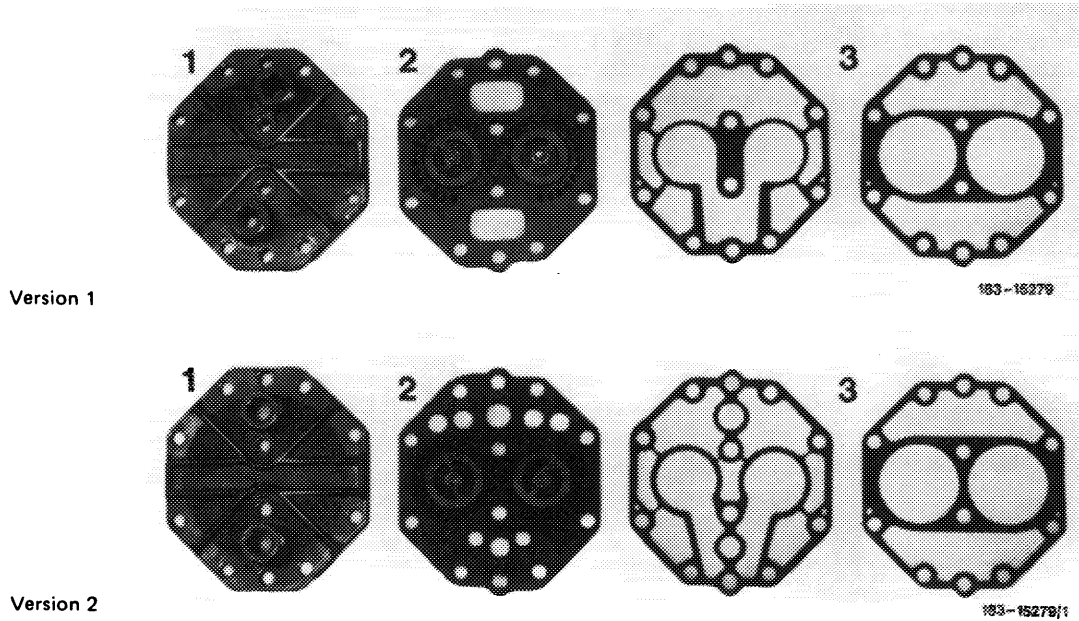


A. Cylinder head and valve plate



Cylinder head cover with valve plate and gaskets

- | | |
|-----------------------|------------------------------|
| 1 Cylinder head cover | 3 Gasket set/ valve plate |
| 2 Valve plate | |

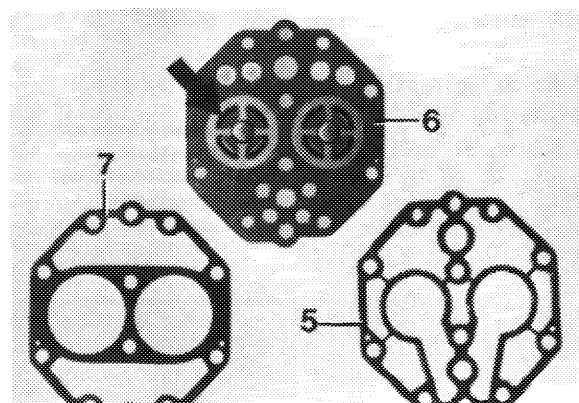
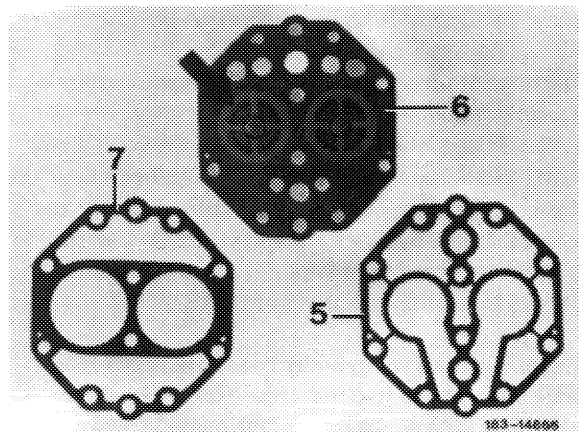
Repair instructions

Starting August 1978 a York refrigerant compressor with reinforced valves and larger exhaust ducts (exhaust ports) will be supplied (refer to arrows). This refrigerant compressor is externally identified by the factory no. R 210-R-20889.

