



**UNITED  
TECHNOLOGIES  
CARRIER**

**Commercial Division**  
Carrier Corporation

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## SERVICE BULLETIN

SUBJECT: 17 SERIES OIL PRESSURE

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### PURPOSE

To advise the correct operating oil pressures and switch settings that should be maintained on 17 series bellows and contact seal machines.

### MACHINES AFFECTED

All 17 M,P,S machines.

### PROCEDURE

For CARBON SEAL machines operating with all refrigerants (R-11, R-12, R-114 and R-500 are the common refrigerants used):

1. The operating oil pressure in the SEAL HOUSING (not seal supply) shall be 22-27 PSI differential (above the reference bearing oil reservoir pressure). Seal supply will generally run 3 to 4 PSIG higher than seal housing pressure.
2. The low oil pressure cutout switch shall be set 12-13 PSI differential (above the reference bearing oil reservoir pressure). The cut-in pressure shall be adjusted to reset at 16-17 PSI differential.
3. The auxiliary oil pump (AOP) switch shall be set to start the pump at 14-15 PSI differential (above reference bearing oil reservoir pressure). The AOP switch shall be adjusted to stop the pump at 20-21 PSID. The auxiliary oil pump relief valve shall be set to maintain 18 PSI differential.

~~For BELLOWS SEAL machines operating on R-11:~~

1. The oil BACK OF SEAL pressure should run 14-18 PSI gauge. The pressure is stated in "gauge" because this type of seal is used only in water chilling service at an average suction pressure of 5.5 PSI absolute. As you can see the seal is subjected to a DIFFERENTIAL pressure of 23-27 PSI which is approximately the same as for the carbon seal machine.

In conclusion, both the carbon and bellows seals were designed to run with the same differential oil pressures. Deviations of the minimum pressures stated should not exceed 1 PSI below the minimum. Machines having low oil pressure problems should be corrected by replacement or repair of the components making up the oil system to meet the minimum oil requirements.