

**MODELS 1601L2, 1601M2, 1601N2, 1601P2, 1601Q2,
1601U2, 601V2, 1601W2 AND 1601X2
HIGH-CAPABILITY NONREVERSIBLE RIGHT-HAND ROTATION
ASSEMBLY MACHINE MOTORS**

and

**MODELS 1611L2, 1611M2, 1611N2, 1611P2, 1611Q2,
1611U2, 1611V2, 1611W2 AND 1611X2
HIGH-CAPABILITY NONREVERSIBLE RIGHT-HAND ROTATION
ASSEMBLY MACHINE MOTORS WITH OFFSET HEAD**

Always operate, inspect and maintain this Motor 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 MOTOR 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 Motor, or before performing any maintenance on this Motor. Failure to do so could result in injury.

NOTICE

As applied to these Motors, right-hand rotation is the direction of rotation required to apply a right-hand thread fastener.

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 (2) and the Gear Case (32) through the Grease Plug (33). Do not grease excessively. Too much grease in the Gear Case (32) 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

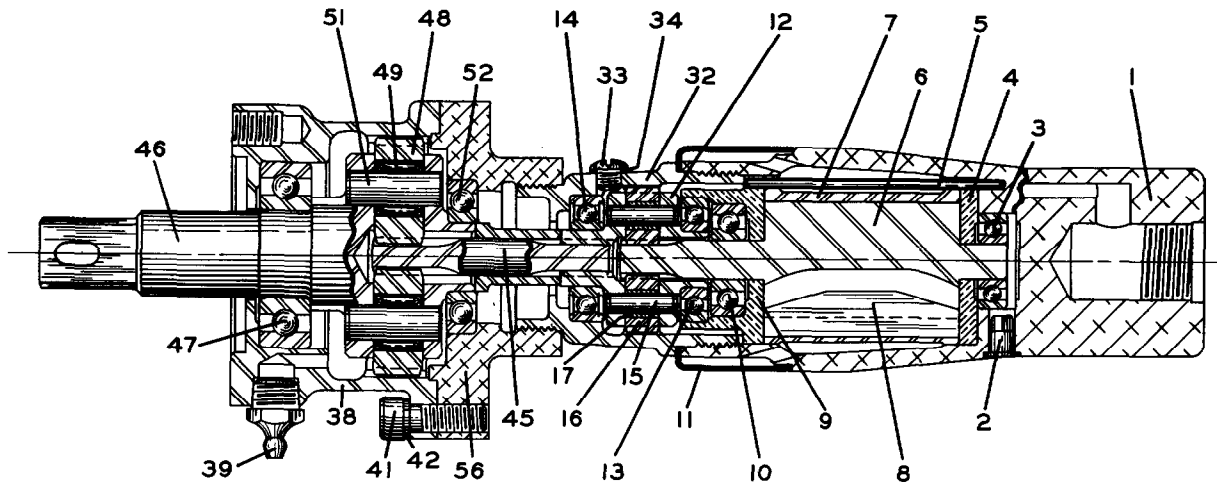
Motors with "P" ratio gearing are not recommended for applications involving over 30 ft-lb torque and/or over 70 psi air pressure.

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.

