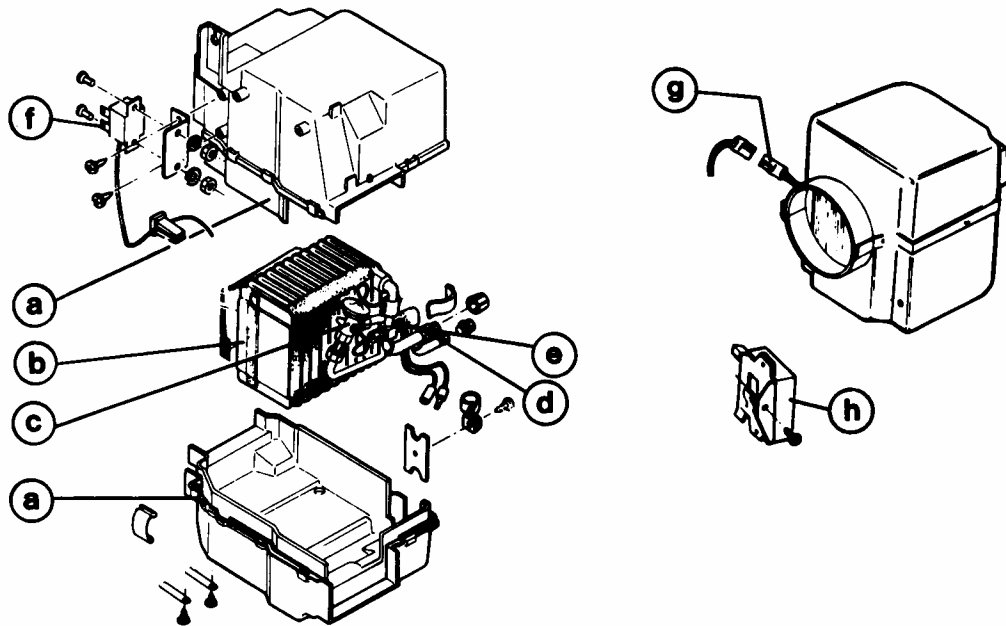


## ALL MODELS

SUBJECT Air Conditioner Replacement Parts (Except RX-7 Nippondenso).DESCRIPTION

Claims for air conditioner replacement parts will not be accepted if the complete assembly is replaced. Warranty will be paid only for the replacement of the shortcoming part according to the Air Conditioning Suggested Repair Times.

The following three parts lists and illustrations give the replaceable parts for the evaporator, the compressor and the clutch.



## 1. Evaporator Parts:

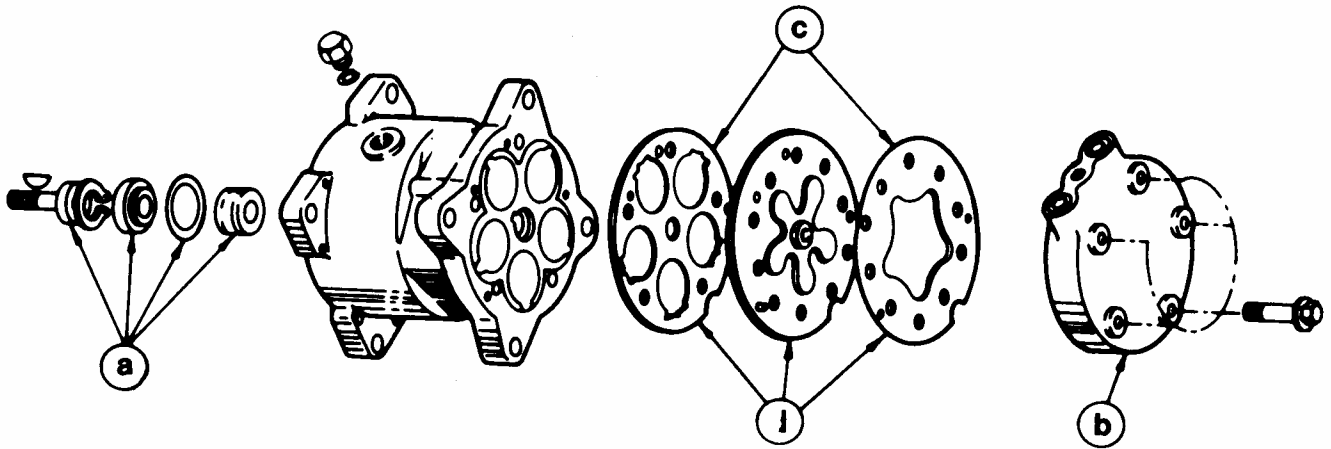
- |                            |                            |
|----------------------------|----------------------------|
| a. Case                    | e. Super Heat Switch       |
| b. Coil                    | f. Thermostat              |
| c. Expansion Valve         | g. Thermistor Probe        |
| d. Extension Tube Assembly | h. Temperature Control Box |

**IMPORTANT:**

Two types of evaporator cases are used. One type features a case which is held together with clips. The other type uses a case which is glued together. If the case is glued together, evaporator items a thru e are NOT replaceable. The glued-type case must be replaced as an assembly.

