



**80160344**  
Edition 5  
August 2009

## **QA4 Air Angle Wrench and Nut Runner**

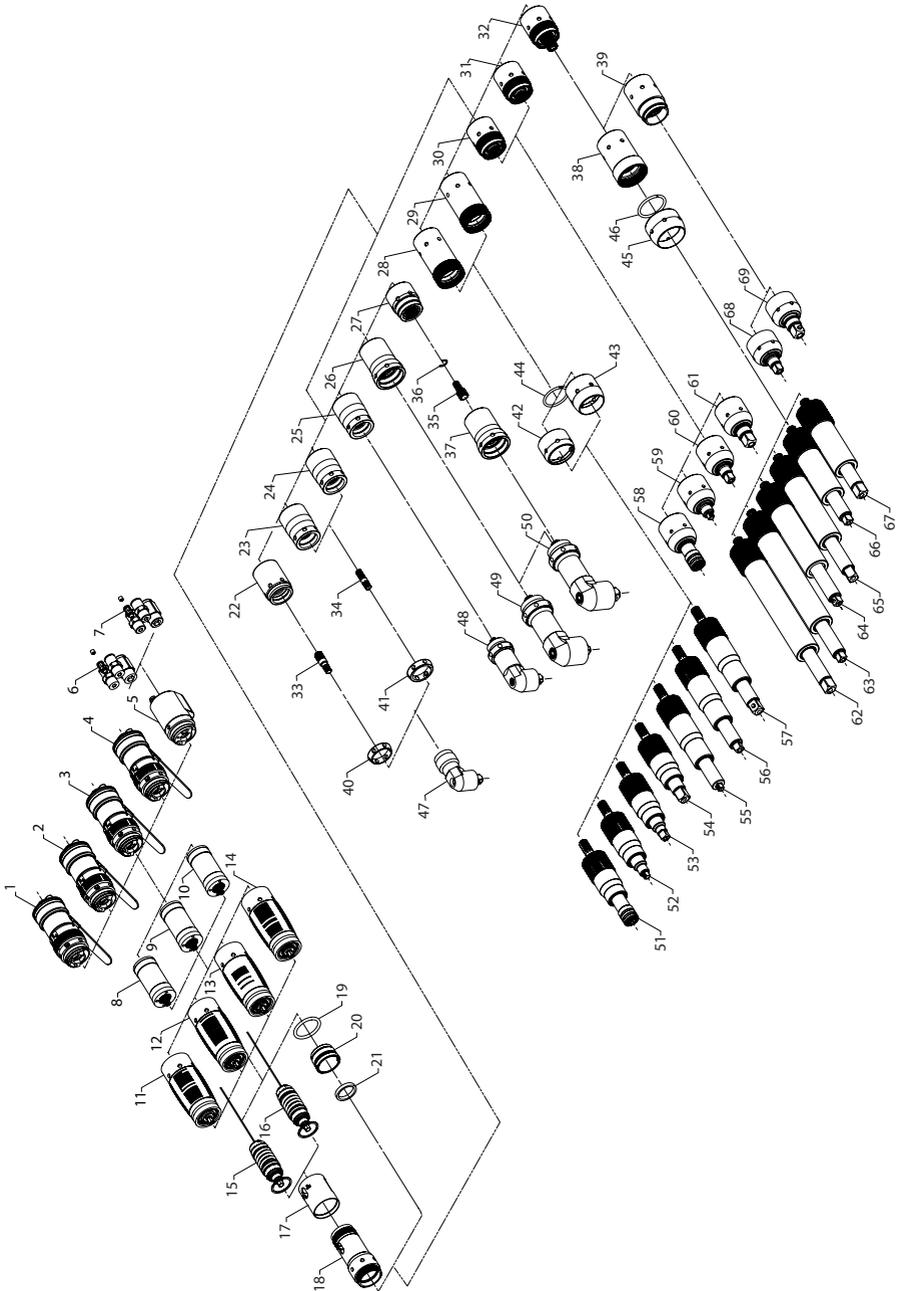
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# **Parts Information**



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# Module Diagram

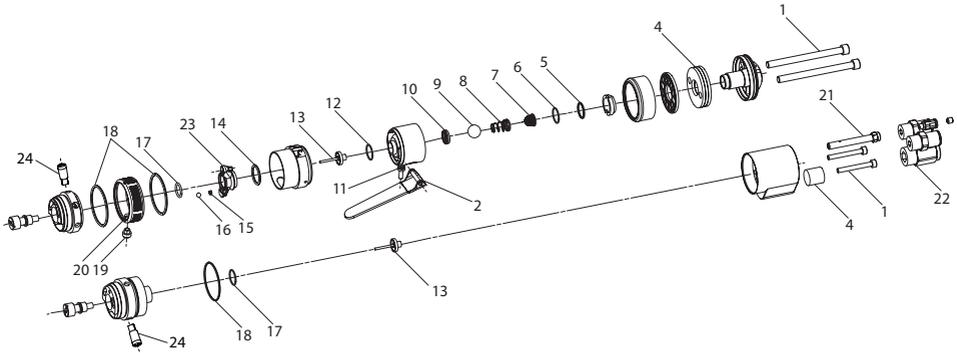


(Dwg. 16578817)

