SERVICE MANUAL

E098 (E70Z, E80Z, E100Z/ZS, E120Z)



FORM 1596596 Rev. 03/14

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This section is for the following models:

S3.50-5.50XL (S70-120XL) [D004];
S3.50-5.50XM (S70-120XM) [E004, F004];
E3.50-5.50XL (E70-120XL, E70-120XL$_3$) [C098];
H3.50-5.00XL (H70-110XL) [G005];
H6.00-7.00XL (H135-155XL, H135-155XL$_2$) [F006, G006];
H8.00-16.00XL (H165-360XL) [D019, E007];
H8.00-12.00XM (H170-280HD) [F007, G007, H007];
H13.00-14.00XM (H300-330HD) [E019, F019, G019];
H16.00XM-6 (H360HD) [E019, F019, G019];
H10.00-12.00XM-12EC (H360HD-EC) [E019, F019, G019]
E3.50-5.50XL, E4.50XLS (E70-120Z, E100ZS) [D098/E098]

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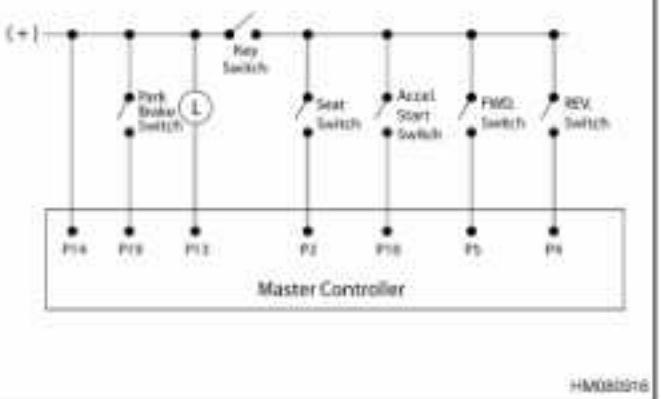
Status Code	Description	Memory Recall	Circuit
9	Both the forward and reverse directional switches are closed at the same time.	No	Traction

Symptom

Lift truck does not move.

Possible Causes and Test Procedures

- Forward or reverse directional switch is failed closed or out of adjustment (adjusted to be held closed).
  Replace or adjust directional switches to make sure they open when directional switch is returned to neutral.
- Short circuit between battery positive and P4 and/or P5.
  Disconnect wires from P4 and P5 and check wire for short circuit to positive side of directional switch.



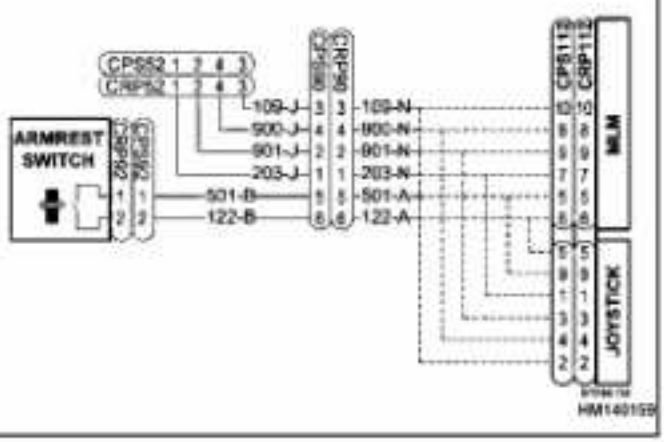
Status Code	Description	Memory Recall	Circuit
10	Armrest is up	No	E-Hydraulics

Symptom

Hydraulic functions are disabled.

Possible Causes and Test Procedures

- Put the armrest in the down position and ensure that it is latched properly.
- Armrest switch malfunction.
  Replace a failed switch.
- Check wiring to the armrest switch from the mini-lever module or joystick.



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but move freely when unlocked. The seat rails must be securely attached to the mounting surface. The hood must be fully closed. Lift the hood to make sure it is closed and will not move.

