CEBM025000

Shop Manual

730E Trolley

DUMP TRUCK

SERIAL NUMBERS **A30617 & UP**

KOMATSU®

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TROUBLESHOOTING

Troubleshooting the PLMIII system is done through the PC software you can:

- View active alarms.
- View the sensor inputs using the Real-Time Data Display.
- Test the payload lights.
- Create log files of sensor inputs for further analysis.
- These activities require a connection to the PLMIII system.

Viewing Active Alarms

Active alarms are alarms that have been set, but not yet cleared. Each alarm is set when the conditions for activation are held for 5 seconds. Each alarm is cleared when the condition has been returned to normal range for 5 seconds. For example, 5 seconds after the left-rear pressure sensor is disconnected, the LR-Pressure Lo alarm will be activated. This can be viewed using to the "Connect to Payload Meter" screen. 5 seconds after the pressure sensor is re-connected, the alarm will clear and be recorded in memory.

Active alarms are recorded in memory as "cleared" when the key switch is turned off. When power is restored to the payload meter, the alarms will be re-activated if the conditions still exist for 5 seconds.

To view active alarms:

1. Connect to the payload meter and start the PC software.
2. From the main menu, select "Connect to Payload Meter". The PC will request the latest status information from the payload meter.
3. If there are active alarms, the "Display Active Alarms" button in the lower left corner will be available. If the button is not available, there are no active alarms at the time of connection. The screen does not automatically refresh. If a condition changes to cause an alarm, the user must exit and re-enter the "Connect to Payload Meter" screen.

Real-Time Data Display



The PC software can be used to view the 'live' input readings from the payload meter. The numbers displayed are 1-second averages.

1. Connect to the payload meter and start the PC software.
2. From the main menu, select "Connect to Payload Meter". The PC will request the latest status information from the payload meter.

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Rear Suspension Nitrogen Charging

⚠WARNING

Lifting equipment (overhead or mobile cranes, or hydraulic jacks) must be of sufficient capacity to lift the weight of the truck. Ensure that all personnel are clear of the lift area before the lift is started. Clearances under the truck may be suddenly reduced.

⚠IMPORTANT⚠

Ensure the automatic apply circuit has not applied the service brakes during truck maintenance. If the front brakes are applied during rear suspension charging, the axle cannot pivot for frame raising/lowering, and the rear suspension may be unable to move up or down.

1. If removed, install charging valve with new O-ring (9, Figure 4-3). Lubricate the O-ring with clean Hydrair®oil.
2. Tighten the valve body (large hex, 6) to **22.4 N·m (16.5 ft lbs)**. The valve swivel nut (small hex, 4) must be unseated by turning counterclockwise three full turns.

⚠WARNING

Dry nitrogen is the only gas approved for use in Hydrair®II suspensions. Charging of these components with oxygen or other gases may result in an explosion, which could cause fatalities, serious injuries, and/or major property damage. Use only nitrogen gas meeting the specifications shown in chart (Figure 4-6).

3. Install Hydrair® charging kit and a bottle of pure dry nitrogen. Refer to Installation of Charging Kit.
4. Charge the suspensions with nitrogen gas to 50.8 mm (2 in.) greater than the charging height listed in Figure 4-5.
5. Slowly release the gas until the suspensions match the charging height listed in Figure 4-5.
6. Close inlet valve (4, Figure 4-1). Leave manifold outlet valves (3) open for five minutes in order to allow the pressures in the suspensions to equalize.
7. Ensure both of the suspension cylinders are extended the same distance ± 10 mm (0.39 in.). If the difference in the extension from side to side exceeds 10 mm, check the front suspensions for equal extension. Adjust the front as necessary.

NOTE: A low left front suspension will cause the right rear suspension to be high. A low right front suspension will cause the left rear suspension to be high.

