Operation & Maintenance Manual

Dump Truck

730E Trolley

Serial Numbers A30617 & UP

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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STANDARD TIGHTENING TORQUES

CLASS 10.9 CAP SCREWS & CLASS 10 NUTS

The following specifications apply to required assembly torques for all metric class 10.9 finished hexagon head cap screws and class 10 nuts.

DO NOT lubricate cap screw threads and seats during assembly. These specifications are based on the following hardware:

- All cap screws
- All nuts
- All hardened washers being phosphate and oil coated

NOTE: *If zinc-plated hardware is used, each piece must be lubricated with simple lithium base chassis grease (multi-purpose EP NLGI) or a rust preventive grease (see list, this page) to achieve the same clamping forces provided below.*

NOTE: *Torques are calculated to give a clamping force of approximately 75% of proof load. The maximum torque tolerance shall be within ±10% of the torque value shown.*

In the following table under "Cap Screw Size", the first number represents the shank diameter (mm). The second number represents thread pitch in millimeters.

Example: M20 x 2.25
M20 = shank diameter (20 mm)
2.25 = thread pitch in millimeters

Table 2-1

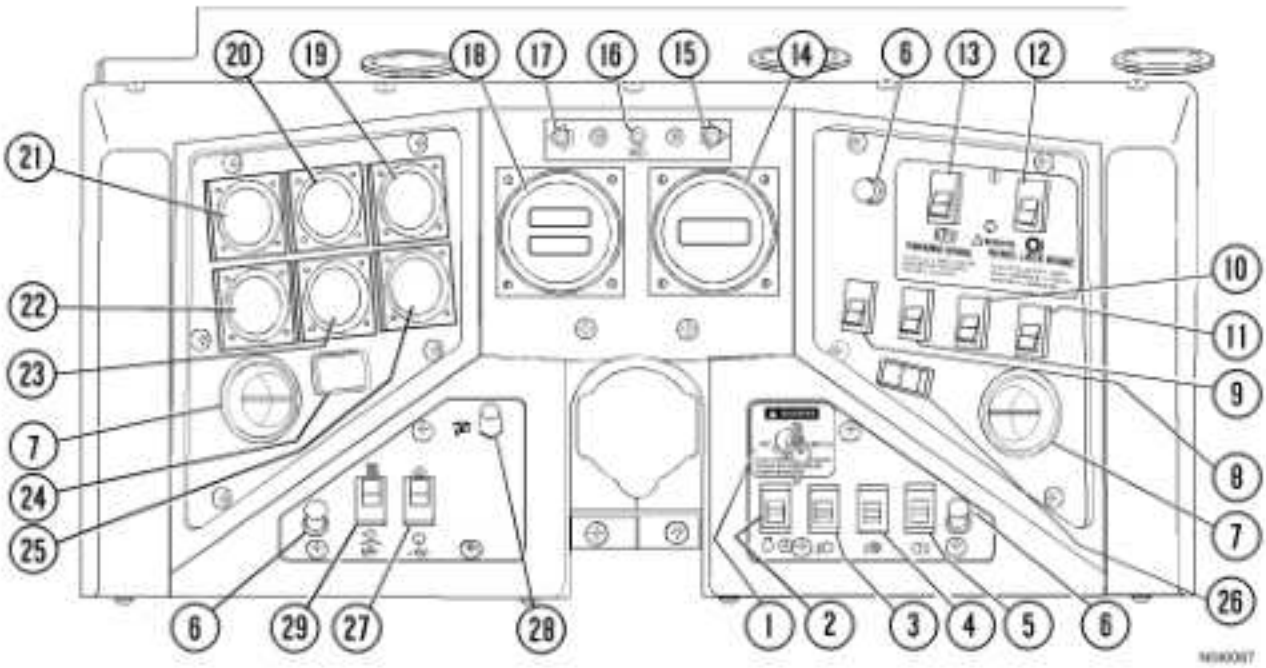
Standard Tightening Torque for Metric Class 10.9 Cap screws & Class 10 Nuts



Cap Screw Size	Torque N·m	Torque ft·lb	Torque kg·m
M6 x1	12	9	1.22
M8 x 1.25	30	22	3.06
M10 x 1.5	55	40	5.61
M12 x 1.75	95	70	9.69
M14 x 2	155	114	15.81
M16 x 2	240	177	24.48
M20 x 2.25	465	343	47.43
M24 x 3	800	590	81.6
M30 x 3.5	1600	1180	163.2
M36 x 4	2750	2028	280.5

