CEAM010400

Operation & Maintenance Manual



830E

DUMP TRUCK

SERIAL SUFFIX A30650 thru A30661,
A30663 thru A30676

KOMATSU®

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Safety records of most organizations will show that the greatest percentage of accidents are caused by unsafe acts of persons. The remainder are caused by unsafe mechanical or physical conditions. Report all unsafe conditions to the proper authority. These safety rules are provided as a guide for the operator. However, local conditions and regulations may add many more to this list.

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MAINTENANCE **SECTION 4**

This portion of the manual pertains mainly to the periodic Lubrication and Service required to keep the truck operating at its design potential. Routine lubrication and maintenance procedures are provided in this section. For major repairs, refer to the appropriate section in the Truck Shop Manual. Refer to the engine manufacturer's service manual when servicing the engine.

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INSTRUMENT PANEL

The operator and service technician must understand the function and operation of each instrument and control. Control functions are identified with "International" symbols that the operator should learn to recognize immediately. This knowledge is essential for proper and safe operation.

Note: Items that are marked OPTIONAL do not apply to every truck.

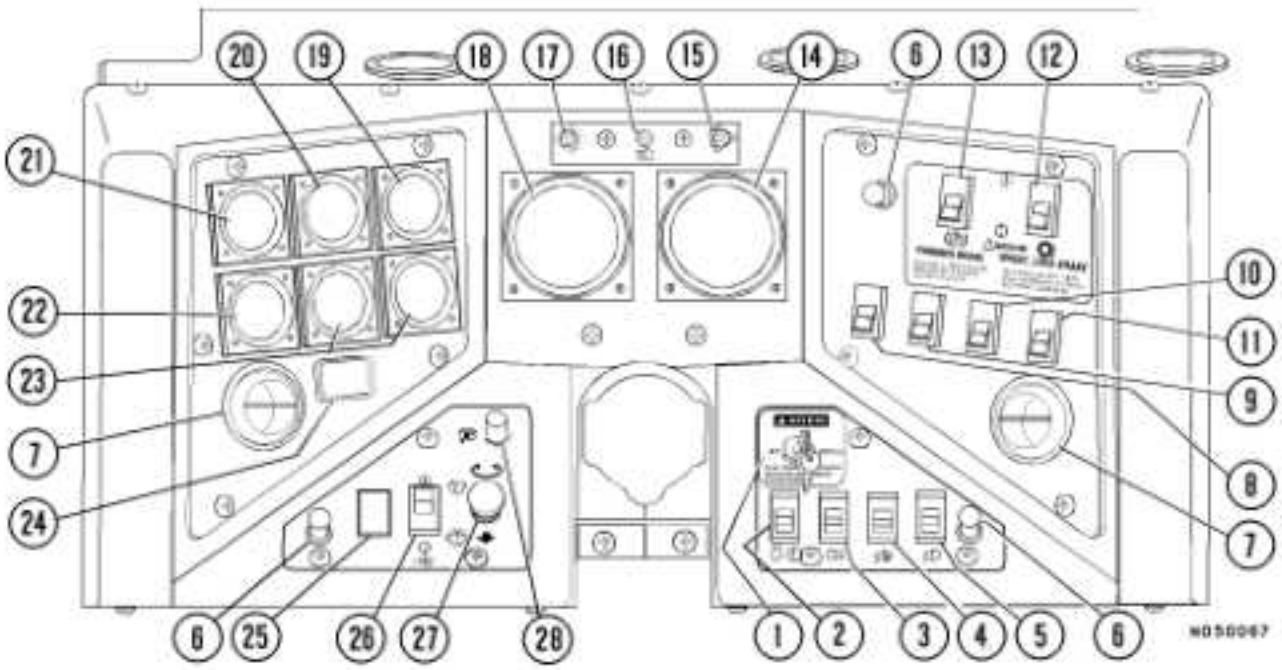


FIGURE 3-6. INSTRUMENT PANEL GAUGES, INDICATORS & CONTROLS

1. Keyswitch
2. Engine Shutdown Switch with Timer Delay (Optional)
3. Backup Light Switch
4. Ladder Light Switch
5. Fog Light Switch (Optional)
6. Panel Illumination Light(s)
7. Vent(s) - Cab Air Conditioner/Heater
8. Engine Starting Aid Switch (Optional)
9. Rotating Beacon Light Switch (Optional)
10. Heated Mirror Switch (Optional)
11. Blank - Not Used In This Application
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
19. Voltmeter Gauge
20. Engine Oil Pressure Gauge
21. Engine Water Temperature Gauge
22. Fuel Gauge
23. Blank(s) - Reserved For Future Options
24. Engine Hourmeter
25. Blank - Not Used In This Application
26. Headlights Switch
27. Wiper / Washer Switch
28. Panel Illumination Lights Dimmer Rheostat

