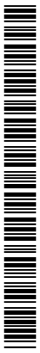
310L
Backhoe Loader
(PIN: 1T0310LX_ _F390996—)



OPERATOR'S MANUAL
310L Backhoe Loader
OMT426479X19 ISSUE B3 (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.

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

EPA Non-road Emissions Control Warranty Statement—Compression Ignition

DXLOGOV1 —UN—28APR09

JOHN DEERE

U.S. AND CANADA EMISSION 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 "Emissions Control Information" label located on the engine. If the engine is operated in the United States or Canada and the Emissions Control information label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine conforms to US EPA nonroad compression-ignition regulations", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines", or "This engine conforms to US EPA and California nonroad compression-ignition emission regulations", also refer to the "California Emission Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-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.

JOHN DEERE'S WARRANTY RESPONSIBILITY

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine including all parts of its emission-control system was designed, built and equipped so as to conform at the time of the sale with Section 213 of the Clean Air Act and is free from defects in materials and workmanship which would cause the engine to fail to conform with applicable US EPA regulations for a period of five years from the date the engine is placed into service or 3,000 hours of operation, whichever first occurs.

Where a warrantable condition exists, John Deere will repair or replace, as it elects, any part or component with a defect in materials or workmanship that would increase the engine's emissions of any regulated pollutant within the stated warranty period at no cost to you, including expenses related to diagnosing and repairing or replacing emission-related parts. Warranty coverage is subject to the limitations and exclusions set forth herein. Emission- related components include engine parts developed to control emissions related to the following:

Air-Induction System
Fuel System
Ignition System
Exhaust Gas Recirculation Systems
Aftertreatment Devices
Crankcase Ventilation Valves
Sensors
Engine Electronic Control Units

EMISSION WARRANTY EXCLUSIONS

John Deere may deny warranty claims for malfunctions or failures caused by:

- Non-performance of maintenance requirements listed in the Operator's Manual
- The use of the engine/equipment in a manner for which it was not designed
- Abuse, neglect, improper maintenance or unapproved modifications or alterations
- Accidents for which it does not have responsibility or by acts of God

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel can harm the emissions control system of the engine/equipment and is not approved for use.

To the extent permitted by law John Deere is not liable for damage to other engine components caused by a failure of an emission-related part, unless otherwise covered by standard warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Emission_CI_EPA (18Dec09)

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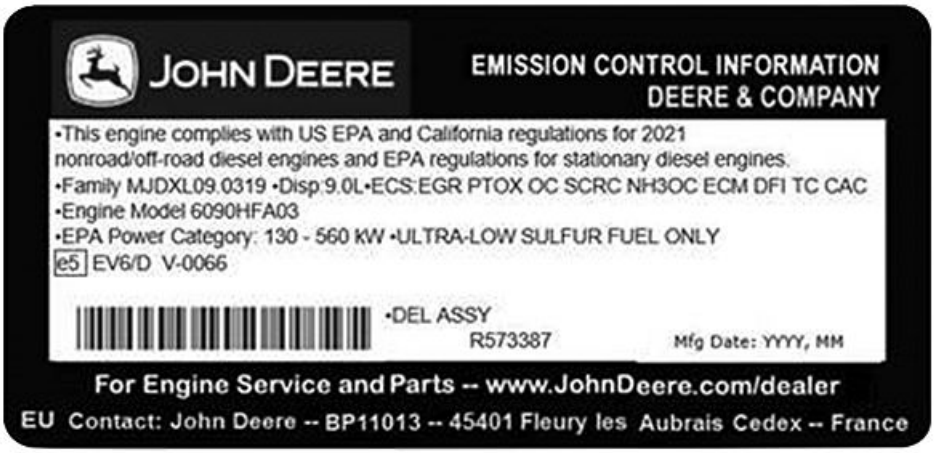
DX,EMISSIONS,EPA -19-12DEC12-1/2

Carbon Dioxide Emissions (CO_2)



RG33429 —UN—04FEB21

SAMPLE - Engine Emissions Label

To identify the carbon dioxide (CO_2) output, locate the engine emissions label. Find the appropriate family on the emissions label and reference the chart.

NOTE: The first letter of the family number is not utilized for family identification on the chart.

Emissions Label Family	CO_2 Result
_JDXL02.9323	952 g/kW-hr
_JDXL02.9327	784 g/kW-hr
_JDXL04.5337	819 g/kW-hr
_JDXL04.5338	682 g/kW-hr
_JDXL04.5304	1004 g/kW-hr
_JDXN04.5174	792 g/kW-hr
_JDXL06.8324	720 g/kW-hr
_JDXL06.8328	683 g/kW-hr
_JDXL06.8336	701 g/kW-hr
_JDXN06.8175	771 g/kW-hr
_JDXL09.0319	646 g/kW-hr
_JDXL09.0325	695 g/kW-hr
_JDXL09.0329	657 g/kW-hr
_JDXL09.0333	650 g/kW-hr
_JDXL13.5326	684 g/kW-hr
_JDXL13.6320	651 g/kW-hr
_JDXL13.5340	632 g/kW-hr
_JDXL18.0341	683 g/kW-hr
F28	870 g/kW-hr
F32	710 g/kW-hr
F33	677 g/kW-hr

This CO_2 measurement results from testing over a fixed test cycle under laboratory conditions a(n) (parent) engine representative of the engine type (engine family) and shall not imply or express any guarantee of the performance of a particular engine.

Continued on next page

DX,EMISSIONS,CO2 -19-20JUL21-1/2

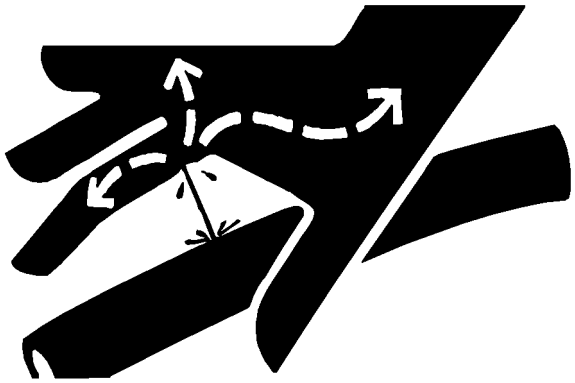
Continued on next page

Avoid High-Pressure Oils

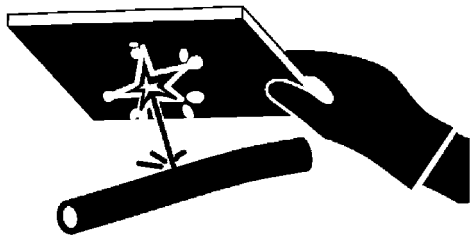
This machine uses a high-pressure hydraulic system. Escaping oil under pressure can penetrate the skin causing serious injury.

Never search for leaks with your hands. Protect hands. Use a piece of cardboard to find location of escaping oil. Stop engine and relieve pressure before disconnecting lines or working on hydraulic system.

If hydraulic oil penetrates your skin, seek medical assistance immediately.



T133509 —UN—15APR13



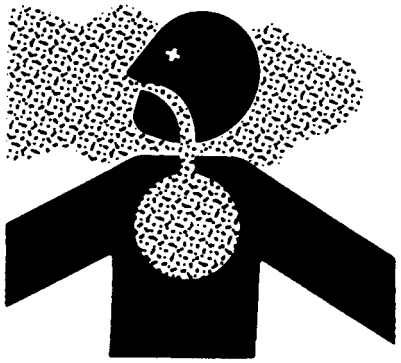
T133840 —UN—20SEP00

TX,HPOILS -19-21DEC21-1/1

Work In Ventilated Area

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

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



TS220 —UN—15APR13

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

Operate Boom With Care

Always lower the boom so that the attachment is securely supported when operation is stopped.

When moving the machine, watch that enough clearance is available on both sides and above the boom. Extra clearance may be required, particularly where the ground is uneven.

Maintain a safe operating distance between the equipment and other personnel. Never swing boom, stick, attachment, or load elevated above the heads of bystanders.

Use only prearranged and approved signaling practices.

T147349 —UN—24OCT01

Operate Boom With Care

TX,OP,BOOM,CARE -19-08MAY20-1/1

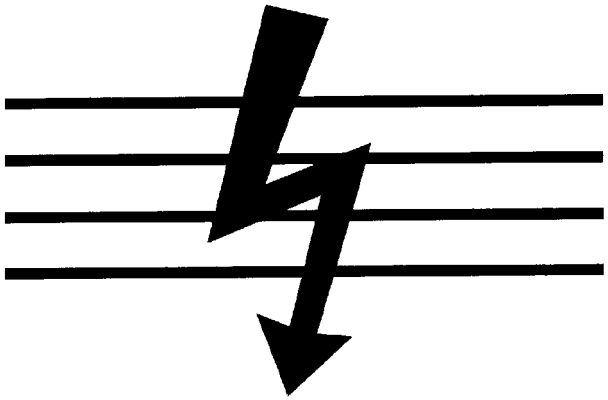
Avoid Power Lines

⚠ CAUTION: Power lines carrying more than 50 000 volts require a safety distance of 10 ft (3 m) plus 1/2 in (13 mm) for each additional 1000 volts above the 50 000 volt level.

Approach with caution areas where overhanging telephone or electric power lines are present. Serious injury or death by electrocution can result if the machine or any of its attachments are not kept a safe distance from high-voltage electric power lines.

Maintain a distance of 10 ft (3 m) between the machine, boom, stick, and any power line carrying up to 50 000 volts or less.

If state/province, local, or job site regulations require even greater safety distances than stated above, adhere strictly to these regulations for personal protection.