## Module Parts List

ID	Module	Part identification (Description)	Part Number	ID	Module	Part identification (Description)	Part Number
1	Housing	NPT / Direct Drive	131981	41	Coupling	015, 020 Angle	131965
2	Housing	NPT / ASO	131975	42	Coupling	012, 015, 020, 027 In-line / Floating Spindle	15E2-27
3	Housing	BSP / Direct Drive	QA4-DBSP-A40				
4	Housing	BSP / ASO	131859	43	Coupling	012, 015, 020, 027 In-line / Floating Spindle (No Flange)	GEA2-27
5	Housing	Remote	131946				
6	Housing	Inch Inlet Kit	QA4-RN-K465	44	Coupling	012, 015, 020, 027 In-line / Floating Spindle (Snapping)	GEA2-29
7	Housing	Metric Inlet Kit	QA4-RB-K465				
8	Motor	011, 020, 040 Angle / 027 In-line	131334	45	Coupling	046 In-line / Floating Spindle	GEA40-27
9	Motor	030 Angle / 015 In-line	131026	46	Coupling	046 In-line / Floating Spindle (Snapping)	DAA4-29
10	Motor	015, 055 Angle / 012, 020, 046 In-line	131916	47		Anglehead	25 Size / 011, 015, 020 Angle
11		First Stage	011, 040 Angle / 027 In-line	131876	48	Anglehead	28 Size / 030 Angle
12	First Stage	030 Angle / 015 In-line	131869	49	Anglehead	35 Size / 06 Drive Size / 040, 055 Angle	131970
13	First Stage	020 Angle	131878				
14	First Stage	015, 055 Angle / 012, 020, 046 In-line	131918	50	Anglehead	35 Size / 08 Drive Size / 040, 055 Angle	QA4-35-A550
15	Clutch	011, 030, 040 Angle / 015, 027 In-line	131909	51	21 Spindle, Float	012, 015, 020 In-line / Q Drive / 04 Size	15E2Q4
16	Clutch	015, 020, 055 Angle / 012, 020, 046 In-line	80158942	52	21 Spindle, Float	012, 015, 020 In-line / S Drive / 04 Size	15E2S4
17	Clutch	ASO (Cover)	QA4-415	53	21 Spindle, Float	012, 015, 020, 027 In-line / S Drive / 06 Size	15E2S6
18	Clutch	ASO (Housing)	QA4-580				
19	Direct Drive	Direct Drive (Housing)	131928	54	21 Spindle, Float	012, 015, 020, 027 In-line / S Drive / 08 Size	15E2S8
20	Direct Drive	Direct Drive (O-Ring)	115538				
21	Direct Drive	Direct Drive (Spacer)	131929	55	41 Spindle, Float	012, 015, 020, 027 In-line / S Drive / 04 Size	15E4S4
22	Second Stage	011 Angle	131927	56	41 Spindle, Float	012, 015, 020, 027 In-line / S Drive / 06 Size	15E4S6
23	Second Stage	015 Angle	131984				
24	Second Stage	020 Angle	131982	57	41 Spindle, Float	012, 015, 020, 027 In-line / S Drive / 08 Size	15E4S8
25	Second Stage	030 Angle	131980				
26	Seond Stage	040 Angle	131983	58	20 Spindle, Solid	012, 015, 020 In-line / Q Drive / 04Size	QA4-4Q4-M807
27	Second Stage	055 Angle	131985				
28	Second Stage	012, 015 In-line / Floating Spindle	QA4-3P3-M37	59	20 Spindle, Solid	012, 015, 020 line / S Drive / 04 Size	QA4-4S4-M807
29	Second Stage	020, 027 In-line / Floating Spindle	QA4-5P7-M37	60	20 Spindle, Solid	012, 015, 020, 027 In-line / S Drive / 06 Size	QA4-4S6-M807
30	Second Stage	012, 015 In-line / Solid Spindle	QA4-3P3S-M37				
31	Second Stage	020, 027 In-line / Solid Spindle	QA4-5P7S-M37	61	20 Spindle, Solid	012, 015, 020, 027 In-line / S Drive / 08 Size	QA4-4S8-M807
32	Second Stage	046 In-line	QA4-3P8S-3-M37				
33	Adaptor	011 Angle	131802	63	81 Spindle, Float	046 In-line / S Drive / 06 Size	GE8S6
34	Adaptor	015, 020 Angle	131804	64	61 Spindle, Float	046 In-line / S Drive / 06 Size	GE6S6
35	Adaptor	055 Angle (Adaptor)	131939	65	61 Spindle, Float	046 In-line / S Drive / 08 Size	GE6S8
36	Adaptor	055 Angle (Snapping)	127604	66	41 Spindle, Float	046 In-line / S Drive / 06 Size	GE4S6
37	Third Stage	055 Angle	131934	67	41 Spindle, Float	046 In-line / S Drive / 08 Size	GE4S8
38	Third Stage	046 In-line / Floating Spindle	QA6-3P6-M37	68	20 Spindle, Solid	046 In-line / S Drive / 06 Size	QA6-6S6-M807
39	Third Stage	046 In-line / Solid Spindle	QA6-3P6S-M37	69	20 Spindle, Solid	046 In-line / S Drive / 08 Size	QA6-6S8-M807
40	Coupling	011 Angle	131976				

## QA4 Housing Module Exploded Diagram



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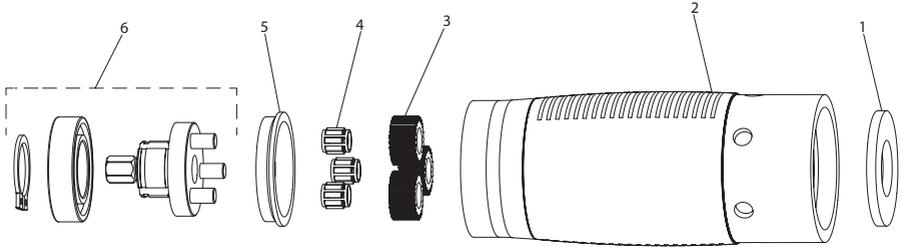
## QA4 Housing Module Parts List

