



Caterpillar
Operator's Manual
950 Wheel Loader
S/n 90A1, 99A1,
58H1 & 15J1 & up

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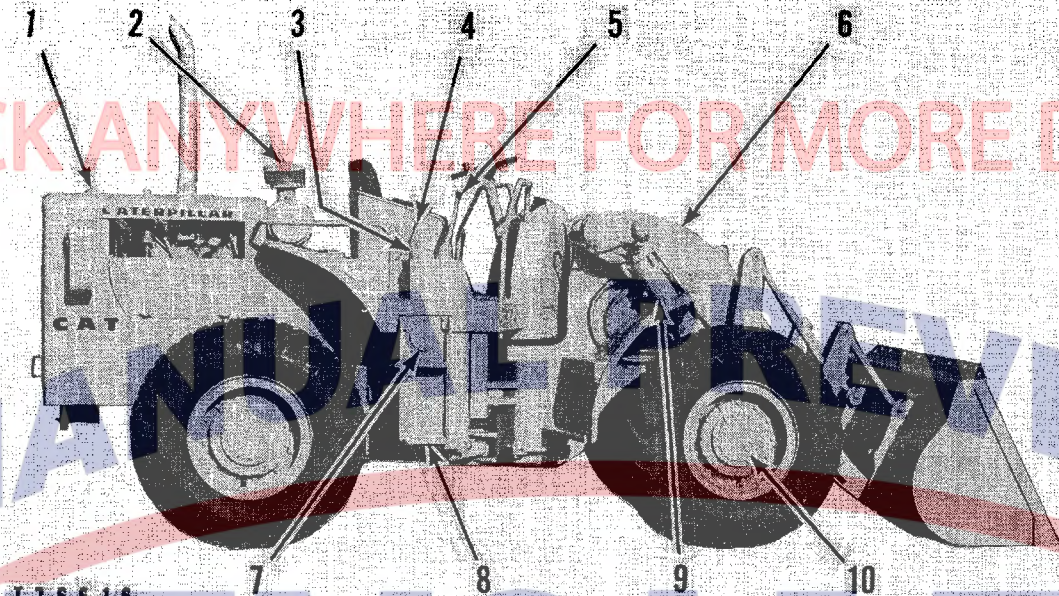


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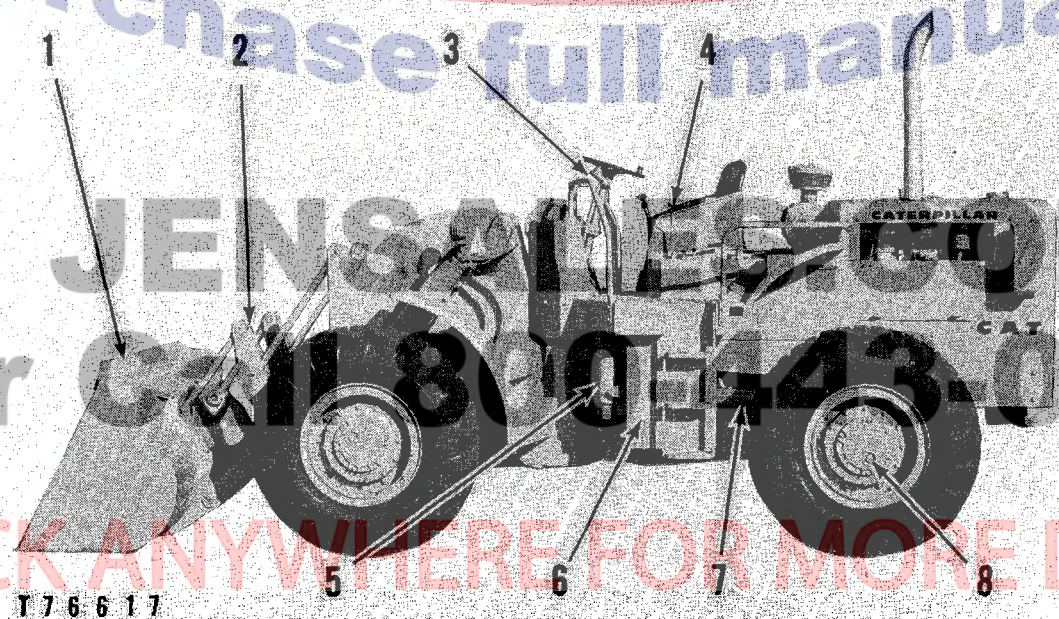
CT-O-950WL90A1

Operator's Manual



950 TRAXCAVATOR — RIGHT SIDE VIEW

1-Radiator filler cap. 2-Diesel engine precleaner. 3-Hydraulic system filler cap. 4-Parking brake. 5-Bucket control levers. 6-Bucket lift arm. 7-Hydraulic system filter. 8-Ladder. 9-Bucket control cylinder. 10-Front planetary final drive.



