

Step 7 — Check Compressor/Motor Alignment

BELT DRIVE — See Accessory Belt Drive Package manual for installation and alignment instructions.

DIRECT DRIVE — Install and align compressor, coupling and motor as described in manual for Flexible Couplings for Direct-Drive Units.

HOT CHECK AND DOWELING — To help maintain alignment, and to ensure exact repositioning of the motor after servicing, the motor and compressor must be doweled to the base. *Install doweling only after motor/compressor alignment has been hot checked (checked after the compressor has warmed up to operating temperature after initial alignment).*

After hot check and while components are still at operating temperature, drill and ream 2 holes through diagonally-opposite motor and compressor feet and the base. Use a 3/32-in. drill and a no. 6 taper reamer. Secure the motor and compressor to the base with the no. 6 x 2 1/2-in. taper dowel pins provided in the motor fastening set.

Coat the dowels with white lead or other lubricant to prevent rusting, and tap the dowel lightly into position so that 1/16 of taper is left above the motor foot.

Check that all dowels are tight and that they do not bottom.

Step 8 — Assemble Water Piping — See Water-Cooled Condensers Installation Instructions and Water-Cooled Heads Installation Instructions for information.

Step 9 — Prepare Lubrication System

INSTALL OPTIONAL EQUIPMENT — Consult local Carrier representative for information on these accessories.

Oil Filter — Oil filter for 5H40 through 86 compressors is available as separate accessory package. Refer to Accessory Oil Filter Package Installation Instructions for installation procedures.

If an accessory oil cooler is also installed (see below), pipe oil filter into system as shown on diagrams in Accessory Oil Cooler Installation Instructions.

Oil Cooler — Refer to Accessory Oil Cooler Installation Instructions included with this accessory package. Adjust water flow rate through oil cooler to maintain 100 to 120 F oil temperature returning to compressor. See Scheduled Maintenance, page 17.

Oil Separator — If oil separator is used in system piping, pipe oil return line to compressor suction line. To minimize possibility of flooding compressor with oil, oil return line diameter should not exceed 1/4 inch. In addition, line should have manual shutoff valve to throttle oil flow as required and to isolate separator for service.

CHECK OIL LEVEL — Check that oil level is visible at center of compressor sight glass. Compressors that use optional equipment such as filter, cooler, and oil separator described above will require a greater oil charge than listed in Table 4. Recheck oil level after operating compressor.

RECOMMENDED OILS — When additional oil or a complete oil change is required, use only the Carlyle engineering department approved, dehydrated, wax-free refrigeration grade oils noted below:

IGI Petroleum Specialties, Inc. Cryol 150
IGI Petroleum Specialties, Inc. ... Cryol 150 with additive
(Akzo Chemicals, Inc. additive Syn-O-Ad (8478)
Witco Suniso 3GS
Witco — Hi ambient application,
300 viscosity Suniso 4GS

Texaco, Inc. WF32-150
Shrieve Chemical Co. (synthetic) Zerol 150

Mineral oil and synthetic oil have different characteristics. One is not necessarily better than the other. Some characteristics of the mineral oils have been found to be more favorable for use in some air conditioning and medium temperature applications.

Approved compressor oils are available from authorized factory parts outlets. The oils recommended are fully compatible with each other and can be mixed in any proportion.

PREPARE FOR INITIAL START-UP

Evacuate, Dehydrate and Leak Test the entire refrigerant system as described in Carrier Standard Service Techniques Manual, Chapter 1, Sections 1-6 and 1-7.

LEAK TESTING

Preferred Method — Charge the system to 10 psig with refrigerant. Add dry nitrogen or dry air (DO NOT USE OXYGEN) until system pressure is 150 psig. Check for leaks with a halide or electronic leak detector.

Alternate Method — Charge the system with dry nitrogen or dry air (DO NOT USE OXYGEN) to 40 psig and use soap-bubble test to find large leaks.

⚠ CAUTION

Do not use compressor to build up pressure. Do not overcharge the system.

Refrigerant Charging — Use the sight glass method to charge the system. See Section 1-8 of Carrier Standard Service Techniques Manual, Chapter 1, for details.

Charge the system to a clear sight glass while holding saturated condensing pressure constant at 125 F for air-cooled systems or 105 F for water-cooled systems. Add additional refrigerant to fill condenser subcooler coils, if required.

5F,H CONDENSING UNITS — After a clear sight glass is obtained, add charge until liquid refrigerant reaches the condenser liquid level test cock.

5F,H COMPRESSOR UNITS — See condenser data for additional charge requirements.

START-UP

Preliminary Steps

1. Energize crankcase heater for at least 24 hours before starting unit.
2. If control transformer is not used, operate electrical control circuit with main power switch OFF to ensure that field connections have been properly made.
3. Install felt sock filter for the first 50 hours of compressor operation. Remove and inspect the filter, clean it if required and replace it for another 50 hours. Remove sock when system is clean. (Not applicable for 5F20 and 5F30 units.)
4. Check that motor rotates in direction that the arrow on the compressor oil pump cover indicates. Refer to Installation, Check Motor Rotation section on page 12.
5. Check that oil fills 1/3 to 1/2 of the compressor sight glass.
6. Open water supply valve to condenser. Open pressure line valve of water-regulating valve (if used). If compressor unit is equipped with air-cooled condenser, turn on condenser fan.