Starting with installation of the modified refrigerant compressor, only valve plates of version 3 and cylinder head covers with symmetrical connections are available as spare parts.

For this reason, in the event of defect poppet valves, perform remedies according to section a) to c) depending on type of valve plate.

- | |
|--------------------------|
| 6 Valve plate version 2 |
| 5 Gasket set/valve plate |
| 7 |

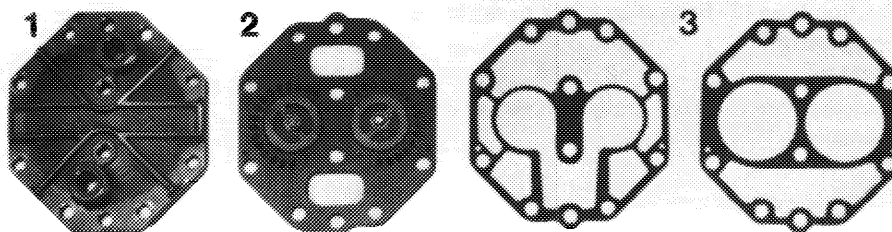


a) Reconditioning refrigerant compressor with valve plate version 1

This refrigerant compressor has a cylinder head cover with asymmetrically located connections and is identified on type-rating plate by means of letters "EH".

Version 1

- 1 Cylinder head cover, asymmetric
- 2 Valve plate
- 3 Gasket set/valve plate



183-15279

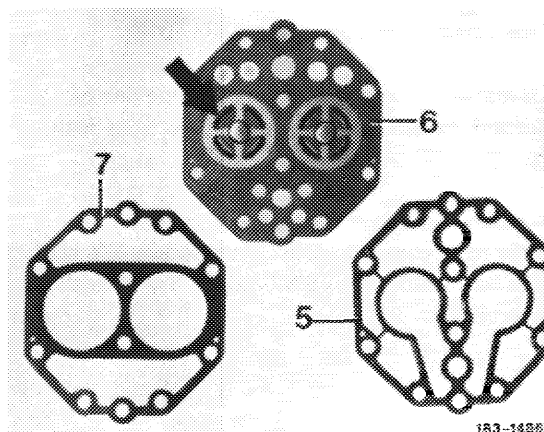
If the cylinder working surfaces are in order, install repair set for valve plate version 3 together with cylinder head cover of version 2. Never install components of 1st and 3rd version together.

b) Reconditioning refrigerant compressor with valve plate version 2

This refrigerant compressor has a cylinder head cover with symmetrically located connections and is identified on type-rating plate by one of the letters J, K, L or M.

If working surfaces of cylinders are in order, mount repair set for valve plate version 3. The cylinder head cover of version 2 can be used again, if it is not damaged.

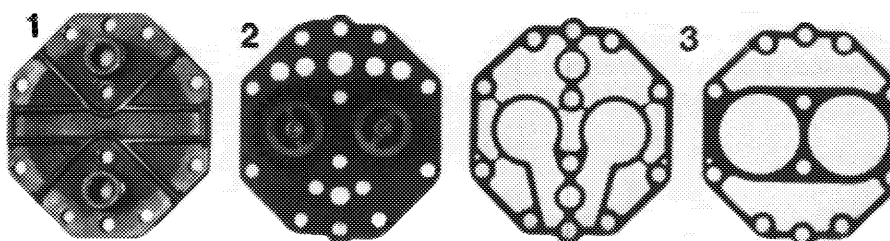
- 5 Metal gasket between valve cover and valve plate
- 6 Valve plate
- 7 Gasket between valve plate and crankcase