950 TRAXCAVATOR — LEFT SIDE VIEW

1-Bucket. 2-Bucket control linkage. 3-Forward and reverse control lever. 4-Speed and range selector levers. 5-Air system supply tank. 6-Diesel fuel tank. 7-Steering cylinder. 8-Rear planetary final drive.

CLICK ANYWHERE FOR MORE DETAILS

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Transmission Lubricants

Multipurpose-type Gear Lubricant (MIL-L-2105B) must be used in differential and final drive compartments equipped with the torque proportioning differential attachment.

Oils having a higher concentration of extreme pressure additives, such as those conforming to MIL-L-002105A specifications, should not be used.

Hydraulic Brake Fluid

This heavy duty hydraulic brake fluid is of the non-mineral oil type meeting the requirements of SAE 70R3 and is used at all temperatures without dilution. Your oil supplier is familiar with hydraulic brake fluids meeting these requirements.

Diesel Engine Crankcase Lubricating Oil Change Periods

The crankcase lubricating oil change periods for these engines have been carefully established for the purposes of protecting the service life of the engine as economically as possible.

Change the oil and filter elements after the first 10 service hours of operation of a reconditioned engine.

DIESEL ENGINE CRANKCASE LUBRICATING OIL CHANGE PERIOD CHART

Use Only Superior Lubricants (Series 3)

FUEL SULPHUR CONTENT	OIL CHANGE PERIOD*	FILTER ELEMENT CHANGE PERIOD*
0.4% or less	250 Service Hrs.	250 Service Hrs.
0.4% to 1.0%	125 Service Hrs.**	250 Service Hrs.

*Regardless of time operated, the crankcase oil and filter elements should be changed at least every six months.

**Reduce crankcase oil change periods one half when sulphur content is greater than 1.0%.

Type of Lubricants and SAE Grades to Use

The grade of oil is classified in terms of viscosity (fluidity or flow ability) and is identified with numbers called SAE numbers. Oils with lower SAE numbers are more fluid and flow more readily than do those with the higher numbers. Crankcase lubricating oils are recommended for use in gear compartments as indicated in the oil specification chart because of their superior oxidation and corrosion inhibitors.

To determine if the oil in the compartments will flow in cold weather, remove the oil level gauge or dip a finger into the oil before starting and if the oil will flow off, the oil is fluid enough to circulate properly.

The oil that has been diluted for cold weather operations should be drained and replaced with undiluted oil at the end of the cold season when dilution is no longer required.

The oil specification chart will aid in the proper oil grade selection for the various compartments. The proper SAE grade of oil to select is determined by the atmospheric temperature at which the machine **is started**. However, during **operation** SAE 10W oil can be used successfully in the diesel engine crankcase when atmospheric temperatures are as high as 70° F.

OIL SPECIFICATION CHART

Compartment	SAE GRADE OF OIL TO USE AT STARTING ATMOSPHERIC TEMPERATURE			
	Above +32°F.	+32°F. to +10°F.	+10°F. to -10°F.	-10°F. and Lower
Diesel Engine Crankcase	Superior Lubricants (Series 3) Only			
	‡SAE 30	‡SAE 10W	SAE 10W	*Dilute SAE 10W
Hydraulic System	‡‡MIL-L-2104A or MIL-L-2104B			
	SAE 10W	SAE 10W	**Dilute SAE 10W	**Dilute SAE 10W
Steering Gear	Superior Lubricants (Series 3)			
	SAE 10W	SAE 10W	SAE 10W	SAE 10W
- Gear Compartments - Differentials and Final Drives†† Transmission	Superior Lubricants (Series 3)			
	SAE 30	SAE 10W	SAE 10W	SAE 10W
Breather Elements	Superior Lubricants (Series 3), Straight Mineral MIL-L-2104A or MIL-L-2104B			
Electric Starting Motors	SAE 30	SAE 10W	SAE 10W	SAE 10W
Starting Engine Crankcase	Superior Lubricants (Series 3), MIL-L-2104A or MIL-L-2104B			
	SAE 10W	SAE 10W	SAE 10W	*Dilute SAE 10W
Hydraulic Brake Fluid	SAE 70R3 Meeting Requirements of SAE J70b Standard.			
Differential and Final Drive Compartments When equipped with torque proportioning differential attachment.	Multipurpose-type Gear Lubricant (MIL-L-2105B)			
	SAE 90	SAE 80	SAE 80	‡SAE 80

†In extremely cold temperatures consult your oil supplier for special Arctic Lubricants.

