CEAM031101

Operation & Maintenance Manual

HD1500-7

DUMP TRUCK

SERIAL NUMBERS **A40115 & UP**

With SSA16V159 Engine

KOMATSU®

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OPERATOR CAB AND CONTROLS

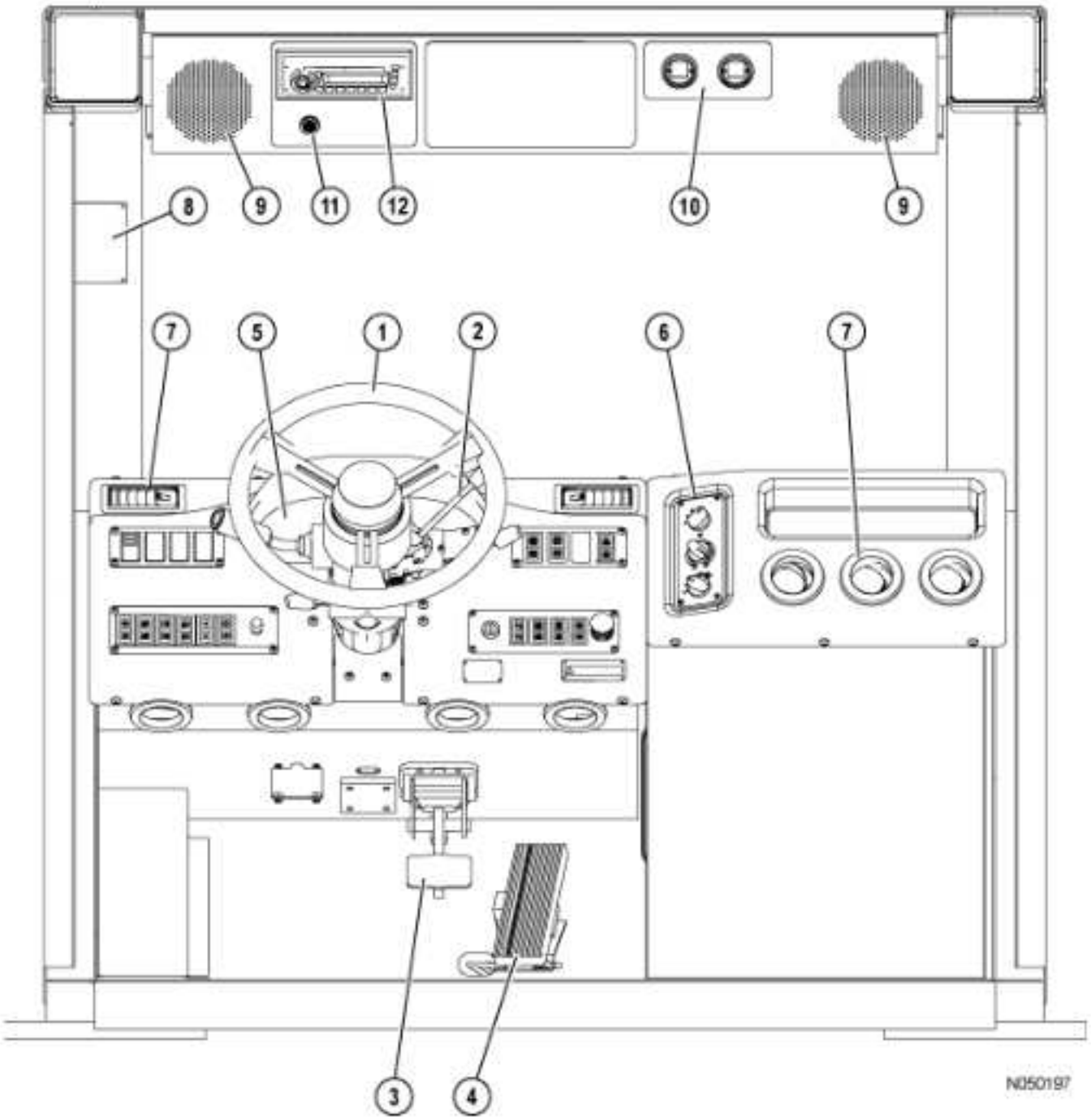


FIGURE 32-1. CAB INTERIOR - OPERATOR VIEW

1. Steering Wheel
2. Retarder Control Lever
3. Service Brake Pedal
4. Accelerator Pedal
5. Instrument Panel
6. Heater/Air Conditioner Controls
7. Heater/Air Conditioner Vents
8. Retarding Capacity Chart
9. Radio Speakers
10. Air Cleaner Vacuum Gauges
11. Warning Alarm Buzzer
12. Radio

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18,000 HOUR INSPECTION

NOTE: Maintenance for every 10, 250, 500 & 1,000 hour lubrication and Maintenance Checks must also be performed at this time. "Lube Key" references are to the lubrication chart.

