644K
4WD Loader
(PIN: 1DW644K_ _ _F658218—)

OPERATOR'S MANUAL

644K 4WD Loader
(PIN: 1DW644K_ _ _F658218—)

OMT317763 ISSUE D7 (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.

Worldwide Construction And Forestry Division
PRINTED IN U.S.A.

CARB Non-road Emissions Control Warranty Statement—Compression Ignition

Emissions Control Warranty Statement 2016 through 2018

DXLOGOV1 —UN—28APR09

JOHN DEERE

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the “Emission Control Information” label located on the engine. If the engine is operated in the United States or Canada and the engine label states: “This engine complies with US EPA regulations for nonroad and stationary diesel engines”, or “This engine complies with US EPA regulations for stationary emergency diesel engines”, refer to the “U.S. and Canada Emission Control Warranty Statement.” If the engine is operated in California, and the engine label states: “This engine complies with US EPA and CARB regulations for nonroad diesel engines” also refer to the “California Emissions Control Warranty Statement.”

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2016 through 2018 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State’s stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB and is free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first for all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

EMISSIONS WARRANTY EXCLUSIONS:

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

Continued on next page

7. LIMITATION OF LIABILITY. EXCEPT AS SET FORTH IN THE LIMITED WARRANTY, UNDER NO CIRCUMSTANCES SHALL LICENSOR, ITS AFFILIATES OR ITS THIRD PARTY SUPPLIERS BE LIABLE TO YOU OR TO ANY THIRD PARTIES FOR DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING ANY LOSS OR DAMAGE CAUSED BY THE SOFTWARE; ANY PARTIAL OR TOTAL FAILURE OF THE SOFTWARE; PERFORMANCE, NONPERFORMANCE OR DELAYS IN CONNECTION WITH ANY INSTALLATION, MAINTENANCE, WARRANTY OR REPAIRS OF THE SOFTWARE, DAMAGES FOR CROP LOSS, DAMAGE TO LAND, LOST PROFITS, LOSS OF BUSINESS OR LOSS OF GOODWILL, LOSS OF USE OF EQUIPMENT OR SERVICES OR DAMAGES TO BUSINESS OR REPUTATION ARISING FROM THE PERFORMANCE OR NON-PERFORMANCE OF ANY ASPECT OF THIS AGREEMENT, WHETHER IN CONTRACT, TORT OR OTHERWISE, AND WHETHER OR NOT LICENSOR, ITS AFFILIATES OR ITS THIRD PARTY SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL LICENSOR'S CUMULATIVE LIABILITY TO YOU OR TO ANY OTHER PARTY FOR ANY LOSSES OR DAMAGES RESULTING FROM ANY CLAIMS, LAWSUITS, DEMANDS, OR ACTIONS ARISING FROM OR RELATING TO USE OF THE SOFTWARE EXCEED YOUR TOTAL PAYMENT FOR THE MACHINE AND FOR THE LICENSE OF THE SOFTWARE.

8. Termination of License. Licensor may terminate the license granted under this Agreement upon written notice of termination provided to you if you violate any material term of this Agreement pertaining to your use of the Software or Licensor's rights, including, without limitation, the provisions of Sections 2 and 3 above.

9. Compliance with Law. You agree that you will use the Software in accordance with United States law and the laws of the country in which you are located, as applicable, including foreign trade control laws and regulations. The Software may be subject to export and other foreign trade controls restricting re-sales and/or transfers to other countries and parties. By accepting the terms of this Agreement, you acknowledge that you understand that the Software may be so controlled, including, but not limited to, by the Export Administration Regulations and/or the foreign trade control regulations of the Treasury Department of the United States. Any other provision of this Agreement to the contrary notwithstanding, you agree that the Software will not be resold, re-exported or otherwise transferred. The Software remains subject to applicable U.S. laws.

10. Indemnification. You agree to defend, indemnify and hold Licensor, its affiliates and third party supplier, and their, officers, directors, employees, agents and representatives (each an "**Indemnified Party**"), harmless from and against all claims, demands proceedings, injuries, liabilities, losses, or costs and expenses (including reasonable legal fees) brought by any third party against any such persons arising from or in connection with your use of the Software, regardless of whether such losses are caused, wholly or partially, by any negligence, breach of contract or other fault of an Indemnified Party.

11. Costs of Litigation. If any claim or action is brought by either party to this License Agreement against the other party regarding the subject matter hereof, the prevailing party shall be entitled to recover, in addition to any other relief granted, reasonable attorney fees and expenses of litigation.

12. Severability and Waiver. Should any term of this Agreement be declared void or unenforceable by any court of competent jurisdiction, such declaration shall have no effect on the remaining terms hereof. The failure of either party to enforce any rights granted hereunder or to take action against the other party in the event of any breach hereunder shall not be deemed a waiver by that party as to subsequent enforcement of rights of subsequent actions in the event of future breaches.

13. Language Clause. If you are a resident of Canada at the time you accept this Agreement, then the parties hereby acknowledge that they have required this Agreement, and all other documents relating hereto, be drawn up in the English language only. Les parties reconnaissent avoir demandé que le présent contrat ainsi que toute autre entente ou avis requis ou permis à être conclu ou donné en vertu des stipulations du présent contrat, soient rédigés en langue anglaise seulement. If you are a resident of any country other than the United States, Canada, Great Britain, Australia or New Zealand then you agree as follows: there may be a translated version of this Agreement. If there is an inconsistency or contradiction between the translated version and the English version of this Agreement, the English version of this Agreement shall control.

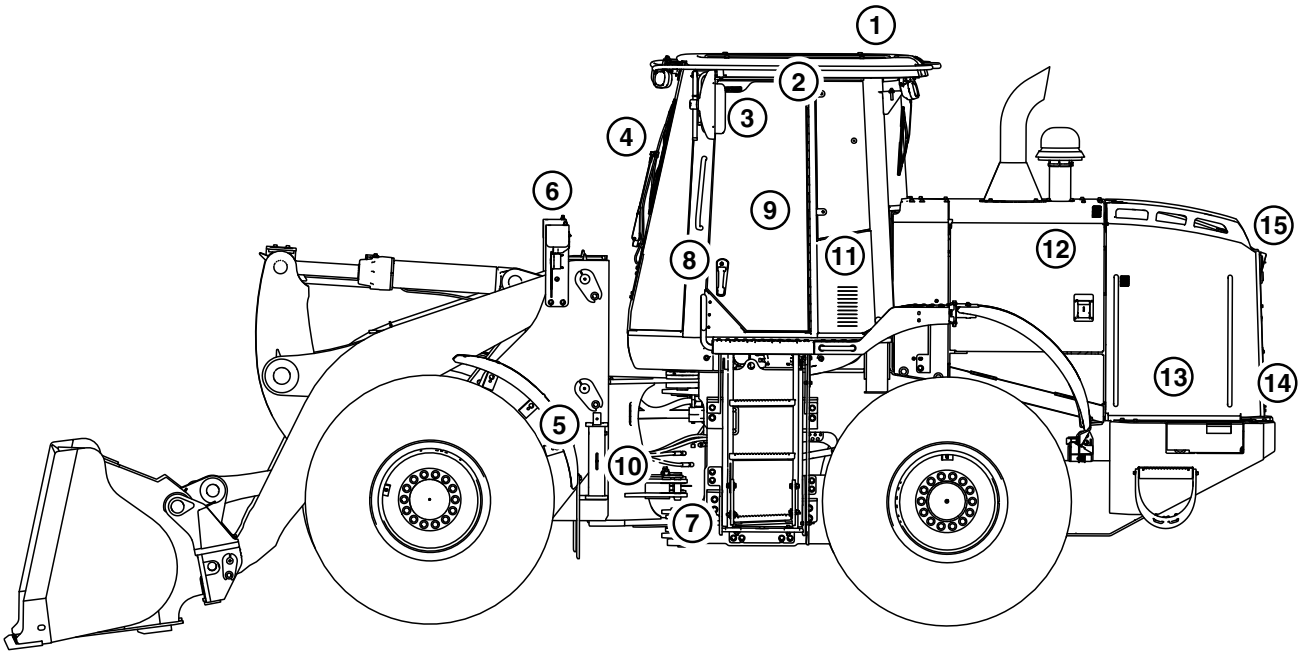
14. Assignment by Licensor. Licensor may assign this Agreement without your prior consent to any company or entity affiliated with Licensor, or by an assignment associated with a corporate restructuring, merger or acquisition.

15. Governing Law and Forum. This Agreement will be governed by and construed in accordance with the substantive laws identified in the table in Section 18, below The respective courts of the venue identified in the table in Section 18, below, for the location of the Machine shall have non-exclusive jurisdiction over all disputes relating to this Agreement. This Agreement will not be governed by the conflict of law rules of any jurisdiction or the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded.

16. Specific Exceptions.

Continued on next page

Safety and Operator Convenience Features



TX1144131

Safety and Operators Convenience Features

Please remember, the operator is the key to preventing accidents.

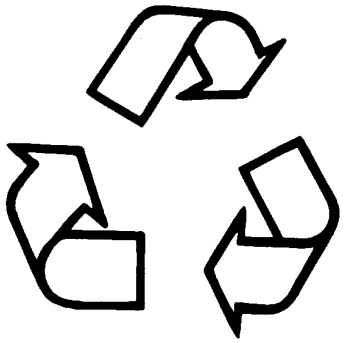
1. **ROPS, FOPS, and OPS.** Structures designed to help protect the operator are certified to ISO and OSHA. Enclosures also deflect sun and rain.
2. **Pressurized Cab with Heater and Defroster.** Positive pressure ventilation system circulates both outside and inside air through filters for a clean working environment. Built in defroster vents direct air flow for effective window defogging/deicing.
3. **Mirrors.** Large exterior mirrors on both sides and an inside mirror offers operator a broad view of area behind machine.
4. **Large Windshield Wiper with Washer.** Extra long wiper cleans large windshield area.
5. **Loader Boom Service Lock.** Loader includes a mechanical lock for securing boom in the raised position before work is started on or around the machine.
6. **Halogen Lights and Turn Signals.** High intensity halogen drive/work lights and high-visibility turn signals are standard equipment.
7. **Articulation Locking Bar.** A self-storing mechanical lock is provided for transport or service.
8. **Handholds.** Large, conveniently placed handholds make it easy to enter or exit the operator's station or service area.
9. **Horn.** Standard horn is useful when driving or signaling coworkers.
10. **Independent Parking Brake.** Electronically controlled and engages whenever the engine is stopped.
11. **Seat Belt Retractors.** Seat belt retractors help keep belts clean and convenient to use.
12. **Bypass Start Protection.** Shielding over the starter terminals helps prevent dangerous bypass starting.
13. **Engine Fan Guard.** A secondary fan guard inside the cooling compartment helps prevent contact with the rotating fan blades.
14. **Backup Alarm.** Alerts bystanders when reverse travel direction is selected by operator.
15. **Stop and Signal Lights.** Highly visible stop lights and turn signal lights are standard equipment.

