CEBM024703

Shop Manual

930E-4

DUMP TRUCK

SERIAL NUMBERS **A31049 - A31162**

U.S.A. EPA TIER 4 COMPLIANT

KOMATSU®

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IM Maintenance Lamp (IM1 X)	Status - Open Load: Unexpected. Troubleshoot Status - Normal: Expected Status - Shorted to Ground: Unexpected. Troubleshoot Status - Overload: Unexpected. Troubleshoot. 0: Lamp Off (IM output at B+) 1: Lamp On (IM output at ground) Fault(s): A363
Truck Speed [kph] (IM1 g,h)	Less than 1 kph: truck is not moving Greater than 1 kph: truck is moving Fault(s): A212
Engine Speed [RPM] (CAN/J1939) (IM1 q,r,s)	Less than 400 rpm: engine is not running Greater than 400 rpm for 15 seconds: engine is running Fault(s): A184
Park Brake Request (IM3 V)	0: shifter is not in the forward, neutral, or reverse positions or the engine oil pressure is below the setpoint of the engine oil pressure switch 1: shifter is in the forward, neutral, or reverse positions and the engine oil pressure is above the setpoint of the engine oil pressure switch Fault(s): A264
Keyswitch (IM3 G)	0: keyswitch is off and the truck is not moving and the engine is not running 1: keyswitch is on or the truck is moving or the engine is running Fault(s): A240
Shutdown Delay Relay (IM1 H)	0: Turns off when conditions clear or engine speed drops to zero. 1: Turns on when Keyswitch, Direct is off, Cummins Shutdown Delay is on, Park brake is set, Selector Switch is in park,but not J1939 Not Connected, not High Batt Charge Voltage, not Starter Stuck On, not Active Engine Red Light, and engine speed above 300. Fault(s): A286, A292

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TROUBLESHOOTING GUIDELINES

Refer to the electrical schematic located in Section R for a diagram of the circuits.

SYMPTOM	RECOMMENDED CHECKS
All of the heating elements do not heat.	Check for power going into the main power receptacle. Check for power at the junction box. Check for loose connections at the terminal board.
Some of the heating elements do not heat.	Check for loose connections at the jumper cables in between each terminal board in the junction box.
Some of the heating elements operate outside of the proper temperature range.	Check for loose connections. Replace the thermostat that controls the affected heating elements.
A heating element will not heat up.	Connect a power source directly to the heating element and check. If the element does not heat, replace the element. Check the wiring for an open circuit.

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INJECTORS (SL-1 Series "H")

Injector Specifications

- **Each lube injector services only one grease point. In case of pump malfunction, each injector is equipped with a covered grease fitting to allow the use of external lubricating equipment.**
- **Injector output volume:**

  Maximum output = ... 1.31 cc (0.08 in^3).
  Minimum output = ... 0.13 cc (0.008 in^3).
- **Operating Pressure:**
  Minimum - . . . . . 12 755 kPa (1,850 psi)
  Maximum - . . . . . 24 133 kPa (3,500 psi)
  Recommended - . . .17 238 kPa (2,500 psi)
- **Maximum Vent Pressure - (Recharge)**
  . . . . . 4 137 kPa (600 psi)

Injector Adjustment

The injectors may be adjusted to supply from 0.13 - 1.31 cc (0.008 - 0.08 in^3) of lubricant per injection cycle. The injector piston travel distance determines the amount of lubricant supplied. This travel is in turn controlled by an adjusting screw in the top of the injector housing.

Turn adjusting screw (1, Figure 3-6) counterclockwise to increase lubricant amount delivered and clockwise to decrease the lubricant amount.

When the injector is not pressurized, maximum injector delivery volume is attained by turning the adjusting screw (1) fully counterclockwise until the indicating pin just touches the adjusting screw. At the maximum delivery point, about 9.7 mm (0.38 in.) adjusting screw threads should be showing. Decrease the delivered lubricant amount by turning the adjusting screw clockwise to limit injector piston travel. If only half the lubricant is needed, turn the adjusting screw to the point where about 4.8 mm (0.19 inch) threads are showing. The injector will be set at minimum delivery point with about 0.22 mm (0.009 in.) thread showing.

