CEBM026100

Shop Manual

730E Trolley

DUMP TRUCK

SERIAL NUMBERS **A30431, A30432, A30460, A30461, A30463, A30464, & A30467 - A30469**

KOMATSU®

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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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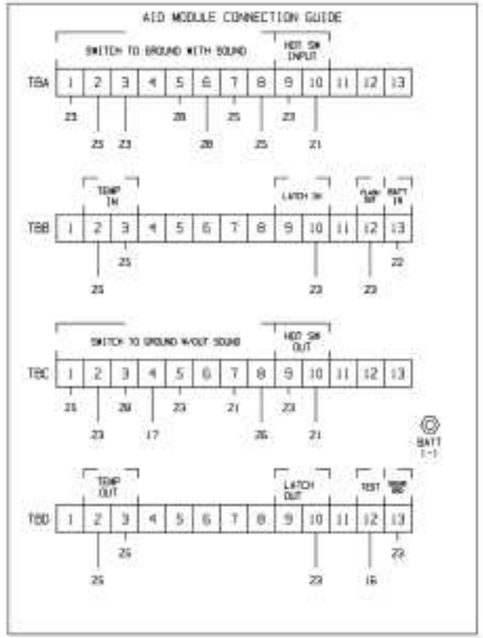
Table 1: TROUBLESHOOTING GUIDE (HOIST PUMP)		
PROBLEM	**POSSIBLE CAUSE**	**SUGGESTED CORRECTIVE ACTION**
1. Sandblasted appearance around pressure plate bores? 2. Angle groove on face of pressure plate? 3. Lube groove enlarged and edges rounded? 4. Dull area on shaft at root of tooth? 5. Dull finish on shaft in bearing area? 6. Sandblasted appearance on gear bore in housing?	1. Abrasive wear caused by fine particles. a. Dirt (fine contaminants, not visible to the eye).	1. Was clean oil used? 2. Was filter element changed at correct intervals? 3. Were correct filter elements used? 4. Are hoist cylinder rod wiper and seals in good condition? 5. Are cylinder rods dented or scored? 6. Was system flushed properly after a failure?
1. Scored pressure plates? 2. Scored shafts? 3. Scored gear bore?	2. Abrasive wear caused by metal particles. a. Metal (coarse) contaminants, visible to the eye.	1. Was system flushed properly after a failure? 2. Are contaminants generated elsewhere in hydraulic system? 3. Are contaminants generated by wearing pump components?
1. Any external damage to pump? 2. Damage on rear of drive gear and rear pressure plate only?	3. Incorrect installation.	1. Was shaft properly installed in mating part? 2. Is there any interference between pump and machine?
1. Eroded pump housing? 2. Eroded pressure plates?	4. Aeration-cavitation. a. Restricted oil flow to pump inlet. b. Aerated oil.	1. Tank oil level correct? 2. Oil viscosity as recommended? 3. Restriction in pump inlet line? 4. Air leak in pump inlet line? 5. Loose hose or tube connection?
1. Excessive wear on pressure plate? 2. Excessive wear on end of gear?	5. Lack of oil.	1. Was oil level correct? 2. Any leaks in piping inside tank?
1. Housing scored heavily? 2. Inlet peened and battered? 3. Foreign object caught in gear teeth?	6. Damage caused by metal object.	1. Metal object left in system during initial assembly or previous repair? 2. Metal object generated by another failure in system?
1. Pressure plate is black? 2. O-rings and seals are brittle? 3. Gear and journals are black?	7. Excessive heat.	1. Metal object left in system during initial assembly or previous repair? 2. Was relief valve setting too low? 3. Was oil viscosity correct? 4. Was oil level correct?
1. Broken shaft? 2. Broken housing or flange?	8. Over pressure.	1. Was relief valve setting correct? 2. Did relief valve function?

