

*M* SUPERSEDED BY  
06D,E-2SI  
2/75

*Used for Packet Only*  
NO Distribution

# Capacity Control

## GENERAL

This capacity control valve package is used for field installation of the valve on the 06D and 06E compressors. This instruction contains a parts list, a table of the capacity control packages, a step-by-step installation procedure, and data on controls, settings and adjustments for electric and pressure operated capacity control valves.

Pumpdown control is not recommended for compressors using capacity control. Crankcase heaters and single pumpout should be used.

Check complete shipment with parts list for missing parts, and inspect for damage. File a claim with shipping company immediately if any parts are missing or damaged.

## PARTS LIST

ITEM	NO. REQ'D	DESCRIPTION
1	1	Cylinder head with capacity control valve body attached
	8	Cap screws
2	1	Valve plate assembly with check valves and discharge valves attached
	2	Suction valves (for 06D compr)*
	2	Suction valve springs (for 06D compr)*
	4	Suction valves (for 06E compr)†
	1	Valve plate gasket
1	Cylinder head gasket	
3	1	Solenoid coil (Alco on 06D and Controls company on 06E)‡

\*Included only in packages for 06D compressors  
 †Included only in packages for 06E compressors  
 ‡Deleted from packages with pressure operated capacity control valves

Table 1 – Capacity Control Packages

COMPRESSOR	PACKAGE NUMBER	DESCRIPTION
06D	06DA900082	Electric Capacity Control 120 V – 50/60 Hz
06D	06DA900092	Electric Capacity Control 208-240 V – 50/60 Hz
06D	38AB900171	Pressure Operated Capacity Control
06E	06EA900042	Electric Capacity Control 115-1-60
06E	06EA900052	Electric Capacity Control 208-1-60
06E	06EA900062	Electric Capacity Control 230-1-60
06E	06EA900072	Electric Capacity Control 230-1-50
06E	06EA900202	Pressure Operated Capacity Control

