



16572778

Edition 3

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Air Drill

QA Series

Parts Information

**PRO
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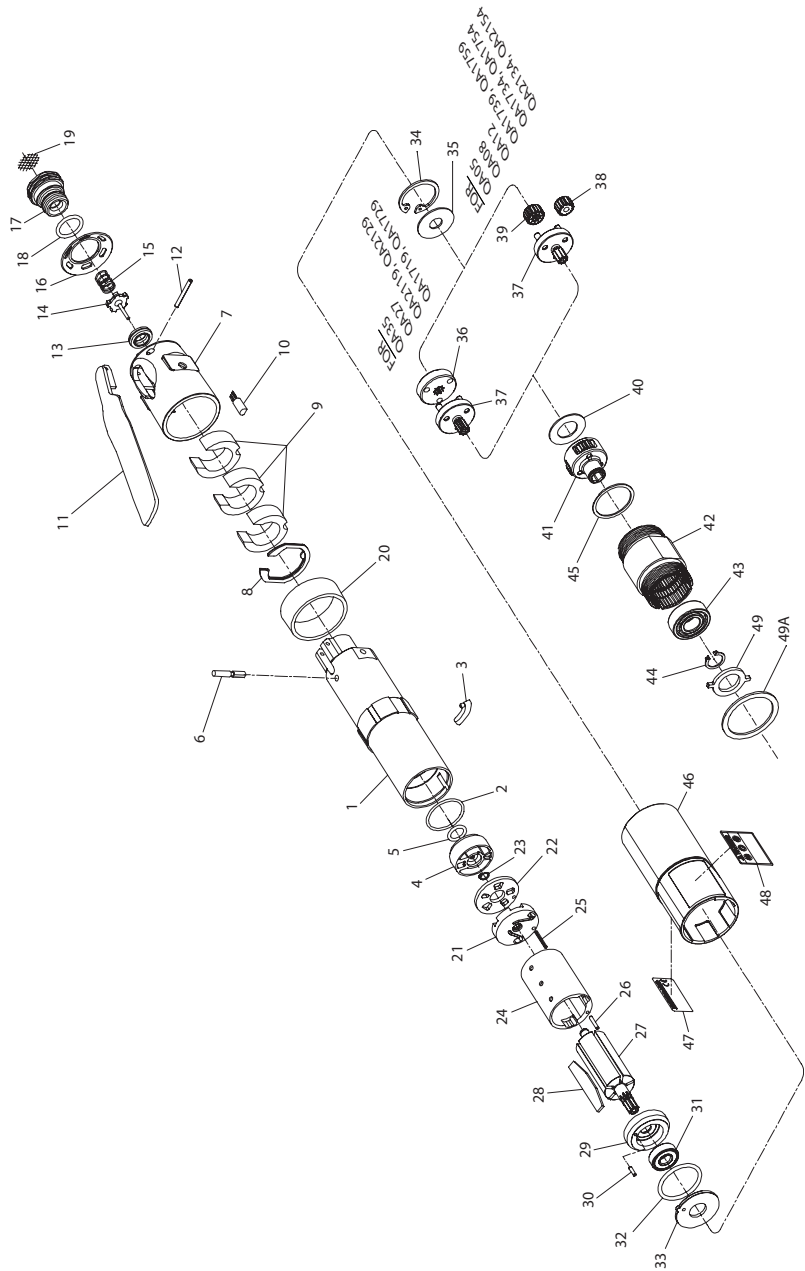
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QA Series Air Drill Motor and Gearing Exploded Diagram



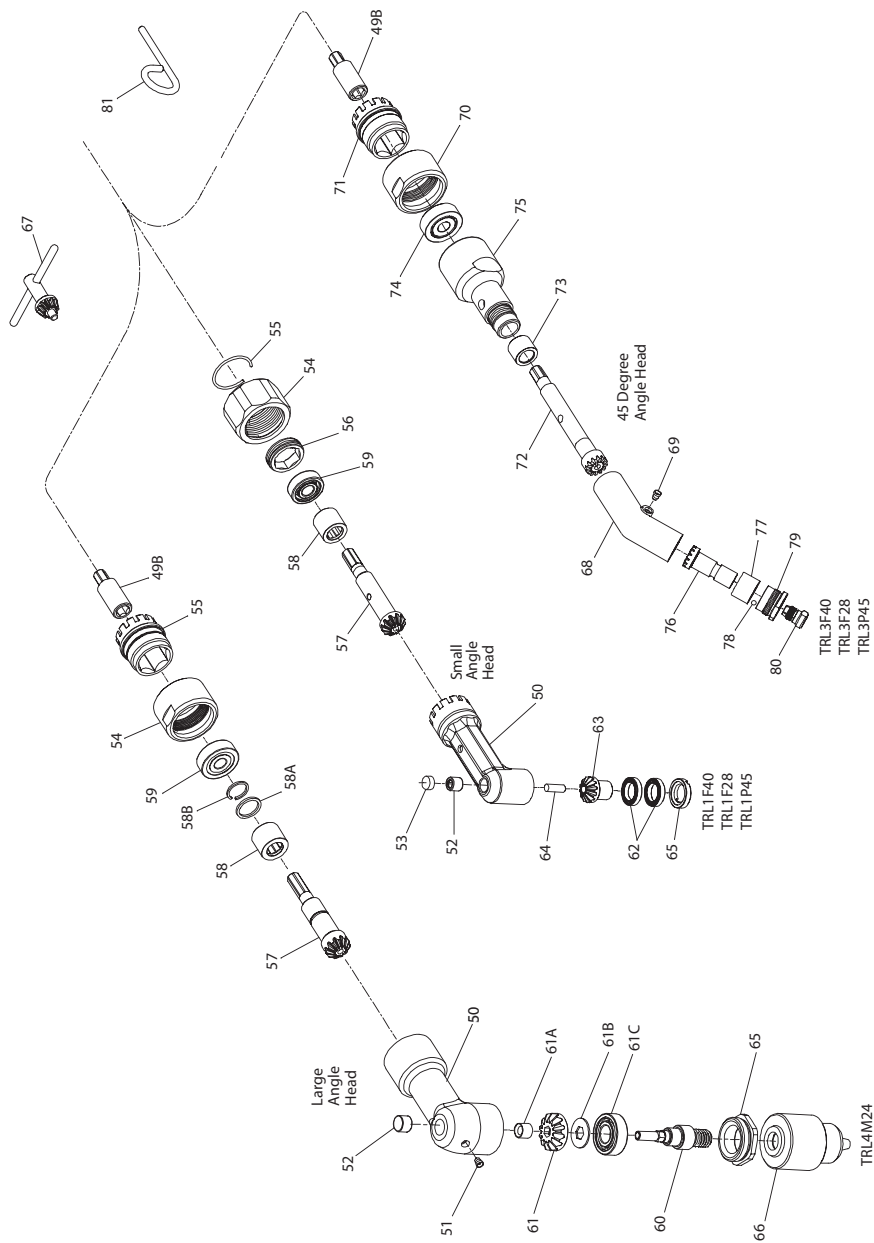
(Dwg. TPA1785-2)