T147350 —UN—24OCT01

Avoid Power Lines

TX,AVOID,POWER,LINES -19-08MAY20-1/1

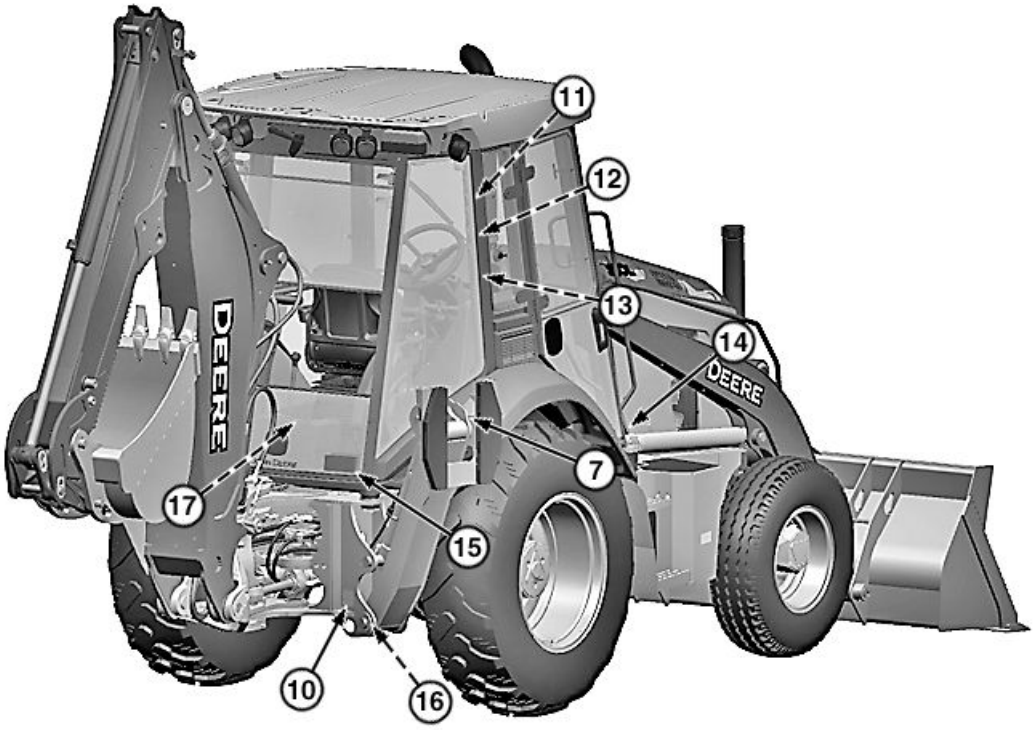
Operating on Slopes

Avoid side slope travel whenever possible. Drive up steep slope in forward and down in reverse.

Select low gear speed before starting down slope. The grade of the slope will be limited by ground condition and load being handled.

Use service brakes to control speed. Sudden brake application with a loaded bucket on downhill side could cause machine to tip forward.

JG33441,0000137 -19-27MAR15-1/1



TX1300261A

TX1300261A —UN—12AUG20

Safety Signs

7— Lift Point
10— IMPORTANT, Tiedown Points
11— CAUTION, Operate Machine Safely
12— Engine Start and Stop Procedure
13— CAUTION, Alternate Control Patterns—If Equipped
14— Lift and Tiedown
15— WARNING, Stay Clear of Swing Area
16— WARNING, Avoid Injury From Escaping Fluid
17— CAUTION, Alternate Control Patterns—If Equipped

GW86913,0000636 -19-16FEB23-2/19

1. **WARNING, Pressurized System**

   Hot coolant can cause serious burns, injury, or death. To open the cooling system filler cap, stop the engine and wait until the cooling system components are cool. Loosen the cooling system pressure cap slowly in order to relieve the pressure.

   This label is located on the surge tank cap.

TX1099924 —UN—24OCT11

WARNING, Pressurized System

Continued on next page

GW86913,0000636 -19-16FEB23-3/19

15—Display

Communicates information to the operator. Messages may be displayed to the user based on any of the following conditions:

Press NEXT to toggle between hours, job timer, transmission oil temperature, hydraulic oil temperature, and system voltage.

- Diagnostic Trouble Codes (DTCs)—When a DTC is active, press and release the SELECT button to display the current active code list in the diagnostic menu.
- Changes in any parameter being displayed for machine hours, transmission oil temperature, battery voltage, or engine RPM.
- Operator input via the NEXT, SELECT, MENU, or BACK buttons.
- A command from any other controller for functions related to that device.

Press NEXT to scroll through items to view desired data.

16—Fuel Level Gauge

- Displays current fuel level.
- If fuel level falls below 1/6 full, indicator will illuminate and a pop-up message will display. Always fill tank at end of day to prevent condensation.

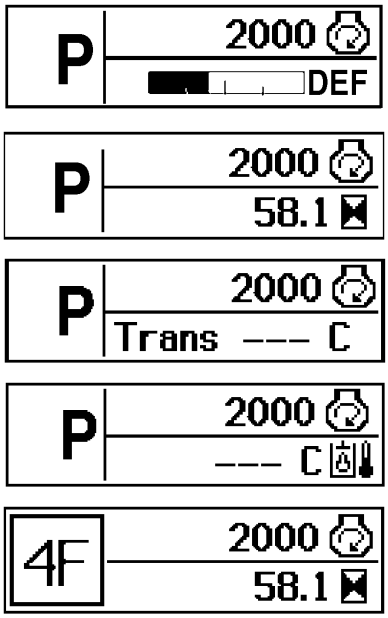
17—Engine Coolant Temperature Gauge

IMPORTANT: Prevent machine damage. DO NOT operate machine when engine coolant temperature is high.

- Gauge indicates engine coolant temperature.
- Normal operating temperature is indicated by green zone.
- If needle points to RED zone, gauge turns red, STOP engine indicator illuminates, and an audible alarm sounds, engine is over operating temperature. Stop machine and operate engine at fast idle under no load until engine cools.
- If gauge pointer still points to red indicator after several minutes, stop engine. See your authorized dealer.

18—MENU Button

Provides initial entry into machine settings, diagnostics, and monitor settings. Used to display main menu window.



TX1221298 —UN—18AUG16

Display Screens

19—BACK Button

- Cancel an adjustment or calibration and return to previous menu or submenu displayed.
- Toggles between the hour meter, transmission oil temperature, voltmeter, and diesel exhaust fluid (DEF) level displays during normal operation.

20—NEXT Button

- Will move to the next selection within a menu or mode.
- Displays next screen.
- Toggles between the hour meter, transmission oil temperature, voltmeter, and diesel exhaust fluid (DEF) level displays during normal operation.

21—SELECT Button

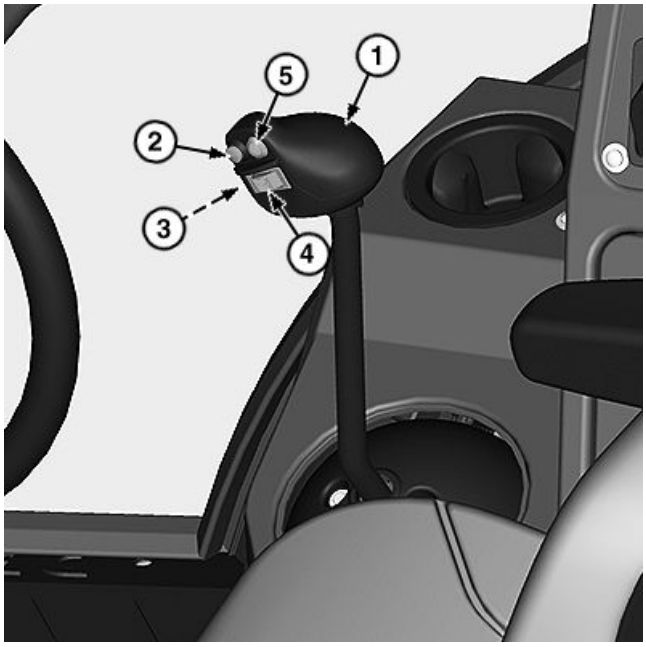
- Activate current menu function or make selections on individual submenu displays.
- Complete an adjustment or calibration.
- Acknowledge pop-up screens.

IDR2EHK,00004C8 -19-09JUL20-3/3

Loader Controls—Three-Function Loader Hydraulics, Single Lever—If Equipped

Single lever loader control with electric clutch disconnect, momentary mechanical front wheel drive (MFWD), and electrohydraulic (EH) auxiliary control.

1— Loader Control Lever
2— Clutch Disconnect Switch
3— Momentary Mechanical Front Wheel Drive (MFWD) Switch (if equipped)
4— Auxiliary Hydraulic Proportional Loader Roller
5— Quick Shift Switch (if equipped)



TX1216090 —UN—20MAY16

Single Lever, Three-Function

IDR2EHK,00004EC -19-16JUL20-1/1

Seat Controls

Mechanical Suspension Seat

CAUTION: Ensure seat is locked in position before operating machine. A seat that is loose or not properly locked can cause loss of control of machine and injuries or death.

NOTE: Grease seat base guide rails as needed.

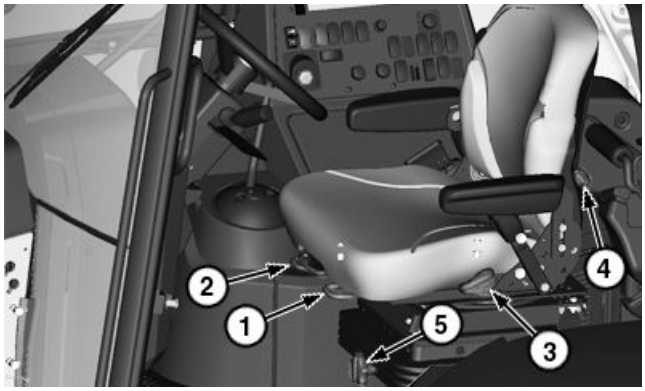
Lift fore-and-aft lever (1) up and slide seat to desired position. Release fore-and-aft lever to lock seat in position.

Lift pivot lever (2) up and pivot seat. Release pivot lever to lock seat in position.

Lift back tilt lever (3) up and adjust backrest to desired tilt angle. Release back tilt lever to lock backrest in position.

Turn lumbar support adjustment lever (4) to position lumbar support for operator's preference.

While NOT sitting on seat, turn weight adjustment knob (5) to change seat height and ride stiffness.



TX1109156 —UN—27FEB12

Mechanical Suspension Seat

1— Fore-and-Aft Lever
2— Pivot Lever
3— Back Tilt Lever
4— Lumbar Support Adjustment Lever
5— Weight Adjustment Knob

Continued on next page

IDR2EHK,00004E4 -19-15JUL20-1/2

1. Turn battery disconnect switch (1) clockwise to ON position.

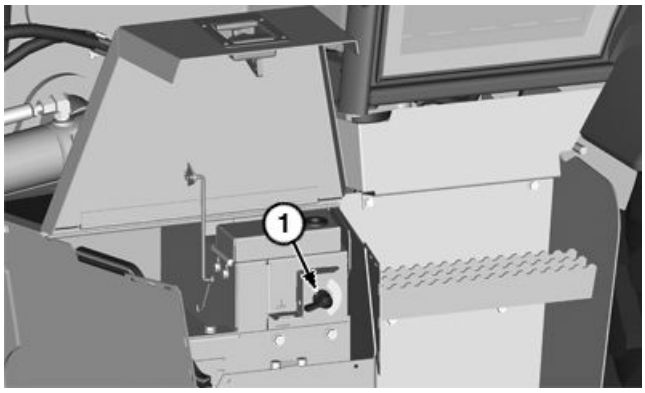
⚠ CAUTION: Prevent possible injury or death in case of an accident or machine overturn. Always wear seat belt when operating machine.

2. Fasten seat belt before starting engine.
3. Push horn button in (toward steering column) on transmission control lever (TCL) (2) to sound horn.

NOTE: Controls and switches must be in the positions described before starting engine.