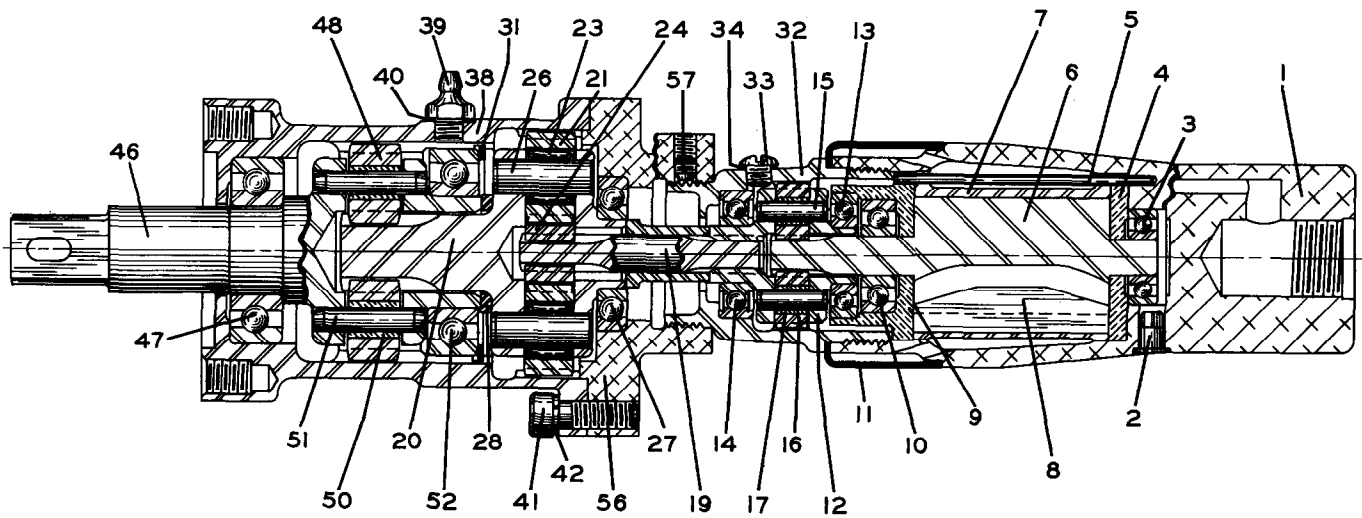
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**INGERSOLL-RAND[®]
AIR MOTORS**