ID	Part Description	131981	131975	131859	QA4-DBSP-A40	131946	131946
		Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
1	Screw (2)	131687	131687	131687	131687	127809	127809
2	Lever Kit	131613	131613	131613	131613		
3	Housing Tune-up Kit	QA4-1-K40	QA4-1-K40	QA4-1-K40	QA4-1-K40	QA4-2-K40	QA4-2-K40
4	Muffler (3)	---	---	---	---		
	Muffler (2)					---	---
5	Washer	---	---	---	---		
6	O-ring (13.0 ID x 1.0)	---	---	---	---		
7	Screen	---	---	---	---		
8	Spring	---	---	---	---		
9	Ball	---	---	---	---		
10	Valve Seat	---	---	---	---		
11	O-ring (13.4 ID x 1.9)	---	---	---	---		
12	O-ring (13.0 ID x 1.0)	---	---	---	---		
13	Shutoff Valve	---	---	---	---	---	---
	Pin	---	---	---	---		
14	O-ring (15.60 ID x 1.8)	---	---	---	---		
15	Spring	---	---	---	---		
16	Ball	---	---	---	---		
17	O-ring (11.0 ID x 1.5)	---	---	---	---	---	---
18	O-ring (35.7 ID x 1.8) (2)	---	---	---	---		
	O-ring (35.7 ID x 1.8)					---	---
*	Screw	---	---	---	---		
19	Screw	131069	131069	131069	131069		
20	Reverse Ring	131064	131064	131064	131064		
21	Screw					131704	131704
22	Connector Kit (inch)					QA4-RNK465	
	Connector Kit (metric)						QA4-RBK465
23	Reverse Valve	131450	131450	131450	131450		
**24	Chip Holder Assembly	QA4-A528	QA4-A528	QA4-A528	QA4-A528	QA4-A528	QA4-A528

\* Not Illustrated.

\*\* Optional

## QA4 First Stage Exploded Diagram

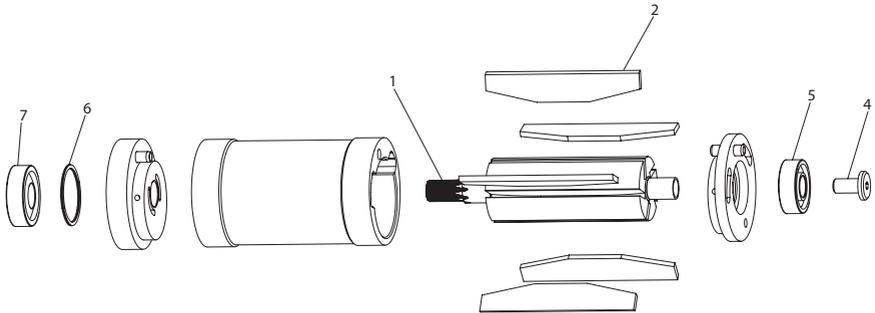


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## QA4 First Stage Parts List

ID	Part Description	131876	131918	131878	131869
		Part Number	Part Number	Part Number	Part Number
1	Washer	131143	131143	131143	131143
2	Housing	131373	131380	131380	131283
3	Planet Gear (3)	131374	131247	131396	131246
4	Needle Bearing (3)	122836	128057	128057	122836
5	Spacer	131121	131121	131121	131121
6	Gearhead Assembly	QA4-1-K216	QA4-2-K216	QA4-3-K216	QA4-4-K216

## QA4 Motor Module Exploded Diagram



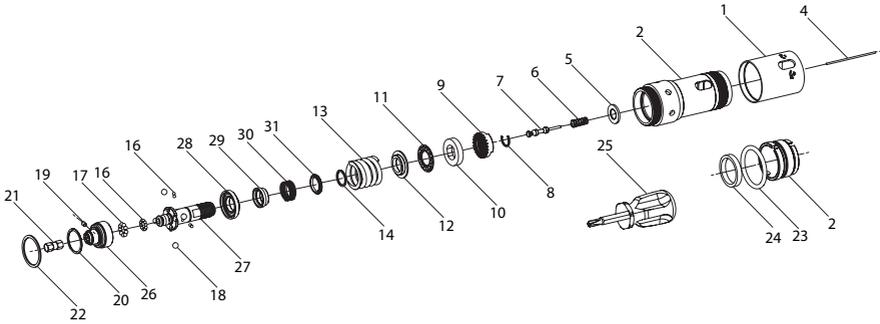
(Dwg. 16578841)

## QA4 Motor Module Parts List

ID	Part Description	131916	131334	131026
		Part Number	Part Number	Part Number
1	Rotor	131917	131337	131298
2	Vane Pack (5 per set)	QA4-5-K42	QA4-5-K42	QA4-5-K42
* 3	Motor Kit	QA4-1-K53	QA4-1-K53	QA4-1-K53
4	Screw	---	---	---
5	Bearing	---	---	---
6	Wave Washer (2)	---	---	---
7	Bearing	---	---	---

\* Not Illustrated.

## Clutch Assembly Exploded Diagram

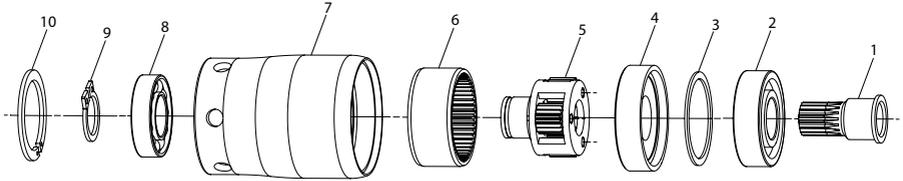


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## Clutch Assembly Parts List

