CEAM030501

Operation & Maintenance Manual

Dump Truck

930E-4SE

Serial Numbers A31828 — A31874

WARNING

Unsafe use of this machine may cause serious injury or death. Operators and maintenance personnel must read this manual before operating or maintaining this machine. This manual should be kept near the machine for reference and periodically reviewed by all personnel who will come into contact with it.

NOTICE

Komatsu has Operation & Maintenance Manuals written in some other languages. If a foreign language manual is necessary, contact your local distributor for availability.

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GENERAL INFORMATION E.2-0000051234

This manual provides dual dimensioning for many specifications. Metric units are specified first, with U.S. standard units in parentheses. When torque values are not specified in the assembly instructions contained in this manual, use the standard torque value for the hardware being used. Standard value torque tables are contained in this chapter for metric and SAE hardware.

This truck is assembled with both metric and SAE (U.S.) hardware. Reference the correct table when determining the proper torque value.

⚠ CAUTION

- **References throughout the manual to standard torques or other standard values will be to one of the following tables. Do not use standard values to replace specific torque values in assembly instructions.**

For values not shown in any of the charts or tables, standard conversion factors for most commonly used measurements are provided in the following tables.

Effect Of Special Lubricants

The Komatsu engineering department does not recommend the use of special friction-reducing lubricants, such as Copper Coat, Never-Seez®, and other similar products, on the threads of standard fasteners where standard torque values are applied. The use of special friction-reducing lubricants will significantly alter the clamping force being applied to fasteners during the tightening process.

If special friction-reducing lubricants are used with the standard torque values listed in this chapter, excessive stress and possible breakage of the fasteners may result.

Where the torque tables specify "Lubricated Threads" for the standard torque values listed, these standard torque values are to be used with simple lithium base chassis grease (multi-purpose EP NLGI) or a rust-preventive grease (see below) on the threads and seats unless specified otherwise.

NOTE: *Ensure the threads of fasteners and tapped holes are free of burrs and other imperfections before assembling.*

Suggested Sources For Rust Preventive Grease

NOTE: *This list represents the current engineering approved sources for use in Komatsu manufacture. It is not exclusive. Other products may meet the same specifications of this list.*

- American Anti-Rust Grease #3-X from Standard Oil Company (also American Oil Co.)
- Gulf NoRust #3 from Gulf Oil Company.
- Mobilarma 355, Product No. 66705 from Mobil Oil Corporation.
- Rust Ban 326 from Humble Oil Company.
- Rustolene B Grease from Sinclair Oil Co.
- Rust Preventive Grease - Code 312 from the Southwest Grease and Oil Company.

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Engine Stop Switch

Engine stop switch (4) is used to stop the engine. Pull the switch up to stop the engine. Push the switch back down to enable engine operation.



Use this switch to stop the engine if the key switch fails to operate, or to stop the engine without turning off the 24 VDC electrical circuits.

A ground level engine stop switch is also located at the right or left front corner of the truck, depending on ladder access.

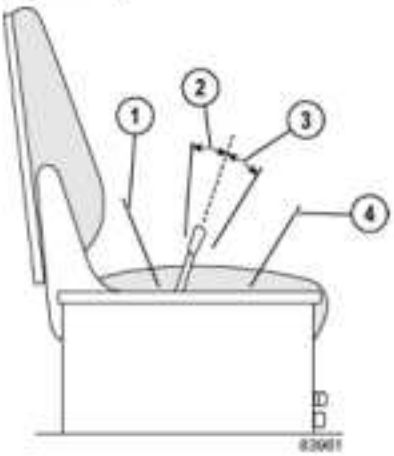
Window Control Switches

The window control switch (5, 6) controls the operation of the window. The switch is spring-loaded to the OFF position.

- Pushing the front of the switch raises the cab window.
- Pushing the rear of the switch lowers the window.

Hoist Control Lever

Hoist control lever (7) is a four position hand-operated lever located between the operator seat and the center console (see Figure 6-4 HOIST CONTROL, page 6-7).



