

Subject: 19HR 3-WAY DIFFUSER SLEEVE SOLENOID VALVE
Reference:
Mail Keys:
Distribution: Cent. FER 83-4

1.0 PURPOSE:

To transmit a procedure for testing and if necessary replacing the control head on the subject valve.

2.0 MACHINES AFFECTED:

All 19HR's

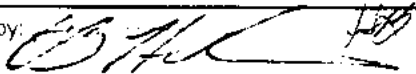
3.0 INFORMATION:

The 3-way solenoid valve controls the operation or position of the diffuser sleeve valve. In some cases, the valve has been rendered inoperative due to a malfunctioning check ball in the control head. The symptoms created are (1) banging or fluttering of the diffuser sleeve, (2) a constant high pitch aerodynamic noise at high heating loads, or (3) inability of the sleeve to change position when the solenoid valve is energized and de-energized.

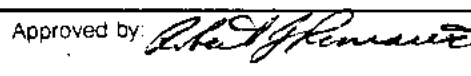
4.0 CHECKING OPERATION OF 3-WAY SOLENOID VALVE:

- 4.1 Install a Schrader valve in the common side of the 3-way valve (leading to diffuser sleeve inside compressor). In most cases, it is most convenient to sweat the Schrader valve onto the existing 1/4" pilot line that has been pinched closed and sealed. After cutting away the pinched end and while brazing the valve on, try to avoid air from entering machine (under vacuum). Connect gage to Schrader valve.
- 4.2 The 3-way valve is energized in the heating mode when the damper actuator is less than 58° open and de-energized at openings beyond 58° by action of the damper actuator inner auxiliary switch.
- 4.3 Start machine and operate in heating mode. When 3-way valve is energized, (power at terminal 53) the gage pressure should be equal to heating condenser pressure (high pressure holds sleeve in extended position). Either open damper beyond 58° or remove wire from terminal 53 to de-energize valve. Gage pressure should be equal to cooler pressure (vacuum retracts sleeve allowing full flow area for booster gas). Energize and de-energize valve repeatedly noting gage reading. If readings do not correspond as above, valve is malfunctioning.

Prepared by:



Approved by:



AMS Date: 3-2-83

5.0 REPLACING VALVE CONTROL HEAD. ALCO CONTROLS PART #KS30086:

- 5.1 Remove the solenoid coil from the head.
- 5.2 Disconnect and plug the two 1/4" pilot lines from the suction and discharge lines.
- 5.3 Remove the four bolts securing the head to the valve body.
- 5.4 Match new head with valve and install using new gasket or "O" ring. Tighten bolts securely.
- 5.5 Connect two 1/4" pilot lines to new head and tighten securely.
- 5.6 Assemble solenoid coil on new head and secure.
- 5.7 Start machine and run in heating mode controlling head pressure with heating thermostat until air is removed by purge. Leak check and test operation.