ID	Part Description	131909	80158942	Direct Drive
		Part Number	Part Number	Part Number
1	Clutch Cover	QA4-415	QA4-415	
2	Clutch Housing	QA4-580	QA4-580	131928
3	Clutch Assembly	131909	80158942	
4	Pushrod	131863	131863	
5	Washer	131908	131908	
6	Spring	47709	47709	
7	Shutoff Plunger	10547974	10547974	
8	Snapping	Y110-105	Y110-105	
9	Adjustment Nut	46294	46294	
10	Lock Washer	10547982	10547982	
11	Thrust Bearing	42363	42363	
12	Support	48085	48085	
13	Spring	10549038	10549038	
14	Retaining Ring	48480-1	48480-1	
15	Ball Kit	QA4-1-K581	QA4-1-K581	
16	Ball (16)	---	---	
17	Ball (9)	---	---	
18	Ball (4)	---	---	
19	Pin	---	---	
20	Retaining Ring	48084	48084	
21	Hex Bit	131906	131906	
22	Laminated Washer	131895	131895	
23	O-ring	---	---	QA4-115538
24	Spacer	---	---	131929
25	Screwdriver	131883	131883	
26	Driven Jaw	10549012	10549012	
27	Clutch Driver	10548014	10548014	
28	Thrust Race	10548725	10548725	
29	Shut off Collar	10552545	10552545	
30	Spring	47064	47064	
31	Guide	48295-1	48295-1	

## Second Stage Gear Assembly Exploded Diagram



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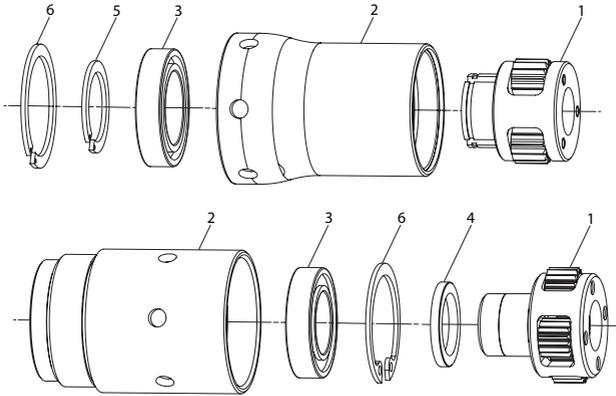
## Second Stage Gear Assembly Parts List

ID	Part Description	131927	131984	131982	131980
		Part Number	Part Number	Part Number	Part Number
1	Sun Adaptor	131885	131923	131892	131864
2	Bearing	116874	116874	116874	116874
3	Clutch Spacer	131895	131895	131895	131895
4	Bearing Cap	131889	131861	131889	131861
5	Gearhead Assembly	QA4-5-A216	QA4-6-A216	131451	131277
6	Ring Gear	---	131849	131849	131849
7	Gear Case	131886	131850	131850	131850
8	Bearing	---	QA4-114804	QA4-114804	QA4-114804
9	Retaining Clip	---	106275	106275	106275
10	Retaining Clip	---	125433	125433	125433

ID	Part Description	131983	131985	QA4-3P3-M37	QA4-3P35-M37
		Part Number	Part Number	Part Number	Part Number
1	Sun Adaptor	131872	131923	QA4-9-9	QA4-9-9
2	Bearing	116874	116874	116874	116874
3	Clutch Spacer	131895	131895	131895	131895
4	Bearing Cap	131861	131861	131861	131861
5	Gearhead Assembly	131664	QA4-6-A216	QA4-3P3-A8	QA4-3P3-A8
6	Ring Gear	---	131849	---	---
7	Gear Case	131860	131938	QA4-37	QA4-5-37
8	Bearing	---	QA4-114804	114803	114803
9	Retaining Clip	---	106275	---	---
10	Retaining Clip	115646	125433	QA4 - 338	QA4 - 338

ID	Part Description	QA4-3P8S-3-M37	QA4-5P7-M37	QA4-5P7S-M37
		Part Number	Part Number	Part Number
1	Sun Adaptor	QA4 - 15 - 9	QA4 - 9 - 9	QA4 - 9 - 9
2	Bearing	116874	116874	116874
3	Clutch Spacer	131895	131895	131895
4	Bearing Cap	131861	131861	131861
5	Gearhead Assembly	QA4-3P8-3-A216	QA4-5P7-A8	QA4-5P7-A8
6	Ring Gear	---	---	---
7	Gearcase	QA4-5-37	QA4-37	QA4 5 37
8	Bearing	114803	114803	114803
9	Retaining Clip	---	---	---
10	Retaining Clip	QA4-338	QA4-338	QA4-338

### Third Stage Gear Assembly Exploded Diagram

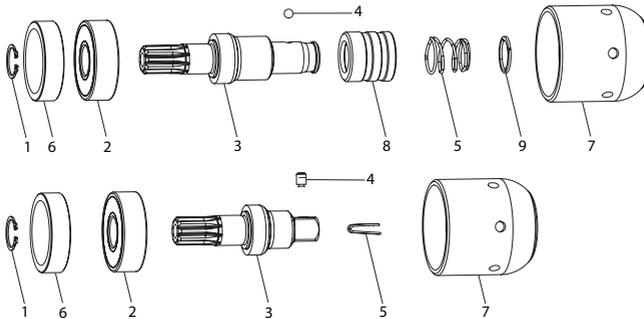


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### Third Stage Gear Assembly Parts List

ID	Part Description	131934	QA6-3P6-M37	QA6-3P6S-M37
		Part Number	Part Number	Part Number
1	Spindle Assembly	QA4-7-A216	QA6-3P6-A8	QA6 3P6-A8
2	Gearcase	131935	QA6-37	QA6-5-37
3	Bearing	125682	R1602-510	R1602-510
4	Bearing Spacer	---	QA4 - 28	QA4 - 28
5	Snap Ring	126293	---	---
6	Snap Ring	115646	161M13N30	161M13N30

### Solid Spindle Exploded Diagram

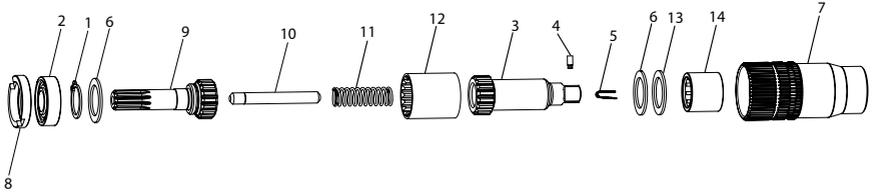


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### Solid Spindle Parts List