††When not equipped with torque proportioning differential attachment.

*In lower temperatures it may be necessary to dilute oil with kerosene so it will be fluid enough to insure free circulation. This should be done before stopping, then operate the machine for a few minutes to mix the kerosene and oil. Evaporation in the engine crankcase under steady operation may make it necessary to again add kerosene to maintain proper fluidity.

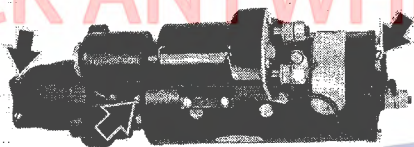
**For temperatures below +10°F. dilute the oil with kerosene so it will be fluid enough to insure free circulation. Begin dilution of the oil at +10°F. and increase the amount of kerosene up to a maximum of 25% of the volume of oil at temperatures of -10°F. and lower.

‡In seasons or locations where starting atmospheric temperatures are below 32°F., SAE 10W oil should be used to insure free circulation, even though daytime operating atmospheric temperatures may rise as high as 70°F.

‡‡Superior Lubricants (Series 3) may be used if it contains zinc dithiophosphate.

CO Crankcase Lubricating Oil

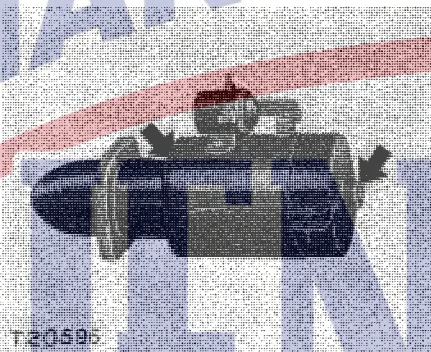
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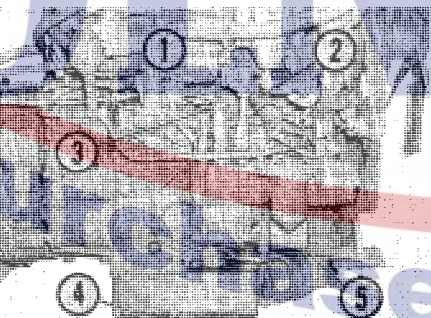
ELECTRIC STARTING MOTOR

Electric starting motors have bearings that require lubrication only when the starter is disassembled for cleaning or reconditioning. Two or three drops of oil for each bearing is sufficient. See the topic, "Electric Starter".

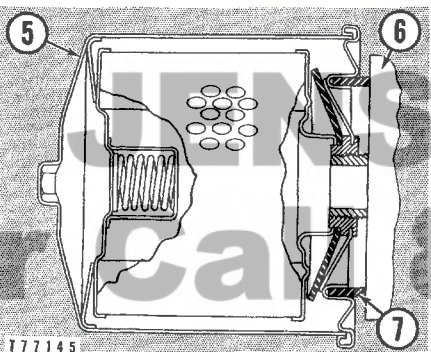
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STARTING ENGINE CRANKCASE

(When equipped with gasoline starting engine attachment)

Check oil level every 10 service hours. Oil should be up to "full" mark on gauge (2). Every 125 to 250 service hours, depending on dust conditions, drain crankcase at (4) and clean the magnetic drain plug. When draining, engine must be level so all the oil in starting engine will drain. Wash breather (1) with kerosene at each oil change period. Install drain plug at (4). Refill crankcase at (3) to "full" mark on gauge. Start and run starting engine at least one minute, stop the engine, check the oil level and add oil if necessary to bring oil level up to "full" mark on gauge. See the topic, "Type of Lubricants and SAE Grades to Use."

Every 1000 service hours replace oil filter (5) with a new Caterpillar filter. On a new or reconditioned starting engine, the filter should be changed after 10 service hours or at the first time the diesel engine crankcase filter elements is changed, whichever occurs first.

Remove filter (5) from the filter base (6) by turning the filter counterclockwise. Clean the mounting surface of the filter base. Be sure the gasket (7) is seated properly in the end of the new filter and apply a film of clean oil on the gasket. Install the new filter by turning it clockwise. Tighten the filter by turning it one turn, or to a torque of 8 to 10 pounds feet, after the filter gasket first contacts base (6). Do not overtighten the filter, otherwise damage may result to the gasket which could result in oil leakage.

CLICK ANYWHERE FOR MORE DETAILS