605K Crawler Loader

(PIN: E237629—)

JOHN DEERE

OPERATOR'S MANUAL

605K Crawler Loader

OMT287395 ISSUE L3 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

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

Emissions Control Warranty Statement 2022 through 2024

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 California regulations for nonroad/off-road 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 2022 through 2024 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. John Deere warrants that this engine is free from defects in materials and workmanship which would cause the failure of emissions warrantied parts 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. This applies to 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.

RG32758—UN—19AUG20

Continued on next page

DX,EMISSIONS,CARB-19-15DEC23-3/6

Contents

Page

Safety and Operator Conveniences
Safety and Operator Convenience Features 1-1-1

Safety—General Precautions
Recognize Safety Information 1-2-1
Follow Safety Instructions 1-2-1
Operate Only If Qualified 1-2-1
Wear Protective Equipment 1-2-2
Avoid Unauthorized Machine Modifications 1-2-2
Inspect Machine 1-2-2
Stay Clear of Moving Parts 1-2-2
Avoid High-Pressure Fluids 1-2-3
Avoid High-Pressure Oils 1-2-3
Work In Ventilated Area 1-2-4
Prevent Fires, Clean Debris From Machine 1-2-4
Prevent Battery Explosions 1-2-5
Handle Chemical Products Safely 1-2-5
Decommissioning — Proper Recycling and Disposal of Fluids and Components 1-2-6
Exhaust Filter Ash Handling and Disposal 1-2-6
Prepare for Emergencies 1-2-7
Clean Debris from Machine 1-2-7
Add Cab Guarding for Special Uses 1-2-7

Safety—Operating Precautions
Use Steps and Handholds Correctly 1-3-1
Start Only From Operator's Seat 1-3-1
Use and Maintain Seat Belt 1-3-1
Avoid Backover Accidents 1-3-2
Prevent Unintended Machine Movement 1-3-2
Avoid Work Site Hazards 1-3-3
Keep Riders Off Machine 1-3-3
Avoid Machine Tip Over and Machine Damage 1-3-4
Operating or Traveling On Public Roads 1-3-4
Inspect and Maintain ROPS 1-3-4
Add and Operate Attachments Safely 1-3-5
Prevent Acid Burns 1-3-5

Safety—Maintenance Precautions
Park and Prepare for Service Safely 1-4-1
Service Cooling System Safely 1-4-1
Remove Paint Before Welding or Heating 1-4-2
Make Welding Repairs Safely 1-4-2
Drive Metal Pins Safely 1-4-2
Clean Exhaust Filter Safely 1-4-3

Safety—Safety Signs and Other Instructions
Safety Signs and Other Instructions 1-5-1

Operation—Operator's Station
Monitor Display Unit—Normal Display 2-1-1
Display Monitor 2-1-2

Page

Display Monitor Functions 2-1-3
Sealed Switch Module (SSM) 2-1-4
Sealed Switch Module Functions 2-1-5
Front Console Switch Function 2-1-6
Air Conditioner and Heat—If Equipped 2-1-7
Transmission Control Lever 2-1-7
Joystick Boom and Bucket Control Lever 2-1-8
Boom and Bucket Control Levers 2-1-8
Auxiliary Control Lever—If Equipped 2-1-9
Ripper Control Lever—If Equipped 2-1-9
Horn Switch 2-1-10
Battery Disconnect Switch 2-1-10
Auxiliary Lighting (Beacon) Connector 2-1-11
Seat Adjustment 2-1-12
Door Latch 2-1-13
Secondary Exits—Cab Units Only 2-1-13
Cab Windows 2-1-14
Fire Extinguisher Mounting Location 2-1-14

Operation—Operating the Machine
Inspect Machine Daily Before Starting 2-2-1
Check Instruments Before Starting 2-2-1
Engine Break-In Period 2-2-2
Starting the Engine 2-2-3
Engine Block Heater—If Equipped 2-2-5
Engine Warmup 2-2-5
Exhaust Filter 2-2-6
Cold Weather Warmup 2-2-8
Transmission Control Lever Operation 2-2-9
Driving the Machine—2-Axis Joystick 2-2-10
Driving the Machine—V-Pattern Lever 2-2-11
Using Engine Speed Control Dial 2-2-14
Setting Travel Speed 2-2-14
Decelerator/Brake Pedal 2-2-15
Using Park Lock Levers 2-2-16
Hydraulic Enable Switch 2-2-16
Boom Release 2-2-17
Stopping the Machine 2-2-18
Stopping the Engine—Normal Shutdown 2-2-20
Parking the Machine 2-2-22
Joystick Boom and Bucket Control 2-2-23
Two Lever and Three Lever Boom and Bucket Control—If Equipped 2-2-24
Using Multipurpose Bucket—If Equipped 2-2-25
Ripper Control Lever—If Equipped 2-2-26
Setting Return-to-Dig 2-2-26
Setting Boom Height Kickout 2-2-27
Operating on Steep Hills 2-2-28
Avoid Track Damage 2-2-28
Operating in Water and Mud 2-2-28
Extend Undercarriage Life 2-2-29
Loading Machine on a Trailer 2-2-30
Lifting the Machine 2-2-31
Releasing Park Brakes to Tow the Machine 2-2-31

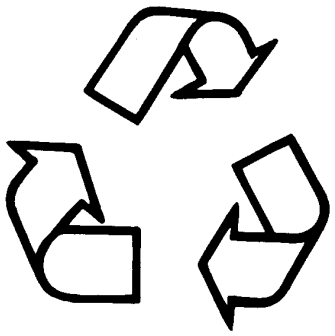
Continued on next page

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

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);



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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.

