SERVICE MANUAL

N30XMH (C210)



FORM 897627 Rev. 01/04

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N30XMH (C210)
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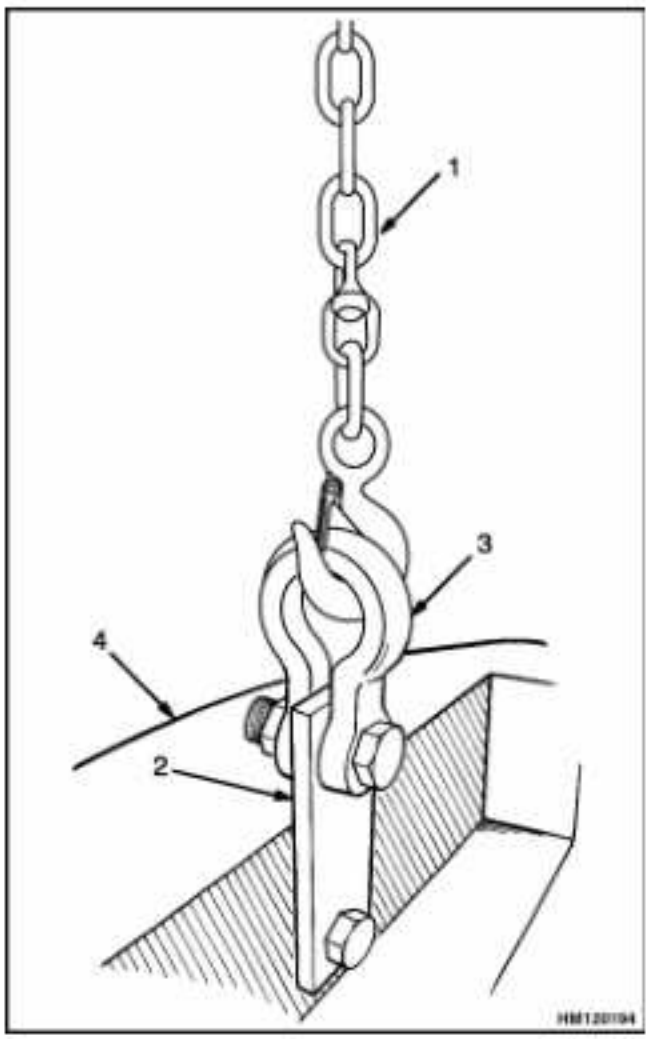
Legend for Figure 20

1. TRACTION MOTOR
2. LIFT PUMP MOTOR
3. STEERING PUMP MOTOR
4. HARNESS FOR TEMP. AND BWI SENSORS
5. MAIN CHASSIS HARNESS
6. DISPLAY PANEL HARNESS
7. TO INSTRUMENT PANEL
8. TO ON-DEMAND STEERING
9. BATTERY+ CONTROL WIRES

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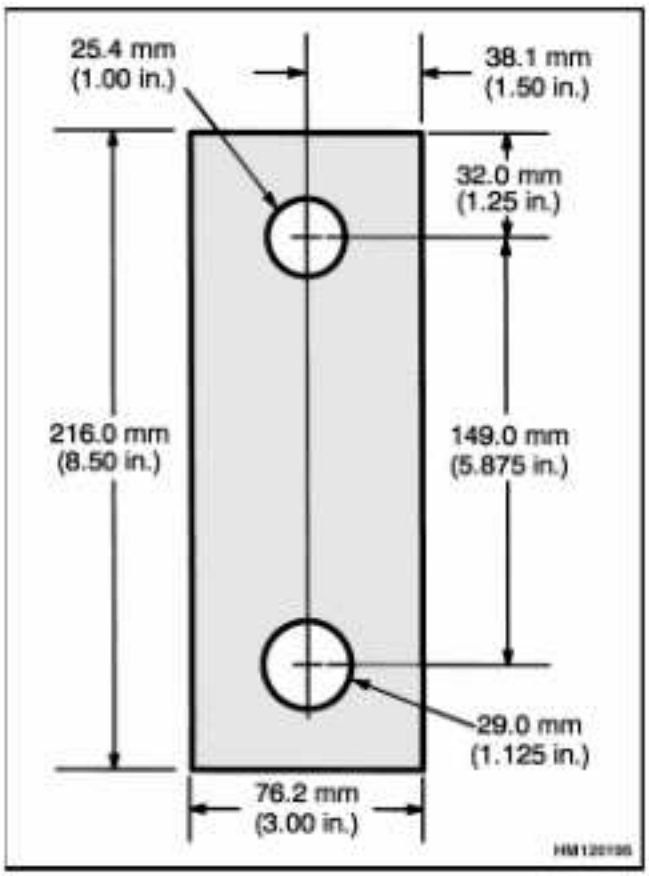
clevis to the counterweight lifting tool. The clevis must have a pin diameter of 16.0 to 19.0 mm (0.625 to 0.750 in.). Fasten a chain or sling to the clevis. Make sure the chain or sling and crane has the capacity to lift the counterweight. See Table 1. Use the crane to hold the weight of the counterweight.

