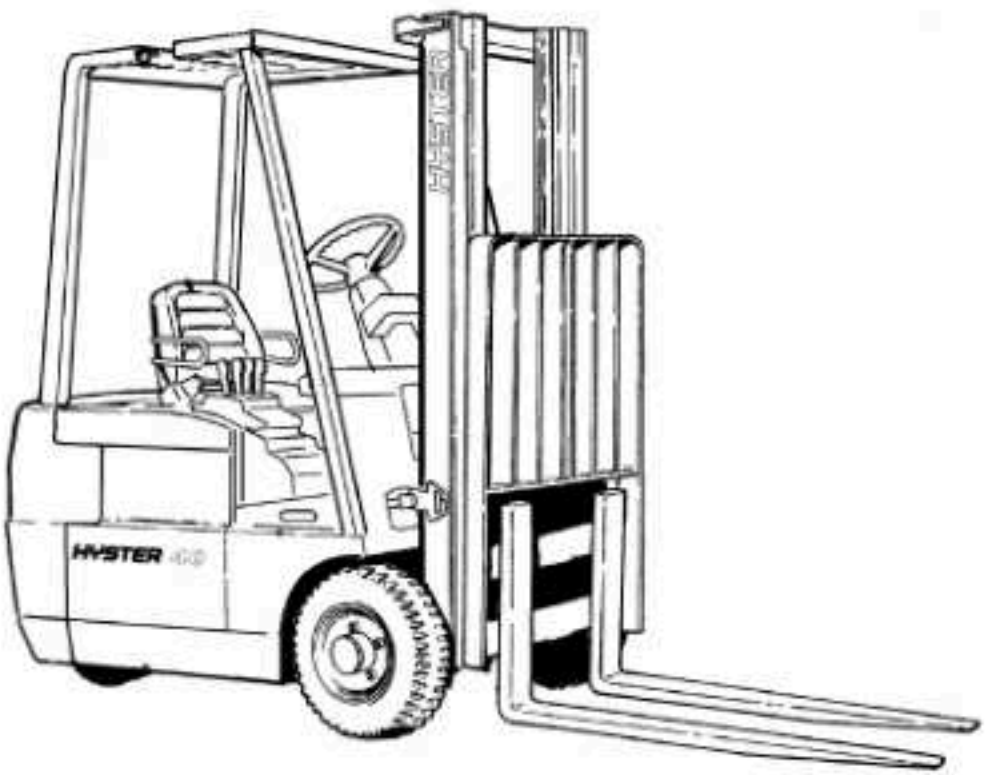
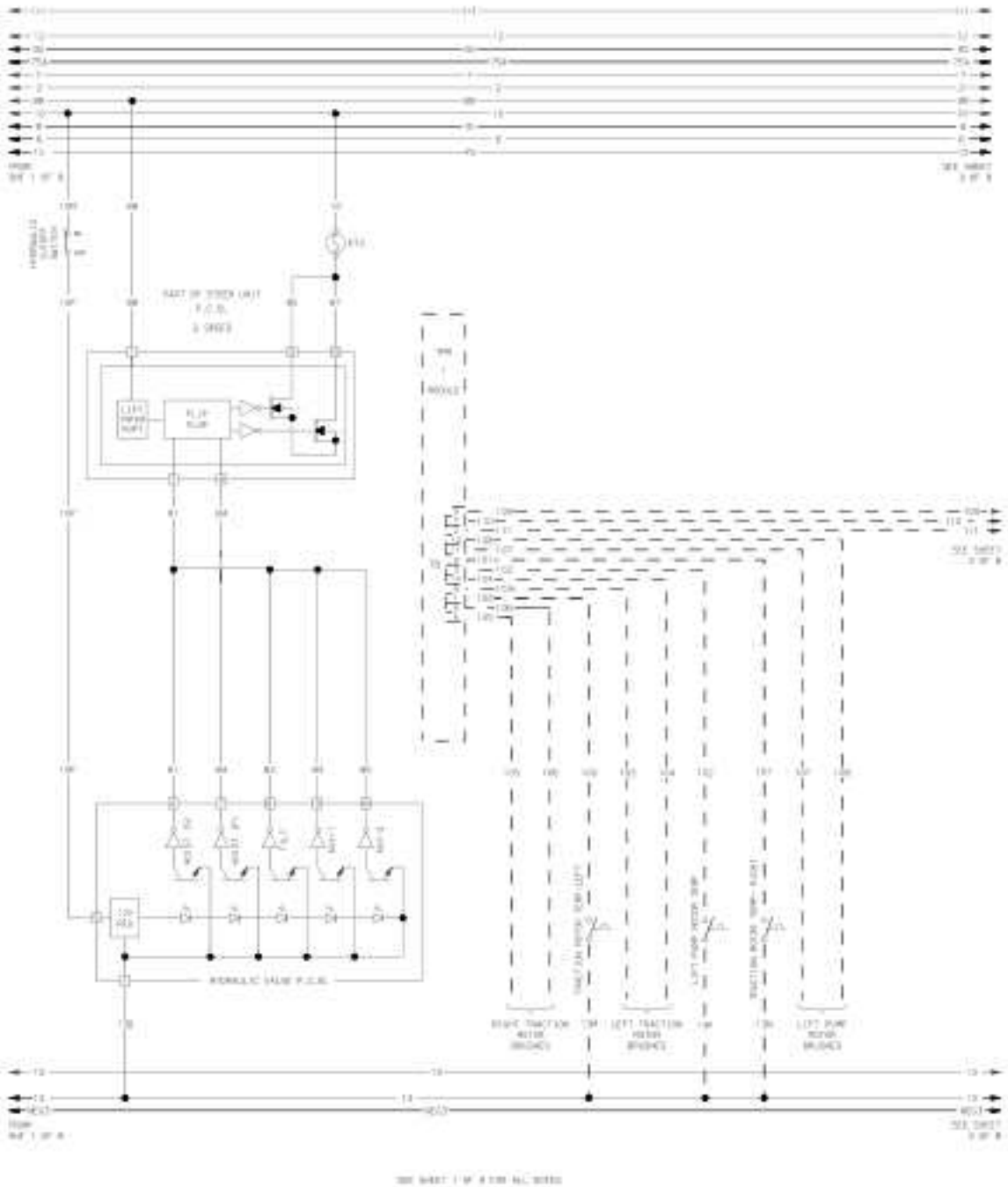
SERVICE MANUAL

