CEAM024900

Operation & Maintenance Manual

730E Trolley

DUMP TRUCK

SERIAL NUMBERS **A30489 & A30490**

KOMATSU®

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Engine Shut down Switch with Timer Delay

Engine shut down switch (2) is a three-position rocker-type switch (OFF-ON-MOMENTARY). Refer to Operating Instructions section, delayed engine shutdown procedure, for a complete detailed operation of this switch.

1. Press the top of the switch to the ON (center) position, then press firmly to the Momentary (upper position) and hold this position briefly to activate the five minute idle timer (switch is spring-loaded to return to ON position when released).



2. When the engine shutdown timer has been activated, the timer delay indicator light in the overhead display panel (C4, Figure 32-12) will illuminate to indicate that the timing sequence has been started. The engine will continue to run at idle rpm for approximately five minutes to allow for proper engine cool-down before stopping.
3. The engine shutdown Timer switch does not turn off the 24 vdc electric power. Turn Key switch counterclockwise to the OFF position to cause the engine to turn off when the timing sequence is complete. When the engine stops after the five minute idle period, the hydraulic bleeddown timer will be activated and turn off the 24 vdc electric circuits controlled by the key switch.



⚠ IMPORTANT ⚠

The engine will not shut down, if key switch is not turned to the OFF position.

NOTE: To cancel the five minute idle timer sequence, press the timer delay shutdown switch to the OFF (lower) position.

- If the key switch is in the OFF position, the engine will stop.
- If the keyswitch is in the ON position, the engine will continue to operate.

If the engine does not turn off with key switch, use the engine shutdown switch on the operator cab center console. Hold this switch down until the engine stops. The ground level shut down switch will also stop the engine during this time-out.

Fog Lights (Optional)



Fog lights (3) are optional equipment that are useful in foggy conditions and heavy rain. Pressing the top of the rocker switch turns the lights on. Pressing the bottom of the switch turns the lights off.

Ladder Light Switch



Ladder light switch turns the ladder lights (4) on or off after or before using ladder. Pressing the top of the rocker switch turns the lights on. Pressing the bottom of the switch turns the lights off. Another switch is mounted at the front left of truck near the base of ladder.

Manual Backup Switch



Manual backup switch (5) allows the backup lights to be turned on providing added visibility and safety when the selector switch is not in the REV position. When the switch is pressed toward the on position, the manual backup light indicator (B4, Overhead Panel) will be illuminated.

Panel Illumination Lights

Panel illumination lights (6) provide illumination for the instrument panel. Brightness is controlled by panel light dimmer switch (28).

Cab Air Conditioner / Heater Vents

Cab air conditioner / heater vents (7) are spherically mounted and may be directed by the operator to provide the most comfortable cabin air flow.

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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 2000 HP (1492 kW).

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

HydrairBII 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



Before connecting to the payload meter, select "Change Program Options".

- Confirm that the program has selected the correct Com Port. Most laptop computers use Comm 1 for serial communications.
- Three options are available for the displaying payload units in the 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.
- Two options are available for displaying time units in the software, reports, and graphs:

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

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



Click "Done" to return to the main menu. From the main menu, select "Connect to Payload Meter". The computer will try to connect to the payload meter and request basic information from the system. In the event of communications trouble, the computer will try three times to connect before "timing out". This may take several seconds.

Connection Menu



The connection screen displays basic system information to the user.

- **Frame S/N** should be the same as 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.
- **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.

There are also many configuration and download options available from this screen. The Connection Menu is updated only when the connection is first made. It does not update automatically. To view changes made while connected, the user must close the window and reconnect to the payload meter.

The connection menu is displayed after a serial connection has been established and the PDM software has connected to the payload meter.

