SANDEN (SANKYO) 5-CYLINDER & 7-CYLINDER

NOTE

- *This article covers pulley bearing, clutch coil and shaft seal replacement procedures for Sanden (Sankyo) 5-cylinder and 7-cylinder compressors. See CHAPTER SEVEN for compressor servicing information, which includes oil level checking procedures.*

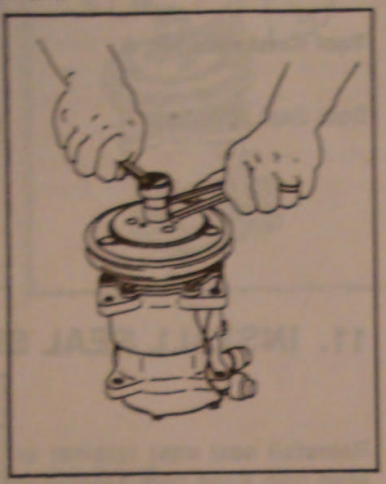
SEAL REPLACEMENT

1. REMOVE SHAFT NUT

Hold clutch hub stationary using spanner wrench. Remove hex nut with a ¾" socket.

Tool Reference No. 1

Clutch Holder Wrench

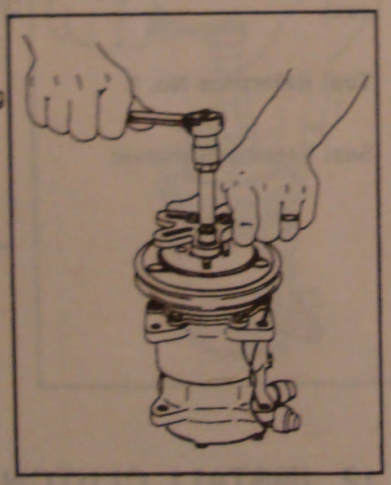


2. REMOVE CLUTCH PLATE

Remove clutch plate using clutch face puller.

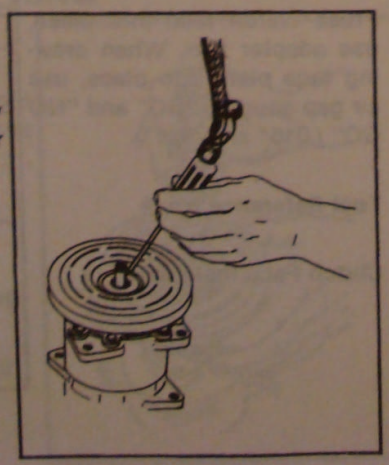
Tool Reference No. 2

Clutch Plate Remover



3. REMOVE KEY

Remove the Woodruff key by gently tapping with screwdriver and hammer.



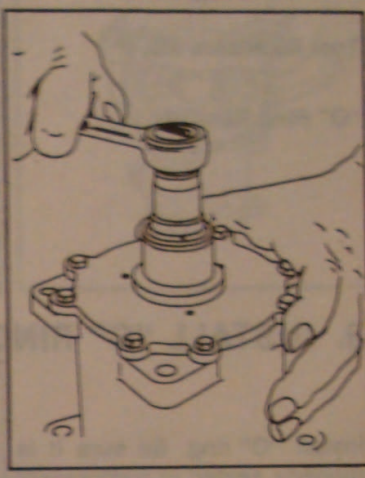
4. REMOVE SEAL SEAT RETAINER

Remove seal retainer using a ¼" socket and seal retainer removal tool.

NOTE — On some later models, seal retainer is held in place by a snap ring, which must be removed with a pair of internal snap ring pliers.

Tool Reference No. 3

Seal Retainer Remover

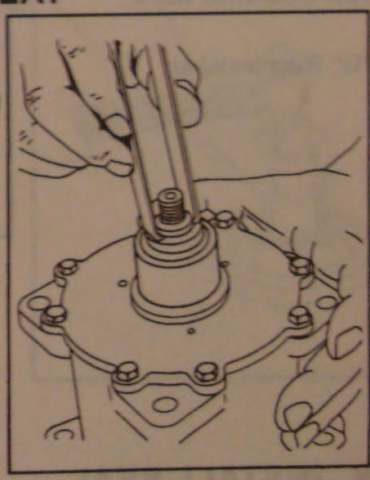


5. REMOVE SEAL SEAT

Remove seal seat with seal seat remover tangs.

