

# INSTRUCTIONS AND REPAIR PART LIST

## for

### SIZE 92RMG10 MULTI-VANE<sup>®</sup> MOTOR

### FOR GAS OPERATION

#### LUBRICATION

Always use an air line lubricator with this Motor. We recommend Ingersoll-Rand No. NFLRU-16 Filter-Lubricator-Regulator Unit. For temperatures above 30° F, use SAE 20 motor oil. For temperatures below 30° F, use SAE 10 or 10W motor oil. Set the lubricator valve to a medium feed or approximately 60 drops per minute.

After each 200 hours of operation, lubricate the gears and bearings with Ingersoll-Rand Lubricant No. 28, or a good No. 2 cup grease, as follows:

1. Remove the Gear Case Cover Cap Screws (28).
2. Grasp the Drive Shaft (26) and, as a unit, withdraw the Drive Shaft and Gear Case Cover.
3. Work some grease into both Drive Shaft Bearings (15) and the Front Rotor Bearing (23). Coat the teeth on the Drive Gear (17) and Rotor Pinion (22) with grease. Use grease sparingly. About 3 cc of grease should be sufficient for these members.
4. Replace the Gear Case Cover and Drive Shaft, and install the Gear Case Cover Cap Screws. Alternately tighten the Cap Screws to 20 ft-lb (27.1 Nm) torque.

**Important: Install the cap screw at bottom dead center first. Refer to note on the sectional view.**

5. **Important: Do not proceed any further unless you have two new No. 92RMG10-103 Cylinder Seals on hand.**
6. Unscrew the Housing Cover Cap Screws (2) and withdraw the Motor Housing Cover (1). Try not to separate the joint between the Housing and Gear Case and do not change the location of the Housing relative to the Cylinder.
7. Work some grease into the Rear Rotor Bearing (5).
8. If you separated the Motor Housing from the Gear Case, or changed the location of the

Housing relative to the Cylinder, carefully inspect the Cylinder Seals (9). If the Seals appear damaged in any respect, install new Seals.

9. Replace the Motor Housing Cover and install the Housing Cover Cap Screws. With the motor running at a slow speed (30 to 40 psig) (2.1 bar/207 kPa to 2.8 bar/276 kPa) alternately tighten the Screws to 20 ft-lb (27.1 Nm) torque.
10. Check the Motor for leaks by plugging the exhaust port and admitting 50 psig (3.5 bar/345 kPa) of compressed air in the inlet. Apply soap suds or oil to the joint at each end of the Motor Housing and check for bubbles.
11. If the Motor leaks, check the tightness of the Housing Cover Cap screws. If this does not correct the trouble, install new Cylinder Seals (9).

#### Motor Assembly

Assemble the motor as follows:

1. Slip one End Plate (7), crescent groove side first, on the splined end of the Rotor (25).
2. Slide the Front Rotor Bearing (23) on the splined hub of the Rotor and against the End Plate.
3. Slide the Rotor Pinion (22) on the splined end of the Rotor and retain it with the Rotor Pinion Retainer (21).
4. While holding the Rotor in a vertical position, grasp the Rotor Pinion in copper-covered vise jaws.
5. Place a Vane (11) in each vane slot.
6. Note that there are a series of holes drilled near the outer rim of the End Plate. Rotate the End Plate so that the centered hole (cylinder dowel hole) is facing you.
7. Place the Cylinder (8) over the Rotor so that the cylinder dowel hole in the Cylinder is to the left of the air ports and so that it lines up with the cylinder dowel hole in the End Plate.

(Continued on Page 4)

Refer All Communications to the Nearest Ingersoll-Rand Branch Office or Distributor.