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SYMBOLS USED IN SCHEMATICS

- TERMINAL POINT IN CONTROL CABINET
- TERMINAL POINT IN CONTROL CABINET JUNCTION BOX
- TERMINAL IN INSTRUMENT PANEL AREA
- TERMINAL POINT IN LADDER JUNCTION BOX
- TERMINAL POINT IN AUX. RETARDING COMPARTMENT
- TERMINAL POINT IN HOT START JUNCTION BOX
- KNIFE DISCONNECT
- GROUND WITHIN G.E. COMPONENT PACKAGE
- FACTORY WIRING
- VENDOR SUPPLIED WIRING
- CONNECTOR - R FOR RECEPTICAL SIDE, P FOR PLUG SIDE
- SHIELDED WIRE
- SHIELDED TWISTED WIRE
- SWITCH
- PUSHBUTTON SWITCH - NORMALLY CLOSED
- CIRCUIT BREAKER
- VARISTER
- DIODE
- SOLENOID
- CONNECTION POINT
- OPERATING COIL (Z,Y-X) — CONTACT LOCATION INFORMATION; ZONE LOCATION; SHEET NUMBER
- CONTACT - NORMALLY OPEN (Z,Y-X) — OPERATIN COIL LOCATION INFORMATION --TYPICAL FOR BOTH NORMALLY OPEN AND NORMALLY CLOSED CONTACTS--; ZONE LOCATION; SHEET NUMBER
- CONTACT - NORMALLY CLOSED
- C FORM CONTACT - 1 NORMALLY OPEN CONTACT & 1 NORMALLY CLOSED CONTACT COMMON ON ONE SIDE
- PRESSURE SWITCH - PRESSURE TO OPEN
- PRESSURE SWITCH - PRESSURE TO CLOSE
- FLUID LEVEL SWITCH - LOW FLUID LEVEL TO CLOSE
- FLUID LEVEL SWITCH - LOW FLUID LEVEL TO OPEN
- PRESSURE OPERATED VARIABLE RESISTOR
- FLUID OPERATED VARIABLE RESISTOR
- TEMPERATURE SWITCH - INCREASE TEMPERATURE TO OPEN
- TEMPERATURE SWITCH - DECREASE TEMPERATURE TO OPEN
- TEMPERATURE OPERATED VARIABLE RESISTOR
- LIMIT SWITCH - CAM TO CLOSE
- LIMIT SWITCH - CAM TO OPEN
- RESISTOR
- ADJUSTABLE RESISTOR
- SOLID STATE AMPLIFER (INPUT - FOR NON INVERTED OUTPUT) (INPUT - FOR INVERTED OUTPUT)
- M — MOTOR

AID MODULE CONNECTION GUIDE



SELECTOR SWITCH CHART				
CONTACT NO	FRWD	NEUT	REV	SHEET NUMBER
1			X	
2			X	
3		X		28, A-2
4	X	X		
5	X			21, A-2
6		X		
7	X			
8			X	21, A-2

PART NO. INDEX		GENERAL TOPIC
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XS1006	SHEET 6	- G.E. FAULT CODES
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XS1008	SHEET 8	- POWER 18 ELEMENT 3 STEP RETARDING
XS1009	SHEET 9	- PANAGRAPH AND WHEEL MOTORS
XS1010	SHEET 10	- DRIVE SYSTEM MONITORING CONTROL CIRCUITS
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XS1013	SHEET 13	- G.E. DIGITAL INPUTS, AUTO LUBE CNTRL/TEST
XS1014	SHEET 14	- REAR TAIL LIGHTS, OVERHEAD DIMMER CONTROL
XS1015	SHEET 15	- 5 MINUTE IDLE TIMER AND SPARES
XS1016	SHEET 16	- WINDOWS, RADIO, GAUGES
XS1017	SHEET 17	- CONTACTOR FEEDBACK
XS1018	SHEET 18	- CONTACTOR COILS
XS1019	SHEET 19	- TROLLEY CONTACTOR COILS
XS1020	SHEET 20	- TROLLEY CONTROL CIRCUITS
XS1021	SHEET 21	- MACHINE CONTROL CIRCUITS
XS1022	SHEET 22	- ACCELERATOR RETARD PEDALS
XS1023	SHEET 23	- HYDRAULIC CONTROLS, ALARMS
XS1024	SHEET 24	- LIGHT CONTROL CIRCUITS
XS1025	SHEET 25	- HEATER/AC INTERFACE, WINSHIELD WIPER CONTROLS (APPLICABLE UNITS: 001 TO 298)
XS1026	SHEET 26	- CONTROL CIRCUITS-INSTRUMENT LIGHTS
XS1027	SHEET 27	- CONTROL CIRCUITS-PAYLOAD METER
XS1028	SHEET 28	- CUMMING ENGINE
XS1029	SHEET 29	- WIPER TURN SIGNAL/ALT. (APPLICABLE UNITS: 1299 AND UP)
XS1030	SHEET 30	- WIPER WASHER TURN SIGNAL/ALT. (APPLICABLE UNITS: TO BE DETERMINED)
XS1031	SHEET 31	- HEATER / AC CONTROLS
XS1032	SHEET 32	- POWER 14 ELEMENT - 7 STEP RETARDING

