

**MODELS 3801M2, 3801P2, 3801Q2, 3801R2, 3801S2 AND 3801U2  
NONREVERSIBLE ASSEMBLY MACHINE MOTORS  
and  
MODELS 3811M2, 3811P2, 3811Q2, 3811R2, 3811S2 AND 3811U2  
NONREVERSIBLE ASSEMBLY MACHINE MOTORS  
WITH OFFSET HEAD**

**Always operate, inspect and maintain this tool in accordance with American National Standards Institute Safety Code for Portable Air Tools (ANSI B186.1) and any other applicable safety codes and regulations.**

**FOR TOP PERFORMANCE AND MAXIMUM DURABILITY OF PARTS, OPERATE THIS TOOL AT 90 psig(6.2 bar/620 kPa) AIR PRESSURE WITH 3/4" (19 mm) AIR SUPPLY HOSE.**

**▲WARNING**

**Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool. Failure to do so could result in injury.**

**LUBRICATION**

**Oil:** Ingersoll-Rand No. 50 Lubricant.

**Grease:** Ingersoll-Rand No. 28 Lubricant.

We recommend the use of an air line lubricator in the air supply line. Attach the Ingersoll-Rand No. C31-06-G00 Filter-Lubricator-Regulator Unit as close to the motor as practical. These units have a 3/4" pipe tap inlet and outlet. The C31-06-G00 has a 3/4 qt (709 mL) capacity. Larger capacity units may be used, but do not use a unit having less than 3/4" pipe tap inlet and outlet.

**After each forty hours of operation, or as experience indicates, lubricate the Motor through the Grease Fitting (29). Do not grease excessively. Too much grease in the Gear Case (28) will cause heating. Grease leakage from the spindle end is also an indication that an excessive amount of grease has accumulated within the Gear Case.**

**NOTICE**

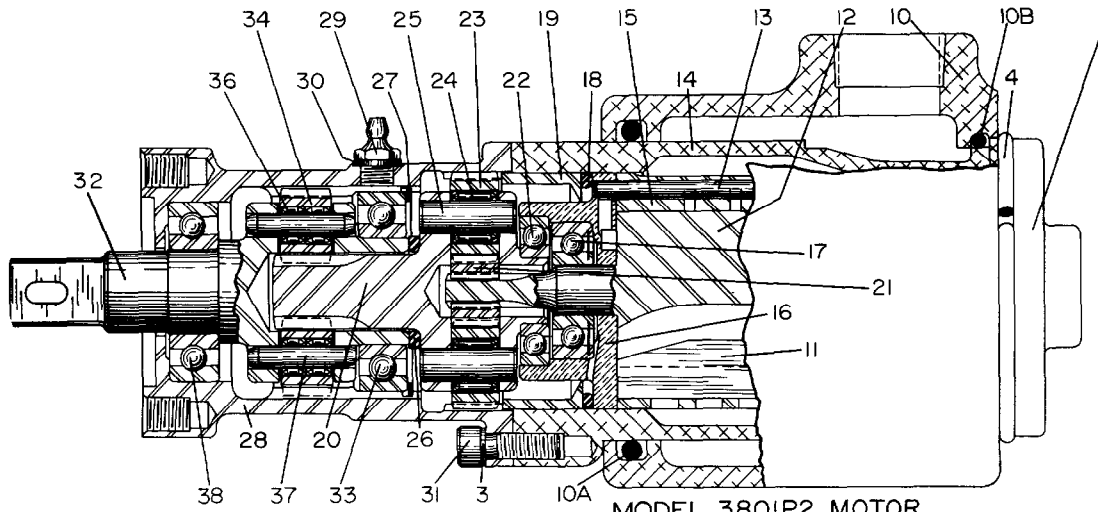
The use of other than genuine Ingersoll-Rand replacement parts may result in decreased Motor performance and increased maintenance, and may invalidate all warranties.