SP66632,00048B5 -19-08OCT13-1/1

Decommissioning — Proper Recycling and Disposal of Fluids and Components

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

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Carefully drain engines, fuel tanks, radiators, hydraulic cylinders, reservoirs, and lines before recycling components. Use leak-proof containers when draining fluids. Do not use food or beverage containers.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids (example: oil, fuel, coolant, brake fluid);



TS1133 —UN—15APR13

filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.

- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
- Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.
- Contact your local environmental or recycling center, or your John Deere dealer for information on the proper way to recycle or dispose of waste.

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

Exhaust Filter Ash Handling and Disposal

CAUTION: Under federal, state, and local laws or regulations, exhaust filter ash can be classified as a hazardous waste. Hazardous waste must be disposed of in accordance with all applicable federal, state, and local laws or regulations governing hazardous waste disposal. Only a qualified service provider should remove ash from the exhaust filter. Personal protective equipment and clothing, maintained in a sanitary and reliable condition, should be used when handling and cleaning exhaust filter. See your authorized dealer for exhaust filter ash handling and disposal.

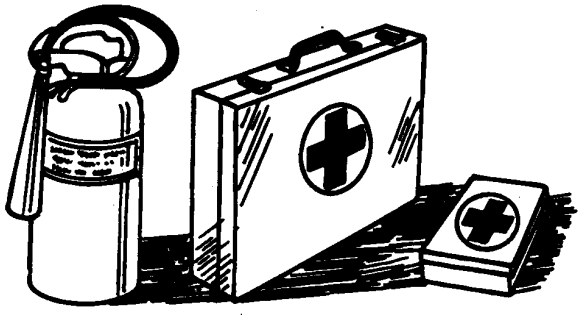
TX,ASH,DISP -19-20JAN11-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

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



TS291 —UN—15APR13

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

Clean Exhaust Filter Safely

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

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

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

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

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

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

Avoid contact with these components until cooled to safe temperatures.

If service procedure requires engine to be running:

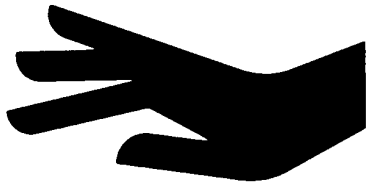
- Only engage power-driven parts required by service procedure
- Ensure that other people are clear of operator station and machine

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

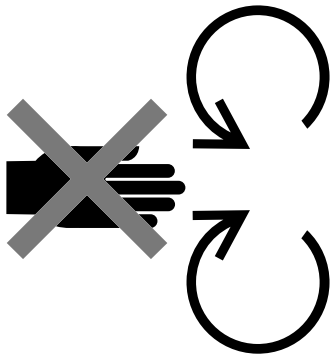
Always disable movement (neutral), set the parking brake or mechanism and disconnect power to attachments or tools before leaving the operator's station.

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

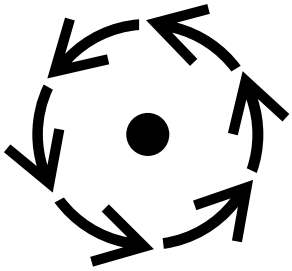
TS227 —UN—15APR13



TS271 —UN—23AUG88



TS1693 —UN—09DEC09



TS1695 —UN—07DEC09

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

12. **DANGER, Always Secure Lift Arm**

To avoid injury, securely brace lift arm before disassembly of valve or piping.

This safety label is located on the loader frame.

TX1151834 —19—23JAN14

DANGER, Always Secure Lift Arm

MB60223,0005017 -19-06SEP16-14/15

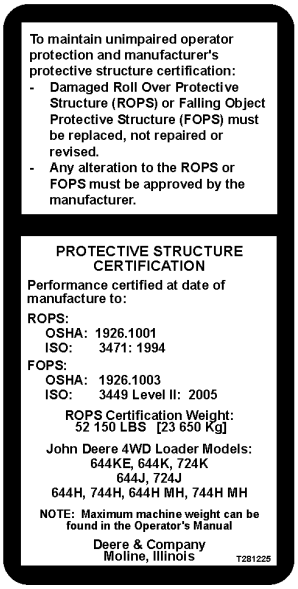
13. **Protective Structure Certification**

To maintain unimpaired operator protection and manufacturer's protective structure certification:

- Damaged Roll Over Protective Structure (ROPS) or Falling Object Protective Structure (FOPS) must be replaced, not repaired or revised.

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

This safety message is positioned inside of the operator’s station on the right, rear ROPS post.

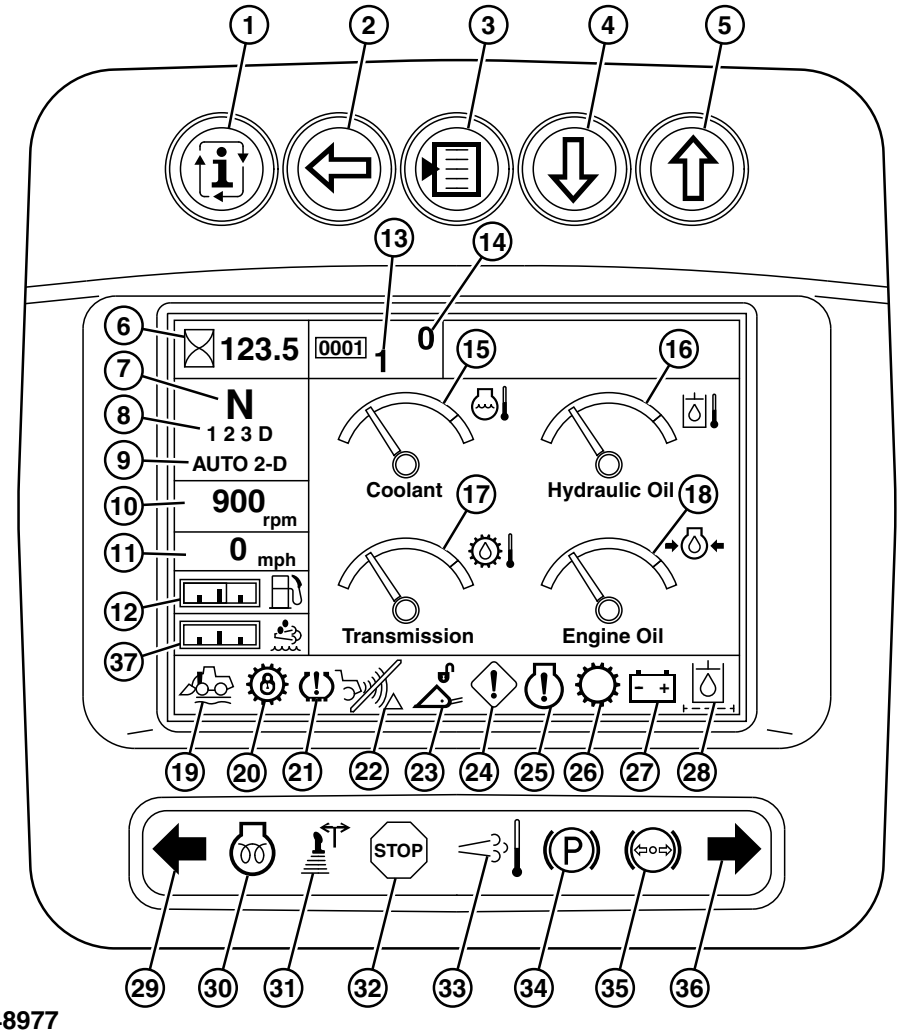


TX1222072 —19—30AUG16

Protective Structure Certification

MB60223,0005017 -19-06SEP16-15/15

Advanced Display Unit (ADU)



TX1148977

TX1148977 —UN—06DEC13

Advanced Display Unit (ADU)

1— INFO Button
2— BACK Button
3— SELECT Button
4— DOWN Button
5— UP Button
6a— Hour Meter
6b— Odometer
6c— Average Fuel Consumption
6d— Exhaust Filter Restriction Level Indicator
7— Travel Direction
8— Requested Gear
9— Transmission Mode
10— Tachometer
11— Speedometer
12— Fuel Level Gauge
13— Material Counter
14— Truck Counter
15— Engine Coolant Temperature Gauge
16— Hydraulic Oil Temperature Gauge
17— Transmission Oil Temperature Gauge
18— Engine Oil Pressure Gauge
19— Ride Control Indicator—If Equipped
20— Lockup Torque Converter Indicator—If Equipped
21— Tire Pressure Monitor (TPM) System Indicator—If Equipped
22— Radar Object Detection (ROD) System Indicator—If Equipped
23— Pin Disconnect Indicator—If Equipped
24— Caution Indicator
25— Check Engine Indicator
26a— Transmission Fault Indicator
26b— Axle Over Temperature Indicator
26c— Low Coolant Level Indicator
27a— Low Battery Voltage Indicator
27b— Exhaust Filter Auto Cleaning Disabled Indicator
28— Filter Restriction Indicator
29— Left Turn Indicator
30— Engine Heater Indicator—If Equipped
31— Joystick Steering Indicator—If Equipped
32— STOP Indicator
33— Exhaust Filter Cleaning Indicator
34— Park Brake Indicator
35— Brake Pressure Indicator
36— Right Turn Indicator
37— Diesel Exhaust Fluid (DEF) Gauge

SP66632,0004945 -19-06DEC13-1/1

Opening and Securing Side Door

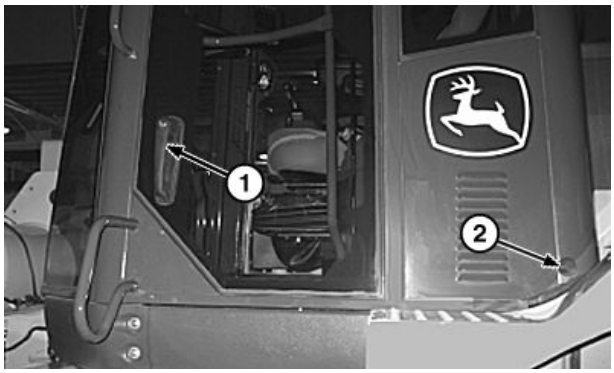
To open left side cab door from outside, press button on door handle (1) and pull door open.

To secure door in open position, open door until clam latch (3) fastens onto striker (4) on side of cab. Door must be secure against rubber bumper (2). Adjust bumper as required to maintain proper tension.

To release door from secured position from inside or outside cab, pull on release rod (5) located to the left of the operator's seat. Door will latch when closed.

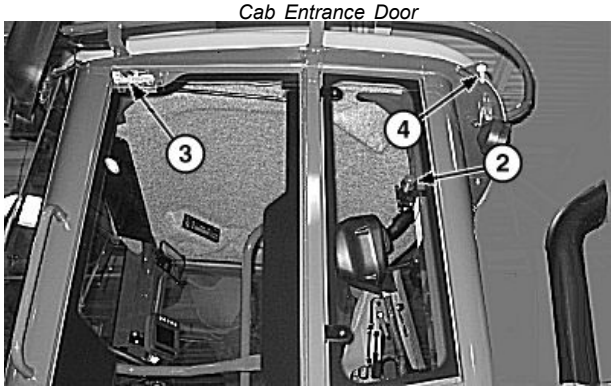
To open left side cab door from inside cab, push forward on latch release lever (6).

