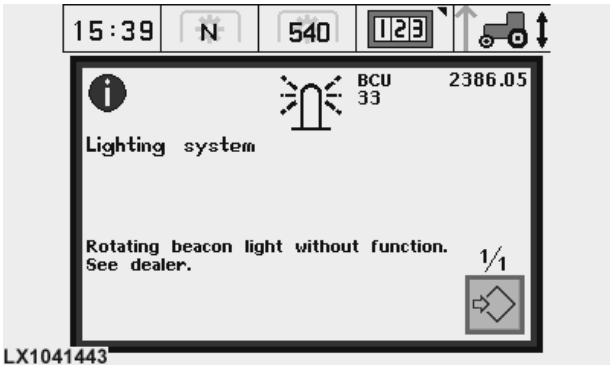
The tractor's electrical circuits are monitored by a number of different control units. While the tractor is in operation, these control units record data that can subsequently be read out. If a functional fault occurs, a diagnostic trouble code will be generated and stored in the memory. A large proportion of these codes appear before the operator automatically on his digital display (see sample illustrations).

In addition, functional faults are indicated on the dashboard by the blue INFO light, the yellow CAUTION light and the red STOP light.

Unless the displayed message is self-explanatory (e.g. transmission oil pressure too low: check oil level), you should get in touch with your John Deere dealer and discuss with him how best to proceed.

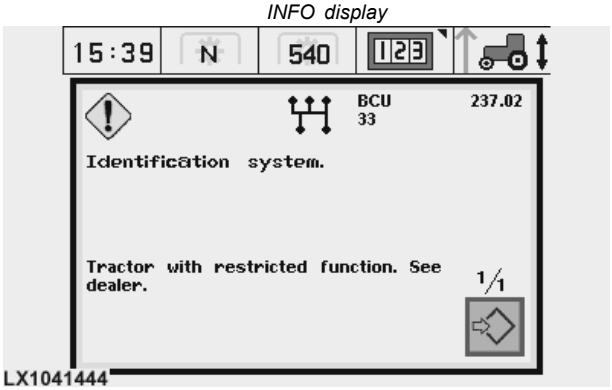
On the following pages you can read how to make all the diagnostic trouble codes appear on the display, even the ones that do not appear automatically. Diagnostic trouble codes are accessed and displayed in different ways depending on how the tractor is equipped. The following methods are possible:

- Display on CommandCenter
- Display on the GreenStar display (refer to the display operator's manual for details)



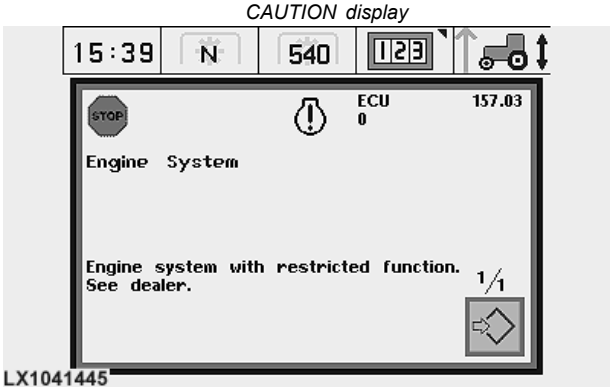
LX1041443 —UN—21NOV06

INFO display



LX1041444 —UN—21NOV06

CAUTION display



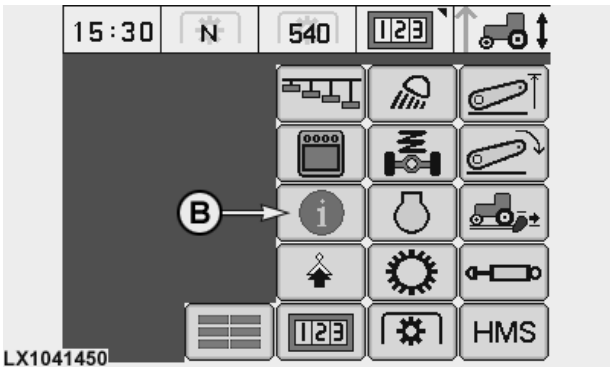
LX1041445 —UN—21NOV06

STOP display

OU12401,0001B5B -19-10FEB09-1/1

Customization

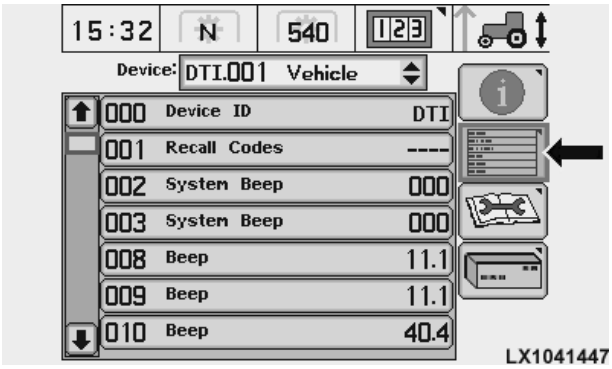
LX1037587 —UN—06NOV06



LX1041450 —UN—21NOV06

In various addresses the operator can make adjustments to adapt the operation of tractor components to his personal requirements.

This is done as follows: Press main menu key (A), select information display cell (B) and then the Diagnostic Address screen. Select desired control unit (e.g. ATC or BCU), select desired address (e.g. 033) and key in the corresponding value (see table below).



LX1041447 —UN—21NOV06

A—Main menu key **B—Information display cell**

Address	Meaning	Value
ATC033	Temperature indicator	0 alternating between desired and ambient temperature 255 desired temperature only
BCU024	Audible indicator for turn signals	0 audible indicator off 1 audible indicator on
BCU165	Rate of lift adjustment*	0 min. rate of lift 255 max. rate of lift

* value should be adjusted to 75-85 for hydraulic motor operation

OU12401,0001CDB -19-19SEP09-1/1

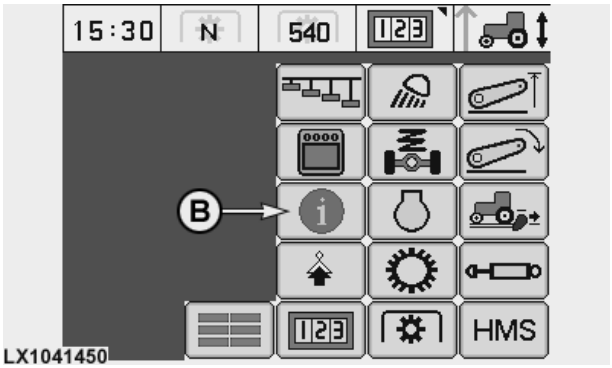
How to Access Information

Press the main menu key (A) and select the information display cell (B) on the screen.

