

**PART NO.**

OMT231482

**HITACHI**

# **Operator's Manual**

# **ZAXIS**

## **370F-3**

### **Road Builder**

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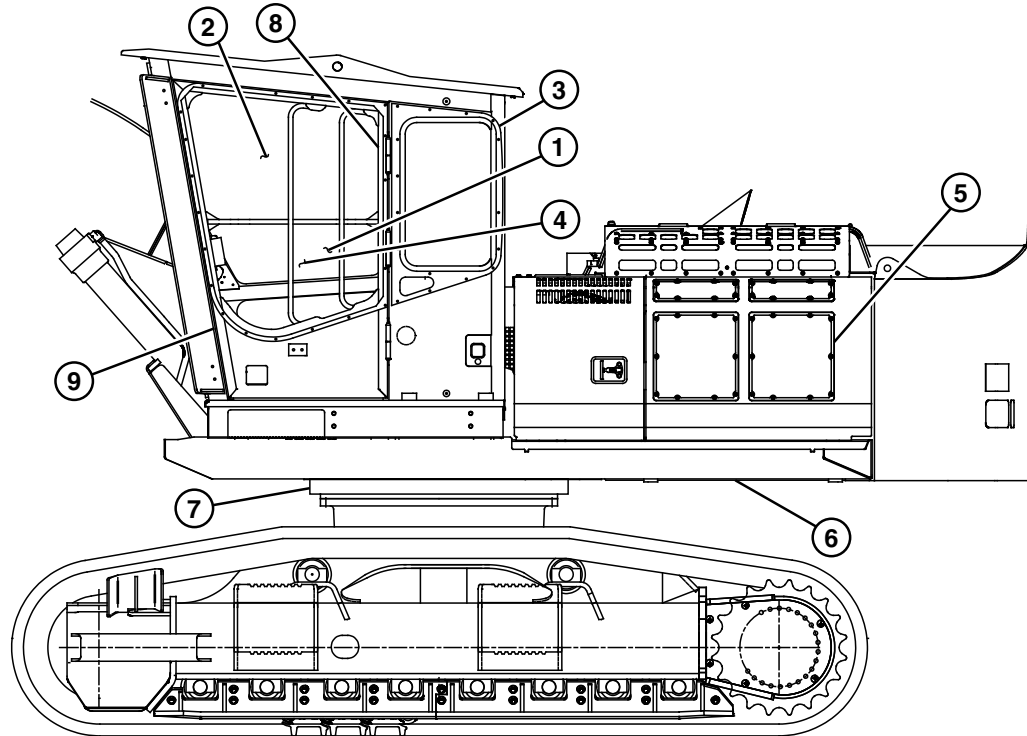


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# Safety—Safety and Operator Conveniences

## Safety and Operator Convenience Features



TX1040995

TX1040995—UN—23APR08

**Please remember that the operator is the key to preventing accidents.**

- 1. Seat Belt.** A seat belt is provided for the operator.
- 2. Operator Protective Structure (OPS).** Integrated operator protective structure (OPS) fully encloses and protects operator. Meets local requirements and matches work situations.
- 3. Secondary Exit.** The rear window on a side entry cab and the roof panel on a rear entry cab, provide a large exit path if the cab door is blocked in an emergency situation.
- 4. Pilot Control Shutoff.** A lever near the cab exit reminds the operator to deactivate hydraulic functions before leaving the machine.

**5. Engine Fan Guard.** A secondary fan guard inside the engine compartment helps prevent contact with the engine fan blades.

**6. Travel Alarm.** Alerts bystanders of machine movement when travelling.

**7. Swing Brake.** Swing brake engages automatically when the swing is not operated. Helps secure upperstructure when transporting the machine.

**8. Fire Extinguisher.** A fire extinguisher is located in the cab as standard equipment.

**9. Handholds.** Large, conveniently placed handholds make it easy to enter or exit the operator's station or service area.

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### Operate Booms With Care

Regardless of whether the engine is running or is shut down, always lower the booms so that the felling head or attachment is securely supported when operation is stopped.

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

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

USE ONLY PREARRANGED AND APPROVED SIGNALING PRACTICES.



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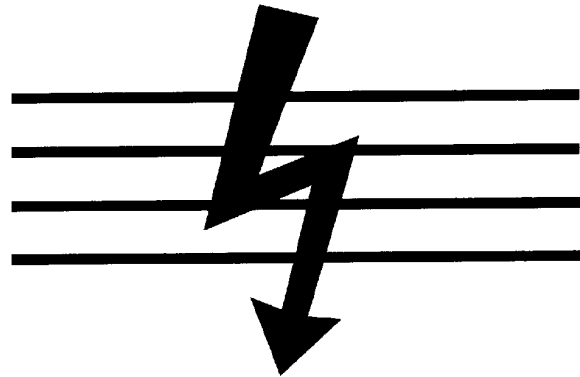
### Avoid Power Lines

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

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

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

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



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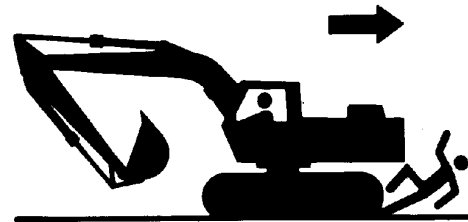
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### Avoid Backover Accidents

**Before moving machine, be sure all persons are clear of both travel and swing paths.** Turn around and look directly for best visibility. Use mirrors to assist in checking all around machine. Keep windows and mirrors clean, adjusted, and in good repair.