ID	Part Description	QA4-4Q4-M807	QA4-4S4-M807	QA4-4S6-M807	QA4-4S8-M807	QA6-6S6-M807	QA6-6S8-M807
		Part Number					
1	Snap Ring	162M13N12	162M13N12	162M13N12	162M13N12	162M13N12	162M13N12
2	Bearing	8U-24	8U-24	8U-24	8U-24	8U-24	8U-24
3	Spindle	QA4-4Q4-212	QA4-4S4-212	QA4-4S6-212	QA4-4S8-212	QA6-6S6-212	QA6-6S8-212
4	Pin	RX1-629	500B-816AX	131617	132048	131617	132048
5	Spring Clip	5C1-931-4	500B-818	124491	124492	124491	124492
6	Spacer	QA4-208	QA4-208	QA4-208	QA4-208	---	---
7	Housing End Cap	QA4-300	QA4-300	QA4-300	QA4-300	QA6-300	QA6-300
8	Sleeve	5C1-930-4	---	---	---	---	---
9	Sleeve Retainer	5C1-853	---	---	---	---	---

## Floating Spindle Exploded Diagram



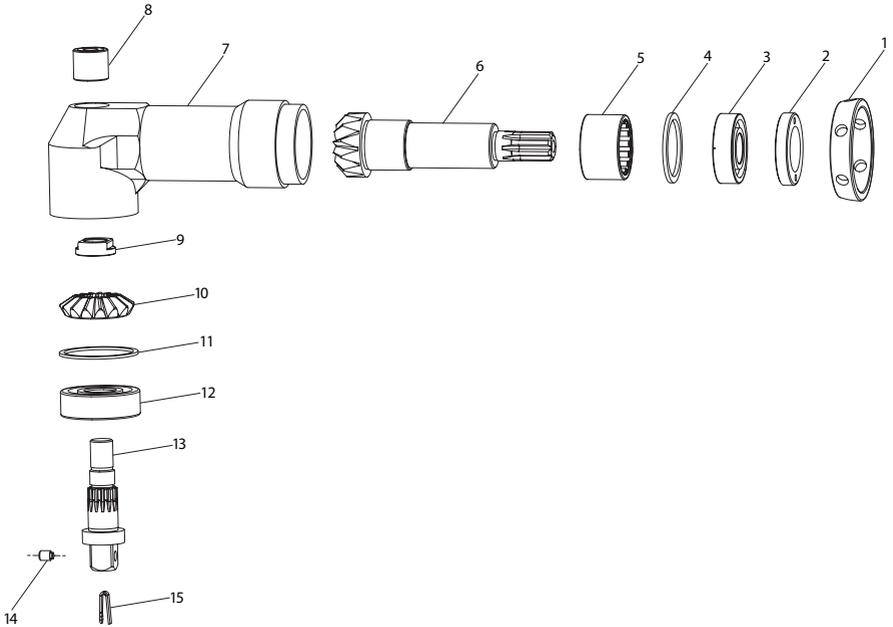
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## Floating Spindle Parts List

ID	Part Description	15E2Q4	15E2S4	15E2S6	15E2S8	15E4S4	15E4S6	15E4S8
		Part Number						
1	Snap Ring	---	---	---	---	---	---	---
2	Bearing	---	---	---	---	---	---	---
3	Spindle	---	---	---	---	---	---	---
4	Pin	RX1-629	500B-816AX	5020-716	804-716	500B-816AX	5020-716	804-716
5	Spring Clip	5C1-931-4	500B-818	401-718	5UHD-718	500B-818	401-718	5UHD-718
6	Washer	---	---	---	---	---	---	---
7	Spindle Housing	---	---	---	---	---	---	---
8	Cap	---	---	---	---	---	---	---
9	Drive Spindle	---	---	---	---	---	---	---
10	Pin	---	---	---	---	---	---	---
11	Spring	---	---	---	---	---	---	---
12	Coupler	---	---	---	---	---	---	---
13	Washer	---	---	---	---	---	---	---
14	Needle Bearing	---	---	---	---	---	---	---

ID	Part Description	GE4S6	GE4S8	GE6S6	GE6S8	GE8S6	GE8S8
		Part Number					
1	Snap Ring	---	---	---	---	---	---
2	Bearing	---	---	---	---	---	---
3	Spindle	---	---	---	---	---	---
4	Pin	5020-716	804-716	5020-716	804-716	5020-716	804-716
5	Spring Clip	401-718	5UHD-718	401-718	5UHD-718	401-718	5UHD-718
6	Washer	---	---	---	---	---	---
7	Spindle Housing	---	---	---	---	---	---
8	Cap	---	---	---	---	---	---
9	Drive Spindle	---	---	---	---	---	---
10	Pin	---	---	---	---	---	---
11	Spring	---	---	---	---	---	---
12	Coupler	---	---	---	---	---	---
13	Washer	---	---	---	---	---	---
14	Needle Bearing	---	---	---	---	---	---