Truck Serial Number_____ **Site Unit Number**_____ **Date**_____
Hourmeter_____ **Name of Service Technician**_____

	TASK	COMMENTS	CHECKED	INITIALS
1	Seat Belt and Tethers- Even if there are no signs of damage, replace both driver and passenger seat belts five years after seat belt manufacture, or every three years after start of use, whichever comes first.			

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MAJOR COMPONENTS AND SPECIFICATIONS

ENGINE

The Komatsu HD1500-7 dump truck is powered by a Komatsu SSA16V159 diesel engine. This engine is Tier II compliant.

TRANSMISSION

The Torqflow transmission is a planetary gear, multiple disc clutch transmission. The transmission is hydraulically actuated and force-lubricated for optimum heat dissipation. A three-element, single-stage, two-phase torque converter is mounted to the front of the transmission.

The Torqflow transmission is capable of seven forward speeds and one reverse speed. Automatic shifting is controlled by an electronic shift control system with automatic clutch modulation in all gears. A lockup system consisting of a wet, double-disc clutch, is activated in F1-F7 gears for increased fuel savings.

FINAL DRIVE

The final drive consists of a plug-in differential with planetary wheel drive.

OPERATOR'S CAB

The HD1500-7 operator's cab has been engineered for maximum operator comfort and to allow for efficient and safe operation of the truck.

The cab provides for wide visibility, with an integral four-post ROPS/FOPS. It includes the following: tinted safety-glass windshield, power-operated side windows, deluxe interior with a fully adjustable seat with lumbar support, fully adjustable tilt steering wheel, controls mounted within easy reach of the operator, and an electronic display/monitoring panel to keep the operator informed of the truck's operating circuits. Audible alarms and indicator lights warn the operator of system malfunctions.

POWER STEERING

The HD1500-7 truck is equipped with a full time power steering system. The system provides positive steering control with minimum effort by the operator. Nitrogen-charged accumulators automatically provide emergency power if steering pressure is reduced below an established minimum.

BRAKE SYSTEM

Depressing the brake pedal, or operating the retarder, actuates the hydraulic front and rear service brakes. Both front and rear service brakes are oil-cooled, multiple-disc brakes. The brakes are automatically applied when engine speed exceeds the rated revolutions for the shift range. The system includes two nitrogen-charged accumulators for quick response. The accumulators provide secondary braking if a problem occurs in the primary braking circuit.

RETARDER

The operator can manually apply both the front and rear oil-cooled, multiple-disc brakes by actuating the retarding system. The retarder control lever is mounted on the steering column.

The retarding system is also equipped with an Automatic Retard Speed Control (ARSC) system. The system automatically applies the retarder to maintain the set speed as initiated by the operator. Refer to Section 32, Operator Cab and Controls, for more information on the ARSC system.

SUSPENSION

Hydro-pneumatic suspension cylinders are mounted at each wheel to reduce shock. The suspensions provide riding comfort for the operator and machine stability for safe travel.

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24. Ensure the ground level engine shut off switch is ON.
25. Climb the ladder to the main deck. Always use the hand rails and ladder when mounting or dismounting the truck. Clean the ladder and hand rails of any foreign material, such as ice, snow, oil or mud.

⚠WARNING

Face the truck when using the ladders. Never mount or dismount the truck while the truck is in motion.

26. Check the coolant in the radiator using the coolant level sight gauge.

⚠WARNING

If the engine is hot, allow the coolant to cool before removing the radiator fill cap. Serious burns may be acquired from contact with hot coolant. Depress the pressure relief before removing the cap.

27. Inspect the battery box cover for damage. Ensure the cover is secured, tightly.
28. Check the air cleaner indicators. If the indicator is in the red area, the air filter must be cleaned or replaced before operating the truck.
29. Clean the cab windows and mirrors. Clean the cab floor, as necessary. Ensure the steering wheel, controls and pedals are free of foreign substances such as oil.
30. Stow personal gear in the cab so that it does not interfere with operation of the truck. Clean dirt or trash buildup, specifically in the operator's cab. DO NOT store tools or supplies in the cab or on the deck.
31. Adjust the seat and steering wheel so that it is comfortable for use.
32. Read and understand the information detailed in Operator Controls and Instrument Panel. Become familiar with all control locations and functions before operating the truck.

Cold Weather Heating System

Some trucks operating in cold weather climates may be fitted with an optional cold weather heating system. The system includes heaters in the transmission, hydraulic tank, engine oil pan, battery box, cooling system, and fuel system. Trucks fitted with -40°C (-40°F) equipment (or colder) may also contain heaters in the rear axle.

The power receptacle (2, Figure 30-2) is mounted inside the RH upright near the bottom of the radiator.