1— Door Handle
2— Bumper
3— Clam Latch
4— Striker
5— Release Rod
6— Latch Release Lever



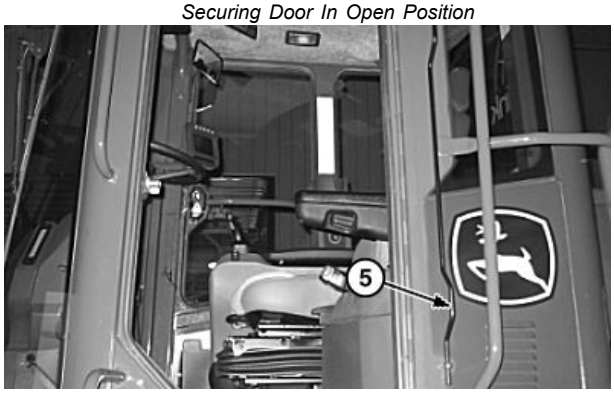
TX1039894A —UN—04APR08

Cab Entrance Door



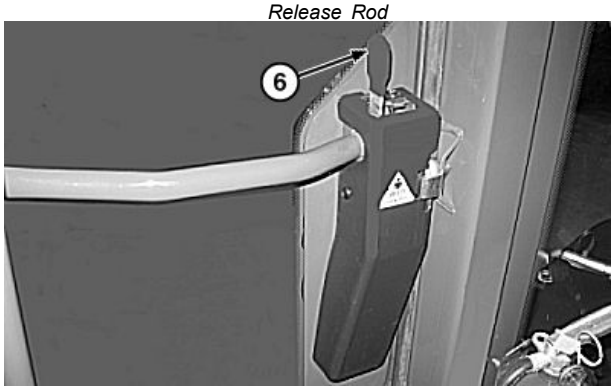
TX1039895A —UN—04APR08

Securing Door In Open Position



TX1039897A —UN—04APR08

Release Rod



TX1039900A —UN—04APR08

Latch Release Lever

DP99999,0000014 -19-17OCT11-1/1

Warmup

Operate machine at less-than-normal loads and speeds for 3—5 minutes or until temperatures and pressures reach normal operating range.

DP99999,00002B7 -19-20JAN10-1/1

Cold Weather Warmup

IMPORTANT: If hydraulic oil and transmission oil are cold, functions move slowly. Do not attempt normal machine operations until hydraulic and transmission functions move at close-to-normal cycle times.

NOTE: For temperatures below -20°C (-4°F), it may take up to 2 minutes for white exhaust smoke to clear.

1. Start engine. Run engine at minimum speed for 5 minutes.
2. Cycle boom with bucket stalled in rollback position until bucket functions move at normal speed.
3. Check transmission oil level with engine at slow idle.

   Prepare machine to shift transmission as follows:

   - Machine—stopped
   - Engine—slightly above slow idle
   - Bucket—off the ground and empty
   - Brakes—apply right or left brake pedal with clutch cut-off disengaged
   - Parking brake—released
   - Cycle transmission 10 times by shifting: Neutral—F1—R1—F1—R1—F1—Neutral. Each cycle should be approximately 5 seconds.
4. Shift from F1—R1 without braking until transmission operates normally.

OUT4001,00005CB -19-05OCT11-1/1

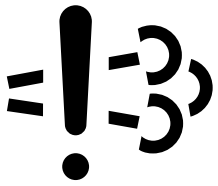
Required Machine Stop Warning

Machine Stop Mandate Occurs

IMPORTANT: In some situations, machine engine power may be reduced as described. On notification, immediately place the machine in a safe state and move it to a safe location. A mandated machine stop can only be removed by a service technician.

Engine emissions system malfunction indicator illuminates when an emission-related fault occurs.

RG22491 —UN—21AUG13



Engine Emissions System Malfunction Indicator

DB84312,00001BC -19-19FEB16-1/6

Warning indicator illuminates when a condition exists which requires operator action.

RG22492 —UN—21AUG13

Warning Indicator

Continued on next page

DB84312,00001BC -19-19FEB16-2/6

- If both LEDs are illuminated, ride control is in AUTO mode. Ride control automatically reactivates as soon as a ground speed greater than the setpoint value is reached and operates until switch is turned OFF.

3. Press ride control switch as required to select desired operating mode.

SP66632,0004919 -19-07JUL15-2/3

Discharging Ride Control Accumulator

1. Lower boom and bucket to ground and stop engine.
2. Press and release engine start switch (1); DO NOT START engine.
3. Press return-to-carry (RTC) switch (2) to OFF setting (LED off).

CAUTION: Prevent possible injury from unexpected boom movement. Make sure area around boom and bucket is clear. Boom could move up when ride control switch is turned ON.

4. Make sure that area around bucket is clear.

NOTE: When ride control switch is in AUTO mode setting (two LEDs illuminated), ride control accumulator hydraulic pressure cannot be discharged. When ride control switch is in ON mode setting, left LED is illuminated.

5. Cycle ride control switch (3) to OFF mode setting (LEDs are off) then to ON mode (left LED illuminated).
6. Press and hold pilot enable/boom down switch (4) while holding the boom control lever in the float position (fully forward) for 5 seconds.
7. While still holding pilot enable/boom down switch, cycle each hydraulic control lever to relieve pressure.
8. Press engine stop switch (5).

TX1039923A —UN—08APR08

Sealed Switch Module (SSM)

1— Engine Start Switch
2— Return-to-Carry (RTC) Switch
3— Ride Control Switch
4— Pilot Enable/Boom Down Switch
5— Engine Stop Switch

SP66632,0004919 -19-07JUL15-3/3

Counter Switch Operation

This machine includes a counter switch (1), located on the right side of the operator's seat near the boom and bucket control levers. The switch consists of three individual buttons. The ADD BUCKET button and the ADD TRUCK button are used on machines equipped with the Embedded Payload Scale (EPS) system.

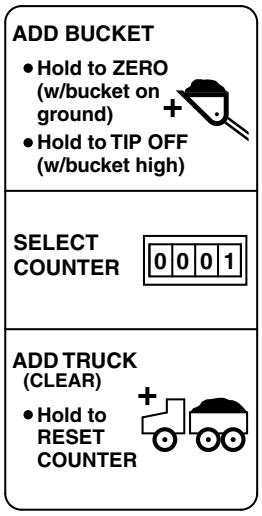
The SELECT COUNTER button allows the operator to select from up to five different counters which can correspond to five different aggregates. The operator can choose how many counters are selected. See Display Unit—Main Menu—Settings—Counters. (Section 2-3.)

The counter currently selected is displayed on the display unit in the box to the right of the hour meter. Press and release the ADD TRUCK button to increment the counter by one. Press and hold the ADD TRUCK button to reset the counter.

1— Counter Switch

TX1045645A —UN—15JUL08

Counter Switch



TX1044805 —19—10JUL08

Counter Switch Label

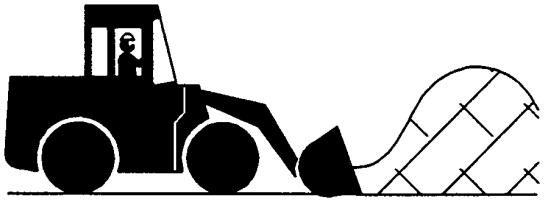
SP66632,0004915 -19-22OCT13-1/1

Using the Loader Bucket

1. Place bucket in the return-to-dig (RTD) position and lower to ground.

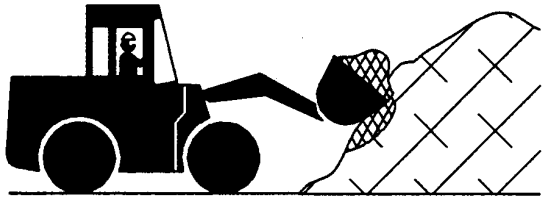
NOTE: Bucket and boom can be positioned while machine is on-the-go.

2. Select 1st or 2nd gear depending on ground condition.
3. Move forward into the material.
4. Raise and curl bucket to hold load.



T7747BB —UN—19MAY92

Moving Forward Into Material



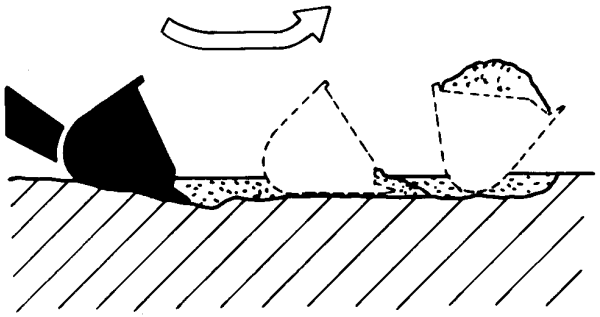
T7747BC —UN—19MAY92

Bucket Raise and Curl

DP99999,000005F -19-10DEC13-1/3

EXCAVATING ON THE LEVEL: Position bucket at a slightly downward angle on ground (use bucket teeth for this type of digging).

IMPORTANT: Prevent possible damage to the bellcrank linkage. DO NOT bulldoze with bucket in dump position. When dozing, keep bucket bottom parallel to the ground.



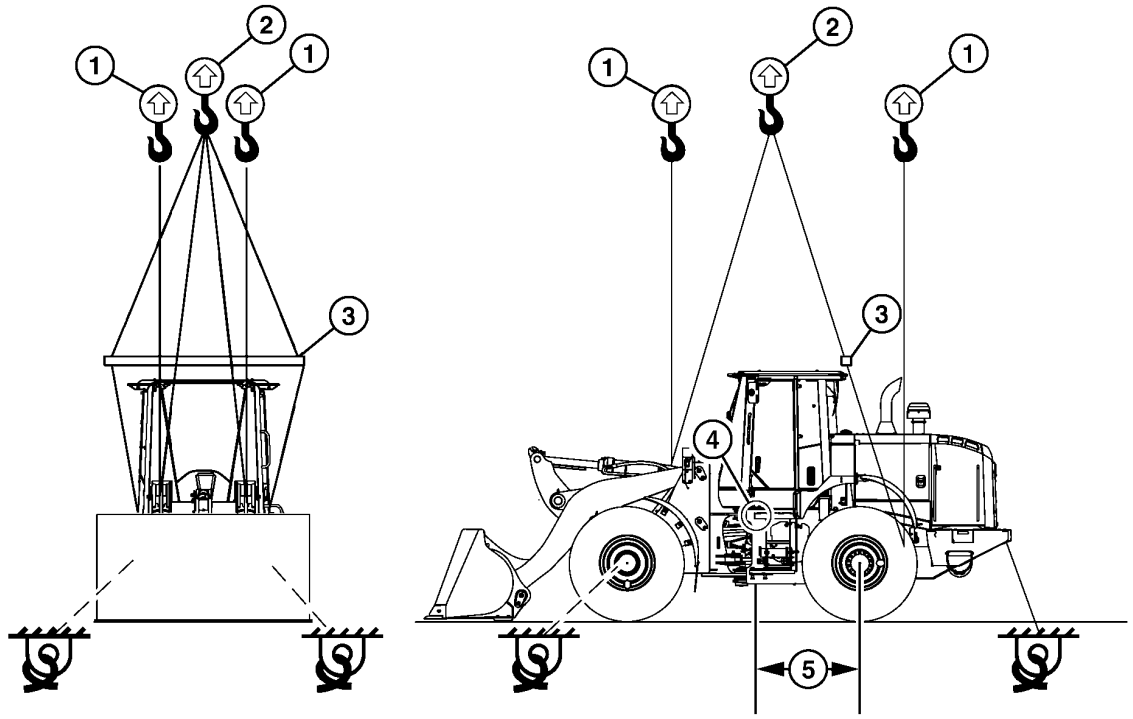
T7208AR —UN—30JAN90

Excavating Method

Continued on next page

DP99999,000005F -19-10DEC13-2/3

Lifting the Machine



TX1083466

TX1083466 —UN—01NOV10

1— Alternate Lifting Method
2— Alternate Lifting Method
3— Spreader Bar
4— Center of Gravity
5— Center of Gravity Dimension

CAUTION: Prevent possible injury from unexpected machine movement. Clear all bystanders from lifting area. Select correct lifting cable strength for weight of machine. Test lift by raising machine 0.3 m (1 ft) off the ground.