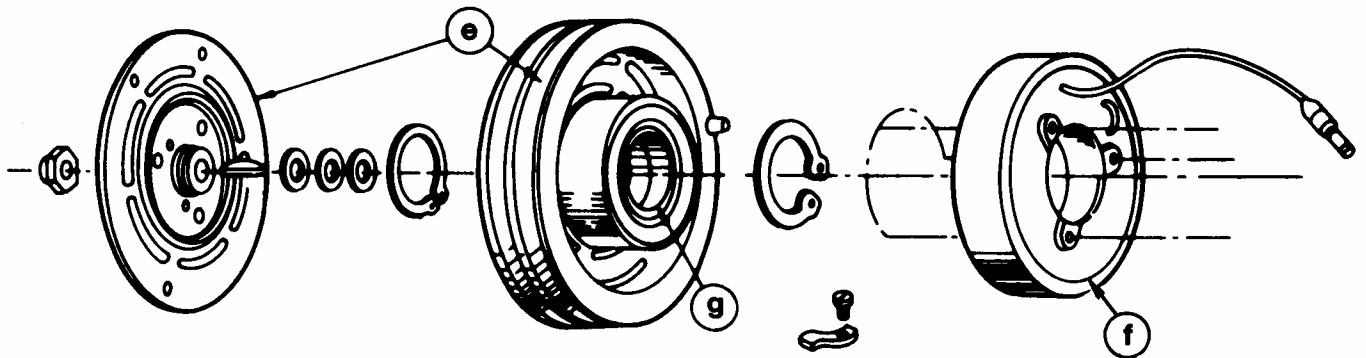
## 2. Compressor Parts:

- a. Shaft Seal Kit
- b. Compressor Head
- c. Gasket Kit
- d. Valve Plate Assembly w/Gasket



## 3. Clutch Parts:

- e. Front Plate & Rotor (Clutch)
- f. Field Coil
- g. Bearing



## REPAIR PROCEDURES FOR EVAPORATOR

### A. Removal of Evaporator from Vehicle

1. Disconnect the battery negative (-) terminal.

#### CAUTION:

On vehicles equipped with electronic memory radios or electronic clocks, be sure to record the customers channel selections (AM/FM) prior to disconnecting the negative terminal. Reprogramming the radio and resetting the clock will be necessary after repairs have been completed.

2. Slowly discharge the refrigerant gas (R-12) from the system.

#### NOTE:

If oil comes out during discharging, make sure to return the same amount (using fresh refrigerant oil) back to the system.

3. Using two (2) wrenches for equalized support, disconnect the liquid and suction fittings from the evaporator.

**NOTE:**

Cap open fittings immediately to keep moisture out of the system.

4. Remove underdash cover and glove box (where applicable).
5. Remove all A/C wire connectors from evaporator.
6. Remove right and left seal plates.
7. Remove nuts/bolts securing evaporator, and remove unit from vehicle.

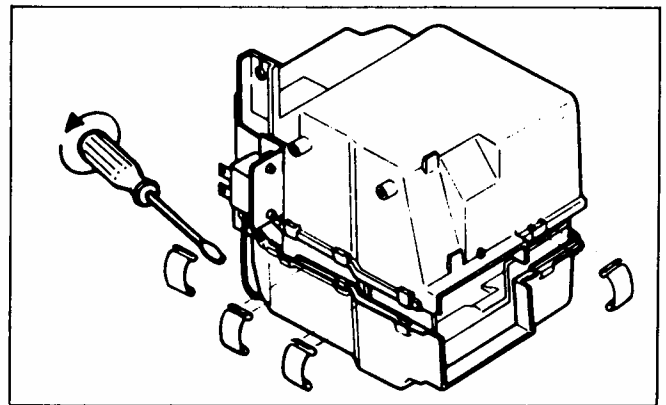
**B. Disassembly of Evaporator Unit**

1. Mark the location of the thermostat's capillary tube or thermistor probe in the evaporator core fins, then remove from the core.

**NOTE:**

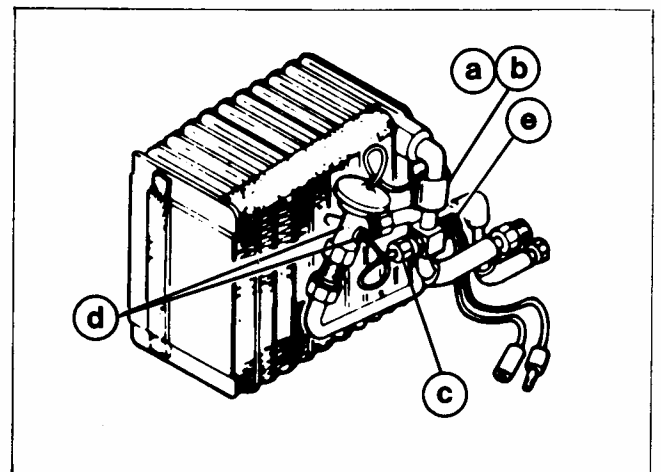
Proper positioning of the probe during installation is extremely important for proper cooling.

2. Remove clips, screws and evaporator core from upper and lower case.



**C. Expansion Valve and/or Core Replacement**

1. Remove the following items:
  - a. Prestite Tape
  - b. Clip holding Control Bulb
  - c. Equalizer Line Fitting (where applicable)
  - d. Expansion Valve Fittings (use two (2) wrenches for equalized support)