## Anglehead Assembly Exploded Diagram

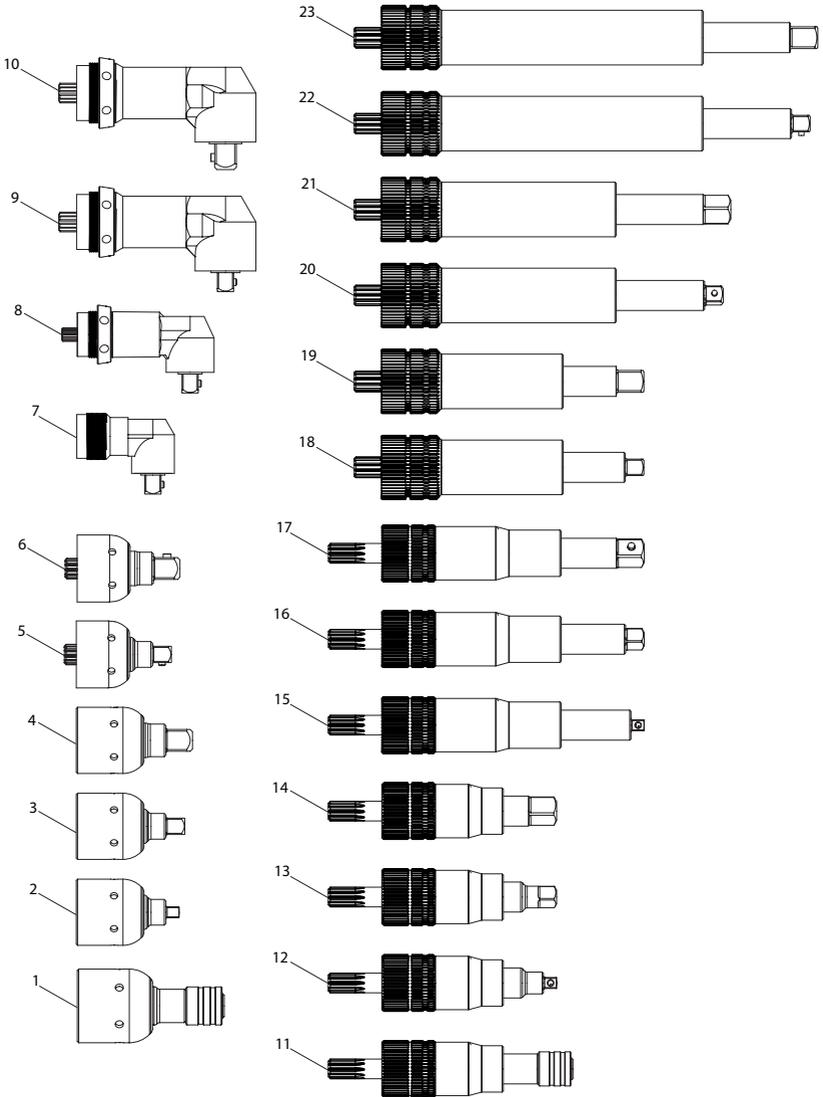


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## Anglehead Assembly Parts List

ID	Part Description	131966	131961	131970	QA4-35-A550
		Part Number	Part Number	Part Number	Part Number
1	Nut	131967(011)/131965	131965	131974	131974
2	Nut	---	---	---	---
3	Bearing	---	---	---	---
4	Spacer	(Qty. 2)	---	---	---
5	Needle Bearing	---	---	---	---
6	Pinion	---	---	---	---
7	Anglehead	---	---	---	---
8	Needle Bearing	---	---	---	---
9	Nut	---	---	---	---
10	Gear	---	---	---	---
11	Spacer	---	---	---	---
12	Bearing	---	---	---	---
13	Spindle	---	---	---	---
14	Pin	131617	131617	131617	132048
15	Spring Clip	124491	124491	124491	124492
16	Nut	---	---	---	---

# Spindle Options Diagram

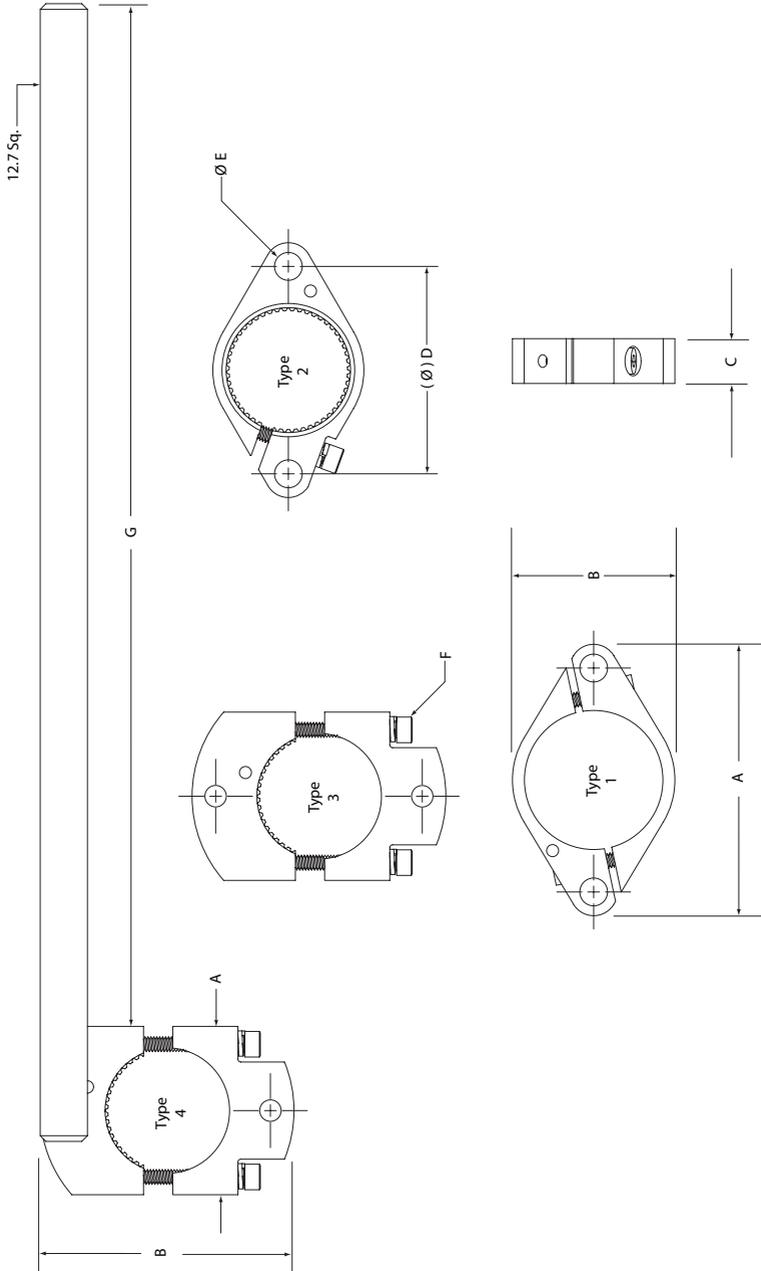


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## Spindle Options Parts List