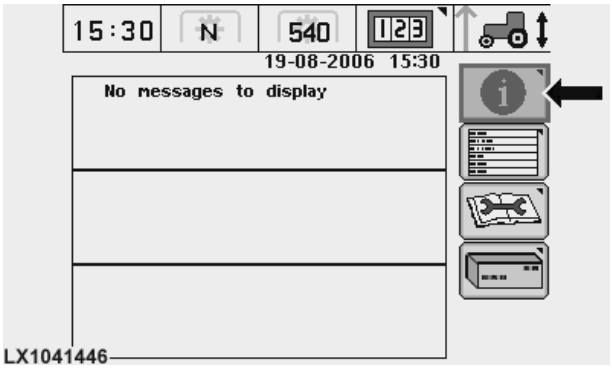
All the warning messages appear on the following screen.

A—Main menu key **B—Information display cell**

LX1037587 —UN—06NOV06



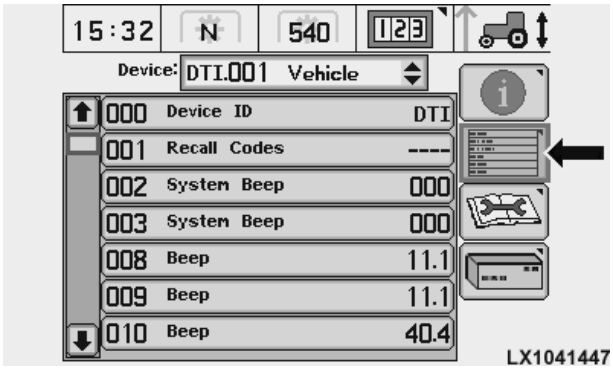
LX1041450 —UN—21NOV06



LX1041446 —UN—21NOV06

OU12401,0001580 -19-19NOV06-1/4

The desired control unit may be selected on the **diagnostic address** screen, where any “customization” that is desired may be done.

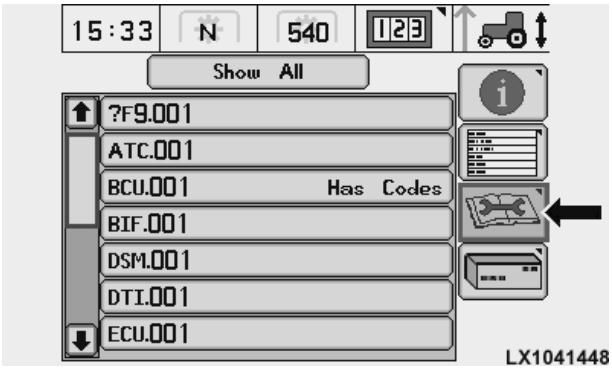


LX1041447 —UN—21NOV06

Continued on next page

OU12401,0001580 -19-19NOV06-2/4

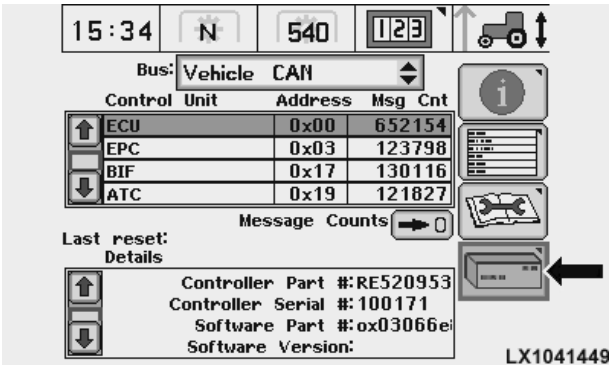
A list of control units appears and control units with diagnostic trouble codes are displayed on the **diagnostic trouble code** screen. This information can be forwarded to the John Deere dealer to identify problems with the machine.



LX1041448 —UN—21NOV06

OU12401,0001580 -19-19NOV06-3/4

The control units that exchange data via CAN Bus are displayed on the **Control Unit** screen. A counter displays the number of messages of the relevant control unit.



LX1041449 —UN—21NOV06

OU12401,0001580 -19-19NOV06-4/4

ATC Control Unit

The ATC (Automatic Temperature Control Unit) is responsible for controlling the ClimaTrak automatic air-conditioning system.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013DC -19-06APR06-1/1

BCU Control Unit

The BCU (Basic Control Unit) controls the tractor's basic functions and the hitch.

Light	Diagnostic trouble code		Basic description	Description
blue	BCU	000096.17	Fuel level is low	Fill the fuel tank.
blue	BCU	000186.17	Rear PTO	Rear PTO speed too low. Switch off and then on again.
yellow	BCU	001058.18	Brake system	Air brake pressure too low.
blue	BCU	001504.14	HMS	Check which sequences are currently active before operating with HMS.
blue	BCU	001882.17	Front PTO	Front PTO speed too low. Switch off and then on again.
blue	BCU	001894.31	Rear PTO	Rear PTO does not work. Switch off all PTO switches.
blue	BCU	001896.31	Rear PTO	Do not keep changing the preselection of rear PTO speed.
blue	BCU	002240.09	TEC control unit	Incorrect CAN BUS Message *
yellow	BCU	002818.31	Rear PTO	Operator not on seat.
blue	BCU	523689.31	Differential lock	Differential lock switch on all the time or stuck.
blue	BCU	523749.31	Rear PTO	Rear PTO does not work. Switch off and then on again.
yellow	BCU	523839.14	Park brake	Park brake is engaged and a gear is selected.
yellow	BCU	523839.31	Park brake	Tractor is moving although park brake is engaged.
yellow	BCU	523904.31	Front PTO	Operator not on seat.
yellow	BCU	523908.14	Rear PTO	Rear PTO can now be switched on at the switch on the fender.
blue	BCU	524216.02	HMS	Switch off the front PTO switch.
blue	BCU	524216.14	HMS	The front PTO switch must be on for operation with HMS. Caution: Unless in learn mode, PTO is switched on.
blue	BCU	524216.31	Front PTO	Switch off the front PTO switch.
blue	BCU	524224.02	HMS	Switch off the rear PTO switch.
blue	BCU	524224.14	HMS	The rear PTO switch must be on for operation with HMS. Caution: Unless in learn mode, PTO is switched on.
blue	BCU	524224.31	Rear PTO	Switch off the rear PTO switch.

