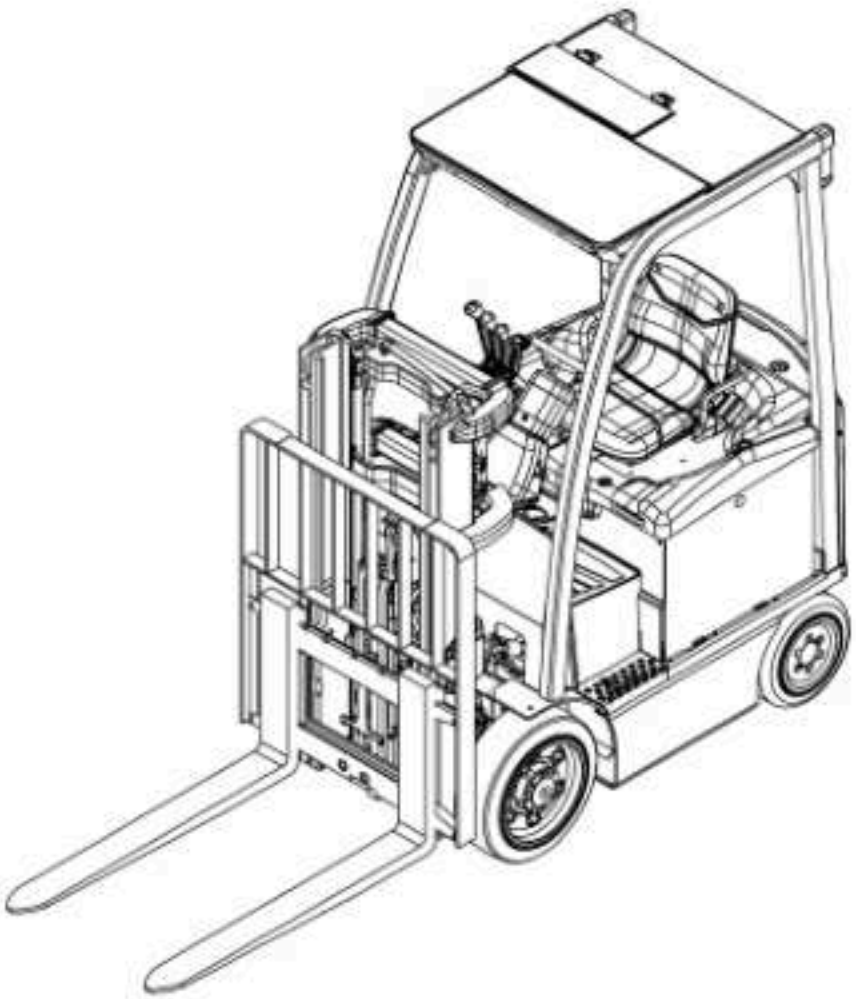
SERVICE MANUAL

A262 (B60ZHD, B80ZHD)



Rev. 03/14

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A268 (E45XN, E50XN, E55XN, E60XN, E65XN, E70XN) SERVICE MANUAL CONTENTS

Section	SRM Number	Rev Date
OPERATOR'S CAB	0100 SRM 1446	08/13
AC MOTOR REPAIR	0620 SRM 1385	12/12
DRIVE AXLE/SPEED REDUCER/DIFFERENTIAL	1300 SRM 1366	09/13
STEERING AXLE	1600 SRM 1360	04/13
STEERING SYSTEM	1600 SRM 1363	09/13
BRAKE SYSTEM	1800 SRM 1359	03/12
HYDRAULIC SYSTEM	1900 SRM 1367	08/13
HYDRAULIC CLEANLINESS PROCEDURES	1900 SRM 1620	04/13
MAIN CONTROL VALVE (MANUAL AND E-HYDRAULIC)	2000 SRM 1334	08/13
CYLINDER REPAIR (MAST S/N A270, A271, A272, A551, A555, A559,	2100 SRM 1382	03/14
A626, A627, A751, A752, B551, B555, B586, B587, B588, B589, B590,	2100 SRM 1382	03/14
MAST REPAIR (S/N A551, A555, A559, B551, B555, D507, D562, D508,	4000 SRM 1338	01/14
D563, D509, D564, D515, E509, E564	4000 SRM 1338	01/14
CYLINDER REPAIR (MAST S/N F507, F562, F508, AND F563)	2100 SRM 1668	04/14
MAST REPAIR (S/N F507, F562, F508, AND F563)	4000 SRM 1669	04/14
WIRE HARNESS REPAIR	2200 SRM 1128	04/14
USER INTERFACE, SUPERVISOR	2200 SRM 1335	02/14
USER INTERFACE, SERVICE	2200 SRM 1336	02/14
ELECTRICAL SYSTEM	2200 SRM 1369	01/14
INDUSTRIAL BATTERY	2240 SRM 0001	03/14
METRIC AND INCH (SAE) FASTENERS	8000 SRM 0231	12/04
PERIODIC MAINTENANCE	8000 SRM 1364	08/13
CAPACITIES AND SPECIFICATIONS	8000 SRM 1374	09/13
DIAGRAMS	8000 SRM 1384	12/12
DIAGNOSTICS TROUBLESHOOTING	9000 SRM 1377	08/13

