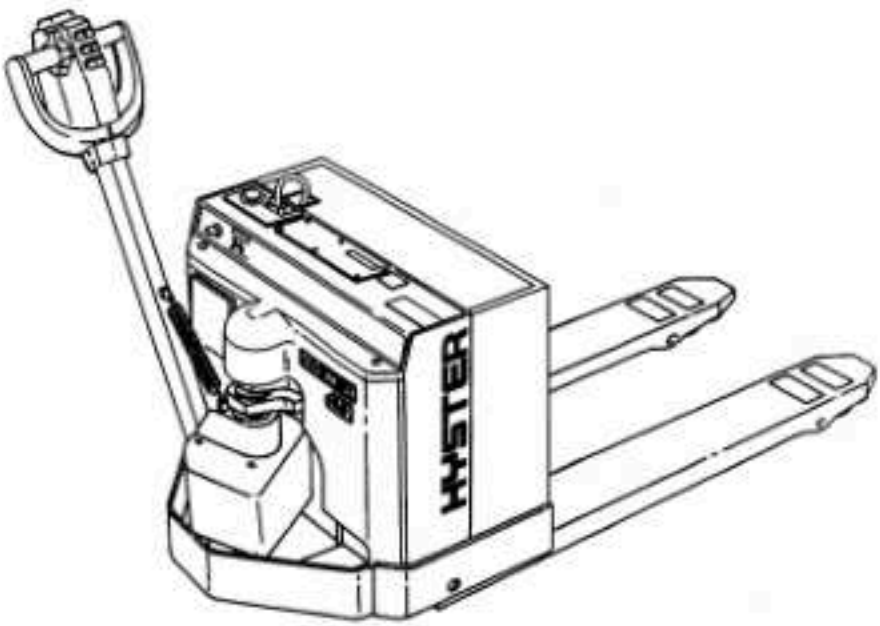
SERVICE MANUAL

B199 (B60-80XT; C60-80XT)



FORM 897465-B199 Rev. 03/14

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This section is for the following models:

All Electric Lift Trucks

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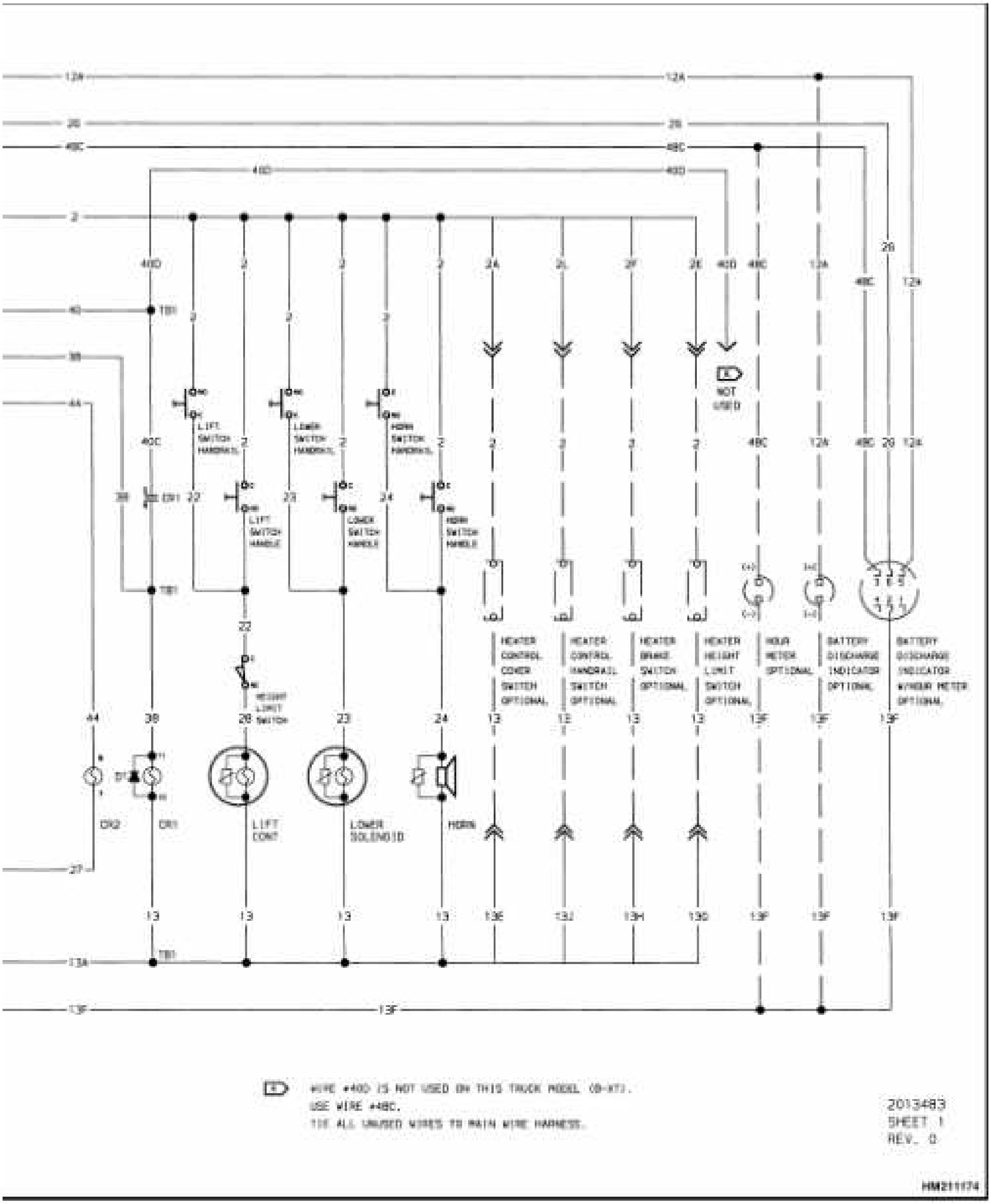


