CEAM020001

Operation & Maintenance Manual

730E

DUMP TRUCK

SERIAL NUMBERS **A30539 - A30551**

KOMATSU®

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CONTROL SWITCHES AND GAUGES

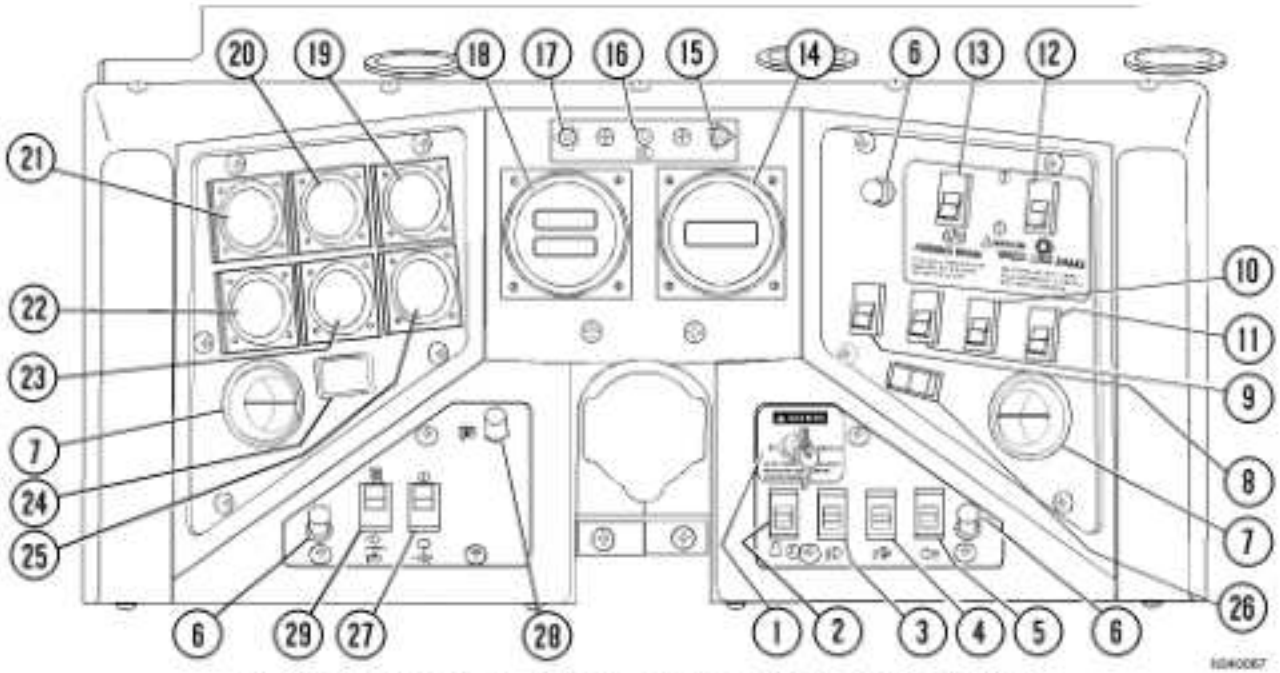


FIGURE 32-11. PANEL, GAUGES, INDICATORS, AND CONTROLS

1. Key Switch
2. Timer Delayed 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. Not Used
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 Hourmeter
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

Key Switch

Key switch (1, Figure 32-11) is a three-position (OFF, RUN, START) switch. When the switch is rotated one position clockwise, it is in the RUN position and all electrical circuits (except start) are activated.

With the selector switch in neutral, rotate the key switch fully clockwise to the START position, and hold this position until the engine starts. The START position is spring-loaded to return to RUN when the key is released. With the truck stopped, turn the key switch counterclockwise to OFF for normal engine shutdown. Use the engine shutdown switch on the center console if the engine does not shut off with the key switch.

NOTE: A ground level shutdown switch is located on the lower, front left side of the truck.