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

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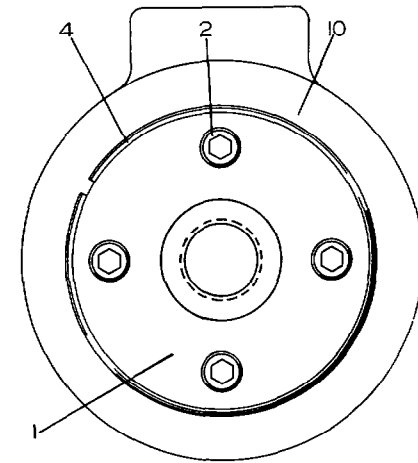
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**INGERSOLL-RAND®**  
**AIR MOTORS**

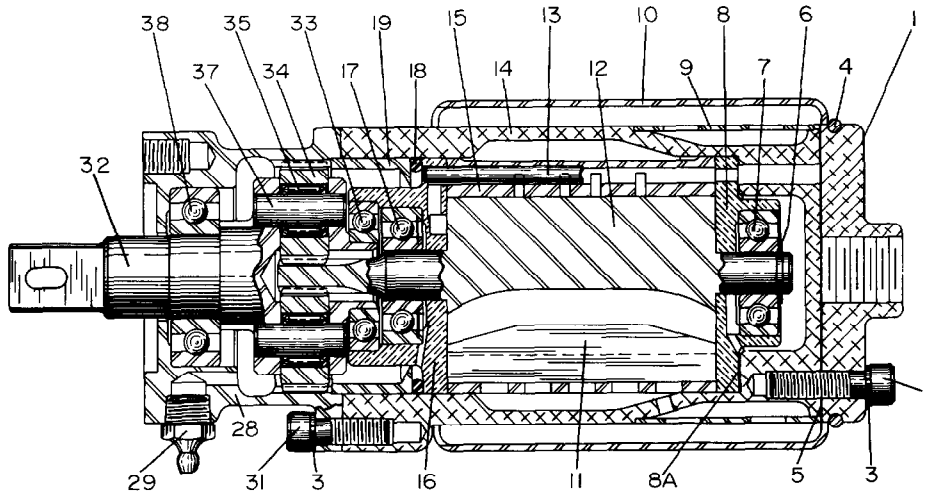


MODEL 380IP2 MOTOR

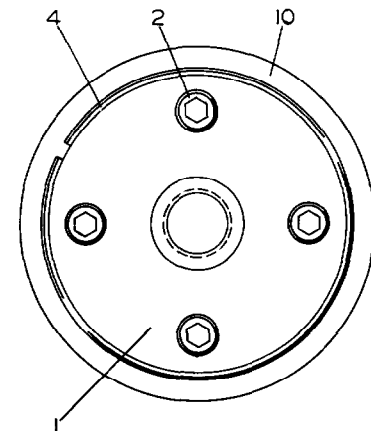
CONSTRUCTION ALSO TYPICAL OF MODELS 380IQ2, 380IR2, 380IS2 AND 380IU2



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MODEL 380IM2 MOTOR



(Dwg. TPA535-1)

PART NUMBER FOR ORDERING

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1	Backhead .....	R3800-102	• 16	Front End Plate .....	R3801-11
2	Backhead Cap Screw (4) .....	510-638	• 17	Front Rotor Bearing .....	R1-24A
3	1/4" Lock Washer (7) .....	8U-58	• 18	Motor Retaining Ring .....	34U-216
• 4	Exhaust Deflector Retaining Ring .....	R4-323	19	Motor Retainer .....	R3800-118
• 5	Backhead Gasket .....	R3800-283		Gear Head Assembly	
• 6	Rotor Bearing Retainer .....	404-118		for P ratio .....	R38P-A216
• 7	Rear Rotor Bearing .....	R1-24		for Q ratio .....	R380Q-A216
• 8	Rear End Plate .....	R3801-12		for R ratio .....	R3800R2-A216
• 8A	End Plate Gasket .....	R3801-739		for S ratio .....	R380S-A216
9	Muffler .....	R38-23		for U ratio .....	R3800U2-A216
10	Exhaust Deflector		• 20	Gear Head	
	with slotted front exhaust .....	R3800-23		for P ratio .....	R38P-216
	with 3/4" pipe tap exhaust			for Q ratio .....	R380Q-216
	(for piped-away exhaust) .....	R3800-A123		for R ratio .....	R3800R2-216
10A	Deflector Front Seal (used with			for S ratio .....	R380S-216
	piped-away Deflector) .....	R3800-210		for U ratio .....	R3800U2-216
10B	Deflector Rear Seal (used with		• 21	Rotor Pinion (for P ratio)	
	piped-away Deflector) .....	10BMP-604		(19 teeth) .....	R35P-17
11	Vane Packet (set of 6 Vanes) .....	R38-42-6	22	Gear Head Bearing .....	4E-510
• 12	Rotor		• 23	Gear Head Planet Gear (2)	
	for M, P, S and U ratios			for P ratio (22 teeth) .....	R38P-10
	(7 teeth) .....	R3801M-53		for Q ratio (25 teeth) .....	R380Q-10
	for R ratio (9 teeth) .....	R3801R-53		for R ratio (26 teeth) .....	WBT380NL-10
13	Cylinder Dowel .....	R38KT-198	• 24	for S and U ratios (27 teeth) .....	4E-10A
14	Motor Housing .....	R3800-40		Gear Head Planet Gear	
• 15	Cylinder .....	R3801-3	• 25	Bearing (1 for each Gear) .....	8U-654
				Gear Head Planet Gear Shaft (2) .....	8U-191