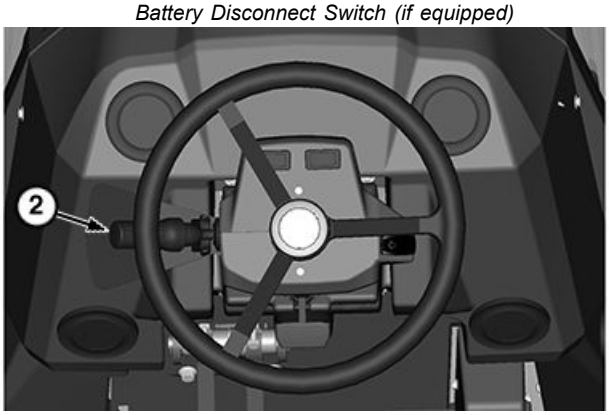
4. Place transmission control lever (TCL) in neutral (N) position.
5. Turn key switch clockwise to ON/RUN position (4) to energize ignition and apply power to control units and display unit. Do not start engine.
6. If security system has been enabled by owner, operator log on screen appears on display unit. Operator must enter valid personal identification number (PIN) code in order to start machine. See Security System. (Section 2-1.)
7. Press the left half of the park brake switch (3) to engage the park brake.
8. After display unit has initialized, turn key switch clockwise to START position (5) and hold in position until engine starts. Release key switch when engine starts. If engine does not start after 30 seconds, turn key switch to OFF position (6) and wait 2 minutes before trying again.
9. After engine start, display will show FASTEN SEAT BELT warning for 5 seconds.
10. Operate machine at less than normal loads and at half speed until engine warms up.

1— Battery Disconnect Switch (if equipped)
2— Transmission Control Lever (TCL)
3— Park Brake Switch
4— ON/RUN Position
5— START Position
6— OFF Position



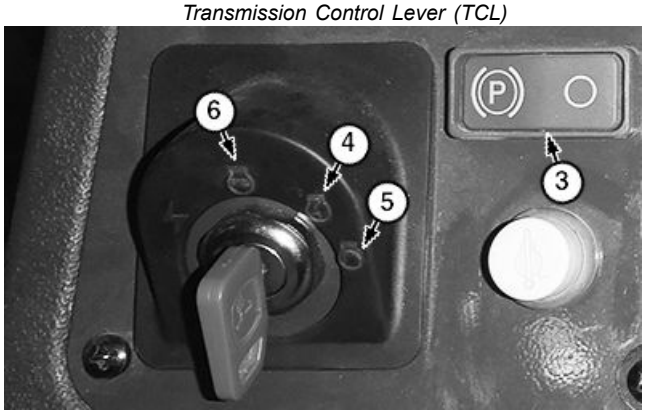
TX1171846 —UN—15SEP14

Battery Disconnect Switch (if equipped)



TX1175475 —UN—24OCT14

Transmission Control Lever (TCL)



TX1175477 —UN—07NOV14

Key Switch

IDR2EHK,0000507 -19-22JUL20-2/2

Parked Cleaning

CAUTION: Servicing machine during exhaust filter parked cleaning can result in serious personal injury. Avoid exposure and skin contact with hot gases and components.

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

Avoid death or serious injury from machine movement. Do not leave running machine unattended during exhaust filter cleaning.

IMPORTANT: Avoid machine damage. Always park machine in a safe location and check for adequate fuel level before beginning exhaust filter parked cleaning.

Parked cleaning is prompted by the monitor and initiated by the operator. This process allows the system to clean the exhaust filter. Parked cleaning is most commonly initiated after extended operation with exhaust filter auto cleaning disabled or frequent engine shutdowns have occurred while the auto cleaning process was active.

During the cleaning process, the engine speed will be controlled automatically and the machine must remain parked to complete the procedure. Complete cleaning time takes less than 45 minutes, but will vary on several criteria including fuel type, oil type, duty cycle, and the number of previously aborted exhaust filter cleaning requests.

Parked cleaning needs to be activated through the monitor menu. The first parked cleaning menu offers a choice to either automatically shut down the machine after parked cleaning is complete or to not shut down. For more information, see Operation—Exhaust Filter Parked Cleaning. (Section 2-3.) Parked cleaning can only be initiated if the filter restriction is at HIGH or VERY HIGH soot levels. Machine needs to be in a predetermined safe state. This safe state includes two conditions:

- Park brake applied
- Engine running at idle

Parked cleaning occurs in two stages. The first stage is to prepare the exhaust filter by automatically raising exhaust filter temperature to 300°C (572°F). Preparation status is displayed on the monitor. Once the exhaust filter temperature reaches 275—300°C (527—572°F), the cleaning process may begin. The second stage is when the cleaning process begins and may result in exhaust filter temperatures exceeding 550°C (1021°F). Progress status is displayed on the monitor. The cleaning process will continue until one of the following conditions exist:

- Until there is no soot restriction in the exhaust filter
- 45 minutes have elapsed, causing a time-out
- Operator cancels the parked cleaning procedure by releasing park brake or increasing engine speed
- Parked cleaning is aborted due to a malfunction
- Engine runs out of fuel
- Engine is shut off by operator (not recommended)

The exhaust filter cleaning indicator will be illuminated on the monitor during a parked cleaning. When parked cleaning procedure is complete, engine will automatically return to low idle and exhaust filter cleaning indicator will turn off. Machine is ready to return to operation.

IMPORTANT: Avoid engine damage. If machine will NOT be returning to operation immediately after a parked cleaning procedure, allow the engine and exhaust filter time to return to normal operating temperatures BEFORE stopping engine.

Operator can choose to have the machine automatically shutdown when parked cleaning procedure is complete by selecting the auto-shutdown feature from the monitor parked cleaning menu. If auto-shutdown was not chosen and operator decides not to return to operation after a parked cleaning procedure, allow the engine and exhaust filter time to return to normal operating temperatures, BEFORE stopping engine.

Avoid disabling the auto cleaning process unless absolutely necessary. Repeated disabling of the auto cleaning process or ignoring prompts to perform a parked cleaning procedure, will cause engine power limitations and can eventually lead to dealer required service cleaning.

Ash Removal

The exhaust filter cleaning procedures described previously cleaned the soot from the machine's exhaust filter. The exhaust filter also traps ash deposits over time which are not removed during an exhaust filter cleaning. When the exhaust filter has run several thousand hours, these ash deposits can restrict engine performance and must be removed. For more information on ash removal, see Service Exhaust Filter. (Section 3-3.)

BE78919,0000471 -19-10AUG20-2/2

Backhoe Operation—Pilot Controls—Excavator Pattern

CAUTION: Different control patterns are available for this backhoe. Always verify control response before operating.

Prevent possible personal injury from unexpected machine movement. DO NOT operate backhoe from outside the operator's station. Only operate when in the operator's seat in backhoe operation position with stabilizers down.

IMPORTANT: To avoid machine damage, do not swing boom into stabilizers.

NOTE: When seat is in backhoe operation position, seat position sensor will sound an audible alarm and STOP indicator will illuminate if transmission control lever (TCL) is moved to F or R.

Move seat to backhoe operation position.

NOTE: If seat moves out of backhoe operation position or the engine is shut off, the pilot controls are automatically disabled. To enable pilot controls, cycle pilot enable switch to lock position and back to unlock position.

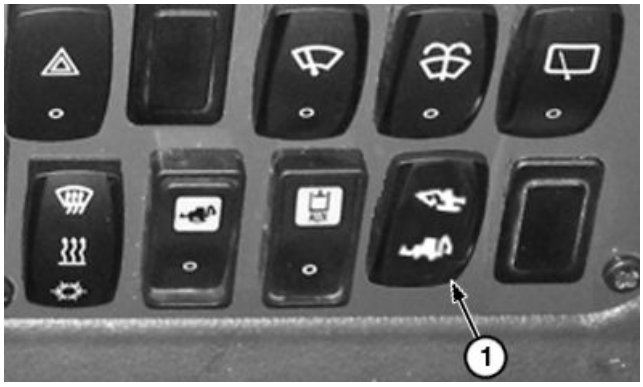
Momentarily press left half of pilot enable switch to unlock position to enable pilot controls. Three-position rocker switch will return to middle position and the joystick enable indicator on the monitor will illuminate.

Press top half of pattern select switch (1) to activate the excavator control pattern (excavator symbol on switch is illuminated). With this control pattern, functions must correspond to the black-on-yellow labels located on the cab post. When engine is started, the control pattern last selected will be automatically activated when pilot controls are enabled.

Operate backhoe with pilot controls. Move pilot controls as shown to maneuver backhoe components in desired directions.

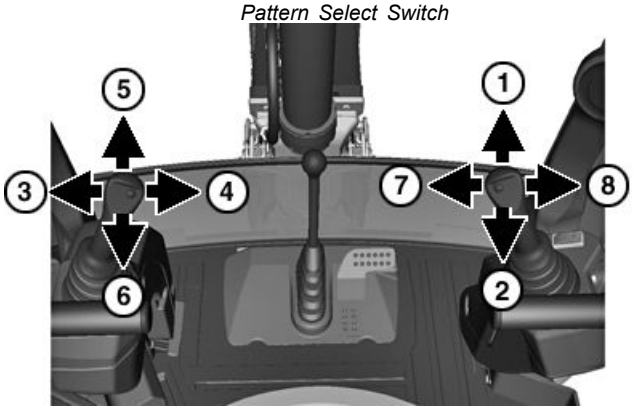
When pilot controls are released, they will return to neutral. The machine will remain positioned.

1— Pattern Select Switch
2— Boom Lower
3— Boom Raise
4— Boom Swing Left
5— Boom Swing Right
6— Dipperstick Raise
7— Dipperstick Lower
8— Bucket Load
9— Bucket Dump



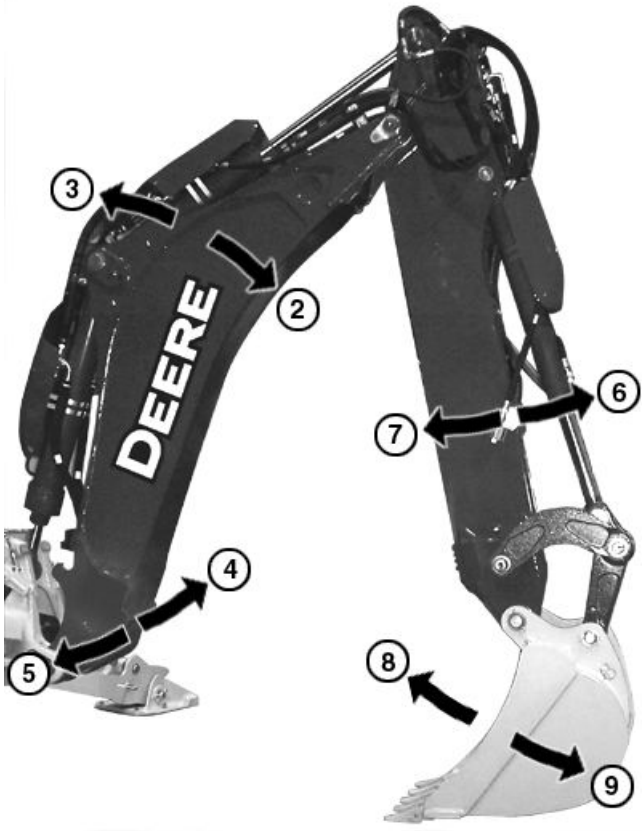
TX1109153A —UN—27FEB12

Pattern Select Switch



TX1178098 —UN—19JUL16

Pilot Controls—Excavator Pattern



TX1175680 —UN—28OCT14

Backhoe Movement

JB3888,0000EA3 -19-19AUG16-1/1

Differential Lock Operation

CAUTION: Prevent injury from loss of machine control. DO NOT engage differential lock when driving at high speed or steering will be limited.