183-14867

Version 2

- 1 Cylinder head cover, symmetric
- 2 Valve plate
- 3 Gasket set/valve plate

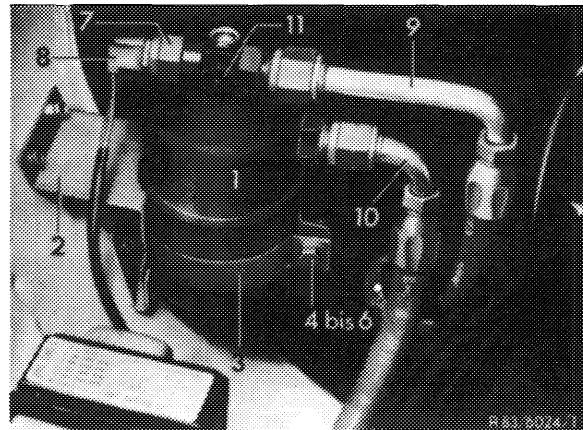
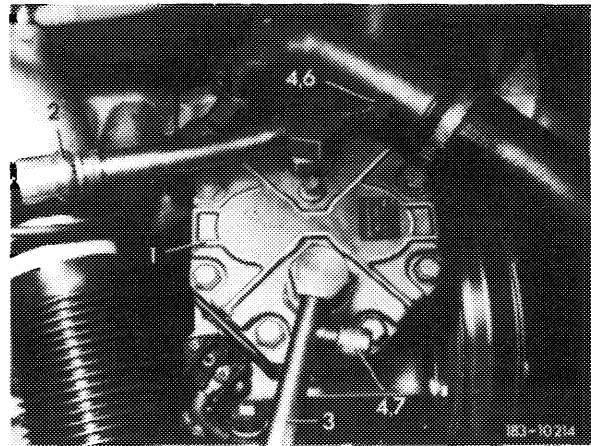


183-15279/1

c) Additional jobs if suction valves of valve plate are damaged

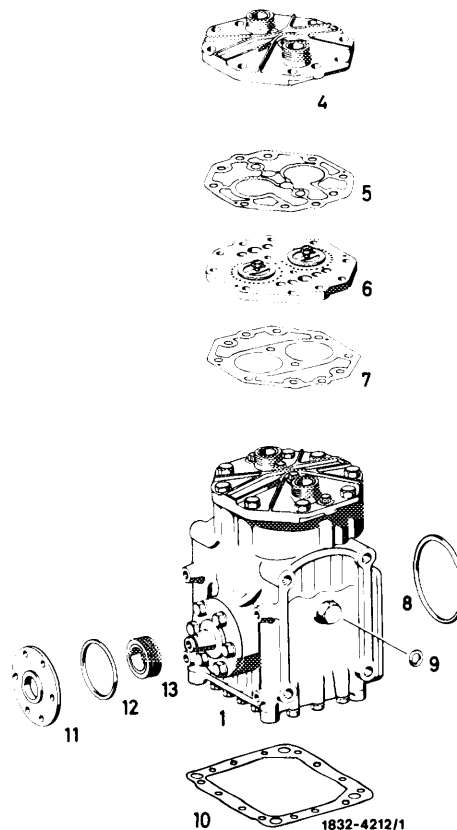
In the event of broken suction valves, parts of such broken suction valves may have been forced back into the hose line. To prevent such parts from entering the refrigerant compressor later on, also replace the following parts when renewing valve plate:

1. Suction hose (2) from evaporator to refrigerant compressor.
2. Pressure hose (3) from refrigerant compressor to condenser.
3. Receiver dehydrator (1).



Removal

- 1 Drain air-conditioning system (83—516).
- 2 Unscrew service valves or hose or pipe line of refrigerant compressor and close connections with plug.
- 3 Unscrew hex. or double hex. head screws on cylinder head cover (4). (Hex. head screws SW 1/2", double hex. head screws SW 5/16"). (SW = width between flats).
- 4 Remove cylinder head cover (4) and valve plate (6). If the valve plate and the cylinder head cover are tightly glued together, push with a screwdriver or lever against projecting parts of **valve plate**, or tap carefully with a rubber hammer.
- 5 Carefully clean cylinder head cover, valve plate and crankcase from any residue of gaskets. Make sure that the sealing surfaces are not scratched or damaged.