**Be certain travel 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.



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## Monitor Panel Functions

### 1. Engine Coolant Temperature Gauge:

**IMPORTANT: If needle points to "RED" zone, idle engine to bring back needle to "GREEN" zone before stopping engine. If needle continues to rise, stop engine.**

**2. Fuel Gauge:** Fuel machine before needle reaches "E."

**3. Display Select Switch:** Press switch to display Hour Meter, Trip Meter 1, or Trip Meter 2 information in that order on the monitor display.

**4. Set Switch:** Press switch to change settings in Trip Meter 1 or Trip Meter 2.

**5. Work Mode Switch:** Press switch to select Dig Mode.

**6. Fuel Level Indicator:** Indicator will light when approximately 80 L (21 gal) of fuel remain.

**7. Air Filter Restriction Indicator:** Indicator will light when the air filter elements are clogged.

**8. Alternator Voltage Indicator:** Indicator will light with no or low alternator output.

**9. Check Engine Indicator:** Indicator will flash when the engine derate reaches 50% due to the following conditions: low fuel pressure, high fuel temperature, crank sensor fault, defective fuel injection pump ECU, or a failure in ECU to injection pump ECU communications.

**10. Hydraulic Oil Filter Restriction Indicator:** Not used.

### 11. Engine Oil Pressure Indicator:

**IMPORTANT: If engine oil pressure light comes on while operating, stop engine immediately.**

Indicator will light and buzzer will sound when engine oil pressure is low. Stop engine immediately.

*NOTE: Cold oil, low oil level, or extreme off level operation may cause indicator to light.*

### 12. Preheat Indicator:

**IMPORTANT: Prevent engine damage. Do not use starting aid in machines equipped with the preheat option.**

When preheating is required, the preheat icon is automatically lit. If preheating is not required, the icon will not be lit.

### 13. Engine Coolant Temperature Indicator:

**IMPORTANT: DO NOT stop engine when coolant temperature light comes on or temperature will rise further. Reduce load, and run engine at slow idle for 15 seconds. If temperature light continues to stay ON, stop engine.**

Indicator will light, and buzzer will sound when engine coolant overheats. Reduce load immediately, and run engine at slow idle for 15 seconds. Inspect for debris around radiator. Check coolant level in the radiator recovery tank.

**14. Dig Mode Indicator:** Indicator will light when Dig Mode is selected.

**15. Attachment Mode Indicator:** Not used.

**16. Monitor Display:** Displays Hour Meter, Trip Meter 1, and Trip Meter 2 information.

**17. Auto-Idle Indicator:** Indicator will light when the auto-idle / auto-acceleration switch is turned to the A/I or the A/A position. Indicator will flash when engine is started and either auto-idle or auto-acceleration mode is already activated.

**18. Auto-Acceleration Indicator:** Indicator will light when the auto-idle / auto-acceleration switch is turned to the A/A position. Indicator will flash when engine is started and auto-acceleration mode is already activated.

*NOTE: Fuel filter restriction indicator can illuminate during cold start-ups or when machine is under heavy loads.*

**19. Fuel Filter Restriction Indicator:** Indicator will light when fuel pressure falls to a preset low value. If pressure drops to a low value, engine derates to 50% of full power. If indicator is lit and machine will only operate at idle, fuel filter replacement is necessary.

### Adjusting the Mechanical Suspension Seat

While sitting on seat, push down lever (1) to adjust seat to desired angle. Release lever.

Pull up handle (2) to unlock seat. Slide seat to desired distance from control levers. Release handle.

Turn knob (3) to adjust seat to weight of operator.

Squeeze ball (4) to add air for lumbar firmness. Press button next to ball to release air.

Pull up lever (5) to release backrest lock. Move backrest to desired position. Release lever.

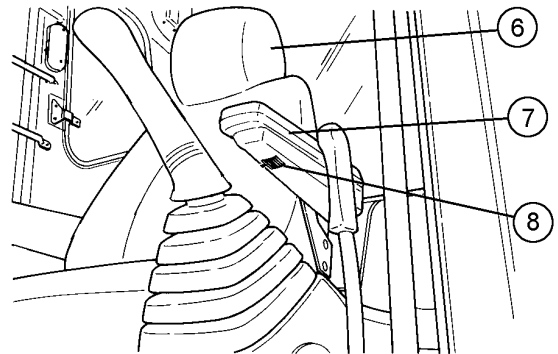
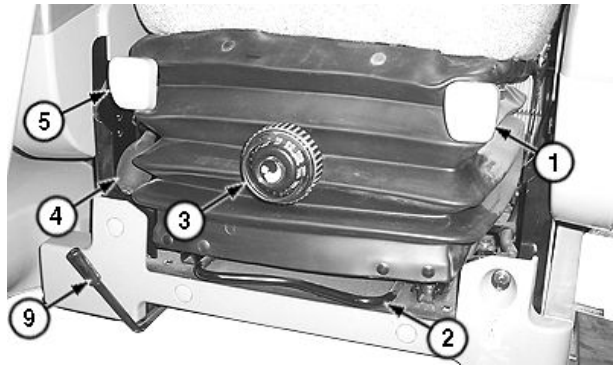
Pull headrest (6) upward or push downward to desired height. Move headrest to desired angle.

