CEAM021502

Operation & Maintenance Manual

830E-1AC

DUMP TRUCK

SERIAL NUMBERS **A30240 - A30338**

KOMATSU®

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CENTER CONSOLE

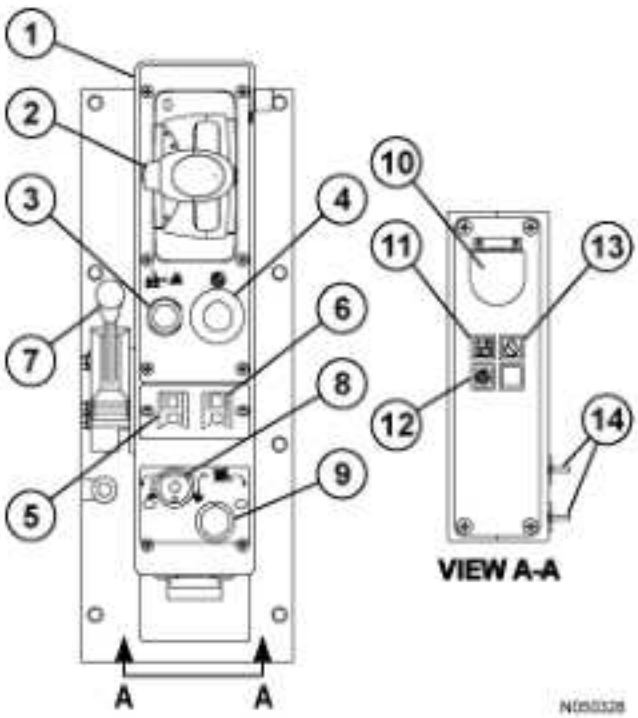


FIGURE 32-3. CENTER CONSOLE

1. Center Console
2. Directional Control Lever
3. Override/Fault Reset Switch
4. Engine Stop Switch
5. L.H. Window Control Switch
6. R.H. Window Control Switch
7. Hoist Control Lever
8. Retarder Speed Control Dial
9. RSC Switch
10. Data Store Button
11. VHMS Snapshot In Progress Light
12. Link Energized Light (Red)
13. Service Engine Light (Blue)
14. 12V Auxiliary Power Outlets

Directional Control Lever

Directional Control Lever (2, Figure 32-3) is mounted on a console to the right of the operator's seat. It is a four position lever that controls the park, reverse, neutral, and forward motion of the truck. Before moving the directional control lever, apply the service brakes to completely stop the truck. Depress the button on the side to release the detent lock, then move the control lever to the desired position. When the control lever is in the center N position, it is in NEUTRAL. When the control lever is in the P position, it is in PARK, and the parking brake will be applied. The parking brake is spring applied and hydraulically released. It is designed to hold the truck stationary when the engine is off and the key switch is turned OFF. The truck must be completely stopped before moving the control lever to PARK, or damage may occur to the park brake. When the key switch is ON, and the control lever is in PARK, the parking brake indicator light (A3, overhead panel, Figure 32-8) will be illuminated.

⚠ IMPORTANT ⚠

The directional control lever must be in PARK to start the engine.

NOTE: DO NOT move the directional control lever to the PARK position at the shovel or dump.

The operator can select FORWARD drive by moving the control lever to the F position.

The operator can select REVERSE drive by moving the control lever to the R position. DO NOT allow the control lever to travel too far and go into the PARK position when REVERSE is desired.

NOTE: The truck must be completely stopped before the control lever is moved to a drive position or into PARK. A GE fault will be recorded if the control lever is placed into the PARK position while the truck is still moving.

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500 HOUR LUBRICATION AND MAINTENANCE CHECKS

Maintenance requirements for every 10 & 250 hour Lubrication and Maintenance Checks should also be performed at this time.

NOTE: "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.	FINAL DRIVE CASE BREATHERS - Remove the breather elements for the motorized wheels. Clean or replace the elements.			
2.	HYDRAULIC SYSTEM FILTERS - Replace the tank breathers and high pressure filter elements. Check the oil level. Add oil as necessary. Lube Key "B".			
3.	HYDRAULIC TANK BREATHER - Replace breather.			
4.	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.			
5.	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.			
6.	HOIST ACTUATOR LINKAGE - Check operation. Clean, lubricate, and adjust as necessary.			
7.	PARKING BRAKE - Refer to Section J, Parking Brake Maintenance. Perform the recommended inspections.			
8.	RESERVE ENGINE OIL SYSTEM (OPTION) a. Check electrical system connections for tightness, corrosion and physical damage. Check the battery, oil pressure switch, junction boxes, remote control fill box and the circuit breakers. b. Examine all electrical cables over their entire length for possible damage. c. Examine all hoses, including those on the reserve tank and the ones leading to and from the engine. Check for leaks, cracks or other damage. Check all fittings for tightness, leakage or damage.			
9.	ACCUMULATOR PRECHARGE - Check all steering and brake system accumulator pre-charge pressures. Refer to shop manual for details.			

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Load Calculation

The final load calculation is different from the last swingload calculation. The accuracy of the swing load calculation depends on loading conditions and the position of the truck during loading. The last swingload calculation is not the value recorded in memory as the final load. The final load is determined by a series of calculations made while the truck is traveling to the dump site.

Carry Back

Carry back is calculated as the difference between the current truck tare and the clean truck tare. The clean truck tare is calculated using the PC software. When the suspensions are serviced or changes are made that may affect the sprung weight of the truck, a new clean truck tare should be calculated.