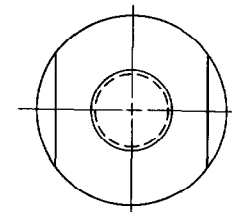


SERIES 160I AND 161I MOTORS-Q AND U RATIOS

2

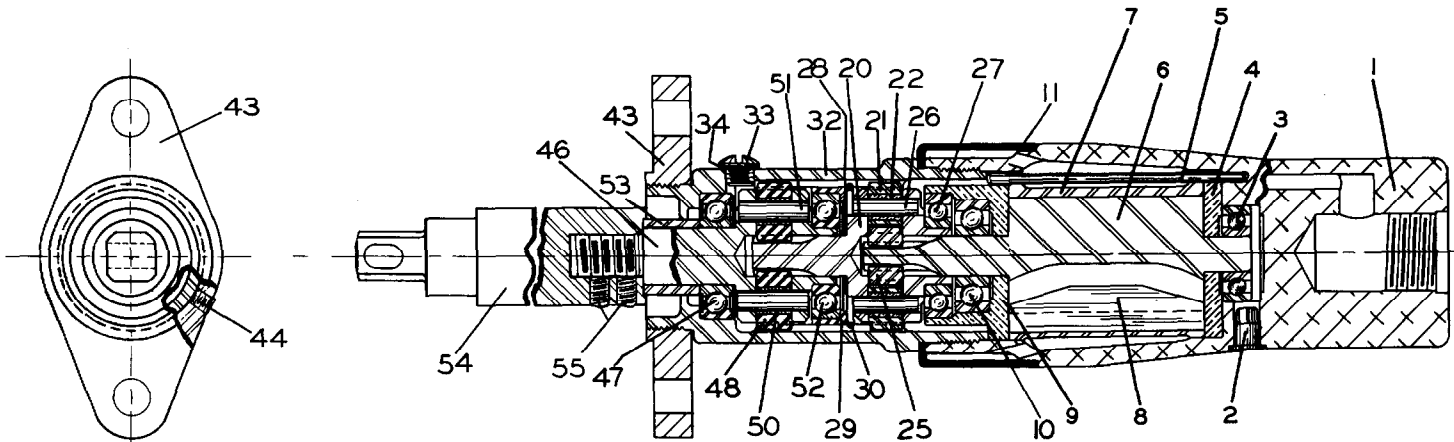


MODELS 1601 AND 1611 Q, U, V, W AND X RATIOS

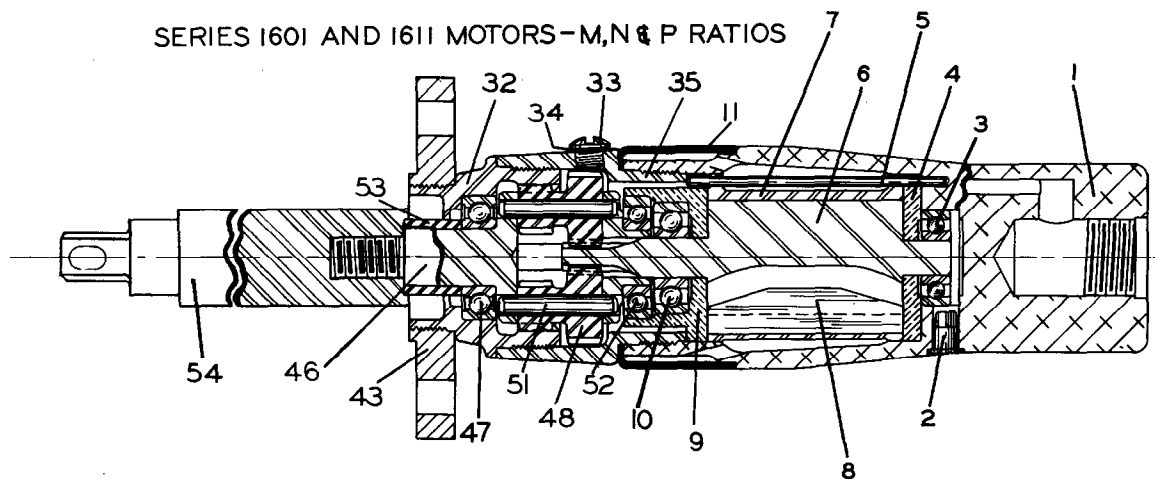


END VIEW OF
SERIES 160I AND 161I
NON-REVERSIBLE
MOTOR

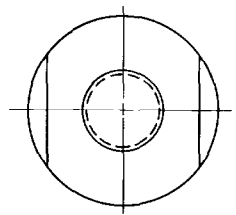
(Dwg. TPA311-1)



SERIES I60I AND I6II MOTORS - M, N & P RATIOS



SERIES I60I AND I6II - L RATIO



END VIEW OF SERIES I60I AND I6II NON-REVERSIBLE MOTOR

MODELS 1601 AND 1611 L, M, N and P RATIOS

(Dwg. TPA310-2)

PART NUMBER FOR ORDERING

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4	+	1	Motor Housing	R1601-A40	19	Gear Head Driver	
	2	Motor Housing Grease Fitting	130SR-188			for V ratio	R0B1Q-563
	3	Rear Rotor Bearing	R0A2-22			for W or X ratio	R0B1W-563
	4	Rear End Plate	R1601-12A			Gear Head Assembly	
	5	Cylinder Dowel	R0A1-98			for M ratio	R0A1M-A216
	6	Rotor				for N ratio	R0AN-A216
		for L, M or P ratio (7 teeth)	R1601L-53			for P ratio	R1600P-A216
		for N ratio (11 teeth)	R1601N-53			for V ratio	R38P-A216
	7	Cylinder	R1601-3			for W or X ratio	R380Q-A216
	•	8	Vane Packet (set of 6 Vanes)	R1601-42-6	20	Gear Head	
	9	Front End Plate	R0A1-11			for M ratio	R0A1M-216
	•	10	Front Rotor Bearing	R1-22		for N ratio	R0AN-216
	11	Exhaust Deflector	R0A1-23			for P ratio	R1600P-216
