SERVICE MANUAL

E20-25B, E30BS (B114)



FORM 599783 Rev. 11/03

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Specifications

PRESSURE RELIEF VALVE

S30-50C (All)
7.6 to 8.6 MPa (1100 to 1250 psi) @ 2500 rev/min

S60-100B (All)
6.6 to 7.6 MPa (950 to 1100 psi) @ 2500 rev/min

S125-150A (Oil Clutch)
9.7 to 10.7 MPa (1400 to 1550 psi) @ 2500 rev/min

H60-90C (All)
6.6 to 7.6 MPa (950 to 1100 psi) @ 2500 rev/min

H110-150F (All)
8.6 MPa (1250 psi) @ 2500 rev/min

H6.00-7.00XL (H135-155XL)
12.06 to 12.11 MPa (1736 to 1808 psi) @ 2500 rev/min

KE (All)
7.4 to 8.5 MPa (1075 to 1225 psi) @ 2500 rev/min

J25-35A
8.6 to 9.3 MPa (1250 to 1350 psi)

J40-60A, J50-60AS
8.6 to 9.3 MPa (1250 to 1350 psi)

N30-50BA, N30-40BR
5.5 to 6.2 MPa (800 to 900 psi)

N30-50CA, N30-40CR
13.8 to 14.5 MPa (2000 to 2100 psi)

R30B/BA/BR, R30C/CA/CR
4.8 to 5.5 MPa (700 to 800 psi)

E20-100A, E20-120B
8.3 to 9.3 MPa (1200 to 1350 psi)

E30-60AC, E30-60BC
8.3 to 9.3 MPa (1200 to 1350 psi)

Troubleshooting

PROBLEM	POSSIBLE CAUSE	PROCEDURE OR ACTION
There is no output from the pump.	There is no oil in the tank.	Fill tank to the correct level. Check for leaks.
	The shaft or drive belt is damaged.	Replace shaft or drive belt.
	The drive belt does not rotate the pump.	Adjust or replace drive belt.
	There are leaks at the inlet of the pump.	Tighten clamp, replace hose or pump.
	The relief valve is open.	Repair or replace relief valve.
	The vane(s) do not move freely in the rotor.	Repair or replace pump.
There is not enough pressure from the pump.	The internal parts (vanes and rotor) are worn.	Repair or replace pump.
	The relief valve is damaged.	Repair or replace relief valve.

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NOTE: Do not use an adhesive on the threads of the piston rod and piston.

4. Install the seal, O-ring, wear ring, and wiper ring in the retainer. If the wiper seal has a spring for a backup ring, the spring must be toward the base of the lift cylinder.

5. Carefully install the retainer on the piston rod.

6. Engage the threads and tighten the retainer in the shell until it is tight. Use a correct spanner. Do not hit the retainer with a hammer and driver.

7. Install the lowering control valve. Make sure the special washer and the spring are installed correctly. A wrong installation can cause the load to lower too fast.

INSTALL

Main Lift Cylinders

WARNING

Connect slings and a crane to the top of the inner mast [and intermediate mast(s), if it is a 3-stage (4-stage) mast] using chains. If it is a 3-stage mast, make sure that all masts are fastened together. Make sure that the chains will not damage the sheaves, tubing or other parts of the mast. Make sure the crane and slings can lift the load correctly. See Table 2 for weight guide.

1. Install the main lift cylinders to the mounts at the base of the outer mast. Use a crane and lower the inner mast to engage the piston rods of the lift cylinders to the holes in the top crossmember of the inner mast. Install the washers and snap rings, or other locking device, at the top of the lift cylinders. Install the cylinder clamps near the top of each cylinder. Fasten the clamps, if used, to the top crossmember of the outer mast with the capscrews and washers.

2. Install the lowering control valve on the outer mast. Connect the hydraulic lines and fittings between the lowering control valve and the lift cylinders.

3. Install the chain sheaves and brackets. Connect the lift chains to the chain anchors on the inner mast. Fasten wires between the ends of the lift chains so that they can be controlled during installation of the carriage.

4. Install the carriage. Connect the lift chains.

Free-Lift Cylinder

1. When the inner mast is lowered, install the free-lift cylinder in the inner mast. A pin in the base of the lift cylinder will fit into the cylinder mount at the base of the inner mast. Fasten the upper end of the cylinder to the center crossmember with the bracket, washers, and capscrews. Install the chain sheave and brackets to the top of the free-lift piston rod.

2. Install the tubes and fittings at the bottom of the main lift cylinders. Install the lowering control valve. Install the hydraulic fitting in the end of the rod at the top of the left main cylinder. Install the tube between the top of the main lift cylinder and the base of the free-lift cylinder.

3. Install the carriage. Install the lift chain.

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