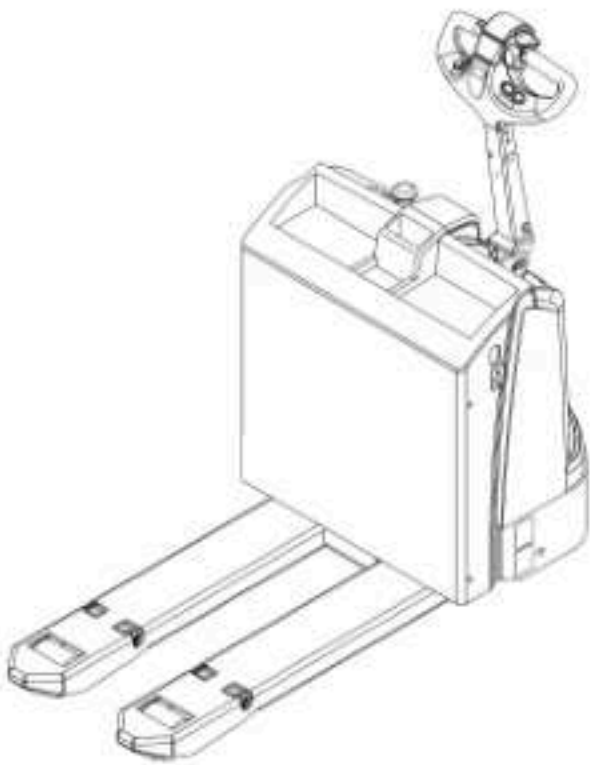
SERVICE MANUAL

A290 (P2.0)



Rev. 07/14

MidWestTech | Hyster A290 (P2.0) Electric Pallet Jack Service Manual | Publication A290 Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

General 1
Lead-Acid Batteries 1
Specific Gravity 2
Chemical Reaction in a Cell 3
Electrical Terms 4
Battery Selection 5
Battery Voltage 6
Battery as a Counterweight 6
Battery Ratings 7
  Kilowatt-Hours 7
Battery Maintenance 7
  Safety Procedures 7
  Maintenance Records 8
  New Battery 8
  Cleaning Battery 8
  Adding Water to Battery 10
  Hydrometer 11
  Battery Temperature 12
  Charging Battery 12
    Types of Battery Charges 13
    Methods of Charging 14
    Troubleshooting Charger 15
    Knowing When Battery Is Fully Charged 15
  Where to Charge Batteries 16
    Equipment Needed 16
  Battery Connectors 16
  Battery Care 16

This section is for the following models:

©2014 HYSTER COMPANY

MidWestTech | Hyster A290 (P2.0) Electric Pallet Jack Service Manual | Publication A290 Order the manual at mid-west-tech.com >

General

This section contains the description, repair, and adjustment procedures for the lifting mechanisms installed on the P2.0W35ZHD, W45ZHD lift truck.

For troubleshooting and repairs on the electrical components see **Electrical System** 2200SRM1508. See **AC Motor Controller** 2200SRM1507 for controller functions.

For troubleshooting and repairs on the hydraulic components, see **Hydraulic System** 1900SRM1506.

Description of Operation

The lifting mechanism consists of:

- Lift cylinder, 1 each
- Rocker arm, 1 each
- Pull rods, 2 each
- Load wheel assemblies, 2 each
- Rear links (wheel support), 2 each

The lifting mechanism connects the main frame to the fork frame. The lift cylinder and rocker arms are parts that connect the main frame to the fork frame. The pull rods are installed between the rocker arm and the load wheel assemblies.

The lifting mechanism is operated by the lift pump and motor assembly. When the lift button on the control handle is depressed, the lift pump sends hydraulic fluid to the lift cylinder. The lift cylinder extends, lifting the fork frame. This action operates the rocker arm, which move the pull rods forward in the direction of the drive motor. The movement of the pull rods cause the rear links and load wheels to pivot down, lifting the rear of the fork frame. This helps lift the fork frame and keep the forks parallel with the ground.

NOTE: The lift linkage is not adjustable.

Load Wheel

REMOVE

1. Move the lift truck to a safe and level area.
2. Use the lift button to raise the lift truck to its maximum height.
3. Put blocks under both forks and on both side (front and back) of the drive tire to prevent movement of the lift truck. See the section
   - **Periodic Maintenance** 8000SRM1510 for lift truck model A290
   - **Periodic Maintenance** 8000SRM1666 for lift truck model A419
4. Press the lower button to relieve pressure from the hydraulic system.
5. Turn the key switch to the **OFF** position and disconnect the battery.
6. Unscrew the axle capscrew. Remove the load wheel with bushings, bearings, and the spacer. See Figure 1 or Figure 2.
7. Remove the bushings from each end of the load wheel.
8. Remove the bearings from each end of the load wheel. It may be necessary to use a brass drift punch to drive the bearings out of the load wheel.
9. Remove the spacer from the inside the load wheel.
10. Remove all old lubricant from the load wheel. Clean and inspect all parts. Replace all defective parts as necessary.