Avoid machine damage and prevent injury from loss of machine control. DO NOT engage differential lock when turning.

Prevent injury from unexpected machine movement. When poor traction results in one rear tire spinning, slow the tire's rotation before engaging differential lock. Internal axle damage can occur if lock is applied with one rear wheel spinning at high speed.

IMPORTANT: Avoid axle damage. Engage differential lock only while machine is at idle.

To engage rear differential lock, reduce engine speed to idle, then press down and hold differential lock switch (1). When rear differential is locked, both rear wheels turn at the same speed.

Unequal traction will keep the rear differential locked. If the differential lock foot switch is released, the differential lock disengages automatically when traction evens out. Hold differential lock switch continuously to keep rear differential locked when traction is even.

TX1060003A —UN—29MAY09

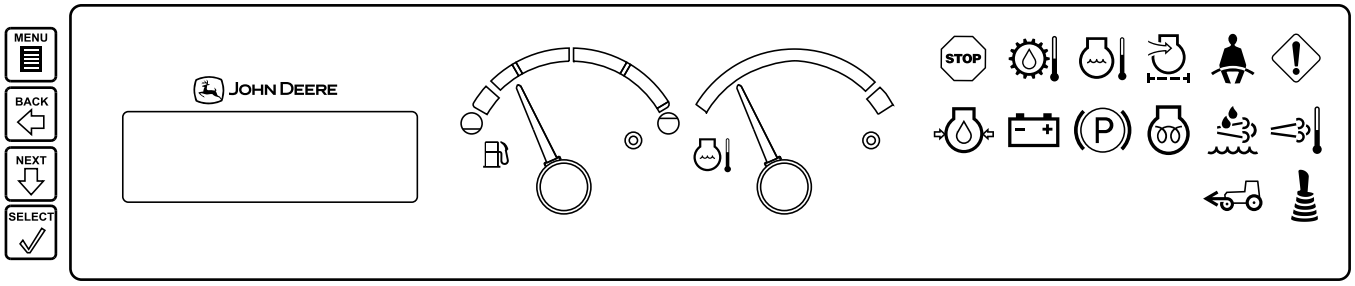
Differential Lock Switch

1— Differential Lock Switch

The differential lock function has a setting in the monitor called DIFF LOCK SPEED LIMIT (service mode only). When enabled, the system automatically disables the engagement of the differential lock system when engine speed is over 1125 rpm even though the floor switch is engaged. When the function is disabled, the operator has full control of the differential locking system with the floor switch.

BE78919,000051A -19-13AUG20-1/1

Engagement and Monitor Unit (EMU)



TX1174736 —UN—20NOV14

TX1174736

Engagement and Monitor Unit (EMU)

Wake-Up Mode

Engagement and monitor unit (EMU) wake-up mode occurs when SELECT button is depressed and held when switch power is OFF. Once SELECT button is released, EMU will power down.

Display unit performs as follows:

1. Backlight remains on.
2. All icons remain off and display window will be cleared.
3. Display will show battery voltage and machine hours.

Normal Switch Power On

When switch power is turned on for the first time, ignition switch power is turned on and applied to control units and display units.

Display unit performs a display check sequence as follows:

1. Backlight will turn on.
2. Display monitor goes into bulb check mode. All lights on display monitor will illuminate.
3. All gauges position gauge needle to center position before returning to normal runtime position.
4. Machine model number will display momentarily on display window.
5. If security system has been enabled by owner, operator logon screen will appear on display unit. Operator must enter valid personal identification number (PIN).
6. After display check is complete, display screen populates with normal display items.

For more information, see Engagement and Monitor Unit (EMU) Functions. (Section 2-1.)

BE78919,0000474 -19-11AUG20-1/1

Diesel Fuel Specifications

The engine in this machine is designed to operate only with ultra low sulfur diesel (ULSD) fuel. Use of fuel other than ULSD will reduce the efficiency and durability of the engine, will harm and permanently damage the engine's advanced emissions control systems, reduce fuel economy, and possibly prevent the engine from running at all. Emission-related warranties are likely to be rendered void by the use of fuel that does not meet these specifications.

TX,FUEL,SPECS -19-26OCT20-1/1

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

If fuel of low or unknown lubricity is used, add John Deere Fuel-Protect Diesel Fuel Conditioner (or equivalent) at the specified concentration.

Lubricity of BioDiesel Fuel

Fuel lubricity can improve significantly with BioDiesel blends up to B20 (20% BioDiesel). Further increase in lubricity is limited for BioDiesel blends greater than B20.

DX,FUEL5 -19-07FEB14-1/1

Handling and Storing Diesel Fuel

CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

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

Keep all storage tanks as full as practical to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using biodiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

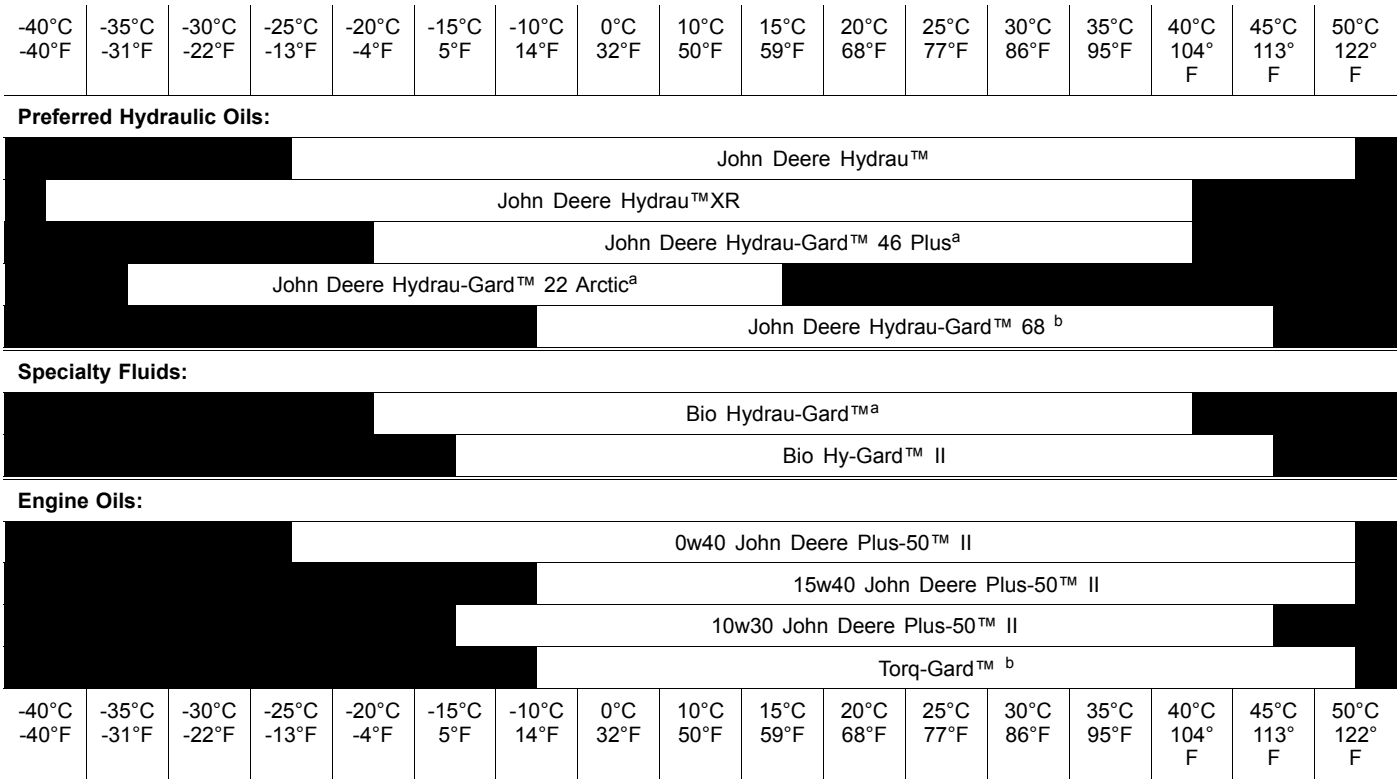
IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel. Keeping the free water drained and treating the bulk fuel storage tank quarterly with a maintenance dose of a biocide will prevent microbial growth. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4 -19-13JAN18-1/1

Hydraulic Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.



[a] *Not available in the United States or Canada*
[b] *Brazil only.*

IMPORTANT: To avoid machine damage. Do not mix fluids of different type or brand. Do not mix zinc-free and zinc-based. Mixing fluids can result in additive fall-out and lubricant degradation.

Alternative hydraulic oils may be used, at a 50% reduced service interval, if they meet the following specification.

