

Frigidaire Compressor

Data

Designation	electromagnetic shutoff clutch 12 V, Frigidaire 5 5/8 in.
Current input	cold 3.0 Amps., warm 2.5 Amps.

Special Tools

Socket 14 mm, 3/8" square head	conventional
Holding tool for spring plate (pin spanner)	115 589 00 07
Remover for spring plate	000 589 07 35 00
Installer with spacer for spring plate	000 589 49 43 00
Feeler gauge (set)	conventional
Langbeck pliers 72 A (internal locking ring)	conventional
Pliers for locking ring J 2 (external locking ring)	conventional
Two-claw puller	001 589 01 33 00
Guide piece	001 589 01 33 01
Punch	115 589 02 35 02
Remover for holding ring and O-ring	self-made
Remover and installer for slip ring	000 589 21 61 00
Remover and installer for shaft seal	000 589 65 63 00
Holding bracket for refrigerant compressor	109 589 00 31 00

Tightening Torque in kpm

Counter nut on shaft	2.0
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General Information

The spring plate with pulley and clutch coil can be removed **without removing** the compressor and bracket.

a) Spring Plate

Removal

1 Clamp removed compressor with bracket into vice (Fig. 1), without bracket into compressor holding fixture.

83.0 Removal and Installation of Electromagnetic Clutch and Shaft Seal

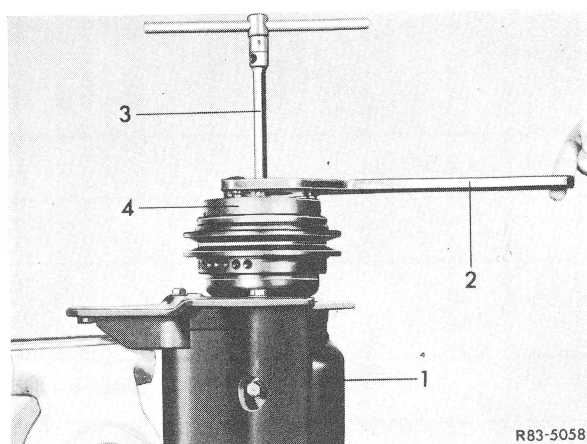


Figure 1

Removing counter nut from shaft end

- | | |
|--------------------------------|----------------|
| 1 Refrigerant compressor | 3 Socket |
| 2 Holding tool (115 589 00 07) | 4 Spring plate |

2 Prevent rotation of spring plate (4) by means of holding tool (2), use 14 mm socket to remove counter nut from shaft (Fig. 1).

3 Remove locking ring (2) and spacer (3) from spring plate (1) (Fig. 3).

4 Screw remover (2) into hub, hold tool with wrench and tighten central screw (Fig. 2).

5 Remove key from shaft.

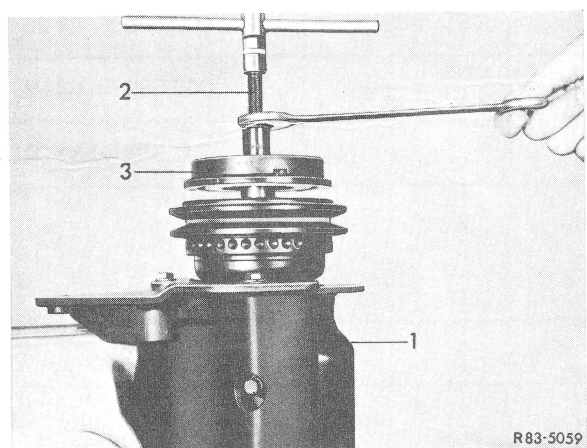


Figure 2

Removing spring plate

- | | |
|------------------------------|----------------|
| 1 Refrigerant compressor | 3 Spring plate |
| 2 Remover (000 589 07 35 00) | |