F160 (J30-40XMT)



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FIGURE 1 – WIRING SCHEMATIC WITH CONTACTOR CONTROLLED LIFT PUMP

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Legend for Figure 43

* Metric Formulas (All Dimensions are in Millimeters)
Class II Mast Type
Dimension E = (0.985 × Y) + (0.985 × Z) − 350**
Example: Dimension E = (0.985 × Y) + (0.985 × Z) − 350 **Step 1.** Dimension E = (0.985 × 3710) + (0.985 × 2095) − 350 **Step 2.** Dimension E = 3654.4 + 2063.6 − 350 **Step 3.** Dimension E = 5718 − 350 **Step 4.** Dimension E = 5368.0
** **For Lift Heights of 3710 mm to 6110 mm. For Lift Heights of 6260 mm to 8510 mm, use 842.**
Dimension G Calculations are similar to Dimension E Dimension G for Lift Heights of 3710 mm to 6110 mm: (1.965 × Y) + (0.985 × Z) − 65 Dimension G for Lift Heights of 6260 mm to 8510 mm: (1.965 × Y) + (0.985 × Z) − 65

* Inch Formulas (All Dimensions are in Inches)
Class II Mast Type
Dimension E = (0.985 × Y) + (0.985 × Z) − 8.781**
Example: Dimension E = (0.985 × Y) + (0.985 × Z) − 8.781 **Step 1.** Dimension E = (0.985 × 146.1) + (0.985 × 82.5) − 8.781 **Step 2.** Dimension E = 143.91 + 81.3 − 8.781 **Step 3.** Dimension E = 225.20 − 8.781 **Step 4.** Dimension E = 216.42
** **For Lift Heights of 146.1 To 240.6. For Lift Heights of 246.5 to 335.0, use 33.156.**
Dimension G Calculations are Similar to Dimension E Dimension G for Lift Heights of 146.1 to 240.6: (1.965 × Y) + (0.985 × Z) − 2.562 Dimension G for Lift Heights of 246.5 to 335.0: (1.965 × Y) + (0.985 × Z) − 2.562
*All measurements are made with mast vertical and fully lowered.

* Metric Formulas (All Dimensions are in Millimeters)
Class III Mast Type
Dimension E = (0.985 × Y) + (0.985 × Z) − 350** **The Calculation for Dimension E for Class III Mast is the Same as Class II Mast. See Class II Mast - Metric Formula.**
Dimension G Calculations are Similar to Dimension E Dimension G for Lift Heights of 3518 mm to 5918 mm: (1.965 × Y) + (0.985 × Z) − 65 Dimension G for Lift Heights of 6068 mm to 8318 mm: (1.965 × Y) + (0.985 × Z) − 65
** **For Lift Heights of 3518 mm to 5918 mm. For Lift Heights of 6068 mm to 8318 mm, Use 842**

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Table 2. Cylinder Retainer Torque Specifications and Weight Guide (Continued)

Rod Diameter		Typical Outer Retainer Torque Values		Lifting Mechanism
mm	in.	N•m	lbf ft	
Two-Stage Cylinders for Lift Trucks with Less than 5000 kg (10,000 lb) Capacity				
82.6	3.25	373-509	325-375	Use crane and slings with at least 500 kg (1000 lb) capacity to lift the cylinder.
95.3	3.75	271-305	200-225	
101.6	4.00	271-339	200-250	
114.3	4.50	339-407	250-300	
122.0	5.00	407-475	300-350	
Inner retainer torque value is 122 N•m (90 lbf ft).				

Troubleshooting

PROBLEM	POSSIBLE CAUSE	PROCEDURE OR ACTION
No movement of lift cylinders or tilt cylinders.	Pilot line(s) to control valve are disconnected or leaking.	Tighten or connect fittings.
	No oil or not enough oil in the hydraulic tank.	Fill tank. Check for leaks.
	Relief valve(s) not set correctly.	Adjust or install new relief valve.
	Hydraulic pump does not operate or has damage.	Repair or install new pump.
	Remote control valve does not operate.	Check and repair valve.
Slow movement of lift or tilt cylinders.	No oil or not enough oil to lift or tilt cylinders.	Fill tank. Check for leaks.
	Cylinders have internal or external leaks.	Repair leaks. Install new parts.
	Relief valve is not set correctly.	Adjust or install new relief valve.
	There is a restriction in a hydraulic line.	Remove restriction. Install new parts.
	Load is more than capacity.	Reduce load.

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