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50 HOUR LUBRICATION AND MAINTENANCE CHECKS

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

	TASK	COMMENTS	CHECKED	INITIALS
1.	FUEL FILTERS - Change the fuel filters, (fuel separators). Refer to engine manufacturer's maintenance manual for fuel filter replacement instructions.			
2.	HYDRAULIC SYSTEM FILTERS - Replace filter elements only, after the initial 50, 100, and 250 hours of operation; then at each 500 hours of operation thereafter.			
3.	FAN DRIVE ASSEMBLY - After the first 50 hours of operation (new truck or new fan installation), check the tightness of the fan mounting cap screws - **122 N·m (90 ft lbs).**			
4.	MOTORIZED WHEELS - Check oil level. Refer to Motorized Wheel Maintenance Schedule in Section P of the shop manual for the lubrication specifications and service intervals.			

Complete the 10 hour lube and maintenance checks.

100 HOUR LUBRICATION AND MAINTENANCE CHECKS

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

	TASK	COMMENTS	CHECKED	INITIALS
1.	HYDRAULIC SYSTEM FILTERS - Replace filter elements only, after the **initial** 100 and 250 hours of operation; then at each 500 hours of operation thereafter.			

Complete the 10 and 50 hour lubrication and maintenance checks.

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MAJOR COMPONENT DESCRIPTION

The Komatsu model 730E standard dump truck is an electric drive, off-highway, rear dump truck with a gross vehicle weight of 324 319 kg (715,000 lbs) that is rated for a nominal payload of 185 t (203 tons). Some Trolley versions may have a higher GVW. Refer to the grade/speed chart in the operator's cab for the appropriate GVW.

ENGINE

The Komatsu 730E dump truck is powered by a Komatsu SSA16V159 engine rated at 1 492 kW (2,000 HP).

ALTERNATOR (GE GTA-22)

The diesel engine drives an alternator mounted in-line with the engine. The Alternating Current (AC) output of the alternator is rectified to Direct Current (DC) and sent to the DC drive wheel motors.

WHEEL MOTORS (GE 788)

The output of the alternator supplies electrical energy to the two wheel motors attached to the rear axle housing. The two wheel motors convert electrical energy back to mechanical energy through built-in gear trains within the wheel motor assembly. The direction of the wheel motors is controlled by a forward or reverse hand selector switch located on a console to the right side of the operator.

BLOWER

The blower supplies cooling air for the rectifiers, AC alternator, and to both wheel motors, where it is then exhausted to the atmosphere.

OPERATOR'S CAB

The operator's cab for the Komatsu 730E dump truck has been engineered for operator comfort and to allow for efficient and safe operation of the truck.

The cab provides for wide visibility, with an integral four-post Rollover Protective Structure/Falling Object Protective Structure (ROPS/FOPS), and an advanced analog operator environment. It includes a tinted safety-glass windshield and power-operated side windows, a deluxe interior with a fully adjustable seat with lumbar support, a fully adjustable/tilt steering wheel, controls mounted within easy reach of the operator, and an analog instrument panel which provides the operator with all instruments and gauges, which are necessary to control and/or monitor the truck's operating systems.

POWER STEERING

The Komatsu 730E dump truck is equipped with a full-time power steering system, which provides positive steering control with a minimum of effort by the operator. The system includes nitrogen-charged accumulators which automatically provide emergency power if the steering hydraulic pressure is reduced below an established minimum.

DYNAMIC RETARDING

Dynamic retarding is used to slow the truck during normal operation or control the speed coming down a grade. The dynamic retarding ability of the DC electric system is controlled by the operator through the activation of the retarder pedal in the operator's cab and by setting the RSC (Retarder Speed Control). Dynamic retarding is automatically activated if the truck goes to a preset overspeed setting.

BRAKE SYSTEM

The wheel service brakes are caliper/dry disc brakes applied by an all hydraulic actuation system. Depressing the brake pedal actuates wheel-speed single disc front brakes and armature-speed dual disc rear brakes. The rear brakes can also be activated by operating a switch on the instrument panel.

All wheel brakes will be applied automatically if the system pressure decreases below a preset minimum.

The parking brake is a caliper/disc type, mounted on each rear wheel motor, and is spring-applied and hydraulically-released with wheel speed application protection (will not apply with the truck moving.)

SUSPENSION

HydrairBll suspension cylinders, located at each wheel, provide a smooth and comfortable ride for the operator and dampens shock loads to the chassis during loading and operation.

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PLM III SYSTEM CONFIGURATION

Starting Communications

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



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.



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 three 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:



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.