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INSTRUMENT PANEL



1. Key Switch
2. Engine Shutdown Switch
3. Fog Light Switch (Optional)
4. Ladder Light Switch
5. Backup Light Switch
6. Panel Illumination Lights
7. Vent(s) - Cab Air Conditioner/Heater
8. Engine Cold Weather Starting Aid Switch (Optional)
9. Rotating Beacon Light Switch (Optional)
10. Heated Mirror Switch (Optional)
11. Leakage Test Switch (Trolley Only)
12. Wheel Brake Lock Switch
13. Parking Brake Switch
14. Digital Tachometer
15. Right Turn Signal Indicator Light
16. High Beam Headlight Indicator Light
17. Left Turn Signal Indicator Light
18. Digital Speedometer/Payload Meter Display
19. Voltmeter Gauge
20. Engine Oil Pressure Gauge
21. Engine Water Temperature Gauge
22. Fuel Gauge
23. Gauge - Not Used In This Application
24. Engine Hour Meter
25. Gauge - Not Used In This Application
26. Switch - Not Used In This Application
27. Headlight Switch
28. Panel Illumination Lights Dimmer Rheostat
29. Payload Meter Switch

Figure 6-10 PANEL GAUGES, INDICATORS, AND CONTROLS

CONTROL SYMBOLS

The operator must understand the function and operation of each instrument and control. Many control functions are identified with international symbols that the operator must learn to recognize immediately. This knowledge is essential for proper and safe operation.

Items that are marked optional do not apply to every truck.

The following symbols are general indicators and may appear in multiple locations and combinations on the instrument panel.

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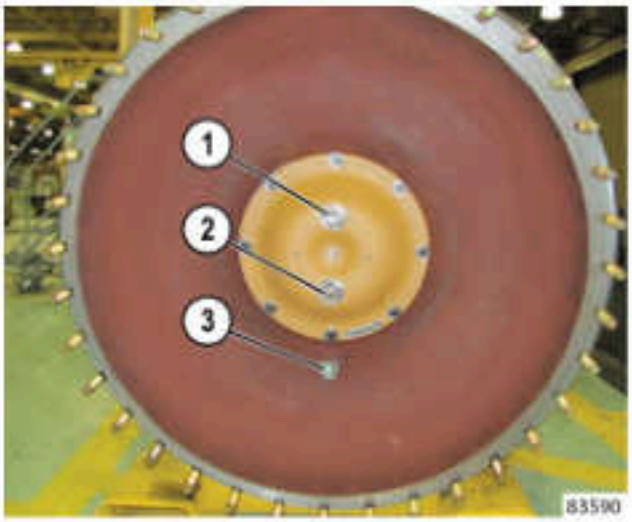
EVERY 500 HOUR LUBRICATION AND MAINTENANCE

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.*

EVERY 500 HOUR LUBRICATION AND MAINTENANCE	
Item	**Task**
WHEEL MOTORS	• Remove the breather elements for the motorized wheels. Clean or replace the elements. • (Initial 500 hours only) change or filter wheel motor gear oil only after initial 500 hours or operation. Wheel motor gear oil must be filtered or changed every 2500 hours of operation thereafter. Refer to the Shop Manual, Section G for oil sampling information.
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 Section H4 in the service 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, brake and auxiliary hydraulic system accumulator pre-charge pressures. Refer to the Shop Manual, Section J and Section L for details.
HVAC	• Clean the air conditioner recirculation filter. • Ensure the air conditioner cab drains are clear of any obstructions. • Wash the air conditioner condensor with a low pressure hose. Check for any obstructions to airflow, clean as required.
COOLING SYSTEM	Wash the radiator fins with a low pressure hose. Check for any obstructions to airflow, clean as required.
FUEL SYSTEM	Wash the fuel cooler (if equipped), located on the front RH side of the radiator, with a low pressure hose. Check for any obstructions to airflow, clean as required.
FRONT WHEELS	Take an oil sample of the front wheel bearing oil. Refer to FRONT WHEEL SERVICE, page 7-8 for detailed instructions.

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FRONT WHEEL SERVICE



1. Fill Plug (magnetic plug)
2. Sight Gauge
3. Drain Plug

Figure 7-12 FRONT WHEEL DRAIN PLUG

1. Position drain plug (3, Figure 7-12 FRONT WHEEL DRAIN PLUG, page 7-8) at the lowest position. Remove the drain plug and allow the oil to drain out completely. Reinstall the drain plug.
2. Remove fill plug (1). Add SAE 80W-90 oil to the wheel hub assembly using the fill hole. When properly filled, the floating ball in sight gauge (2) will be at its highest position. The wheel hub holds approximately 21 L (5.5 gal) of oil.
3. Inspect and clean the fill plug before reinstalling it.