NOTE: The above information concerns adjustment of injector delivery volume. The timer adjustment should also be changed, if overall lubricant delivery is too little or too much. Injector output should not be adjusted to less than 1/4 capacity.

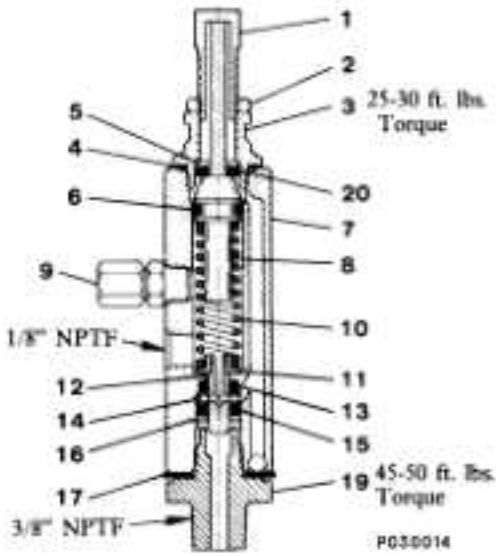


FIGURE 3-6. TYPE SL-1 INJECTOR

1. Adjusting Screw	11. Spring Seat
2. Locknut	12. Plunger
3. Piston Stop Plug	13. Viton Packing
4. Gasket	14. Inlet Disc
5. Washer	15. Viton Packing
6. Viton O-Ring	16. Washer
7. Injector Body Assy.	17. Gasket
8. Piston Assembly	18. Adapter Bolt
9. Fitting Assembly	19. Adapter
10. Plunger Spring	20. Viton Packing

NOTE: The piston assembly (8) has a visible indicator pin at the top of the assembly to verify injector operation.

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4. Navigate the highlighted bar downward to the row named "Camera Switch" (Figure 33-17) using the minus button. Press the enter button to cause the setting for this row to become highlighted in green color. Use the plus button or the minus button as needed to cycle to option "4C" in the available settings. When "4C" is shown, select this option by pressing the enter button. Now the complete row should be highlighted in yellow and the text "4C" is shown as the selected option.

NOTE: The other options are also shown in Figure 33-17, and they are QUA, 2C, 3C AND OFF.



FIGURE 33-17.

5. Now Navigate the highlighted bar downward to the row named "Frontcam", then press the enter button. This will have a default setting screen similar to Figure 33-18. Set "Enable Frontcam" to OFF.

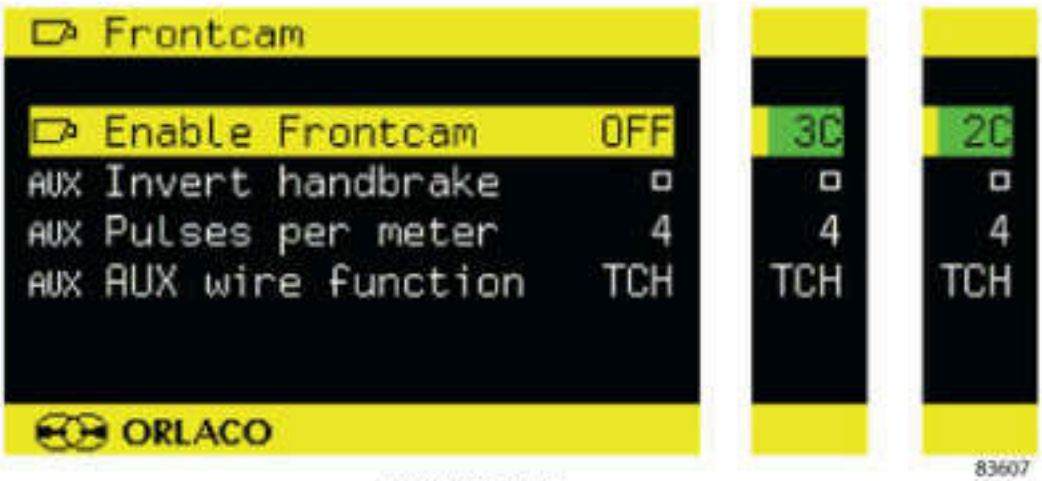
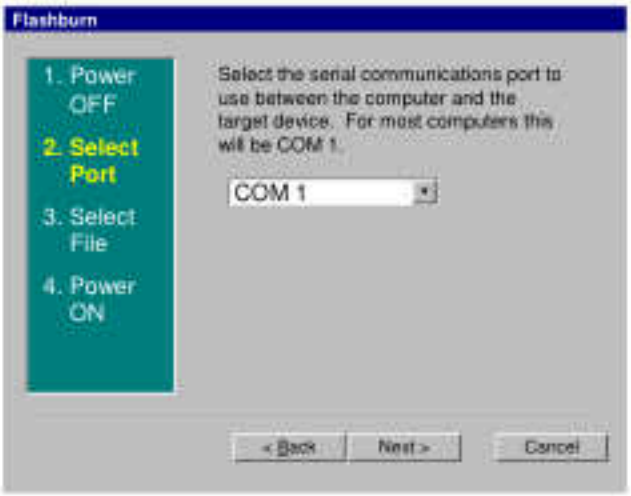