- Anti-Wear Hydraulic Oils (AWHO):
  - ISO 11158 Category HV
  - DIN 51524-3

Hydrau is a trademark of Deere & Company
Hydrau-Gard is a trademark of Deere & Company
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Bio Hydrau-Gard is a trademark of Deere & Company
Bio Hy-Gard is a trademark of Deere & Company
Plus-50 is a trademark of Deere & Company
Torq-Gard is a trademark of Deere & Company

TX,HYDOIL,A -19-20OCT21-1/1

Service Intervals

SERVICE INTERVALS	
Service machine at intervals shown on this chart. For every service interval, repeat service on items (if applicable) that have been already checked in previous service intervals. For example: at 500 hours, also service those items (if applicable) listed under 250 hours and 10 hours or daily.	
FLUID SAMPLING	
Take fluid samples from each system as indicated on this form. The manufacturer of the fluid analysis kits provides maintenance recommendations based upon the results of the fluid analysis and the operating information supplied. Regular fluid sampling extends the operational life of machine.	
As Required	
□ Inspect tires and check pressure	□ Check windshield washer fluid level (if equipped)
□ Check wheel fastener torque	□ Lubricate nonpowered front wheel bearings (if equipped)[1]
□ Inspect cab fresh air and recirculation filter elements (if equipped)	□ Replace primary and secondary engine air filter elements
□ Service exhaust filter	□ Inspect and clean cooling system
□ Drain water and sediment from fuel filters	□ Clean and tighten battery terminals
□ Check air conditioning system refrigerant charge and system oil charge (if equipped)	
Every 10 Hours or Daily	
□ Check engine coolant level	□ Lubricate backhoe bucket cylinder and pivots
□ Check hydraulic system oil level	□ Lubricate backhoe swing cylinder and pivots
□ Check engine oil level	□ Lubricate nonpowered front axle steering pivots (if equipped)
□ Lubricate loader pivots	□ Lubricate mechanical front wheel drive (MFWD) axle steering pivots (if equipped)
□ Lubricate loader quick coupler (if equipped)	□ Lubricate mechanical front wheel drive (MFWD) axle universal joints (if equipped)
□ Lubricate backhoe boom, crowd cylinders, and pivots	□ Lubricate multipurpose bucket pivots (if equipped)
□ Lubricate backhoe hydraulic coupler (if equipped)	□ Lubricate front axle oscillation pin
□ Lubricate backhoe spring coupler (if equipped)	□ Lubricate backhoe coupler mechanical jack (if equipped)
□ Lubricate stabilizer pivots and cylinder pins	
Every 250 Hours	
□ Take engine oil sample	□ Check rear axle oil level
□ Check mechanical front wheel drive (MFWD) axle planetary housing oil level (if equipped)	□ Check transmission oil level
□ Check mechanical front wheel drive (MFWD) axle housing oil level (if equipped)	□ Lubricate mechanical front wheel drive (MFWD) driveshaft spline (if equipped)
Every 500 Hours	
□ Check air intake hose	□ Take hydraulic oil sample
□ Check boom-to-dipperstick pin bolt torque	□ Take transmission oil sample
□ Drain water and sediment from fuel tank	□ Take rear axle oil sample
□ Drain and refill engine oil and replace filter element[2]	□ Take engine coolant sample
□ Replace primary fuel filter element	□ Take diesel fuel sample
□ Replace final fuel filter element	□ Take mechanical front wheel drive (MFWD) axle oil sample (if equipped)
Every 1000 Hours	
□ Check coolant condition	□ Replace hydraulic tank breather filter
□ Clean, pack, and adjust nonpowered front wheel bearings (if equipped)	□ Replace fuel tank breather filter
□ Drain and refill transmission oil and replace filter element	□ Inspect accessory drive belt and automatic tensioner
□ Replace hydraulic oil filter element	

Continued on next page

MB60223,00004B7 -19-24FEB23-1/2

Replace Primary and Secondary Engine Air Filter Elements

IMPORTANT: Prevent possible engine damage. Do not clean engine air cleaner elements. Replace filters when engine air filter restriction indicator is illuminated on monitor. To prevent dirt from entering engine, do not remove filters when engine is running. Do not start engine without both primary and secondary filters installed.

1. Park machine on a flat, level surface.
2. Raise front loader boom and install loader boom service lock. See Loader Boom Service Lock. (Section 3-2.)
3. Stop engine and engage park brake.
4. Open engine hood. See Opening and Closing Engine Hood. (Section 3-2.)
5. Remove air cleaner element cover by releasing latches (1).
6. Remove primary air cleaner element (2) by gently moving end of element back and forth to break seal.
7. Remove secondary air cleaner element (3) by pulling straight out.

IMPORTANT: DO NOT use compressed air to clean debris from air cleaner housing. Debris can enter engine, causing internal engine damage.

8. Clean air cleaner housing.

IMPORTANT: A damaged or dirty element may cause engine damage.

Install a new primary air cleaner element:

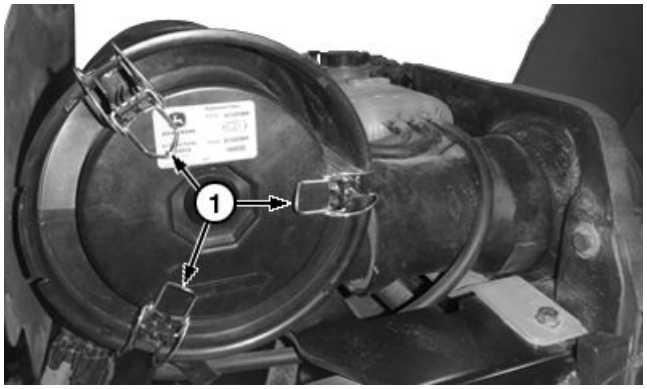
1. **If the element is visibly dirty.**
2. **If the element shows damage.**
3. **If the air filter restriction indicator is illuminated on monitor.**

Install a new secondary air cleaner element:

1. **If the element is visibly dirty.**
2. **If any other primary element is replaced.**
3. **If the primary element is damaged and needs to be replaced.**
4. **If air filter restriction indicator remains illuminated after replacing primary element.**

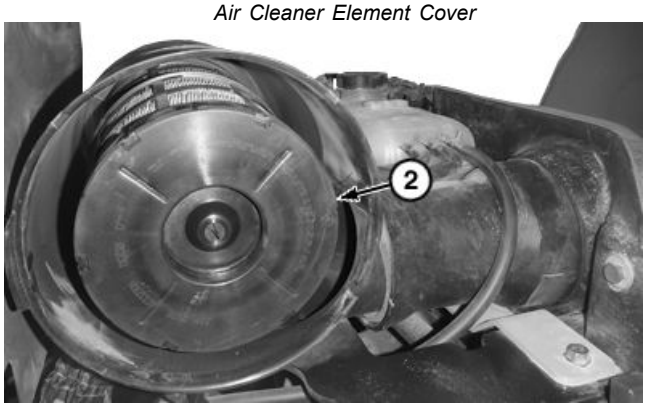
NOTE: Engine air filter restriction indicator will not signal correctly if an air cleaner element has a break or is not correctly sealed in air cleaner housing.

9. Inspect each air cleaner element for damage and replace as needed.
10. Install secondary air cleaner element into housing making sure element is centered in canister.



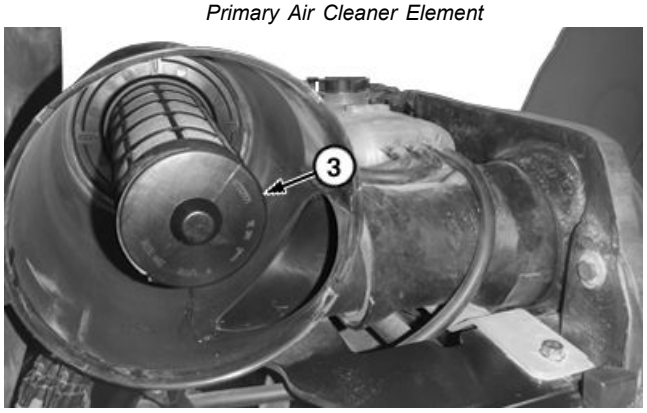
TX1172667 —UN—23SEP14

Air Cleaner Element Cover



TX1172668 —UN—23SEP14

Primary Air Cleaner Element



TX1172669 —UN—23SEP14

Secondary Air Cleaner Element

1— Latch (3 used)
2— Primary Air Cleaner Element
3— Secondary Air Cleaner Element

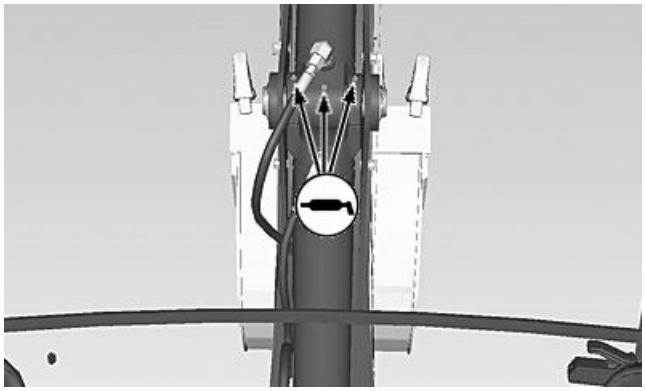
11. Install primary air cleaner element.
12. Install air cleaner cover and secure latches.
13. Close engine hood.
14. Remove loader boom service lock and lower front loader boom.

GW86913,000064F -19-13AUG20-1/1

Lubricate Backhoe Boom, Crowd Cylinders and Pivots

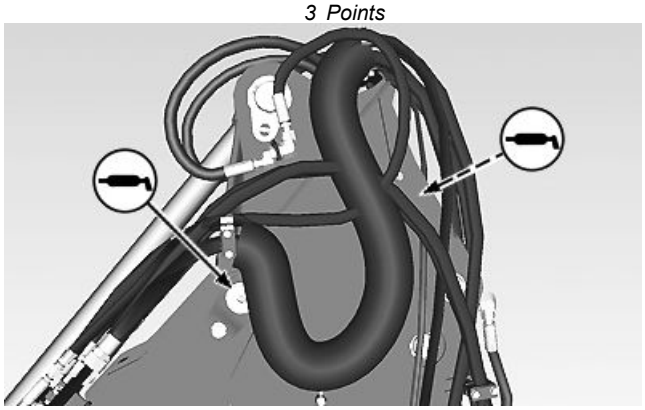
Park machine on level surface and lower front loader boom to ground.

Apply grease to lubrication fittings until grease escapes from joint. See Grease. (Section 3-1.)



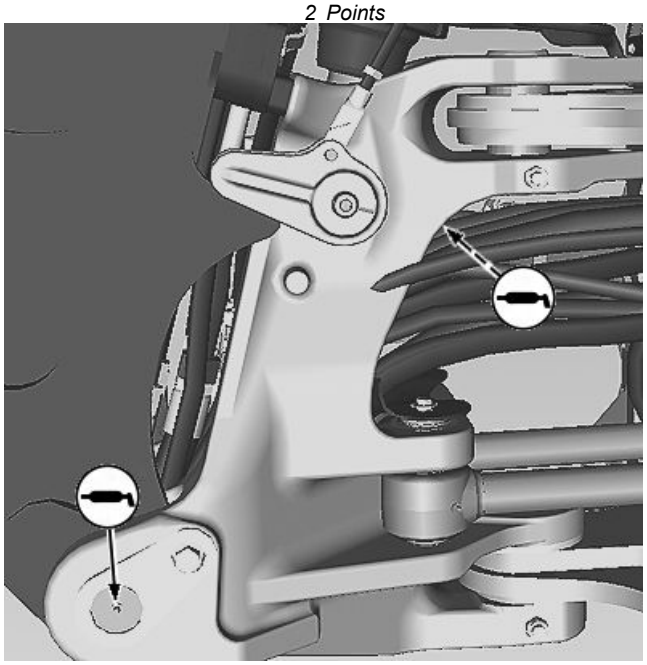
TX1172427 —UN—19SEP14

3 Points



TX1172428 —UN—19SEP14

2 Points



TX1172429 —UN—19SEP14

3 Points—Right Side Shown

GW86913,000060A -19-18JUN20-1/1

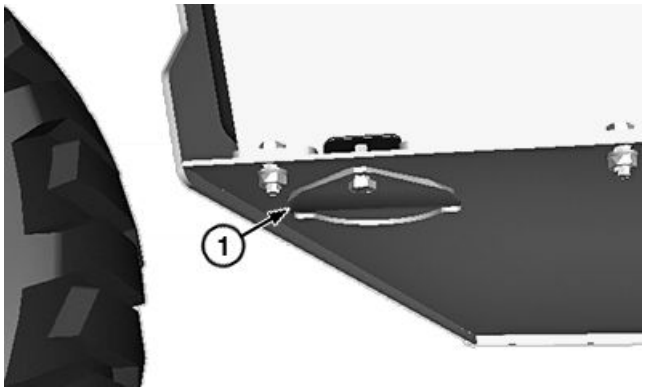
Drain Water and Sediment From Fuel Tank

CAUTION: Avoid possible injury. Handle fuel carefully. If the engine is hot or running, DO NOT drain fuel tank. DO NOT smoke while draining fuel tank or working on fuel system.