Measurement Accuracy

Payload measurements are typically repeatable within 1%. Accuracy for a particular scale test depends on specific combinations of pressure sensors and payload meters as well as the specifics of each scale test. Comparisons from different scale tests are often made without considering the differences introduced by the specific installation and operation of the scales for each test. In addition, each pressure sensor and payload meter introduces it's own non-linearity. Each truck becomes an individual combination of sensors and payload meter. Errors from these sources can introduce up to a ±7% bias in the payload meter calculations for a specific scale test, for an individual truck.

Because the PLMIII calculates a new empty tare for each payload, a detailed scale test must weigh the trucks empty and loaded for each haul cycle. Using a simple average of 2 or 3 empty truck weights as an empty tare for the entire scale test will introduce significant error when comparing scale weights to PLMIII weights.

SOURCES FOR PAYLOAD ERROR

Payload Error

The number one source of error in payload calculation is improperly serviced suspensions. The payload meter calculates payload by measuring differences in the sprung weight of the truck when it is empty and when it is loaded. The sprung weight is the weight of the truck supported by the suspensions. The only method for determining sprung weight is by measuring the pressure of the nitrogen gas in the suspensions. If the suspensions are not properly maintained, the payload meter cannot determine an accurate value for payload. The two critical factors are proper oil height and proper nitrogen charge.

If the suspensions are overcharged, the payload meter will not be able to determine the empty sprung weight of the truck. The suspension cylinder must be able to travel up and down as the truck drives empty. The pressure in an overcharged suspension can push the suspension rod to full extension. In this case, the pressure inside the cylinder does not accurately represent the force necessary to support that portion of the truck.

If the suspensions are undercharged, the payload meter will not be able to determine the loaded sprung weight of the truck. The suspension cylinder must be able to travel up and down as the truck drives loaded. If the pressure in an undercharged suspension cannot support the load, the suspension will collapse and make metal-to-metal contact. In this case, the pressure inside the cylinder does not accurately represent the force necessary to support that portion of the truck.

Low oil height can also introduce errors by not correctly supporting a loaded truck. This is why the correct oil height and nitrogen charge are the most critical factors in the measurement of payload. If the suspensions are not properly maintained, accurate payload measurement is not possible. In addition, suspension maintenance is very important to the life of the truck.

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PLM III SYSTEM CONFIGURATION

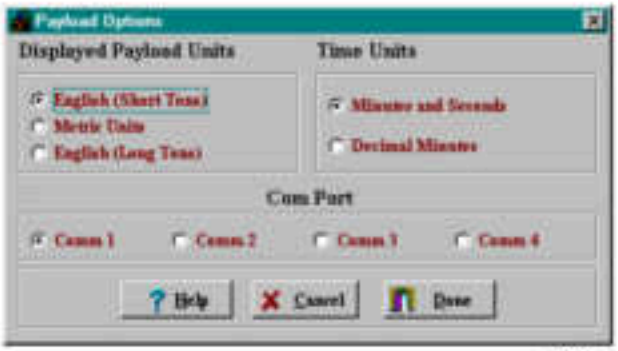
Starting Communications

The PDM software allows users to download and configure the system.



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Before connecting to the payload meter, select "Change Program Options" and confirm that the program has selected the correct laptop serial port. Most laptops use Comm 1 for serial communications. The units displayed for reports and graphs by the PC software can be set on this form. Click "Done" to return to the main menu.



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From the main menu, click the "Connect to Payload Meter" button. The PC will try to connect to the payload meter and request basic information from the system. In the event of communications trouble, the PC will try 3 times to connect before "timing-out". This may take several seconds.

Displayed Payload Units

Three options are available for the display of units in the PC software, reports, and graphs:



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Short Tons: Payload is displayed in short tons, distances and speeds will be displayed in Miles

Metric Tons: Payload is displayed in metric tons, distances and speeds are displayed in Kilometers

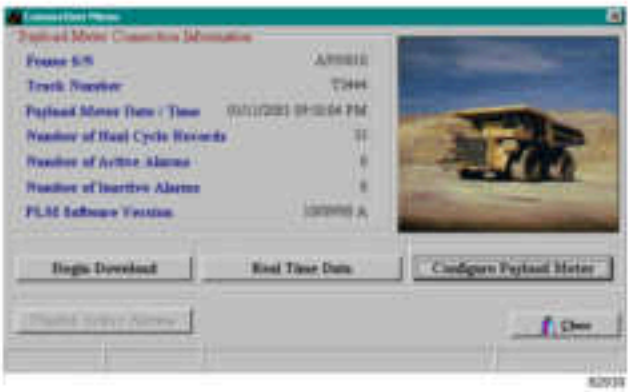
Long Tons: Payload is displayed in long tons, distances and speeds are displayed in Miles

Time Units

Minutes and Seconds Example:
Five minutes and thirty-two seconds = 5:32

Decimal Minutes Example:
Five minutes and thirty-two seconds = 5.53

Connection Menu



The connection screen displays basic system information to the user.

- Frame S/N should agree with the truck serial number from the serial plate located on the truck frame.
- Truck Number is an ID number assigned to the truck by the mine.
- The Payload Meter Date / Time values come from the payload meter at the moment of connection.
- Number of Haul Cycle Records is the number of haul cycles records stored in memory and available for download.
- Number of Active Alarms shows how many alarms are currently active in the system at the time of connection. If there are active alarms, the "Display Active Alarms" button is available.
- Number of Inactive Alarms shows how many alarms have been recorded in memory and are available for download.
- PLM Software Version displays the current version of software in the payload meter.

The information on the connection menu comes from the configuration of the payload system on the truck.

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