3. From inside the battery compartment near the bottom, remove the two top capscrews that hold the counterweight to the frame. Remove the capscrews, nuts, and washers from the tow pin area of the counterweight. Use the crane to lift the counterweight away from the frame. Make sure that you do not damage the electronic controller.



1. LIFT CHAIN
2. LIFTING TOOL
3. CLEVIS
4. COUNTERWEIGHT

Figure 12. Lift the Counterweight



NOTE: THE MATERIAL IS ASTM A36 STEEL, 12.7 mm (0.50 in.) THICK.

Figure 13. Counterweight Lifting Tool

INSTALL

NOTE: The access panel to the electronic controller can be removed from the counterweight to make checks and adjustments on the controller. Make sure the lugs are correctly engaged when the access panel is installed again, or the panel will fall from the counterweight during operation.

1. Use a crane and the lifting tool, during removal, to lift the counterweight into position. See Figure 11. Make sure that you do not damage the electronic controller during installation. Install the two upper capscrews near the bottom of the battery compartment that hold the counterweight to the frame. Install the lower capscrews, washers, and nuts in the tow pin area of the counterweight. Tighten the upper capscrews to 380 N•m (280 lbf ft). Tighten the lower (tow pin) capscrews and nuts to 66 N•m (49 lbf ft). If removed, tighten the cover capscrews to 52 N•m (38 lbf ft).

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Register Parameters

GENERAL

This section must be used with the following sections of this motor controller:

- **EV-100ZX SCR Motor Controller, Description, Adjustments, Troubleshooting, Repairs, and Theory** 2200 SRM 557
- **EV-100ZX and EV-T100 Motor Controllers Troubleshooting and Adjustments With a Computer** 2200 SRM 947

The ZX series of control cards have an electronic device called an EEPROM (Electrically Erasable Programmable Read-Only Memory). The EEPROM has a number of memory elements called registers. These registers can have electronic data stored in them to control an operation. The range of data that can be stored in the registers is called a parameter. A parameter is a measurement number that works with other measurement numbers (parameters) to define a system. The EEPROM in the control card is a control system for the operation of the lift truck.

The EEPROM used in the ZX series of control cards has 128 registers.

WARNING

Each register in each control card has a range of numbers so the control card can be used on different models of lift trucks. This variation is needed for lift trucks of different sizes and operating voltages. Adjustment of the register to the wrong number for your lift truck model can cause the truck to operate differently than normal. This different operation of the truck can cause an injury.

DO NOT adjust any of the registers without using the parameters shown in Table 1, Table 2, Table 3, Table 4, Table 5, Table 6, and Table 7.

NOTE: The Register Parameter Tables show the permitted ranges and the default setting for each control function. The factory set parameters are the recommended settings for new units. These settings will give satisfactory performance for most applications.

Some functions can be adjusted within the permitted range to change the lift truck operation for a specific application. Adjustment of a register to a number that is different than the factory setting is allowed, but follow the instructions carefully and stay within the minimum and maximum limits. Adjustments other than the factory settings will cause the lift truck to operate differently and can cause increased wear of parts.

Parameters must be between the minimum and maximum numbers shown in the tables for your lift truck model. Do **NOT** adjust a parameter to a number that is **NOT SHOWN** in the correct table. Make sure you use the correct table when you make adjustments. It is a good procedure to check the parameter and compare the parameter to the number in the table before making the adjustment. The factory parameter, and the value (current, time, etc.) for that parameter, are shown in the columns indicated as Default. The minimum and maximum parameters and their values are shown in the columns indicated as Permitted Range.

NOTE: Check the label at the top edge of each card case to identify the control card on your lift truck. There are some painted letters and numbers followed by other numbers and letters on the lower part of the label. The last two letters on the lower part identify the TYPE of card installed. The table titles show these card types for the EV-100ZX motor controllers.

Make sure to read the WARNINGS and CAUTIONS in this section, including those in the tables. Also read the WARNINGS and CAUTIONS in the following sections:

- **EV-100ZX SCR Motor Controller, Description, Adjustments, Troubleshooting, Repairs, and Theory** 2200 SRM 557
- **EV-100ZX and EV-T100 Motor Controllers Troubleshooting and Adjustments With a Computer** 2200 SRM 947

FUNCTION NUMBERS

CAUTION

Do not set the Field Weakening functions to any value other than the value shown for each function. There can be traction motor damage if Field Weakening is used with these motors that are not designed for it.

NOTE: A control card that has the Field Weakening functions can be installed on lift trucks that have traction motors that are not designed for Field Weakening. The Field Weakening functions are set to not operate on these lift trucks.

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