1. Install machine frame locking bar. See Frame Locking Bar. (Section 3-2.)
2. Position crane for level machine lift.
3. For information on machine specifications, see Miscellaneous—Specifications. (Section 4-6.)

IMPORTANT: Use proper rated cables and slings for lifting.

4. Attach cables to machine, using alternate lifting methods (1 or 2).

Specification	
Center of Gravity Dimension (5)—Length	1488 mm (58.6 in.)
Standard Z-Bar Linkage—Maximum Operating Weight	18 682 kg (41 188 lb.)
High-Lift Z-Bar Linkage—Maximum Operating Weight	19 091 kg (42 088 lb.)

5. Attach a tether cable to machine to control machine as it is lifted.
6. Test lift by raising machine 0.3 m (1 ft) off the ground.
7. Lift machine and swing to unloading area.

SP66632,0004908 -19-01NOV13-1/1

Display Unit—Main Menu—Settings—Quick Shift

The **QUICK SHIFT** menu allows the operator to choose between DOWN/UP and DOWN ONLY shift mode when the transmission is in either manual or automatic operation. Initial default selection is DOWN ONLY shift mode.

The quick shift switch is located at the top of the joystick controller on single lever hydraulic control systems and on the bucket control lever on two lever control systems. See lever configuration stories at the beginning of Section 2-1 and Shifting the Transmission in Section 2-2.

DOWN/UP: When this mode is selected, the transmission downshifts one gear when the quick shift switch is pressed once. It is not possible to downshift more than one gear. When the quick shift switch is pressed again, the transmission electronically shifts up one gear.

DOWN ONLY—Transmission in Manual Mode: When this mode is selected, each time the quick shift switch is pressed, the transmission shifts down one gear (regardless of selected gear). Once a downshift is made by pressing the quick shift switch, the transmission will not shift up again unless a direction change is made using forward, neutral, or reverse (FNR) lever or FNR switch or a gear change request is made by rotating FNR lever or pressing increase gear button.

DOWN ONLY—Transmission in Automatic Mode: If the operator presses the quick shift switch when the transmission is in the automatic mode, the transmission shifts down one gear below the actual gear shown in the display window. This change is made regardless of requested gear.

The DOWN ONLY function works basically the same in automatic mode as in manual mode, except the transmission automatically shifts up or down from the highest gear downshifted to.

If the operator presses the quick shift switch while an upshift is taking place, the transmission control unit causes the transmission to shift down to the previous gear.

If the operator presses the quick shift switch while a downshift is taking place, the transmission control unit ignores the request for the downshift.

The transmission automatically shifts up or down from the actual gear shown in the display window until the FNR switch or lever is moved to neutral. When FNR switch or lever is moved to neutral, DOWN ONLY quick shift mode is canceled and transmission goes back to fully automatic mode.

At SETTINGS menu, press UP button or DOWN button to highlight QUICK SHIFT.

Press SELECT button to display QUICK SHIFT menu.

DOWN/UP mode is on when a checkmark is displayed next to DOWN/UP.

To turn on DOWN ONLY mode and disable DOWN/UP mode, press DOWN button on the display to highlight DOWN ONLY, then press SELECT button.

Press BACK button to return to previous menu.

OUT4001,0000596 -19-07JUL15-1/1

Display Unit—Main Menu—Settings—Job Timer

The job timer is a resettable hour meter that can be used to time tasks to the nearest tenth of an hour. The maximum time displayed is 999.9 hours. The job timer stops and the value is set to zero when it exceeds 999.9 hours. Once started, the job timer runs even when **JOB TIMER** menu is hidden. If engine stop switch is pressed, the job timer value is stored.

At SETTINGS menu, press UP button or DOWN button to highlight JOB TIMER.

Press SELECT button to display JOB TIMER menu.

If timer is off, press SELECT button to start the timer. If timer is on, press SELECT button to stop the timer.

Press DOWN button to reset timer to zero.

Press BACK button to return to previous menu.

OUT4001,0000597 -19-19APR10-1/1

Display Unit—Main Menu—Diagnostics—Tire Pressure—If Equipped

The vehicle control unit (VCU) determines if the machine has a tire pressure monitor (TPM) system installed. The **TIRE PRESSURE** menu lets the operator view needed tire information.

At DIAGNOSTICS menu, press UP button or DOWN button to highlight MORE, then press SELECT button to display DIAGNOSTICS menu page 2.

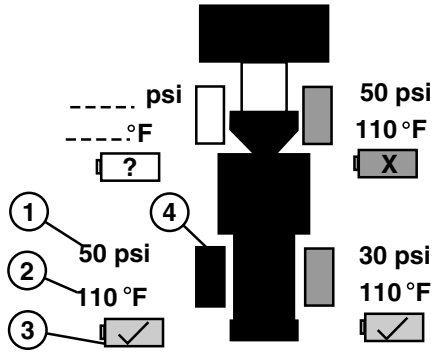
Press UP button or DOWN button to display TIRE PRESSURE menu.

TIRE PRESSURE menu items on display include:

1. **TIRE PRESSURE VALUES—**Displays the current measured tire pressure (1), the current measured tire temperature (2), and the sensor battery status (3) for each tire (4) on the machine. To adjust preset pressure and temperature ranges, see your authorized dealer.
   Color coding and explanation for tire status:
   - Black — tire is good
   - Red — fault/warning condition (this will appear to warn the operator that the pressure or temperature is out of preset range or if the sensor battery is going bad)
   - White— status is unknown

   Color coding and explanation for battery icon status:
   - Green with check mark displayed — battery is good
   - Red with an X displayed — battery is bad, but may last for 8 months to 1 year before replacement is necessary
   - White with a question mark displayed— status is unknown

   If an invalid or no response is received from the TPM system for the desired tire, the displayed tire will be white. The pressure and temperature status next to the tire will be "- - -", and the battery icon will display a question mark. This unknown condition may be present during power up. If the unknown condition persists, see your authorized dealer.
2. **ALARM TEMP VALUES—**Displays the set alarm pressure value and the actual alarm pressure value of each tire. The stored alarm value is the pressure which the operator wishes the tire alarm to trigger. The actual alarm values are compensated values from the set value due to temperature. The actual alarm value is the pressure the alarm will trigger. The set values and the actual values are shown under each of these headings:
   - FR (front right tire)
   - FL (front left tire)
   - BR (back right tire)
   - BL (back left tire)



TX1060757 —UN—23JUN09

Tire Pressure Monitor Screen

1— Tire Pressure
2— Tire Temperature
3— Sensor Battery Status
4— Tire (4 used)

Press DOWN button to highlight the desired menu selection.

Press SELECT button to obtain information about the item selected.

Press BACK button to return to previous menu.

OUT4001,00005A6 -19-05OCT11-1/1

Display Unit—Main Menu—Security—Delayed Operator Logout

The **DELAYED OPERATOR LOGOUT** menu allows the machine owner to set the time interval allowed for logout after the machine is shut off. Once the logout time expires, the operator must enter a PIN to restart the machine. This feature simplifies the procedure and reduces the restart time when operator must periodically shut down machine for short wait times. The delayed operator logout time can only be reset by owner with the following selections:

- **OFF**
- **5 MINUTES**
- **60 MINUTES**

Press DOWN button at MAIN MENU to highlight SECURITY.

Press SELECT button and OWNER PIN screen appears.

Enter current owner PIN on numeric keypad on sealed switch module (SSM), then press enter key on SSM to activate SECURITY menu.

SECURITY menu appears.

Press DOWN button to highlight DELAYED OPERATOR LOGOUT, then press SELECT button.

Press DOWN button to highlight desired delay time. Selection is active when a checkmark is displayed next to it.

Press SELECT button to store new time.

Press BACK button to return to previous menu.

OUT4001,00005B5 -19-26APR10-1/1

- Possible reduction in water separator efficiency
- Possible damage to paint if exposed to BioDiesel
- Possible corrosion of fuel injection equipment
- Possible elastomeric seal and gasket material degradation (primarily an issue with older engines)
- Possible high acid levels within fuel system
- Because BioDiesel blends above B20 contain more ash, using blends above B20 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present)

IMPORTANT: Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere engines. Their use could cause engine failure.

DX,FUEL7 -19-15MAY13-2/2

Testing Diesel Fuel

A fuel analysis program can help to monitor the quality of diesel fuel. The fuel analysis can provide critical data such as cetane number, fuel type, sulfur content, water content, appearance, suitability for cold weather operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets specification.

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

DX,FUEL6 -19-14APR11-1/1

Supplemental Diesel Fuel Additives

Diesel fuel can be the source of performance or other operational problems for many reasons. Some causes include poor lubricity, contaminants, low cetane number, and a variety of properties that cause fuel system deposits. These and others are referenced in other sections of this Operator's Manual.

To optimize engine performance and reliability, closely follow recommendations on fuel quality, storage, and handling, which are found elsewhere in this Operator's Manual.

To further aid in maintaining performance and reliability of the engine's fuel system, John Deere has developed a family of fuel additive products for most global markets. The primary products include Fuel-Protect Diesel Fuel Conditioner (full feature conditioner in winter and summer formulas) and Fuel-Protect Keep Clean (fuel injector deposit removal and prevention). Availability of these and other products varies by market. See your local John Deere dealer for availability and additional information about fuel additives that might be right for your needs.

DX,FUEL13 -19-07FEB14-1/1

Fuel Filters

The importance of fuel filtration cannot be overemphasized with modern fuel systems. The combination of increasingly restrictive emission regulations and more efficient engines requires fuel system to operate at much higher pressures. Higher pressures can only be achieved using fuel injection components with very close tolerances. These close manufacturing tolerances have significantly reduced capacities for debris and water.