* Tractor-Implement Automation is deactivated. The diagnostic trouble code can be generated due to a poor ISOBUS connection between tractor and implement.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001CE6 -19-16NOV09-1/1

BIF Control Unit

The BIF (Basic Informator) is the instrument unit.

Light	Diagnostic trouble code		Brief description	Description
blue	BIF	002348.01	Lights	Lights on cab frame do not operate at high-beam. Check fuses.
blue	BIF	002348.05	Lights	Lights on cab frame do not operate at high-beam. Check bulbs.
blue	BIF	002873.31	Lights	Switch off worklights while driving on road.
blue	BIF	522427.01	Wiper	Windshield wiper inoperative. Check fuses.
blue	BIF	522435.01	Wiper	Windshield wiper inoperative. Check fuses.
blue	BIF	523900.01	Lights	Left light on cab frame not operating at low-beam. Check fuses.
blue	BIF	523909	Lights	Right light on cab frame not operating at low-beam. Check fuses.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001ABD -19-08OCT08-1/1

DSM Control Unit

The DSM (Distributed Tractor Informator Switch Module) is responsible for the keyboard of the CommandCenter (DTI).

Light	Diagnostic trouble code		Brief description	Description
blue	DSM	000168.04	Voltage of electrical system low	DSM inoperative. Battery voltage too low.
blue	DSM	523523.10 to 523610.10	Electrical system	Button on switch module is sticking.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001ABE -19-08OCT08-1/1

ECU Control Unit

The ECU (Engine Control Unit) is responsible for controlling the engine.

Light	Diagnostic trouble code		Brief description	Description
yellow	ECU	000097.16	Water trap on engine is full	Engine power is restricted. Drain the water.
yellow	ECU	000107.00	Engine air cleaner plugged	Clean or replace air cleaner.
red	ECU	000190.00	Engine speed high	Reduce engine speed.
yellow	ECU	000190.16	Engine speed high	Reduce engine speed.
blue	ECU	001569.31	Engine	Engine power cut back.
blue	ECU	523581.31	Engine	Injection system is currently being calibrated.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001ABF -19-08OCT08-1/1

EPC Control Unit

The EPC (Electronic PowrQuad transmission Control Unit) is the controller for PowrQuad Plus and AutoQuad Plus transmissions.

Light	Diagnostic trouble code		Brief description	Description
blue	EPC	000084.14	Transmission	Transmission operating at reduced level. Waiting for vehicle to move.
yellow	EPC	000126.16	Transmission	Transmission oil filter blocked. Change filter.
red	EPC	000127.01	Transmission	Transmission oil pressure too low. Check oil level.
red	EPC	000177.00	Transmission	Transmission oil temperature too high. Check oil level.
yellow	EPC	000177.16	Transmission	Transmission oil temperature high. Check oil level.
blue	EPC	001713.15	Transmission	Hydraulic oil filter needs to be changed soon.
yellow	EPC	001713.16	Transmission	Hydraulic oil filter blocked. Change filter.
blue	EPC	522506.31	Controls	Reverser lever not in neutral when starting. Move to neutral.
blue	EPC	523677.14	Controls	Clutch disengagement function not available.
blue	EPC	523677.31	Hand clutch	Operator not present.
blue	EPC	523961.07	Controls	Reverser lever not in neutral when park is engaged. Move to neutral.
yellow	EPC	523966.31	Transmission	Transmission's come-home mode is active.
blue	EPC	524020.31	Controls	Reverser lever not in neutral when starting. Move to neutral.
blue	EPC	524023.31	Controls	Transmission in neutral as default.
		to		
	EPC	524025		

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001AC0 -19-08OCT08-1/1

ETC Control Unit

The ETC (Electronic Temperature Control Unit) is the controller for the heater and air-conditioning system (no automatic air-conditioning system).

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E2 -19-06APR06-1/1

HTC Control Unit

The HTC (Electronic Heater Control Unit) is the controller for the heater (no air-conditioning system).

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E3 -19-06APR06-1/1

JDL Control Unit

The JDL (JDLink control unit) is responsible for the tractor's telecommunications.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E4 -19-06APR06-1/1

PLC Control Unit

The PLC (Park Lock Controller) determines how the park lock operates.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E5 -19-06APR06-1/1

SIC Control Unit

The SIC (E-SCV / E-ICV control unit) controls the E-SCVs and E-ICVs (selective control valves and independent control valves).

Light	Diagnostic trouble code		Basic description	Description
blue	SIC	000177.01	Selective control valves (ICV/SCV)	ICVs/SCVs inoperative. Hydraulic oil is too cold. Wait until oil has warmed up.
blue	SIC	002240.09	TEC control unit	Incorrect CAN BUS Message *
blue	SIC	523869.18	ICV I	ICV I inoperative. Wait until oil has warmed up.
blue	SIC	523870.18	ICV II	ICV II inoperative. Wait until oil has warmed up.
blue	SIC	523871.18	ICV III	ICV III inoperative. Wait until oil has warmed up.
blue	SIC	523887.18	SCV I	SCV I inoperative. Wait until oil has warmed up.
blue	SIC	523888.18	SCV II	SCV II inoperative. Wait until oil has warmed up.
blue	SIC	523889.18	SCV III	SCV III inoperative. Wait until oil has warmed up.
blue	SIC	523893.18	SCV IV	SCV IV inoperative. Wait until oil has warmed up.

* Tractor-Implement Automation is deactivated. The diagnostic trouble code can be generated due to a poor ISOBUS connection between tractor and implement.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001D77 -19-16NOV09-1/1

SSU Control Unit

The SSU (Steering System Control Unit) is responsible for controlling the AutoTrac automatic steering system.

Light	Diagnostic trouble code		Brief description	Description
yellow	SSU	001504.14	AutoTrac system	Operator not on seat. AutoTrac disabled.
yellow	SSU	001504.31	AutoTrac system	Operator not on seat. Sit down on the seat.
yellow	SSU	523767.14	AutoTrac system	AutoTrac button pressed too long.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001B7D -19-03MAR09-1/1

TCU Control Unit

The TCU (Transmission Control Unit) controls the AutoPowr/IVT transmission.

