SERVICE MANUAL

E45-65XM (F108)



FORM 897654 Rev. 01/04

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SERVICE MANUAL CONTENTS

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Each spindle turns on two tapered roller bearings. The spindle and bearings are held in the axle frame by a kingpin. The preload on the bearings is controlled by a threaded nut on the bottom of the kingpin.

The wheel or hub rotates on two tapered roller bearings and is held on the spindle by a castle nut. The preload on the bearings in the hub is adjusted by the castle nut. A grease seal in the inner hub and a hub cap protect the bearings from dirt and water. A wear sleeve in the inner hub protects the hub from wear by the seal.

Steering Axle Assembly Repair

REMOVE

WARNING

PUTTING THE LIFT TRUCK ON BLOCKS

The lift truck must be put on blocks for some types of maintenance and repair. The removal of the following assemblies will cause large changes in the center of gravity: drive axle, battery, or counterweight. When the lift truck is put on blocks, put additional blocks in the following positions:

1. **If the mast and drive axle are removed, put blocks under the counterweight so the lift truck cannot fall backward.**
2. **If the battery (electric lift trucks) or counterweight is removed, put blocks under the mast so the lift truck cannot fall forward.**

Put the lift truck on blocks on a solid, even, and level surface. Make sure the blocks of stands have enough capacity to hold the lift truck. Use additional blocks next to the tires as necessary to prevent movement of the lift truck. Make sure the lifting devices used during repairs can lift the weight of the parts and assemblies.

NOTE: The steering axle assembly without the wheels weighs approximately 115 kg (250 lb).

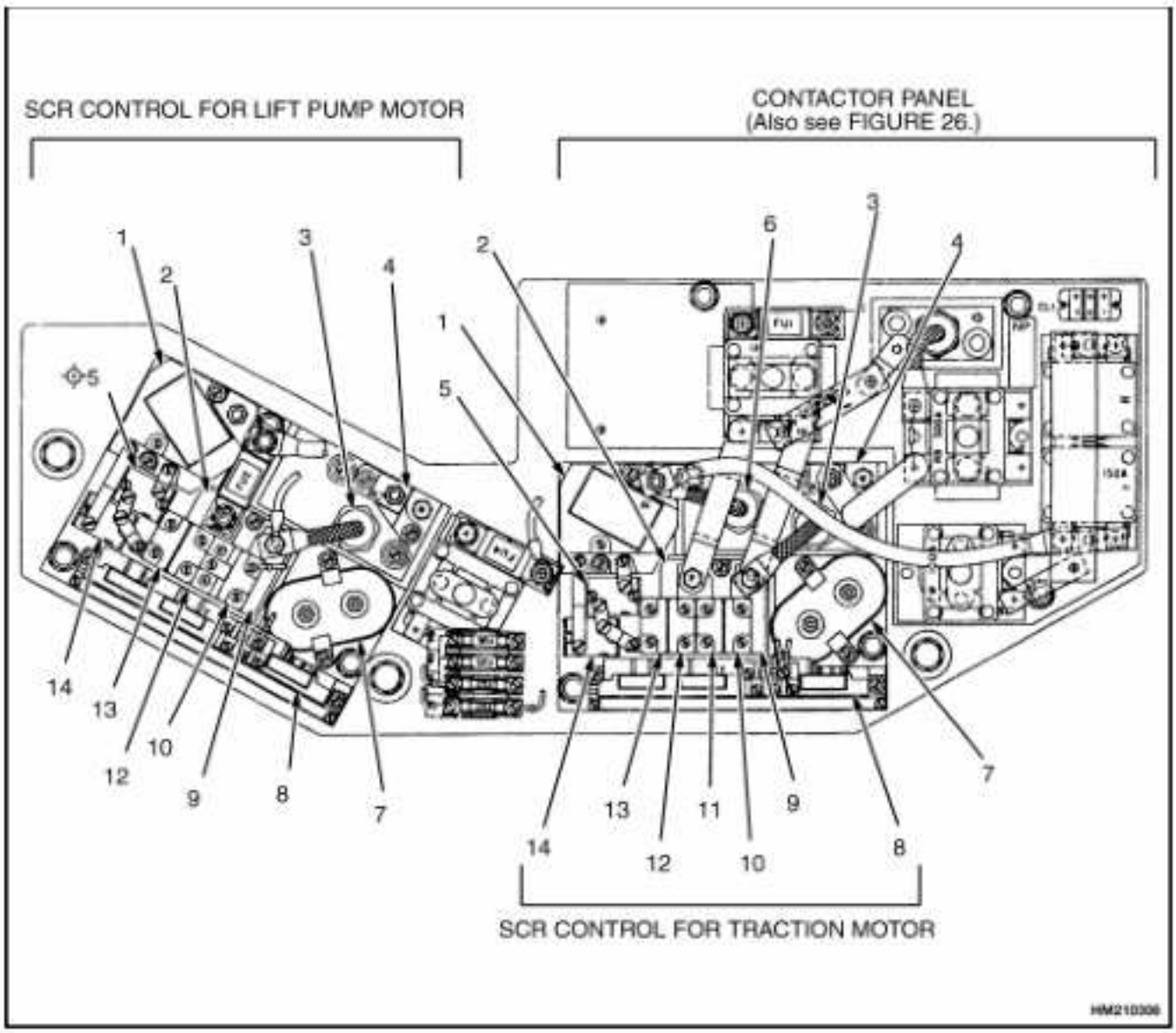
The steering axle can be removed without removing the counterweight. If necessary, remove counterweight as described in the **Frame** section.