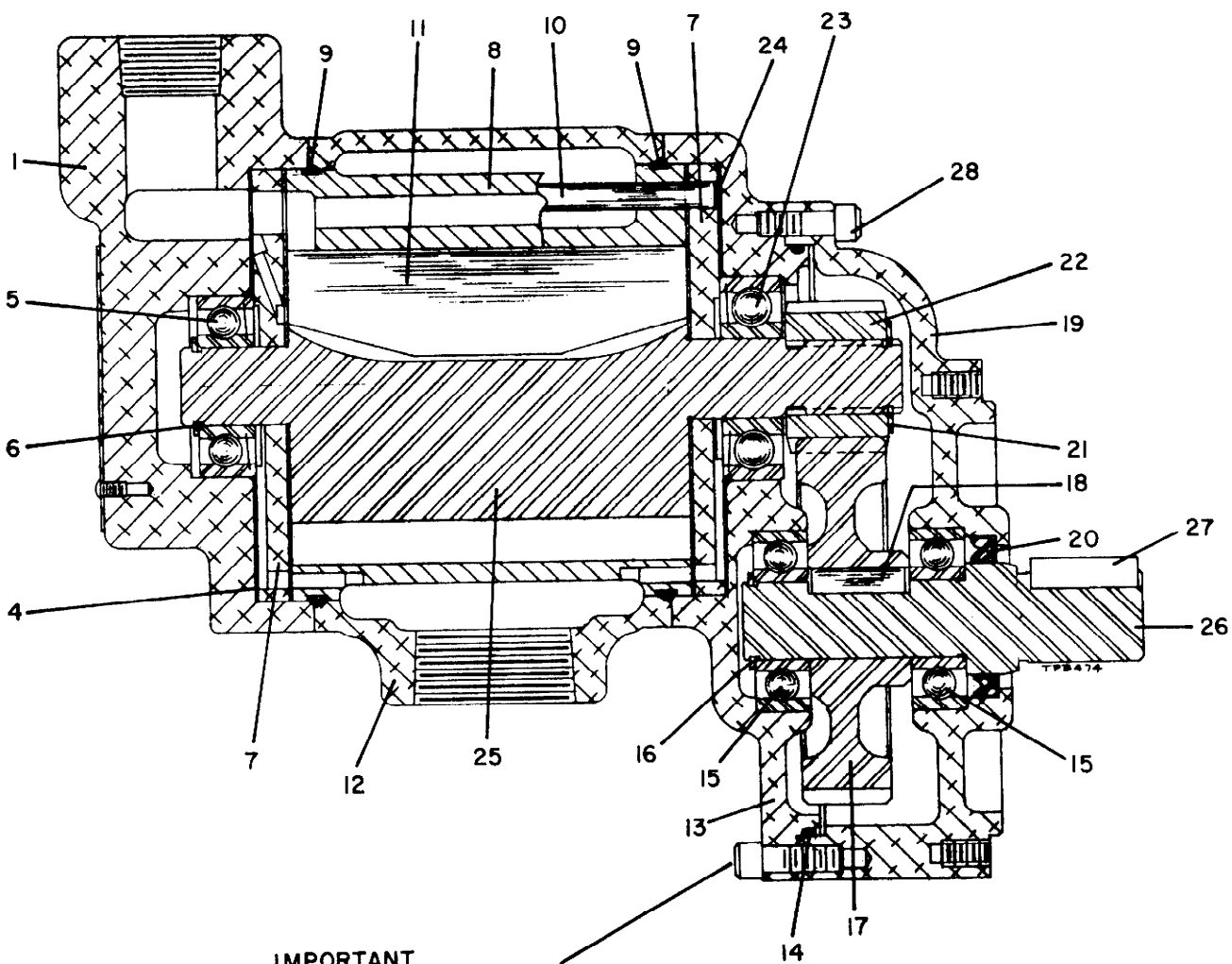
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**IMPORTANT**  
 WHEN INSTALLING THE GEAR CASE  
 COVER, INSTALL THIS CAP SCREW  
 (BOTTOM DEAD CENTER) FIRST

## REPAIR PART LIST

ILLUSTRATION NUMBER (Do not use for ordering)	PART NAME FOR ORDERING  (Parts indented after an item are included with that item)	PART NUMBER FOR ORDERING
1	Motor Housing Cover . . . . .	92RMG10-102
*	Motor Housing Cover Cap Screw (4) . . . . .	12BMP-634
*	Cover Cap Screw Lock Washer (copper) (4) . . . . .	D02-504
4	Motor Housing Cover Gasket . . . . .	10BM-283
5	Rear Rotor Bearing (AFBMA No. 20BC02JP) . . . . .	92RMG10-22
6	Rear Rotor Bearing Retainer . . . . .	R380Q-6
7	End Plate (2) . . . . .	92RMG10-11
8	Cylinder Assembly . . . . .	92RMG10-A3
9	Cylinder Seal (2) . . . . .	92RMG10-103
10	Cylinder Dowel . . . . .	205-1098
11	Vane Packet (set of 5) . . . . .	R5H-42-5
12	Motor Housing . . . . .	92RMG10-40
13	Gear Case Assembly . . . . .	92RMG10-A37
14	Gear Case Cover Seal . . . . .	92RMG10-607
15	Drive Shaft Bearing (AFBMA No. 20BC02) (2) . . . . .	T02-33
16	Drive Shaft Retainer . . . . .	R380Q-6
17	Drive Gear . . . . .	92RMG10-9
18	Drive Gear Key . . . . .	10BM-610
19	Gear Case Cover Assembly . . . . .	92RMG10-A478
20	Drive Shaft Grease Seal . . . . .	150RMG14-271
21	Rotor Pinion Retainer . . . . .	10BM-69
22	Rotor Pinion . . . . .	101BMPD-17
23	Front Rotor Bearing (AFBMA No. 20BC03JP) . . . . .	555-24
24	Gear Case Gasket . . . . .	10BM-284
25	Rotor . . . . .	92RMG10-53
26	Drive Shaft . . . . .	92RMG10-8
27	Drive Shaft Key . . . . .	205-61
28	Gear Case Cover Cap Screw (8) . . . . .	510-638

\* Not illustrated.

### HOW TO ORDER

Order all repair parts for your Ingersoll-Rand Tool by the **NAME** and **NUMBER** shown in the Repair Part List section. **Never** use the illustration numbers which appear in the first column.

For prompt service and genuine Ingersoll-Rand parts, place orders with the nearest Ingersoll-Rand Branch Office or Authorized Distributor.

**Notice:** The use of other than genuine Ingersoll-Rand replacement parts may result in decreased tool performance and increased maintenance, and may, at the Company's option, invalidate all warranties.

8. Slide the other End Plate, crescent grooved side first on the short hub of the Rotor. Rotate it so that the cylinder dowel hole is aligned with the corresponding hole in the Cylinder.
9. Slide the Rear Rotor Bearing (5) on the short hub of the Rotor and against the End Plate. Retain it with the Rear Rotor Bearing Retainer (6).

10. After the complete unit has been assembled, check the direction of drive shaft rotation by admitting live air to the inlet. When facing the drive shaft end of the Motor, the Drive Shaft should rotate counter-clockwise. If the direction of rotation is incorrect, disassemble the Motor and turn the Cylinder (8) end for end.

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