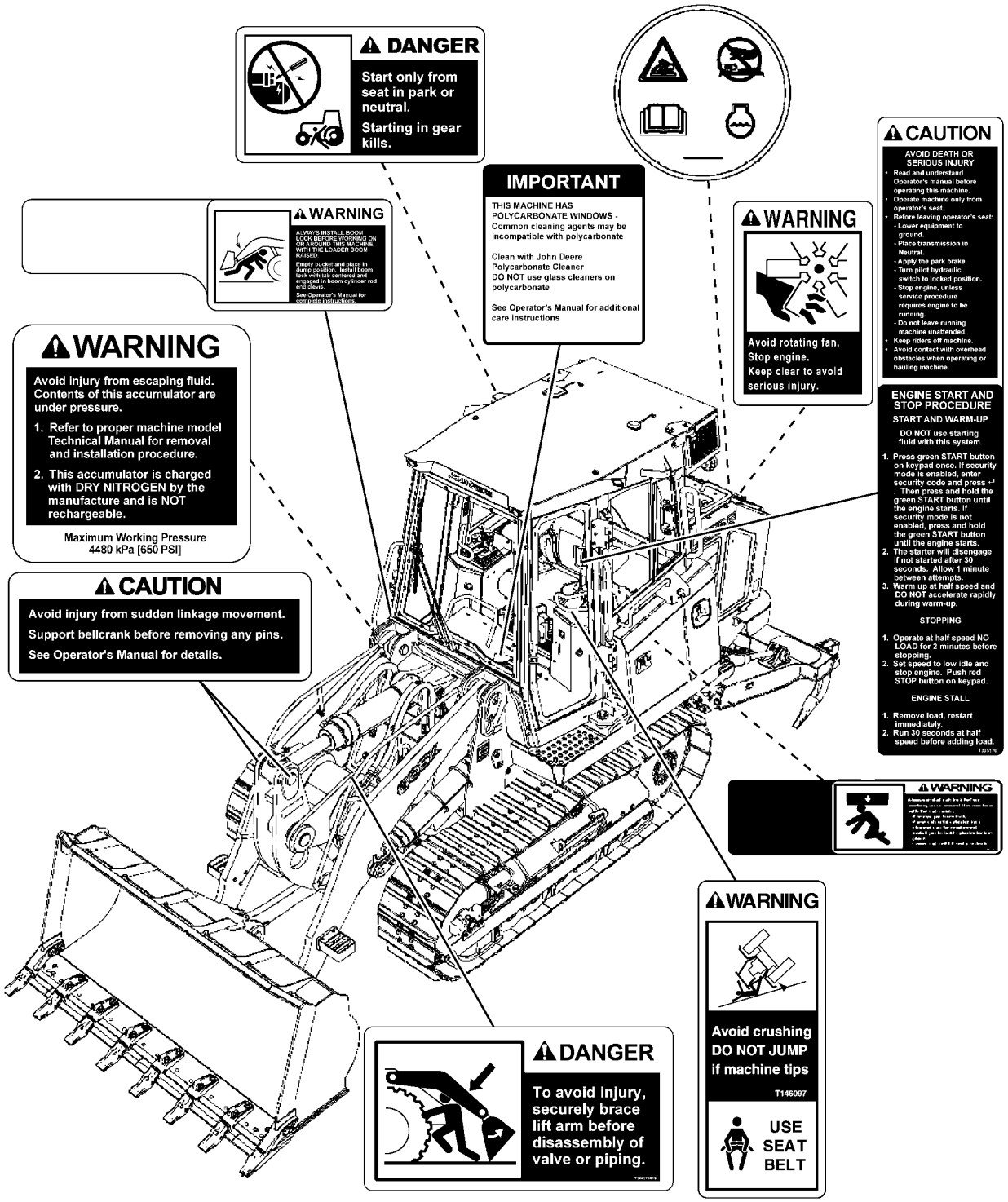
DX,DRAIN-19-01JUN15-1/1

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 an authorized John Deere dealer for exhaust filter ash handling and disposal.

TX,ASH,DISP-19-31MAR22-1/1

Safety Signs and Other Instructions



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Safety Signs and Other Instructions

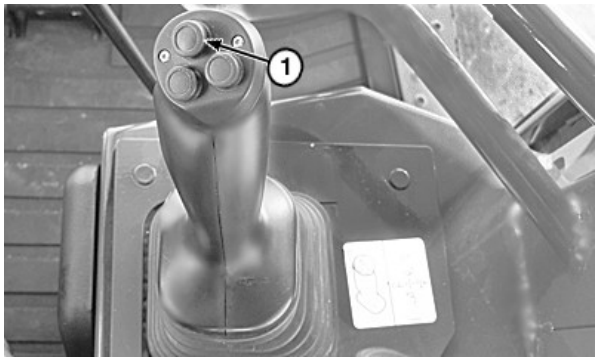
NM32377,0000204-19-20JUN17-1/1

Horn Switch

NOTE: There are two horn switch configurations available on John Deere crawler loaders. Please verify the configuration of your machine before reviewing operating instructions.

Press and hold horn switch (joystick boom and bucket control lever) (1) or horn switch (boom and bucket control levers) (2) to activate horn.

1—Horn Switch (joystick boom and bucket control lever) **2—Horn Switch (boom and bucket control levers)**



Joystick Boom and Bucket Control Lever

Boom and Bucket Control Levers

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Battery Disconnect Switch

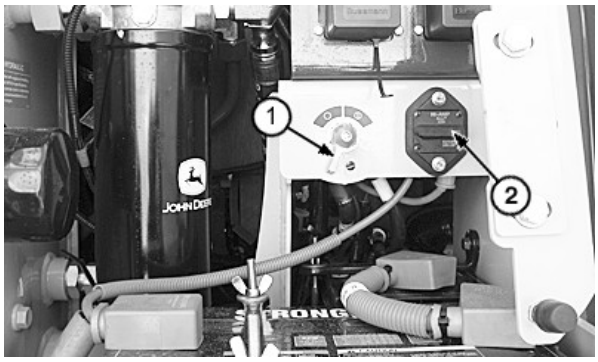
Battery disconnect switch (1) is located next to machine batteries. Turn switch to the OFF position to disconnect electrical power to machine.

IMPORTANT: Always turn battery disconnect switch to the OFF position before any maintenance or repair is performed on machine's electrical system or any welding work is performed. The battery disconnect switch should also be turned to the OFF position if machine is left unattended. If switch is left ON for long periods, batteries may become discharged.

The battery disconnect switch is used to isolate electrical power from batteries to machine.

The battery disconnect switch has two positions, OFF and ON.

A 120-amp circuit breaker (2) is located to the right of the battery disconnect switch to protect the machine's electrical circuits from a possible overload condition or problem from batteries.



Battery Disconnect Switch and Circuit Breaker

1—Battery Disconnect Switch **2—120-Amp Circuit Breaker**

NM00125,0000F10-19-11OCT12-1/1

Exhaust Filter

The exhaust filter is a critical component in the engine's emissions control system, which is required to meet governmental emissions regulations. The exhaust filter captures soot and ash to prevent their release into the atmosphere. The soot and ash must be eliminated from the exhaust filter to keep it functioning properly. The process of eliminating collected soot is called exhaust filter cleaning. There are two types of exhaust filter cleaning available to the operator:

- AUTO
- PARKED

NOTE: Unnecessary idling can cause exhaust filter soot to accumulate more quickly. For the best possible exhaust filter operation, which requires the least amount of operator interaction, keep idling to a minimum.

There are five soot levels to describe the amount of restriction in the exhaust filter. These levels determine the type of cleaning that is required:

- LOW
- MODERATE
- HIGH
- VERY HIGH
- SERVICE

For more information, see Standard Display Monitor—Main Menu—Exhaust Filter in this section.

Auto cleaning is able to activate (if not disabled by the operator) when the exhaust filter restriction is anywhere between MODERATE and HIGH soot levels. Auto cleaning is no longer available if exhaust filter restriction reaches VERY HIGH or SERVICE soot levels.

Parked cleaning can only be initiated when the exhaust filter restriction reaches HIGH or VERY HIGH soot level.

If exhaust filter restriction reaches SERVICE soot level, contact your authorized dealer.

In addition to the cleaning procedures, the exhaust filter also requires maintenance to remove accumulated ash, which is a noncombustible result of additives used in crankcase lubrication oils and the fuel. Ash removal CANNOT be performed by the operator. For more information on exhaust filter ash removal, see Service Exhaust Filter. (Section 3-3.)

Auto Cleaning

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

During exhaust filter auto 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.

Auto cleaning is set at the factory in the standard display monitor (SDM) menu to be enabled. Different settings can be chosen for the default state after a power cycle. These settings are:

NOTE: If auto cleaning is set to disabled, machine may revert back to enabled after a power cycle.

- DEFAULT PREVIOUS
- DEFAULT ENABLED
- DEFAULT DISABLED

See your authorized dealer if a different default setting is preferred.

NOTE: When auto cleaning is active, engine speed will increase to 1200 rpm.