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ELECTRICAL SCHEMATIC
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5. Remove the rotor from the rotor shaft.

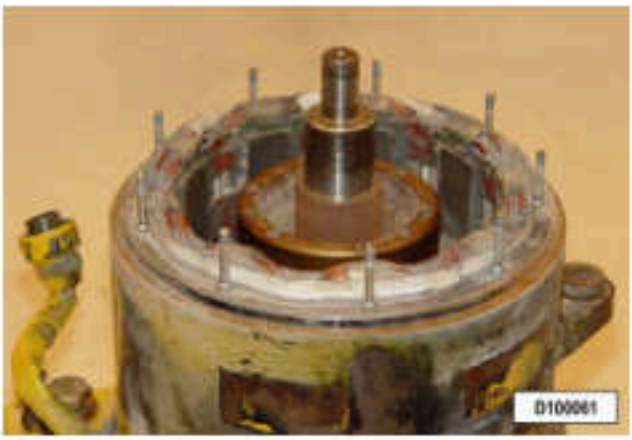


FIGURE 10-50.

Drive End Housing Removal

⚠ IMPORTANT ⚠

Ensure the single mark has been scribed between drive end housing (20) and shell (58). This mark will be used during the assembly process to correctly align the two parts.

1. Position the support stand so the large diameter hole is facing up.

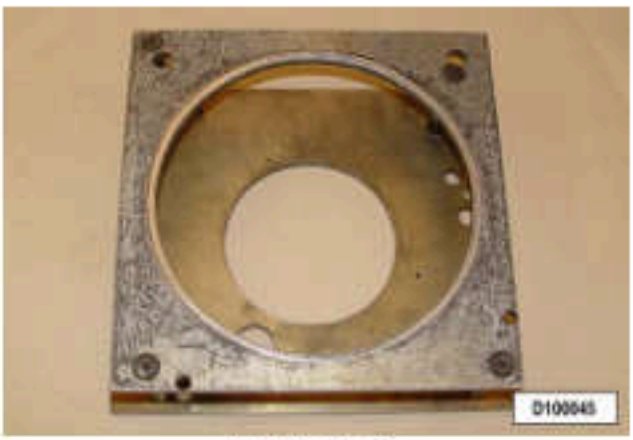


FIGURE 10-51.

2. Place the alternator in the support stand with the drive end facing up.



FIGURE 10-52.