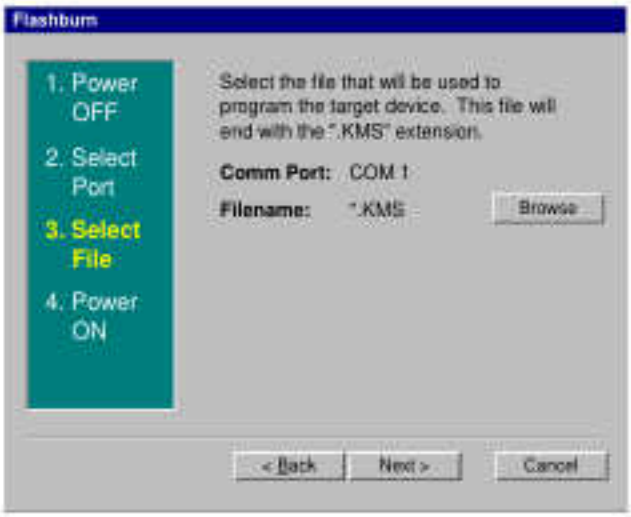
FIGURE 33-18.

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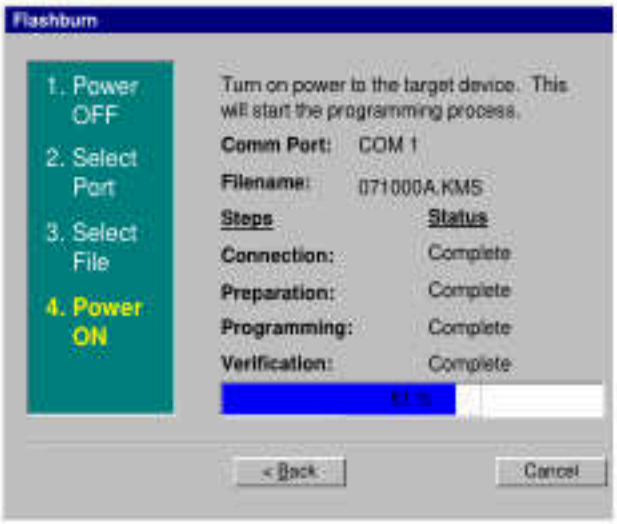
4. Confirm the proper communications port for the programming laptop. This is usually COM 1. Press "NEXT".