With auto cleaning enabled, exhaust filter cleaning is automatically performed as needed, with no interaction from the operator. An exhaust filter cleaning indicator will illuminate on the SDM when the system is actively performing an exhaust filter auto cleaning. Machine can be operated as normal. When the exhaust filter auto cleaning process has completed its cycle, the cleaning indicator will automatically turn off.

The auto cleaning process requires the engine coolant to be at a predetermined temperature before it will initiate. Idling the machine in cold weather conditions can cause the engine coolant temperature to drop below this predetermined level.

If an auto cleaning is requested by the system, and engine coolant temperature is low, the engine control unit (ECU) will increase engine speed to approximately 1350 rpm. Increasing engine speed will raise engine coolant temperature to a safe level for auto cleaning to initiate.

If filter restriction reaches the HIGH soot level with auto cleaning enabled, further action is needed to clean the filter. Initiate a parked filter cleaning.

NOTE: Disabling exhaust filter auto cleaning is not preferred. Whenever possible, auto cleaning should be enabled to keep soot buildup to a minimum and to increase overall machine uptime.

If operating in conditions where it may be unsafe for elevated exhaust temperatures, auto cleaning can be disabled using the SDM menu. If filter restriction reaches the HIGH soot level with auto cleaning disabled, a pop-up will appear on the display monitor, stating that auto cleaning needs to be enabled. For more information, see Standard Display Monitor—Main Menu—Exhaust Filter—Auto Cleaning in this section.

Continued on next page

Using Park Lock Levers

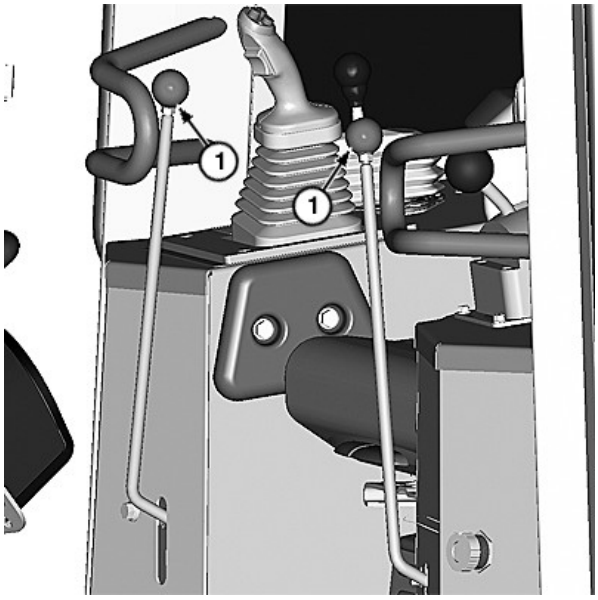
CAUTION: Prevent possible injury from unexpected machine movement. Always move park lock levers to up LOCKED position before starting or dismounting.

When one park lock lever (1) is in the up (locked) position, transmission control lever (TCL) can move but will not operate the machine.

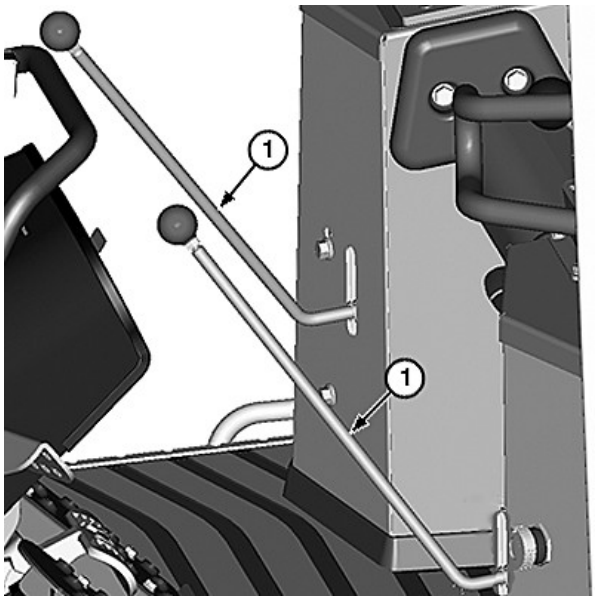
When both park lock levers are in the down (unlocked) position, TCL can move machine.

If one park lock lever is moved to the up (locked) position while the TCL is in forward or reverse, the machine will not move, and the return-to-neutral indicator will come on. Put TCL in neutral, then lower both park lock levers to continue operating machine.

1—Park Lock Lever (2 used)



Park Lock Levers (locked position)



Park Lock Levers (unlocked position)

LB82152,00005E5-19-18OCT12-1/1

Hydraulic Enable Switch

CAUTION: Prevent possible injury from high pressure fluid. Discharge accumulator before servicing any hydraulic components. Hydraulic oil in accumulator can be stored at pressures equal to or above system relief pressures.

NOTE: If hydraulics are not disabled before shutting off the engine, this state continues with next start of engine. Hydraulic enable switch will need to be pressed again to disable hydraulics (LED off).

Hydraulic enable switch (1) is used to lock out boom and bucket hydraulic control lever(s).

Press and release switch (LED on) to unlock pilot controller for normal operation.

Press and release switch again to lock pilot controllers and disable hydraulic control lever(s).

To remove stored energy from boom and bucket hydraulics and hydraulic control lever accumulator system:

Continued on next page

LB82152,00005E6-19-08OCT12-1/2

Ripper Control Lever—If Equipped

IMPORTANT: When using the ripper, operate the machine in LOW travel speed.

Avoid machine damage. Do not turn machine with ripper engaged in material.

With multi-teeth rippers it is usually more beneficial to install multiple teeth than to select a higher travel speed.

Use only one ripper tooth to rip out difficult or large-sized material.

Easy-to-rip material, which breaks into smaller pieces, can be removed with a multi-tooth ripper with two or three teeth.

During the ripper application, always make sure that both tracks are fully on the ground at all times. If necessary, prepare the site accordingly.

The ground should be ripped as deep as possible. If the ground is layered, proceed to rip one layer at a time. To reach the desired depth, it may be necessary to run over the same track several times.

In some cases, it may be necessary to cut crosswise.

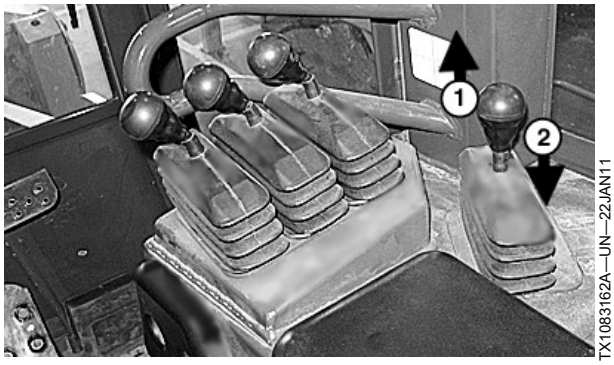
On slopes, always rip going downhill.