John Deere brand fuel filters have been designed and produced specifically for John Deere engines.

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

DX,FILT2 -19-14APR11-1/1

Grease

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere MOLY HIGH TEMPERATURE EP GREASE or SAE multipurpose EP grease containing 3 to 5% molybdenum disulfide are preferred.

The following greases are also recommended:

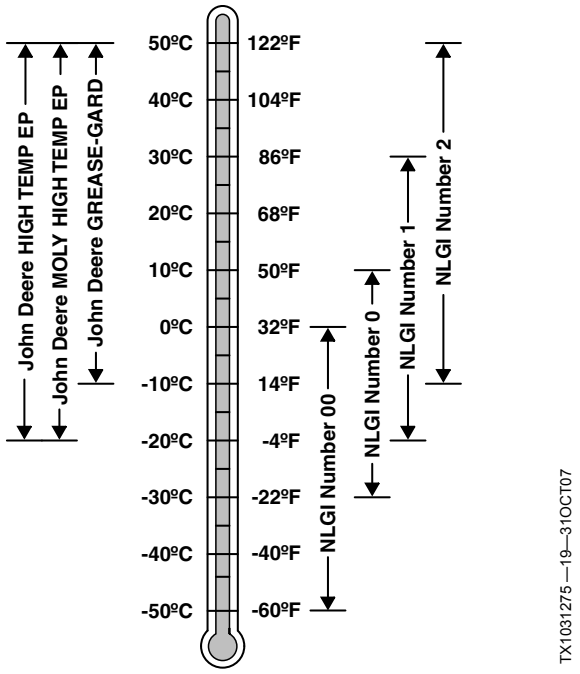
- John Deere HIGH TEMPERATURE EP GREASE
- John Deere GREASE-GARD™
- NLGI No.2
- NLGI No.1
- NLGI No.0
- NLGI No.00

Other greases may be used if they meet the following:

- SAE multipurpose EP grease
- NLGI Performance Classification GC-LB
- MIL-PRF-10924

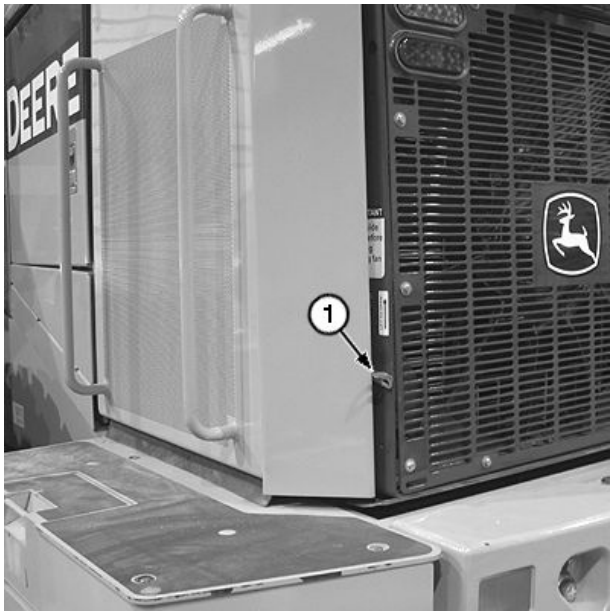
IMPORTANT: Some types of grease thickeners are not compatible with others. Consult your grease supplier before mixing different types of grease.

GREASE-GARD is a trademark of Deere & Company



DP99999,00002CE -19-14JUN10-1/1

Cooling System Doors



TX1083553A —UN—22OCT10

Left Cooler Door

TX1083554A —UN—22OCT10

Right Cooler Door

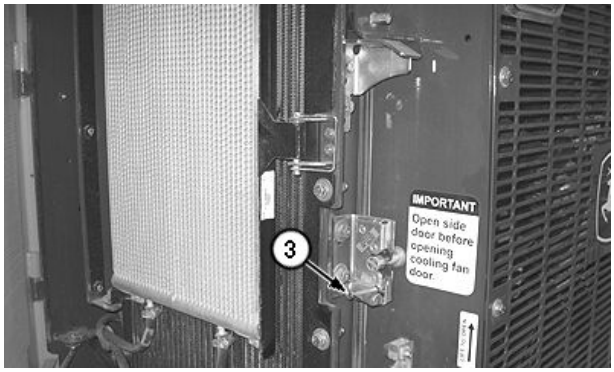
IMPORTANT: Prevent damage to cooler doors. Open left and right side cooler doors before opening fan grille.

1. Press down on left door release lever (1) and fully open left cooler door until it locks in open position.
2. Press down on right door release lever (2) and fully open right cooler door until it locks in open position.
3. Press down on fan grille release lever (3) and open fan grille door until it locks in open position.

CAUTION: Top door is heavy. Prevent crushing injuries. Be sure that door is locked in open position before releasing.

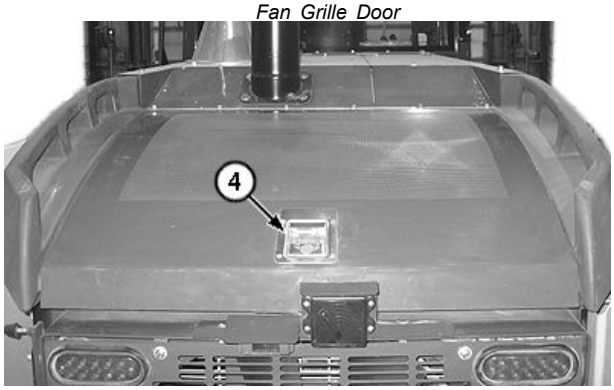
4. Pull top door release latch (4) up and raise top cooler door until it locks in open position.

1— Left Door Release Lever
2— Right Door Release Lever
3— Fan Grille Release Lever
4— Top Door Release Latch



TX1083555A —UN—22OCT10

Fan Grille Door



TX1083556A —UN—22OCT10

Top Cooler Door

OUT4001,00006B0 -19-22OCT10-1/1

	Other	Pressure	296 kPa 2.96 bar 43 psi	317 kPa 3.17 bar 46 psi	400 kPa 4.00 bar 58 psi	427 kPa 4.27 bar 62 psi	476 kPa 4.76 bar 69 psi	503 kPa 5.03 bar 73 psi	—	—
Rear Empty Tire		Load	8482 kg 18 700 lb.	8890 kg 19 600 lb.	9253 kg 20 400 lb.	9752 kg 21 500 lb.	10 886 kg 24 000 lb.	13 041 kg 28 750 lb.	15 558 kg 34 300 lb.	17 894 kg 39 450 lb.
29.5R25 L3*, L5*	Michelin	Pressure	200 kPa 2.00 bar 29 psi	200 kPa 2.00 bar 29 psi	221 kPa 2.21 bar 32 psi	248 kPa 2.48 bar 36 psi	283 kPa 2.83 bar 41 psi	352 kPa 3.52 bar 51 psi	455 kPa 4.55 bar 66 psi	552 kPa 5.52 bar 80 psi
	Other	Pressure	276 kPa 2.76 bar 40 psi	290 kPa 2.90 bar 42 psi	303 kPa 3.03 bar 44 psi	324 kPa 3.24 bar 47 psi	372 kPa 3.72 bar 54 psi	—	—	—

Example:

For the base 724K with 3000 lb/cu yd. material:

- Single front tire, loaded vehicle: 22 040 lb
  - Michelin 23.5R25 L3*
  - Pressure: 43 psi, 55 psi for added stability in the pile
- Single rear tire, empty vehicle: 11 650 lb
  - Michelin 23.5R25 L3*
  - Pressure: 29 psi

For the maximum weight factory option 724K with 3000 lb/cu yd. material:

- Single front tire, loaded vehicle: 24 500 lb
  - Michelin 23.5R25 L3*
  - Pressure: 50 psi, 60 psi for added stability in the pile
- Single rear tire, empty vehicle: 12 930 lb
  - Michelin 23.5R25 L3*
  - Pressure: 29 psi

OUT4001,0000407 -19-18MAR13-3/3

Check Wheel Bolt Torque

NOTE: Tighten bolts after first 10 hours, then again after first 50 hours of loaded operation. After that, tighten as required. Threads should be clean and lightly oiled.

Item	Measurement	Specification
Wheel Bolt	Torque	624 N·m 460 lb.-ft.

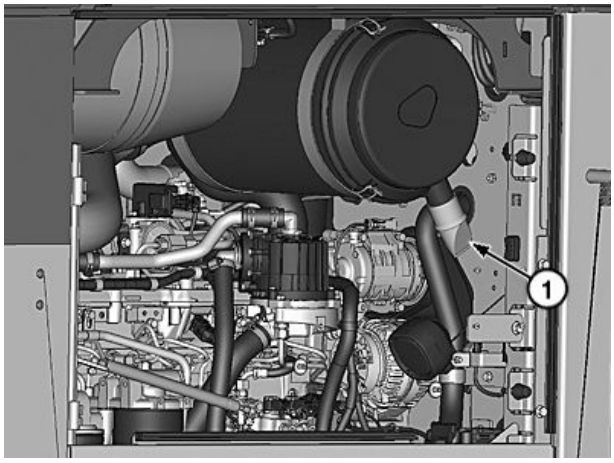
OUT4001,000056B -19-12OCT10-1/1

Clean Air Cleaner Dust Unloader Valve

IMPORTANT: A missing, damaged, or hardened dust unloader valve will make the dust cup precleaner ineffective, causing very short element life. Valve should suck closed above 1/3 engine speed.

NOTE: If operating in high dust conditions, squeeze dust unloader valve every couple of hours of operation to release dust.

1. On left side of machine, open engine service door.
2. Squeeze dust unloader valve (1) to remove dust from the air cleaner.
3. Check condition of dust unloader valve. Replace it, if hardened or damaged.
4. Close engine service door.



TX1145098A —UN—04OCT13

Dust Unloader Valve

1— Dust Unloader Valve

SP66632,00048EA -19-04OCT13-1/1

Check Coolant Level at Surge Tank

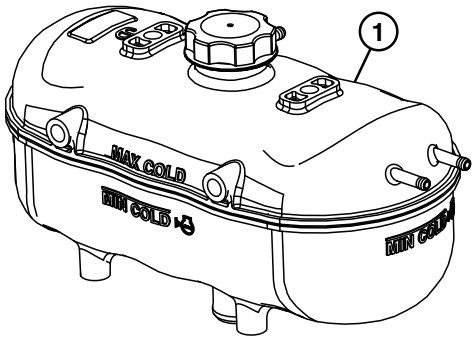
CAUTION: Prevent possible injury from hot spraying fluids. Shut off engine. Remove filler cap only when cool enough to touch with bare hands. Slowly loosen cap to relieve pressure before removing completely.

1. Open top cooler door and check coolant level in surge tank (1).
2. With engine cold, coolant level must be between MIN COLD and MAX COLD marks on surge tank.
3. If coolant is below MIN COLD mark, add coolant to surge tank. See Diesel Engine Coolant (engine with wet sleeve cylinder liners). (Section 3-1.)
4. If surge tank is empty, check for leaks in tank, hoses, and radiator. Repair as required, then refill with coolant.