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Table 8. Standard Three-Stage FFL Hose Dimensions, Lift Truck Models E2.2-2.5XN (E45-55XN) (A268)

Lift Height		Channel Length (Reference)	Dimension "E"		Dimension "G" Third Function		Dimension "G" Fourth Function	
mm	in.	mm	mm	in.	mm	in.	mm	in.
4760	187.4	1990	1726	67.9	4050	159.4	4063	159.9
4910	193.3	2040	1775	69.8	4148	163.3	4161	163.8
5060	199.2	2140	1874	73.7	4345	171.1	4358	171.5
5510	216.9	2290	2021	79.5	4639	182.6	4652	183.1
5960	234.6	2490	2218	87.3	5021	197.6	5014	197.4
Lift height is measured from top of forks. Lift heights shown are standard. If your lift height is not shown, go to **Hyster Hypass Online** to find the correct header hose measurement for your lift height.								

Table 9. Standard Three-Stage FFL Hose Dimensions, Lift Truck Models E3.0-3.5XN (E60-70XN) (A268)

Lift Height		Channel Length (Reference)	Dimension "E"		Dimension "G" Third Function		Dimension "G" Fourth Function	
mm	in.	mm	mm	in.	mm	in.	mm	in.
4418	173.9	1990	1726	67.9	4050	159.4	4063	159.9
4568	179.8	2040	1775	69.8	4148	163.3	4161	163.8
4718	185.7	2140	1874	73.7	4345	171.1	4358	171.5
5168	203.5	2290	2021	79.5	4639	182.6	4652	183.1
5618	221.2	2490	2218	87.3	5021	197.6	5014	197.4
Lift height is measured from top of forks. Lift heights shown are standard. If your lift height is not shown, go to **Hyster Hypass Online** to find the correct header hose measurement for your lift height.								

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Symptoms	Possible Solutions	Action
No Park Brake Release	Check actuator stroke (locked)	Refer to the appropriate **Periodic Maintenance** SRM.
	Check for actuator damage	Refer to the appropriate **Transaxle or Drive Axle, Speed Reducer, and Differential** SRM.
	Check solenoid connection	Refer to the appropriate **Electrical System** SRM.
	Check solenoid valve voltage, current and coil	Refer to the appropriate **Electrical System** SRM.
	Confirm hose routing	Make sure all hoses have gradual slopes and do not interfere with moving components.
	Check needle valve setting	Refer to the appropriate **Transaxle or Drive Axle, Speed Reducer, and Differential** SRM.
	Check standby pressure	Refer to the appropriate **Main Control Valves** SRM.
	Check accelerator pedal	Refer to the appropriate **Electrical System** SRM.
	Check fault codes	If fault code appears, go to General Maintenance and Diagnostic Data, Diagnostic Trouble Codes, Page 9030-03-5.
	Check pressure reducing valve	Replace the parking brake valve if a pressure of less than 2068±138 kPa (300±20 psi) is measured at the pressure port on the parking brake valve.
	Check hoses for leaks	Replace leaking hoses with new hoses. Make sure clamps and fittings are tight.
	Check actuator rod interference	Secure hoses, lines, and wires out of the way to eliminate interference.