Ripper Operation

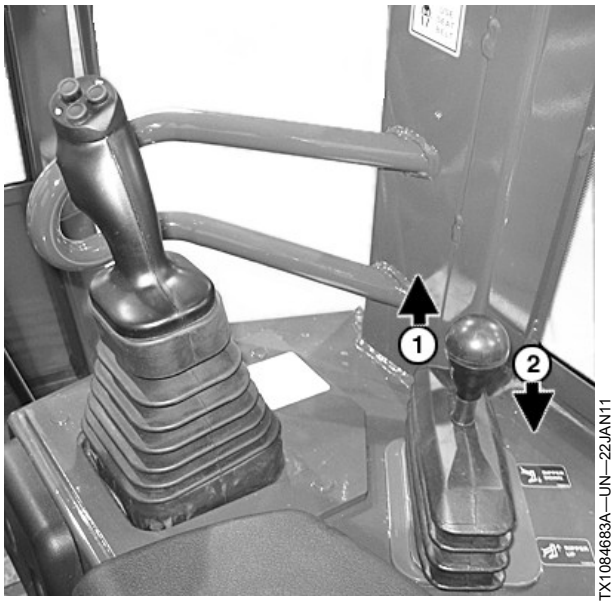
- To lower ripper, push the ripper control lever forward (1).
- To raise ripper, pull the ripper control lever rearward (2).

1—Lower Direction (forward position)

2—Raise Direction (rearward position)



Ripper Control Lever (shown with three lever boom, bucket and multipurpose controls)



Ripper Control Lever (shown with joystick boom, bucket and multipurpose controls)

LB82152,00005B7-19-25OCT12-1/1

Setting Return-to-Dig

NOTE: There are several control lever configurations available on John Deere crawler loaders. Please verify the configuration of your machine before reviewing operating instructions.

NOTE: The return-to-dig (RTD) positions remain the same until new positions are set.

Joystick Boom and Bucket Control

1. With engine running and hydraulic enable switch (1) enabled (LED on), press and release return-to-dig switch (2) (left LED on) to enable RTD.
2. Pull control lever rearward to desired ground level position.
3. Press and hold RTD switch for 3 seconds until audible alarm sounds and left LED on RTD switch flashes indicating, that the setting has been successfully set.
4. To set a second RTD position, pull control lever rearward to desired RTD position. Press RTD switch until right LED on RTD switch is on. Press and hold RTD switch for 3 seconds until audible alarm sounds and right LED on RTD switch flashes, indicating that the setting has been successfully set.

Continued on next page

NM00125,0000EEC-19-18OCT12-1/2

Standard Display Monitor (SDM)—Main Menu

The MAIN MENU displays seven submenus that can be selected to view diagnostic information or change various operating characteristics of the machine or the display unit.

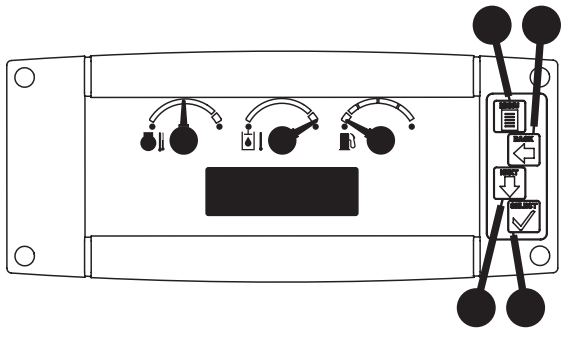
NOTE: Translations shown on display may be abbreviated.

The MAIN MENU is accessed by pressing the MENU button (1).

The submenus under MAIN MENU that appear on display include:

1. **CODES—**Allows service personnel or operator to view active or stored diagnostic trouble codes.
2. **EXHAUST FILTER—**Allows operator to enable or disable auto cleaning and start a parked cleaning, if needed.
3. **SERVICE—**Allows operator to view the status of maintenance items.
4. **MACHINE SETTINGS—**Allows operator to change various operating characteristics of the machine.
5. **DIAGNOSTICS—**Provides a limited set of tools, and is intended for use by service personnel and machine operators for diagnostic and troubleshooting functions.
6. **MONITOR—**Allows the operator to change various operating characteristics of the monitor.
7. **SOFTWARE DELIVERY—**Allows operator the capability to accept, reject, or download Service ADVISOR™ Remote updates.

Service ADVISOR is a trademark of Deere & Company



Standard Display Monitor (SDM)

1—MENU Button
2—BACK Button
3—NEXT Button
4—SELECT Button

At MAIN MENU, press NEXT button (3) to move to desired submenu.

Press SELECT button (4) to activate chosen submenu.

Press BACK button (2) to return to previous menu.

Press MENU button to return to runtime screen.

NM00125,0000E99-19-16AUG12-1/1

Standard Display Monitor (SDM)—Main Menu —Codes

At the MAIN MENU, Press NEXT button to highlight CODES menu. Press SELECT button to display the CODES menu. Submenus on display include:

1. ACTIVE CODES
2. STORED CODES

Diagnostic Trouble Code (DTC) Example—001638.04 Hydraulic Oil Temperature Short to Ground		
Suspect Parameter Number (SPN)		Failure Mode Indicator (FMI)
001638	**.**	**04**

ACTIVE CODES—Displays up to 20 currently active diagnostic trouble codes (DTCs). When a DTC becomes inactive, it will be removed from active code list. Active codes are displayed in order of last occurrence, with the most recent active code displayed first. If an active code is displayed, see your authorized dealer.

For each active DTC, the following will be displayed:

- Suspect Parameter Number (SPN)
- Failure Mode Indicator (FMI)
- Text description of the DTC
- Source controller of DTC (ECU, SDM, SSM, or VCU)

STORED CODES—Displays up to 20 of the most recent diagnostic trouble codes (DTCs) stored in the standard display monitor (SDM). If a stored code is displayed, see your authorized dealer.

NOTE: Diagnostic trouble codes are immediately stored in the SDM upon becoming active, and therefore will appear in both ACTIVE CODES and STORED CODES lists.

For each stored DTC, the following will be displayed:

- Suspect Parameter Number (SPN)
- Failure Mode Indicator (FMI)
- Text description of the DTC
- Source controller of DTC (ECU, SDM, SSM, or VCU)
- Hour meter reading at first occurrence
- Hour meter reading at last occurrence

NM00125,0000E9B-19-14AUG12-1/1

Standard Display Monitor (SDM)—Main Menu —Diagnostics

The DIAGNOSTICS menu provides a limited set of tools and is intended for use by service personnel and machine operators for diagnostics and troubleshooting functions.

The submenus under MAIN MENU that appear on display include:

1. CODES
2. EXHAUST FILTER
3. SERVICE
4. MACHINE SETTINGS
5. DIAGNOSTICS
6. MONITOR
7. SOFTWARE DELIVERY

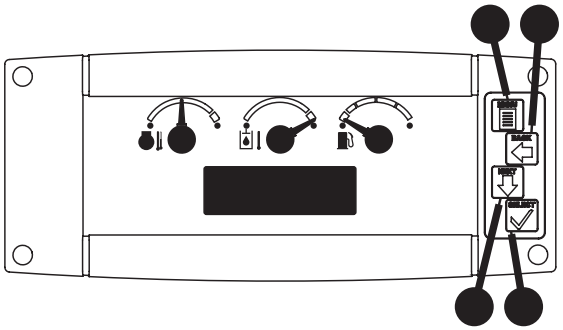
Press NEXT button (3) at MAIN MENU to highlight DIAGNOSTICS.

Press SELECT button (4) to display the DIAGNOSTICS menu.

DIAGNOSTICS menu item on display is:

- LIVE VALUES

Press NEXT button to move to desired menu item.



Standard Display Monitor (SDM)

1—MENU Button
2—BACK Button
3—NEXT Button
4—SELECT Button

Press SELECT to activate chosen menu item.

Press BACK button (2) to return to previous menu.

Press MENU button (1) to return to main menu.