Tool Reference No. 4

Seal Seat Remover

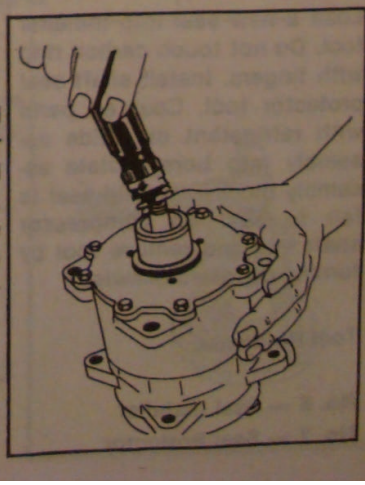


6. REMOVE SEAL

Using assembly remover and installer tool, install tool over seal so that slots in lower end of tool engage tangs on seal. Press down on tool and rotate clockwise to lock seal tangs in tool slots. Lift tool and seal assembly out.

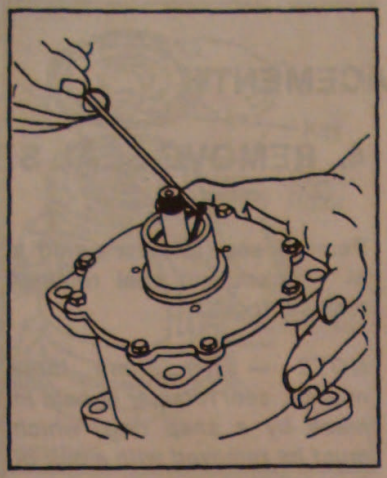
Tool Reference No. 5

Seal Remover



SEAL REPLACEMENT (Cont.)

7. REMOVE "O" RING

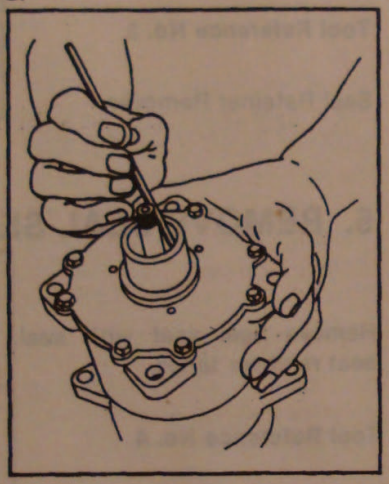


Remove seal "O" ring taking care not to scratch internal surfaces.

Tool Reference No. 6

"O" Ring Remover

8. INSTALL "O" RING

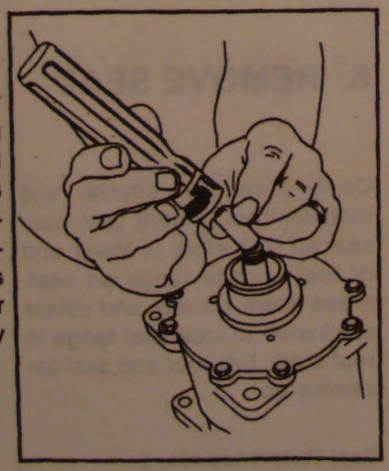


Install "O" ring. Be sure it is properly seated in compressor neck.

Tool Reference No. 6

"O" Ring Installer

9. INSTALL SEAL

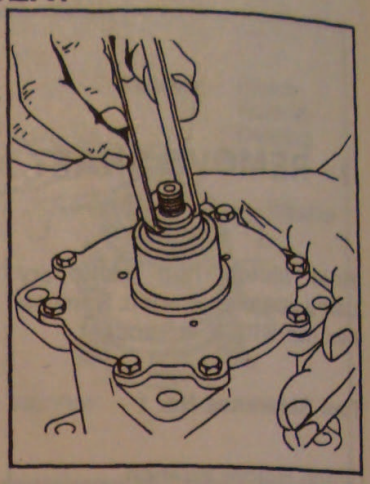


Load a new seal into installer tool. Do not touch carbon ring with fingers. Install shaft seal protector tool. Coat all parts with refrigerant oil. Slide assembly into bore. Rotate assembly clockwise until seal is felt to seat on compressor shaft flat, and remove tool by turning counterclockwise.

