

## COMPONENT REPLACEMENT CAUTIONS (Cont.)

### COMPONENT REPLACEMENT

See following pages for removal and installation of each component. After replacement or repaired component installed, connect lines as directed below.

In addition to checking and adjusting the compressor oil level (see Compressor Oil Check), certain component replacement requires additional refrigeration oil. Add specified amounts of oil directly to the component prior to installation.

### REFRIGERATION OIL ADDITION

| Application                | Amount |
|----------------------------|--------|
| With Frigidaire Compressor |        |
| Evaporator .....           | 3 oz.  |
| Condenser .....            | 1 oz.  |
| Receiver-Drier .....       | 1 oz.  |
| With Air-Temp Compressor   |        |
| Evaporator .....           | 2 oz.  |
| Condenser .....            | 1 oz.  |
| Receiver-Drier .....       | 1 oz.  |

## COMPRESSOR REPLACEMENT

### CONNECTING LINES & FITTINGS

A new "O" ring should be used in all instances when connecting lines and fittings (dip "O" ring in clean refrigeration oil and make certain it is not twisted during installation). Always use two wrenches to avoid twisting or distorting lines and fittings, tighten coupling nuts securely.

### PLACING SYSTEM IN OPERATION

After component replacement and/or system servicing has been completed and all connections have been made, proceed as follows:

- 1) Evacuate the system using a vacuum pump.
- 2) Charge the system with new R-12 (refrigerant) according to each individual vehicle manufacturer's procedure as outlined in this Manual. Also see *Refrigerant Capacity in this Section*.

- 3) Leak test the system, with particular attention to all new connections and components.

- 4) Make a performance test of the system.

### COMPRESSOR ISOLATION METHOD

On systems which have compressors equipped with stem-type service valves (York and some Tecumseh), it is possible to isolate the compressor for removal.

#### Isolating (Ford)

Turn both high and low pressure manual valves to extreme clockwise (front seat) position. Loosen cap on high pressure manual valve connection to compressor and allow gas to escape until compressor is relieved of pressure.

#### Isolating (Jeep)

- 1) Connect standard A/C pressure gauge and manifold assembly (J-23575). Close both gauge hand valves and mid-position both service valves. Start engine and operate A/C.

- 2) Turn suction service valve slowly clockwise toward front seat position. When suction pressure is reduced to zero or less, stop engine and compressor and quickly finish frontseating suction service valve.

- 3) Front-seat discharge service valve. Loosen oil check plug slowly to release any internal pressure in compressor. Compressor is now isolated from system.

#### Removal

- 1) Carefully remove service valves from compressor by unscrewing the mounting bolts. Do not disturb line connections and do not turn valve stems with valve assemblies disconnected from compressor (to prevent system discharge). Cap service valves and plug compressor openings to prevent entry of dirt and moisture.

- 2) If compressor clutch is to be removed (for installation on replacement compressor), energize compressor clutch with engine NOT running and remove clutch mounting bolt from end of compressor shaft, then install 5/8-11 bolt in driveshaft hold and tighten bolt to loosen clutch from shaft with clutch energized, disconnect clutch lead. Remove drive belt and clutch.

- 3) Remove service valve caps and shipping plugs from compressor valve ports and immediately install service valves on compressor using new "O" rings.

- 4) Remove compressor mounting bolts and lift compressor off engine. Remove clutch field assembly from compressor (on early compressors with rotating field, remove brush assembly).

#### Installation

- 1) Position compressor on engine, install compressor clutch using new retaining bolt and washer (energize clutch to hold shaft while tightening nut).

- 2) Make necessary compressor oil level check and add oil if necessary. See *Compressor Oil Check in this Section*.

- 3) Drain and measure compressor oil level. Retain measurement to make proper oil adjustment during installation.

- 4) Leak test compressor, and then evacuate it and connect it back into system. Recheck compressor oil level, adding or removing oil as necessary for correct oil level.

### COMPRESSOR DISCHARGE METHOD

This procedure is to be used on vehicles which have compressor equipped with Schrader service valves. In these cases, the compressor cannot be isolated and the system must be discharged prior to compressor removal.

#### Removal (Chrysler Corp.)

- 1) Discharge system. Measure and record refrigerant level so that it can be refilled to exact level in replacement or repaired compressor. Disconnect suction and discharge lines and cap openings.