Light	Diagnostic trouble code		Brief description	Description
yellow	TCU	000126.00	Transmission	Transmission oil filter blocked. Change filter.
red	TCU	000127.01	Transmission	Transmission oil pressure too low. Check oil level and filter.
yellow	TCU	000161.00	Transmission	Engine speed too high. Reduce ground speed.
red	TCU	000177.00	Transmission	Transmission oil temperature too high. Check oil level and filter.
yellow	TCU	000191.00	Transmission	Tractor speed too high. Reduce ground speed.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001AC4 -19-08OCT08-1/1

TEC Control Unit

The TEC (Tractor Equipment Control Unit) is responsible for communication between the vehicle CAN BUS and the ISOBUS.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013E9 -19-06APR06-1/1

TEI Control Unit

The TEI (Tractor Equipment Control Unit) is responsible for communication between the vehicle CAN BUS and the ISOBUS.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013EA -19-06APR06-1/1

TSC Control Unit

The TSC (Tractor Suspension Control Unit) is responsible for controlling the cab and front axle suspension systems.

If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013EB -19-06APR06-1/1

UIC Control Unit

The UIC (User Interface Control Unit) processes the various commands given by the operator with regard to speed and direction of travel.

Light	Diagnostic trouble code		Basic description	Description
yellow	UIC	000606.16	Engine	Engine speed too high. Reduce travel speed.
blue	UIC	001504.30	Controls	Before starting to drive, actuate brake or clutch and move to park position.
blue	UIC	001504.31	Controls	Before starting to drive, sit on seat or actuate brake or clutch and move to park position.
blue	UIC	001713.15	Hydraulic oil filter restricted	Filter needs to be changed soon.
yellow	UIC	001713.16	Hydraulic oil filter restricted	Change filter.
blue	UIC	002240.09	TEC control unit	Incorrect CAN BUS Message *
yellow	UIC	520283.14	Implement	Tractor-Implement Automation deactivated. **
blue	UIC	523956.31	Controls	When starting, move lever to forward or reverse. Shift to park position and start again.
yellow	UIC	523957.31	Electrical System	When starting, move lever to forward or reverse. Shift to park position and start again.
blue	UIC	523960.31	Controls	Before starting to drive, sit on seat or actuate brake or clutch and move to park position.
blue	UIC	523966.11	Come-home mode is active.	Restart.
blue	UIC	523966.14	Come-home mode is active.	Select direction of travel.
blue	UIC	523966.31	Come-home mode is active.	Move lever to park position or neutral.
yellow	UIC	524020.31	Controls	When starting, move lever to forward or reverse. Shift to park position and start again.
blue	UIC	524180.07	Come-home mode is active.	To stop, actuate clutch pedal.
blue	UIC	524180.14	Come-home mode is active.	Actuate clutch pedal.
blue	UIC	524180.31	Come-home mode is active.	Release clutch pedal.
blue	UIC	524190.14	Transmission	Slip control is active.
blue	UIC	524193.14	Transmission oil temperature is low.	Vehicle does not operate until oil is warm.
blue	UIC	524193.31	Transmission oil temperature is low.	Shift to park position.

* Tractor-Implement Automation is deactivated. The diagnostic trouble code can be generated due to a poor ISOBUS connection between tractor and implement.
** Tractor-Implement Automation is deactivated. The tractor can be driven after the reverse drive lever has been moved beyond the corner park position. With Tractor-Implement Automation the following operator errors cause this fault:

- Operator leaves the seat
- Reverser lever is moved without request.
- ISOBUS connector of implement is disconnected.

If other diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,0001D78 -19-16NOV09-1/1

UIM Control Unit

The UIM (User Interface Module) is responsible for the keyboard of the GreenStar Display 2100.

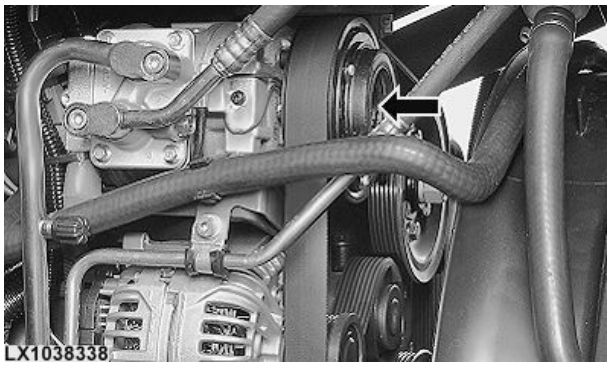
If diagnostic trouble codes appear, one of the tractor's sub-assemblies is either not working properly or not working at all. Make a note of the code and contact your dealer.

OU12401,00013ED -19-06APR06-1/1

Storage for a Long Period

The following storage preparations are good for long term tractor storage up to one year. When this time is up, run the engine until it reaches operating temperature and operate some hydraulic functions. Afterwards re-treat tractor for an extended storage period.

IMPORTANT: Any time your tractor will not be used for over six (6) months, the following recommendations for storing it and removing it from storage will help to minimize corrosion and deterioration.



LX1038338 —UN—27APR06

Change the engine oil and filter. Change transmission oil and filter. Used oil will not give adequate protection.

Clean the air cleaner.

Draining and flushing of cooling system is not necessary if engine is to be stored only for several months. However, for extended storage periods of a year or longer, it is recommended that the cooling system be drained, flushed and refilled. Refill with appropriate coolant.

Fill the fuel tank.

Remove fan/alternator belt, if desired.

Remove and clean batteries. Store them in a cool, dry place and keep them fully charged.

Clean the exterior of the tractor with salt-free water and touch up any scratched or chipped painted surfaces with a good quality paint.

Coat all exposed (machined) metal surfaces with grease or corrosion inhibitor if not feasible to paint.

Seal all openings such as the vent tube and exhaust outlet.

Store the machine in a dry, protected place. If the tractor must be stored outside, cover it with a waterproof canvas or other suitable protective material and use a strong waterproof tape.

Block up the tractor so that tires do not touch the ground. Protect tires from heat and sunlight.

Tractors with air-conditioning

If tractor is equipped with an air-conditioning system, manually turn the inner part of the pulley through several revolutions once a month.

OU12401,0001D23 -19-16OCT09-1/1

Removing Tractor from Storage

Remove all protective coverings. Check tire inflation and remove blocks.

Install battery and connect cables. Negative terminals are grounded!

Check transmission and hydraulic oil level. See that fuel tank is filled. Check coolant level in radiator. Check crankcase oil level. Carry out 750-hour check.

Check whether dirt or other foreign bodies have collected under the hood or cab. If so, remove them.

CAUTION: Never operate the engine in a closed building. Make sure there is plenty of ventilation. Danger of asphyxiation!