Tool Reference

No. 5 — Seal Installer
No. 7 — Seal Protector

10. INSTALL SEAL SEAT

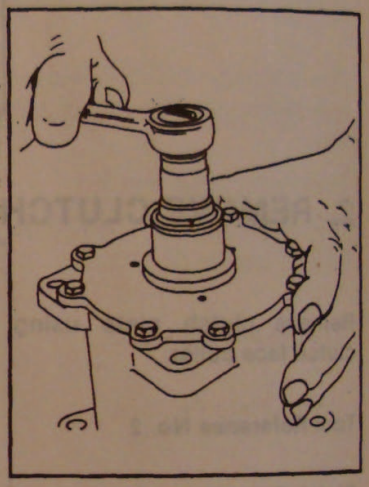


Coat the seal seat with refrigerant oil and install the seat using special tongs.

Tool Reference No. 4

Seal Seat Installer

11. INSTALL SEAL SEAT RETAINER

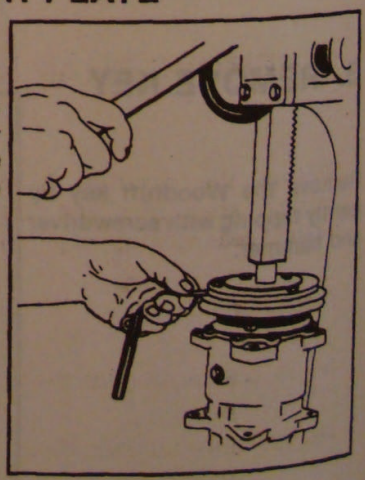


Reinstall seal seat retainer or snap ring. Snap ring is installed with flat side down. Install shims and shaft key. Rotate shaft several times to help seat seal.

Tool Reference No. 3

Seal Retainer Remover

12. INSTALL CLUTCH PLATE



Press clutch face into place, use adapter tool. When drawing face plate into place, use air gap gauges, "GO" and "NO GO" (.016" and .021").

Tool Reference No. 8

Clutch Face Installer

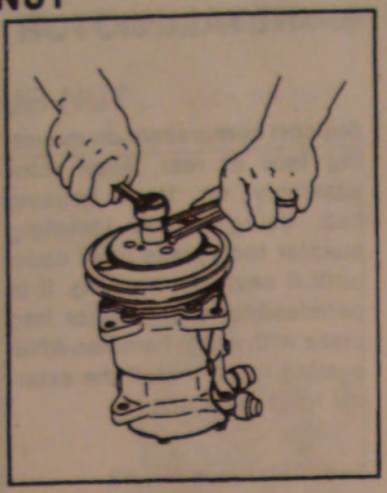
PULLEY BEARING REPLACEMENT

1. REMOVE SHAFT NUT

Hold clutch hub stationary using spanner wrench. Remove hex nut with a ¾" socket.

Tool Reference No. 1

Clutch Holder Wrench

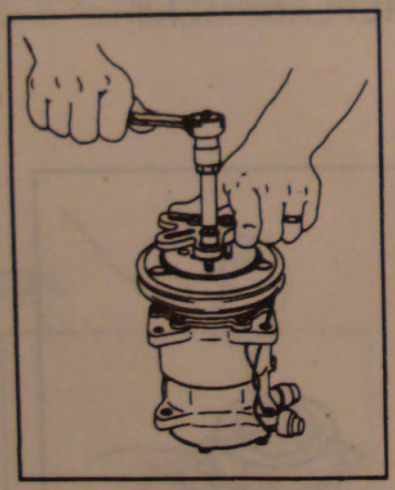


2. REMOVE CLUTCH PLATE

Remove clutch face plate using clutch face puller.

Tool Reference No. 2

Clutch Plate Remover



3. REMOVE SNAP RING

Remove the external front housing snap ring and the internal bearing snap ring.

Tool Reference

No. 10 — External Snap Ring Pliers

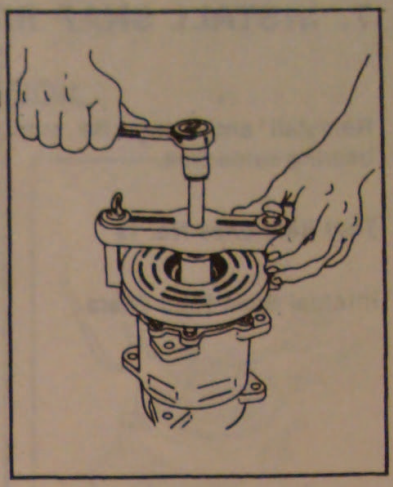
No. 13 — Internal Snap Ring Pliers

4. REMOVE ROTOR

Install puller and adapter and remove rotor assembly.