MidWestTech | Hyster A290 (P2.0) Electric Pallet Jack Service Manual | Publication A290 Order the manual at mid-west-tech.com >

HOW TO CHANGE THE BATTERY

WARNING

Make sure the capacity of the crane and spreader bar is greater than the weight of the battery. The weight of the battery is normally shown on the battery case. The spreader bar must NOT be made of metal or it must have insulated straps.

Batteries are heavy. Use care to avoid injury.

The replacement battery must fit the battery compartment correctly. Use spacers to prevent the battery from moving in the battery compartment.

Make sure the weight of the replacement battery is within the maximum and minimum weights shown on the nameplate.

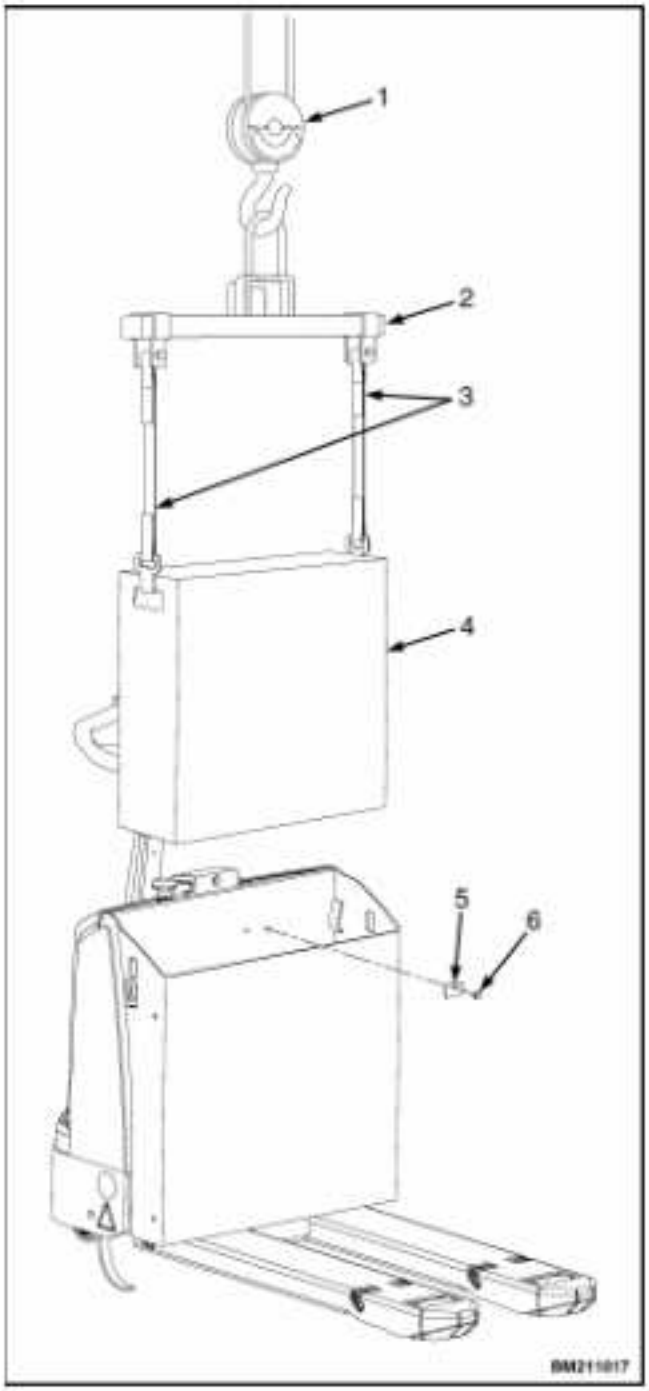
Make sure the key switch is in the OFF position and the park brake is set before connecting the battery.

CAUTION

If the lift truck was operated using a low battery, inspect for welded contacts BEFORE connecting a charged battery. The circuit will not reset and lift truck operation cannot be controlled if the contacts are welded. Prevent side-to-side movement of the battery by adjusting the brackets on each side of the battery and tighten the capscrews, lockwashers, and nuts to retain the batteries.

The replacement battery must fit the battery compartment. Make sure the battery cables have clearance to move during lifting and lowering of the forks. Make sure that the replacement battery is the correct voltage and weight as shown on the capacity plate. See Figure 5.