1. Raise
2. Hold
3. Float
4. Lower

Figure 6-4 HOIST CONTROL

Raising The Dump Body

1. Pull the hoist control lever to the rear to actuate hoist circuit. (Releasing the lever anywhere during "hoist up" will place the body in HOLD at that position.)
2. Raise engine rpm to increase hoist speed.
3. Reduce engine rpm as the last stage of the hoist cylinders begin to extend and then let the engine go to low idle as the last stage reaches half-extension.
4. Release hoist control lever as the last stage reaches full extension.
5. After material being dumped clears the body, lower the body to frame.

   Refer to Dumping, page 5-18 for more complete details concerning this control.

Lowering The Dump Body

Move hoist control lever forward to DOWN position and release. Releasing the lever places hoist control valve in the FLOAT position allowing the body to return to frame.

Retard Speed Control (RSC) Adjust Dial

Retard speed control (RSC) adjust dial (8) allows the operator to vary the downhill truck speed that the retard speed control system will maintain when descending a grade. This function can be overridden by the throttle pedal, retarder lever, or brake/retarder pedal.

When the dial is rotated counterclockwise toward this symbol, the truck will descend a grade at lower speeds.



When the dial is rotated clockwise toward this symbol, the truck speed will increase.



Always refer to the Grade/Speed Chart in the operator's cab and follow the recommendations for truck operation. DO NOT exceed these recommended MAXIMUM speeds when descending grades with a loaded truck.

Throttle pedal position will override RSC setting. If operator depresses throttle pedal to increase truck speed, dynamic retarding will not come on unless truck over speed setting is reached or the brake/retarder pedal (or retarder lever) is used. When throttle pedal is released and RSC switch is on, dynamic retarding will come on at, or above, the RSC dialed speed and will adjust truck speed to, and maintain, the dialed speed.

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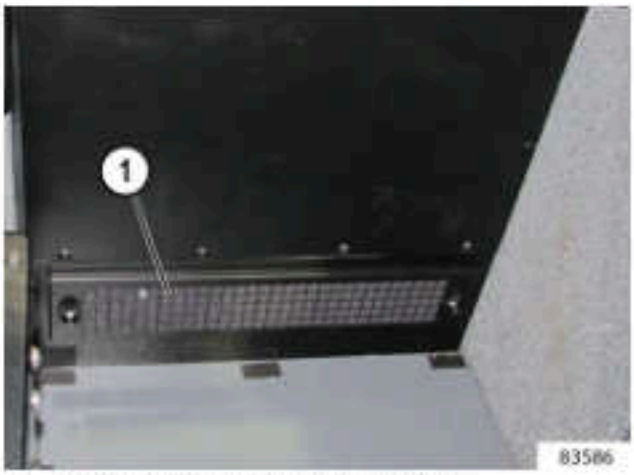
EVERY 500 HOUR LUBRICATION AND MAINTENANCE D.44-0000051632

NOTE: *Maintenance requirements for every 10 & 250 hour Lubrication and Maintenance Checks must also be performed at this time. "Lube Key" references are to the lubrication chart.*

INITIAL 500 HOUR MAINTENANCE (Includes after rebuild)	
Item	**Task**
WHEEL MOTOR	Change or filter the gear case oil.
TRACTION ALTERNATOR	• Check generator fastening to the supporting frame, and torque if necessary. • Check the generator bolt connections on the diesel engine, and torque if necessary. • Check the generator and support structure for any external damage or cracking. • Check that all main power connections are tight with proper creepage distances still maintained. • Check signal and exciter terminal boxes to verify good seal. Reseal and add sealant as needed. • Check for unusual noise or vibration.

EVERY 500 HOUR LUBRICATION AND MAINTENANCE	
Item	**Task**
WHEEL MOTOR	• Check the gear case oil level. • Replace the wheel motor breather elements. • Remove and clean the gear case magnetic plugs. • Take gear case oil sample. (Refer to the Shop Manual for oil sample instructions.) • Based on oil sample results, refer to the GE Planned Maintenance Schedule to determine if the gear case oil is satisfactory, needs filtered or if an oil change is required.
HYDRAULIC SYSTEM	• Replace the high pressure filter elements. Check the oil level. Add oil as necessary. (Lube Key B) • Replace the breather elements. Refer to HYDRAULIC SYSTEM SERVICE, page 7-2 for detailed instructions.
HYDRAIR® SUSPENSION	Check for proper piston extension (front and rear). Refer to the Shop Manual for more information on proper suspension extension and maintenance procedures.
THROTTLE AND BRAKE PEDAL	Lubricate the treadle roller and hinge pins with lubricating oil. Lift the boot from the mounting plate and apply a few drops of lubricating oil between the mounting plate and the plunger.
HOIST ACTUATOR LINKAGE	Check operation. Clean, lubricate, and adjust as necessary.
ACCUMULATOR PRECHARGE	Check all steering and brake accumulator pre-charge pressures. Refer to the Shop Manual for details.