1. Make sure wheels are set for straight travel. Put lift truck on blocks so steering axle can be removed. The top of the axle frame must have clearance under the counterweight so the steering axle can be removed. See Figure 1.
2. Disconnect hydraulic lines at steering cylinder. Install caps on cylinder and put plugs in hydraulic lines. The caps will prevent spindles from turning when axle is removed from under lift truck.
3. Slide a floor jack or forks of another lift truck under steering axle. Raise lifting device until it holds the weight of the axle assembly. Remove four capscrews and nuts that fasten two brackets under rubber mounts. Remove brackets and slowly lower axle assembly onto wheels. Carefully roll axle assembly from under lift truck.

INSTALL

1. Install rubber mounts on axle as follows (see Figure 1):
   a. E1.25-1.75XL (E25-35XL), J2.00-3.00XL (J40-60XL), H2.00-3.20XM (H40-65XM), J2.00-3.20XM (J40-60XM, J40-60XM$_2$) (A216), and J2.00-3.20XM (J40-60Z) (A416): Make sure PART NO. on the mounts is right side up and facing away from axle frame.
   b. J1.25-1.75XL (Europe only): Make sure PART NO. on mounts is upside down and facing away from axle frame.
2. Apply a lubricant that is approved for use with rubber to rubber mount. The lubricant is used where the rubber mount fits into the frame brackets.
3. Use a floor jack or another lift truck to put steering axle into position in frame. Make sure rubber mounts fit inside frame brackets for mounts.
4. Install bottom brackets. Tighten four bracket capscrews and nuts to 88 N•m (65 lbf ft).
5. Remove plugs and caps and connect hydraulic lines to steering cylinder.
6. Operate steering system to remove air from system. Turn steering wheel several times from one stop to the other stop. Check for hydraulic leaks.

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1. INDUCTOR 1X
2. SCR 1
3. DIODE D3 (FLYBACK)
4. MOTOR CURRENT SENSOR
5. SCR 2
6. DIODE D4 (PLUGGED) (NOT USED WITH SCR PUMP CONTROL)
7. CAPACITOR C1
8. CONTROL CARD (TRACTION OR PUMP)
9. THERMAL PROTECTOR (TP)
10. FILTER D23 FOR DIODE D3
11. FILTER D24 FOR DIODE D4 (NOT USED WITH SCR PUMP CONTROL)
12. FILTER D25 FOR SCR 5
13. FILTER D22 FOR SCR 2
14. SCR 5

Figure 24. EV-100ZX SCR Traction Motor and SCR Pump Motor Controllers J2.00-3.20XM (J40-60XM)

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PROBLEM	POSSIBLE CAUSE	PROCEDURE OR ACTION
One brake does not release.	A brake shoe is damaged.	Install new parts.
	Wrong return spring.	Install new correct spring.
	The brake lines have a restriction.	Remove restriction or Install new lines. Remove air from system.
	A parking brake cable is damaged or needs adjustment.	Adjust cable or install new parts.
	The wheel cylinder is damaged.	Repair or install new parts. Remove air from system.
	The backplate is worn or damaged.	Repair or install new parts.
The brakes make too much noise.	Dirt, oil, water, or brake fluid is on the linings.	Clean or install new linings.
	The brake linings are worn.	Install new linings.
	The brake drum is damaged.	Repair or install new brake drum.
	A brake shoe is worn or damaged.	Install new brake shoe(s).
The brakes do not operate equally.	Oil or brake fluid is on the linings.	Repair leak. Clean or install new linings.
	The linings are worn or hard.	Install new linings.
	A wheel cylinder is leaking.	Repair or install new parts. Remove air from system.
	The brake linings are not correctly installed.	Install brake linings correctly.
	The backplate or brake shoes are damaged.	Repair or Install new parts.
	The brake drums are not round.	Check to make sure there is adequate material to allow for machining. Machine brake drums to make them round or install new drums.
	The shoes are adjusted too tight.	Adjust brakes. Check self-adjusters.

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