			Gear Frame Assembly			for V ratio	R38P-216
			for Q, V or X ratio	R0AJ-A108		for W or X ratio	R380Q-216
			for U ratio	R0AK-A108	21	Gear Head Planet Gear (2)	
			for W ratio	R0B2H-A108		for M ratio (14 teeth)	R0A1M-9
	12	Gear Frame				for N ratio (17 teeth)	R0AJ-10
		for Q, V or X ratio	R0AJ-108			for P ratio (19 teeth)	R0AK-10
		for U ratio	R0AK-108			for V ratio (22 teeth)	R38P-10
	for W ratio	R0B2H-108			for W or X ratio (25 teeth) ...	R380Q-10	
13	Gear Frame Rear Bearing	4U-97		22	Gear Head Planet Gear Bushing		
14	Gear Frame Front Bearing	R0A1-510			(one for each Planet Gear)		
15	Gear Frame Planet Gear Shaft (2)				for M ratio	R00A-500	
	for Q, U, V or X ratio	R0AJ-191			for N or P ratio	R0A1-500	
	for W ratio	R000B-191		23	Gear Head Planet Gear		
16	Gear Frame Planet Gear (2)				Bearing (one for each Planet		
	for Q, V or X ratio				Gear) (for V, W, or X ratio)	8U-654	
	(17 teeth)	R0AJ-10		24	Gear Head Driver Pinion		
	for U ratio (19 teeth)	R0AK-10			(for V ratio only)	R38P-17	
	for W ratio (14 teeth)	R0A1M-9		25	Rotor Pinion (for M ratio only)	R0AH-17	
17	Gear Frame Planet Gear			26	Gear Head Planet Gear Shaft (2)		
	Bushing (one for each Planet				for M ratio	R000B-191	
	Gear (for Q, U, V or X ratio)	R0AJ-500			for N or P ratio	R0AJ-191	
*	Rotor Pinion (for W ratio)	R0AH-17			for V, W or X ratio	8U-191	

* Not illustrated.