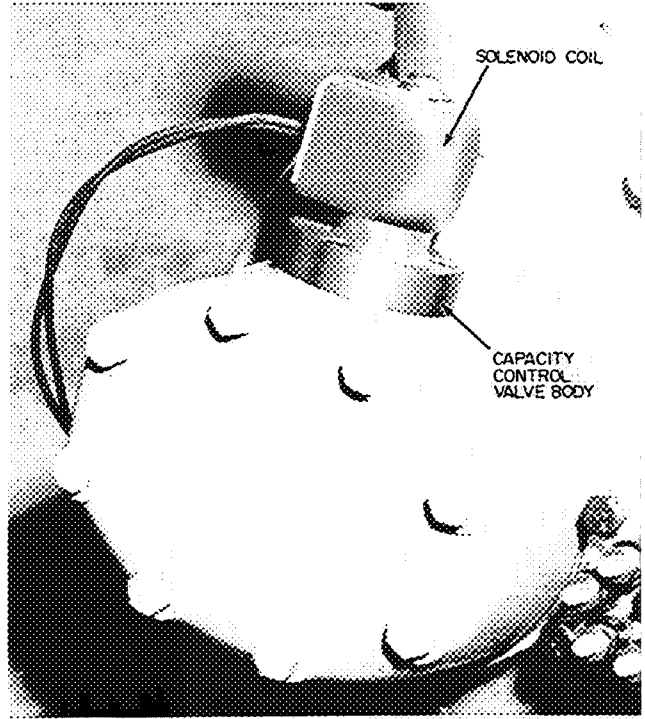


Fig. 1 – 06D Electric Capacity Control Valve

## INSTALLATION

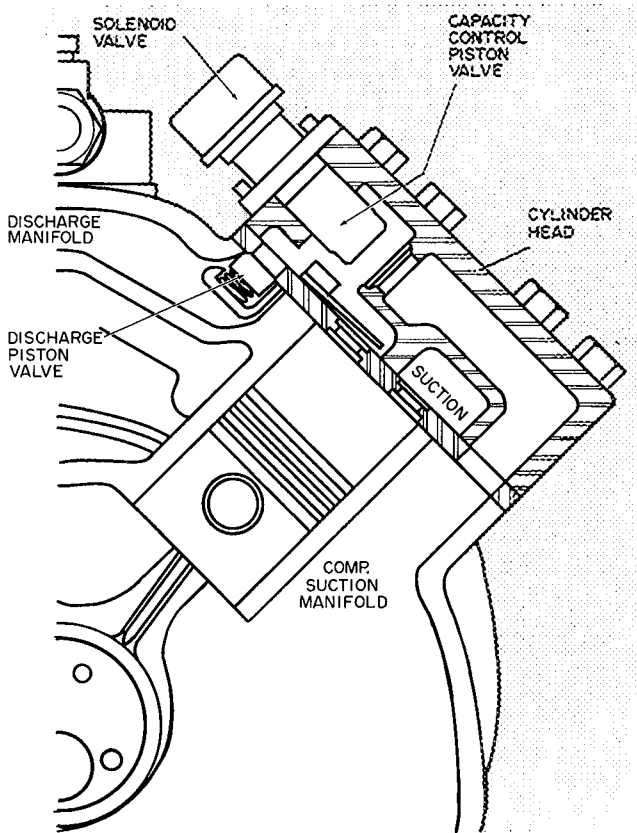


Fig. 2 – Capacity Control Location

1. Install discharge and suction pressure service gages.
2. Allow the compressor to run until it is warm; then front seat the suction shutoff valve and pump down the compressor to 2 psig.
3. Stop the compressor and quickly front seat the discharge shutoff valve. Bleed off the remaining refrigerant from the discharge side of the compressor.
4. Remove the cylinder head cap screws.
5. Tap the cylinder head with a wooden or lead mallet to free it if it is stuck. Remove the cylinder head. Use cylinder head side tabs on 06E compressors.
6. Free the valve plate from the dowel pins and cylinder deck, using the cap screws that held the discharge valve in place. Screw them into the tapped holes in the valve plate and use them as jack screws.
7. Remove the suction valves from the dowel pins.
8. Replace with new suction valves. On 06D compressors only, be sure to install the suction valve positioning springs. Place them with their ends against the cylinder deck and the middle bowed upward.

9. Install, in the following order, the valve plate gasket, valve plate assembly, cylinder head gasket, and cylinder head. Before installing valve plate, apply compressor oil to the check valve piston and manually operate the check valve several times to be sure it does not stick or bind.

With the valve plate mounted in place, manually flex the suction valves to ensure that the valve plate gasket is not interfering with their operation. Install cylinder head using the longer cap screws furnished.

**IMPORTANT:** Use a torque wrench in taking up on the cap screws. A torque of 30 lb ft is required to prevent a blown gasket; and any excessive torque may cause binding of the piston unloader valve. Torque cap screws evenly and in increments as they are brought up to 30 lb ft for the 06D compressors. Cap screws must be torqued to 100 lb ft for 06E compressors.

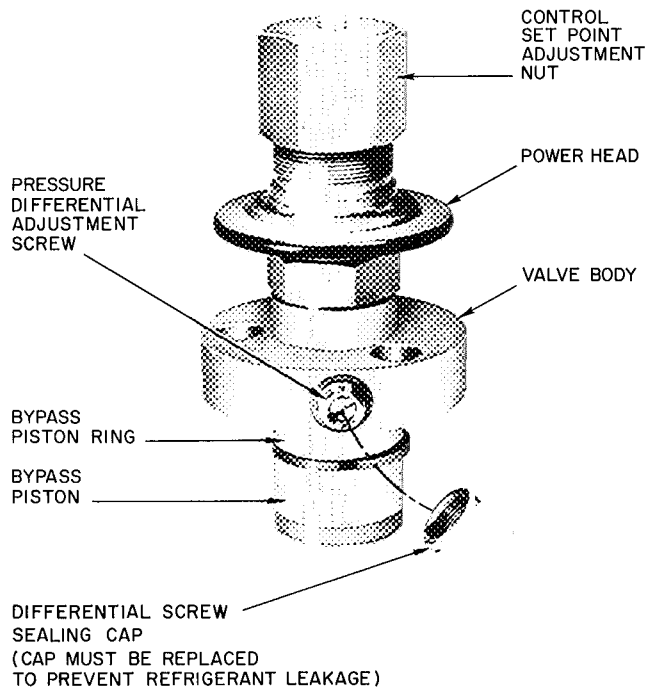
10. Attach the solenoid coil to the solenoid valve when installing electric capacity control.
11. Make the necessary wiring connections. Cylinder bank is loaded when solenoid is de-energized – unloaded when solenoid is energized.
12. Check for proper operation of solenoid valves by listening for the “click” as they are energized.
13. Install suction gage. Open valves. Start compressor and let it run until warm. Operate the capacity control solenoids several times to ensure that they are performing properly. The suction pressure should rise and discharge pressure should drop as each valve is energized.
14. See pages 7 and 12 of 06D,07D-1SI Installation Instructions for operating sequence of the capacity control device.