SEAT BRAKE REPAIR

See the section **Brake System** 1800 SRM 338 for the procedures for the seat brake.

Counterweight Replacement

NOTE: If the lift truck must be put on blocks for maintenance and repair, see the section **How to Put a Lift Truck on Blocks** in the **Operating Manual** or in the section **Periodic Maintenance** 8000 SRM 1201.

⚠ WARNING

The counterweight is very heavy. Make sure that the crane and lifting devices have enough lifting capacity to safely lift the counterweight. The weights of the counterweights are shown in Table 2.

The counterweight normally is not removed for most repairs. Replacement of the AC controllers is accomplished by removing the cover from the counterweight. See Figure 9. The counterweight is fastened to the frame with four capscrews. The weights for the counterweights are shown in Table 2.

Table 2. Weight of Counterweights

Model	Weight*
E3.50XL (E70Z)	822 kg (1812 lb)
E4.00-4.50XL (E80-100Z)	1253 kg (2762 lb)
E4.50XLS (E100ZS)	1912 kg (4215 lb)
E5.50XL (E120Z)	1912 kg (4215 lb)
* ±50 kg (110 lb)	

REMOVE

1. Remove battery. See **How to Change the Battery** in the section **Periodic Maintenance** 8000 SRM 1201. See Battery Specifications section for information on battery weights and sizes.

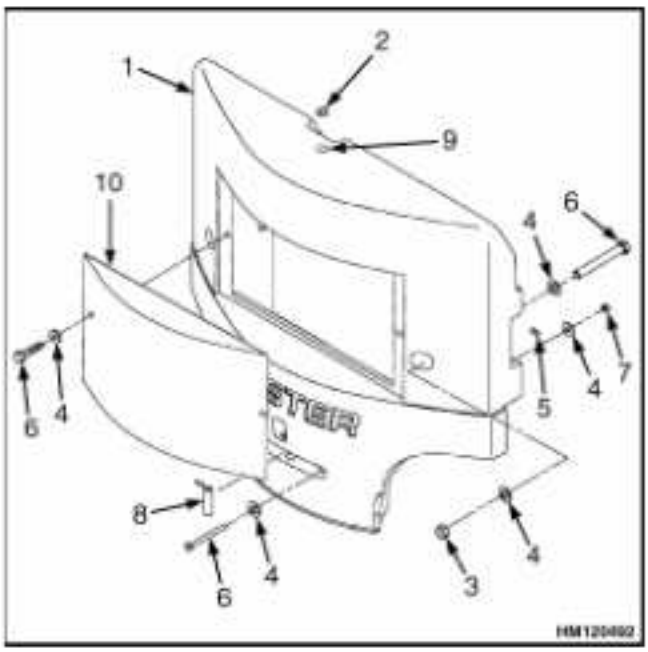
2. Remove overhead guard as described in the paragraphs under Overhead Guard Replacement.

3. Install lifting eyebolt in hole on top of counterweight. See Figure 9. Attach chain or sling to eyebolt. Use crane to hold the weight of the counterweight.

⚠ CAUTION

To prevent damage to the controller when removing the counterweight, carefully lift counterweight upward until it is off the frame, then straight back from the lift truck.

4. From inside the battery compartment, remove two capscrews that hold counterweight to frame. Remove two capscrews from tow pin area of counterweight. Use crane to lift counterweight away from frame. Make sure you do not damage the electronic controls.