8. Close manifold outlet valves (3) and remove the charging kit components. Refer to Removal of Charging Kit.
9. If the charging valve is being reused, tighten swivel nut (4, Figure 4-3) to **5.4 N·m (4 ft lbs)**.
10. If a new charging valve is being used, tighten swivel nut to **14.2 N·m (10.5 ft lbs)**. Loosen and retighten the swivel nut to **14.2 N·m (10.5 ft lbs)**. Again, loosen the swivel nut and retighten to **5.4 N·m (4 ft lbs)**. Replace valve cap (1) and tighten to **3.3 N·m (2.5 ft lbs)**.
11. Install the protective guards over the charging valves. Install the rubber covers over the piston rods.

    The rear suspensions are now ready for operation. Visually check piston extension both with the truck loaded and empty. Record the extension dimensions. Maximum downward travel is indicated by the dirt ring at the base of the piston rod. Operator comments on steering response and suspension rebound will also be noted.

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9. If there are no leaks, charge the accumulator to 690-827 kPa (100-120 psi). Disconnect the charging manifold. Use a wrench to tighten charging nut (5, Figure 6-5) to 6-9 cm-kg (5-8 ft lb).
10. Remove the accumulator from the test tank fixture.

⚠WARNING

When storing an accumulator, pressurize the accumulator to 690-827 kPa (100-120 psi). DO NOT exceed 827 kPa (120 psi). Sudden loss of the accumulator pressure can result in a projectile hazard that can cause serious injury or death.

11. Verify all labels are attached and legible. Refer to the parts book if replacements are required.

STEERING ACCUMULATOR CHARGING

⚠WARNING

Depressurize system accumulators before opening hydraulic circuits or installing test gauges. For the steering circuit, turn the key switch to OFF and allow 90 seconds for the accumulators to depressurize. After 90 seconds, turn the steering wheel to verify that pressure has been purged from the circuit. If the wheels do not move, the steering circuit is safe to service.

For the brake circuit, first, chock the wheels. Then, open the shut-off valves on the brake manifold. Opening the valves allows accumulator pressure to be released to the hydraulic tank.

Pure dry nitrogen is the only gas approved for use in the steering accumulator. The accidental charging of oxygen, or any other gas in this component, may cause an explosion.

When charging or discharging nitrogen gas in the accumulator, ensure the warning labels are observed, and the instructions regarding the charging valve are carefully read and understood.

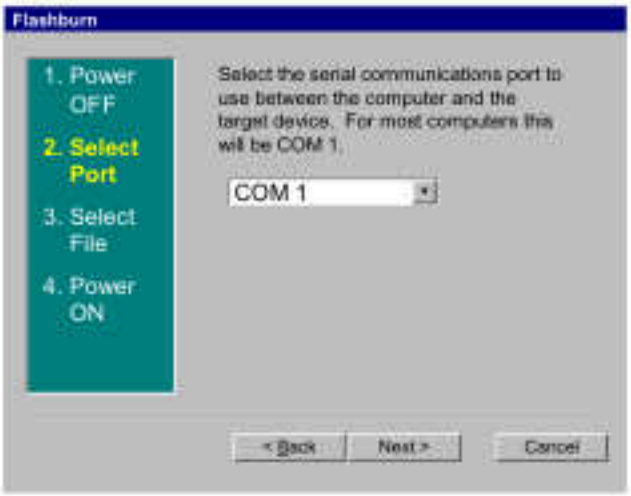
Only precharge the accumulators while installed on the truck. DO NOT handle the accumulator with lifting equipment when the nitrogen precharge is above 827 kPa (120 psi).

NOTE: If one accumulator is low on nitrogen, it is recommended that both accumulators be checked and/or charged at the same time.