### CONTROLS AND VALVE SETTING FOR ELECTRIC CAPACITY CONTROL

Controls to operate the solenoid valve must be field furnished and may be either temperature or pressure operated. The control valve setting is made on field furnished control as per job requirements.

### PRESSURE OPERATED CAPACITY CONTROL VALVE ADJUSTMENT

The control load up or set point (Fig. 3) is adjustable from -40 F (0 psig) to +50 F (85 psig) and is set in the field for individual job requirements. The set point adjustment is made by turning clockwise to increase the control pressure (load up) and counterclockwise to decrease the control pressure point.

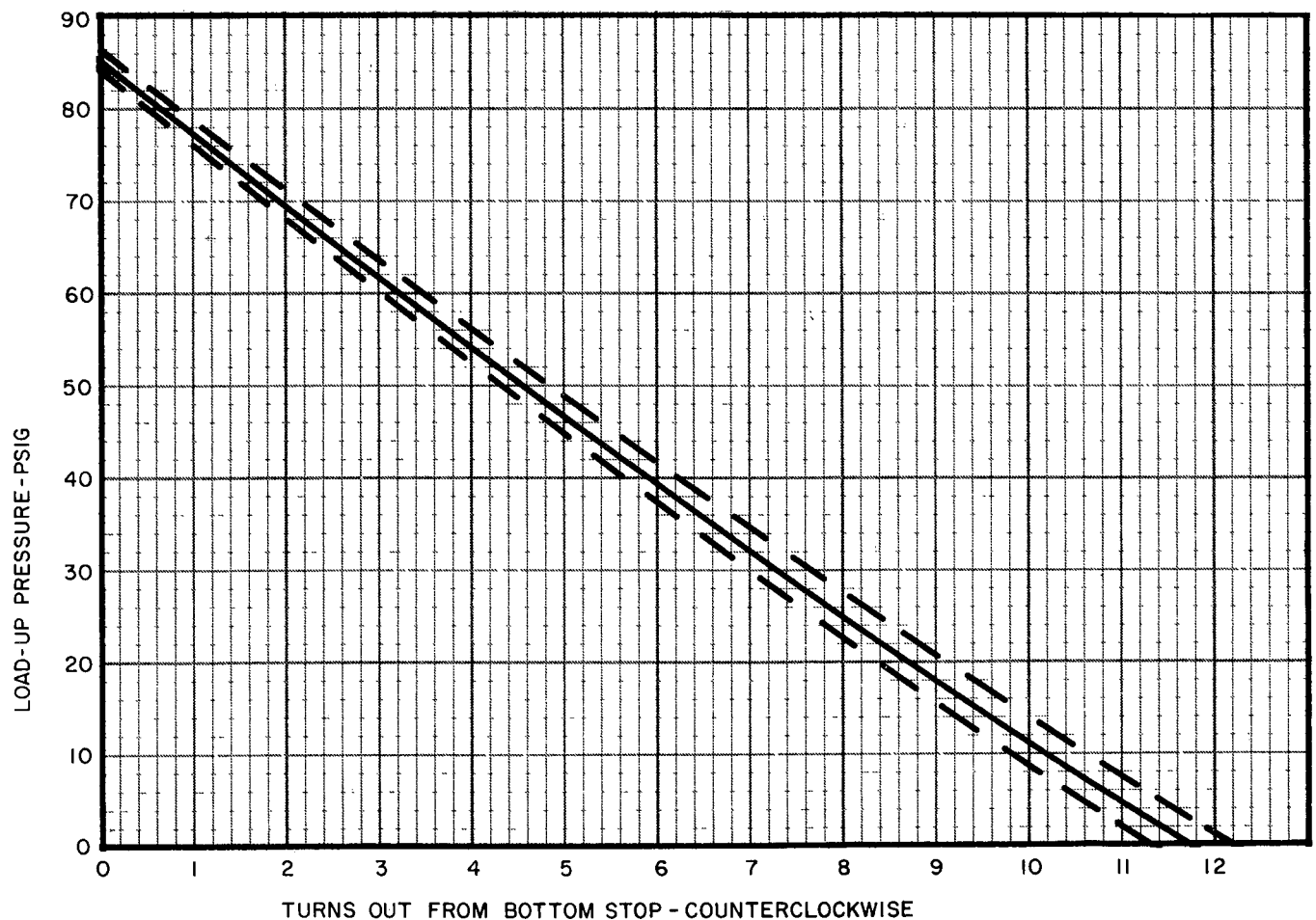


**Fig. 3 – Pressure Operated Capacity Control Valve**

The differential adjustment (Fig. 3) will vary the pressure difference between the cut-in and cutout point from 6 to 22 psig. This differential adjustment is made by removing the sealing cap and turning the inside screw clockwise to increase the differential and counterclockwise to decrease the differential.