- 2) Disconnect magnetic clutch-to-control unit wire and on Air-Temp compressors, remove clutch assembly. Remove compressor-to-bracket attaching bolts and remove compressor. On C-171 compressors, drain oil from suction and discharge ports.

#### Installation (Chrysler Corp.)

- 1) Reverse removal procedures noting the following: On C-171 compressors, add oil to bring level to 5 ounces. On Air-Temp compressors, rotate crankshaft assembly by hand at least 2 revolutions to clear oil accumulation from compressor head before energizing clutch, or damage to reed valves will result.

# Air Conditioning Servicing

## COMPRESSOR REPLACEMENT (Cont.)

2) On all models, evacuate and charge air conditioning system.

### Removal (General Motors "C", "K" & "S")

Discharge system. Remove connector attaching bolt. Remove connector and cap openings. Disconnect wiring to clutch actuating coil. Remove drive belt. Remove compressor mounting brackets and compressor. Drain and measure oil in compressor.

### Installation (General Motors "C", "K" & "S")

Replace oil in compressor with exact amount drained. Reverse removal procedures, installing new "O" rings on connector. Evacuate and charge system. Check operation.

### Removal (General Motors "G" Models)

1) Disconnect battery ground cable and compressor clutch connector. Purge system of refrigerant. Remove drive belt.

2) Remove 2 bolts and 2 clamps holding engine cover and remove engine cover. Remove air cleaner, fitting and muffler assembly. Cap openings.

3) Remove compressor-to-bracket bolts. Remove engine oil tube support bracket bolt and nut from compressor. Remove clutch ground wire and remove compressor. Drain and measure oil in compressor.

### Installation (General Motors "G" Models)

Replace oil in compressor with same amount as that removed. Reverse removal procedures, installing new "O" rings on connectors. Evacuate and charge system.

## GENERAL SERVICE SPECIFICATIONS

### REFRIGERANT CAPACITY

#### O.E.M. REFRIGERANT TABLE

| Application                 | Capacity (Lbs.) |
|-----------------------------|-----------------|
| Chrysler Corp.              |                 |
| Van Models                  |                 |
| W/Standard System           | 3 $\frac{3}{8}$ |
| W/Auxiliary Rear System     | 4               |
| All Remaining Models        | 2 $\frac{5}{8}$ |
| Ford                        |                 |
| All Models Exc. "E" Models  | 3 $\frac{1}{2}$ |
| "E" Series Models           |                 |
| W/Standard System           | 3 $\frac{1}{2}$ |
| W/Auxiliary Rear System     | 4 $\frac{1}{4}$ |
| General Motors              |                 |
| Standard System             |                 |
| "C" & "K" Models            | 3 $\frac{3}{4}$ |
| "G" Models                  | 3               |
| "S" Models                  | 2 $\frac{1}{2}$ |
| Overhead System             |                 |
| "C" & "K" Models            | 5 $\frac{1}{4}$ |
| "G" Models                  | 5               |
| Jeep                        |                 |
| "CJ" & Scrambler Models     | 2 $\frac{1}{2}$ |
| Cherokee, Wagoneer & Trucks | 2 $\frac{1}{4}$ |

### COMPRESSOR BELT TENSION

#### BELT ADJUSTMENT TABLE (TENSION IN LBS.) <sup>1</sup>

| Application    | New Belt                                     | Used Belt                                     |
|----------------|--|---|
| Chrysler Corp. | <sup>2</sup> $\frac{1}{4}$ - $\frac{1}{2}$ " | <sup>2</sup> $\frac{1}{2}$ - $\frac{5}{16}$ " |
| Ford           | 120-160                                      | 75-120  |
| General Motors |  |   |
| "S" Models     |  |   |
| 4-Cyl.         | 157  | 90  |
| 6-Cyl.         | 146  | 67  |
| All Others     | 135-145                                      | 90-100  |
| Jeep           | 125-155                                      | 90-115  |

<sup>1</sup> — Using standard strand tension gauge unless otherwise indicated.

<sup>2</sup> — Chrysler Corp. recommends adjusting belt tension using the deflection method. Deflection is measured under a 10 pound load.