+ Always specify the **complete** symbol of the Motor when ordering a Motor Housing (1) to insure that the new Housing is stamped with the correct size symbol.

• 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 Motors in service.

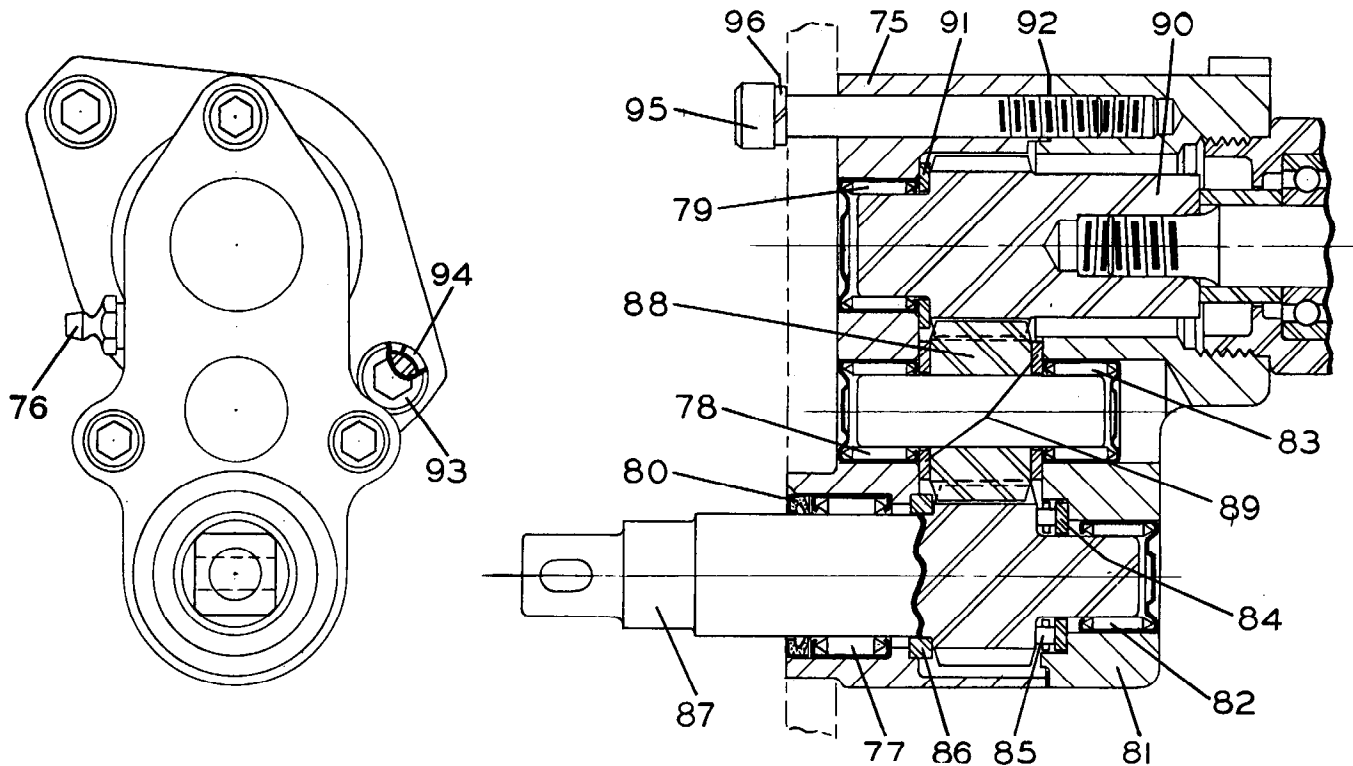
PART NUMBER FOR ORDERING

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27	Gear Head Bearing for M, N or P ratio for V, W or X ratio	4U-97 4E-510	46	Spindle for L ratio; 5/8" sq. for M or N ratio; 5/8" sq. for P ratio; 5/8" sq. for Q or U ratio; 5/8" sq. for Q or U ratio; 1/2" sq. for V, W or X ratio; 5/8" sq. for V, W or X ratio; 1/2" sq.	ROAL-8 ROAN-8 R1600P2-8 R3800M-8 R3800M-208 R3800P-8 R3800P-208
28	Gear Head Spacer for M, N or P ratio for V, W or X ratio	R1602-80 R38P-80			
29	Spindle Bearing Cage (for M, N or P ratio)	R0AN-107			
30	Cage Retainer (for M, N or P ratio)	R0N-118			
31	Spindle Bearing Retainer (for V, W or X ratio)	FMC2-280	• 47	Spindle Front Bearing for L, M, N or P ratio for Q, U, V, W or X ratio	R0A1-510 4UA9-593
32	Gear Case for L ratio for M, N or P ratio for Q, U, V, W or X ratio	R0AL-37 R0A1N-37 R0A1H-37	48	Spindle Planet Gear for L ratio (13 and 23 teeth) (2) for M or N ratio (17 teeth) (3) for P ratio (17 teeth) (3) for Q or U ratio (27 teeth) (2) for V, W or X ratio (12 teeth) (3)	WSA161NL-A10 R0AJ-10 WLT160NP-10 4E-10A R38P-9
33	Grease Plug	R00A-95	49	Bearing (1 for each Planet Gear) (for Q or U ratio)	8U-654
34	Grease Plug Washer	R3-92A	50	Planet Gear Bearing or Bushing (one for each Planet Gear) for L ratio for M or N ratio for P ratio for V, W or X ratio	WSA161NL-500 R0A1-500 WLT160NP-500 R38P-500
35	Gear Case Adapter (for L ratio)	R0A1L-124	51	Spindle Planet Gear Shaft for L ratio (2) for M, N or P ratio (3) for Q or U ratio (2) for V, W or X ratio (3)	R0AL-191 R0AJ-191 8U-191 R38P-190
38	Auxiliary Gear Case for Q or U ratio for V, W or X ratio	ET3802M-A37 ET3802P-A37	• 52	Spindle Rear Bearing	4U-97
39	Gear Case Grease Fitting for Q or U ratio for V, W or X ratio	23-188 R3-92A	53	Socket Adapter Spacer (for L, M, N or P ratio) .	R0A-90A
40	Grease Fitting Washer (for V, W or X ratio)	R3-92A	54	Socket Adapter (for L, M, N or P ratio) 1-7/8" long 3-5/8" long	R0B212-212-1 R0B212-212-3
41	Auxiliary Gear Case Cap Screw (3)	R0H-354	55	Adapter Setscrew (2) (for M, N or P ratio)	4UA9-561
42	Cap Screw Lock Washer (3)	8U-58	56	Gear Case Adapter (for Q, U, V, W or X ratio) .	R0B1Q-100
43	Motor Mounting Flange	R0B1L56-580	*	Grease Gun (available at extra cost)	R00A2-228
44	Mounting Flange Setscrew (2)	R1640-561			
45	Spindle Driver (for Q or U ratio)	R0B1Q-563			
	Spindle Assembly for L ratio; 5/8" sq. for M or N ratio; 5/8" sq. for P ratio; 5/8" sq. for Q or U ratio; 5/8" sq. for Q or U ratio; 1/2" sq. for V, W or X ratio; 5/8" sq. for V, W or X ratio; 1/2" sq.	1601L2-A8 R0AN-A8 R1600P2-A8 R3800M-A8 R3800M-A208 R3800P-A8 R3800P-A208			

* Not illustrated.