- To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (•) for every four tools in service.

PART NUMBER FOR ORDERING

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• 26	Gear Head Spacer .....	R38P-80			for P, Q, R or S ratio	
27	Spindle Bearing Retainer .....	FMC2-280			5/8" square drive .....	R3801P2-8
28	Gear Case (for M ratio) .....	ET3802M-A37			Transducer type .....	R3801P-408
	Gear Case (for P, Q, R, S and U ratios) .....	ET3802P-A37			for U ratio	
29	Grease Fitting				5/8" square drive .....	R3801U2-8
	for M ratio .....	23-188			Transducer type .....	R3801U-408
	for P, Q, R, S and U ratios .....	R1-188		33	Spindle Rear Bearing	
30	Grease Fitting Washer (for P, Q, R, S and U ratios) .....	R3-92A			for M ratio .....	4E-510
31	Gear Case Cap Screw (3) .....	R0H-354	#	34	for P, Q, R, S or U ratio .....	R38P-97
#	Spindle Assembly				Spindle Planet Gear	
	for M ratio				for M ratio (2) (27 teeth) .....	4E-10A
	with R3800M-8 Spindle .....	R3800M-A8			for P, Q, R or S ratio (3)	
	with R3800M-208 Spindle .....	R3800M-A208			(12 teeth) .....	R3801P2-A9
	with R3801M-408 Spindle .....	R3801M-A408		35	for U ratio (3) (13 teeth) .....	R3801U2-A9
	for P, Q, R or S ratio				Spindle Planet Gear Bearing	
	with R3801P2-8 Spindle .....	R3801P2-A8			(for M ratio) (1 for each	
	with R3801P-408 Spindle .....	R3801P-A408	#	36	Planet Gear) .....	8U-654
	for U ratio				Spindle Planet Gear Bearing	
	with R3801U2-8 Spindle .....	R3801U2-A8			(for P, Q, R, S or U ratio)	
	with R3801U-408 Spindle .....	R3801U-A408	#	37	(2 for each Planet Gear) .....	R3801P2-500
#	32 Spindle (for M ratio)				Spindle Planet Gear Shaft	
	5/8" square drive .....	R3800M-8			for M ratio (2) .....	8U-191
	1/2" square drive .....	R3800M-208		38	for P, Q, R, S or U ratio (3) .....	13SR-264
	Transducer type .....	R3801M-408	*		Spindle Front Bearing .....	4UA9-593
					Air Strainer .....	R38-565A

\* Not illustrated.

# Refer to **IMPROVED PLANET GEARS** on page 5 before ordering these parts for a P, Q, R, S or U ratio Motor.

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### IMPROVED SPINDLE PLANET GEARS

In any current P, Q, R, S or U ratio Motor, each of the three Spindle Planet Gears is supported on the Planet Gear Shaft by two needle type Spindle Planet Gear Bearings (36) instead of by a bronze bushing. In this construction, the Spindle (32), Spindle Planet Gear (34) and Spindle Planet Gear Shaft (37) differs from its counterpart in the previous construction, but as a set these parts can be used to replace the previous style parts.