1. COUNTERWEIGHT
2. PLUG
3. NUT
4. WASHER
5. TAPE
6. CAPSCREW
7. LOCK NUT
8. TOW PIN
9. EYEBOLT HOLE
10. CONTROLLERS COVER

Figure 9. Counterweight Assembly

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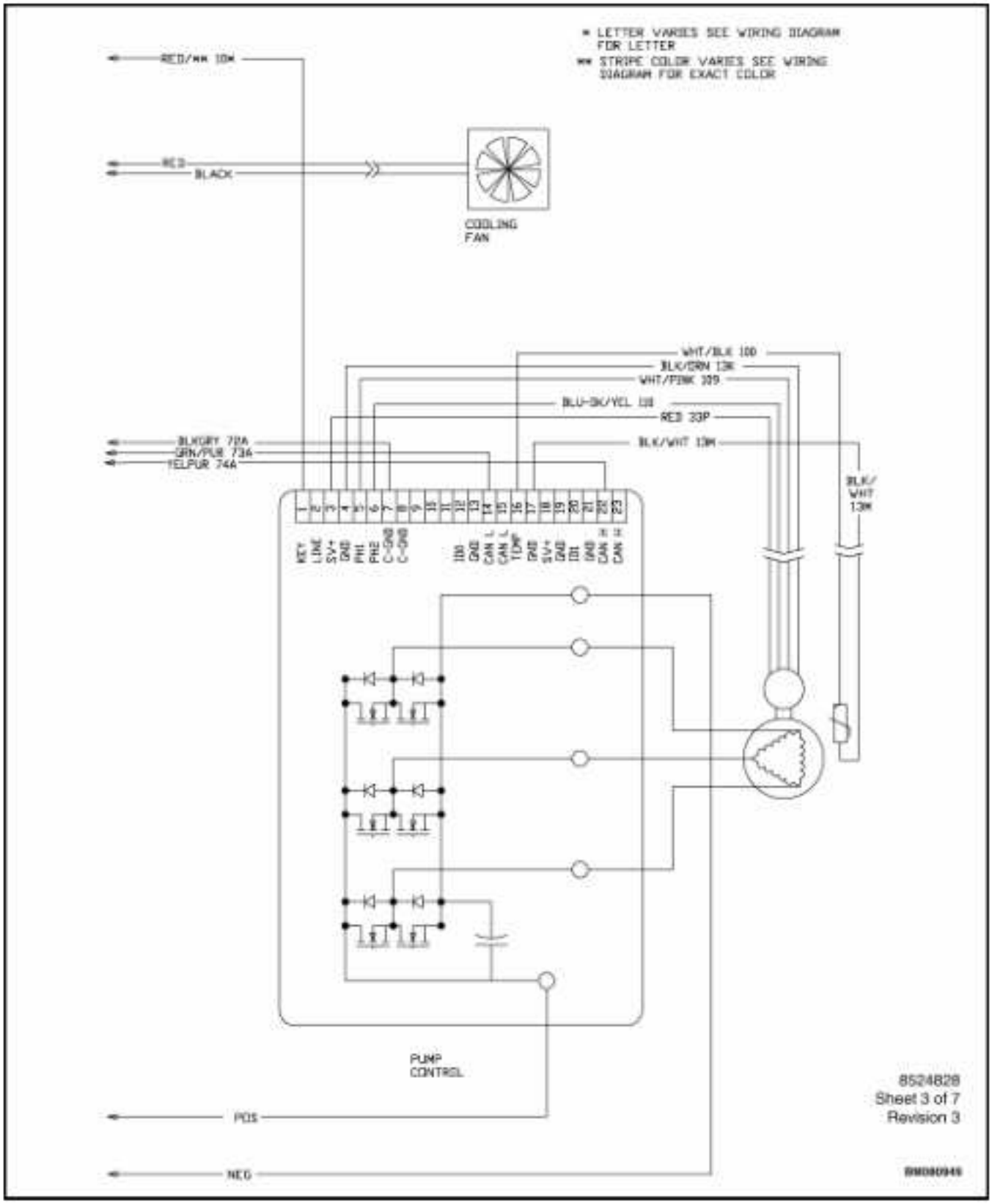


Figure 1. Wiring Schematic Diagram for E3.50-5.50XL, E4.50XLS (E70-120Z, E100ZS) (D098), 36/48 Volts (Sheet 3 of 7)

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