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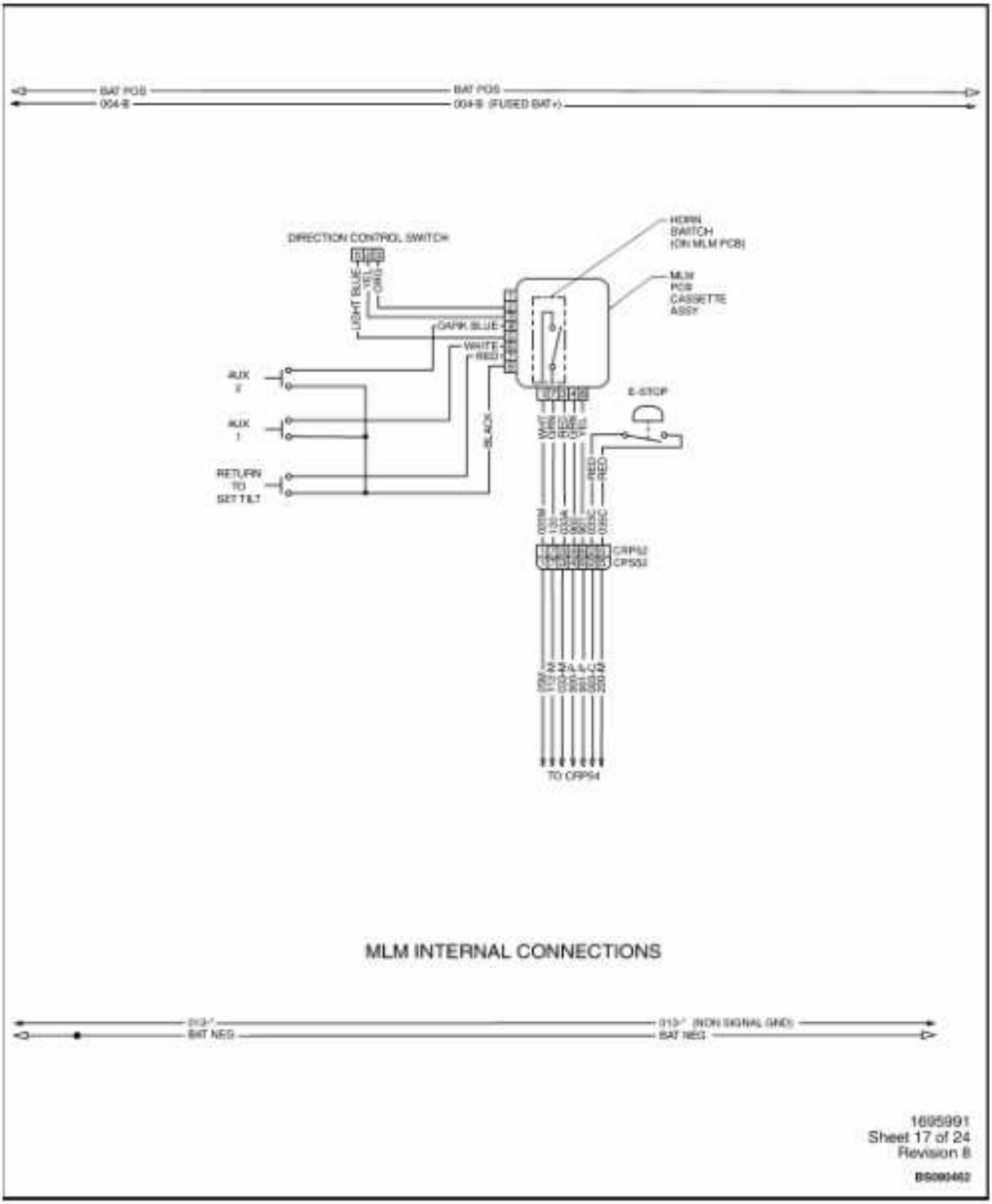


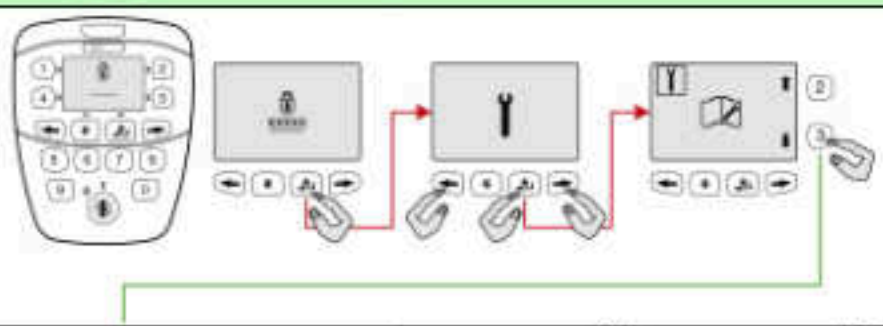
Figure 1. Wiring Diagram/Schematic (Sheet 17 of 24)

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TSP Steer Axle Calibration Required (Cont)