Such conversion is recommended if replacement of the Spindle is required; it is not compulsory as the previous style parts remain available. Order old style as follows:

**Spindle**

for P, Q, R or S ratio .....	R3800P-8
for U ratio .....	R3800U2-8

**Spindle Planet Gear (includes Bushing)**

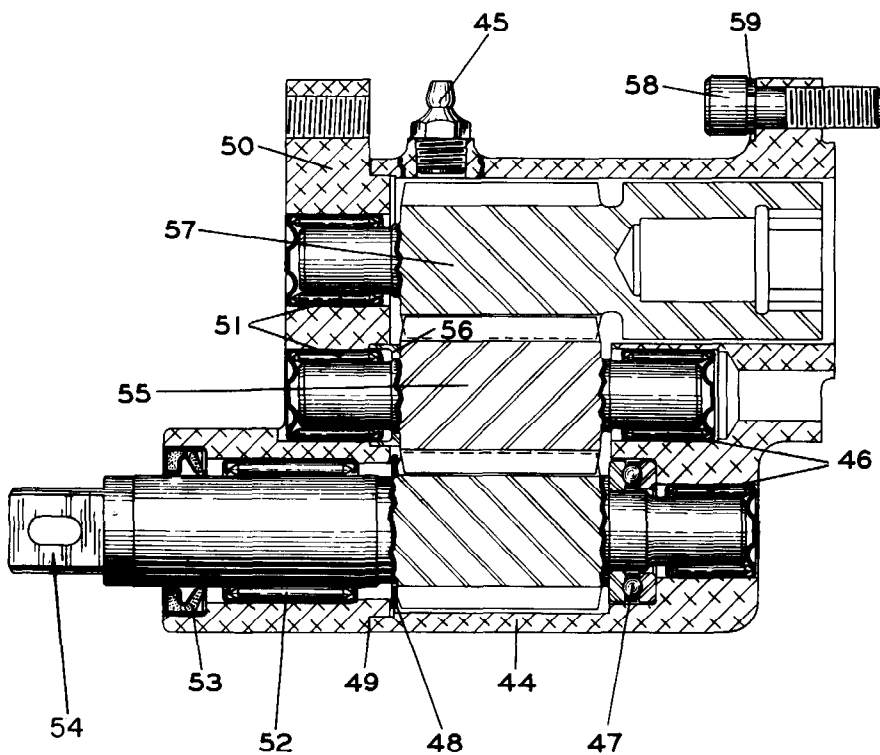
for P, Q, R or S ratio (12 teeth) .....	R38P-9
for U ratio (13 teeth) .....	R3800U2-9

Spindle Planet Gear Bushing (3) .....	R38P-500
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Spindle Planet Gear Shaft (3) .....	R38P-190
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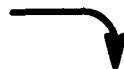
Refer to part list section for current style parts.

## OFFSET HEAD ASSEMBLY



(Dwg. TPB195)

PART NUMBER FOR ORDERING



	Offset Head Assembly .....	R3801P2-A147
44	Offset Gear Housing .....	R3810-147
45	Grease Fitting .....	23-188
46	Gear Housing Bearing (2) .....	R3810-143
• 47	Socket Driver Thrust Bearing .....	R3810-105
• 48	Socket Driver Thrust Washer .....	R3810-706
49	Gear Housing Cover Gasket .....	R3810-592
50	Offset Gear Housing Cover .....	R3810-148
51	Gear Housing Cover Bearing (2) .....	R3810-143
• 52	Socket Driver Front Bearing .....	R3810-593
• 53	Socket Driver Seal .....	R3810-271
• + 54	Socket Driver (5/8" square drive) .....	R3810-145-5/8
55	Intermediate Gear .....	R3810-142
56	Intermediate Gear Spacer .....	R3810-149
57	Drive Gear .....	R3810-146
*	Housing Cover Small Cap Screw (2) .....	510-638
*	Housing Cover Large Cap Screw .....	R3810-126
*	1/4" Lock Washer (2) .....	8U-58
*	5/16" Lock Washer (2) .....	34U-58
58	Housing Cap Screw (4) .....	34U-103
59	5/16" Lock Washer (6) .....	34U-58

\* Not illustrated.

+ For 1/2" square drive Socket Driver order Part Number R1811-145-1/2

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**MAINTENANCE TOOLS**

<b>TOOL NUMBER FOR ORDERING</b>	<b>TOOL NAME FOR ORDERING</b>	<b>OPERATION</b>
P25-228	Grease Gun .....	Lubrication.
33116	Needle Bearing Inserting Tool .....	Installing the Planet Gear Bearings (24 or 35) in the Planet Gears (23 or 34).

