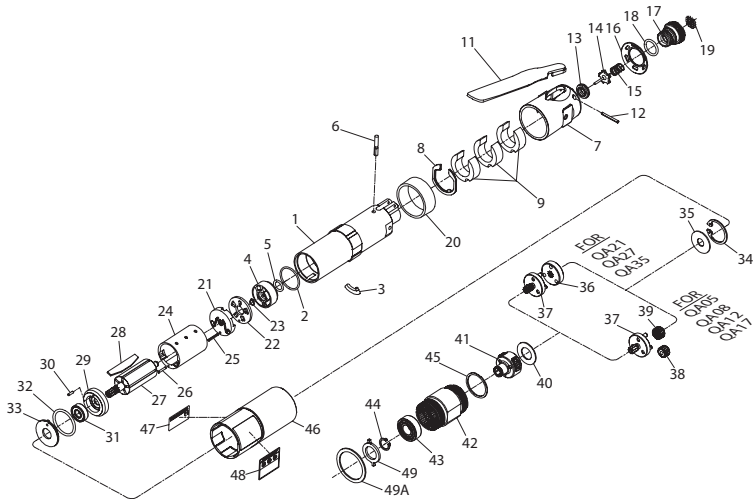


## QA90 x 90 Air Drill Motor and Gearing Exploded Diagram



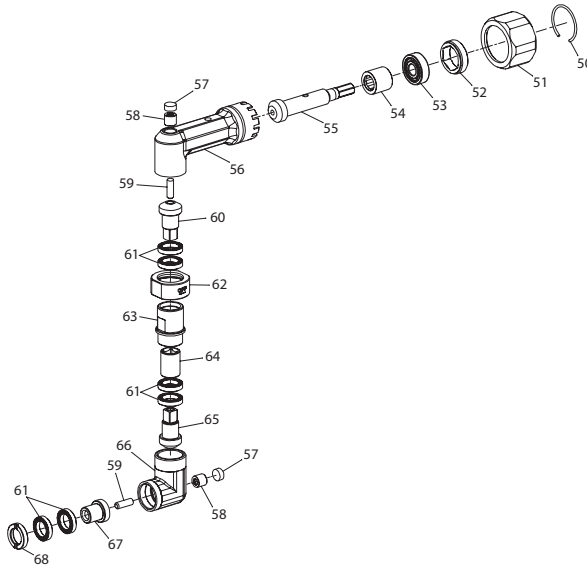
(Dwg. TP1893)

