450J ,550J and 650J Crawler Dozers

(SN 159987—216242)

(SN 159987—)

JOHN DEERE

OPERATOR'S MANUAL

450J, 550J and 650J Crawler Dozer

OMT227285 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.

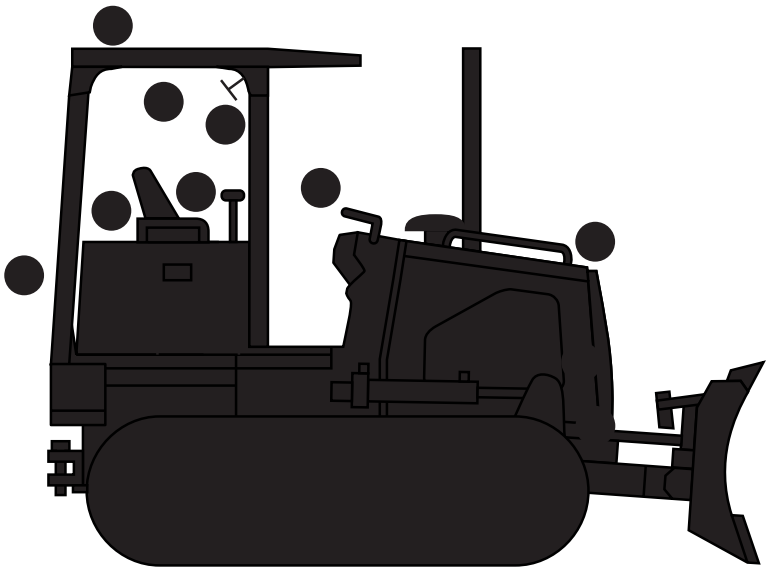
In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

RG32758—UN—19AUG20

Continued on next page

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

Safety and Operator Convenience Features



TX1035075

TX1035075—UN—18JAN08

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

1. **ROPS, FOPS, and OPS.** Structures designed to help protect the operator are certified to ISO, SAE, and OSHA. Enclosures also deflect sun and rain.
2. **Pressurized Cab.** Positive pressure ventilation system circulates both outside and inside air through filters for a clean working environment. Built-in defroster vents direct air flow for effective window defogging/deicing.
3. **Interior Rear View Mirror.** Offers the operator a view of activity behind him.
4. **Park Lock Lever.** When park lock lever is placed in “lock” position, the transmission shifts to neutral and the park brake is engaged.
5. **Handholds.** Large conveniently placed handholds make it easy to enter or exit the operator's station.
6. **Bypass Start Protection.** Shielding over the starter solenoid helps prevent dangerous bypass starting.
7. **Engine Fan Guard.** A secondary fan guard inside engine compartment helps prevent contact with engine fan blades.
8. **Steps.** Wide skid-resistant steps help prevent slipping while getting in or out of the operator's station.
9. **Neutral Start.** Neutral start feature prevents the engine from being started unless transmission control is in neutral.
10. **Automatic Seat Belt Retractors.**Seat belt retractors help keep belts clean and convenient to use.
11. **Backup Alarm.** Alerts bystanders when reverse travel direction is selected by operator.
12. **Operator Manual Holder.** A sealed manual holder keeps manual on machine clean and dry.

OUT4001,0000026-19-24JAN08-1/1

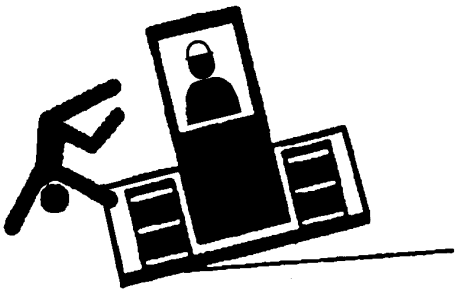
Keep Riders Off Machine

Always use seat belt.

Only allow operator on machine.

The instructional seat, if equipped, is used to accommodate trainers, persons that need to observe machine operation, and for coworkers to provide further operational instructions.

Riders are subject to injury due to fall from machine, being caught between machine parts, or being struck by foreign objects. Riders may obstruct the operator's view or impair the operator's ability to operate machine safely.



T137580—UN—22FEB01

Keep Riders Off Machine

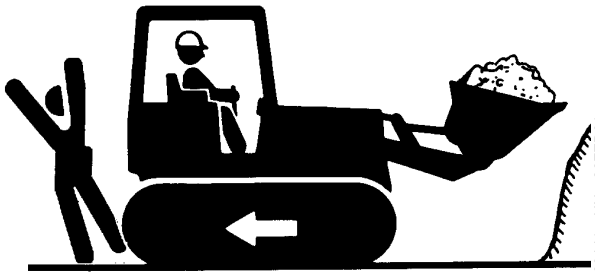
TX,NO,RIDERS,CRW-19-23APR20-1/1

Avoid Backover Accidents

Before moving machine, be sure all persons are clear of the machine path. Turn around and look directly for best visibility. Use mirror to assist in checking behind the machine. Keep windows and mirror clean and in good repair.

Be certain backup warning alarm is working properly.

Use a signal person when backing if view is obstructed or when in close quarters. Keep signal person in view at all times. Use prearranged hand signals to communicate.



T138441—UN—22FEB01

TX03768,0000B69-19-14JUN11-1/1

22—Return to Neutral Indicator: With park lock levers in up position (locked) and transmission control lever out of neutral position, turning key switch ON will cause the return to neutral indicator to light.

23—Hydraulic Oil Temperature Indicator: Indicator will light when hydraulic oil temperature reaches 107°C (225°F) and stay lit until temperature drops below 104°C (220°F). The display window will automatically default to current temperature. It is not necessary to stop operation, but the temperature must be monitored.

24—Auto Blade Indicator: Indicator will light when auto blade function is enabled.

NOTE: The auto blade indicator is functional only when third party global positioning system (GPS) and/or laser guidance equipment is installed on IGC-equipped machines.

25—Engine Air Filter Restriction Indicator: Indicator will light when engine is running with air filter restricted. Park machine in a safe area and shut engine off immediately. Check air filters for restrictions.