3. Remove cover plate (7) by removing six Torx screws (6) using a number T20 Torx bit.

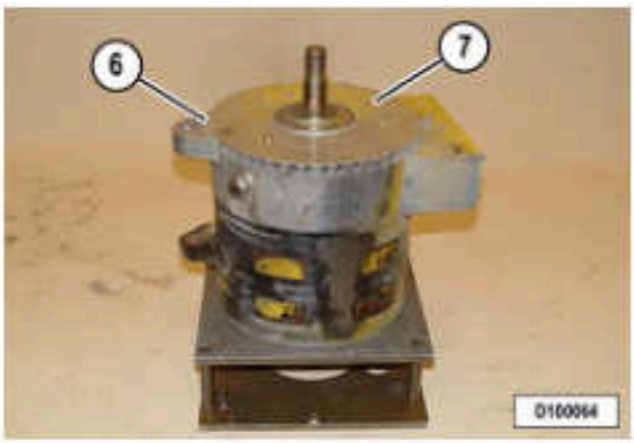
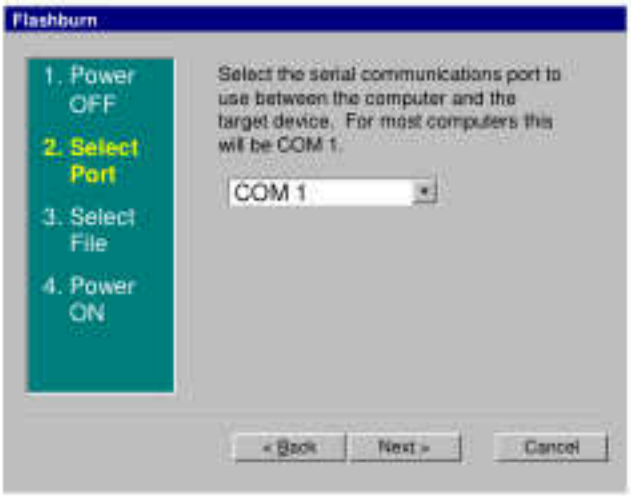


FIGURE 10-53.

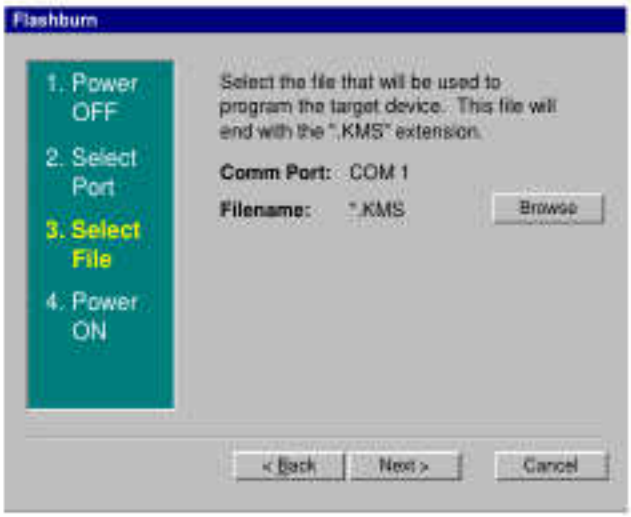
6. Screw 7. Cover Plate

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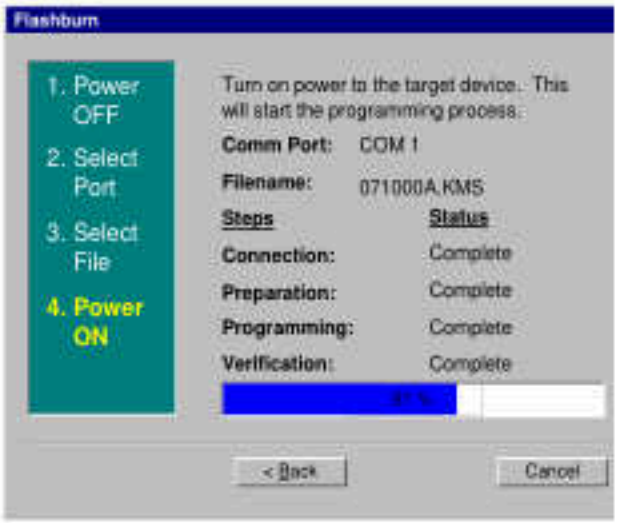
4. Confirm the proper communications port for the programming laptop. This is usually COM 1. Press "NEXT".