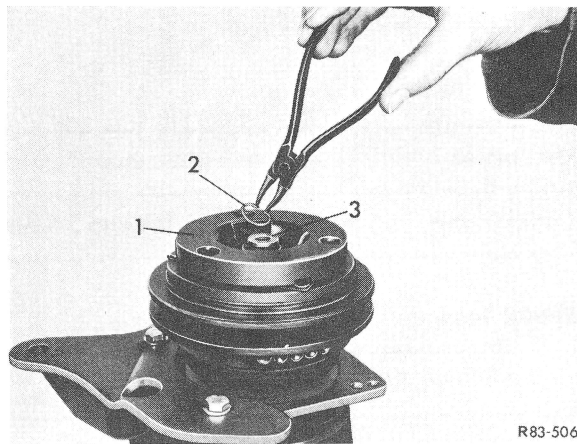


Figure 3

Removing locking ring and spacer

- | | |
|----------------|----------|
| 1 Spring plate | 3 Spacer |
| 2 Locking ring | |

Installation

6 Fit key into shaft.

7 Clean friction surfaces of spring plate and pulley.

8 Mount spring plate on shaft so that key and key-way are in alignment.

Important! To avoid damage to the interior parts of the compressor do not knock against spring plate or shaft.

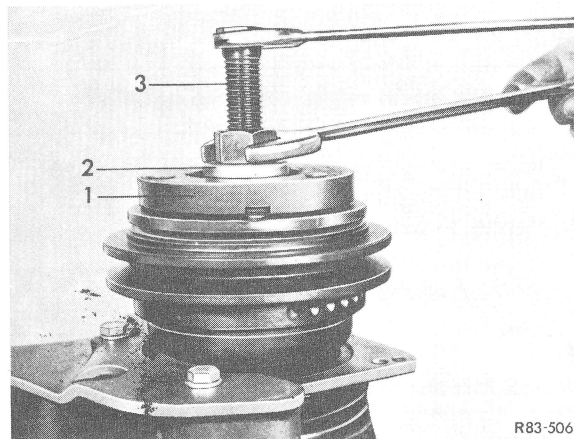


Figure 4

Installing spring plate

- | | |
|----------------|--------------------------------|
| 1 Spring plate | 3 Installer (000 589 49 43 00) |
| 2 Spacer | |

9 Place spacer (2) on spring plate (1), insert installer (3) through spacer (2) and screw installer (3) onto shaft end (Fig. 4).

10 Hold hexagon of tool in position and turn in center screw several turns to force the spring plate partly onto the shaft.

11 Remove installer (3) and spacer (2), check key and keyway for proper alignment. If they are properly aligned, refit installer and force spring plate (1) further onto the shaft until there is a gap of approx. 1 mm to 1.5 mm between the friction surfaces of the pulley and the clutch plate.

12 Remove installer (3) and spacer (2).

13 Fit spacer (6) into hub of spring plate (2) and place locking ring (4) with its flat side facing the spacer (6) (Fig. 5).

spacer (6) (Fig. 5). Hold spring plate in position with holding tool (2) and tighten counter-nut. The clearance between the two friction surfaces of the pulley and the spring plate should now amount to 0.5 to 1.5 mm (Fig. 1 and 6).

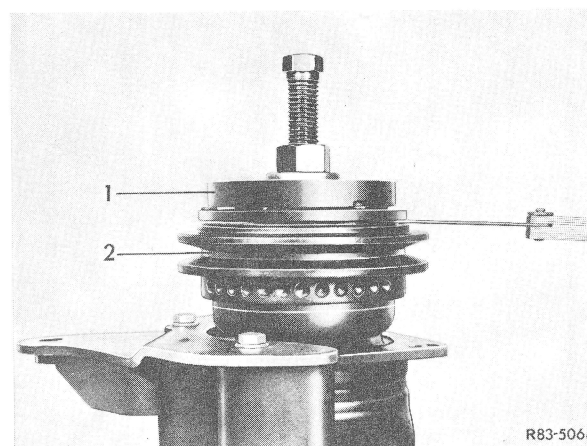


Figure 6
Checking clearance between spring plate and pulley
1 Spring plate 2 Pulley