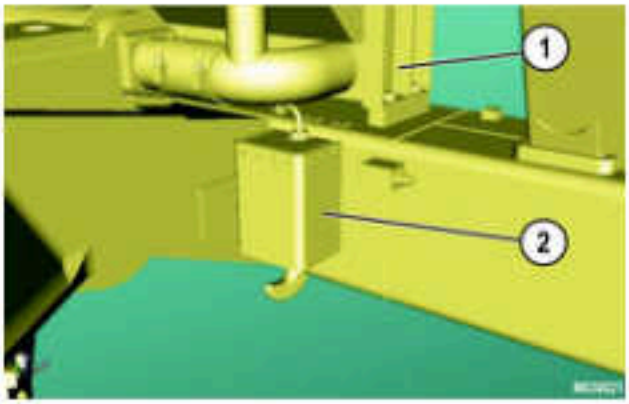


FIGURE 30-2. HEATING SYSTEM POWER RECEPTACLE

1. Radiator
2. Power Receptacle

The system operates on 220V and is controlled by various thermostats in the system. The thermostats operate the heaters within a certain temperature range.

⚠CAUTION

Do not operate the engine while the heater system is operating. Lack of coolant circulation in the heaters will burn out the heating elements.

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AIR INTAKE CLEANER SERVICE

⚠CAUTION

The engine must be turned off before servicing the air cleaner assemblies or opening the engine air intake system. Never start the engine with the filter elements removed. Serious engine damage can result.

During operation or after the engine has been turned off, observe the air filter restriction gauge mounted on the overhead panel in the cab. When a gauge shows maximum restriction, filter service is required.

To service the intake air cleaner system, perform the following:

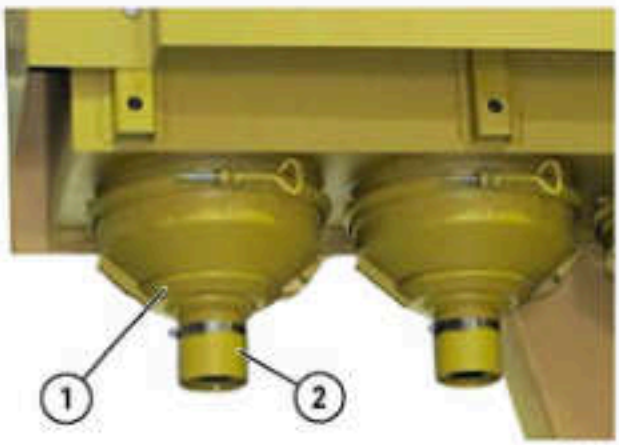
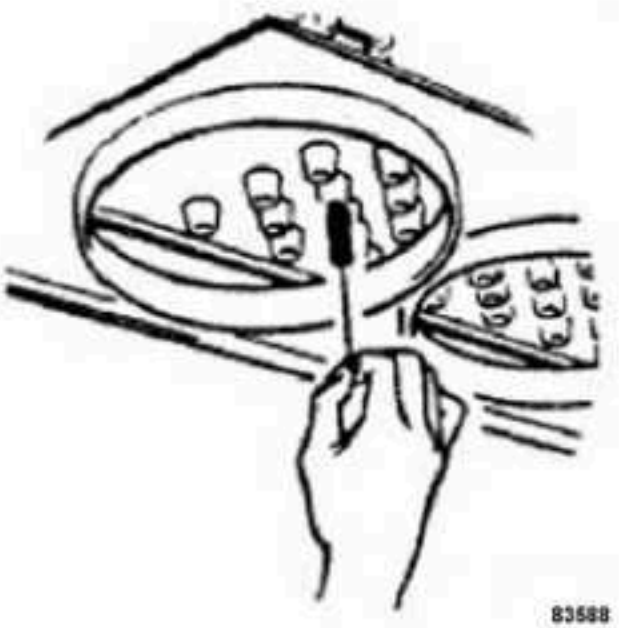


FIGURE 40-8. DUST CUP LOCATION

1. Dust Cup 2. Vacuator™ Valve

1. Inspect and empty dust cups (1, Figure 40-8). Never allow the dust level to build up to the tube (pre cleaner) chamber.

   NOTE: On dust cups with the Vacuator™ valve, dust cup service is minimal; just check the valve to see that it is not inverted, damaged or plugged. If it is damaged, replace it immediately.



2. Check tubes for plugging. Generally tubes are self cleaning. Under special circumstances plugging can occur. If tubes carry light dust, remove it with a stiff brush. If heavy plugging with fibrous material occurs, remove the section and clean it with compressed air or water no hotter than 72° C (160° F).

   NOTE: Never clean Donaclone™ tubes with compressed air unless both the primary and safety filters are installed in the air cleaner.

3. Change the filter. If the new filter is not to be installed immediately, be sure to cover the inlet to prevent contamination.

   NOTE: Before installing the new filter, inspect it for shipping damage and gasket integrity. If there is damage, DO NOT install the filter.

4. Check all engine intake air plumbing, hoses and clamps. All connections must be air tight to prevent dirt from entering. If there are holes or damage, replace immediately.

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