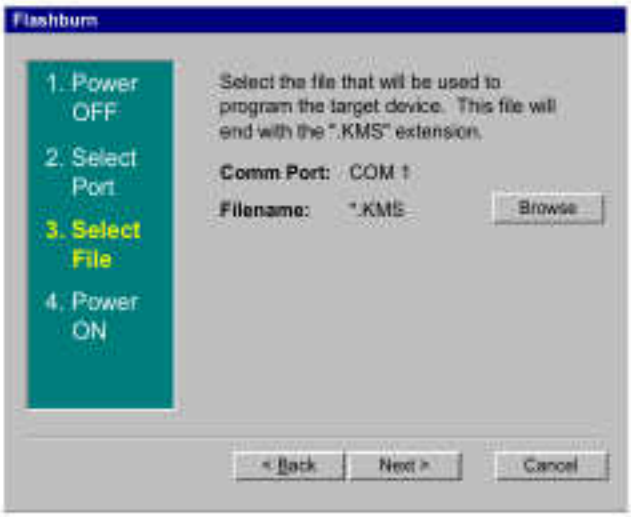
1. With the key switch OFF, allow at least 90 seconds for the accumulator to depressurize. Turn the steering wheel to ensure no oil pressure remains in the accumulator.

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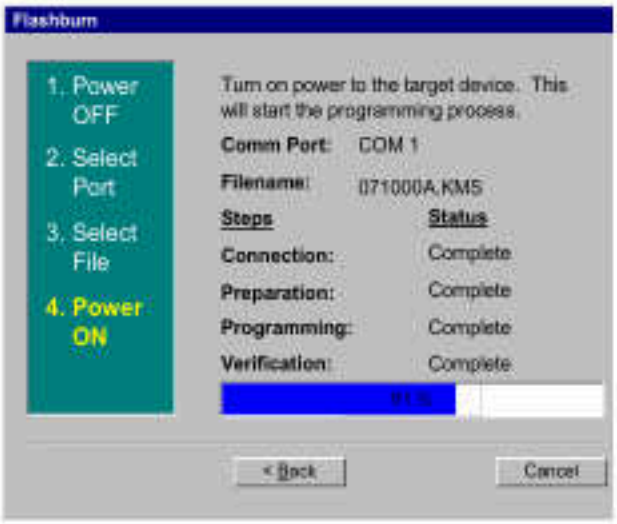
4. Confirm the proper communications port for the programming laptop. This is usually COM 1. Press "NEXT".



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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A/C DRIVE BELT CHECKOUT PROCEDURE

This procedure must be performed each time any component in the accessory drive is serviced, such as replacing a belt or removing the compressor. In addition, a 250 hour inspection of the AC drive belt is mandatory. The belts must be inspected for indications of wear and damage that may hinder performance. Replace as necessary and perform the following procedure.

Pulley Alignment

1. Install alignment tool (EL8868) onto the pulleys to check the alignment. Refer to Figure 4-15. If misalignment of the pulleys exceeds 3 mm (0.13 in.), the position of the compressor must be adjusted.

Belt Tension Check

NOTE: This procedure has been written for use with belt tension tool (XA3379), shown in Figure 4-13. Other tension tools may differ in functionality.