NOTE: *The oil may need to be changed more frequently depending on mine conditions and the results of the oil sample tests.*

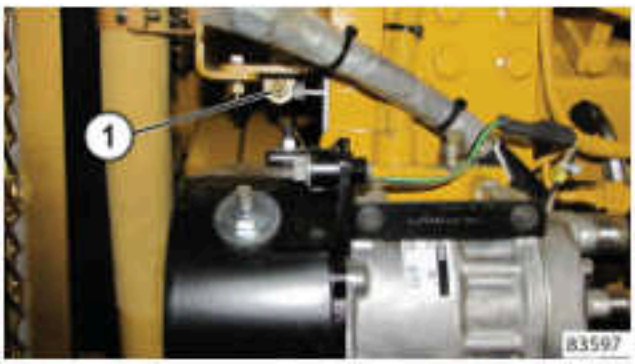
Oil Sampling

The truck must have been in operation for at least one hour prior to taking an oil sample to ensure that all contaminants are in suspension. Take the oil sample within five minutes of stopping the truck.

1. Position fill plug (1, Figure 7-12 FRONT WHEEL DRAIN PLUG, page 7-8) at the 3 o'clock position.
2. Clean the area around the fill plug before removing the plug. Remove the fill plug.
3. Obtain the oil sample at the lowest point possible inside the wheel hub.
4. Install the fill plug.
5. Rotate the wheel hub to position the fill plug at the 12 o'clock position. Remove the fill plug.
6. Add SAE 80W-90 oil to the wheel hub assembly using the fill hole. When properly filled, the floating ball in the sight gauge will be at its highest position.
7. Complete the oil sample form immediately and submit it with the oil sample for analysis.

NOTE: *For more information regarding oil sampling, refer to the Komatsu Oil Wear Analysis (KOWA) manual.*

FRONT ENGINE MOUNT TRUNION SERVICE



1. Trunion Grease Fitting

Figure 7-13 FRONT ENGINE MOUNT TRUNION GREASE FITTING

Add one or two applications of grease to trunion grease fitting (1, Figure 7-13 FRONT ENGINE MOUNT TRUNION GREASE FITTING, page 7-8). (Lube key "D").

QUICK FILL SERVICE CENTER

The service center can be located on either side of the machine and is used to fill system fluids. Table 1 shows the maximum recommended fill pressures for the service center.

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The operator must reference this chart before descending any grade with a loaded truck. Proper use of dynamic retarding will maintain a safe speed.

Two speed lists are provided, one for *continuous* retarding, and the second for *short term* retarding. Both lists are matched to the truck at maximum Gross Vehicle Weight (GVW). The two ratings are guidelines for proper usage of the retard function on downhill grades.



1. Grade Speed Chart

Figure 5-2 GRADE SPEED CHART LOCATION

The "short term" numbers listed on the chart indicate the combination of speeds and grades which the vehicle can safely negotiate for a short duration before system components reach the maximum allowable temperature during retarding. These speeds are faster than the "continuous" values, reflecting the thermal capacity of various system components. System components can accept heating at a higher-than-continuous rate for a short period of time. Beyond this short duration of time, the system would become overheated.

If the vehicle is operated at "short term" grade and speed limits for a period of time, it is possible to exceed the thermal capacity of the drive system components. The Propulsion System Controller (PSC) will then gradually reduce the retarding effort from "short term" to "continuous". The "retard @ continuous" indicator light will flash for 15 seconds, then illuminate steadily alerting the operator of the reduction in retarding performance and the need for a reduction in speed. The operator must control the speed of the truck in accordance to the "continuous" speeds on the grade/speed chart. The operator must use the service brakes to quickly slow the truck to the maximum "continuous" retarding limits (or less) based on the grade the truck is currently on.

⚠ CAUTION

- **DO NOT lightly apply the service brakes when attempting to slow the truck on a downhill grade. Overheating of the brakes will result. Fully apply the brakes, within safe limits for road conditions, in order to quickly slow the truck to maximum "continuous"retarding limits or less.**

The "short term" rating will successfully accommodate most downhill loaded hauls. If actual time on the grade exceeds the allowable limits, the grade will need to be negotiated at the "continuous" speed.

The "continuous" numbers on the chart indicate the combination of speeds and grades which the vehicle can safely negotiate for unlimited time or distance during retarding.

DO NOT exceed these recommended maximum speeds when descending grades with a loaded truck.

Passing

- DO NOT pass another truck on a hill or on a blind curve!
- Before passing, ensure the road ahead is clear. If a disabled truck is blocking your lane, slow down and pass with extreme caution.
- Use only the areas designated for passing.

Loading

To load the truck, perform the following:

1. Approach the loading area with caution. Remain at a safe distance while the truck ahead is being loaded.
2. DO NOT drive over unprotected power cables.
3. When approaching or leaving a loading area, watch for other vehicles and for personnel working in the area.
4. When pulling in under a loader or shovel, follow the spotter's or the shovel operator's signals.

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