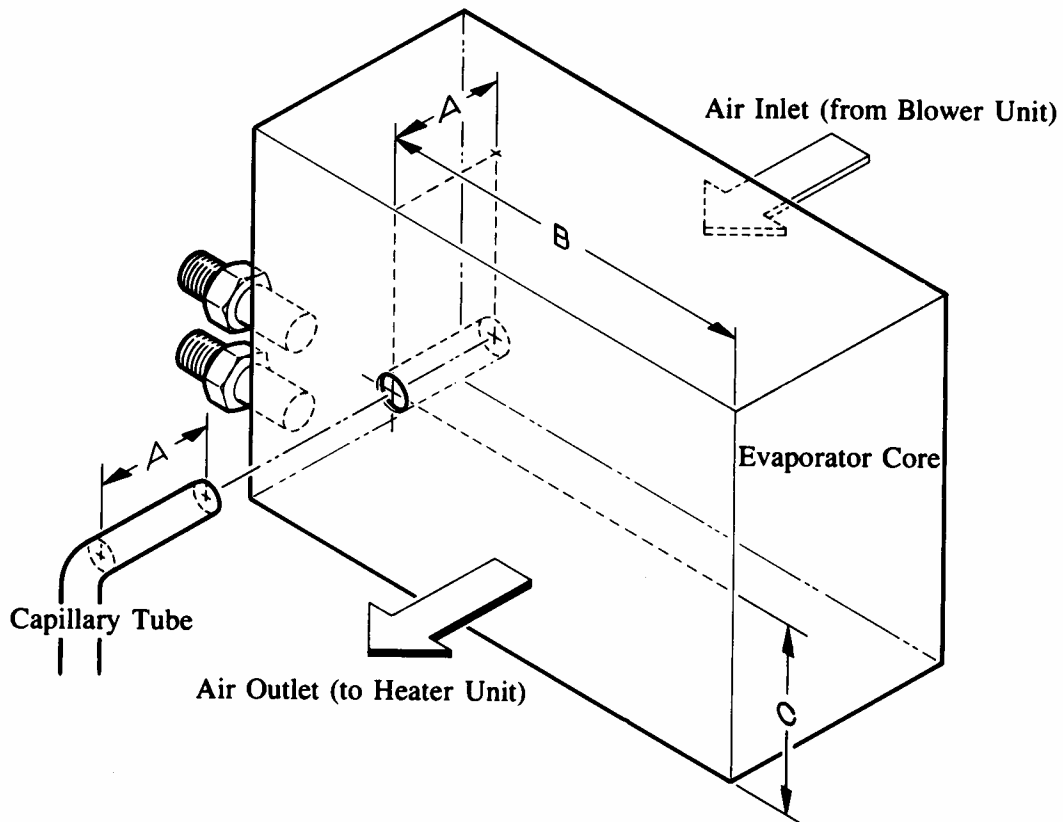


2. If evaporator core replacement is necessary on the 626, transfer the super heat switch and the wire mesh screen (if available) to the new core. (Use new foam tape to hold the wire mesh screen.)

#### D. Assembly & Installation of Evaporator Unit

1. Follow the removal procedures in reverse order and note the following items:
  - a. Lubricate all fittings and "O"-rings with refrigerant oil before connecting them.
  - b. Use new "O"-rings on every line fitting which is either loosened or removed.
  - c. When tightening line fittings, use two (2) wrenches for equalized support.
  - d. All fittings and connections must be tightened to the correct torque specification (see torque specifications below).
  - e. Location and depth of the capillary tube/thermistor probe is extremely important. Refer to the probe location and depth chart attached for proper location.

| Evaporator Torque Specifications |               |
|----------------------------------|---------------|
| Fittings                         | Torque Ft-Lbs |
| Evaporator inlet                 | 12            |
| Evaporator outlet                | 24            |
| Superheat switch for 626         | 7.25          |
| EXPANSION VALVE:                 |               |
| -Valve to coil                   | 24-29         |
| -Valve to external tube          | 10-15         |
| -External equalizer connector    | 10            |





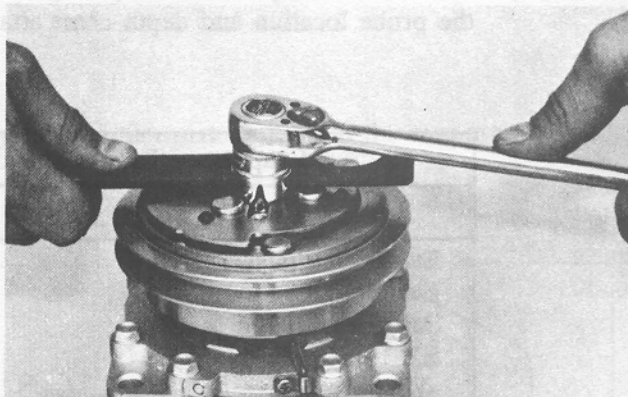
## Probe Location & Depth Chart

|   |      | GLC             | RX-7              | 626 Gas/Diesel   | 1986 B2000      |
|---|------|-----------------|-------------------|------------------|-----------------|
| A | inch | 7/8"~ 1 1/8"    | 2 3/16"~ 3 1/16"  | 2 1/16"~ 2 5/16" | 1 5/8"~ 2 5/16" |
|   | mm   | 21~ 30          | 54~ 74            | 50~ 60           | 40~ 60          |
| B | inch | 3"~ 3 3/8"      | 3 7/8"~ 4 3/16"   | 1 3/16"~ 1 3/8"  | 1 3/16"~ 1 3/8" |
|   | mm   | 76~ 86          | 97~ 107           | 30~ 35           | 30~ 35          |
| C | inch | 2 1/4"~ 2 9/16" | 3 5/16"~ 3 11/16" | 5 9/16"~ 5 7/8"  | 5 9/16"~ 5 7/8" |
|   | mm   | 56~ 66          | 84~ 94            | 140~ 150         | 140~ 150        |