FIGURE 4-13. BELT TENSION TOOL - XA3379

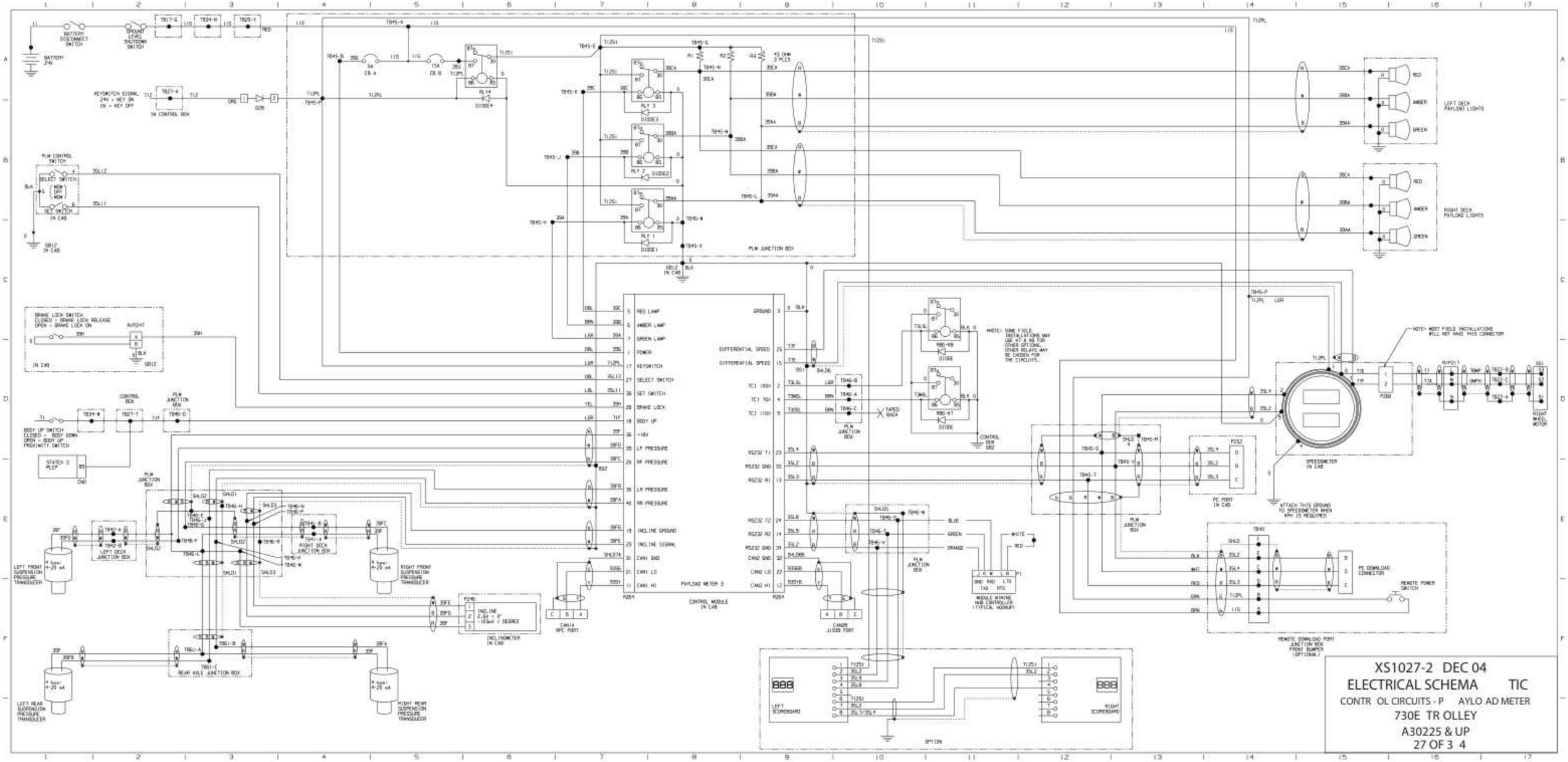
2. Refer to Figure 4-16 for the proper distance from the centerline of the drive pulley to the centerline of the compressor pulley. Set the tension tool accordingly on the deflection scale by moving the deflection O-Ring to the corresponding distance on the scale.
3. Slide the O-Ring for the "force" scale to zero.



FIGURE 4-14. DEFLECTION MEASUREMENT

4. Find the approximate center of the belt between the two pulleys. Place the tip of the tool onto the outer face of the belt and apply pressure, as shown in Figure 4-14. The tool must be perpendicular to the belt. Push on the tool until the bottom edge of the deflection scale O-Ring is even with the outer face of the adjacent drive belt. If only one belt is used, rest a straight edge across both pulleys to serve as the indicating plane.
5. The O-Ring on the force scale indicates the force used to deflect the belt. The belt must deflect 5.3 mm (0.21 in.) under a force of 1.6 ± 0.1 kg f (3.44 ± 0.11 lbf). If not, adjust the belt accordingly and recheck the tension.

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