26—Menu Button: With key switch ON, press the menu button to display the Main Menu.

27—Back Button: Use the back button to return to the previous menu.

28—Next Button: Use the next button to navigate to menu items.

29—Select Button: With key switch ON, press the select button to cycle between displays on the display window and to select menu options.

ER93822,000008E-19-20FEB08-3/3

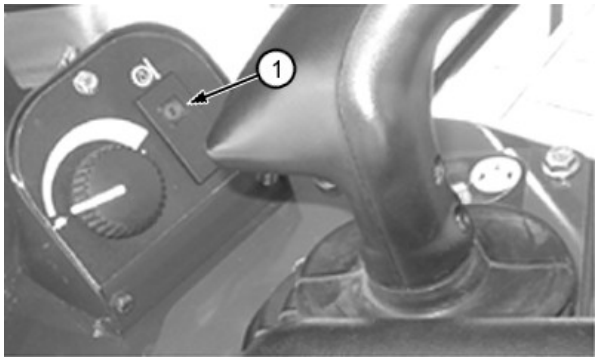
Warm-Up Indicator

The warm-up indicator (1) will light when the transmission oil temperature is too low for normal machine operation. While the indicator is lit the following will occur:

- Engine speed is limited to 1300 rpm in forward and reverse

The indicator will remain lit and engine RPM will be limited until the transmission oil reaches a specified temperature or the engine has run for ten minutes. Indicator light will turn off automatically when system is to operating temperature. Rotate control knob back to low idle to turn off light.

For the final stage of the warm-up cycle, the transmission speed will be limited to a maximum of 1.7 until the machine travels a combined distance of 91 m (300 ft). If speed is commanded faster than 1.7 prior to traveling 91 m (300 ft), the indicator will light and the speed will remain at 1.7.



1—Warm-Up Indicator

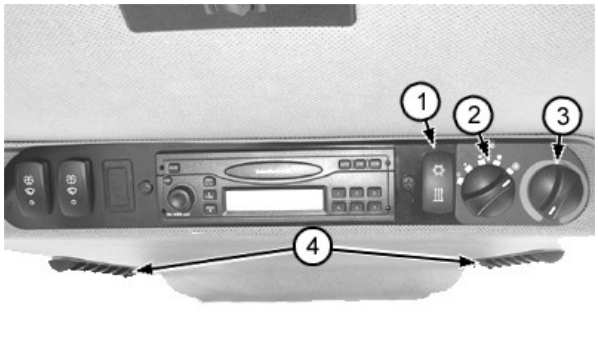
VD76477,00012B8-19-30JAN08-1/1

Air Conditioning and Cab Heater

IMPORTANT: Do not operate air conditioner when air temperature is below –1°C (30°F).

Check refrigerant for proper charge before using air conditioner.

- Climate control switch (1) has three positions. Push upper half fully to activate the air conditioner mode. Push lower half fully to activate the heater mode. Center switch position turns climate control off.
- Turn temperature control knob (3) clockwise to increase temperature.
- Turn blower control knob (2) clockwise to increase blower speed.
- Move louvers (4) left or right to direct or restrict air flow.



1—Climate Control Switch
2—Blower Control Knob
3—Temperature Control Knob
4—Louvers

MD04263,0000385-19-17JAN14-1/1

Replacing Starting Aid Can

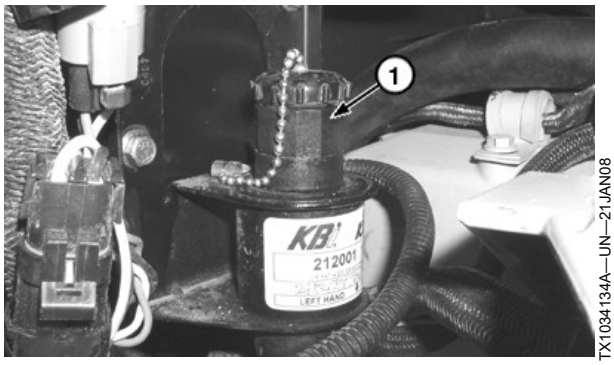
1. Loosen clamp (2) from container.
2. Turn container (3) counterclockwise to remove.
3. Install new container by turning clockwise into starting valve.

IMPORTANT: Protect start aid components from possible damage. Use dust cap on starting valve.

4. If no starting aid fluid is needed, remove starting aid can from machine and install dust cap (1) on starting aid base.

1—Dust Cap
2—Starting Aid Can
3—Starting Aid Base

TX1034133A—UN—21JAN08



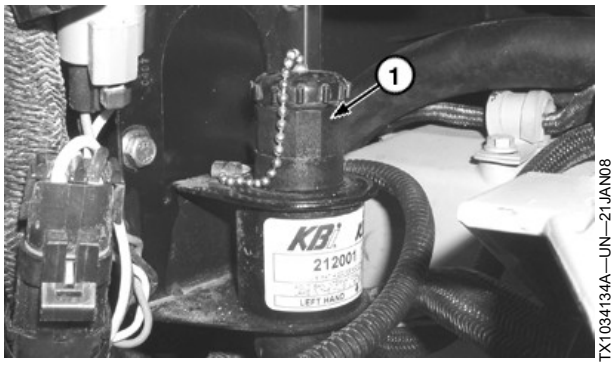
TX1034134A—UN—21JAN08

ER93822,000008F-19-30JAN08-3/4

Operating Machine Without Start Aid Container Installed

If no starting fluid is needed, remove container and install dust cap (1).

1—Dust Cap



TX1034134A—UN—21JAN08

ER93822,000008F-19-30JAN08-4/4

Using Coolant Heater—If Equipped

CAUTION: Prevent possible personal injury from an electrical shock. Use a heavy-duty, grounded cord to connect heater to electrical power.

Connect the coolant heater to 115-volt electrical power 10 hours before you start the engine.

A coolant heater is recommended with the winch option when ambient temperature is below -18°C (0°F).

A coolant heater without the ether aid is sufficient for cold starting down to -25°C (-13°F).

CED,OUO1032,1401-19-14JAN08-1/1

Engine Warm-Up

1. Under normal operating temperatures, after engine starts, run at 1600 rpm for 2 minutes. Do not run at fast or slow idle.
2. Operate machine at less-than-normal loads and speeds until engine is at normal operating temperature.