1. Park machine on a flat, level surface.
2. Raise front loader boom and install loader boom service lock. See Loader Boom Service Lock. (Section 3-2.)
3. Stop engine and engage park brake.

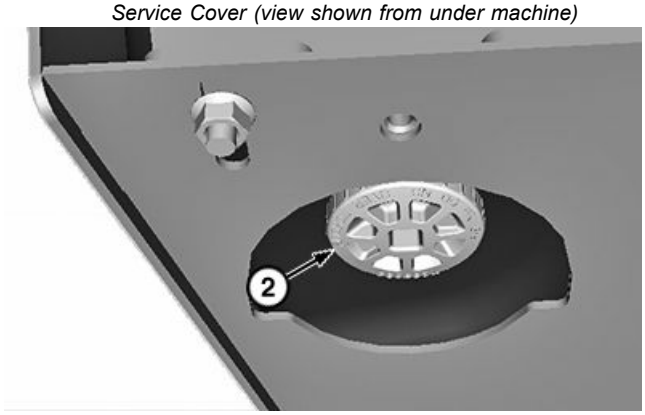
CAUTION: Prevent possible injury from unexpected machine movement. Stabilizers must be set on a firm surface. Do not dig under stabilizers. Be alert to possible machine movement when raising stabilizers and loader bucket.

4. Use right stabilizer to lift right rear wheel off ground.
5. Remove service cover (1).
6. Turn sediment drain plug (2) 1/4 turn and allow fuel to drain into suitable container until clean fuel flows out.
7. Tighten plug securely to stop fuel flow and dispose of waste properly.
8. Install service cover.



TX1251077A —UN—24JAN18

Service Cover (view shown from under machine)



TX1251079A —UN—24JAN18

Fuel Tank Sediment Drain Plug

1— Service Cover **2— Sediment Drain Plug**

MWOR729,000002C -19-18AUG20-1/1

Drain and Refill Mechanical Front Wheel Drive (MFWD) Axle Planetary Housing Oil—If Equipped

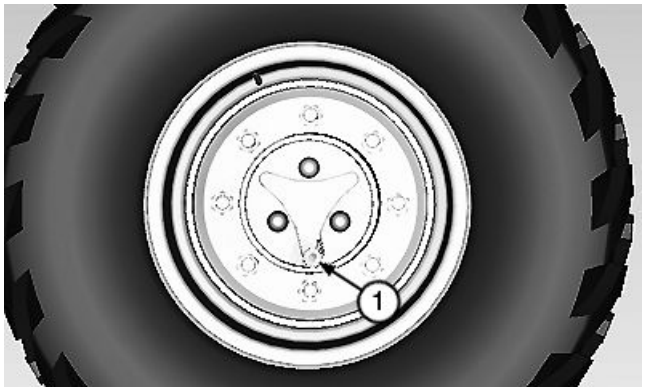
1. Park machine on a flat, level surface and lower front loader boom to ground.
2. Stop engine.
3. Rotate wheel so drain/fill plug (1) is at its lowest point. Remove plug and drain oil into suitable container. Dispose of waste oil properly.

Specification

MFWD Planetary Housing Oil—Capacity (each)..... 0.8 L
27 fl oz.

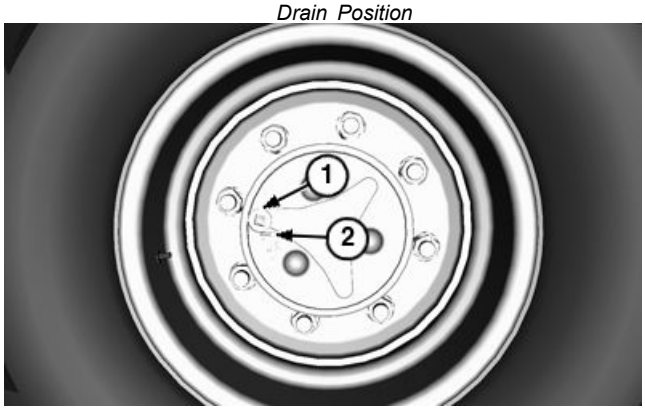
4. Rotate wheel so drain/fill plug hole is above oil level line (2) when line is horizontal.
5. Add oil until oil level is at bottom of drain/fill plug hole. See Transmission, Axles, and Mechanical Front Wheel Drive (MFWD) Oil. (Section 3-1.)
6. Install drain/fill plug.

1— Drain/Fill Plug **2— Oil Level Line**



TX1106208 —UN—28JAN12

Drain Position



TX1106229 —UN—07FEB12

Fill Position

MWOR729,000004E -19-23SEP20-1/1

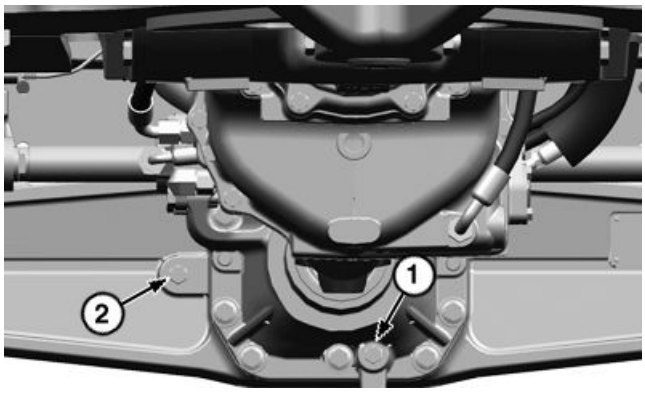
Drain and Refill Mechanical Front Wheel Drive (MFWD) Axle Housing Oil—If Equipped

1. Park machine on a flat, level surface and lower front loader boom to ground.
2. Stop engine.
3. Remove drain plug (1) to drain oil into a suitable container. Dispose of waste oil properly.

Specification

MFWD Front Axle Oil—Capacity..... 6.5 L
1.7 gal.

4. Install drain plug.
5. Remove fill plug (2) and add oil until oil level is at bottom of fill plug hole. See Transmission, Axles, and Mechanical Front Wheel Drive (MFWD) Oil. (Section 3-1.)



TX1303395A —UN—21SEP20

Mechanical Front Wheel Drive (MFWD) Axle Drain and Fill Plug

1— Drain Plug **2— Fill Plug**

6. Install fill plug.

MWOR729,000004F -19-21SEP20-1/1

Clean Machine Regularly

Remove any grease, oil, fuel, or debris buildup to avoid possible injury or machine damage.

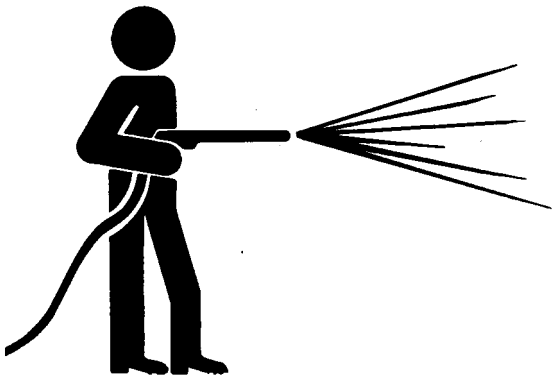
IMPORTANT: Avoid using high-pressure washing for electronic or electric devices, including the engine control unit (ECU), relays, and harness couplers.

Never steam-clean or pour cold water on the high-pressure fuel pump while it is still warm; doing so may cause pump parts to seize. Also, avoid steam-cleaning electrical components, wiring, sensors, and the ECU.

Avoid using high-pressure washing when cleaning the exhaust stack to prevent damage to engine.

Avoid machine damage. Machine is equipped with a sealed and lubricated track, avoid water being forced between the plastic pins and rubber plugs while washing machine with pressure washer.

Steam-clean engine thoroughly. High-pressure washing is not recommended.



T6642EJ —UN—18OCT88

Clean Machine Regularly

High-pressure washing greater than 1379 kPa (13.8 bar) (200 psi) can damage freshly painted finishes. Paint should be allowed to air-dry for 30 days minimum after receipt of machine before cleaning with high pressure. Use low-pressure wash operations until 30 days have elapsed.

Do not spray oil cooler fins at an angle; doing so may bend the cooler fins.

BB11933,0000076 -19-16NOV22-1/1

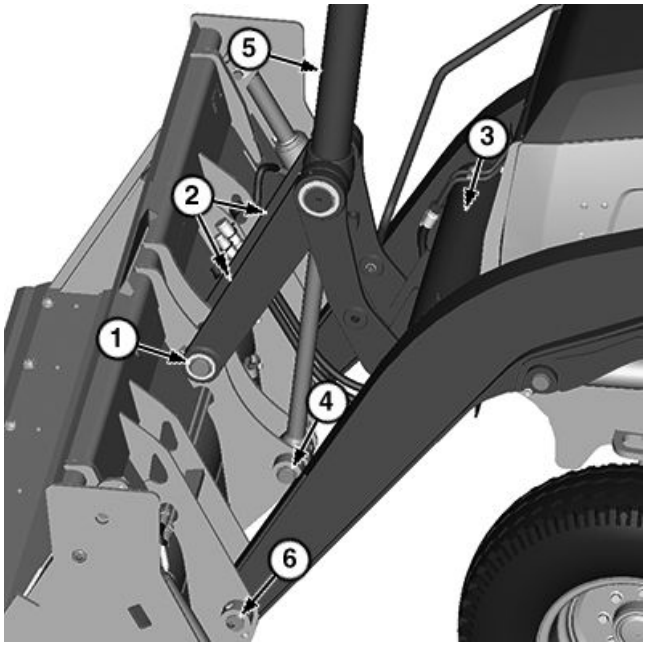
Changing Loader Buckets

CAUTION: Possible injury may occur from falling hardware. Bucket cylinder and links can fall forward if bucket is in dig position when pins are removed. Position bucket securely on ground before removing hardware.

1. Position bucket as shown.
2. Attach a hoist to cylinder (5).
3. Remove pin (1) and rotate pivot links (2) to rear against cross tube (3).
4. Remove pin (4) and carefully lay cylinder on cross tube.
5. Tie pivot links to the cross tube.
6. Remove retaining hardware, pins (6), and bucket.