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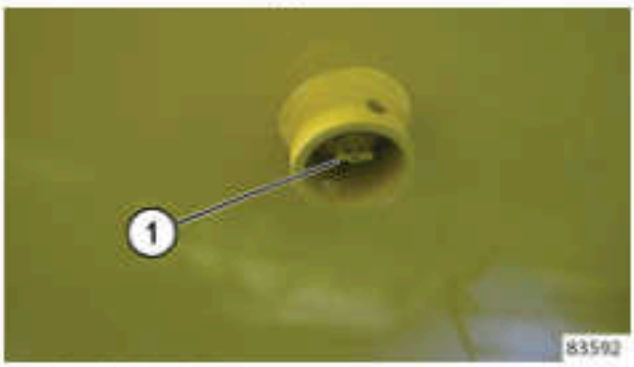
1. HVAC Recirculation Filter Element

Figure 7-7 HVAC RECIRCULATION FILTER LOCATION

1. Clean both filter elements (1, Figure 7-6 CAB AIR FILTER LOCATION, page 7-5 and Figure 7-7 HVAC RECIRCULATION FILTER LOCATION, page 7-6) with mild soap and water.
2. Rinse completely clean and air dry with a maximum of 275 kPa (40 psi).
3. Reinstall the filters.

FUEL SYSTEM SERVICE G.33-0000051601

Fuel Tank Cleaning

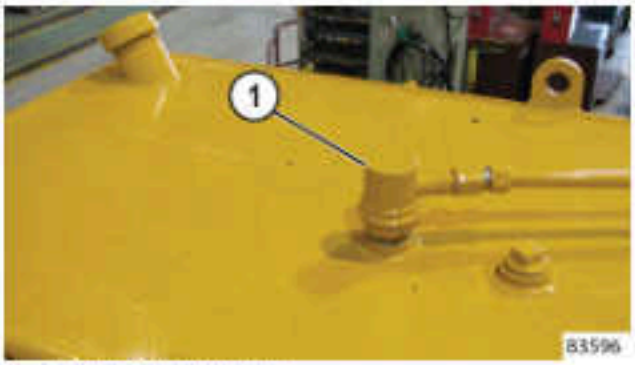


1. Fuel Tank Drain

Figure 7-8 FUEL TANK

Open fuel tank drain (1, Figure 7-8 FUEL TANK, page 7-6) to drain water and sediment from the fuel tank. The fuel tank is provided with a drain and a cleaning port in the side that allows steam or solvent to be utilized in cleaning tanks that have accumulated foreign material.

It is not necessary to remove the tank from the truck for cleaning of sediment, however rust and scale on the walls and baffles may require complete tank removal. Prior to a cleaning procedure of this type, all vents, fuel gauge, and hose connections should be removed and temporarily sealed. After all scale, rust, and foreign material has been removed, the temporary plugs can be removed. A small amount of light oil must be sprayed into the tank to prevent rust if the tank is to remain out of service. All openings should be sealed for rust prevention.

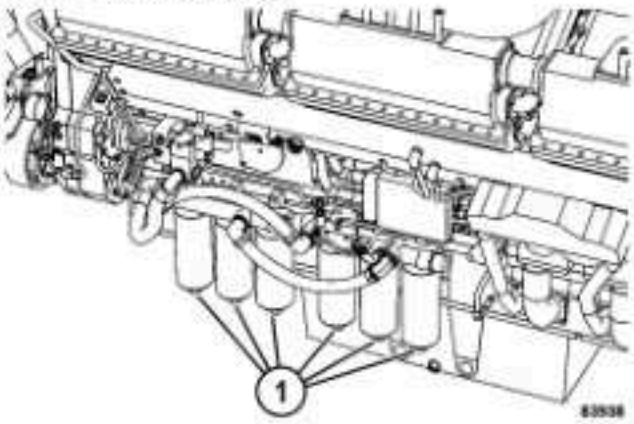


1. Fuel Tank Breather

Figure 7-9 FUEL TANK BREATHER

Remove breather (1, Figure 7-9 FUEL TANK BREATHER, page 7-6) and clean in solvent. Dry with pressurized air and reinstall.