HG31779,0000020-19-14JAN08-1/1

IMPORTANT: To avoid overheating hydraulic oil, allow control lever to return to neutral position when cylinders reach end of stroke.

Blade control lever is used for all hydraulic functions on all non-IGC units.

Blade float detent position (7) is used for backblading. When blade control lever is put into float position, it must be moved manually back to neutral position.

- Push lever forward to float detent position (7) for blade float.
- Push lever forward one position (8) to lower blade.
- Pull lever rearward (10) to lift blade.
- Push lever to the left (11) to tilt blade to the left.
- Push lever to the right (9) to tilt blade to the right.

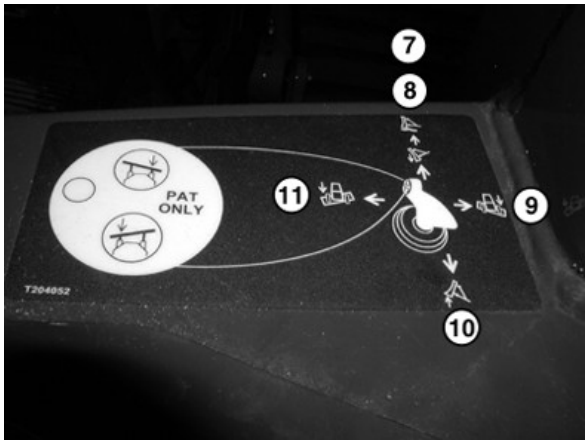
Electronic blade control lever is used for all hydraulic functions on IGC units.

Blade float detent position (7) is used for back blading.

When blade control lever is put into float position, it will return to neutral on its own.

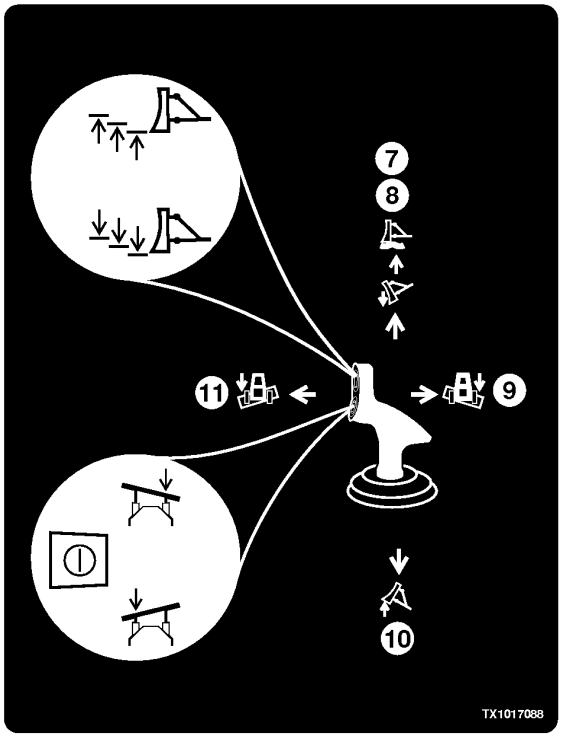
To disable blade float, push the lever forward or rearward after the joystick has returned to neutral. Moving the lever to the left or right will not disable blade float.

7—Blade Float Detent Position
8—Blade Lower
9—Blade Tilt Right
10—Blade Lift
11—Blade Tilt Left



TX1010863A—UN—07AUG06

Power Angle Tilt



TX1017088—UN—27DEC06

IGC Machines

VD76477,0001373-19-15JAN08-2/2

Standard Display Monitor (SDM) Main Menu—Codes—Active Codes

This submenu displays the diagnostic trouble codes (DTCs) that are currently active on the machine. As the DTCs are resolved or fixed, the code will be removed from the active code list.

The source controller of the fault (ECU, EHC, SDM, or TCU) will be displayed, followed by the service code.

Use the NEXT button to navigate to a DTC and press SELECT to view the text description of the DTC.

Use the BACK button to return to the list of active codes.

VD76477,0001363-19-28JAN10-1/1

Standard Display Monitor (SDM) Main Menu—Codes—Stored Codes

The Stored Codes submenu will display up to 20 of the latest Diagnostic Trouble Codes (DTCs) that have occurred on the machine. Each diagnostic trouble code will be saved in the order it occurred. If 20 codes exist and another DTC is present, the listing will be adjusted first in/first out.

The source controller of the fault (ECU, EHC, SDM, or TCU) will be displayed, followed by the service code.

Navigate to a DTC using the NEXT button and press SELECT to view the text description of the DTC.

Press SELECT again to view occurrences.

Use the BACK button to return to the list of DTCs.

VD76477,0001364-19-28JAN10-1/1

Standard Display Monitor (SDM) Main Menu—Machine Settings

The Machine Settings menu allows the operator to make changes to various operating conditions of the machine. The last selection of the machine settings will be stored, and upon turning the ignition switch on, the last value will be retrieved.

Press NEXT at the Main Menu to highlight Machine Settings.

Press SELECT to display submenu.

The submenus under Machine Settings include:

1. Job Timer
2. Track Info
3. Controller Info
4. Transmission
5. Hydraulics will be an additional submenu if machine is equipped with electro-hydraulic controls.
6. Brake Mode

ER93822,00000DA-19-28JAN10-1/1

Standard Display Monitor (SDM) Main Menu—Machine Settings—Job Timer

The job timer is a resettable meter that can be used to time tasks to the nearest tenth of an hour. The maximum capacity displayed is 999.9 hours. The job timer will stop and the value will be set to zero when it exceeds 999.9 hours. The job timer will run even when the Job Timer submenu is not active. The job timer value will be stored when the ignition switch is turned off.

At the Main Menu, press NEXT to highlight Machine Settings.

Job Timer will be highlighted. Press the SELECT button to display the Job Timer submenu.

The job timer submenu include the following options:

1. Show Timer-View the job time in hours.
2. Hide or Unhide-Hide or Unhide the job timer.
3. Reset Time-Navigate to the option Reset Time using the NEXT button, and press SELECT to reset. Press BACK to exit without resetting Job Timer.