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250 HOUR LUBRICATION AND MAINTENANCE CHECKS

Maintenance for every 10 & 50 hour Lubrication and Maintenance Checks should also be carried out at this time.

NOTE: "Lube Key" references are to the Lubrication Specification Chart.

1. ENGINE - Refer to engine manufacturer's Operation and Maintenance Manual for complete specifications regarding engine lube oil specifications and filters and change intervals.

NOTE: If engine is equipped with the CENTINEL oil system, engine oil and filter change intervals are extended beyond 250 hours. Refer to engine manufacturer's Operation and Maintenance Manual for specific oil and filter change intervals.*

   a. Change engine oil. Lube Key "A".

   b. Replace lube oil filters.

      NOTE: When installing spin-on filter elements, follow the instructions as specified by the filter manufacturer. The tightening instructions are normally printed on the outside of the filter. ***Do not use a wrench or strap to tighten filter elements.***

   c. Check fan belt tension.
      Refer to engine manufacturer's Operation and Maintenance Manual for specific fan belt adjustment instructions.

   d. Eliminator Filter - Check pressure drop.

2. FUEL FILTERS - Change the fuel filters (fuel separators).
   Refer to engine manufacturer's Operation and Maintenance Manual for specific fuel filter replacement and change interval instructions.

3. FUEL TANK - Drain water and sediment from fuel tank drain cock.

* The CENTINEL™ system is a duty cycle-dependent lubrication management system whereby oil is blended with the fuel and extension of oil change intervals can occur.

Truck Serial Number_____

Site Unit Number_____

Date:_____Hour Meter_____

Name of Service person_____

COMMENTS	√'d	INITIALS

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TRUCK COMPONENT DESCRIPTION

The KOMATSU Model 830E Truck is an electric drive, off-highway, rear dump truck whose gross vehicle weight is 850,650 lbs. (385 848 kg) (240 - 255 ton nominal payload).

ENGINE

This Model 830E Truck is powered by a Komatsu SSDA16V160 diesel engine rated at 2500 hp (1864 kW) @ 1900 RPM. The radiator, engine, alternator, and blower are mounted on a separate subframe to provide fast, easy removal and installation of the power module.

ALTERNATOR (G.E. GTA-26)

The alternator is mounted in-line with the engine. The alternating current (AC) output of the alternator is rectified to direct current (DC) and sent to the wheel mounted DC drive traction motors.

BLOWER

The dual impeller, in-line blower supplies cooling air for the alternator, rectifiers, and both traction motors. The air is exhausted to atmosphere through the wheel motors.

WHEEL MOTORS

Traction motors located within each rear wheel structure receive electrical energy from the alternator. The two traction motors convert electrical energy back to mechanical energy through built-in gear trains within the wheel structure. The direction of the drive motors is controlled by a forward or reverse hand selector switch located on a console in the cab to the right side of the operator.

POWER STEERING

The Komatsu 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 a nitrogen-charged accumulator which automatically provides emergency power if the steering hydraulic pressure is reduced below an established minimum.

OPERATOR'S CAB

The Operator's Cab has been engineered for operator comfort and to allow for efficient and safe operation of the truck. The cab contains an integrated ROPS and is fully insulated to reduce noise and vibration. The tinted safety-glass windshield and side windows provide excellent visibility. The seat is a comfortable, adjustable suspension seat, the steering wheel provides tilt and telescoping adjustments and controls are mounted within easy reach of the operator. The instrument panel provides the operator with instruments and gauges that are necessary to control and monitor the truck's operating systems and is marked with international symbols for easy identification of functions.

DYNAMIC RETARDING

Dynamic retarding is used to slow the truck during normal operation or control speed coming down a grade. The dynamic retarding ability of the DC electric system is controlled by the operator by depressing the foot operated retarder pedal and/or setting the RSC (Retarder Speed Control) on the instrument panel. Dynamic Retarding is automatically activated if truck exceeds the overspeed setting.