OU12401,0001D22 -19-15OCT09-1/1

Engine (up to Model Year 2009)

	7430	7530
Engine type	6068HL482	6068HL482
Engine power according to 97/68/EC at rated speed		
- Standard	121 kW (165 hp)	132 kW (180 hp)
- Intelligent Power Management (power boost)	140 kW (190 hp)	149 kW (203 hp)
Maximum engine power according to 97/68/EC		
- Standard	131 kW (178 hp)	143 kW (195 hp)
- Intelligent Power Management (power boost)	147 kW (198 hp)	156 kW (209 hp)
Max. torque achieved at engine speed	750 Nm (553 lb-ft) at 1600 rpm	870 Nm (642 lb-ft) at 1600 rpm
Number of cylinders	6	6
Bore	106.5 mm (4.19 in.)	106.5 mm (4.19 in.)
Stroke	127.0 mm (5.0 in.)	127.0 mm (5.0 in.)
Displacement	6790 cm^3 (414 in^3)	6790 cm^3 (414 in^3)
Firing order	1 5 3 6 2 4	1 5 3 6 2 4
Intake valve clearance	0.36 mm (0.014 in.)	0.36 mm (0.014 in.)
Exhaust valve clearance	0.46 mm (0.018 in.)	0.46 mm (0.018 in.)
Slow idle	850 rpm	850 rpm
Fast idle	2250 rpm	2250 rpm
Rated engine speed	2100 rpm	2100 rpm
Working speed range	1300 - 2100 rpm	1300 - 2100 rpm
Speed for PTO operation		
Variant 1:		
- 540E rpm rear PTO	1778 rpm	1778 rpm
- 1000E rpm rear PTO	1733 rpm	1733 rpm
- 1000 rpm rear PTO	1950 rpm	1950 rpm
Variant 2:		
- 540E rpm rear PTO	1721 rpm	1721 rpm
- 540 rpm rear PTO	1950 rpm	1950 rpm
- 1000 rpm rear PTO	1950 rpm	1950 rpm
1000 rpm front PTO	1995 rpm	1995 rpm

OU12401,0001D39 -19-21OCT09-1/1

Engine (from Model Year 2010)

	7430	7530
Engine type	6068HL488	6068HL484
Engine power according to 97/68/EC at rated speed		
- Standard	125 kW (170 hp)	136 kW (185 hp)
- Intelligent Power Management (power boost)	144 kW (195 hp)	151 kW (205 hp)
Maximum engine power according to 97/68/EC		
- Standard	134 kW (182 hp)	146 kW (198 hp)
- Intelligent Power Management (power boost)	148 kW (201 hp)	155 kW (211 hp)
Max. torque achieved at engine speed	768 Nm (566 lb-ft) at 1500 rpm	835 Nm (616 lb-ft) at 1500 rpm
Number of cylinders	6	6
Bore	106.5 mm (4.19 in.)	106.5 mm (4.19 in.)
Stroke	127.0 mm (5.0 in.)	127.0 mm (5.0 in.)
Displacement	6790 cm^3 (414 in^3)	6790 cm^3 (414 in^3)
Firing order	1 5 3 6 2 4	1 5 3 6 2 4
Intake valve clearance	0.36 mm (0.014 in.)	0.36 mm (0.014 in.)
Exhaust valve clearance	0.46 mm (0.018 in.)	0.46 mm (0.018 in.)
Slow idle	850 rpm	850 rpm
Fast idle	2250 rpm	2250 rpm
Rated engine speed	2100 rpm	2100 rpm
Working speed range	1300 - 2100 rpm	1300 - 2100 rpm
Speed for PTO operation		
Variant 1:		
- 540E rpm rear PTO	1778 rpm	1778 rpm
- 1000E rpm rear PTO	1733 rpm	1733 rpm
- 1000 rpm rear PTO	1950 rpm	1950 rpm
Variant 2:		
- 540E rpm rear PTO	1721 rpm	1721 rpm
- 540 rpm rear PTO	1950 rpm	1950 rpm
- 1000 rpm rear PTO	1950 rpm	1950 rpm
1000 rpm front PTO	1995 rpm	1995 rpm

OU12401,0001D3A -19-06NOV09-1/1

PTO Power Output (up to Model Year 2009)

	7430	7530
Max. PTO power at rated PTO speed (factory measured, with 1000 rpm at PTO)		
- Standard	108 kW (146 hp)	119 kW (162 hp)
- Intelligent Power Management (power boost)	123.5 kW (168 hp)	131 kW (178 hp)

PTO power may vary depending on the various transmission options and additional equipment.

OU12401,0001D3B -19-21OCT09-1/1

PTO Power Output (from Model Year 2010)

	7430	7530
Max. PTO power at rated PTO speed (factory measured, with 1000 rpm at PTO)		
- Standard	110 kW (149 hp)	121 kW (164 hp)
- Intelligent Power Management (power boost)	125 kW (170 hp)	133 kW (180 hp)

PTO power may vary depending on the various transmission options and additional equipment.

OU12401,0001D3C -19-21OCT09-1/1

Transmission

PowrQuad Plus/AutoQuad Plus transmissions	planetary gears, hydraulically actuated
Number of gears	20 forward gears, 20 reverse gears
Clutch	mechanical/hydraulic
AutoPowr transmission	infinitely variable mechanical/hydraulic transmission
Speed ranges	0.05 - 40 km/h (0.03 - 25 mph) or 0.05 - 50 km/h (0.03 - 31 mph)
Change of direction of travel	electrical, under load, without operating clutch

OU12401,0001CEE -19-30SEP09-1/1

Maximum Lifting Force

Maximum lifting force	90.0 kN (9177 kgf)

OU12401,0001D3D -19-21OCT09-1/1

Hydraulic System

Type	closed-center system with Load-Sensing control
Pump	Axial piston pump
System pressure	
- min. (stand-by):	3000 kPa (30 bar; 435 psi)
- max.:	20000 kPa (200 bar; 2900 psi)
Steering system	Hydrostatic