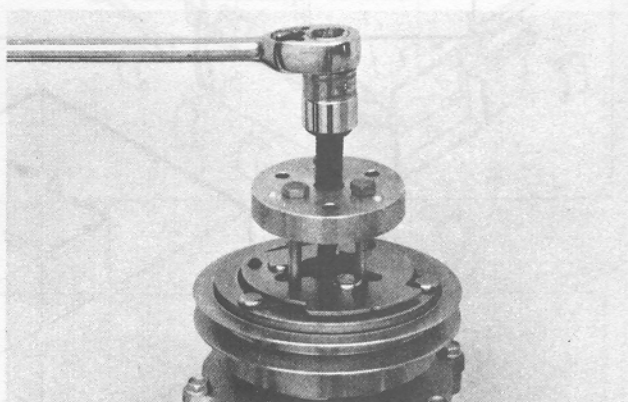
## REPAIR PROCEDURES FOR COMPRESSOR

### A. Steps for Clutch Removal

1. Insert the two (2) pins of the clutch holder into any two (2) threaded holes of the clutch front plate. Hold clutch plate stationary. Remove hex nut.



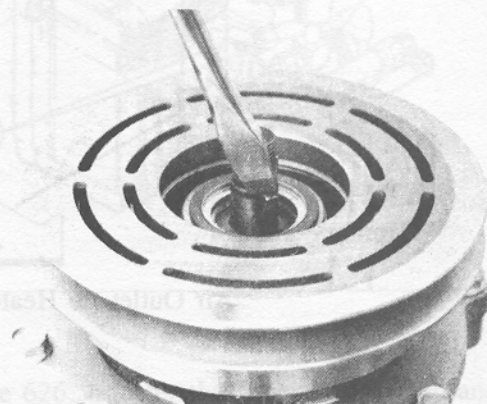
2. Remove clutch front plate using puller. Align puller center bolt to compressor shaft. Thumb tighten the three (3) puller bolts into the threaded holes. Turn center bolt clockwise until front plate is loosened



3. Remove shaft key by lightly tapping it loose with a screwdriver and hammer.

#### NOTE:

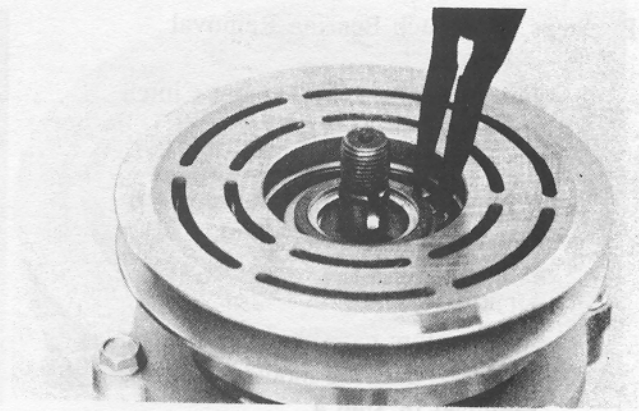
Steps 1 thru 3 must be performed before servicing either the shaft seal or clutch assembly.



4. Remove the external front housing snap ring by using snap ring pliers (spread type).

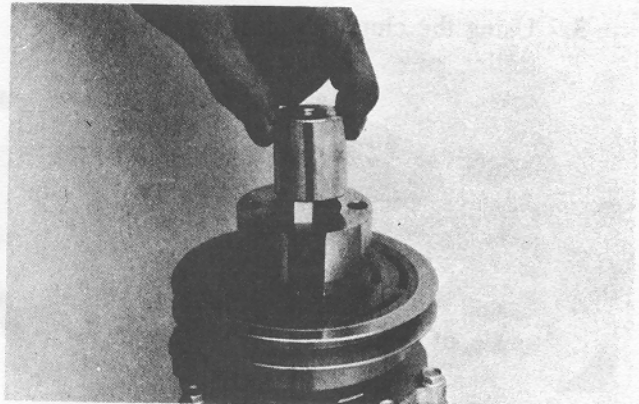
**NOTE:**

Some compressors may have two (2) snap rings in front, one which is used on front housing (shown at right) and the other which secures the clutch bearing. Remove both snap rings.

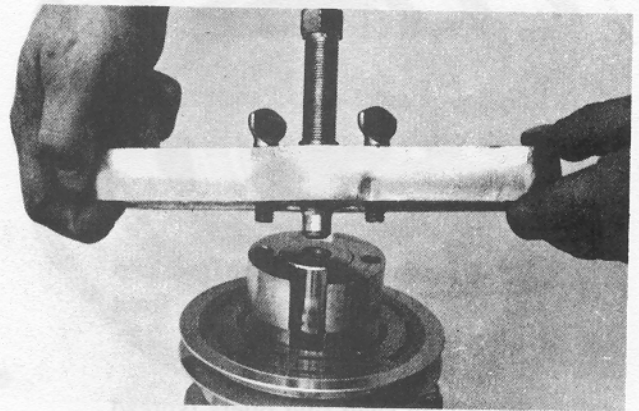


5. Remove rotor pulley assembly:

- a. Insert the lip of the clutch puller jaws into the snap ring groove.
- b. Place the clutch pilot over the shaft.