Pull up on armrest (7) to move armrest out of way when exiting.

Turn dial (8) to adjust angle of armrest.

Rotate handle (9) toward operator. Slide entire seat and controls to desired distance from travel pedals. Release handle.

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| 1— Seat Angle Adjustment Lever     | 6— Headrest Height and Angle      |
| 2— Seat Fore-Aft Adjustment Handle | 7— Armrest                        |
| 3— Weight Adjustment Knob          | 8— Armrest Dial                   |
| 4— Lumbar Adjustment Ball          | 9— Seat Console Adjustment Handle |
| 5— Backrest Adjustment Lever       |                                   |



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### Control Lever Pattern Operation

**CAUTION:** Never place any part of body beyond window frame to avoid serious crushing injury from boom. Boom could lower if the control lever is accidentally bumped or otherwise engaged. Immediately replace a missing or broken window.

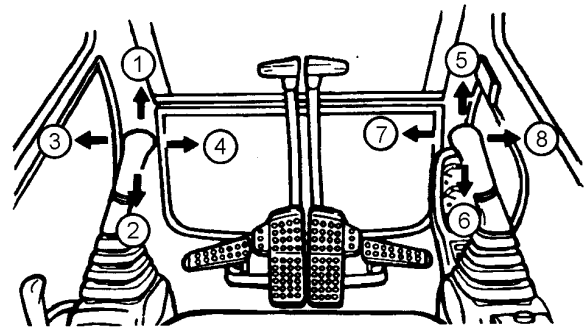
**CAUTION:** Prevent injury from unexpected control lever function. Be aware of the control lever pattern used on the machine before operating.

The machine comes equipped from the factory with the excavator control lever pattern.

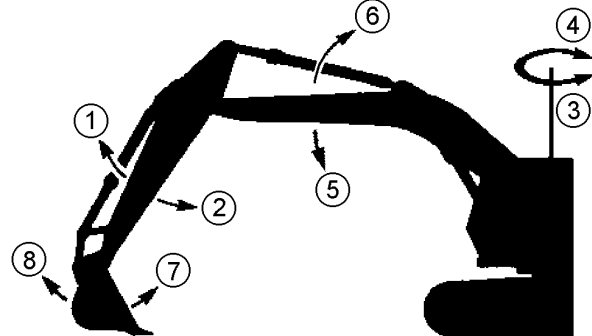
Check the pattern on the label, and then carefully operate the machine to verify the pattern.

Control levers return to neutral when released. Functions will stop and remain positioned. Also, the parking brake for swing and travel will engage.

- |                |                |
|----------------|----------------|
| 1— Arm Out     | 5— Boom Down   |
| 2— Arm In      | 6— Boom Up     |
| 3— Swing Left  | 7— Bucket Load |
| 4— Swing Right | 8— Bucket Dump |



Excavator Control Lever Pattern



Boom, Arm, Bucket Movement

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T137499—UN—25JAN01

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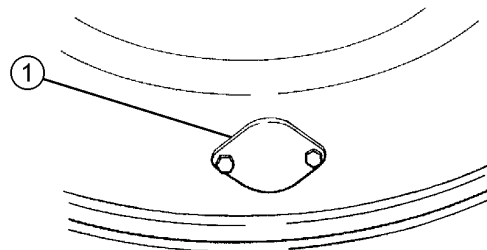
### Operating In Water and Mud

Be careful not to operate the machine in water or mud above the upper deck surface of the undercarriage, causing the swing bearing and rotary manifold to be submerged.

If the swing bearing and rotary manifold are submerged, remove cover from underneath center of machine. Remove drain plug (1) to drain water and mud.

Clean swing gear area. Install plug and cover. Grease swing gear and swing bearing.

- 1— Drain Plug



T136459—UN—18DEC00

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## Hydraulic Oil

**IMPORTANT:** This machine is factory filled with either Zinc-Free Super EX 46HN extended life hydraulic oil, or Premium zinc-based ISO AW32 or ISO AW46 hydraulic oil. Check the decal on top of the reservoir, or near the sight glass or by the PM decal.

**DO NOT MIX ZINC-BASED AND ZINC-FREE OILS.**

Flushing system is required when changing from zinc-free to zinc-based oils. Contact authorized dealer for the flushing procedure.

Avoid mixing different brands of oils. Oil manufacturers engineer their oils to meet certain specifications and requirements. Mixing different oils can degrade lubricant and machine performance.

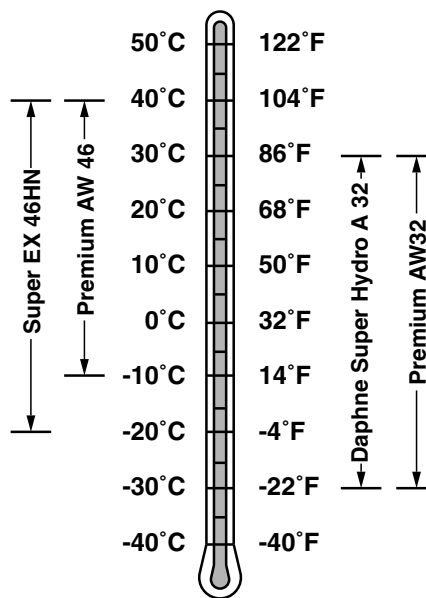
Use oil viscosity based on the expected air temperature range during the period between oil changes.