OU12401,0001598 -19-04DEC06-1/1

Loads and Weights

Maximum permissible static vertical load	7430 Premium	7530 Premium
- drawbar category	CAT 2	CAT 2
- on drawbar (transport), extended 250 mm (9.8 in.)	1800 kg (3968 lb)	1800 kg (3968 lb)
- on drawbar (field operation)		
• extended 250 mm (9.8 in.)	2450 kg (5401 lb)	2450 kg (5401 lb)
• extended 350 mm (13.8 in.)	1600 kg (3527 lb)	1600 kg (3527 lb)
• extended 400 mm (15.7 in.)	1400 kg (3086 lb)	1400 kg (3086 lb)
- on trailer hitch	2000 kg (4409 lb)	2000 kg (4409 lb)
- on tow hook of pick-up hitch	3000 kg (6614 lb)	3000 kg (6614 lb)
- on piton-fix tow hitch	3000 kg (6614 lb)	3000 kg (6614 lb)
- on ball-type tow hitch (transport)		
• with EU operating license	3000 kg (6614 lb)	3000 kg (6614 lb)
• with general operating license (Germany only)	4000 kg (8818 lb)*	4000 kg (8818 lb)*
- on ball-type tow hitch (field operation)	4000 kg (8818 lb)	4000 kg (8818 lb)
- on height-adjustable ball-type tow hitch (transport)		
• lowest position	3000 kg (6614 lb)*	3000 kg (6614 lb)*
• all other positions	2000 kg (4409 lb)	2000 kg (4409 lb)
- on height-adjustable ball-type tow hitch (field operation)		
• lowest position	3000 kg (6614 lb)	3000 kg (6614 lb)
• all other positions	2000 kg (4409 lb)	2000 kg (4409 lb)
Maximum permissible front axle loads		
- in normal operation	5500 kg (12125 lb)	5500 kg (12125 lb)
- with front loader, up to max. 10 km/h (6 mph) and with tread width of 1.90 m (75 in.)	7100 kg (15653 lb)	7100 kg (15653 lb)
Maximum permissible rear axle loads	9500 kg (20944 lb)	9500 kg (20944 lb)
Maximum permissible total weight	12300 kg (27117 lb)	12300 kg (27117 lb)

* Maximum permitted travel speed is 40 km/h (24.9 mph). At higher travel speeds, the maximum permissible static vertical load is limited to 2000 kg (4400 lb).

NOTE: Traffic regulations in certain countries may restrict the permissible axle loads and total weight to figures lower than those quoted above.

OU12401,0001599 -19-16DEC11-1/1

How to Calculate Maximum Permissible Download on Trailer Hitch

Calculation of maximum permissible download at the trailer hitch in relation to Load Index (LI)

- The load index can be read on the sidewall of the tire. If the index is not provided, refer to the tire's load capacity as quoted by the tire manufacturer.
- The load index is quoted in conjunction with a Speed index (SI)
- As a rule, the load capacity of the tire in kg can be derived directly from the LI; see the following table:

LI	kg	LI	kg	LI	kg	LI	kg
90	600	111	1090	132....	2000	153....	3650
91	615	112	1120	133....	2060	154....	3750
92	630	113	1150	134....	2120	155....	3875
93	650	114	1180	135....	2180	156....	4000
94	670	115	1215	136....	2240	157....	4125
95	690	116	1250	137....	2300	158....	4250
96	710	117	1285	138....	2360	159....	4375
97	730	118	1320	139....	2430	160....	4500
98	750	119	1360	140....	2500	161....	4625
99	775	120....	1400	141....	2575	162....	4750
100....	800	121....	1450	142....	2650	163....	4875
101....	825	122....	1500	143....	2725	164....	5000
102....	850	123....	1550	144....	2800	165....	5150
103....	875	124....	1600	145....	2900	166....	5300
104....	900	125....	1650	146....	3000	167....	5450
105....	925	126....	1700	147....	3075	168....	5600
106....	950	127....	1750	148....	3150	169....	5800
107....	975	128....	1800	149....	3250	170....	6000
108....	1000	129....	1850	150....	3350	171....	6150
109....	1030	130....	1900	151....	3450	172....	6300
110....	1060	131....	1950	152....	3550	173....	6500

As a general rule, SI A8 implies a top speed of 40 km/h (25 mph), while SI B implies a top speed of 50 km/h (31 mph). If the SI is different, the manufacturer's instructions apply.

Calculate maximum trailer hitch download as follows:

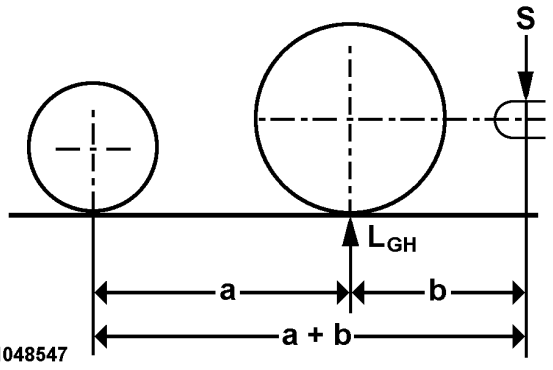
$$S = \frac{(H_{max} - L_{GH}) * a}{a + b}$$, where

$H_{max.}$ = the smaller value from 2*load capacity of a tire on the rear axle and the maximum permissible rear axle load in kg

L_{GH} = the mass in kg acting on the ground through the rear wheels (to be ascertained by weighing)

a = the wheelbase (the horizontal distance between the front and rear axles)

b = the rear overhang (the horizontal distance between the center of the rear axle and center of the hitch point)



LX1048547 —UN—20JUL09

Example of how to calculate maximum trailer hitch download:

Given that: Empty mass on rear axle L_{GH} = 1800 kg

Wheelbase a = 2100 mm

Overhang b = 600 mm

Tire marking = 130A8

Maximum permitted speed of tractor = 40 km/h (25 mph)

Permissible rear axle load = 3500 kg

$H_{max.}$ = 3500 kg
(1900 kg * 2 = 3800 kg, rear axle load = 3500 kg)

$$S = \frac{(3500\ kg - 1800\ kg) * 2100\ mm}{2100\ mm + 600\ mm} = 1322\ kg$$

CAUTION: At least 20% of the vehicle's total unladen mass must be on the front axle.

Trailer hitch download must not exceed the trailer hitch limit specified by the manufacturer.

OU12401,0001C7D -19-18JUL09-1/1

Towed Mass

Depending on how the trailer/implement is braked, the following masses and speeds are permitted:

Trailer/implement brake system	Maximum permissible towed mass	Top speed
- unbraked	3000 kg (6615 lb)	25 km/h (15.5 mph)
- independent	4000 kg (8820 lb)	25 km/h (15.5 mph)
- overrun brake	8000 kg (17635 lb)	25 km/h (15.5 mph)
- hydraulic brake	37000 kg (81570 lb)	25 km/h (15.5 mph)
- single-line air brake	37000 kg (81570 lb)	25 km/h (15.5 mph)
- dual-line air brake	37000 kg (81570 lb)	Maximum design speed

There may be legal limits in force that restrict the maximum towed mass and/or travel speeds to figures lower than those quoted here.