VD76477,0001366-19-28JAN10-1/1

Standard Display Monitor (SDM) Main Menu—Machine Settings—Track Info

This menu displays track information calculated by the Transmission Control Unit (TCU).

Press SELECT to display all track information. The following information will be displayed:

1. Forward—The distance the machine has traveled in forward direction is displayed in kilometers or miles.
2. Reverse—The distance the machine has traveled in reverse direction is displayed in kilometers or miles.
3. Forward—The hours the machine has spent traveling in forward direction is displayed.
4. Reverse—The hours the machine has spent traveling in reverse direction is displayed.

ER93822,00000DB-19-28JAN10-1/1

Track Rollers, Front Idler and Carrier Roller Oil

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

The following oils are preferred:

- John Deere GEAR LUBRICANT (SAE 80W90)
- John Deere EXTREME-GARD

The following oils are recommended:

- API Service Classification GL-5 gear oil (SAE 80W90)
- Arctic oils such as (MIL-L-10324A) may be used at temperatures below –30°C (–11°F).

TX,45,RR5122-19-14JAN08-1/1

Service Intervals

Model: 450J (S.N. 159987—216242), 550J (S.N. 159987—), and 650J (S.N. 159987—)	**PIN/Serial Number:**
Hour Meter Reading:	
SERVICE INTERVALS	
Service your machine at intervals shown on this chart. Also, 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.	
FLUID SAMPLING	
Take fluid samples from each system as indicated on this form. The manufacturer of the fluid analysis kits will provide maintenance recommendations based upon the results of the fluid analysis and the operating information you supply. Regular fluid sampling extends the operational life of your machine.	
As Required	
□ Inspect belts	□ Check ball and socket joint
□ Check and adjust track sag	□ Clean undercarriage of debris around cylinders and tracks
□ Check engine air cleaner restriction indicator and replace element if necessary	□ Clean or replace cab fresh air filter
□ Add coolant extender as indicated by COOL-GARD™ II test strips	□ Clean or replace recirculating air filter
Every 10 Hours or Daily	
□ Check coolant level at surge tank	□ Check winch oil (if equipped)
□ Check engine oil level	□ Check and clean dust unloader valve
□ Drain sediment from water separator bowl on primary fuel filter	□ Grease dozer linkage and blade socket
□ Check hydraulic system oil level	□ Grease adjustable pitch link
□ Check transmission oil level	
Every 50 Hours	
□ Grease ripper (if equipped)	
Initial Service—250 Hours[1]	
□ Change engine break-in oil and filter element	
[1]Perform initial service once after the first 250 hours of operation.	
Every 250 Hours	
□ Check final drives oil level	□ Take engine oil sample
□ Drain final fuel filter sediment	
Every 500 Hours	
□ Change engine oil and filter element	□ Take diesel fuel sample
□ Check air intake hoses	□ Take engine coolant sample
□ Replace primary and final fuel filters	□ Take final drives oil sample
□ Check blade pivot shim adjustment	□ Take hydraulic oil sample
□ Change winch oil filter (if equipped)	□ Take transmission oil sample
□ Check battery water level, clean and tighten terminals	
Every 1000 Hours	
□ Clean engine crankcase vent tube	□ Replace air cleaner elements and dust unloader valve
□ Change final drives oil	□ Change winch oil and filter (if equipped)
□ Check coolant	□ Change winch hydraulic reservoir breather filter (if equipped)
Every 2000 Hours	
□ Check and adjust engine valve lash	□ Change transmission system oil and filter
□ Change hydraulic system oil and filter	
Every 6000 Hours	
□ Drain and refill engine cooling system	

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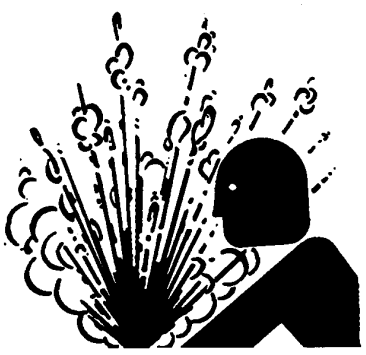
ER93822,00001A0-19-14FEB23-1/1

Check Coolant Level

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

1. With the engine cold, coolant level must be between HOT and COLD marks on surge tank (1).
2. If coolant is below the COLD mark, add coolant to the surge tank.
3. If there is no coolant in the surge tank, add coolant to the surge tank and the radiator.

1—Surge Tank



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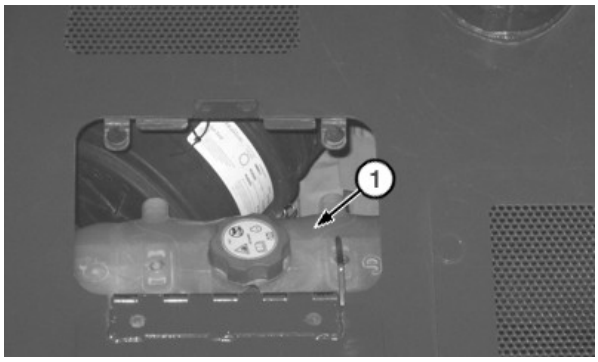


TX1034228A—UN—08JAN08

450J Shown

CC28724,000009C-19-20MAR13-1/1

Check Engine Oil Level

IMPORTANT: Do not run engine when oil level is below the ADD mark.

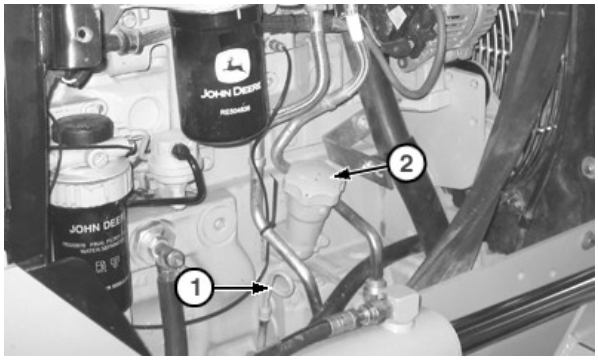
The most accurate oil level reading is obtained when the engine is cold before starting the engine for the day's operation.