Tool Reference No. 11

Clutch Rotor Remover

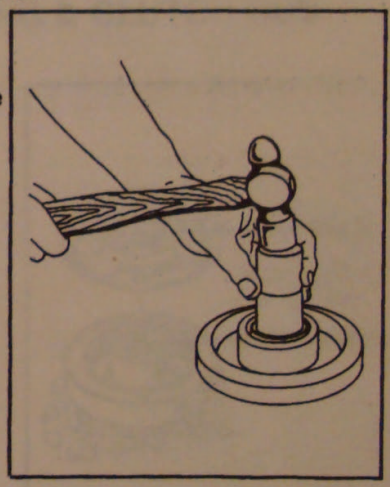


5. REMOVE BEARING

Using proper driver, remove rotor bearing.

Tool Reference No. 14

Rotor Bearing Remover

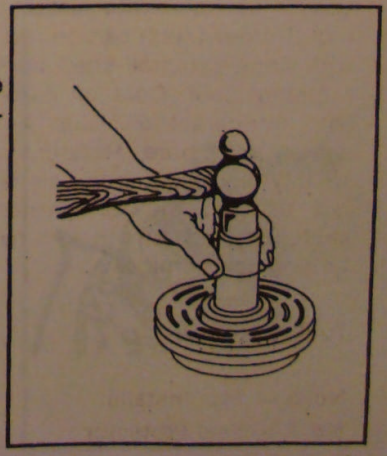


6. INSTALL BEARING

Install new bearing. Make sure the large ring portion is pressing on the outer race.

Tool Reference No. 14

Rotor Bearing Installer



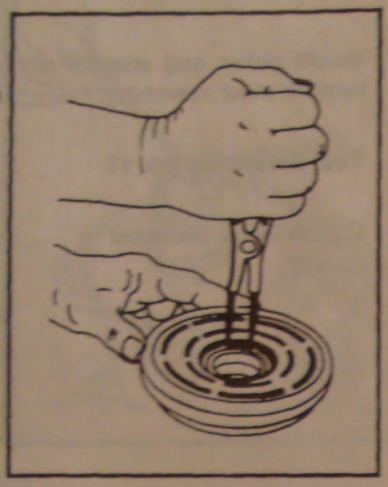
PULLEY BEARING REPLACEMENT (Cont.)

7. INSTALL SNAP RING

Reinstall snap ring. Be sure bearing turns free.

Tool Reference No. 13

Internal Snap Ring Pliers

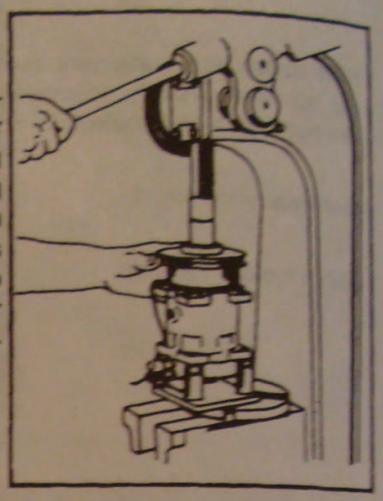


8. INSTALL ROTOR

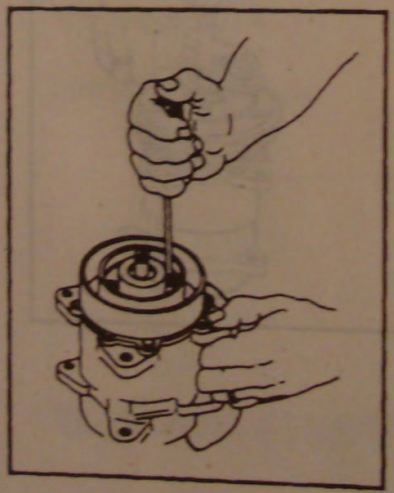
Support compressor on mounting tabs at rear. Align rotor assembly on front housing hub. Using a rotor installing adapter tool, press rotor down until it seats on housing. It is permissible to drive rotor into place with a soft hammer. After seating rotor, install the external front snap ring.

Tool Reference No. 12

Clutch Rotor Installer



CLUTCH COIL REPLACEMENT

1. REPLACE COIL

With rotor assembly removed as described under PULLEY BEARING REPLACEMENT step 4), remove 3 field coil retaining screws. Field coil is now free for replacement.