CAUSE D

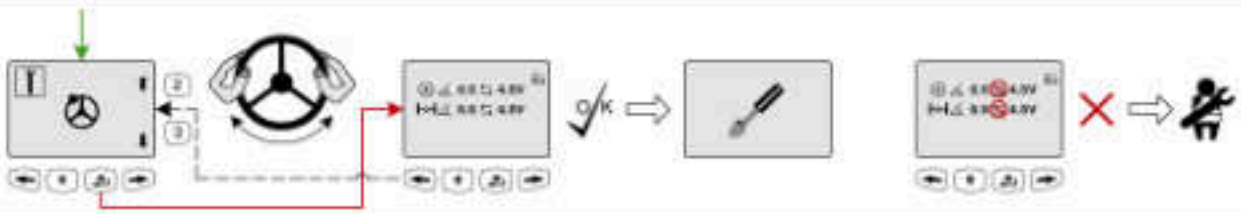
Calibration Process--Go to Display Menu



Enter SERVICE Password→ ☞* ⇆Diagnostics→ ☞* ↓↑Steering Sensor

CAUSE D1

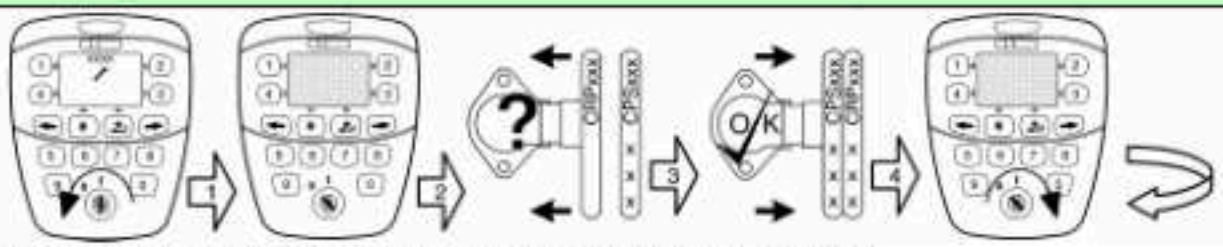
Steering Sensor Values



1. ☞*→ Rotate steering wheel ↑ Values vary >0.5V <4.5V = H→ Proceed with Calibration→ Cause D3↓
2. ☞*→ Rotate steering wheel ↑ Values =the same = X=Steer Mechanism/Faulty Sensor→ Go to 3↓
3. Check Steer Mechanism Operation→ Mechanism H→ Cause D2↓ Mechanism X Go to 4↓
4. See **Steering System** 1600 SRM 1331/**Steering System** 1600 SRM 1363 repair.

CAUSE D2

Steer Sensor(s) Replacement



1. Power **OFF**→ Disconnect sensor **Do not discard.**→ Install new sensor→ Power **ON**→ Go to 2↓
2. See **Electrical System** 2200 SRM 1337/**Electrical System** 2200 SRM 1369.

(continued on next page)

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High Tire Wear - Steer Axle

POSSIBLE CAUSE

A. RUNNING OVER OIL/SOLVENTS AND DEBRIS
B. EXCESSIVE SPEED ON TURNS AND STOPS
C. TURNING WITH MACHINE STOPPED OR NO LOAD ON FORKS
D. LOW PNEUMATIC TIRE INFLATION
E. HIGH PNEUMATIC TIRE INFLATION
F. FAILED WHEEL BEARINGS
G. LOOSE TIE RODS

CAUSE A - RUNNING OVER OIL/SOLVENTS AND DEBRIS

PROCEDURE OR ACTION:
Visually inspect work area for contaminates and debris.

CAUSE B - EXCESSIVE SPEED ON TURNS AND STOPS

PROCEDURE OR ACTION:
Reduce speed and spinning of wheels.

CAUSE C - TURNING WITH MACHINE STOPPED OR NO LOAD ON FORKS

PROCEDURE OR ACTION:

NOTE: Steering without load on forks puts the highest load on steer axle because of counterweight. Avoid steering wheels when not moving to reduce tire wear.
Steer while moving whenever possible.

CAUSE D - LOW PNEUMATIC TIRE INFLATION

PROCEDURE OR ACTION:
Check and adjust tire inflation. See **Operating Manual**.

CAUSE E - HIGH PNEUMATIC TIRE INFLATION

PROCEDURE OR ACTION:
Check and adjust tire inflation. See **Operating Manual**.

CAUSE F - FAILED WHEEL BEARINGS

PROCEDURE OR ACTION:
Inspect wheel bearings.

Are bearings in good condition?

YES: Tires are defective. See tire manufacturer for warranty.

NO: Replace wheel bearing. Depending on your lift truck, see **Transaxle** 1300 SRM 1330 or **Steering Axle** 1600 SRM 1360.

CAUSE G - LOOSE TIE RODS

PROCEDURE OR ACTION:
Inspect joint where tie rods are attached to pinion assembly.

Is the tie rod tight in bore?

YES: See Wheels Appear Tipped or Misaligned.

NO: Replace tie rod. Depending on your lift truck, see **Transaxle** 1300 SRM 1330 or **Steering Axle** 1600 SRM 1360.

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