ID	Part Description	Part Number	Output Size inch (mm)	For Tools
1	Solid Spindle	QA4-4Q4-M807	1/4 (6.35) Hex.	QA4AS Tools (20 Nm Max)
2	Solid Spindle	QA4-4S4-M807	1/4 (6.35) Sq.	QA4AS Tools (20 Nm Max)
3	Solid Spindle	QA4-4S6-M807	3/8 (9.5) Sq.	QA4AS Tools (27 Nm Max)
4	Soild Spindle	QA4-4S8-M807	1/2 (12.7) Sq.	QA4AS Tools (27 Nm Max)
5	Soild Spindle	QA6-6S6-M807	3/8 (9.5) Sq.	QA4AS Tools (46 Nm Only)
6	Soild Spindle	QA6-6S8-M807	1/2 (12.7) Sq.	QA4AS Tools (46 Nm Only)
7	Anglehead	131966	3/8 (9.5) Sq.	QA4AA - Tools (20 Nm Max)
8	Angle Head	131961	3/8 (9.5) Sq.	QA4AA -Tools (30 Nm Max)
9	Angle Head	131970	3/8 (9.5) Sq.	QA4AA - Tools (40 Nm Max)
10	Angle Head	QA4-3S-A550	1/2 (12.7) Sq.	QA4AA - Tools (40 and 50 Nm Only)
11	Float Spindle	15E2Q4	1/4 (6.35) Sq.	QA4AS Tools (20 Nm Max)
12	Float Spindle	15E2S4	1/4 (6.35) Sq.	QA4AS Tools (20 Nm Max)
13	Float Spindle	15E2S6	3/8 (9.5) Sq.	QA4AS Tools (27 Nm Max)
14	Float Spindle	15E2S8	1/2 (12.7) Sq.	QA4AS Tools (27 Nm Max)
15	Float Spindle	15E4S4	1/4 (6.35) Sq.	QA4AS Tools (20 Nm Max)
16	Float Spindle	15E4S6	3/8 (9.5) Sq.	QA4AS Tools (27 Nm Max)
17	Float Spindle	15E4S8	1/2 (12.7) Sq.	QA4AS Tools (27 Nm Max)
18	Float Spindle	GE4S6	3/8 (9.5) Sq.	QA4AS Tools (46 Nm Only)
19	Float Spindle	GE4S8	1/2 (12.7) Sq.	QA4AS Tools (46 Nm Only)
20	Float Spindle	GE6S6	3/8 (9.5) Sq.	QA4AS Tools (46 Nm Only)
21	Float Spindle	GE6S8	1/2 (12.7) Sq.	QA4AS Tools (46 Nm Only)
22	Float Spindle	GE8S6	3/8 (9.5) Sq.	QA4AS Tools (46 Nm Only)
23	Float Spindle	GE8S8	1/2 (12.7) Sq.	QA4AS Tools (46 Nm Only)

# Flange Mounting Options Exploded Diagram

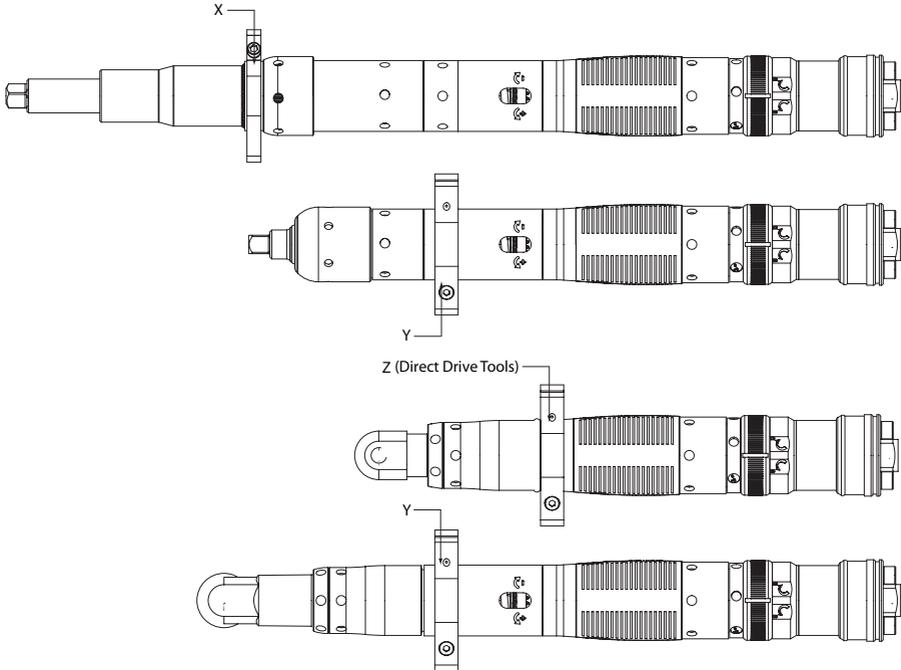


(Dwg. 16585457)