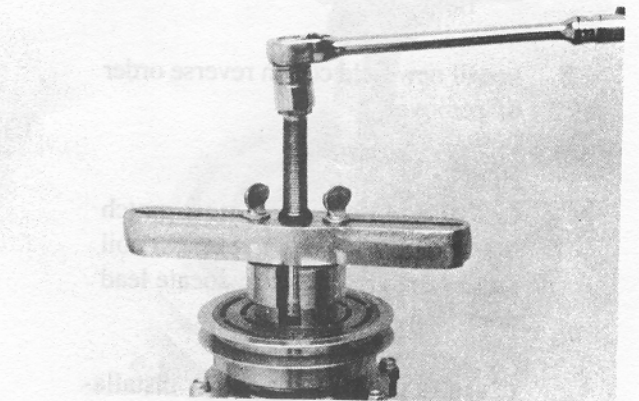


- c. Place the clutch puller handle onto the puller jaws.
- d. Finger tighten the securing bolts into the puller jaws.



- e. Hold rotor puller set handle stationary and turn the puller center bolt clockwise until rotor pulley is free.

(Turn to page 11 for clutch installation procedures)



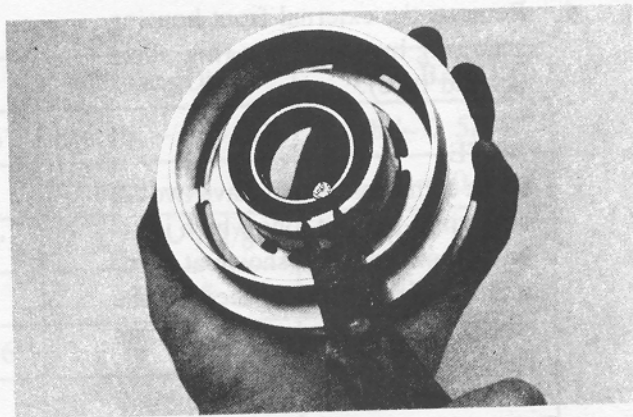


## B. Steps for Clutch Bearing Removal

1. Follow Steps 1 thru 5 under Clutch Removal.
2. Remove the bearing retaining snap ring using snap ring pliers.

### NOTE:

Some rotors have the snap ring in the front; this ring should have been removed in Step 4.

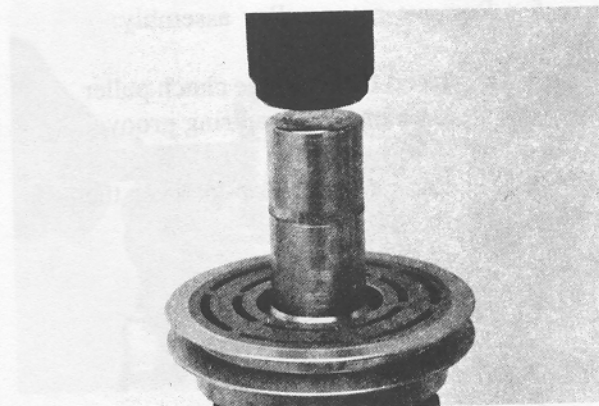


3. Using the clutch rotor bearing installer, press the bearing from the rotor.

### NOTE:

Always press the bearing out towards the snap ring side.

4. Install the new bearing in reverse order of removal.



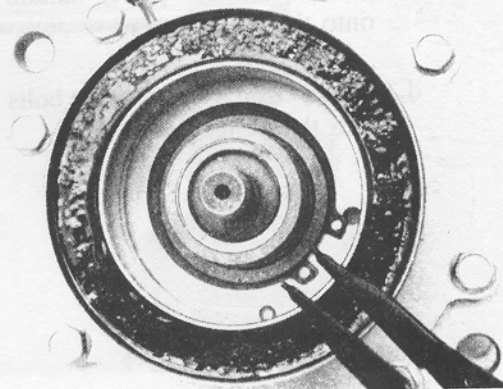
## C. Steps for Field Coil Removal

1. Follow Steps 1 thru 5 under clutch removal.
2. Remove field coil:
  - a. Loosen coil lead wire from clip on top of compressor front housing.
  - b. Using snap ring pliers (spread type), remove snap ring and field coil.
3. Install new field coil in reverse order of removal.

### NOTE:

Coil flange protrusion must match hole in front housing to prevent coil movement and correctly locate lead wire.

(Turn to page 11 for clutch installation procedures)



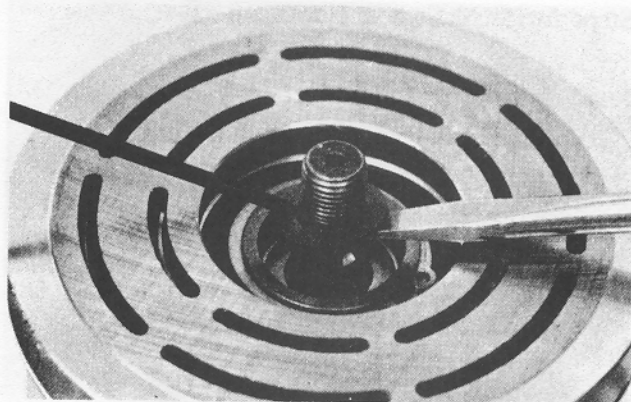
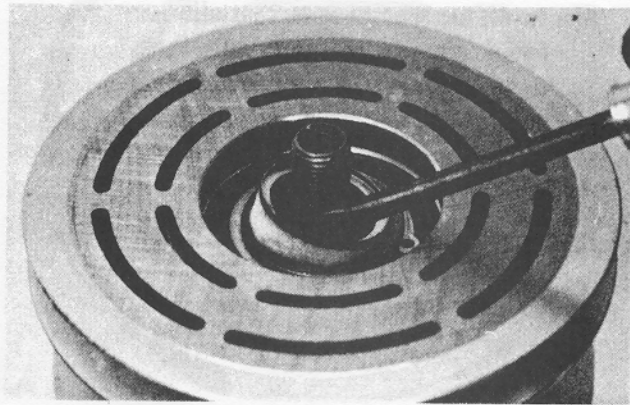
#### D. Steps for Shaft Seal Removal