1— Surge Tank

TS281 —UN—15APR13

Service Cooling System Safely



TX1188928 —UN—26MAR15

Surge Tank

AA40007,0006BBE -19-04MAY15-1/1

Check Battery Electrolyte Level and Terminals

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

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

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

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

Avoid the hazard by:

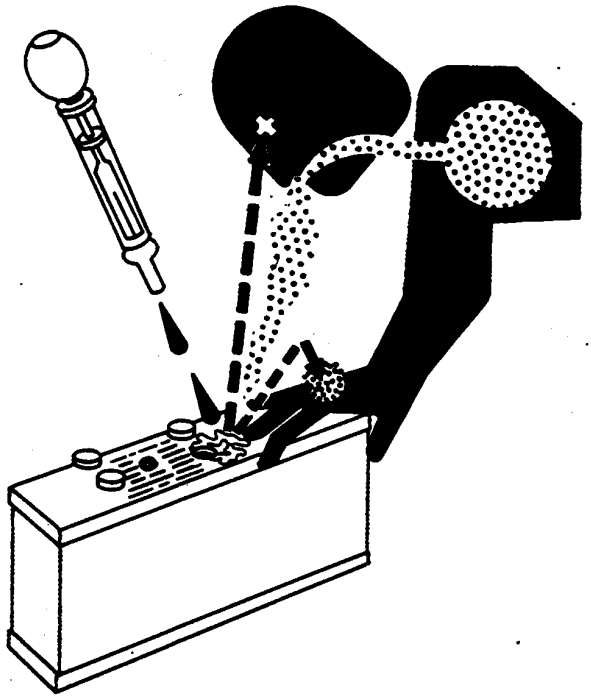
1. **Filling batteries in a well-ventilated area.**
2. **Wearing eye protection and rubber gloves.**
3. **Avoiding breathing fumes when electrolyte is added.**
4. **Avoiding spilling or dripping electrolyte.**
5. **Use proper jump start procedure.**

If acid is spilled on skin:

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.**
4. **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 1.9 L (2 qt).**
3. **Get medical attention immediately.**



TS203 —UN—23AUG88

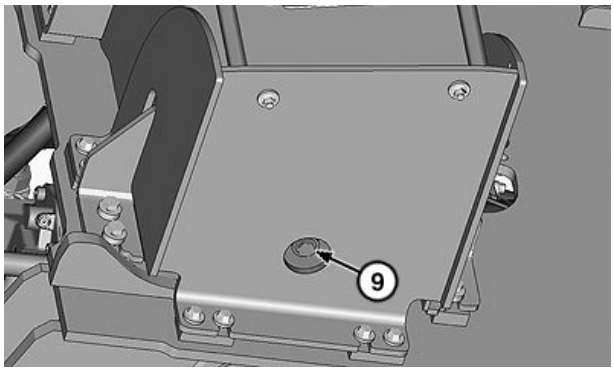
Avoid Acid Burns

1. Remove battery box cover.

Continued on next page

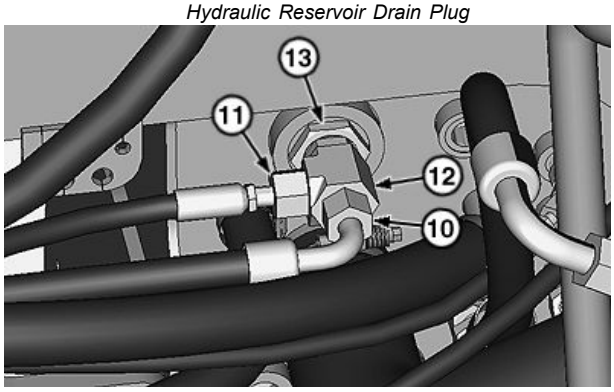
KR46761,0001096 -19-17MAY16-1/3

14. If using vacuum pump, proceed to step 16. If vacuum pump is not available, remove drain plug (9), located on the bottom of the hydraulic reservoir, and allow oil to drain into container. Cover container to keep oil clean for reuse.
15. Install drain plug.
16. Disconnect hydraulic fan pump hose (10) and hydraulic fan motor hose (11) from tee fitting (12), located on the inboard side of the hydraulic reservoir.
17. Remove tee fitting.
18. Remove in-line screen (13) from hydraulic reservoir port.
19. Thoroughly clean in-line screen and tee fitting in solvent. Blow dry with compressed air.
20. Install in-line screen into hydraulic reservoir port.
21. Install fitting.
22. Connect hydraulic fan pump hose and hydraulic fan motor hose to tee fitting.
23. If oil was drained, refill hydraulic reservoir using oil drained earlier.
24. Install fill cap.
25. Check hydraulic oil level in sight gauge (8). Level is correct when oil is in FULL range. Add oil as necessary.
26. Install hydraulic reservoir service panel.



TX1145563A —UN—14OCT13

Hydraulic Reservoir Drain Plug



TX1145565A —UN—14OCT13

Hydraulic Reservoir Hoses and Screen Fitting

9— Drain Plug
10— Hydraulic Fan Pump Hose
11— Hydraulic Fan Motor Hose
12— Tee Fitting
13— In-Line Screen

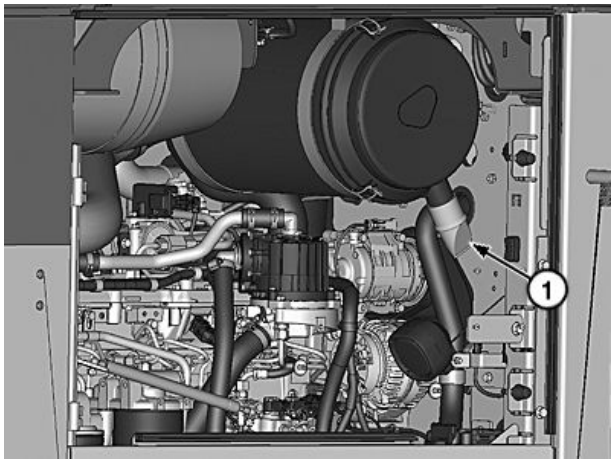
SP66632,00048F3 -19-21NOV13-2/2

Replace Air Cleaner Dust Unloader Valve

NOTE: A missing, damaged, or hardened dust unloader valve will cause the air filter elements to be ineffective.

1. On left side of machine, open engine service door.
2. Twist and pull on dust unloader valve (1) to remove valve from air cleaner cover.
3. Install new dust unloader valve on air cleaner cover.
4. Close engine service door.

1— Dust Unloader Valve



TX1145098A —UN—04OCT13

Dust Unloader Valve

SP66632,00048E8 -19-04OCT13-1/1

Drain and Refill Transmission Oil and Replace Filter (Quick Service)—If Equipped

NOTE: Shorten service intervals in severe applications which run the torque converter at high load more than approximately 25% of the time, such as basement digging or land clearing, or if using low viscosity oil.

The following chart shows the appropriate service interval in hours based on application and type of oil used.

	Oil Type and Service Interval (hours)	
Application	—John Deere Hy-Gard™ —Oils meeting JDM J20C	—John Deere Low Viscosity Hy-Gard™ —Oils meeting JDM J20D
Normal	2000	1500
Severe	1500	1000

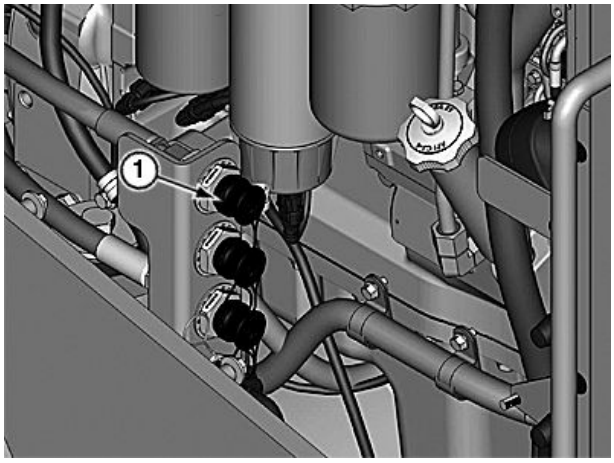
1. Operate machine under load until transmission oil reaches normal operating temperature of 80°C (175°F).
2. Park machine on a level surface.
3. Lower bucket to ground.
4. Move FNR lever or switch to N (neutral).
5. Press park brake switch on sealed switch module (SSM) (LED on switch and indicator on display unit are illuminated).

CAUTION: Prevent possible injury from unexpected machine movement. Machine can unexpectedly roll or move under power, resulting in death or serious injury. Install frame locking bar and shut off engine before changing oil.

6. Install frame locking bar.
7. Shut off engine. Let machine sit for approximately 10 minutes.

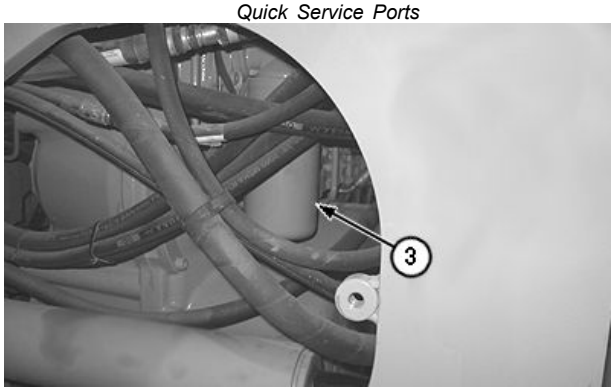
NOTE: Transmission fill cap must be removed to vent system.

8. Remove fill cap (4).
9. Attach quick service hose to transmission oil port (1).
10. Withdraw oil. Dispose of waste oil properly.
11. Remove transmission cover plate from left side of machine, under platform.
12. Turn transmission oil filter (3) counterclockwise to remove.
13. Clean mounting surface. Apply thin film of oil to gasket of new filter.
14. Install new filter. Turn filters clockwise by hand until gasket touches mounting surface.
15. Tighten 3/4 of a full turn more.



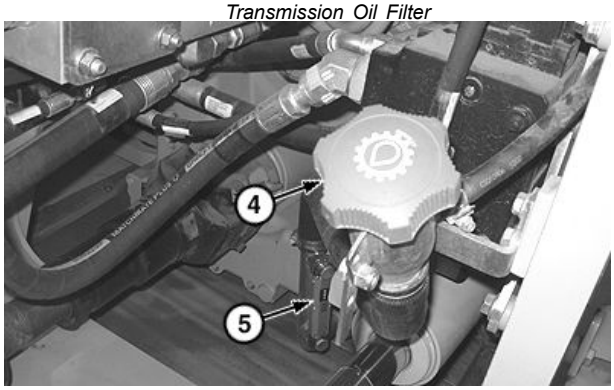
TX1145474A —UN—16OCT13

Quick Service Ports



TX1085116A —UN—24NOV10

Transmission Oil Filter



TX1078633A —UN—08JUN10

Transmission Fill Cap and Sight Gauge

1— Transmission Oil Port
3— Transmission Oil Filter
4— Fill Cap
5— Sight Gauge

16. Refill with oil at transmission oil port. For recommended oil, see Transmission, Park Brake, and Axle Oil. (Section 3-1.)