NM00125,0000EAE-19-08AUG12-1/1

Standard Display Monitor (SDM)—Main Menu —Diagnostics—Live Values

The LIVE VALUES menu displays current machine temperatures, pressures, speeds, and JDLink™ values.

At the DIAGNOSTICS menu, press SELECT button to display the LIVE VALUES menu.

The submenus under LIVE MENU that appear on display include:

1. TEMPERATURES
2. PRESSURES
3. SPEEDS
4. JDLINK SYSTEM INFO

Press NEXT button to move to desired menu item.

Press SELECT to activate chosen menu item.

Press BACK button to return to previous menu.

Press MENU button to return to main menu.

JDLink is a trademark of Deere & Company

NM00125,0000EAF-19-05JUL12-1/1

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.

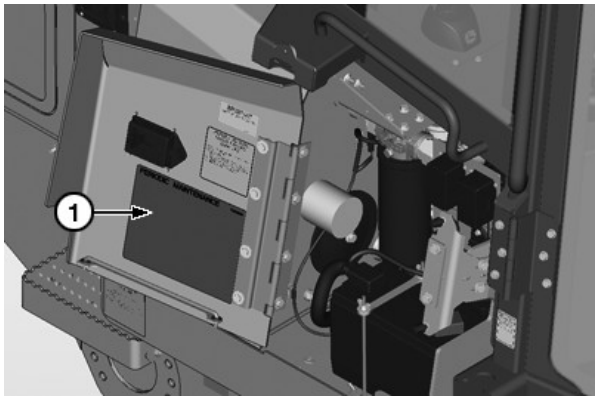
DX,FUEL4-19-13JAN18-1/1

Service Machine at Specified Intervals

Periodic maintenance chart is located on inside of battery compartment door on right side of machine. Lubricate and make service checks and adjustments at intervals shown on the periodic maintenance chart (1) and on the following pages.

Perform service on items at multiples of the original requirement. For example, at 500 hours also service those items (if applicable) listed under 250 hours, 100 hours, 50 hours, and 10 hours or daily.

1—Periodic Maintenance Chart



Periodic Maintenance Chart

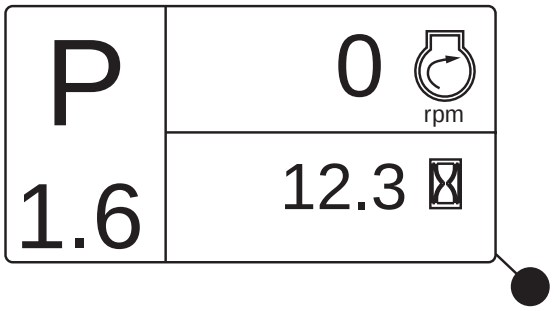
NM32377,00001F4-19-24OCT12-1/1

Check Hour Meter Regularly

NOTE: The hour meter display is located in the bottom right corner of the normal display window. Press SELECT or NEXT to toggle between hours, charge pressure, and system voltage.

Use the hour meter display (1) to determine when your machine needs periodic maintenance. Press SELECT or NEXT on the standard display monitor (SDM) to display hour usage on the normal display window.

Intervals on the periodic maintenance chart are for operating in normal conditions. If operating machine in severe conditions, machine should be serviced at shorter intervals.



Standard Display Monitor (SDM)

1—Hour Meter Display

NM32377,00001F5-19-24OCT12-1/1

Prepare Machine for Maintenance

IMPORTANT: Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment includes such items as oil, fuel, coolant, brake fluid, filters, and batteries. Do not pour waste onto the ground, down a drain, or into any water source.

Before performing maintenance procedures in the following chapters and before leaving operator's seat, park machine as described below unless another position is specified in the procedure.

1. Park machine on a level surface.
2. Lower all equipment to ground.

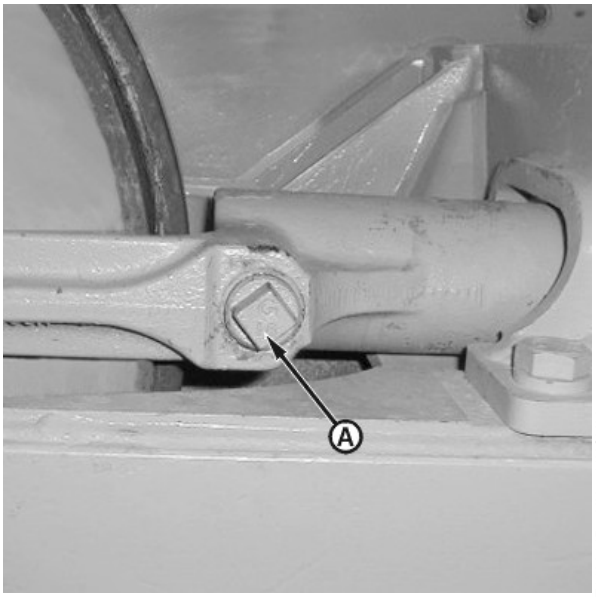
Continued on next page

NM32377,00001F6-19-12NOV12-1/4

Adjust Track Sag

1. Remove access plug (A).

A—Access Plug



Remove Plug

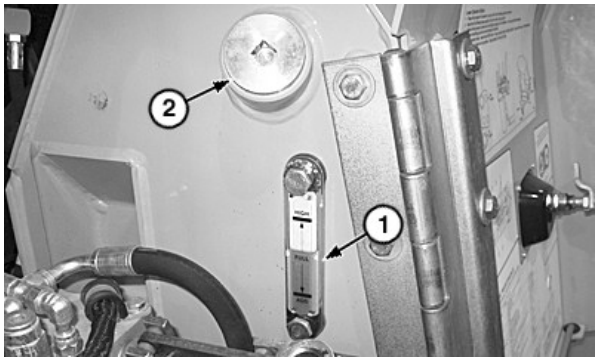
Continued on next page

NM32377,0000203-19-20MAR15-1/2

Check Hydrostatic Transmission Oil Level

IMPORTANT: Prevent possible transmission damage. DO NOT operate engine when transmission oil level is low.

1. Park machine on level surface and lower all equipment to ground.
2. Press engine stop switch to stop engine and remove ignition power.
3. The transmission oil reservoir, fill port, and sight glass are located on the left side of the machine. Oil must be within the ADD mark and FULL mark on sight glass tube (1).
4. If necessary, add oil to fill port (2). See Hydraulic and Hydrostatic Oil. (Section 3-1.)
5. Check O-ring on cap before installing.



Transmission Oil Level

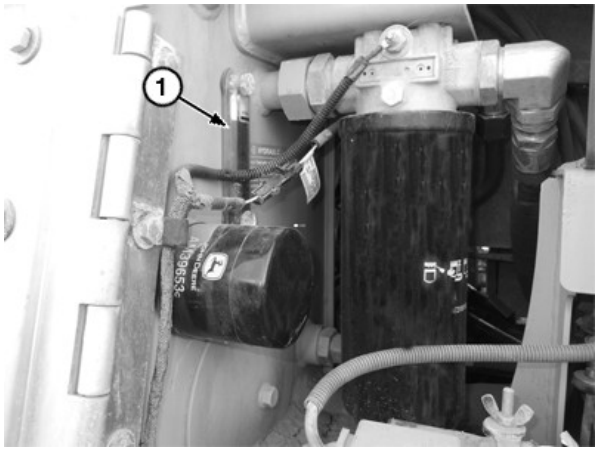
1—Sight Glass Tube **2—Fill Port**

LB82152,0000654-19-10AUG15-1/1

Check Hydraulic Oil Level

IMPORTANT: Prevent possible hydraulic pump damage. DO NOT operate engine without oil in the hydraulic reservoir.