### Low Temperature Operation

When the atmospheric temperature is between  $-40^{\circ}\text{C}$  and  $+20^{\circ}\text{C}$ : Use the proper hydraulic oil having high and low temperature characteristics by referring to the values shown below.

- Low Temperature Viscosity: Less than 4000cSt at  $-40^{\circ}\text{C}$
- High Temperature Viscosity: More than 6.5cSt at  $+80^{\circ}\text{C}$

The above values are approximately equivalent to ISO viscosity grade #22. However, low temperature viscosity will differ depending on each product. Contact each hydraulic oil manufacturer directly.



Hydraulic Oil

When the atmospheric temperature is below  $-40^{\circ}\text{C}$ : Contact your authorized dealer.

### Seasonal Hydraulic Flushing

- **Do not mix zinc-based and zinc-free oils.**
- Two hydraulic tank flushes are required when changing hydraulic oils for seasonal operation. Drain and refill tank with new oil (ISO32-cold, ISO46-warm.). Operate machine to mix oil in system. Drain and refill tank again. Check oil viscosity.

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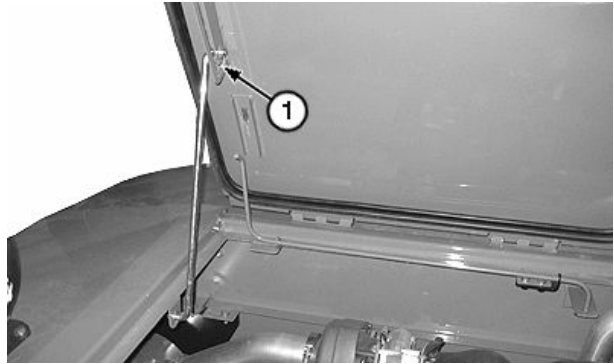
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### Open Engine Cover for Service

**CAUTION:** Prevent personal injury from heavy door closing. Unlock latch. Pull open latches to unlock cover. Raise the cover until the end of the bar is securely locked into catch.

Raise cover using handle on cover until the end of the rod is securely locked into catch (1).

1— Catch



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### Fuel Tank

**CAUTION:** Handle fuel carefully. If the engine is hot or running, **DO NOT** fill the fuel tank. **DO NOT** smoke while filling fuel tank or working on fuel system.

**IMPORTANT:** If machine has been run out of fuel, engine will not start. Contact your authorized dealer for instructions.

To avoid condensation, fill the fuel tank at the end of each day's operation.

**Zaxis 370F-3—Specification**

Fuel Tank—Capacity..... 1050 L  
277 gal

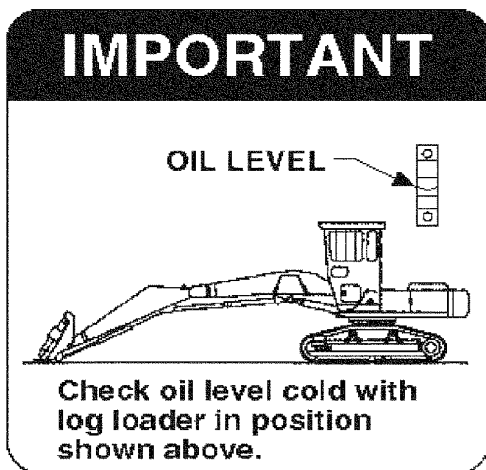
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## Check Hydraulic Tank Oil Level

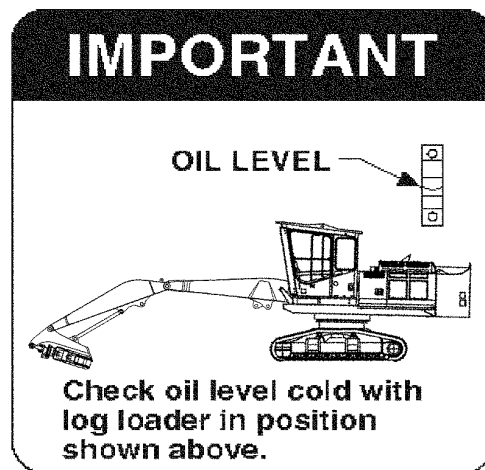
**IMPORTANT:** Prevent damage to hydraulic system components. **DO NOT** run engine without oil in hydraulic tank.

Avoid mixing different brands or types of oils. Oil manufacturers engineer their oils to meet certain specifications and performance requirements. Mixing different oil types can degrade lubricant and machine performance.

This machine is factory filled with either Zinc-Free Super EX 46HN extended life hydraulic oil, Zinc-Based ISO 32, or Zinc-Based ISO 46 hydraulic oil. To determine the type of factory fill hydraulic oil see Hydraulic Oil. (Section 3-1.) Avoid servicing this machine with products that do not meet these specifications. If oils have been mixed or if alternate service oils are desired, the complete hydraulic system needs to be totally flushed by an authorized dealer.