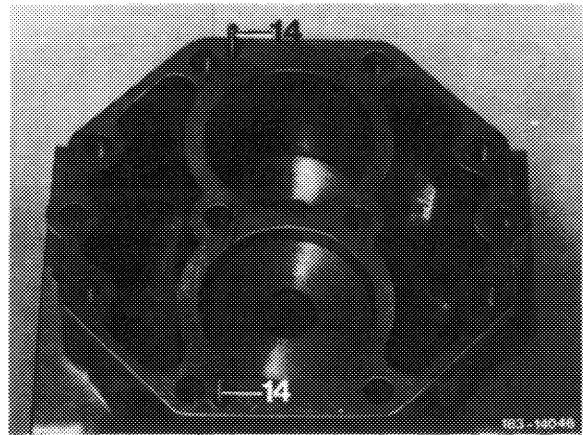
Installation

6 Insert fitted pins (14) into respective bores in crankcase.

Note: If on refrigerant compressor version with the letters "EH" the valve plate version 3 is installed with cylinder head cover version 2, the fitted pins (14) are not required.

7 Coat surfaces of crankcase as well as of gasket (7) with cold-flowing oil. Place gasket on crankcase in such a manner that it is located by the fitted pins.

8 Also coat valve plate (6) and cylinder head cover gasket (5) with cold-flowing oil. Place valve plate (6) on crankcase in such a manner that the pressure valve unit (valve holder with valve tongue) is facing upwards and the valve plate is guided through the respective bores by means of the fitted pins.



9 Place cylinder head cover gasket (5) on valve plate (6). Coat sealing surfaces of cylinder head cover (4) with cold-flowing oil and place on valve plate with gasket in such a manner that the fitted pins are entering the respective bores in cylinder head cover (4).

Note: By now, an improved metal version of the cylinder head cover gasket is installed. This gasket can also be used for compressors with paper gasket.

10 Insert hex. or double hex. head screws and tighten crosswise.

11 Check oil level in compressor (83—520).

12 Insert new gasket (3), mount service valves or hose or pipe lines.

13 Evacuate air conditioning system and fill up again (83—512 and 514).

14 Check air conditioning system for leaks and function (83—510 and 512).

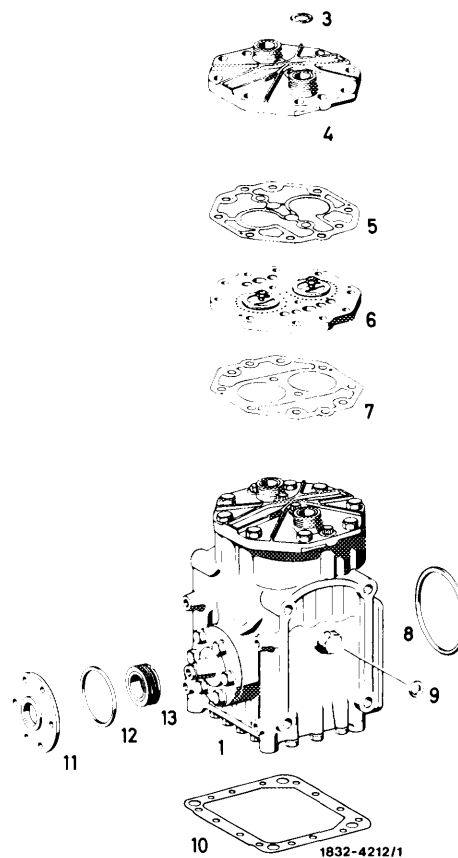
B. Crankshaft gasket

Note

The crankshaft gasket at clutch end of refrigerant compressor is supplied as a complete unit only and should also be installed as such. Never install new and old parts together.