**Set Point Adjustment** – The set point head should be turned clockwise down to the bottom stop. The counterclockwise turns can be determined by using the curve in Fig. 4. If the desired load-up point is known, the number of turns can be determined from the curve.

**Differential Adjustment** – The differential screw should be turned counterclockwise out to the back stop. If the desired differential is known, the number of turns can be determined from the curve, Fig. 5.



**Fig. 4 – Control Set Point**

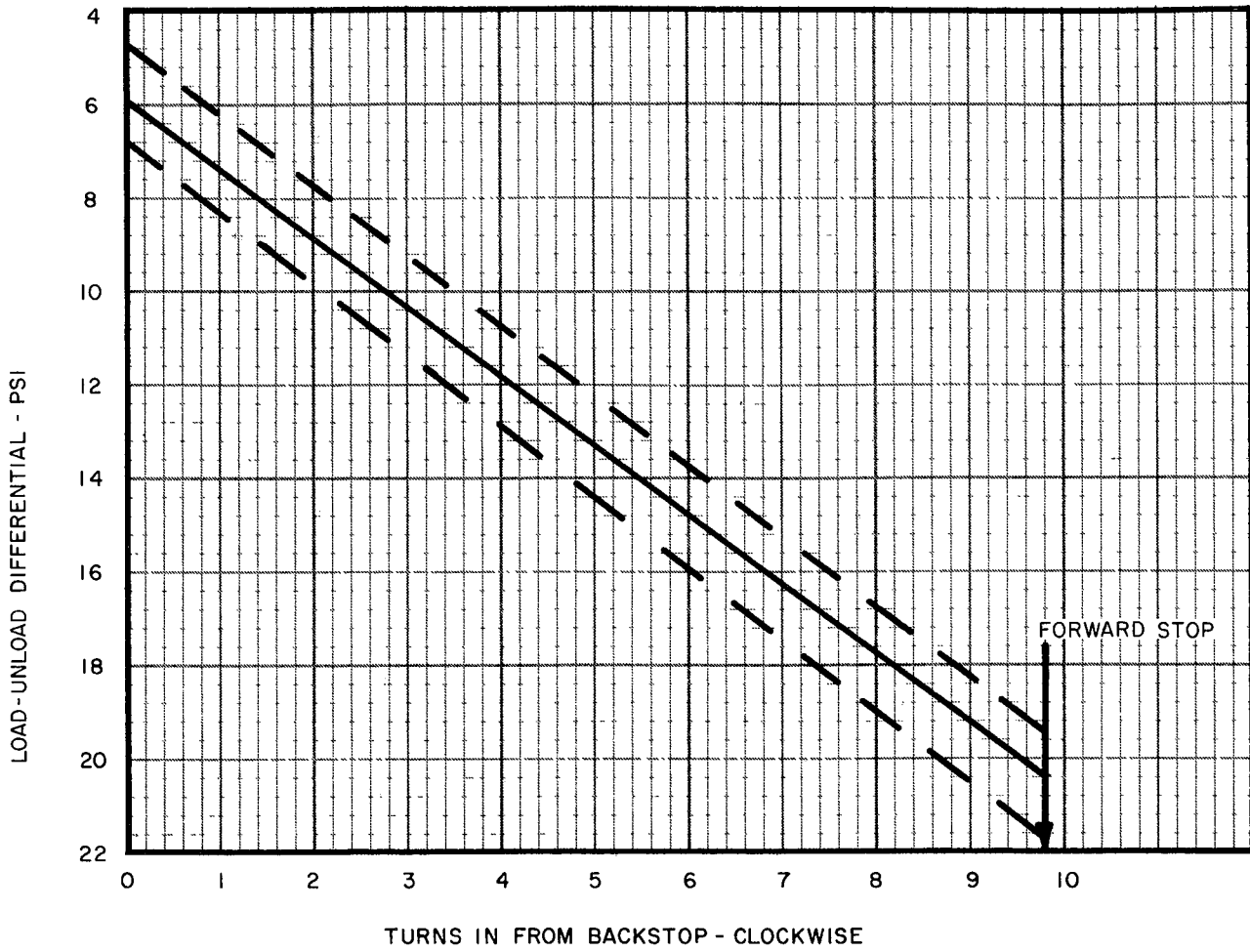


Fig. 5 – Differential Set Point

Manufacturer reserves the right to change any product specifications without notice.

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