1. Follow Steps 1 thru 3 under Clutch Removal.

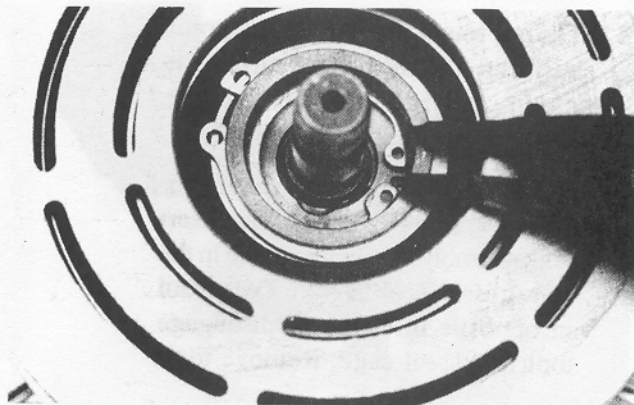
**NOTE:**

Shaft seal replacement should be done on the bench. Never use any old parts of the shaft seal assembly. Renew the complete assembly.

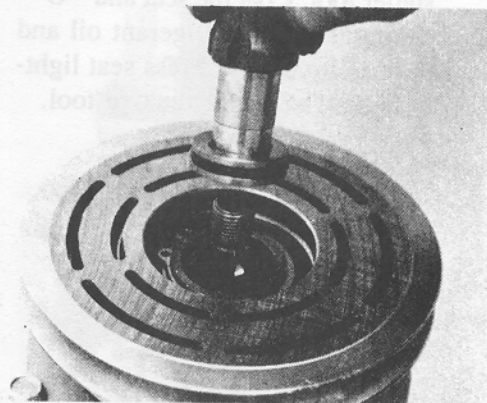
2. Using a screwdriver, pry out the felt ring being careful not to damage the shaft housing.
3. Remove the clutch shims . Use "O"-ring hook and a small screwdriver (as shown) to prevent shim from binding on shaft.



4. Remove shaft seal seat retaining snap ring with pliers (pinch type).

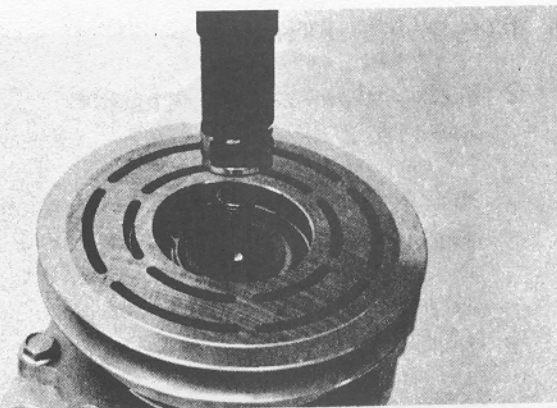


5. Remove shaft seal seat using seal seat remover and installer tool.



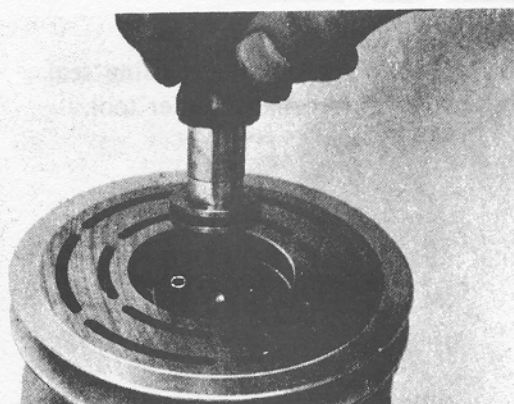


6. Insert the seal remover and installer tool against the seal assembly. Press down against the seal spring and twist the tool until feeling it engage in the slots of the seal cage. Lift out seal assembly.