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Importing Data

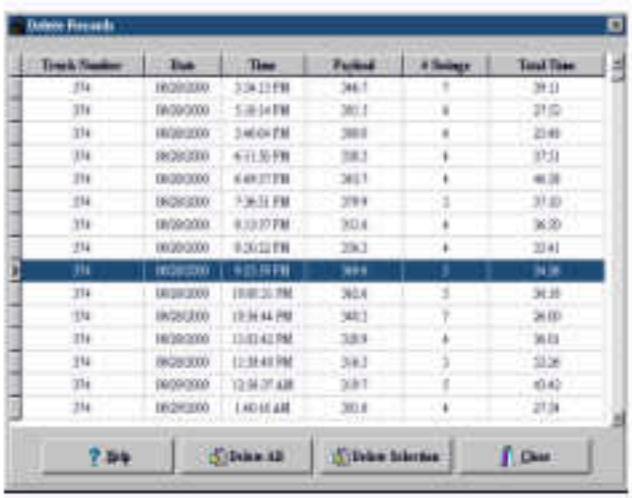
This import function allows the data from one computer to be transferred to another computer. This can be useful when a service laptop is used to download multiple machines and transfer the data to a central computer for analysis. This can also be used to copy haul data from a particular truck from a disk into a database for analysis.

To import data, click on the "Import" button at the bottom of the Payload Summary screen. The program will ask for a .zip file to import. Locate the file and click on "Open". The program will only import .zip files created by another computer that is running the PDM software.

Deleting Haul Cycle Records

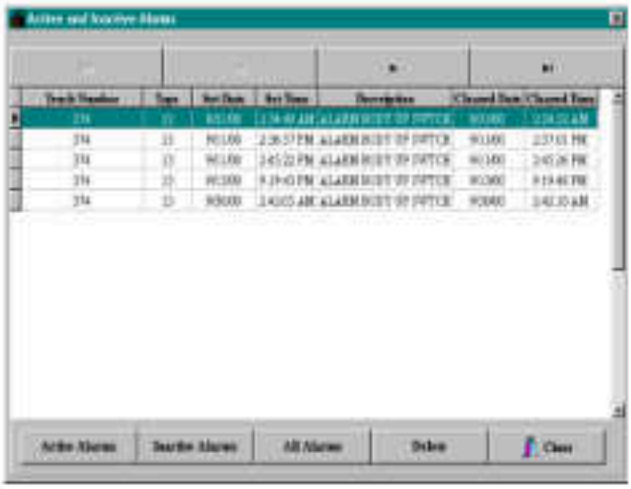
To delete haul cycle records from the main database, click on the "Delete" button at the bottom of the Payload Summary screen. The program will display a summary of the records from the displayed query. To delete a record, select one at a time and click on the "Delete" button. It is recommended that records be exported to a .zip file for archival purposes before deletion. Multiple records may be selected by holding down the Shift key. Clicking on the "Delete All" button will select all the records from the current query and delete them.

NOTE: There is no recovery for records 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.



Viewing Alarms

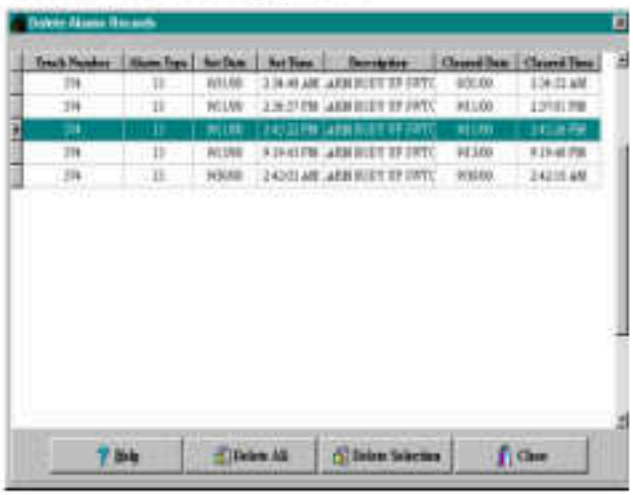
From the Payload Summary screen, click on the "Alarms" button to display the alarm screen. The alarms are sorted by the query settings from the Payload Summary screen. Alarms can be displayed as Active or Inactive.



Deleting Alarm Records

To delete alarm records from the main database, click on 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 click on 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. Clicking on 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.



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