1. Park machine on a level surface.
2. Engage the park lock lever in the up LOCKED position.
3. Make sure dipstick is fully seated.
4. Remove dipstick (A) to check oil level.

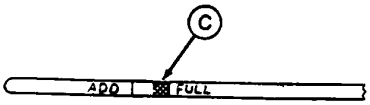
   BEFORE THE ENGINE IS STARTED: The engine is full when oil level is in the cross-hatch area (C). It is acceptable to run the engine when the oil level is above the ADD mark.

   AFTER THE ENGINE HAS BEEN RUN: Allow the oil to drain into the oil pan for 10 minutes before checking the oil level. Ten minutes after shutdown the engine oil level must be above the ADD mark.
5. If necessary, remove the filler cap (B) to add oil. See Diesel Engine Oil — Tier 2 and Stage II. (Section 3-1.)
6. Check oil on dipstick again.

1—Dipstick
2—Filler Cap
C—Dipstick Cross-Hatch Area



TX1034231A—UN—08JAN08



RG5421—UN—15DEC88

03T,60,K96-19-14AUG15-1/1

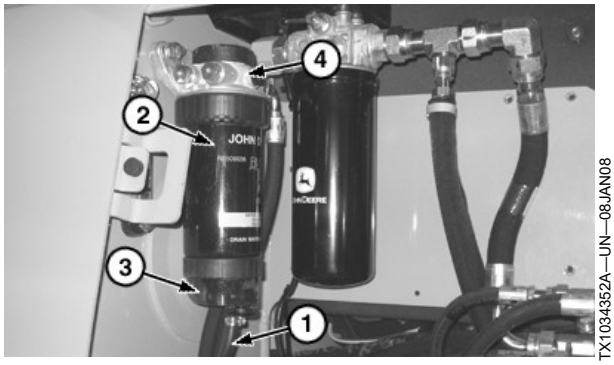
Replace Primary Fuel Filter

1. Thoroughly clean primary fuel filter and water separator assembly and surrounding area.
2. Connect a drain line (1) to filter drain adapters and drain all fuel from filters.
3. Firmly grasp the retaining ring and rotate it counterclockwise 1/4 turn. Remove ring with filter element (2).
4. Inspect filter mounting base for cleanliness. Clean as required.
5. Remove water separator bowl (3). Drain and clean separator bowl. Dry with compressed air.
6. Install water separator bowl onto new filter element. Tighten securely.

NOTE: The fuel filter must be indexed properly and the key on canister must be oriented in slot of mounting base for correct installation.

7. Thoroughly inspect filter base seal ring. Replace as needed.

IMPORTANT: DO NOT prefill fuel filters. Debris in unfiltered fuel will damage fuel system components.



TX1034352A—UN—08JAN08

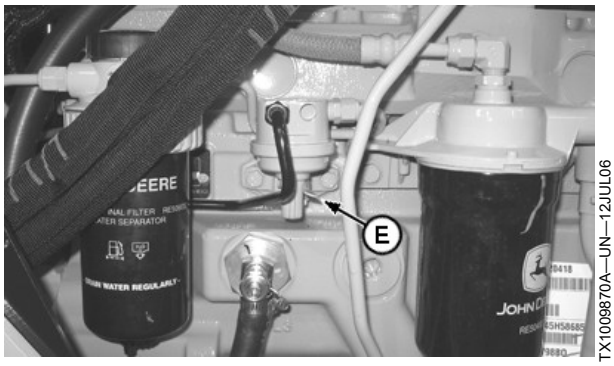
1—Drain Line
2—Filter Element
3—Separator Bowl
4—Bleed Screw

8. Install new filter element onto mounting base and position element using a slight rocking motion. Be sure element is properly indexed on mounting base.
9. Install retaining ring onto mounting base and tighten about 1/3 turn until ring “snaps” into the detent. DO NOT overtighten the retaining ring.
10. Open bleed screw (4) two full turns by hand.

ER93822,0000098-19-18JUN10-1/2

11. Pump the mechanical pump (E) on the engine until a noticeable amount of fuel and air comes out of vent opening. Continue pumping and close vent screw when fuel starts to flow.
12. Pump the mechanical pump several times until resistance is felt. Continue pumping and open air bleed vent screw again.
13. Close air bleed vent screw and pump the mechanical pump several times until resistance is felt again.

E—Mechanical Pump



TX1009870A—UN—12JUL06

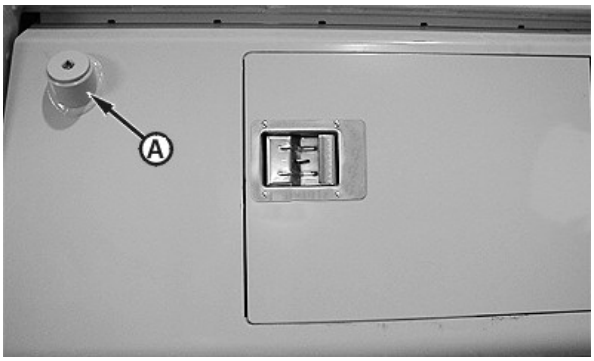
ER93822,0000098-19-18JUN10-2/2

Adjust Engine Valve Lash (Clearance)

See your authorized dealer.