5. Press "BROWSE" and select the ".kms" file to program into the payload meter. Press "NEXT".

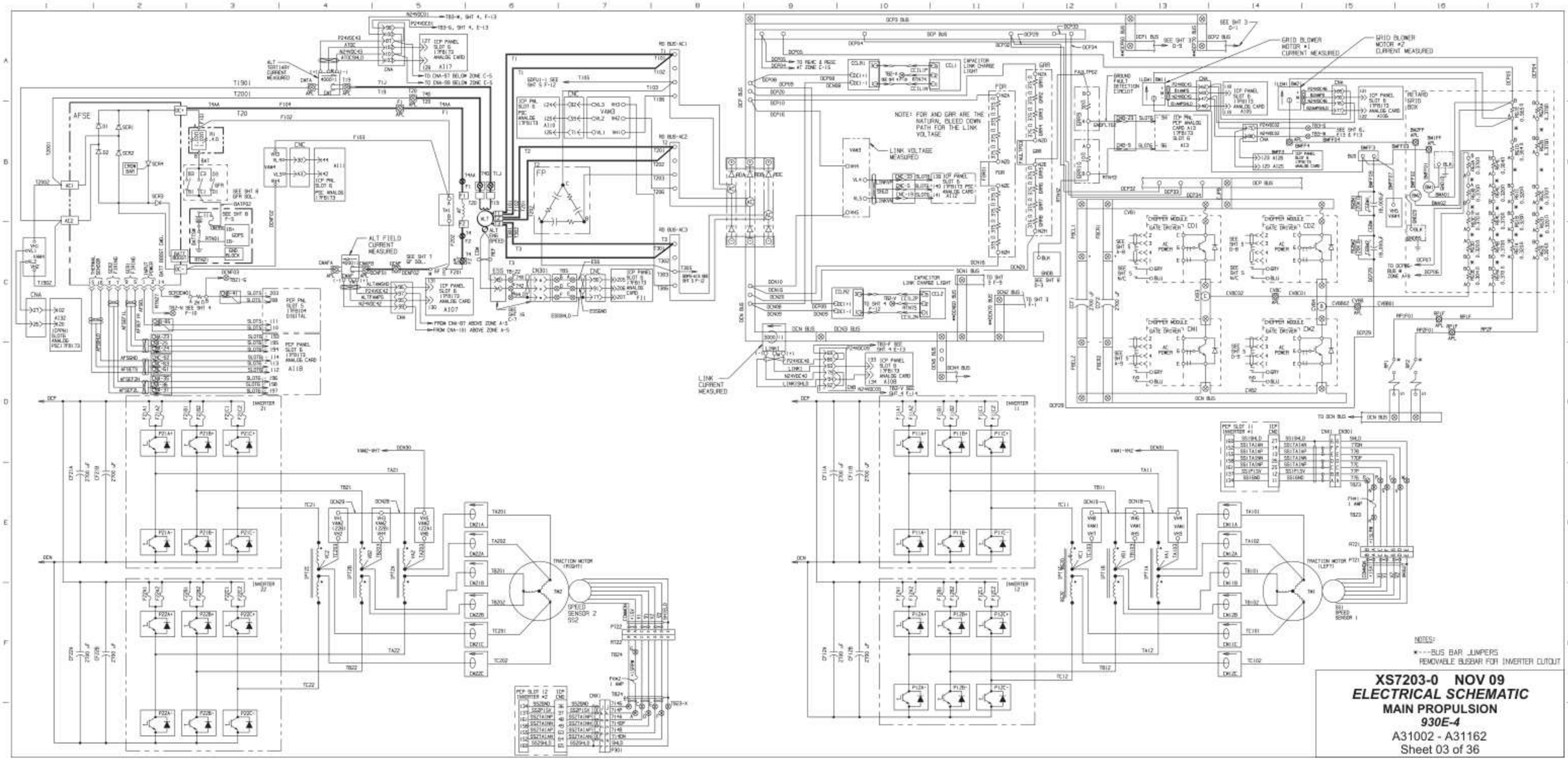


6. When instructed, turn the key switch ON in order to power-up the payload meter. The PC will begin to reprogram the payload meter. This process takes approximately 5 minutes.



7. After successful programming, turn the key witch OFF.
8. Wait 20 seconds and turn the key switch ON.
9. The payload meter will need to be configured as instructed in the manual using the Payload Data Manager software on the laptop computer.

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ELECTRICAL SCHEMATIC

MAIN PROPULSION

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