*Live Heel Grapple Position*



*Fixed Heel Grapple Position*

1. Park machine on a level surface and position machine with arm cylinder fully retracted and grapple cylinder fully extended.
2. Stop engine.



*Valve-In-Head Position*

Continued on next page

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**IMPORTANT:** If water is added to batteries during freezing weather, batteries must be charged after water is added to prevent batteries from freezing. Charge battery using a battery charger or by running the engine.

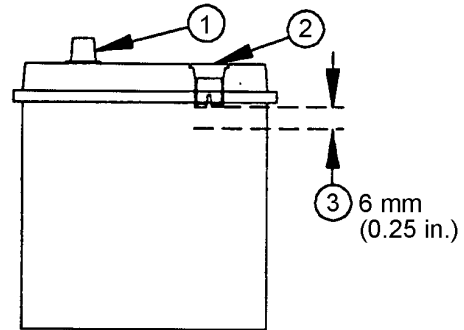
2. Fill each cell to within specified range with distilled water. DO NOT overfill.

**CAUTION:** Prevent possible injury. ALWAYS remove grounded (-) battery clamp first and replace it last.

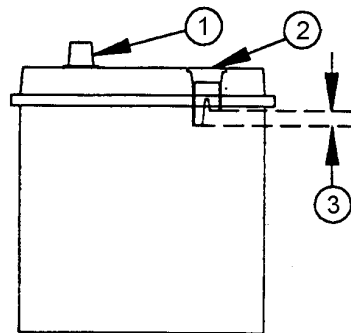
3. Disconnect battery clamps, grounded clamp first.

1— Battery Post  
2— Fill Tube

3— Electrolyte Level Range



Battery Terminal and Fill Hole



Fill Level

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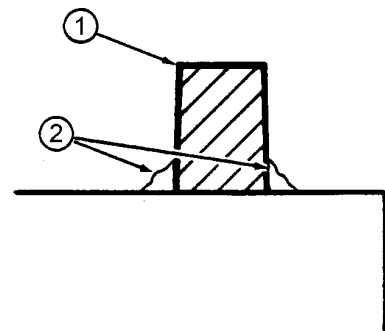
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4. Clean battery terminals (1) and clamps with a stiff brush.
5. Apply lubricating grease (2) around battery terminal base only.
6. Install and tighten clamps, grounded clamp last.

1— Battery Terminal

2— Lubricating Grease



Terminal and Grease

T137537—UN—25JAN01

TX14740,0001CBE -19-01DEC15-3/3

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1. Hold down filter cover (2) against light spring load when removing the last two cap screws (3).
2. Remove spring (5), valve (7), and filter element (6).
3. Remove and discard filter element and O-ring (8).

*NOTE: Remove element, and inspect for metal particles and debris in bottom of filter canister. Excessive amounts of brass and steel particles can indicate a hydraulic pump, motor, or valve malfunction, or a malfunction in process. A rubber type of material can indicate cylinder packing problem.*

4. Install filter element, valve, and spring.
5. Install cover (2), and tighten cap screws (3).

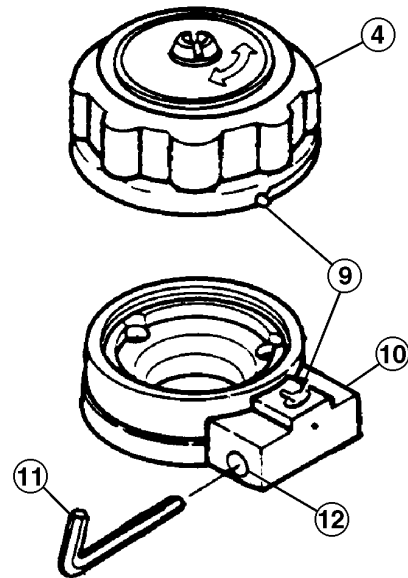
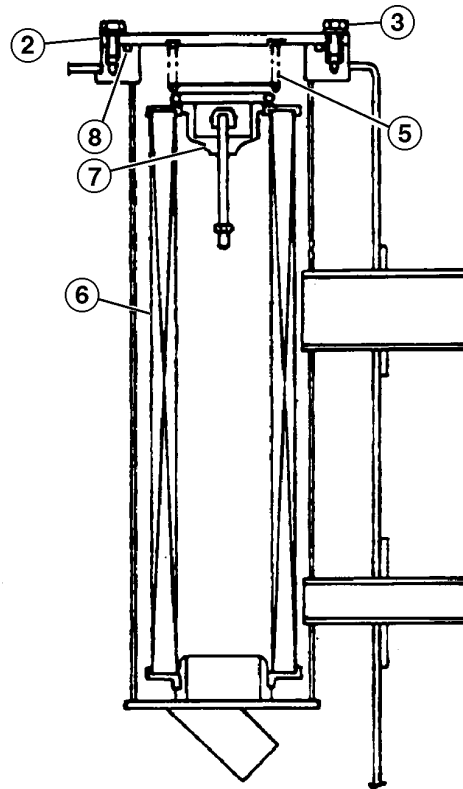
**Specification**

Cap Screw—Torque.....49 N·m  
36 lb·ft

6. Install cap (if equipped) to case assembly (10) by aligning marks (9) and turning cap clockwise to lock position.

- 2— Filter Cover
- 3— Cap Screw (6 used)
- 4— Hydraulic Tank Cap
- 5— Spring
- 6— Filter Element
- 7— Valve

- 8— O-Ring
- 9— Aligning Mark
- 10— Case Assembly
- 11— Wrench
- 12— Hole



TX1099220—UN—07OCT11

TX1099258—UN—07OCT11

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# Maintenance—Every 5000 Hours

## Change Hydraulic Tank Zinc-Free Oil, Clean Suction Screen

**NOTE:** This procedure only applies if using Zinc-Free hydraulic oil. To determine the type of factory fill oil in machine, see Hydraulic Oil. (Section 3-1.)