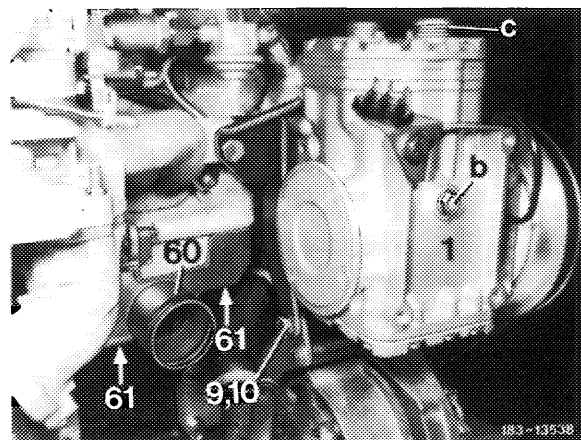
The new shaft sealing pack has two paper gaskets and one sealing ring (12). The new gasket should correspond to the old, removed gasket, but it is important that only one gasket or one sealing ring is used.

Newly installed shaft sealing assemblies should not be immediately removed again because of a minor leak. The carbon ring is lapped together with sealing plate (13). The close fit will improve during running-in period of shaft sealing assembly.

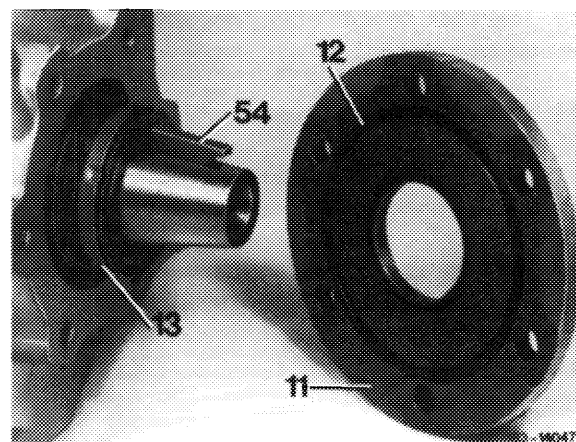


Removal

- 15 Drain air conditioning system (83—516) and slowly unscrew oil check plug (6).
- 16 Remove electromagnetic clutch (83—526).



- 17 Remove woodruff key (54) from crankshaft.
- 18 Unscrew hex. inch screws (SW 1/4") on flange cover (11). Do not use the drained cold-flowing oil again.
- 19 Remove flange cover (11) with sealing ring or paper gasket (12) and force gasket (13) from crankshaft by means of two screwdrivers. Make sure that the sealing surfaces on crankcase and on crankshaft are not damaged.



Installation

20 Wash seal (13) with cold-flowing oil and slip on crankshaft in such a manner that the carbon ring is on external side.

Note: If the carbon ring is loose from shaft seal (13), slip shaft seal on crankshaft in such a manner that the holder is coming to rest in outward direction. Then insert carbon ring into holder, with its polished surface facing outwards. The recesses on circumference of carbon ring should enter into the drive lugs of holder and be well seated.

21 Coat paper gasket or sealing ring (12) with cold-flowing oil and insert at crankcase.

22 Check lapped inner surfaces on flange cover for scratches. Then slip flange cover (11) over end of crankshaft and push shaft seal (13) completely on crankshaft into its correct position with the assistance of the flange cover.

23 Insert hex. inch screws and tighten uniformly crosswise. Make sure that the distance between the crankshaft and the shaft bore of the flange cover is the same all around. If required, move flange cover (11) into correct position. Then tighten hex. screws.