Specification

Transmission Case and Filter Oil—Capacity ..... 23.0 L 6.1 gal

17. Remove quick service hose.
18. Install fill cap.

Continued on next page

RG24095,00000A9 -19-15SEP16-1/2

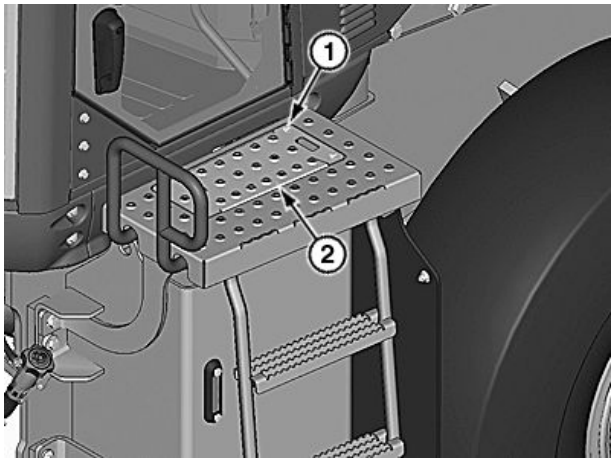
Clean Hydraulic System Fill Strainer

1. Remove cap screws (1) and hydraulic reservoir service panel (2).

CAUTION: Hydraulic Reservoir is pressurized. Remove fill cap slowly to relieve pressure.

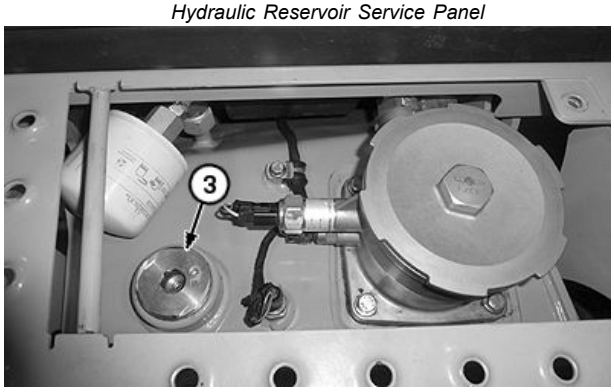
2. Remove hydraulic reservoir fill cap (3).
3. Remove strainer (4).
4. Clean strainer with solvent.
5. Install strainer.
6. Install fill cap.
7. Install hydraulic reservoir service panel with cap screws.

1— Cap Screw (2 used)
2— Hydraulic Reservoir Service Panel
3— Hydraulic Reservoir Fill Cap
4— Strainer



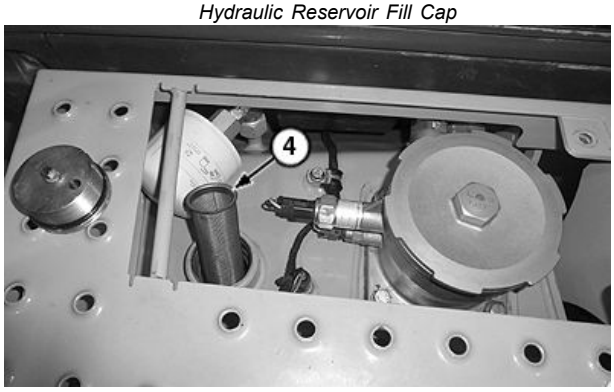
TX1145711A —UN—15OCT13

Hydraulic Reservoir Service Panel



TX1145798A —UN—18OCT13

Hydraulic Reservoir Fill Cap



TX1145799A —UN—18OCT13

Hydraulic Reservoir Fill Strainer

SP66632,00048FC -19-22NOV13-1/1

Remove and Install Batteries

NOTE: Loader is equipped with a 24-volt negative (-) ground electrical system, which uses two 12-volt batteries connected in series. If one battery fails, both batteries must be replaced.

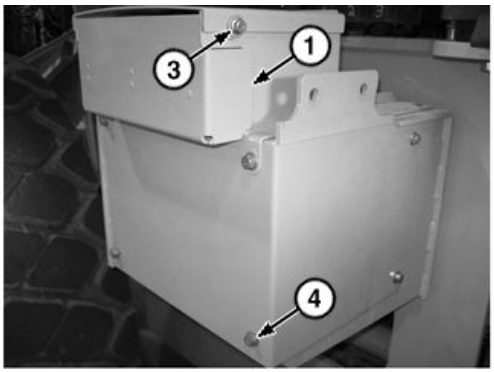
IMPORTANT: Avoid machine damage. Turn off battery disconnect switch before disconnecting cables.

1. Lift access door (1), and turn the battery disconnect switch (2) to OFF.
2. Remove cap screws (4) retaining battery box cover. Remove cover.

CAUTION: Prevent possible injury. ALWAYS disconnect grounded (-) battery cable first, and connect it last.

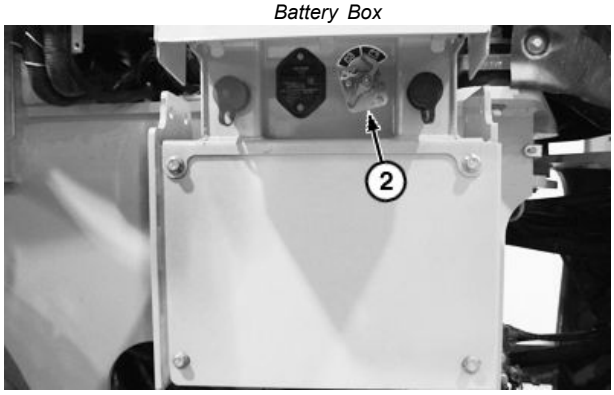
3. Disconnect negative (-) battery cable (5) from battery.
4. Remove cap screws (3) retaining access cover above battery disconnect switch. Remove access cover.
5. Disconnect negative (-) jumper terminal cable (6).
6. Disconnect positive (+) battery disconnect switch cables (7 and 8).
7. Disconnect positive (+) cab power breaker cable (9).
8. Remove top cover, containing battery disconnect switch, from battery box.
9. Disconnect positive (+) battery cable (10).
10. Disconnect and remove intermediate battery cable (11).
11. Remove nut and washer (12) and hold-down bracket (13).
12. Remove batteries from compartment.
13. Check cables and clamps for damage and wear. Replace as required.

1— Access Door
2— Battery Disconnect Switch
3— Cap Screw
4— Cap Screw
5— Negative (-) Battery Cable
6— Negative (-) Jumper Terminal Cable
7— Positive (+) Battery Disconnect Switch Cable
8— Positive (+) Battery Disconnect Switch Cable
9— Positive (+) Cab Power Breaker Cable
10— Positive (+) Battery Cable
11— Intermediate Battery Cable
12— Nut and Washer
13— Hold-Down Bracket



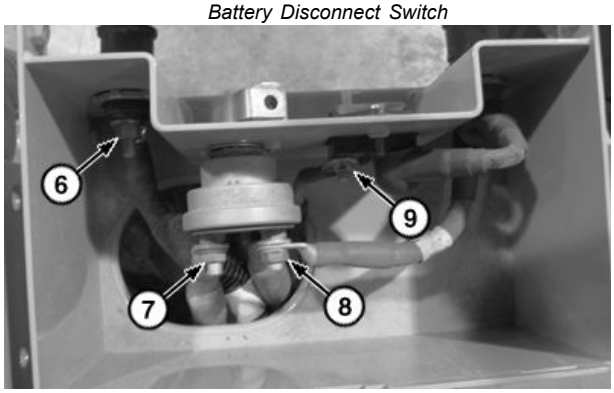
TX1143109A —UN—04SEP13

Battery Box



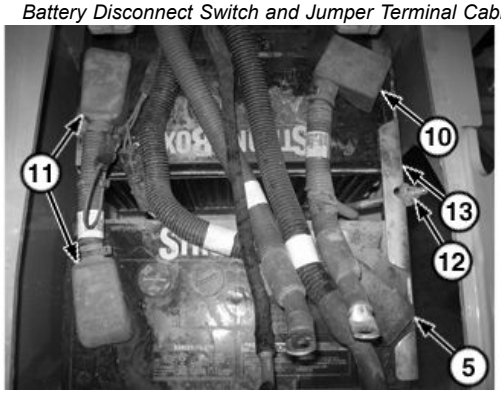
TX1143110A —UN—04SEP13

Battery Disconnect Switch



TX1143111A —UN—04SEP13

Battery Disconnect Switch and Jumper Terminal Cables



TX1143112A —UN—04SEP13

Battery Cables

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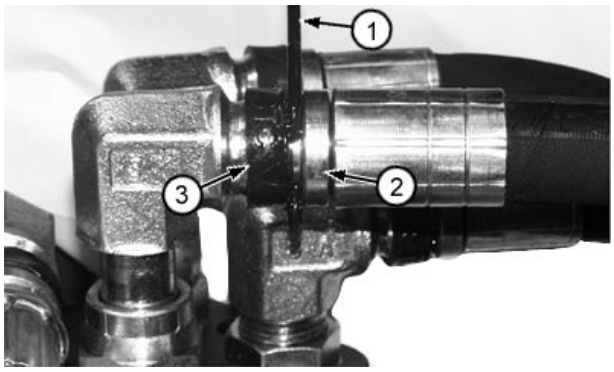
Service Recommendations For Snap-To-Connect (STC®) Fittings

Snap-To-Connect (STC®) fittings are used on this machine. The fittings are designed to allow the hydraulic hose to rotate as needed when the system is not pressurized. This prevents the hydraulic hoses from binding when components are put back to their operating position.

Fittings are easily disconnected using special tool, JDG1385 STC Fitting Release Tool (1) (supplied in machine with Operator's Manual). The special tool has a different size slot cut into each end. The narrow slot is for -06 size fittings. The wide slot is for -08 size fittings. Use appropriate end of special tool on fitting being disconnected. To connect fittings, simply push each half of fitting together.



T134792C —UN—24OCT00

STC Fitting and JDG1385 STC Fitting Release Tool

1— JDG1385 STC Fitting Release Tool
2— Shoulder
3— Release Sleeve

IMPORTANT: DO NOT pry against release sleeve (3) or damage to fitting may result.

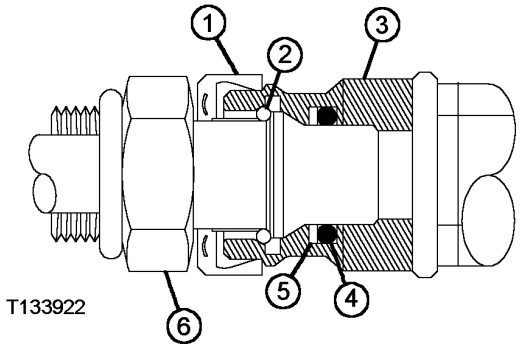
DO NOT force release sleeve beyond normal range of travel; otherwise, release sleeve may fall off when hose is disconnected. If this happens and fitting is connected without the release sleeve installed, fitting will not be able to be disconnected again.