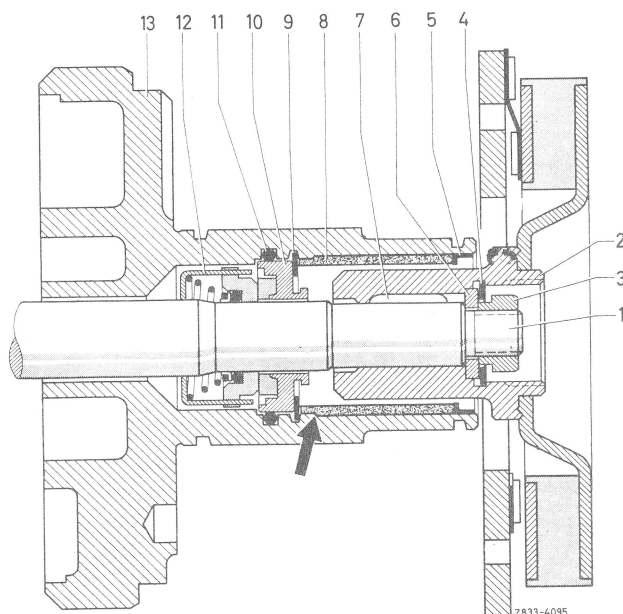


Figure 5
Section through shaft seal and seal seat

- | | |
|------------------|-----------------|
| 1 Shaft | 8 Felt ring |
| 2 Hub | 9 Locking ring |
| 3 Counter nut | 10 Ceramic ring |
| 4 Locking ring | 11 O-ring |
| 5 Retaining ring | 12 Shaft seal |
| 6 Spacer | 13 Front head |
| 7 Key | |

14 Install new shaft counter nut (3) with stepped-down part (smaller diameter of the nut) facing the

b) Pulley

Removal

- 1 Remove spring plate (refer to section a, item 1 to 5).
- 2 Remove locking ring (2) and retaining ring (5) (Fig. 5 and 7).

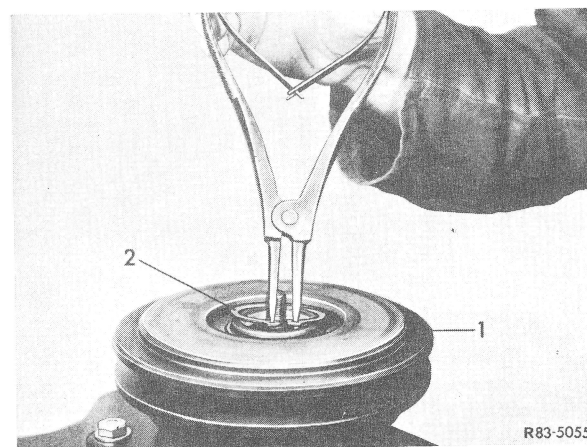


Figure 7
Removing pulley locking ring
1 Pulley 2 Locking ring

83.0 Removal and Installation of Electromagnetic Clutch and Shaft Seal

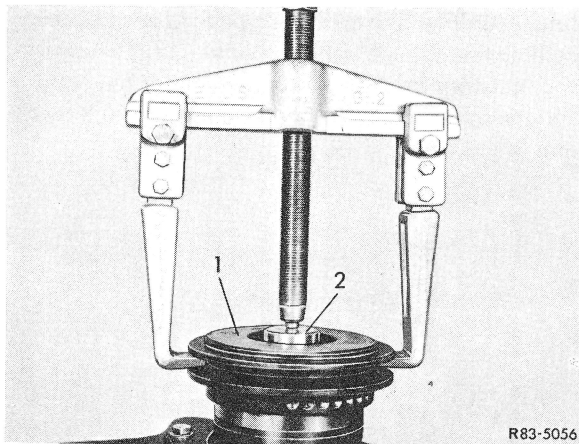


Figure 8
Removing pulley

- 1 Pulley 2 Guide piece (001 589 01 33 01)

3 Fit guide piece (2) into bore in compressor head (Fig. 8).

4 Remove pulley (1) with puller (3) (Fig. 8).

Installation

5 If the pulley is re-used, clean its friction surface. If the friction surface shows damage, e.g. due to overheating, the pulley must be replaced together with the spring plate.

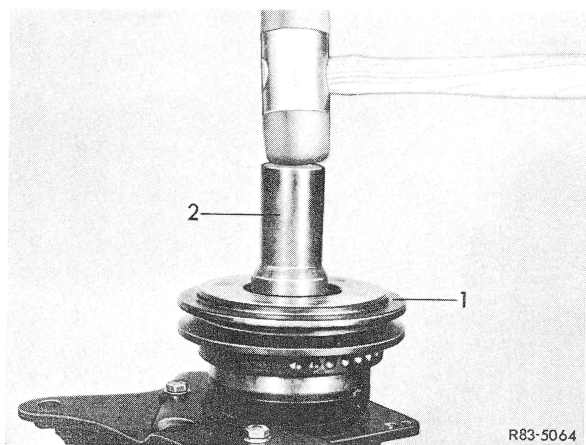


Figure 9
Installing pulley

- 1 Pulley 2 Punch (115 589 02 35 02)

6 Tap pulley (1) onto compressor guide pin using punch (2). Apply punch in such a manner that the force is applied to the inner bearing race to avoid damage to bearing (Fig. 9).