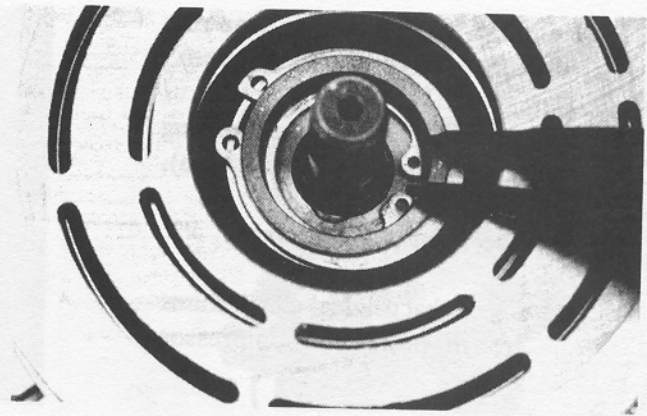


#### E. Steps for Shaft Seal Replacement

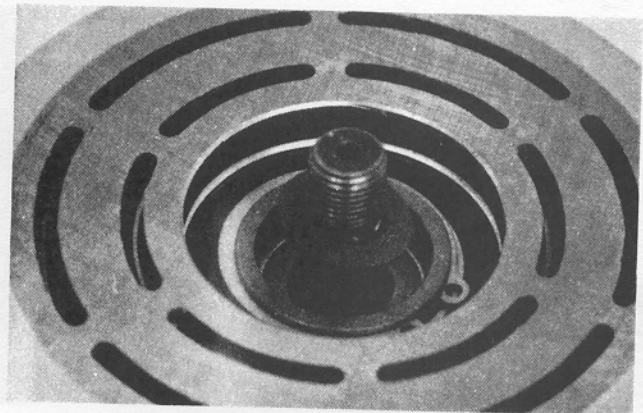
1. Clean seal cavity thoroughly:
  - a. Clean thoroughly with a "lint-free" or synthetic cloth and clean refrigerant oil. Then blow out with dry pressurized vapor.
  - b. Make sure all foreign substances are thoroughly removed.
2. Insert seal sleeve protector over compressor shaft.
3. Do not touch the new seal lapping surfaces. Dip the mating surfaces in clean refrigerant oil before proceeding.
4. Engage slots of seal remover and installer to new seal cage and insert seal assembly firmly into place in the compressor seal cavity. Twist tool in opposite direction to disengage tool from seal cage. Remove tool.
5. Place the new seal seat onto the installer tool. Coat the seat and "O"-ring with clean refrigerant oil and install into cavity. Press seat lightly against seal and remove tool.



6. Re-install snap ring. Beveled edge faces outward (away) from compressor. It may be necessary to lightly tap the snap ring to securely position it in its groove.

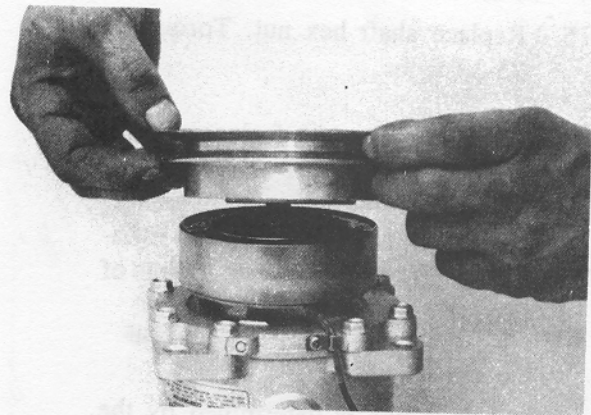


7. Replace clutch spacer shims.
8. Tap new felt ring into place.
9. Re-install clutch front plate as outlined under clutch installation.



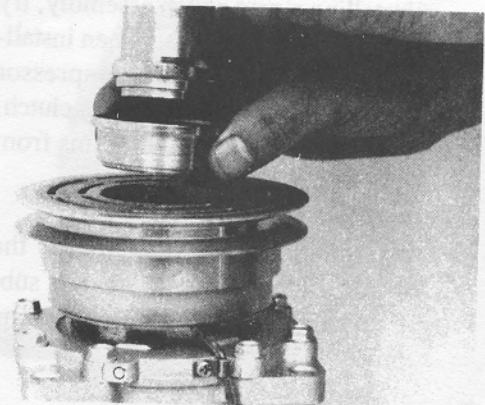
#### F. Steps for Clutch Installation

1. Replace rotor pulley:
  - a. Support the compressor on the four (4) mounting ears at the rear of the compressor. If using a vise, clamp only on the mounting ears - NEVER ON THE COMPRESSOR BODY.
  - b. Align rotor assembly squarely on the front housing hub.
  - c. Using rotor installer set, place the ring part of the set into the bearing cavity. Make certain the outer edge rests firmly on the rotor bearing outer race.



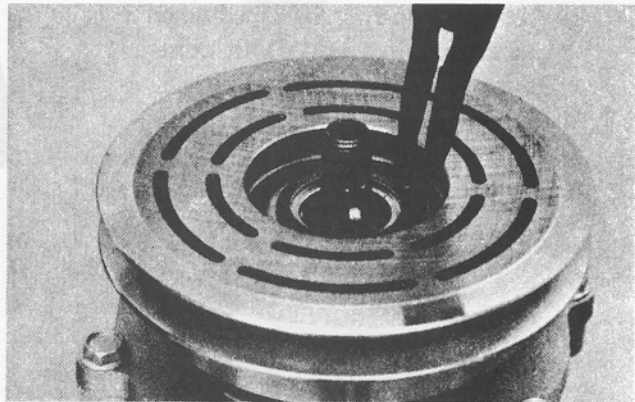
- Place the tool set driver into the ring as shown.

- d. With a hammer, tap the end of the driver while guiding the rotor to prevent binding. Tap until the rotor bottoms against the compressor front housing hub. Listen for a distinct change of sound during the tapping process.





2. Re-install internal bearing snap ring (if used) with pliers (pinch type).
3. Re-install external front housing snap ring with pliers (spread type).
4. Replace front plate assembly.

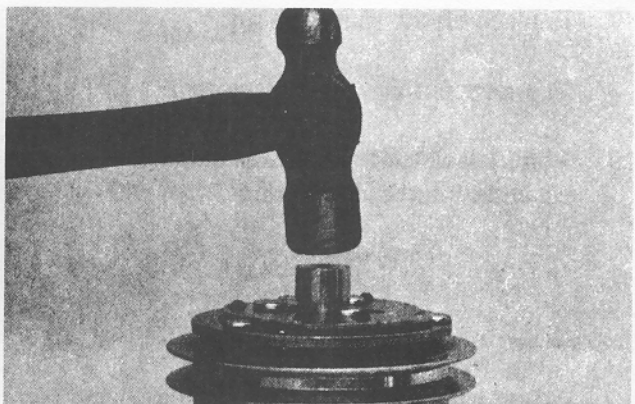


- a. Check that original clutch shims are in place on compressor shaft.