**IMPORTANT:** Prevent damage to hydraulic system components. **DO NOT** run engine without oil in the tank.

Avoid mixing different brands or types of oils. Oil manufacturers engineer their oils to meet certain specifications and performance requirements. Mixing different oil types can degrade lubricant and machine performance.

This machine is factory filled with either Zinc-Free Super EX 46HN extended life hydraulic oil, Zinc-Based ISO 32, or Zinc-Based ISO 46 hydraulic oil. Avoid servicing this machine with products that do not meet these specifications. If oils have been mixed or if alternate service oils are desired, the complete hydraulic system needs to be totally flushed by an authorized dealer.

1. Park machine on level surface with upperstructure rotated 90° for easier access.
2. Position machine with arm cylinder fully retracted and grapple cylinder fully extended.
3. Stop engine.

**If equipped with hydraulic tank cap:**

**CAUTION:** High pressure release of oil from pressurized system can cause serious burns or penetrating injury. The hydraulic tank is pressurized. Relieve pressure by slowly turning the cap (1) counterclockwise a few degrees.

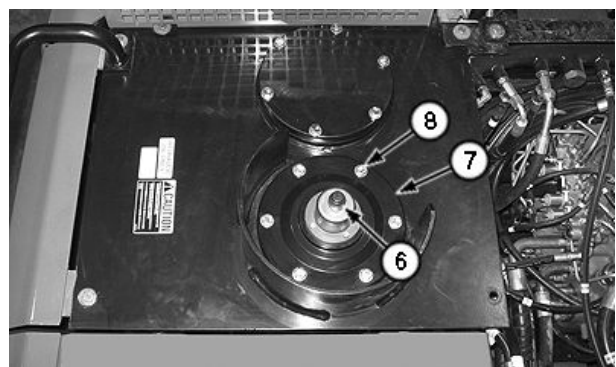
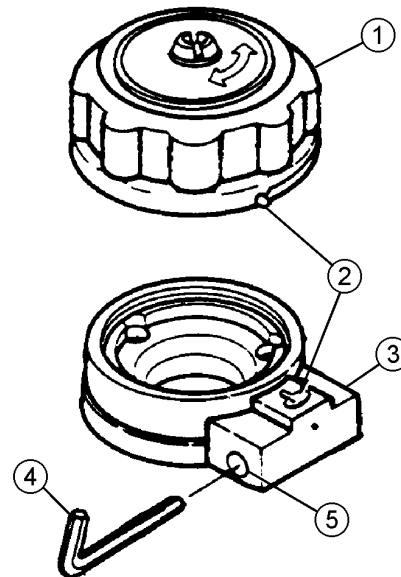
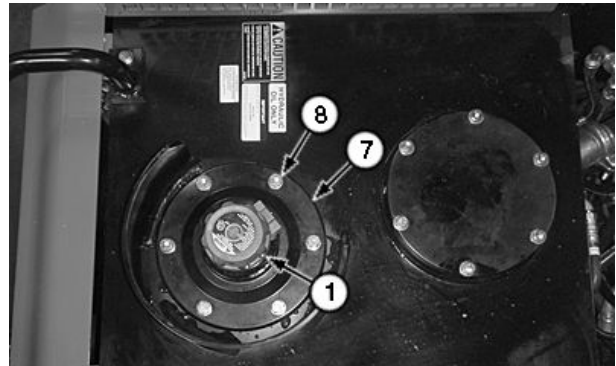
1. Insert 4 mm hex wrench (4) into hole (5) and turn counterclockwise to release locking pin.
2. Slowly turn cap (1) counterclockwise a few degrees to relieve pressure. Tighten Cap.

**If equipped with pressure release button:**

**CAUTION:** High pressure release of oil from pressurized system can cause serious burns or penetrating injury. The hydraulic tank is pressurized. Relieve pressure by pushing the pressure release button (6).

To relieve hydraulic pressure, push the pressure release button (6).

1. Remove cap screws (8)



- |                  |                            |
|------------------|----------------------------|
| 1— Cap           | 5— Hole                    |
| 2— Aligning Mark | 6— Pressure Release Button |
| 3— Case Assembly | 7— Cover                   |
| 4— Hex Wrench    | 8— Cap Screw (6 used)      |

2. Remove cover (7).

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T135189—UN—06NOV00

TX1099359A—UN—07OCT11

## Handling, Checking, and Servicing Batteries Carefully

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

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

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

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

Avoid the hazard by:

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

If you spill acid on yourself:

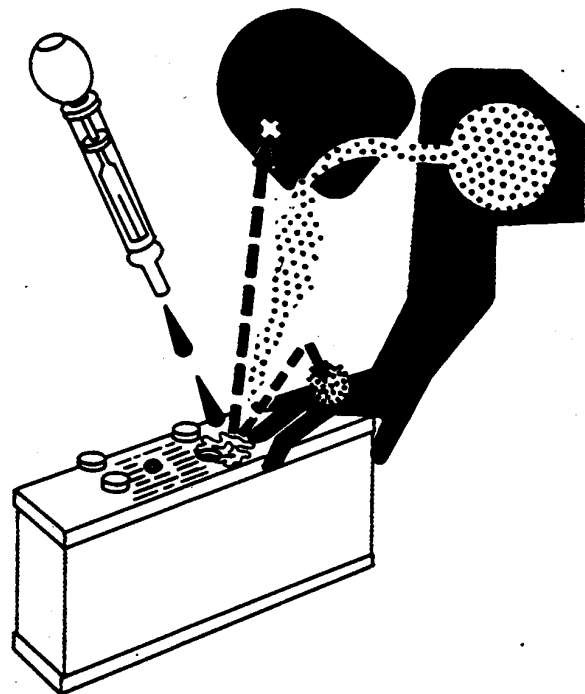
1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 1.9 L (2 quarts).
3. Get medical attention immediately.

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

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 (1 pt) 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.

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OUT4001,000011D -19-12MAY08-1/2

TS204—UN—15APR13

TS203—UN—23AUG88

# Miscellaneous—Operational Checkout

## Operational Checkout

Use this procedure to check operation of the machine. It is designed so you can make a quick check of machine operation while doing a walk around inspection and performing specific checks from the operator's seat.

If there is a problem with the machine, helpful diagnostic information in this checkout will help pinpoint the cause. This information may allow you to perform a simple adjustment to correct the problem. Use the table of contents to help find adjustment procedures.

A location will be required which is level and has adequate space to complete the checks. No tools or equipment are needed to perform the checkout.

Complete the necessary visual checks (oil levels, oil condition, external leaks, loose hardware, linkage, wiring, etc.) prior to doing the checkout. The machine must be at operating temperature for many of the checks.

Read the check completely before performing it. If no problem is found, you will be instructed to go to next check. If a problem is indicated, you will be referred to a procedure for repair.

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## Diagnostic Trouble Codes Check

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### Display and Clear Diagnostic Trouble Codes

Always check for diagnostic trouble codes and correct them before performing the operational checkout.

Diagnostic trouble codes can be displayed by using several methods.

- Monitor Controller (Hydraulic diagnostic trouble codes)
- With Service ADVISOR™ (Engine diagnostic trouble codes)
- With Dr. ZX (Hydraulic diagnostic trouble codes).

Are diagnostic trouble codes present?

**YES:** See your authorized dealer.

**NO:** Proceed with operational checkout.

*Service ADVISOR is a trademark of Deere & Company*

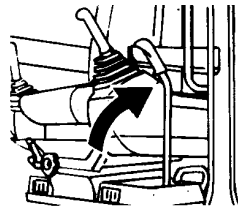
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## Operational Checks—Key Switch OFF, Engine OFF

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**Pilot Control Shutoff Valve Check**



T7351CC —UN—22AUG90

*LOCKED—Side Entry Shown*

**⚠ CAUTION: Prevent possible injury from machine movement. Make sure that area is clear of bystanders and large enough to operate all machine functions.**

Turn engine speed dial to L (slow idle) position.

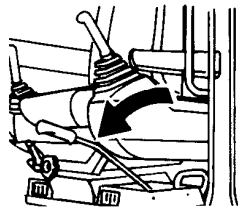
Place pilot control shutoff lever in LOCKED (rearward) position.

Slowly actuate boom, arm, and travel functions.

*LOOK: Do boom, arm, and travel functions operate?*

**YES:** Go to next check.

**NO:** Continue check.



T7351CB —UN—22AUG90

*UNLOCKED—Side Entry Shown*

Place pilot control shutoff lever in UNLOCKED (forward) position.

Slowly actuate boom, arm, and travel functions.

*LOOK: Do boom, arm, and travel functions operate?*

**YES:** Go to next check.

**NO:** See your authorized dealer.

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**Hydraulic Oil Tank  
Pressurization Check**

*NOTE: Plug solenoid pressure release port on side of hydraulic oil tank to isolate solenoid. Failure to do so will make test invalid.*

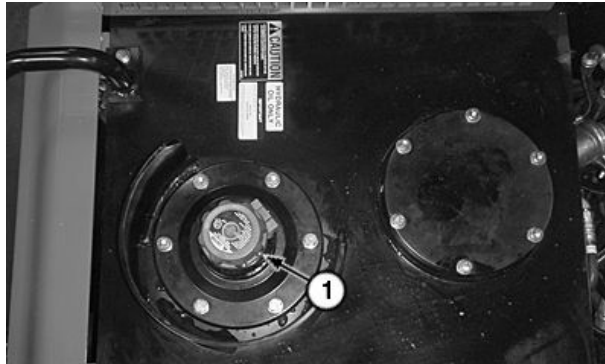
**⚠ CAUTION: Prevent possible injury from machine movement. Make sure area is clear of bystanders and large enough to operate all machine functions.**

Raise boom to full height, then lower boom to ground.