CAUTION: Bucket is heavy and can cause injury if not moved properly. Use appropriate lifting device to move bucket.

7. Position new bucket in dig position. Install pins (6).
8. Untie pivot links from cross tube.
9. Connect pivot links and cylinder using previously removed pins (1 and 4) and retaining hardware.
10. Remove hoist from cylinder.



TX1173877 —UN—21NOV14

Changing Loader Bucket

1— Pin
2— Pivot Link (2 used)
3— Cross Tube
4— Pin
5— Cylinder
6— Pin (2 used)

CD50885,0000015 -19-17AUG20-1/1

Lowering Backhoe Boom Without Electrical Power—Machines With Pilot Controls

When the machine does not have electrical power, the control pattern defaults to the backhoe pattern.

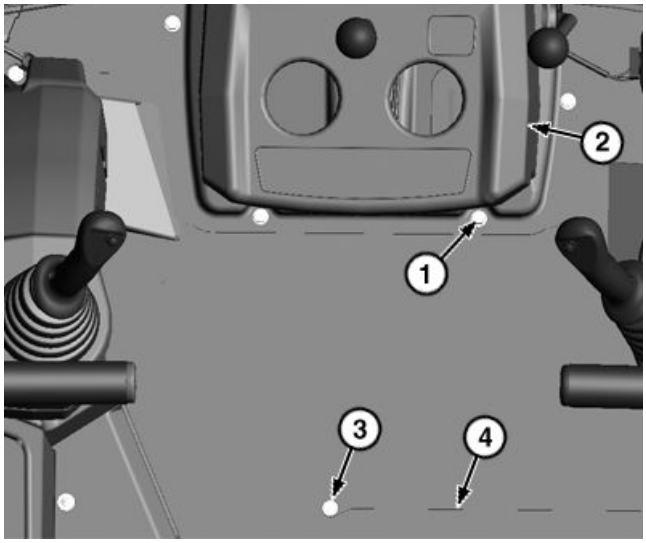
1. Remove rear half of floor mat.
2. Remove cap screws (1) and plastic cover (2).
3. Remove cap screws with washers (3) and rear cab access floor plate (4).
4. Disconnect left pilot control valve pressure supply hose (5) from fitting and cap the open port on the valve.
5. Connect remote pressure source (port-a-power) to supply hose. Pressure source must be within specification.

Specification

Remote Pressure Source—Pressure..... 1379—4136 kPa
14—41 bar
200—600 psi

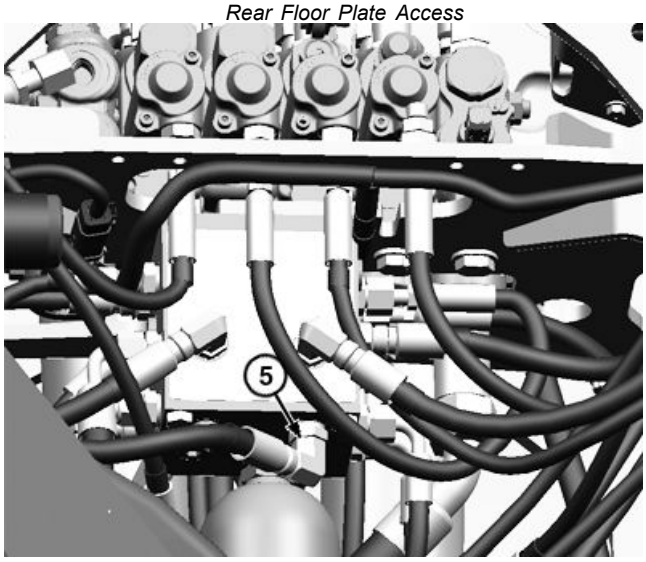
6. Lower boom using left pilot control lever.
7. Disconnect remote pressure source.
8. Connect left pilot control valve pressure supply hose to fitting.
9. Install rear access floor plate.
10. Install plastic cover and floormat.

1— Cap Screw (4 used)
2— Plastic Cover
3— Cap Screw With Washer (3 used)
4— Rear Cab Access Floor Plate
5— Left Pilot Control Valve Pressure Supply Hose



TX1302568A —UN—28AUG20

Rear Floor Plate Access



TX1302571A —UN—14SEP20

Pilot Control Valve Pressure Supply Hoses (top view)

CD50885,0000029 -19-15SEP20-1/1

1— Right-Hand Brake Bleed Quick Coupler
2— Female Quick Coupler Clear Hose
3— Container
4— Left-Hand Brake Bleed Quick Coupler

CAUTION: Avoid personal injury. Do not operate machine if pedal travel exceeds 133 mm (5.25 in) while applying 267 Nm (60 lb ft). Operating machine with excessive brake travel could cause brakes not to stop machine on first application.

NOTE: Air will "gravity bleed" from brake system through brake valve without use of brake bleed quick couplers, but the procedure may take much longer so the power bleed method is the recommended procedure.

Low ambient temperature or aeration of oil will slow bleed process.

The rear axle is equipped with two brake bleed quick couplers, one for each wheel. Brake bleeding must be done whenever the brake system has been opened to repair or after replacing the brake valve, brake lines, fittings, O-rings, or axle internal brake parts.

Depressing each brake pedal separately will help utilize a more efficient bleed.

All fittings must be inspected for leaks and tightened if leaks occur.

The preferred method for the brake bleeding procedure is to use the power bleed method. The toolless bleeding method is a much slower method but may be used as an alternate.

Power Bleed Method

1. Check transmission oil level. See Check Transmission Oil Level. (Section 3-5.)

CAUTION: Hot oil can cause serious burn injury. Secure female quick coupler clear hose (2) on bleed screw (1 or 4) and in container (3) to prevent drain hose from blowing off when bleed screw is opened while brakes are applied.

2. Start engine, run at low idle, and unlink brake pedals.
3. Connect female quick coupler clear hose assembly (2) to left-hand brake bleed quick coupler (4) and open end of hose assembly into container (3).
4. Allow fluid to run into container until no bubbles appear exiting hose.
5. Disconnect female quick coupler hose from brake bleed quick coupler.
6. Repeat procedure on the right-hand brake bleed quick coupler (1) side.
7. Wait 2 minutes to allow remaining air bubbles to naturally percolate upward out of axle and brake work port plumbing.
8. Fully depress left-hand pedal, pause, release, and wait 2 seconds.
9. Fully depress right-hand pedal, pause, release, and wait 2 seconds.
10. Alternate between left-hand and right-hand pedals until both pedals are firm, pausing in between each pedal for 2 seconds.

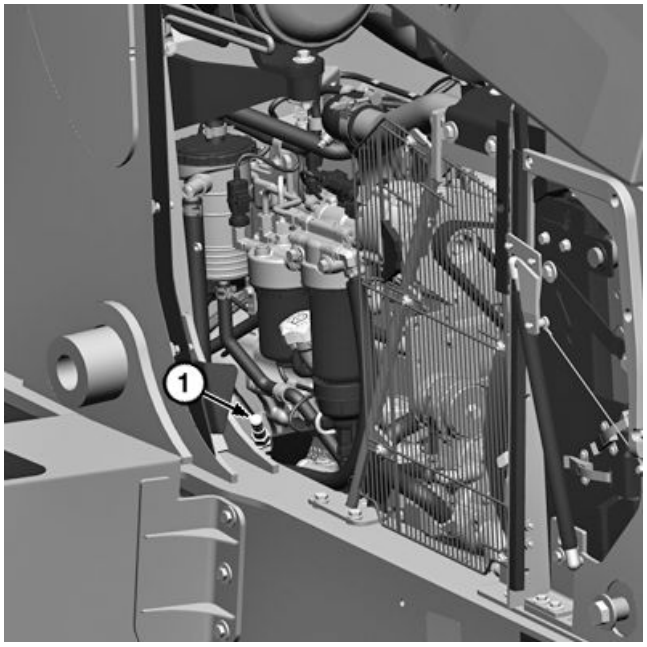
Continued on next page

Fluid Sampling Test Ports—If Equipped

The engine oil sample port (1) is located on the right side of machine.

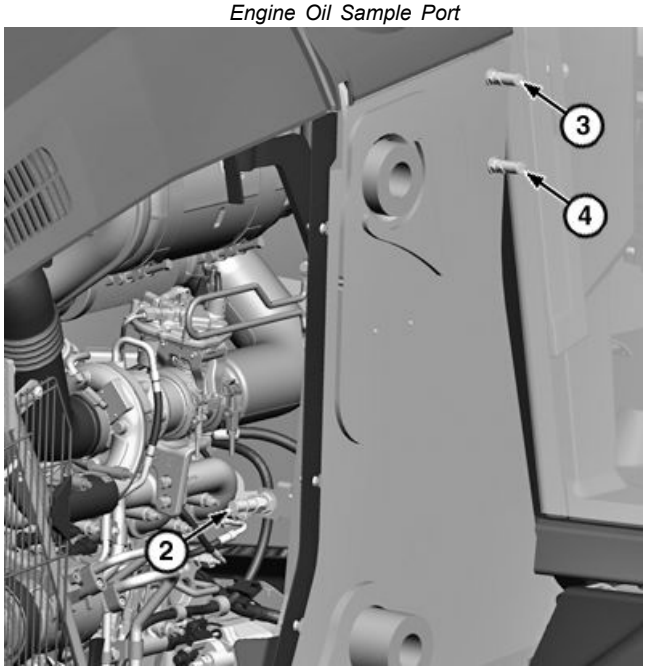
The coolant, hydraulic oil and transmission sample ports (2—4) are located on the left side of the machine.

1— Engine Oil Sample Port
2— Coolant Sample Port
3— Hydraulic Oil Sample Port
4— Transmission Oil Sample Port



TX1302335A —UN—24AUG20

Engine Oil Sample Port



TX1302336A —UN—24AUG20

Left Side of Machine

JJ5JLD3,000020E -19-03SEP20-1/1

4 Front Wiper and Washer Circuit Check (if equipped)	Press wiper rocker switch to first detent (middle) position.	
	LOOK: Does front wiper operate?	**YES:** Go to next check.
	Press washer rocker switch fully to momentary position and hold.	**NO:** Check washer hose for kinks or obstructions.
	IMPORTANT: Washer motor may be damaged if washer switch is held for more than 20 seconds, or continually operated with no fluid in the washer fluid tank.	**NO:** Fill washer fluid reservoir.
	LOOK: Does front washer pump operate?	**NO:** Check fuse. See Replacing Fuses. (Section 4-1.)
	LOOK: Does front wiper continue to operate?	IF OK: See an authorized John Deere dealer.

JJ5JLD3,0000212 -19-18NOV22-18/61

5 Rear Wiper Circuit Check (if equipped)	Press wiper rocker switch to ON position.	**YES:** Go to next check.
	LOOK: Does rear wiper operate?	**NO:** Check fuse. See Replacing Fuses. (Section 4-1.)
		IF OK: See an authorized John Deere dealer.