OULXA64,000287D -19-08NOV11-1/1

How to Calculate Permissible Mass

Calculating permissible tractor mass and permissible trailer mass on the basis of the D value

EC-approved, dynamically tested hitches are always provided with a D value. This is calculated as follows:

$$D = \frac{G * A * B}{A + B}$$, where

D = D value of hitch
G = Gravitational constant 9.81 m/s^2
A = Tractor mass
B = Trailer mass

To calculate trailer mass for a given D value and a given tractor mass, and to calculate tractor mass for a given D value and a given trailer mass, use the following formulas:

Tractor mass $$A = \frac{D * B}{G * B - D}$$

Trailer mass $$B = \frac{D * A}{G * A - D}$$

*NOTE: If when calculating A the product of G*B is less than the D value, or if when calculating B the product of G*A is less than the D value, then the result of this calculation is negative. Even so, the D value is sufficient for every combination of tractor mass and trailer mass.*

Example of how to calculate permissible trailer mass:

Given that: D value, D = 55 kN = 55000 N
Tractor mass A = 7000 kg

$$B = \frac{55000\ N * 7000\ kg}{9.81\ m/s^2 * 7000\ kg - 55000\ N} = 28163\ kg$$

Pay close attention to permissible towed mass and tractor mass!

OU12401,0001CAD -19-26AUG09-1/1

Vibration

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

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

Measures to reduce vibration may include:

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

OU12401,0001C85 -19-24JUL09-1/1

Electrical System

Battery	12 V, 154 Ah or 12 V, 174 Ah
Alternator with overvoltage protection	14 V, 120 A or 14 V, 150 A or 14 V, 200 A
Starter motor	12 V, 3.0 kW (4.0 hp)
Ground connection	negative

OU12401,000159B -19-04DEC06-1/1

Capacities

	7430 tractors	7530 tractors
Fuel tank	350 l (92.5 US.gal.)	350 l (92.5 US.gal.)
Cooling system	35.6 l (9.4 U.S.gal.)	35.6 l (9.4 U.S.gal.)
Crankcase	19.5 l (5.2 US.gal.)	19.5 l (5.2 US.gal.)
Transmission/hydraulic system		
- PowrQuad transmission	56 l (14.8 US.gal.)	56 l (14.8 US.gal.)
- AutoQuad Plus transmission	56 l (14.8 US.gal.)	56 l (14.8 US.gal.)
- AutoPowr transmission	66 l (17.4 US.gal.)	66 l (17.4 US.gal.)
- extra with creeper	1 l (0.3 US. gal.)	1 l (0.3 US. gal.)
- extra with front-wheel drive	3 l (0.8 US. gal.)	3 l (0.8 US. gal.)
- extra with TLS axle	3 l (0.8 US. gal.)	3 l (0.8 US. gal.)
- extra with additional oil reservoir	14 l (3.7 US. gal.)	14 l (3.7 US. gal.)
Front PTO	3.5 l (0.9 US.gal.)	3.5 l (0.9 US.gal.)
Front-wheel drive		
- Axle housing	8.2 l (2.2 US.gal.)	8.2 l (2.2 US.gal.)
- Final drives (without brake)	1.7 l (0.4 US.gal.)	1.7 l (0.4 US.gal.)
- Final drives (with brake)	2.6 l (0.7 US.gal.)	2.6 l (0.7 US.gal.)

OU12401,00019E4 -19-21NOV11-1/1

Sound Level

Max. sound level at operator's ear is 72 dB(A).

Measurement method in accordance with Directive 77/311 EEC, Annex II, with cab closed.

OULXE59,0010756 -19-26FEB05-1/1

Permissible Front Axle Load in Relation to Tires (Normal Operation)

The values quoted here apply only for travel speeds up to 40 km/h (25 mph).

Tires	LI *	SRI **	Load capacity
600/65R28	142	700	5300 kg (11685 lb)
16.9R30	137	700	4600 kg (10140 lb)
420/85R34	140	700	5000 kg (11025 lb)
480/70R30	141	700	5150 kg (11355 lb)
540/65R30	143	700	5450 kg (12015 lb)
VF 600/60R30	147A8 147D	700	5500 kg (12125 lb)

* Load index
** Speed/radius index

OU12401,0001B6D -19-12FEB09-1/1

Permissible Front Axle Load in Relation to Tires (Operation with Front Loader)

The values quoted here apply only for travel speeds up to 8 km/h (5 mph).

Tires	LI *	SRI **	Load capacity
600/65R28	142	700	7100 kg (15650 lb)
16.9R30	137	700	6900 kg (15210 lb)
420/85R34	140	700	7100 kg (15650 lb)
480/70R30	141	700	7100 kg (15650 lb)
540/65R30	143	700	7100 kg (15650 lb)
VF 600/60R30	147A8 147D	700	7100 kg (15650 lb)

* Load index
** Speed/radius index

OU12401,0001B6E -19-12FEB09-1/1

Permissible Rear Axle Load in Relation to Tires

The values quoted here apply only for travel speeds up to 40 km/h (25 mph).

Tires	LI *	SRI **	Load capacity
650/75R38	169	925	9500 kg (20945 lb)
710/70R38	166	925	9500 kg (20945 lb)
520/85R42	157	925	8250 kg (18190 lb)
580/70R42	158	925	8500 kg (18740 lb)
620/70R42	160	925	9000 kg (19840 lb)
650/65R42	158	925	8500 kg (18740 lb)
VF 710/60R42	161A8 161D	925	9250 kg (20395 lb)

* Load index
** Speed/radius index

OU12401,0001B6F -19-12FEB09-1/1

Safety Note Regarding the Subsequent Installation of Electrical and Electronic Appliances and/or Components

The machine is equipped with electronic components whose function may be influenced by electromagnetic radiation from other appliances. Such influences may be hazardous. Therefore, observe the following safety instructions:

No tampering with the tractor's on-board electrical system is permitted. Subsequent installation of electrical/electronic appliances in the machine must make use of the sockets and connectors provided for this purpose. In every case, the user must verify whether the installation affects the electronics or other components. This applies particularly to:

- Implement control units/monitors
- Performance monitors
- Audio/video systems, communications systems

In particular, subsequently installed electrical/electronic components must comply with the relevant edition of EMC Directive 2004/108/EC, and be CE marked.