- b. Replace compressor shaft key.

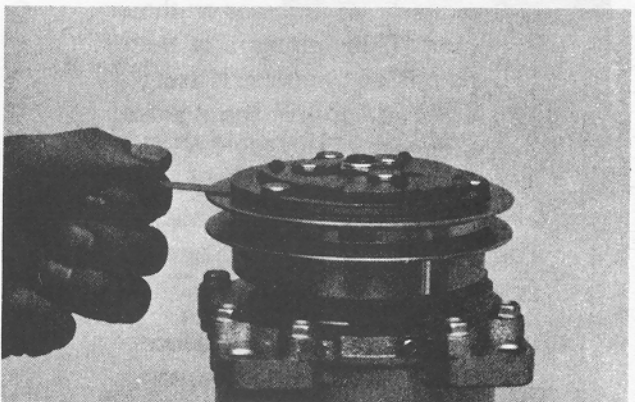
- c. Align front plate keyway to compressor shaft key.

- d. Using shaft protector, tap front plate to shaft until it has bottomed to the clutch shims. Note distinct sound change.



5. Replace shaft hex nut. Torque to 25-30 ft-lbs.

6. Check air gap with feeler gauge to .016'' to .031''. If air gap is not consistent around the circumference, lightly pry up at the minimum variations. Lightly tap down at points of maximum variation.



**NOTE:**

The air gap is determined by the spacer shims. When re-installing or installing a new clutch assembly, try the original shims first. When installing a new clutch onto a compressor that previously did not have a clutch, use .040, .020 and .005 shims from the clutch accessory kit.

If the air gap does not meet the specification in Step 6, add or subtract shims by repeating Steps 4 and 5.

### G. Steps for Cylinder Head and Valve Plate Removal

1. Remove the five (5) cylinder head bolts.

2. Use a small hammer and the gasket scraper to tap the outer edge of the cylinder head until it frees from the valve plate. Inspect for damage. (The cylinder head gasket normally sticks to the valve plate.)

#### CAUTION

Do not turn the adjusting screw more than 90°, otherwise the evaporator coil may be damaged, resulting in an adverse effect on the cooling performance.

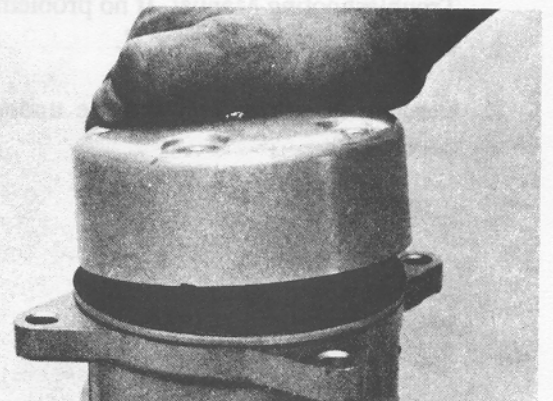
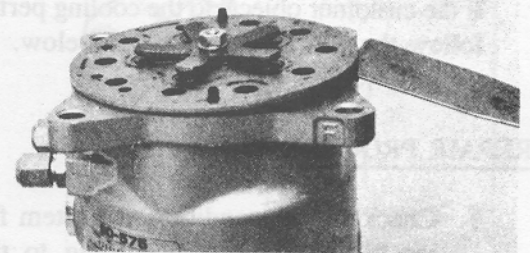
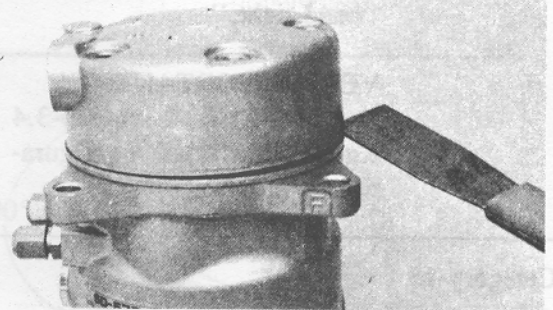
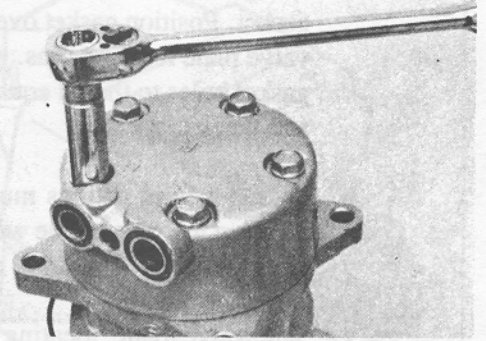
3. Position gasket scraper between the outside edge of the valve plate and the cylinder block and lightly tap the valve plate loose. Inspect reed valves and discharge retainer. Discard assembly if any portion is damaged.

### H. Steps for Installing Cylinder Head, Valve Plate & Gaskets

When installing the head or valve plate, use the new gaskets in the parts kit.

#### Cylinder Head Only:

1. Re-inspect valve plate for damage and removal of all old gasket material.





- a. Coat valve plate top with clean refrigerant oil. Position new gasket. Position gasket over the valve plate locating pins. Align gasket holes to the oil equalizer and orifice opening.
- b. Cylinder head fittings must be pointing up or be in line with oil filler plug.
- c. The valve plate locating pins must be securely in the locating holes in the cylinder head.
- d. Install cylinder head bolts "hand tight."

**VERY IMPORTANT:**  
Torque to 22-25 ft-lbs (3.0-3.4 Kg-m) using "star" configuration as shown.