JJ5JLD3,0000212 -19-18NOV22-19/61

6 Front Work Light Check	Press front light rocker switch to first detent (middle) position.	
	LOOK: Are two front inner lights, two red taillights on?	**YES:** Go to next check.
	Press front work light rocker switch again to next detent position.	**NO:** Check fuse. See Replacing Fuses. (Section 4-1.)
	LOOK: Are four front (inner and outer) lights, two red taillights on?	IF OK: See an authorized John Deere dealer.

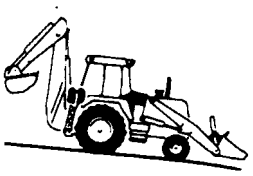
JJ5JLD3,0000212 -19-18NOV22-20/61

7 Rear Work Light Check	Press rear light rocker switch to middle position.	
	LOOK: Are two rear inner lights on?	**YES:** Go to next check.
	Press rear work light rocker switch again to next detent position.	**NO:** Check fuse. See Replacing Fuses. (Section 4-1.)
	LOOK: Are four rear (inner and outer) lights on?	IF OK: See an authorized John Deere dealer.

Continued on next page

JJ5JLD3,0000212 -19-18NOV22-21/61

16 Brake Drag/Park Brake Check



T6171AL —UN—09DEC88

Machine Position

Lock operator's seat in loader position.

Position machine on a gradual slope with front of machine facing downhill.

Lift loader bucket off the ground.

Apply service brakes.

Move transmission control lever (TCL) to neutral (N).

Unlock differential.

Release park brake.

Release service brakes.

Let machine coast freely for approximately 10 ft (3 m).

Apply park brake.

LOOK: Did machine stop?

Release park brake.

LOOK: Does machine coast freely?

YES: Go to next check.

NO: See an authorized John Deere dealer.

Continued on next page

JJ5JLD3,0000212 -19-18NOV22-46/61

Backhoe Cycle Times—Specification

NOTE: Boom raise cycle time is measured with backhoe at maximum reach. Cycle is from bucket teeth on ground to boom fully raised at cushion.

Boom
—Raise, Time (maximum)..... 2.9 s
—Lower, Time (maximum)..... 2.9 s

NOTE: Crowd cycle time is measured with boom in transport position.

Crowd
—In, Time (maximum)..... 3.3 s
—Out, Time (maximum)..... 2.6 s
Bucket
—Dump, Time (maximum)..... 2.0 s
—Curl, Time (maximum)..... 2.6 s

NOTE: Swing cycle is measured with boom raised to cushion, bucket curled, and dipperstick parallel to ground. Swing cycle is from swing cylinder cushion to swing cylinder cushion (180°).

Swing—Time (maximum)..... 4.5 s

Stabilizer Cycle Times—Specification—Specification

NOTE: Cycle is measured from full up to ground level (left or right).

Down—Time (maximum)..... 2.5 s
Up—Time (maximum)..... 2.5 s

Steering Cycle Times—Specification

NOTE: Cycle is from full right to left or full left to right.

Mechanical Front Wheel Drive (MFWD)
Stop-to-Stop—Turns..... 2.7 Turns
Non-Powered Front Stop-to-Stop—Turns..... 3.2 Turns

Extendable Dipperstick Times—If Equipped—Specification

NOTE: Cycle is measured from dipperstick fully retracted to fully extended.

Extend—Time (maximum)..... 3.2 s
Retract—Time (maximum)..... 3.2 s

Does machine perform within specifications?

YES: Check complete.

NO: Check hydraulic oil level. See Check Hydraulic System Oil Level. (Section 3-4.)

IF OK: See an authorized John Deere dealer.

JJ5JLD3,0000212 -19-18NOV22-61/61

Symptom	Problem	Solution
Torque Converter Oil Temperature Gauge Always Indicates HOT	Gauge malfunction	See an authorized John Deere dealer.
	Sender malfunction	See an authorized John Deere dealer.
	Wiring harness problem	See an authorized John Deere dealer.
Hydraulic Oil Filter Restriction Indicator Does Not Work—Switched Power On	Wiring harness or bulkhead connector	See an authorized John Deere dealer.
	Hydraulic oil filter restriction switch	See an authorized John Deere dealer.
Hydraulic Oil Filter Restriction Indicator Light Stays On All the Time	Restricted hydraulic oil filter	Replace hydraulic oil filter. See Replace Hydraulic Oil Filter. (Section 3-7.)
	Hydraulic oil filter restriction switch	See an authorized John Deere dealer.
Engine Air Filter Restriction	Restricted engine air filter	Replace engine air filter. See Replace Primary and Secondary Engine Air Filter Elements. (Section 3-3.)
	Engine air filter restriction	See an authorized John Deere dealer.
Display Monitor Does Not Work	Monitor fuse malfunction	Replace fuse. See Replacing Fuses. (Section 4-1.)
	Wiring harness problem	See an authorized John Deere dealer.
Horn Does Not Sound	Horn fuse malfunction	Replace fuse. See Replacing Fuses. (Section 4-1.)
	Horn problem	See an authorized John Deere dealer.
	Horn switch problem	See an authorized John Deere dealer.
	Wiring harness problem	See an authorized John Deere dealer.
Backup Alarm Does Not Sound	Wiring harness problem	See an authorized John Deere dealer.
	Backup alarm malfunction	See an authorized John Deere dealer.
Front or Rear Wiper (if equipped) Does Not Work	Wiper fuse malfunction	Replace fuse. See Replacing Fuses. (Section 4-1.)
	Wiper switch problem	See an authorized John Deere dealer.
	Wiper motor problem	See an authorized John Deere dealer.

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Software Update

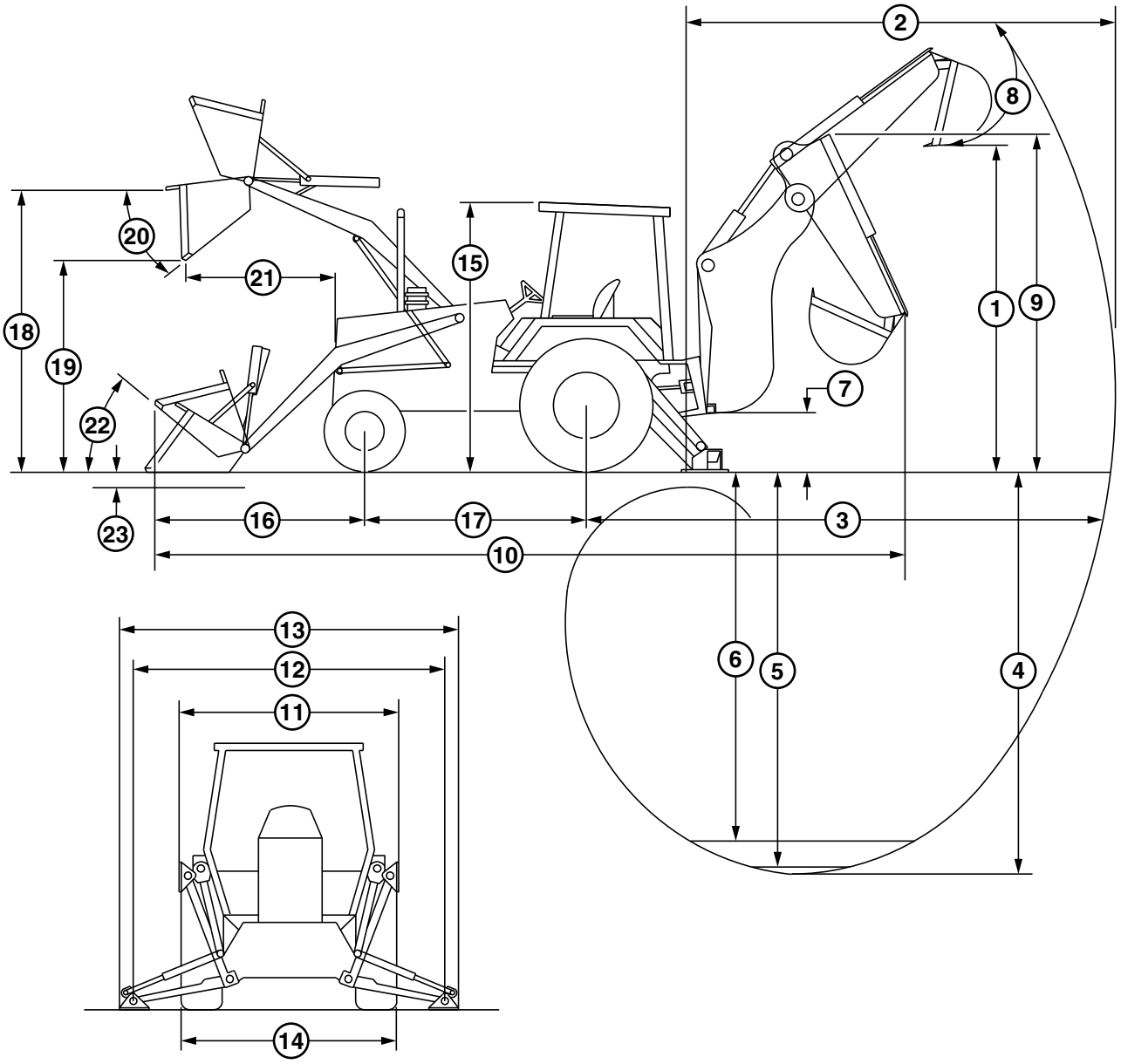
Symptom	Problem	Solution
Service ADVISOR™ Remote (SAR) Updates Not Operating Properly	Software updates not operating properly	Follow screen instructions on the display monitor. If problem persists, see an authorized John Deere dealer.

Service ADVISOR is a trademark of Deere & Company

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

Backhoe Loader Dimensions

310L Backhoe Dimensions



TX1181693 —UN—08JAN15

TX1181693

Backhoe Dimensions

1— Loading Height (truck loading position)
2— Reach From Center of Swing Pivot
3— Reach From Center of Rear Axle
4— Maximum Digging Depth
5— Digging Depth (SAE)—610 mm (2 ft) Flat Bottom
6— Digging Depth (SAE)—2440 mm (8 ft) Flat Bottom
7— Ground Clearance Minimum
8— Bucket Rotation
9— Transport Height
10— Overall Length (transport)
11— Stabilizer Width (transport with ROPS)
12— Stabilizer Spread (operating)
13— Overall Width (stabilizer spread, less loader bucket)
14— Width Over Tires
15— Height to Cab/ROPS Top
16— Front Axle Centerline to Bucket Cutting Edge
17— Wheelbase
18— Maximum Height to Loader Bucket Hinge Pin
19— Dump Clearance (loader bucket at 45°)
20— Maximum Loader Bucket Dump Angle
21— Reach at Full Height (loader bucket at 45°)
22— Loader Bucket Rollback at Ground Level
23— Dig Below Ground (loader bucket level)

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JJ5JLD3,0000137 -19-08FEB23-1/4

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