If mobile communication systems (e.g. radio communication, telephone) are to be installed subsequently, the following extra requirements must be met:

- Only devices with an approval complying with the valid national regulation (i.e. BZT approval in Germany) shall be installed
- The device shall be installed securely
- Portable or mobile devices may be operated in the vehicle only if connected to a fixed outside antenna
- Transmitters shall be installed separately from the vehicle's electronics
- The antenna must be installed in a professional manner, with a good ground connection between the antenna and the vehicle ground

Wiring, installation and maximum permissible current supply must be as stated in the installation instructions of the machine manufacturer.

LX,OMTRAK,EMV -19-15JUL11-1/1

EC Declaration of Conformity

Deere & Company
Moline, Illinois U.S.A

The person named below declares that:

Machine type: Tractors

Models: 7430 and 7530 Premium

fulfill all relevant provisions and essential requirements of the following directives:

DIRECTIVE	NUMBER	CERTIFICATION METHOD
Electro-magnetic compatibility	2004/108/EC	Self-certification
Machinery Directive	2006/42/EC	Self-certification in accordance with working document ENTR-80-1 of the EU Commission, dated Jan. 6, 2006

Name and address of the person in the European Community authorized to compile the technical construction file:

Brigitte Birk
Deere & Company European Office
John Deere Strasse 70
D-68163 Mannheim, Germany
EUConformity@JohnDeere.com

Place of declaration: Mannheim

Date of declaration: September 1, 2011

Manufacturing unit: John Deere Werke Mannheim

Name: Horst Wiedehage

Title: Global Manager, Mid Tractor Engineering

DXCE01 —UN—28APR09

CE

OU12401,0001CED -19-07NOV11-1/1

Serial Numbers

Type Plates

The illustrations below show some of the type plates used on the tractor. The letters and numbers on the plates are necessary for ordering spare parts, among other things.

NOTE: Copy the letters and figures in the boxes provided.

OU12401,00013A7 -19-05MAR06-1/1

Product Identification Number

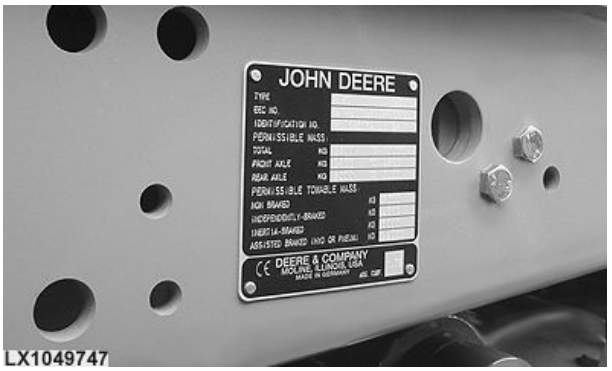
The plate bearing the product identification number is located on the right side of the main frame. The tractor is provided with one of two possible product identification numbers. Select the appropriate box.

Product identification number (13-digit)

*													*

Product identification number (17-digit)

*																*



LX1049747

LX1049747 —UN—06MAY10

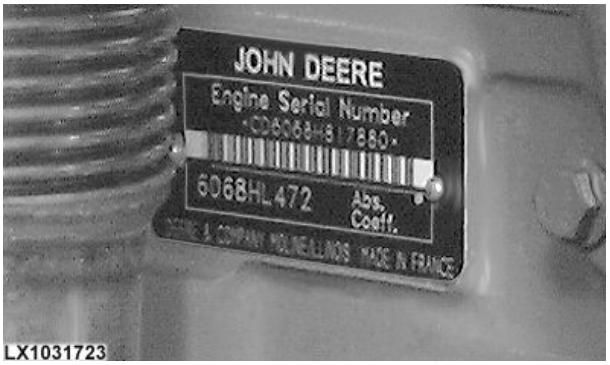
OULXBER,00018E6 -19-07MAY10-1/1

Engine Serial Number

The engine serial number plate is located on the right-hand side of engine block.

NOTE: Besides the engine serial number, the plate shows the engine type as well. When ordering spare parts for the engine, please quote all the numbers and letters on this type plate.

*													*



LX1031723

LX1031723 —UN—21JUL03

OU12401,0000E0E -19-01JUL03-1/1

Transmission Serial Number

*													*

The transmission serial number is displayed on the product information plate on the l.h. side of the radiator.

OU12401,0001997 -19-18FEB08-1/1

Serial Number of Operator's Cab

The serial number of the operator's cab is located on the product information plate, located on the inside of the rear wall of the cab.

*													*

LX1049803

LX1049803 —UN—30AUG10

OULXBER,0001963 -19-30AUG10-1/1

FWD Axle Serial Number

The plate bearing the FWD axle serial number is located on the end of the axle, at the rear. Information provided on it includes the transmission ratio of the front axle. This information will be required if the type of tires used at the front is to be changed.

*																*

LX1029242 —UN—15APR03

OU12401,00103F1 -19-01MAR03-1/1

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John Deere Service Keeps You on the Job

John Deere Parts

We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

That's why we maintain a large and varied inventory—to stay a jump ahead of your needs.

TS100 —UN—23AUG88

DX,IBC,A -19-04JUN90-1/1

The Right Tools

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly . . . to save you time and money.

TS101 —UN—23AUG88

DX,IBC,B -19-04JUN90-1/1

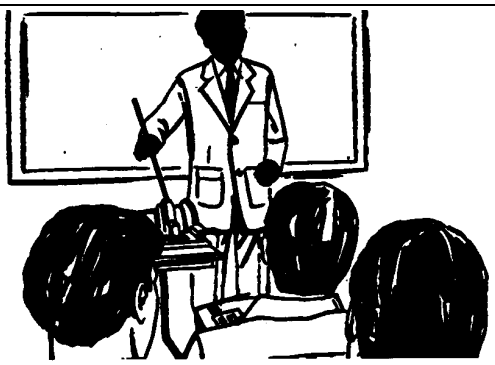
Well-Trained Technicians

School is never out for John Deere service technicians.

Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result?

Experience you can count on!



TS102 —UN—23AUG88

DX,IBC,C -19-04JUN90-1/1

Prompt Service

Our goal is to provide prompt, efficient care when you want it and where you want it.

We can make repairs at your place or at ours, depending on the circumstances: see us, depend on us.

JOHN DEERE SERVICE SUPERIORITY: We'll be around when you need us.

TS103 —UN—23AUG88

DX,IBC,D -19-04JUN90-1/1