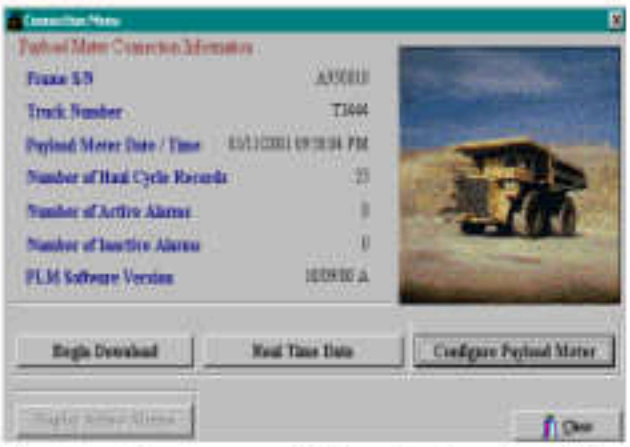
Long Tons: Payload is displayed in long tons, distances and speeds are displayed in Miles.

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.

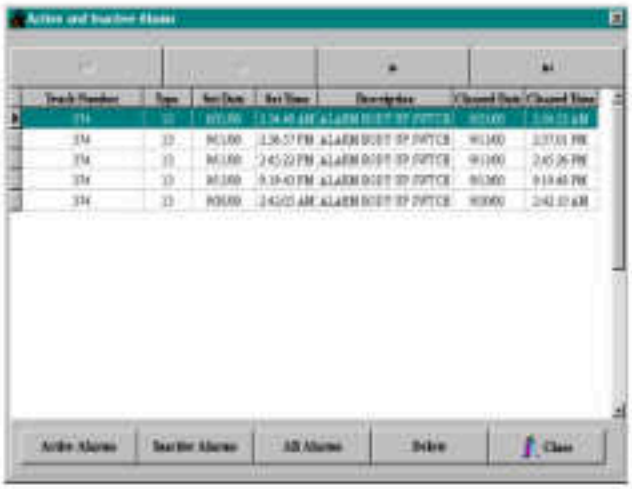
- Frame S/N must agree with the truck serial number from the serial plate located on the truck frame.
- Truck number is an ID number assigned to the truck by the mine.
- The payload meter date/time values come from the payload meter at the moment of connection.
- Number of haul cycle records is the number 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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Viewing Alarms

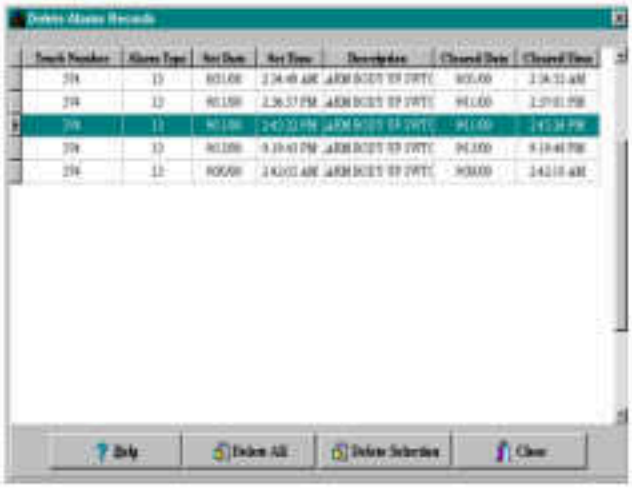
From the payload summary screen, click the "Alarms" button to display the alarm screen. The alarms are sorted by the query settings from the payload summary screen. Alarms can be displayed as active or inactive.



Deleting Alarm Records

To delete alarm records from the main database, press the "Delete" button at the bottom of the alarm display screen. The program will display a summary of the alarms from the query. To delete an alarm, select one at a time and press the "Delete" button. It is recommended that the query data be exported to a .zip file for archival purposes before deletion. Multiple records may be selected by holding down the shift key. Pressing the "Delete All" button will select all the alarms from the current query and delete them.

NOTE: There is no recovery for alarms that have been deleted from the main database. It is highly recommended that all records be exported and archived in a compressed file format for future reference before being deleted.



PORTIONS OF THIS PRODUCT RELATING TO PAYLOAD MEASURING SYSTEMS ARE MANUFACTURED UNDER LICENSE FROM

L.G. HAGENBUCH holder of
U.S. Patent Numbers 4,831,539 and 4,839,835

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