1. Park machine on level surface and lower all equipment to ground.
2. Press engine stop switch to stop engine and remove ignition power.
3. The hydraulic oil reservoir, fill port, and sight glass are located on the right side of machine. Oil must be within the ADD mark and FULL mark on sight glass tube (1).
4. If necessary, add oil to fill port. See Hydraulic and Hydrostatic Oil. (Section 3-1.)
5. Check O-ring on cap before installing.



Hydraulic Oil Level Sight Glass

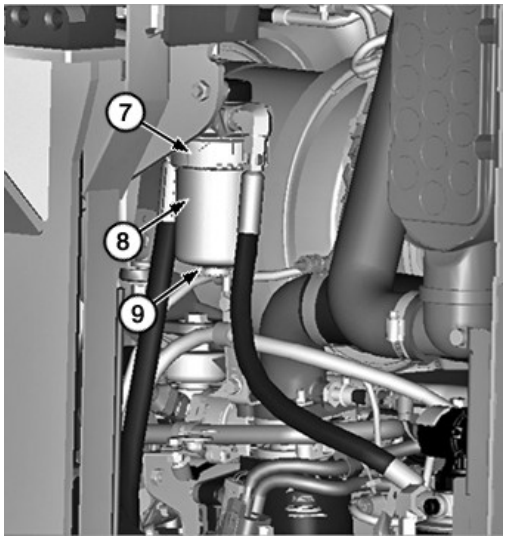
1—Sight Glass Tube

SK44377,00000DA-19-11AUG15-1/1

Remove and Install Final Fuel Filter Element

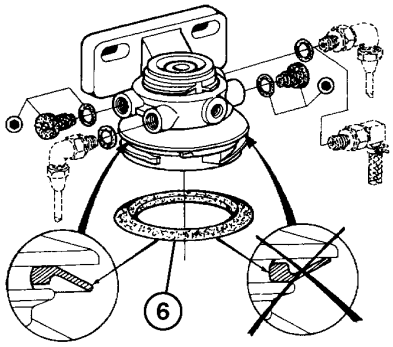
1. Prepare machine for maintenance. See Prepare Machine for Maintenance. (Section 3-2.)
2. Open left-side engine access door. See Location of Engine Access and Machine Service Doors. (Section 3-2.)
3. Thoroughly clean final filter fuel and surrounding area to keep from getting dirt and debris into fuel system.
4. Open drain screw (9) and drain fuel into a suitable container. Dispose of waste properly.
5. Remove retaining ring (7) and final fuel filter element (8).
6. Place a thin film of clean fuel on sealing surfaces of new final fuel filter element.
7. Install dust seal (6) as shown.
8. Position new filter element in mounting base. Tighten retaining ring about 1/3 turn until ring fits into detent. Do not overtighten retaining ring.
9. Bleed fuel system. See Bleed Fuel System. (Section 4-1.)

6—Dust Seal
7—Retaining Ring
8—Final Fuel Filter Element
9—Drain Screw



XJ1124740—UN—29OCT12

Final Fuel Filter



TX1118818—UN—25JUL12

Dust Ring Installation

SK44377,00000D3-19-12NOV12-3/3

Replace Auxiliary Fuel Filter and Water Separator—If Equipped

IMPORTANT: Do not prefill fuel filters. Debris in unfiltered fuel will damage fuel system components.

NOTE: Auxiliary fuel filter and water separator comes equipped with a heater element (4). Heater element prevents fuel from solidifying in extremely cold conditions.

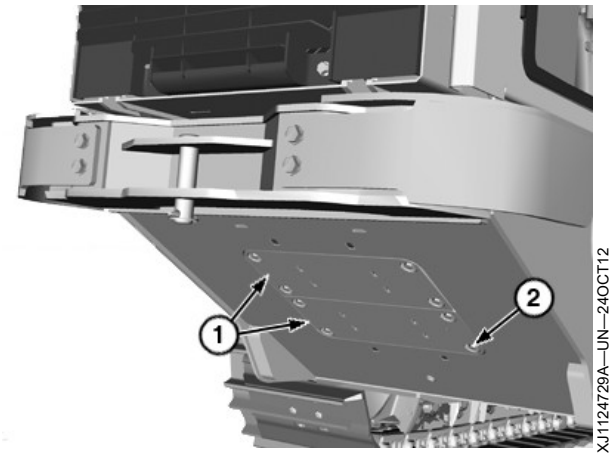
Continued on next page

SK44377,00000D0-19-22OCT12-1/2

Draining the Engine Cooling System

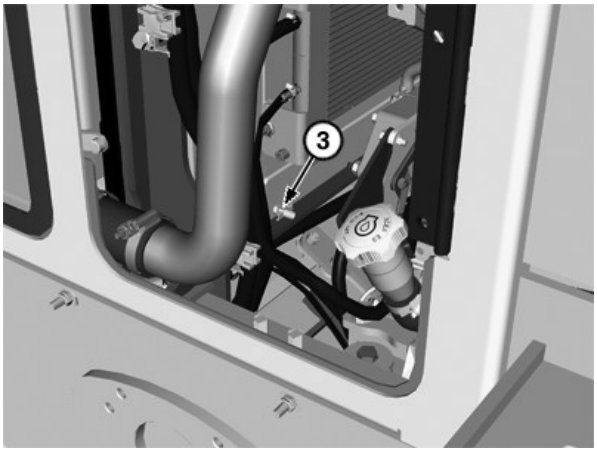
TS281—UN—15APR13

Service Cooling System Safely



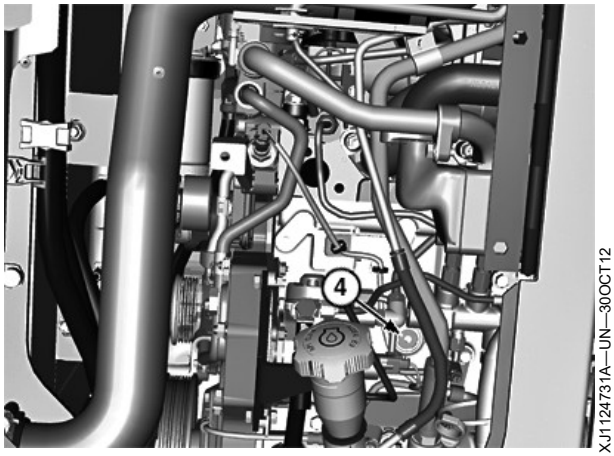
XJ1124729A—UN—24OCT12

Bottom Guards



XJ1124730A—UN—25OCT12

Radiator Drain Valve



XJ1124731A—UN—30OCT12

Engine Block Drain

1— Bottom Guard (2 used) **2— Cap Screw (8 used)** **3— Radiator Drain Valve** **4— Engine Block Drain**

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.

Every 6 years or 6000 hours (if John Deere Coolant is used), replace thermostats, drain and flush cooling system using clean water, and refill with new coolant.

Specification

Coolant—Capacity	23.0 L 6.0 gal.