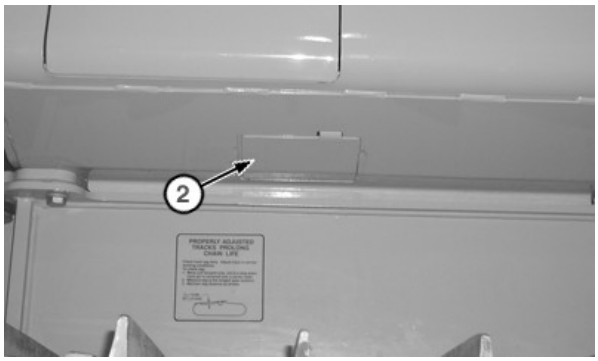
CED,OUO1032,1136-19-14JAN08-1/1

Drain and Refill Hydraulic Oil and Replace Filter



T117860C—UN—26OCT98

Hydraulic Filter



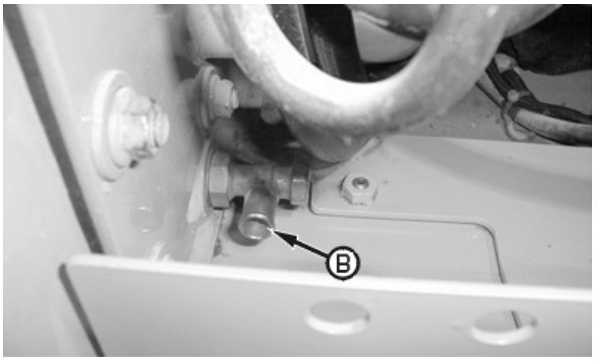
TX1035061A—UN—16JAN08

450J Shown

IMPORTANT: DO NOT operate engine without oil in reservoir.

1. The hydraulic reservoir, filter and drain are located on right side of machine. Remove fill cap (A).
2. Remove hydraulic drain access panel (2).
3. Attach hose to drain valve (B), if equipped, or remove drain plug and route hose to container. Drain oil. Dispose of waste oil properly.

A—Fill Cap **2—Access Panel**
B—Drain Valve



T117896B—UN—05NOV98

Optional Drain Valve Shown

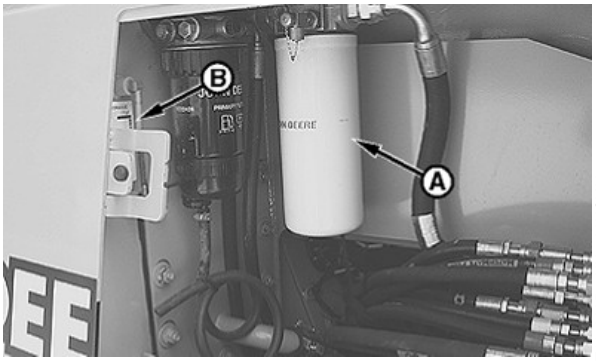
CED,OUO1032,1125-19-14AUG15-1/2

4. Remove filter (A) by turning counterclockwise.
5. Apply thin film of oil to gasket of new filter.
6. Install new filter. Turn filter clockwise by hand until gasket touches mounting surface.
7. Tighten additional 1/2 turn.
8. Fill reservoir with oil. See Hydraulic and Hydrostatic Oil. (Section 3-1.)

Specification

Hydraulic Oil Reservoir—Capacity. . . . . 32 L Approximate
8.5 gal. Approximate

9. Check O-ring on fill cap and install fill cap.
10. Start engine and run for 2 minutes. Stop engine and check for leaks around filter base. Tighten filter only enough to stop leaks.
11. Check oil level in sight tube (B). Oil level must be between the ADD and FULL marks on tube. If necessary, add more oil.



T117893B—UN—03NOV98

Hydraulic Oil Filter

A—Filter **B—Sight Tube**

CED,OUO1032,1125-19-14AUG15-2/2

See your authorized dealer for JT05460 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.

T85402—UN—10NOV88

Battery And Coolant Tester

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TX03679,0001788-19-29APR11-2/2

Using Battery Charger

12-Volt System

⚠ CAUTION: Prevent possible injury from exploding battery. Do not charge a battery if ambient temperature is below 0°C (32°F). Warm battery to 16°C (60°F) before charging.

Turn off charger before connecting or disconnecting it.

IMPORTANT: Do not use battery charger as a booster if a battery has a 1.150 specific gravity reading or lower.

Disconnect battery ground (-) clamp before charging batteries in the machine to prevent damage to electrical components.

NOTE: Some battery chargers may also be used as a booster to start the engine. Follow battery charger manufacturer's operating instruction before boosting.

1. Turn the battery disconnect switch (if equipped) to the OFF position.
2. Ventilate the area where battery is being charged.
3. Connect positive (+) cable to the positive (+) terminal of machine battery.
4. Connect negative (-) cable to the negative (-) terminal of machine battery.

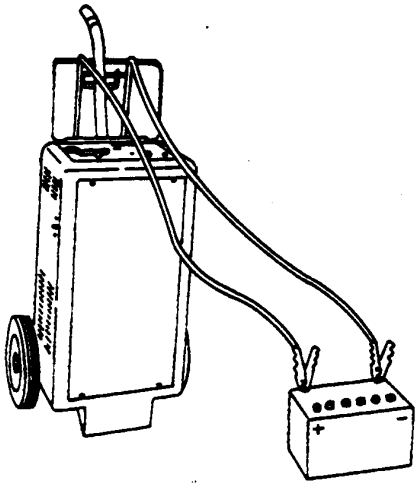
⚠ CAUTION: Prevent possible injury from exploding battery. Follow battery charger manufacturer's operating instructions before charging.

IMPORTANT: Prevent battery or machine damage from improper use of charger. Follow battery charger manufacturer's operation instruction before charging.

5. Stop or cut back charging rate if battery case becomes hot or is venting electrolyte. Battery temperature must not exceed 52°C (125°F).
6. Remove charger cables in reverse order of connection.

TS204—UN—15APR13

Prevent Battery Explosions



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Charger

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OUT4001,0000239-19-15SEP21-1/2

Checking Track Carrier Roller Oil Level

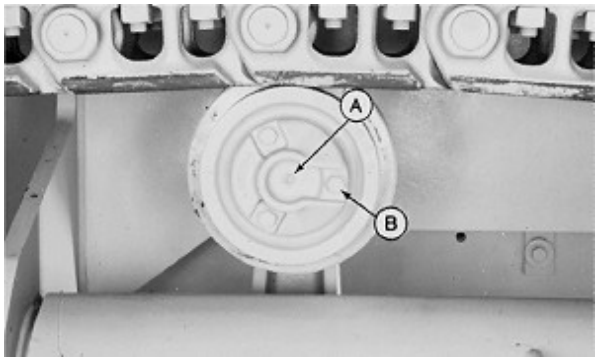
Removing the oil level check plug (B) in the roller does not always show oil, due to a vacuum in the oil cavity. Components that appear low or out of oil may have sufficient oil. A small amount of low-volume air forced into the roller will overcome the vacuum inside the roller and force a small amount of oil to flow out.