7 Check whether pulley moves freely. Then insert locking ring (2) with the flat side facing downwards (Fig. 7).

8 Install spring plate as described in section a).

c) Clutch Coil

Removal

1 Remove spring plate and pulley as described in section a) and b).

2 Mark location of electrical connections on coil housing and front compressor head.

3 Remove locking ring (3) (Fig. 10).

4 Lift clutch coil (2) from compressor (1).

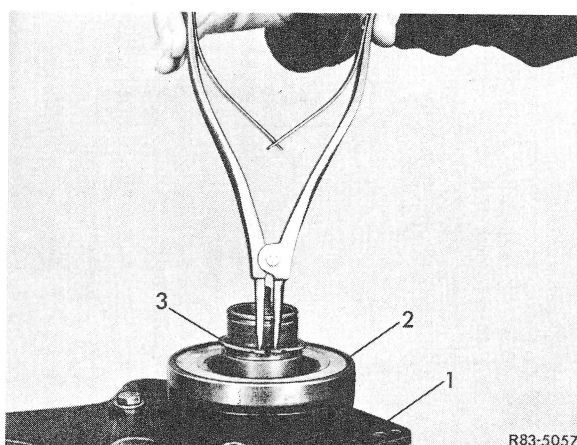


Figure 10
Removing and installing clutch coil

- 1 Refrigerant compressor 3 Locking ring
2 Clutch coil

Installation

- 5 Mount clutch coil (2) to front head of compressor so that the electrical connections coincide with the markings on the compressor made previously.
- 6 Align guide pins at the bottom of the coil housing with the holes in the front head of the compressor.
- 7 Install locking ring (3) with its flat side facing the coil (Fig. 10).
- 8 Install pulley and spring plate as described in section a) and b).

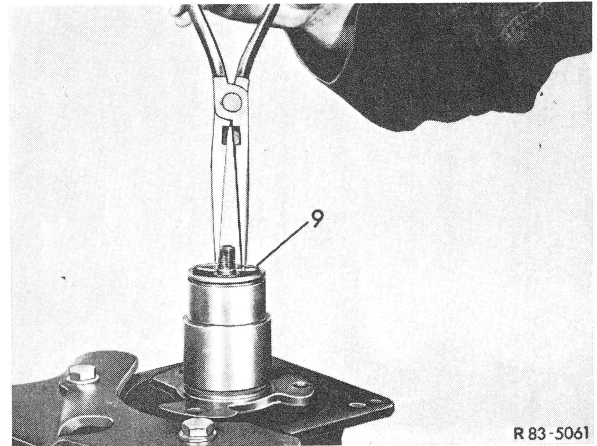


Figure 12
Removing and installing locking ring for shaft seal
9 Locking ring

d) Compressor Shaft Seal

Removal

- 1 Remove spring plate as described in section a).
- Note:** When removing or installing the shaft seal it is not necessary to remove the pulley and clutch coil.
- 2 Remove retaining ring (5) and felt ring (8) (Fig. 5 and 11).
 - 3 Remove locking ring (9) for shaft seal (Fig. 5 and 12).

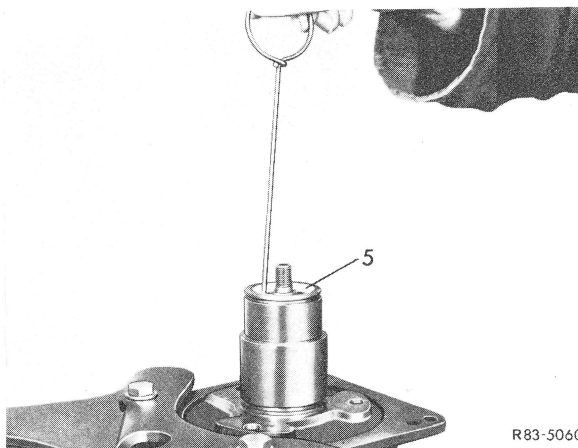


Fig. 11
Removing retaining ring
5 Retaining ring

- 4 Remove slip ring (3 and 9) using remover/installer (2) (Fig. 5 and 13).