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(Dwg. TPC212)

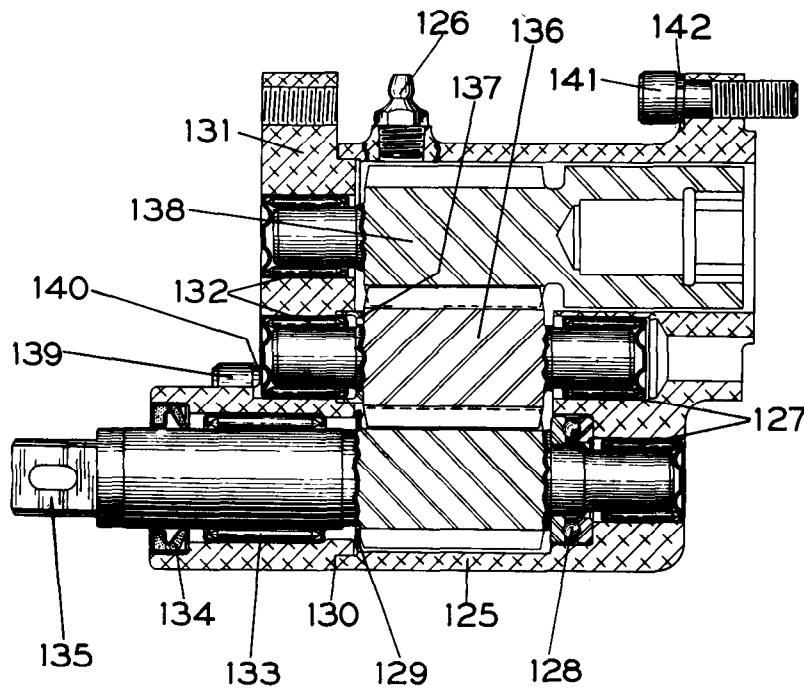
OFFSET HEAD FOR L, M, N AND P RATIOS

PART NUMBER FOR ORDERING



	Offset Head Assembly	R1610M2-A147
	75 Offset Gear Housing	R1610-147
	76 Grease Fitting	R1-188
•	77 Socket Driver Front Bearing	R1610-593
•	78 Intermediate Gear Front Bearing	H54U-535
•	79 Drive Gear Bearing	R1610-601
•	80 Socket Driver Seal	R1610-271
	81 Offset Gear Housing Cover	R1610-378
•	82 Socket Driver Rear Bearing	R1610-793
•	83 Intermediate Gear Rear Bearing	H54U-535
	84 Driver Thrust Bearing Washer	R1610-701
•	85 Socket Driver Thrust Bearing	R1610-105
	86 Socket Driver Thrust Washer	R1610-706
	87 Socket Driver (1/2" square drive)	R1610-607-1/2
	88 Intermediate Gear	R1610-82
	89 Intermediate Gear Thrust Washer (2)	R1610-332
	90 Drive Gear	R1610-756
	91 Drive Gear Thrust Washer	R1610-707
	92 Gear Housing Cover Gasket	R1610-592
	93 Housing Cover Cap Screw (2)	R44HA90A
	94 5/16" Lock Washer (2)	34U-58
	95 Housing Cap Screw (3)	518-104
	96 1/4" Lock Washer (3)	8U-58

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OFFSET HEAD FOR Q, U, V, W and X RATIOS

PART NUMBER FOR ORDERING

(Dwg. TPC534)

	Offset Head Assembly	
	with 1/2" square driver for use on Motors with 1/2" square drive spindle	R3810P2-A147-1/2
	with 5/8" square driver for use on Motors with 5/8" square drive spindle	R3810P2-A147-5/8
125	Offset Gear Housing	R3810-147
126	Grease Fitting	23-188
• 127	Gear Housing Bearing (2)	R3810-143
128	Socket Driver Thrust Bearing	R3810-105
129	Socket Driver Thrust Washer	R3810-706
130	Gear Housing Cover Gasket	R3810-592
131	Offset Gear Housing Cover	R3810-148
• 132	Gear Housing Cover Bearing (2)	R3810-143
• 133	Socket Driver Front Bearing	R3810-593
134	Socket Driver Seal	R3810-271
135	Socket Driver	
	with 1/2" square drive	R1811-145-1/2
	with 5/8" square drive	R3810-145-5/8
136	Intermediate Gear	R3810-142
137	Intermediate Gear Spacer	R3810-149
138	Drive Gear	
	with 1/2" square drive hole	R1811-146
	with 5/8" square drive hole	R3810-146
139	Housing Cover Cap Screw (2)	
	Small 1/4"-20 x 7/8"	510-638
	Large 5/16"-18 x 1-1/8"	R3810-126
140	Housing Cover Cap Screw Lock Washer (2)	
	1/4" Lock Washer	8U-58
	5/16" Lock Washer	34U-58
141	Housing Cap Screw (3)	34U-103
142	5/16" Lock Washer (3)	34U-58

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