Figure 21. B60-80XT EE Schematic Diagram

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Troubleshooting

GENERAL

Procedures for troubleshooting system faults in the trucks with the transistor controller are in the section **Curtis Transistor Motor Controller** 2200 SRM 411. Follow the General Procedures to make sure that maintenance problems give the correct troubleshooting results. Follow the General Procedures and then use the fault procedure that best describes the problem.

GENERAL PROCEDURES

NOTE: The correct meter polarity is necessary for the checks. The voltage checks are made between the point indicated and battery negative. Connect the meter negative to battery negative.

1. Disconnect the battery and separate the battery connector. Check the specific gravity of the battery. If the specific gravity is less than 1.260, the battery is not fully charged or has damage. A fully-charged battery has a specific gravity of 1.270-1.290. A discharged battery has a specific gravity of 1.130 or less.

2. The Hyster electric lift truck has a two-wire system. The frame must not be a common electrical path. Check for 50,000 ohms or more between each terminal of the battery connector on the lift truck, and a clean connection on the frame. Remove any circuit paths between the control circuit and the frame of the lift truck. Carbon dust in a motor or other parts can cause a circuit path. Check additional equipment that can cause a circuit path to the frame.

3. With the battery installed and the battery connector disconnected, check for voltage between each terminal of the connector and a clean connection on the frame. Normally there is some small voltage between the battery and the frame, even if the resistance is very high. The small voltage is normally less than 30% of the battery voltage. A higher voltage can indicate a dirty battery or a battery with damage. Clean the battery and battery compartment as necessary.

4. Visually check for parts or wires that are loose or damaged.

WARNING

Make sure you disconnect the battery and separate the connector before any part of the controller is disassembled. If a short circuit is caused by work tools, the high current flow from the battery can result in burns and damage to the electrical parts.

WARNING

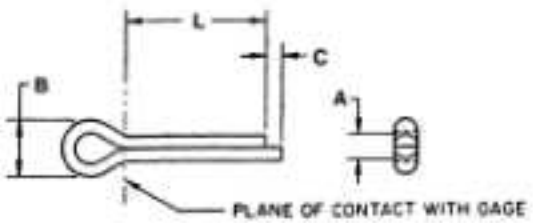
Some Checks and Adjustments must be made with the battery connected. When the battery is connected, raise the drive wheel from the surface so the lift truck does not suddenly move, then make checks.

Make an identification of any wires before you disconnect them. The wires must be connected correctly after checks or repairs. See the section **Diagrams, With ELM** 8000 SRM 686.

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Table 9. Cotter Pin Dimensional Data (Continued)

Nominal Length L	Length Range		Nominal Size - Part Numbers				
	max	min	1.00 mm (0.031 in.)	1.60 mm (0.047 in.)	2.00 mm (0.062 in.)	2.50 mm (0.094 in.)	3.20 mm (0.125 in.)
88.9 mm (3.500 in.)	91.4 mm (3.600 in.)	87.4 mm (3.440 in.)					
101.6 mm (4.000 in.)	113.3 mm (4.460 in.)	98.8 mm (3.890 in.)					
127.0 mm (5.000 in.)	128.5 mm (5.060 in.)	123.7 mm (4.870 in.)					
152.4 mm (6.000 in.)	153.9 mm (3.060 in.)	5.460 mm (138.7 in.)					

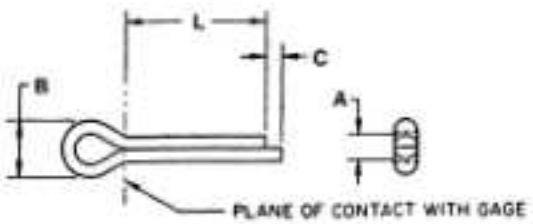


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Table 10. Cotter Pin Dimensional Data

Nominal Length L	Length Range		Nominal Size - Part Numbers				
	max	min	4.00 mm (0.156 in.)	5.00 mm (0.188 in.)	6.30 mm (0.250 in.)	8.00 mm (0.312 in.)	9.52 mm (0.375 in.)
6.35 mm (0.250 in.)	7.10 mm (0.280 in.)	5.50 mm (0.217 in.)					
9.525 mm (0.375 in.)	10.5 mm (0.413 in.)	8.80 mm (0.345 in.)					
12.7 mm (0.500 in.)	13.5 mm (0.530 in.)	11.5 mm (0.453 in.)					
19.05 mm (0.750 in.)	20.5 mm (0.807 in.)	18.3 mm (0.720 in.)	0015232	0015241			



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