BRAKE SYSTEM

The braking system consists of an all hydraulic actuation system. Depressing the brake pedal actuates wheel-speed single disc front brakes and armature-speed dual disc rear brakes. The brakes can also be activated by operating a switch on the instrument panel. The brakes will be applied automatically if system pressure decreases below a preset minimum.

SUSPENSION

HYDRAIR® II suspension cylinders located at each wheel provide a smooth and comfortable ride for the operator and dampens shock loads to the chassis during loading.

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PLMIII 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 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:

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

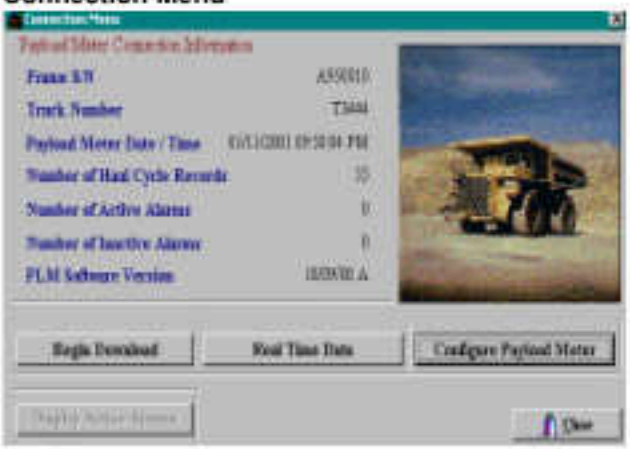
Metric Tons: Payload is displayed in metric tons, distances and speeds are displayed in Kilometers

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.

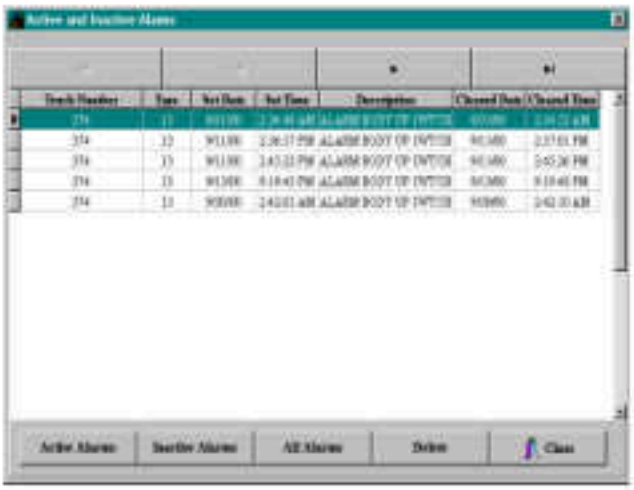
- Frame S/N should agree with the truck serial number from the serial plate located on the truck frame.
- Truck Number is an ID number assigned to the truck by the mine.
- The Payload Meter Date / Time values come from the payload meter at the moment of connection.
- Number of Haul Cycle Records is the 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 meter system on the truck.

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Viewing Alarms

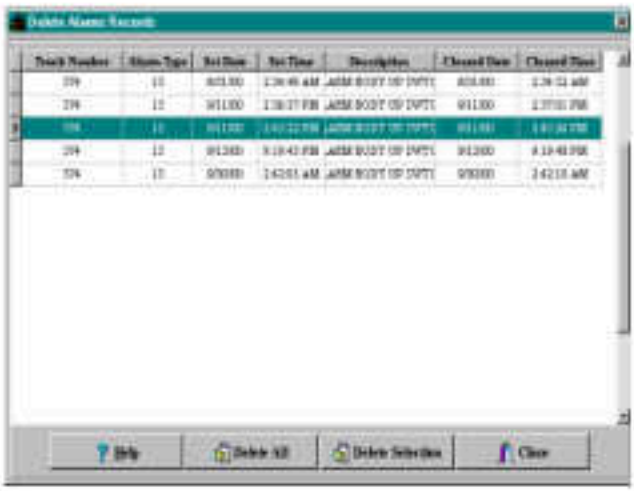
From the Payload Summary screen, click the "Alarms" button to display the alarm screen. The alarms are sorted by the query settings from the Payload Summary screen. Alarms can be displayed as Active or Inactive.



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.



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