1. Position the oil level check plug at the 3 o'clock or 9 o'clock position.
2. Remove the oil level fill plug (A). If oil runs out, oil level is correct.

   If oil does not run out of the fill hole, remove the oil level check plug. Insert the nozzle of the plastic bottle (C) into the check hole and squeeze air pressure inside the roller assembly. A slight amount of air pressure inside the roller will relieve any vacuum inside the assembly and allow oil to flow out fill hole.

   Oil must be level with fill hole or not more than 3 mm (0.12 in.) below the bottom of the hole.
3. Install plugs.

A—Oil Level Fill Plug
B—Oil Level Check Plug
C—Plastic Bottle



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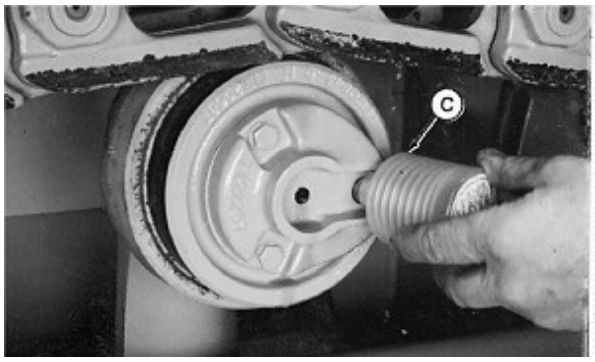

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TX,90,RR2741-19-14JAN08-1/2

Adding Oil to Track Carrier Roller

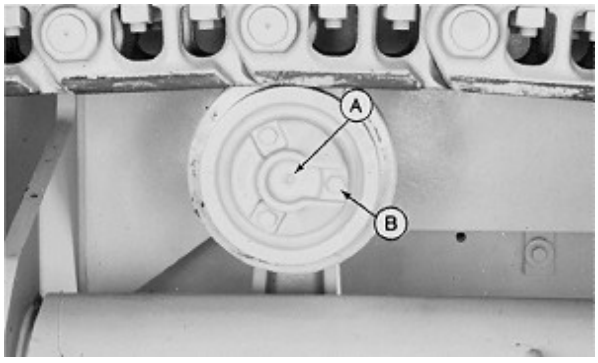
1. To add oil, remove the oil level check plug (B).
2. Remove the oil level fill plug (A) and IMMEDIATELY install a John Deere adapter fitting AN142253 or equivalent adapter (male 7/16 x 20 O-ring thread to female 1/8 in. NPT grease fitting into the adapter) (E).
3. Fill a grease gun with oil. See Track Rollers, Front Idler and Carrier Roller Oil. (Section 3-1.)
4. Add oil to grease fitting until it comes out of the oil level check port (C).
5. Install oil level check plug. Tighten to specification.

Specification

Carrier Roller Oil Level Check Plug—Torque. . . . . 41 N·m
30 lb-ft

6. Remove grease fitting and adapter. Install oil level fill plug.

A—Oil Level Fill Plug
B—Oil Level Check Plug
C—Oil Level Check Port
D—Oil Level Fill Port
E—Adapter Fitting



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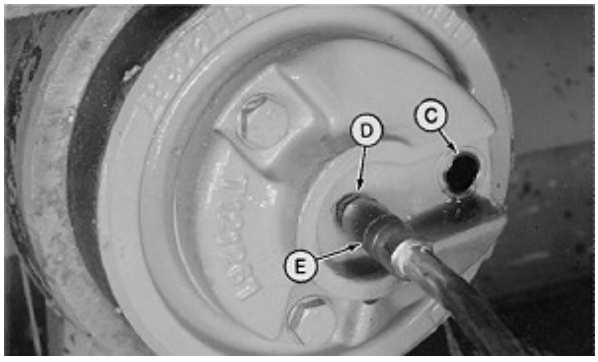

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TX,90,RR2741-19-14JAN08-2/2

Air Restriction Indicator Check

T117820

T117820—UN—25NOV98

Operated engine at slow idle and fast idle.

nbsp;nbsp;

LOOK: Does air restriction indicator light come on?

YES: Clean or replace air cleaner elements. See Replace Air Cleaner Elements. (Section 3-9)

NO: Check complete.

ER93822,00000F1-19-17JAN14-18/28

Slow and Fast Idle Check

Operate engine at slow and fast idle. Record rpm readings displayed on monitor.

LOOK: Are correct slow and fast idle speeds displayed on monitor?

Specification

Engine Slow Idle—Speed. . . . . 900 rpm

Engine Fast Idle—Speed. . . . . 2350 rpm

YES: Check complete.

NO: Check monitor inputs. See your authorized John Deere dealer.

Check crankshaft position sensor circuit connections.

ER93822,00000F1-19-17JAN14-19/28

Park Brake Valve Leakage Check

Hydraulic oil must be at operating temperature 66°C (150°F).

Adjust engine speed control to slow idle with park lock lever in the LOCK (up) position.

Observe charge pressure reading on the SDM. The charge pressure can be accessed as a live value in the SDM menu structure. See Standard Display Monitor (SDM) Main Menu—Diagnostic—Live Values. (Section 2-2)

Move park lock lever to the UNLOCK (down) position.

LOOK: Does pressure drop as park lock lever is moved down, then returned to original value?

Fully depress decel/brake pedal, then release.

LOOK: Does pressure drop as decel/brake pedal is released, then returned to original value?

LOOK: Do tracks creep or move?

YES: Isolate park brakes, brake valve to locate leakage.

If tracks move in neutral. Inspect park brake valve. See your authorized John Deere dealer.

NO: Check complete.