1. Disconnect STC type fittings:
   a. Clean area around fitting, especially around the release sleeve (3).
   b. While keeping JDG1385 STC Fitting Release Tool (1) perpendicular to the fitting, insert tool between release sleeve (3) and shoulder (2).
   c. Gently push, **DO NOT PRY**, release sleeve away from shoulder to disconnect the fitting.
   d. Pull hose to disconnect.

Snap-To-Connect (STC) is a trademark of Eaton Corp.

OUO1010,0000457 -19-19DEC13-1/2

2. Inspect STC fittings:
   a. Check seal mating surfaces for nicks, scratches, or flat spots.
   b. Check O-ring (4), backup ring (5), and retaining ring (2) for wear or damage.
   c. Make sure O-ring, backup ring, and retaining ring are in position before connecting fitting halves together.
3. Connect STC fittings:
   a. Make sure fitting halves (3 and 6) are clean and free of contaminants.
   b. Make sure release sleeve (1) is on male half (6) of fitting before connecting fitting halves together.
   c. Push fitting halves together until a definite snap and solid stop is felt.
   d. Pull back on hose to make sure fitting halves are locked together.
   e. To prevent hoses from binding, move component into position before pressurizing hydraulic system.



T133922 —UN—21SEP00

STC Fitting Cross Section

1— Release Sleeve
2— Retaining Ring
3— Female Half of STC Fitting
4— O-Ring
5— Backup Ring
6— Male Half of STC Fitting

OUO1010,0000457 -19-19DEC13-2/2

Cab System Checks

TX1074224A —UN—24MAR10

Sealed Switch Module (SSM)

1— Engine Start Switch
2— Engine Stop Switch
3— Beacon Light Switch (if equipped)
4— Hazards Light Switch
5— Pilot Enable/Boom Down Switch
6— Park Brake Switch
7— Return-to-Dig Enable Switch
8— Automatic Transmission Switch
9— Ride Control Switch (if equipped)
10— Clutch Cut-Off Enable Switch
11— Boom Height Kickout Enable Switch
12— Return-to-Carry Enable Switch
13— Auto-Differential Lock Enable Switch (if equipped)
14— Spin Control Enable Switch (if equipped)
15— Pin Disconnect Switch (if equipped)
16— Air Conditioner (On/Off) Switch
17— Heated Side Mirrors Switch (if equipped)
18— Front Washer Switch
19— Front Wiper Switch
20— Drive Lights Switch
21— Torque Converter Lock Up Enable Switch (if equipped)
22— Auto-Axle Disconnect Switch (if equipped)
23— Rear Washer Switch
24— Rear Wiper Switch
25— Work Light Switch

Activate following lights:

- Dome light
- Front and rear work lights
- Front and rear drive, marker, and tail lights
- Turn lights
- Hazard lights
- Rotary beacon (if equipped)

YES: Go to next step in this check.

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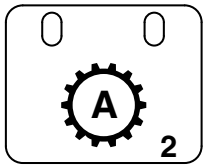
Transmission Shift Mode Check

CAUTION: Prevent possible injury from machine movement. Perform this check in an open area away from other people and machinery.



TX1028750 —UN—30AUG07

Automatic Transmission Switch

NOTE: On machines equipped with single lever pilot controls, quick shift switch is raised switch on top of control lever.

On machines equipped with two or three lever pilot controls only, quick shift switch is located on top of boom (left) pilot control lever.

Quick Shift feature operates in all gears.

Down/UP Mode:

1. Push automatic transmission switch on sealed switch module (SSM) to put transmission in manual mode (LEDs off).
2. Push SELECT button on advanced display unit (ADU) to access MAIN MENU. Select SETTINGS, then QUICK SHIFT menu. See Display Unit—Main Menu—Settings—Quick Shift. (Section 2-3.)
3. Push SELECT to set quick shift in DOWN/UP mode.
4. Release park brake and shift to third forward.
5. Drive machine at approximately 1600 rpm and press quick shift switch once. *LOOK/FEEL: Does transmission shift to and remain in 2nd gear?*
6. Push quick shift switch once more. *LOOK/FEEL: Does transmission shift back to third gear?*

NOTE: If quick shift switch is pushed twice, transmission will shift down one gear, then immediately shift back to where it was.

Down Only Mode:

1. Automatic transmission switch in manual mode (LED off).
2. Push SELECT to access MAIN MENU. Select SETTINGS, then QUICK SHIFT menu. See Display Unit—Main Menu—Settings—Quick Shift. (Section 2-3.)
3. Push NEXT to highlight DOWN ONLY, then push SELECT to set quick shift in DOWN ONLY mode.
4. Release park brake and shift to third forward.
5. Drive machine at approximately 1200 rpm and press quick shift switch once. *LOOK/FEEL: Does transmission shift to and remain in second gear?*
6. Push quick shift switch once more. *LOOK/FEEL: Does transmission shift to and remain in first gear?*
7. Push quick shift switch once more. *LOOK/FEEL: Does transmission stay in first gear?*

YES: Go to next check.

NO: Check return to dig (RTD) and quick shift switches 7.5 A fuse (F11). See Replacing Fuses. (Section 4-1.)

NOTE: When in DOWN ONLY mode, pushing quick shift switch will not change gears once first gear is reached unless a direction or gear change is made.

NO: See your authorized John Deere dealer.

Continued on next page

RG24095,000009C -19-12SEP16-27/47

Secondary Steering System Check (If Equipped)	**CAUTION: Prevent possible injury from machine movement. This check involves stopping engine while machine is moving. Perform this check in an open area away from other people and machinery.** **IMPORTANT: Do not operate secondary steering pump for more than 15 seconds with orbital steering in neutral or damage to pump and motor can occur.** *NOTE: A minimum speed of 19 km/h (12 mph) is needed when doing this check to allow the system enough time to lose steering pressure and energize secondary steering pump before park brake applies and vehicle speed reaches 0 km/h (0 mph).* Operate machine on a hard, level surface with frames straight and machine traveling at least 19 km/h (12 mph). *NOTE: An alternative way of stopping the engine is to remove ECU ignition power 5-amp fuse (F10). See Replacing Fuses. (Section 4-1.)* *NOTE: Do not push engine STOP button twice or hold it down for 1 second or more. Doing so will turn off ignition.* Push engine stop switch once on sealed switch module (SSM) to stop engine. When machine travel speed reaches less than 0.5 km/h (0.3 mph), ignition power will turn off. To keep ignition power on, push and release engine start switch when engine speed equals 0 rpm or is slow enough NOT to cause the engine to start again. *NOTE: The secondary steering pump will stop operating when machine travel speed reaches 0 km/h (0 mph) and park brake applies.* *LOOK/FEEL: Does secondary steering activate?* Steer machine to right and left. *LOOK: Does machine steer approximately halfway to stops in both directions?* *LOOK: Does secondary steering icon appear on advanced display unit (ADU) until engine stop switch is pushed?*	**YES:** Go to next check. **NO:** See your authorized John Deere dealer.

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RG24095,000009C -19-12SEP16-43/47

Symptom	Problem	Solution
	Restricted transmission pump suction screen	Remove and clean suction screen.
	Electronic control system problem or basic transmission problem	See your authorized dealer.
Transmission Hydraulic System Overheats	High transmission oil level	Check transmission oil level. See Check Transmission Oil Level. (Section 3-4.)
	Low transmission oil level	Check transmission oil level. See Check Transmission Oil Level. (Section 3-4.)
	Wrong transmission oil grade	Use correct grade of transmission oil. See Transmission, Park Brake, and Axle Oil. (Section 3-1.)
	Park brake dragging	Check for heat in park brake area.
	Pinched, restricted or leaking lube lines	Check cooler lines.
	Malfunction in temperature gauge or sender	Install temperature sensor to verify temperature. See your authorized dealer.
	Restricted air flow through oil cooler or radiator	Check oil cooler and radiator for debris. Clean if needed.
	Internal transmission problem	See your authorized dealer.
Excessive Transmission Noise (under load or no load)	Worn parts or damaged transmission	Inspect suction screen for metal particles. If metal particles are present, see your authorized dealer.
	Damaged output damper	Inspect output damper. If output damper is damaged, see your authorized dealer.
	Driveline or park brake	Inspect driveline and park brake. If any part of the driveline or park brake is damaged, see your authorized dealer.
Foaming Oil	Incorrect type of transmission oil	Check transmission oil type. Change transmission oil if needed. See Drain and Refill Transmission Oil and Replace Filters. (Section 3-10.)
	High transmission oil level	Check transmission oil level. See Check Transmission Oil Level. (Section 3-4.)
	Low transmission oil level	Check transmission oil level. See Check Transmission Oil Level. (Section 3-4.)

Continued on next page

Heater System

Symptom	Problem	Solution
Heater System Does Not Operate	Blower motor 25 A fuse (F5)	Replace fuse.
	Blower speed switch (S21)	Check switch. See an authorized John Deere dealer.
Heater Does Not Warm Interior of Cab	Fresh air filter restricted	Clean or replace fresh air filter. See Check and Clean or Replace Cab Fresh Air Filter. (Section 3-3.)
	Recirculating air filter restricted	Clean or replace recirculating air filter. See Check and Clean or Replace Cab Recirculating Air Filter. (Section 3-3.)
	Heater hose kinked, pinched, or collapsed	Reroute or re-index hoses, replace collapsed hoses.
	Heater core fins restricted	Clean heater fins.
	Heater valve remaining closed	Inspect and repair, adjust or replace heater valve or cable. See an authorized John Deere dealer.
	Temperature control switch malfunctioned	Inspect, repair or replace switch. See an authorized John Deere dealer.
Interior Windows Continue to Fog	Fresh air filter restricted	Clean or replace filter.
	Air conditioning system off	Press and release air conditioner switch to turn ON air conditioner and place temperature control knob at midrange. See Air Conditioner and Heater Operation. (Section 2-1.)

OUT4001,00005C4 -19-01NOV16-1/1

Software Update

Symptom	Problem	Solution
Service ADVISOR™ Remote (SAR) Updates Not Operating Properly	Software updates not operating properly	Follow screen instructions on the display monitor. If problem persists, see an authorized John Deere dealer.

Service ADVISOR is a trademark of Deere & Company

OUT4001,00006CA -19-19MAY15-1/1

Item	Measurement	Specification
H—Dump	Reach	1.06 m 3 ft. 6 in.
I—Maximum Digging Depth	Depth	106 mm 4.2 in.
J—Overall Machine	Length	8.10 m 26 ft. 7 in.
K—Maximum Rollback at Ground Level	Angle	42°
L—Maximum Rollback at Full Height	Angle	55°
M—Bucket Dump at Full Height	Angle	50°
Overall Machine	Weight	18 682 kg 41 188 lb.

JK05397,0000024 -19-31OCT13-2/2