## Flange Mounting Options Parts List

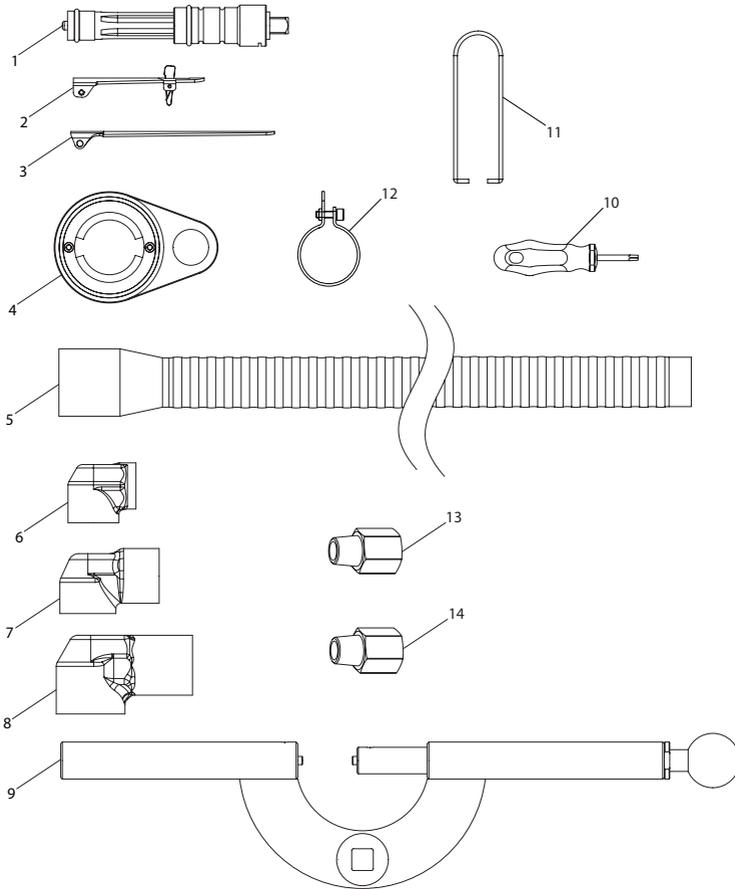
Part Number	Description	Flange or Reaction Bar Type	Mounting Location	For Models	A	B	C	D	E	F	G
15E4-K48	Full Spline	2	X	012, 015, 020, 027 in-line, Float Spindle	68.26	40.64	7.24	55.58	7.14	8-32 UNC-2A	---
GEA4-K48	Work Station	3	X	012, 015, 020, 027 in-line, Float Spindle	45.08	68.28	9.525	55.58	7.14	8-32 UNC-2A	---
QA4 - K48	Smooth Clamp	1	Y, Z	All	72.70	43.7	12.0	60.0	7.14	M4 x 0.7	---
GEM120 - K48	Full Spline	2	X	Inline, 046 Nm, Float Spindle	85.6	54.0	9.525	66.65	10.4	10-32 UNC-2A	---
DAM120 - K48	Work Station	---	X	Inline, 046 Nm, Float Spindle	54.7	69.4	9.525	64.13	10.4	10-32 UNC-2A	---
GEA15 - K48	Reaction Bar	4	X	012, 015, 020, 027 in-line, Float Spindle	45.08	68.28	9.525	55.58	7.14	8-32 UNC-2A	274.0
DEA120 - K48	Reaction Bar 4	4	X	Inline, 046 Nm, Float Spindle	54.7	69.4	9.525	64.13	7.14	10-32 UNC-2A	264.4

## Flange Mounting



(Dwg. 16585465)

## Accessories Diagram

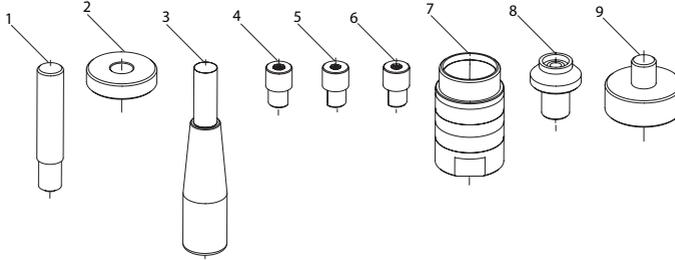


(Dwg. 16585473)

## Accessories Parts List

ID	Part Description	Part Number	Dimension / Size
1	Floating Socket Extension	131652	119 mm x 9.5 Sq.
2	Locking Lever	131655	77 mm
3	Long Lever	131654	120 mm
4	Swivel Hanger	129851	---
5	Exhaust Kit	QA4-EXH-989	---
6	Anglehead Boot	131996	25 Size
7	Anglehead Boot	131995	28 Size
8	Anglehead Boot	131997	35 Size
9	Spanner Wrench	GEA40-478	---
10	Screwdriver	131883	---
11	Bail	131133	---
12	Hanger Assembly	QA4-A365-1	---
13	1/4" NPT male x 1/4" BSPP female	96956776	---
14	1/4" BSPT male x 1/4" NPT female	96762257	---

## Tools and Adaptors Diagram



(Dwg. 16585978)

## Tools and Adaptors Parts List

ID	Decription	Part Number	Usage
1	Valve Seat Tool	OM127	Housing Valve Seat
2	Pin Assembly Tool	OM186	Housing Lever Assembly
3	Snapring Tool	OM296	Clutch Snapring Assembly
4	Rotor Spline Adaptor	OM83-06	11 Tooth Motor Spacing
5	Rotor Spline Adaptor	OM83-07	9 Tooth Motor Spacing
6	Rotor Spline Adaptor	OM83-04	10 Tooth Motor Spacing
7	Motor Clamp Tool	OM82	Motor Spacing
8	Motor Press Assembly	OM81-02	Motor Back Bearing Press
9	Motor Assembly Tool	OM81-01	Motor front Bearing Press

## Parts and Maintenance

When the life of the tool has expired, it is recommended that the tool be disassembled, degreased and parts be separated by material so that they can be recycled.

Tool repair and maintenance should only be carried out by an authorized Service Center.

Refer all communications to the nearest **Ingersoll Rand** Office or Distributor.

## Related Documentation

For additional information refer to:

Product Safety Information Manual 04585006.

Product Information Manual 80160336.

Maintenance Information Manual 80217474.

Manuals can be downloaded from [www.ingersollrandproducts.com](http://www.ingersollrandproducts.com).

**Notes:**

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