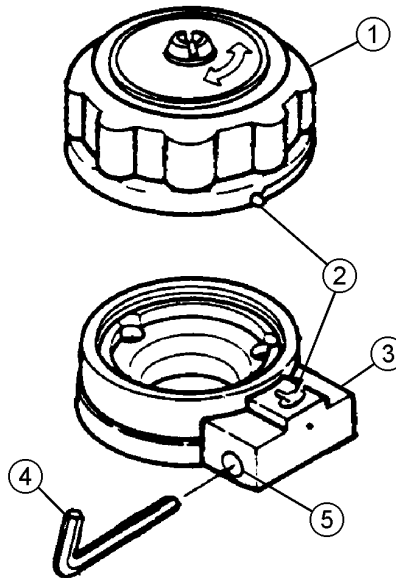
Stop engine.

**If equipped with hydraulic tank cap:**

**⚠ CAUTION: High pressure release of oil from pressurized system can cause serious burns or penetrating injury. The hydraulic tank is pressurized. Relieve pressure by slowly turning the cap (1) counterclockwise a few degrees.**



TX1099132A —UN—04OCT11



T135189 —UN—06NOV00

- 1— Cap
- 2— Aligning Mark
- 3— Case Assembly
- 4— Hex Wrench
- 5— Hole

1. Insert 4 mm hex wrench (4) into hole (5) and turn counterclockwise to release locking pin.
2. Slowly turn cap (1) counterclockwise a few degrees to relieve pressure. Remove cap.

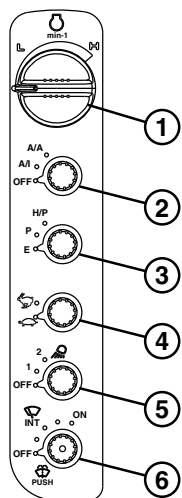
*LISTEN: Is air heard escaping from the pressure release button on hydraulic oil tank cover?*

**If equipped with pressure release button:**

Continued on next page

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**Travel Speed Selection Check**



T142011 —UN—10MAY01

Switch Panel

- 1— Engine Speed Dial
- 2— Auto-Idle/Auto-Acceleration Switch
- 3— Power Mode Switch
- 4— Travel Speed Switch
- 5— Work Light Switch
- 6— Windshield Wiper and Washer Switch

**⚠ CAUTION: Prevent possible injury from machine movement. Make sure that area is clear of bystanders and large enough to operate all machine functions.**

Turn engine speed dial (1) to H (fast idle) position.

Turn travel speed switch (4) to slow speed (turtle) mode.

Actuate travel function to full speed.

Turn travel speed switch to fast speed (rabbit) mode.

*LOOK: Does machine travel speed increase?*

Actuate a dig or swing function and then return to neutral.

*LOOK: Does machine travel speed decrease and then increase as function is actuated and then released?*

Turn travel speed switch to slow speed (turtle) mode.

*LOOK: Does machine travel speed decrease?*

**YES:** Go to next check.

**NO:** See your authorized dealer.

Continued on next page

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## Miscellaneous—Troubleshooting

### Using Troubleshooting Charts

*NOTE: Troubleshooting charts are arranged from the simplest to verify, to least likely, more difficult to verify. When diagnosing a problem, use all possible means to isolate the problem to a single component or system. Use the following steps to diagnose problems:*

- Step 1. Operational Checkout Procedure.
- Step 2. Troubleshooting charts.
- Step 3. Adjustments.
- Step 4. See your authorized dealer.

TX,FF,105 -19-12SEP12-1/1

**IMPORTANT: Prevent possible engine damage.**  
 During cold temperatures, check fluidity of engine oil on dipstick. If the oil appears waxy and/or jelly-like rather than liquid, **DO NOT attempt to start engine.** Use external heat source to warm the crankcase until oil appears fluid.

3. Check all fluid levels. If low, check for leaks and add oil as required.
4. Check belts.
5. Check condition of all hoses and connections.
6. Check battery electrolyte level. Charge and install battery.
7. For machines with **tires**, check condition of tires and tire pressure.

For machines with **tracks**, check condition of tracks and track sag.

On crawler machines with non sealed-and-lubricated track chains, apply oil to the pin-to-bushing joints. Run machine back and forth several times.

8. Park machine on a hard surface to prevent tracks from freezing to ground.
9. Fill fuel tank.
10. Pre-lubricate turbocharger bearings, if equipped:
  - a. Disconnect fuel shutoff fuse.
  - b. Crank engine for 10 seconds.
  - c. Connect fuel shutoff fuse.
11. Inspect engine compartment, and remove any foreign material that may have accumulated. Start engine and



Check Oil on Dipstick

run until it reaches operating temperature. Run at 1/2 speed for five minutes. Do not run at fast or slow idle.

- If engine fails to start or runs poorly after starting, change fuel filter(s). Bleed fuel system.

12. Operate all controls, levers, seat adjustments, etc.

**⚠ CAUTION: Prevent possible injury from unexpected machine movement. Clear the area of all persons before running machine through the operation procedure.**

13. Make sure the area is clear to allow for movement. Cycle all hydraulic functions several times. Check condition of all hoses and connections.
14. Park the machine with cylinder rods retracted, if possible. Turn key switch to OFF.
15. Apply LPS 3 Rust Inhibitor to exposed cylinder rod areas.

VD76477,00016A3 -19-24FEB14-2/2

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