1. Turn the key switch to the **OFF** position. Disconnect the battery. Use a spreader bar and lifting device to remove the battery.
2. Position blocks under both sides of the truck in the area of the battery compartment.
3. Remove capscrew and battery retainer. See Figure 5.



1. CRANE
2. SPREADER BAR
3. INSULATOR STRAPS
4. BATTERY
5. RETAINER
6. CAPSCREW

Figure 5. Changing the Battery

MidWestTech | Hyster A290 (P2.0) Electric Pallet Jack Service Manual | Publication A290 Order the manual at mid-west-tech.com >

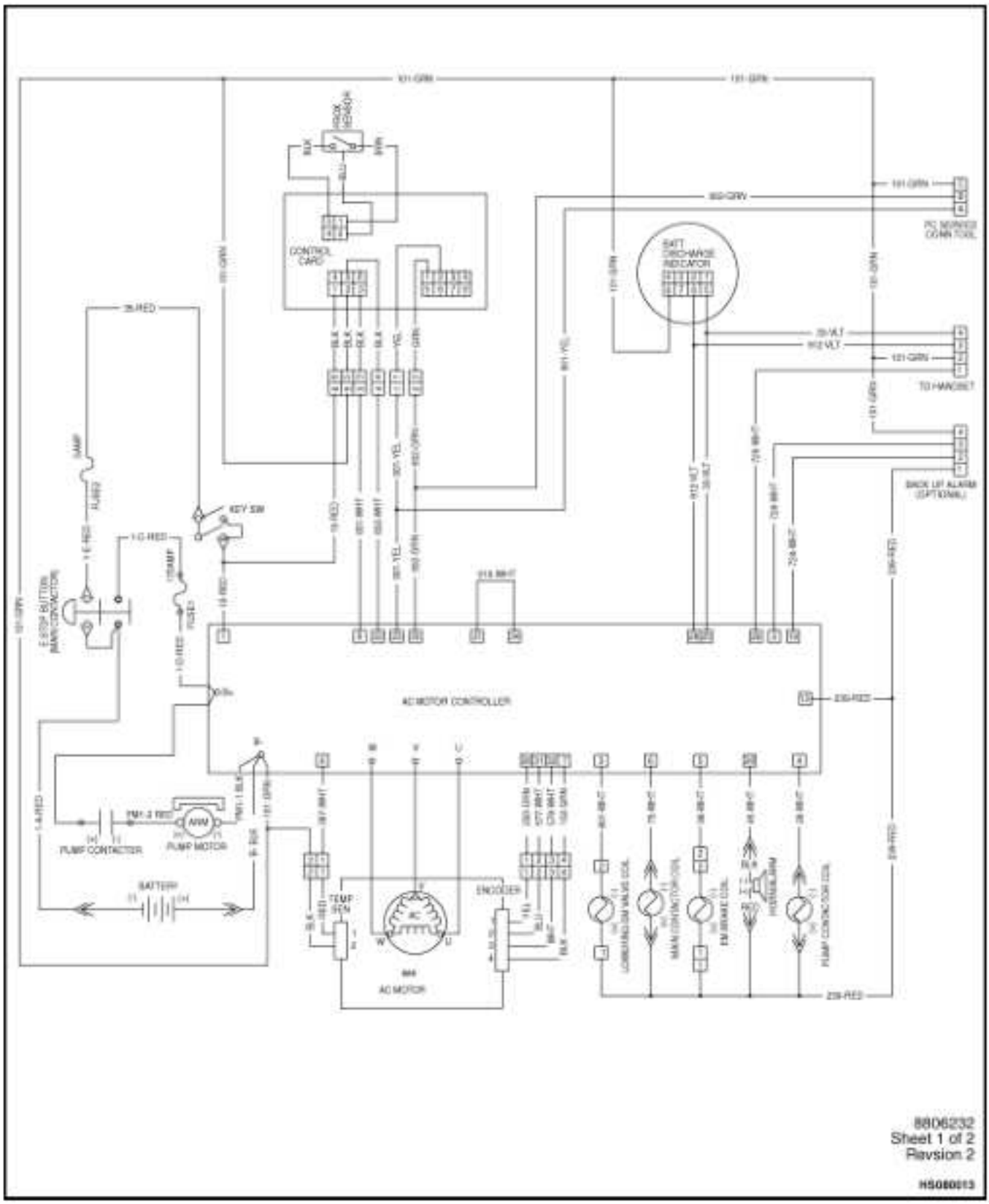


Figure 1. Schematic/Wiring Diagram Pallet Truck (Sheet 1 of 2)

MidWestTech | Hyster A290 (P2.0) Electric Pallet Jack Service Manual | Publication A290 Order the manual at mid-west-tech.com >