24 Install electromagnetic clutch (83—526).

25 Check oil level in refrigerant compressor (83—520).

26 Evacuate air conditioning system and fill up again (83—512 and 514).

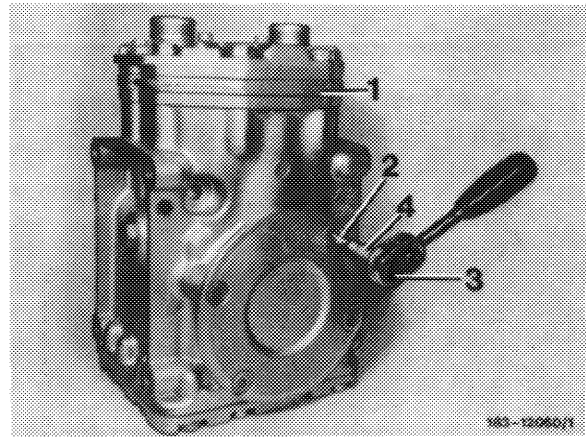
27 Check air conditioning system for leaks and function (83—510 and 512).

C. Sealing ring in compressor flange at rear

Removal

28 Drain air conditioning system (83—516).

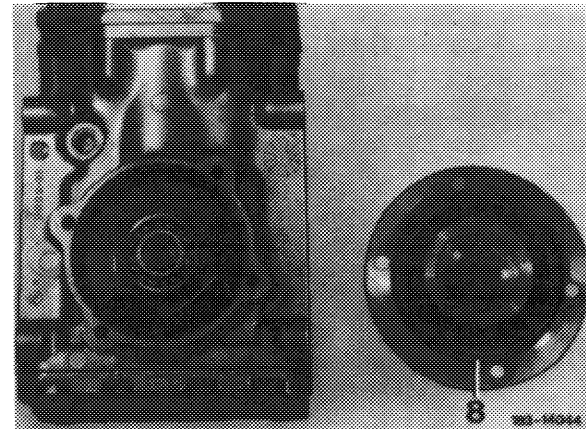
29 Remove fastening screws for rear compressor flange by means of socket wrench (ratchet [3]), one socket 1/4" (4), as well as screw turning insert (2) and remove compressor flange. Do not use drained cold-flowing oil again.



Installation

30 Clean compressor flange and check for distortion and damage.

31 Exchange sealing ring (8). Coat new sealing ring with cold-flowing oil and screw compressor flange on again.



32 Fill up with cold-flowing oil and check oil level in compressor (83—520).

33 Evacuate air conditioning system and fill up again (83—512 and 514).

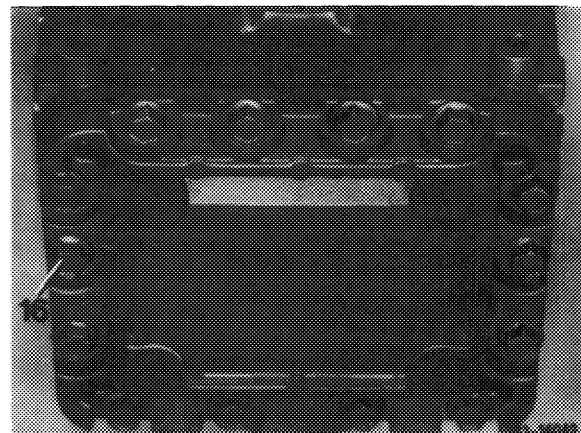
34 Check air conditioning system for leaks and function (83—510 and 512).

D. Gasket on oil pan cover at bottom

Removal

35 Remove refrigerant compressor (83—522).

36 Unscrew hex. inch screws (16 SW 3/8") on floor plate bottom out of crankcase.



37 Carefully press floor plate from cylinder crankcase.

Do not use drained cold-flowing oil again.

38 Carefully clean sealing surfaces on compressor cover and on crankcase from gasket residue. Check compressor cover for distortion.

Installation

39 Coat gasket (10) and sealing surfaces with cold-flowing oil and screw back compressor cover with a new gasket, while tightening hex. inch screws cross-wise.

40 Install refrigerant compressor.

41 Refill cold-flowing oil and check oil level (83-520).

42 Evacuate air conditioning system and fill up again (83-512 and 514).

43 Check air conditioning system for leaks and function (83-510 and 512).