1. Open right side engine access door. See Location of Engine Access and Machine Service Doors. (Section 3-2.)
2. Remove cap screws (2) and lower bottom guards (1).
3. Attach a drain hose to radiator drain valve (3).
4. Open radiator drain valve and drain coolant from radiator.
5. Remove engine block drain (4) and allow coolant to drain into a suitable container.
6. Install engine block drain.
7. Close radiator drain valve.
8. Raise and secure bottom guards.
9. Fill engine cooling system. See Refill Engine Cooling System. (Section 3-11.)

SK44377,00000D7-19-19MAR13-1/1

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

Avoid the hazard by:

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

If acid is spilled on a person:

1. **Flush contacted skin with water.**
2. **Apply baking soda or lime to contacted area 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.**

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

If electrolyte spills on the floor, use one of the following mixtures to neutralize the acid: 0.5 kg (1 lb) baking soda in 4 L (1 gal) water or 0.47 L (11.0 fl oz) household ammonia in 4 L (1 gal) water.

IMPORTANT: Do not overfill the battery cells.

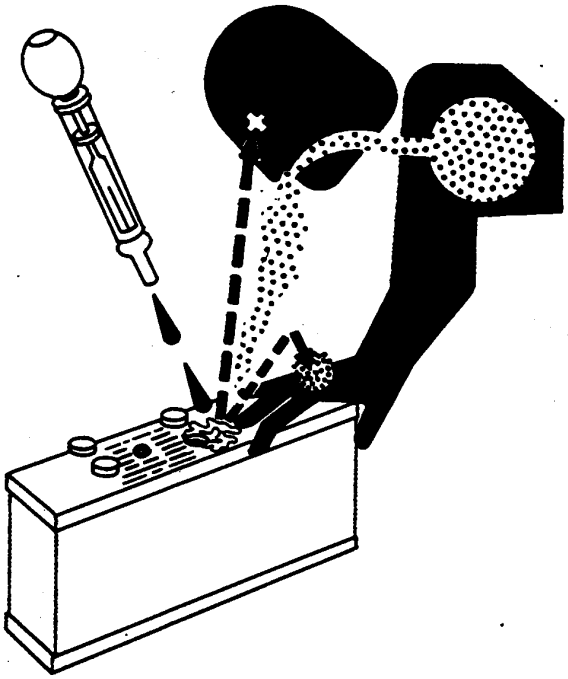
Check the specific gravity of electrolyte in each battery cell.

See an authorized John Deere dealer for SERVICEGARD battery and coolant tester. Follow directions included with the tester.

A fully charged battery will have a corrected specific gravity reading of 1.260. If the reading is below 1.200, charge the battery.

TS204—UN—15APR13

Exploding Battery Gas



TS203—UN—23AUG88

Battery Electrolyte

T85402—UN—10NOV88

Battery and Coolant Tester

TX,SERV,BATT,CARE-19-02OCT23-2/2

Welding on Machine

CAUTION: Avoid potentially toxic fumes and dust. Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch. Do all work outside or in a well-ventilated area. Dispose of paint and solvent properly.

When sanding or grinding painted surfaces, avoid breathing the dust. Wear an approved respirator. When using solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

IMPORTANT: Have only a qualified welder perform this job. Connect welder ground clamp close to each weld area so electrical current does not pass through any bearings, articulation joints, or pivot points. Remove or protect all parts that can be damaged by heat or weld splatter.

1. Remove paint before welding or heating.
   - When sanding or grinding paint, avoid breathing the dust.
   - Wear an approved respirator. When using solvent or paint stripper, remove stripper with soap and water before welding.
   - Remove solvent or paint stripper containers and other flammable material from area.
   - Allow fumes to disperse at least 15 minutes before welding or heating.

IMPORTANT: Electrical current traveling from the welder through the machine electrical system may damage the machine electrical system, including battery and control units. Disconnect battery positive and negative cables before welding on machine.

2. Disconnect the negative (-) battery cables.
3. Disconnect the positive (+) battery cables.
4. Cover, protect, or move any wiring harness sections away from welding area.

For any repairs, see an authorized John Deere dealer.

VD76477,00005A0-19-21JUL17-1/1

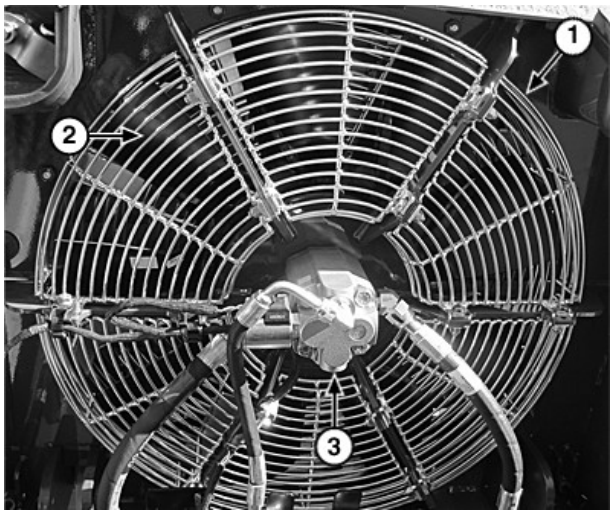
Keep Electronic Control Unit Connectors Clean

IMPORTANT: Do not open control unit and do not clean with a high-pressure spray. Moisture, dirt, and other contaminants may cause permanent damage.

1. Keep terminals clean and free of foreign debris. Moisture, dirt, and other contaminants may cause the terminals to erode over time and not make a good electrical connection.
2. If a connector is not in use, put on the proper dust cap or an appropriate seal to protect it from foreign debris and moisture.
3. Control units are not repairable.
4. Since control units are the components LEAST likely to fail, isolate failure before replacing by completing a diagnostic procedure. (See your John Deere dealer.)
5. The wiring harness terminals and connectors for electronic control units are repairable.

DX,WW,ECU04-19-11JUN09-1/1

Fan Guard Check



TX1083863A—UN—29OCT10

Fan

1—Fan Guard
2—Fan Blade (9 used)
3—Fan Motor

Open rear grille door and check clearance between fan blades (2) and fan guard (1).

Inspect rubber baffles sealing radiator shroud.

Inspect fan guard mounting hardware.

LOOK: Is the fan centered in fan guard?

LOOK/FEEL: Are fan guard and rubber baffles sealing radiator in good condition?

LOOK/FEEL: Is all fan guard mounting hardware tight?

YES: Check complete.

NO: Adjust fan motor mounting to center fan.

NO: Repair or replace guard or baffles. Tighten hardware.

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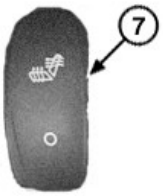
NM00125,0000EFD-19-11AUG15-7/62

Seat Control Checks

TX1083892A—UN—29OCT10

Air Suspension Seat



TX1083894A—UN—29OCT10

Seat Heater Switch (if equipped)

1—Headrest
2—Lumbar Adjustment
3—Backrest Adjustment
4—Height Adjustment
5—Tilt Adjustment
6—Fore-and-Aft Adjustment
7—Seat Heater Switch (if equipped)

Operate all seat adjustments (1—6).

FEEL/LOOK: Do seat adjustments move seat to desired positions?

Operate the seat heater switch (7).

FEEL: Does the seat warm up?

YES: Check complete.

NO: Inspect linkage and repair. See your authorized dealer.

NO: Check seat heater circuit. See your authorized dealer.