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

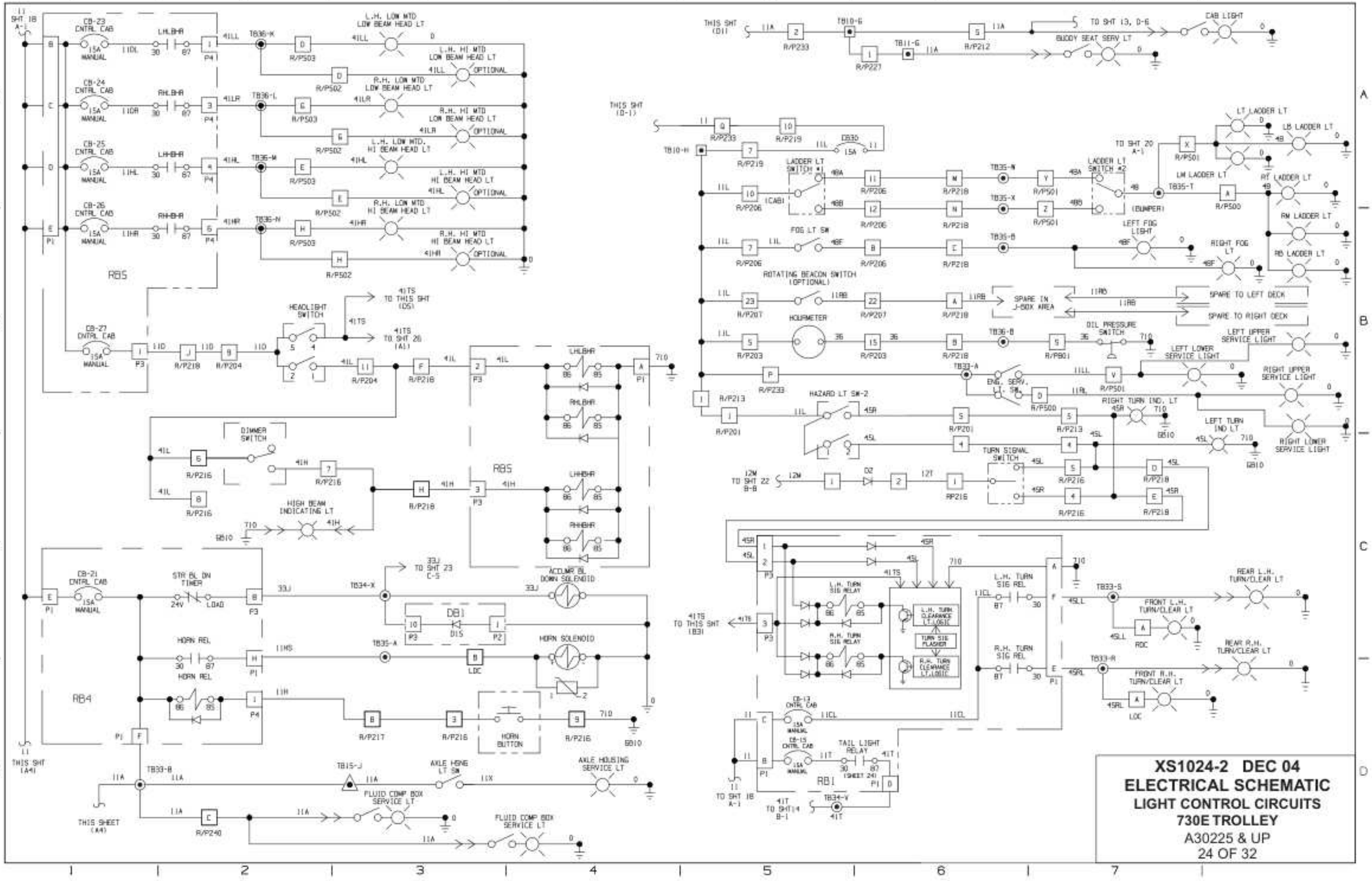


6. When instructed, turn the key switch ON in order to power-up the payload meter. The PC will begin to reprogram the payload meter. This process takes approximately 5 minutes.



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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