Continued on next page

ER93822,00000F1-19-17JAN14-20/28

Hydraulic System

Symptom	Problem	Solution
Blade Lifts and/or Blade Tilts Too Slowly	Cold oil	Allow oil to warm up.
	Oil viscosity too high (too thick)	Use correct oil.
	Control valve linkage	Inspect linkage. Repair or adjust. See your authorized dealer.
	Worn hydraulic pump	Check blade raise cycle time.
Blade Fails to Lift and Blade Fails to Tilt	Low hydraulic oil level	Check. Add hydraulic oil.
Blade Hard to Control	Front idler vertical movement excessive	Adjust front idler to side frame clearance.
Pump Excessively Noisy	Cold oil	Allow unit to warm up.
	Low oil level	Check, add oil.
	Oil viscosity too high (oil too thick)	Change oil to correct viscosity oil.
Hydraulic Oil Overheats	Operator holds control valve open too long, causing system relief valve to open	Instruct operator on correct operation of dozer.
	Oil viscosity too high (oil too thick)	Change oil to correct viscosity.
Hydraulic Oil Foams	Water in oil	Inspect oil. Change.
	Using wrong oil	Inspect. Change oil.

HG31779,00000D4-19-14JAN08-1/1

450J-LT Crawler Dozer Specifications

Item	Measurement	Specification
John Deere POWERTECH™ 4045D 4-Cylinder Diesel Engine		
Engine	Type	Turbocharged
Rated Power at 2200 rpm	Power	52 kW (70 hp) SAE net horsepower
Piston	Displacement	4.52 L 276 cu in.
Maximum Net Torque at 1300 rpm	Torque Rise	316 N·m 233 lb-ft
Oil Pan Size	Capacity	0.24 L/kW
Batteries	Voltage	12-volt
Alternator—ROPS	Amperage	65 amp
Transmission	Speed	0—8 km/h 0—5 mph
Hydraulic System	Pressure	20 685 kPa 3000 psi
	Flow Rate	56.8 L/min 15 gpm
Undercarriage		
Track Shoes (Each Side)	Quantity	40
Ground Contact Area (with 16 in. Shoes)	Area	17 755 cm^2 2752 sq in.
Track	Pitch	160 mm 6.29 in.
	Gauge	1450 mm 57 in.
Ground Pressure	Pressure	38.6 kPa 0.39 bar 5.6 psi

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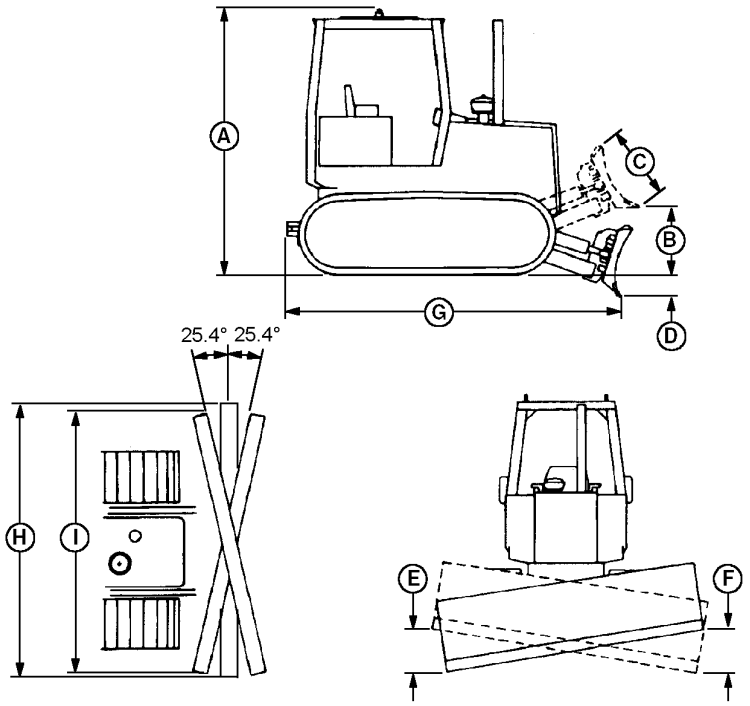
550J-LGP Crawler Dozer Dimensions



T118300

T118300—UN—11NOV98

NOTE: Specifications and design subject to change without notice. Whenever applicable, specifications are in accordance with ISO and SAE standards. Except where otherwise noted, these specifications are based on a unit with roll-over protective structure, full fuel tank, 80 kg (175 lb) operator, 610 mm (24 in.) shoes, 3150 mm (124 in.) blade, and standard equipment.

Item	Measurement	Specification
A—Overall Height—ROPS or Cab	Height	2743 mm 9 ft
B—115 inch Blade	Height	955 mm 3 ft 1.6 in.
B—124 inch Blade	Height	894 mm 2 ft 11.2 in.
C—Blade Lift	Height	797 mm 2 ft 7.4 in.
D—Digging	Depth	523 mm 1 ft 8.6 in.
E—Blade Tilt		
115 inch Blade (Right Side)	Distance	399 mm 1 ft 3.7 in.
124 inch Blade (Right Side)	Distance	429 mm 1 ft 4.9 in.
F—Blade Tilt		

Continued on next page

ER93822,00000C9-19-14JAN08-1/2

650J-LGP Crawler Dozer Specifications

Item	Measurement	Specification
John Deere POWERTECH™ 4045H 4-Cylinder Diesel Engine		
Engine	Type	Turbocharged
Rated Power at 2200 rpm	Power	74 kW (99 hp) SAE net horsepower
Piston	Displacement	4.52 L 276 cu in.
Maximum Net Torque at 1200 rpm	Torque Rise	446 N·m 329 lb-ft
Oil Pan Size	Capacity	0.18 L/kW
Batteries	Voltage	12-volt
Alternator—ROPS	Amperage	65 amp
Transmission	Speed	0—8 km/h 0—5 mph
Hydraulic System	Pressure	20 685 kPa 3000 psi
	Flow Rate	56.8 L/min (15 gpm) @ 2200 rpm
Undercarriage		
Track Shoes (Each Side)	Quantity	40
Ground Contact Area (with 28 in. Shoes)	Area	33 239 cm^2 5152 sq in.
Track	Pitch	171 mm 6.73 in.
	Gauge	1753 mm (69 in.)
Minimum Ground (with Single Bar Grouser)	Clearance	363 mm 14.3 in.
Ground Pressure	Pressure	26.2 kPa 0.26 bar 3.8 psi

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