Fuel Filter Service



1. Water Drain Valves

Figure 7-10 WATER SEPARATOR DRAIN

Open water drain valves (1, Figure 7-10 WATER SEPARATOR DRAIN, page 7-6) to remove water from the fuel/water separators daily.

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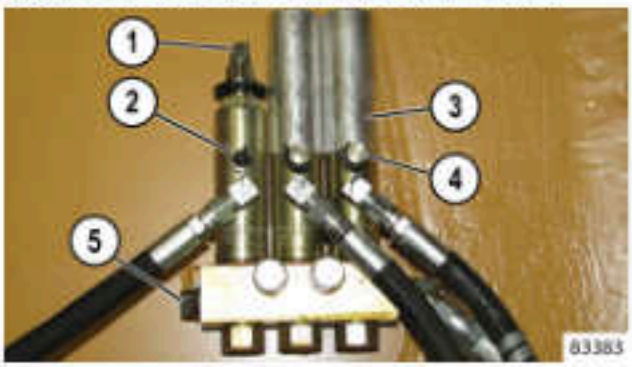
Priming The Automatic Lubrication System

The system must be full of grease and free of air pockets to function properly. After maintenance, if primary or secondary lubrication lines were replaced, it will be necessary to prime the system to eject all entrapped air.



1. Vent Valve
2. Main Supply Line

Figure 5-18 AUTO LUBE MAIN SUPPLY LINE



1. Injector Indicator
2. Injector Grease Zerk
3. Injector Cover
4. Injector Grease Zerk Cap
5. Injector Manifold Plug

Figure 5-19 INJECTOR MANIFOLD

To prime the main supply lines, perform the following:

1. Fill lube reservoir with lubricant, if necessary.
2. Remove injector manifold plug (5, Figure 5-19 INJECTOR MANIFOLD, page 5-50) from injector manifold. Always start with the injector manifold closest to the pump. The last grease line to be purged should be the main grease line to the rear axle (longest grease line).
3. Disconnect main supply line (2, Figure 5-18 AUTO LUBE MAIN SUPPLY LINE, page 5-50) from vent valve (1). Connect an external grease supply to main supply line (2).
4. Pump grease in main supply line (2) until grease appears at the injector manifold plug.
5. Re-install the injector manifold plug. Repeat for remaining injector groups.

After all main supply lines are purged of air, the injector circuits must now be primed.

To prime the secondary supply lines, perform the following:

1. If necessary, disconnect an injector grease line from the component that particular injector supplies grease to.
2. Remove injector grease zerk cap (4) from each injector and connect an external grease supply to injector grease zerk (2) on the injector.
3. Pump grease into the injector until grease appears at the far end of the individual grease line or the joint being greased.
4. Reconnect injector grease line to the component, remove the external grease supply, and reinstall injector grease zerk cap.
5. Repeat steps 1 through 4 until all secondary supply lines have been primed.
6. After all grease lines are primed, use the override switch to cycle the automatic lubrication pump a few times to lube the components.

PREVENTIVE MAINTENANCE PROCEDURES E.6-0000051465

Use the following maintenance procedures to ensure proper system operation.

Daily Lubrication System Inspection

1. Check the grease reservoir level after each shift of operation. Grease usage should be consistent from day-to-day operations. Lack of lubricant usage would indicate an inoperative system. Excessive usage would indicate a broken supply line.
2. Check filter bypass indicator when filling reservoir. Replace element if bypassing.
3. Check all grease hoses from the injectors to the lubrication points.
   a. Repair or replace all damaged feed line hoses.
   b. Ensure that all air is purged and all new feed line hoses are filled with grease before returning the truck to service.

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