- 5 Remove shaft seal (2 and 11) using tool (3) (Fig. 5 and 14). For this purpose, press tool down and twist clockwise to engage tabs on shaft seal with locking tangs on tool. Remove seal completely by pulling seal straight off the shaft.

- 6 Remove O-ring (11) from inside bore in front head of compressor. A length of wire bent to form a hook may be used for this purpose (Fig. 5 and 11).

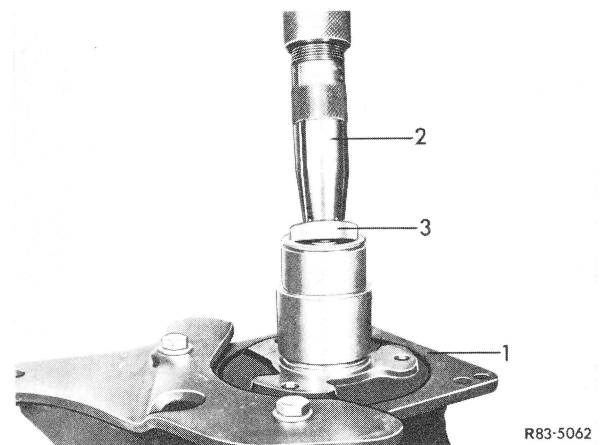


Figure 13
Removing ceramic slip ring
1 Refrigerant compressor
2 Remover and installer
(000 589 21 61 00)

3 Slip ring

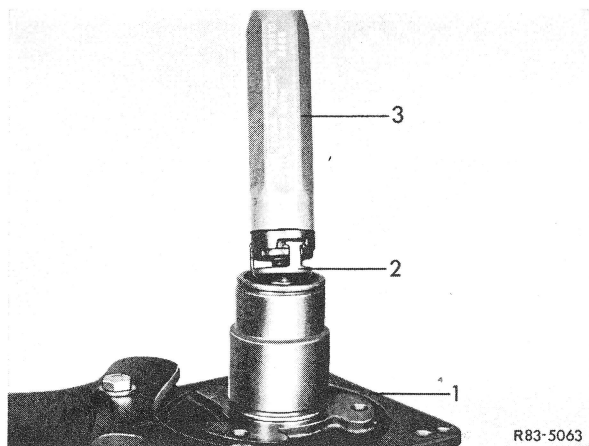


Figure 14
Removing shaft seal

- | | |
|--------------------------|---|
| 1 Refrigerant compressor | 3 Remover and installer
(000 589 65 63 00) |
| 2 Shaft seal | |

Installation

7 Check whether any portions of the old seal have been left in the bore of the front head. Clean bore before inserting the new seal.

8 Install new O-ring (11) into groove in bore of head (13), making sure that the sealing ring is fitted into the lower groove (Fig. 5).

9 Apply refrigeration oil to shaft seal (11) prior to installation to ensure that the seal is not damaged during installation.

10 Insert shaft seal (2 and 12) into tool (3) and push onto compressor shaft. Turn tool right until the shaft seal snaps into position on the shaft. Now turn tool left to disengage from shaft seal tabs and remove (Fig. 5 and 14).

11 Install slip ring (3 and 10) into bore of front head using tool (2) until ring touches shaft seal. Make sure that the O-ring (11) is not displaced from its groove (Fig. 5 and 13).

Important! The sealing surface of the slip ring must be protected from any type of damage, e. g. scratches.

12 Insert locking ring (9) into bore with the flat side facing downwards until the locking ring rests against the sliding ring (Fig. 5 and 12). Then use snap ring pliers or screw driver to press against the locking ring until ring snaps into place in the groove.

Note: The step (see arrow) which is visible from the end of the bore is not a groove but a projection (Fig. 5).

13 Install spring plate as described in section a).

14 Check oil level in refrigerant compressor (for details refer to Job No. 83.0–870).

15 Test compressor for leaks (refer to Job No. 83.0–900).