### QA90 x 90 Air Drill Motor and Gearing Parts List

Item	Part Description	Part Number	Item	Part Description	Part Number	
1	Motor Housing	TRL-40	33	Motor Clamp Washer	TRH-207	
2	Housing O-Ring	TRH-104	34	Gear Retainer	TRH-28	
3	Housing Plug	TRD-982	35	Gear Head Spacer	TRH-81	
4	Reverse Valve Assembly	TRH-A3291	36	Planet Gear Head Drive Plate (for Series QA21, QA27, and QA35)	TRH-17	
5	Reverse Valve Seal	R1A-159	37	Planet Gear Head Assembly (includes gear shaft)		
6	Throttle Plunger	TRL-302			for Series QA21 and QA35	TRH-A2169-16
7	Back Cap	TRL-231			for Series QA08	TRH-A21612-12
8	Back Cap Gasket	TRL-A283			for Series QA05 and QA27	TRH-A21612-12
9	Muffler Element (3)	TRL-311			for Series QA12	TRH-A2169-12
10	Memory Chip (only for models ending in D having a memory chip)	TRH-800		for Series QA17	TRH-A2169-10	
11	Throttle Lever	TRL-273	38	Planet Gear (3 for each Gear Head)		
12	Throttle Lever Pin	TRL-98			for Series QA05	TRH-10-16
13	Throttle Valve Seat	TRH-303			for Series QA08 and QA12	TRH-10-12
14	Throttle Valve	TRD-A302		for Series QA17	TRH-10-10	
15	Throttle Valve Spring	TRL-51	39	Gear Head Pinion		
16	Exhaust Diffuser	TRH-123			for Series QA17	TRH-17-21
17	Inlet Bushing Assembly	TRH-A465			for Series QA08 and QA12	TRH-17-18
18	Inlet Bushing Seal	AF120-290	40	Planet Gear Head Spacer	TRH-82	
19	Inlet Screen	TRH-61	41	Spindle Assembly (includes all spindle gearing)		
20	Housing Plug Cover	TRD-981			for Series QA21	TRH-A8-16
21	Rear End Plate Assembly (includes rear rotor bearing)	TRH-A12-1			for Series QA05, QA08 and QA27	TRH-A8-15
22	Rear End Plate Face Plate	TRH-12-2			for Series QA12 and QA35	TRH-A8-12
23	Rear End Plate Assembly Retainer	85L-305			for Series QA17 and QA35	TRH-A8-10
24	Cylinder Assembly	TRH-A3-D	42	Gear Case	TRH-A8-DL	
25	Cylinder Rear Alignment Pin	TRH-98	43	Gear Case	TAL-37	
26	Cylinder Front Alignment Pin	TRH-98-1	44	Spindle Bearing Retaining Ring	TRH-510	
27	Rotor	TRD-53	45	Spindle Bearing Seat	4E-6	
28	Vane Packet (set of 5 Vanes)	TRH-42-5	46	Spindle Bearing Seat	TRH-208	
29	Front End Plate Assembly	TRH-A11	47	Housing Grip	TRH-40-A136	
30	End Plate Alignment Pin	TRH-98-2	48	Name Plate	TRH-301	
31	Front Rotor Bearing	TRH-24	48	Warning Label	TRH-99	
32	Motor Seal	TRH-211	*	Tune-Up Kit (Includes the following items: 2, 5, 8, 9, 13, 14, 15, 18, 19, 23, 28, 30, 31 and 32)		
					Q2-TK1	

\* Not Illustrated.

## QA90 x 90 Air Drill Angle Head Exploded Diagram



(Dwg. TP1894)

### QA90 x 90 Air Drill Angle Head Parts List

Item	Part Description	Part Number	Item	Part Description	Part Number
49	Housing Lock Spacer	TRL-682	58	Spindle Upper Bearing (2)	W22-654
49A	Grip Spacer	TRL-504	59	Spindle Upper Bearing Shaft (2)	TRL1-110
	90° x 90° Angle Head Assembly		60	Bevel Gear (1/4" Sq. Drive)	TRL1-551-S4
	for Models with 9/32"- 40 female thread for 3/16" Collet (Collet not included in Assembly)	TRL5F40	61	Spindle Bearing (6)	TRL1-593
	For Models with 1/4"- 28 female thread Spindle	TRL5F28	62	Coupling Nut (lower housing)	TRL5-27
			63	Coupler	TRL5-304
			64	Adapter	TRL5-212
			65	Pinion (lower housing)	TRL5-552-S4
50	Coupling Nut Retainer	TRL-29	66	Lower Angle Housing	TRL5-550
51	Coupling Nut (upper housing)	TRL-27	67	Bevel Gear	
52	Angle Head Plug	TRL1-532		for TRL5F40 Angle Head Assembly	TRL1-551-F40
53	Pinion Rear Bearing	TRL-514		for TRL5F28 Angle Head Assembly	TRL1-551-F28
54	Pinion Front Bearing	TRL-654	68	Spindle Bearing Cap	TRL1-531
55	Bevel Pinion	TRL1-552	*	Suspension Bail	7L-365
56	Upper Angle Housing	TRL1-550	*	Piped-Away Exhaust Kit (optional)	LG1-K284
57	Spindle Upper Bearing Cap (2)	TRL2-531			

\* Not Illustrated.

### 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:

Air Drill Product Safety Information Manual 04580353.

Air Drill Product Information Manual 16572281.

Air Drill Maintenance Information Manual 16572588.

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



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