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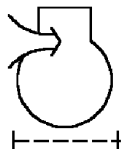
NM00125,0000EFD-19-11AUG15-24/62

Engine Air Filter Restriction Check



TX1000024—UN—04NOV05

Engine Air Filter Restriction Indicator

Run engine at fast idle with park lock levers in the full up (locked) position.

LOOK: Is engine air filter restriction indicator off?

YES: Check complete.

NO: Replace engine air filter elements. See Replace Engine Air Filter Elements. (Section 4-1.)

NM00125,0000EFD-19-11AUG15-38/62

Cooling Fan Circuit Check

NOTE: This check will not work if engine or hydraulic oil temperature is above 52°C (125°F). Change in fan speed may be hard to detect.

Run engine at slow idle.

Move park lock levers to the full up (locked) position.

Open left engine service door and disconnect engine coolant temperature sensor.

LISTEN/LOOK: Does fan speed increase when sensor is disconnected?

Connect temperature sensor.

LISTEN/LOOK: Does fan speed decrease when sensor is connected?

YES: Check complete.

NO: Check coolant temperature sensor wiring. See your authorized dealer.

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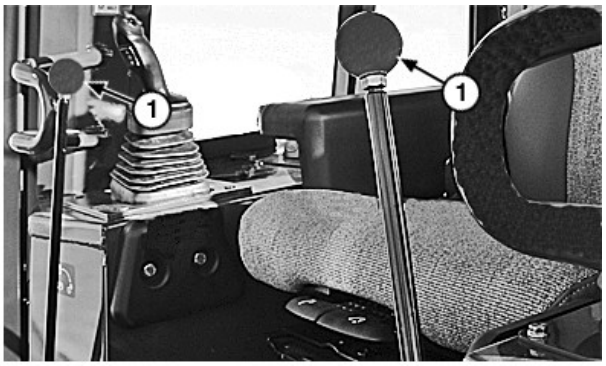
NM00125,0000EFD-19-11AUG15-39/62

Park Brake Circuit Check



TX1083889A—UN—29OCT10

Park Lock Levers

1—Park Lock Lever (2 used)

CAUTION: Avoid possible injury from unexpected machine movement. Moving park lock levers will stop machine abruptly. Wear seat belt at all times when operating machine.

Fasten seat belt.

Run machine at slow idle in forward.

Move park lock levers (1) to full up (locked) position.

LOOK/FEEL: Does machine stop and park brake indicator come on immediately?

Move park lock levers to down (unlocked) position.

LOOK: Does return-to-neutral indicator come on?

Move control lever back to neutral.

LOOK: Does return-to-neutral indicator go off?

YES: Check complete.

NO: Check park brake circuit. See your authorized dealer.

Continued on next page

NM00125,0000EFD-19-11AUG15-51/62

Symptom	Problem	Solution
Engine Does Not Develop Full Power	Restricted or plugged engine air filter elements	Replace engine air filter elements. See Replace Engine Air Filter Elements. (Section 4-1.)
	Restricted or plugged fuel filters	Replace fuel filters. See Replace Primary and Final Fuel Filters. (Section 3-7.)
	Fuel quality and quantity	If quality is poor, replace fuel with proper fuel. If quantity is low, fill fuel tank.
	Electronic control system problem or basic engine problem	See your authorized dealer.
Engine Emits Excessive White Exhaust Smoke	Low engine coolant temperature	Warm engine coolant. *NOTE: When starting engine in cold temperatures, it may take up to 2 minutes for white exhaust smoke to clear.*
Engine Emits Excessive Black or Gray Smoke	Engine overloaded	Reduce load on engine.
	Fuel quality and quantity	If quality is poor, replace fuel with proper fuel. If quantity is low, fill fuel tank.
	Restricted or plugged engine air filter elements	Replace engine air filter elements. See Replace Engine Air Filter Elements. (Section 4-1.)
	Electronic control system problem or basic engine problem	See your authorized dealer.
	Exhaust filter is cracked or damaged	See your authorized dealer.
Engine Idles Poorly	Fuel quality and quantity	If quality is poor, replace fuel with proper fuel. If quantity is low, fill fuel tank.
	Air leak on suction side of air intake system	Check hose and pipe connections for tightness; repair as required.
	Electronic control system problem or basic engine problem	See your authorized dealer.
Excessive Fuel Consumption	Engine overloaded	Reduce load.
	Restricted or plugged engine air filter elements	Replace engine air filter elements. See Replace Engine Air Filter Elements. (Section 4-1.)
	Improper type of fuel	Use proper type of fuel. See Diesel Fuel. (Section 3-1.)

Continued on next page

KR46761,0000FB4-19-11AUG15-2/3

Hydrostatic Transmission

Symptom	Problem	Solution
Transmission Oil Filter Restriction Indicator Light Remains On with the Unit at Operating Temperature	Plugged filter	Change filter.
	Sender wire grounded	Remove wires from sender. If light remains on, circuit is grounded. See your authorized dealer.
Hydraulic Fan Oil Filter Restriction Indicator Light Remains On with the Unit at Operating Temperature	Plugged filter	Change filter.
	Sender wire grounded	Remove wires from sender. If light remains on, circuit is grounded. See your authorized dealer.
Transmission Oil Overheats	Low oil level	Check and add transmission oil.
	Oil cooler core restricted with debris or fins damaged	Clean core.
	Damaged oil cooler fins	See your authorized dealer.
	Wiring harness open or short	See your authorized dealer.
	Fan installed backwards	See your authorized dealer.
Low Transmission Oil Pressure (Filter Restriction Indicator Light May or May Not Be On)	Low oil level	Check. Add oil.
	Hydrostatic pump coupler malfunction	See your authorized dealer.
	Engine coupler malfunction	See your authorized dealer.
	Park brake solenoid malfunction	See your authorized dealer.
Crawler Will Not Move	Park lock switch	See your authorized dealer.
	Transmission problem	See your authorized dealer.
	Park brake problem	See your authorized dealer.
Crawler Mistracks	Left and right track sag not adjusted the same	Adjust track sag to specifications.
	Machine out of calibration	See your authorized dealer.
	Low charge pressure	See your authorized dealer.
	Hydrostatic motor sensor malfunction	See your authorized dealer.

NM00125,0000ED7-19-26JUL12-1/1

Item	Measurement	Specification
Standard Bucket with Bolt-On Teeth and 460 mm (18 in.) Double Grouser Shoes	Pressure	60.1 kPa 8.7 psi
Standard Bucket with Bolt-On Teeth and 508 mm (20 in.) Double Grouser Shoes	Pressure	54.5 kPa 7.9 psi
Multi-Purpose Bucket with Bolt-On Teeth and 460 mm (18 in.) Double Grouser Shoes	Pressure	61.7 kPa 8.9 psi
Multi-Purpose Bucket with Bolt-On Teeth and 508 mm (20 in.) Double Grouser Shoes	Pressure	55.9 kPa 8.1 psi
Standard Bucket		
Heaped Bucket Capacity	Capacity	1.3 m^3
	Capacity	1.7 cu. yd.
Breakout Force	Force	107 kN 24054 lb.-force
Static Tipping Load	Weight	8858 kg 19 529 lb.
Multipurpose Bucket		
Heaped Bucket Capacity	Capacity	1.0 m^3 1.3 cu. yd.
Static Tipping Load	Weight	8231 kg 18 146 lb.
Breakout Force	Force	107 kN 24 054 lb.-force
Maximum Clamping Force	Force	6140 kg 13 508 lbf.

NM00125,0000F05-19-08NOV12-2/2