QA Series Air Drill Motor and Gearing Parts List

Item	Part Description	Part Number	Item	Part Description	Part Number
1	Motor Housing	TRL-40	38	Planet Gear (3 for each Gear Head)	
2	Housing O-Ring	TRH-104		for TRL1 angle heads with 1750 free speed; TRL3 angle heads with 2100 free speed and TRL4 angle heads with 1270 free speed	TRH-10-10
3	Housing Plug	TRD-982		for TRL1 angle heads with 1270 free speed; TRL3 angle heads with 1750 and 1270 free speeds and all angle heads 850 free speed	TRH-10-12
4	Reverse Valve Assembly	TRH-A3291		for all angle heads with 500 free speed	TRH-10-16
5	Reverse Valve Seal	R1A-159	39	Gear Head Pinion	
6	Throttle Plunger	TRL-302		for TRL1 angle heads with 1270 free speed; TRL3 angle heads with 1750 and 1270 free speeds and TRL4 angle heads 850 free speed	TRH-17-18
7	Back Cap	TRL-231		for TRL1 angle heads with 1750 free speed; TRL3 angle heads with 2100 free speed and TRL4 angle heads with 1270 free speed	TRH-17-21
8	Back Cap Gasket	TRL-A283	40	Planet Gear Head Spacer	TRH-82
9	Muffler Element (3)	TRL-311	41	Spindle Assembly (includes all spindle gearing)	
10	Memory Chip (only for models ending in D having a momery chip)	TRH-800		for TRL1 angle heads with 2700, 2100 and 500 free speeds; TRL3 angle heads with 2700 and 500 free speeds and TRL4 angle heads with 2100 and 1750 free speeds	TRH-A8-16
11	Throttle Lever	TRL-273		for TRL1 angle heads with 3500 free speed; TRL3 angle heads with 3500 and 1270 free speeds and TRL4 angle heads with 2700, 850 and 500 free speeds	TRH-A8-15
12	Throttle Lever Pin	TRL-98		for TRL1 angle heads with 1270 free speed	TRH-A8-14
13	Throttle Valve Seat	TRH-303		for TRL1 angle heads with 850 free speed; TRL3 angle heads with 1750, and 850 free speeds and TRL4 angle heads with 3500 and 1270 free speeds	TRH-A8-12
14	Throttle Valve	TRD-A302		for TRL1 angle heads with 1750 free speed; TRL3 angle heads with 2100 free speed	TRH-A8-10
15	Throttle Valve Spring	TRL-51	42	Gear Case	TAL-37
16	Exhaust Diffuser	TRH-123	43	Spindle Bearing Retaining Ring	TRH-510
17	Inlet Bushing Assembly	TRH-A465	44	Spindle Bearing Seat	4E-6
18	Inlet Bushing Seal	AF120-290	45	Spindle Bearing Seat	TRH-208
19	Inlet Screen	TRH-61	46	Housing Grip	TRH-40-A136
20	Housing Plug Cover	TRD-981	47	Nameplate	TRH-301
21	Rear End Plate Assembly (includes rear rotor bearing)	TRH-A12-1	48	Warning Label	TRH-99
22	Rear End Plate Face Plate	TRH-12-2	49	Housing Lock Spacer	TRL-682
23	Rear End Plate Assembly Retainer	8SL-305	49A	Grip Spacer	TRL-504
24	Cylinder Assembly	TRH-A3-D	*	Tune-Up Kit (Includes the following items: 2, 5, 8, 9, 13, 14, 15, 18, 19, 23, 28, 30, 31 and 32)	Q2-TK1
25	Cylinder Rear Alignment Pin	TRH-98			
26	Cylinder Front Alignment Pin	TRH-98-1			
27	Rotor	TRD-53			
28	Vane Packet (set of 5 Vanes)	TRH-42-5			
29	Front End Plate Assembly	TRH-A11			
30	End Plate Alignment Pin	TRH-98-2			
31	Front Rotor Bearing	TRH-24			
32	Motor Seal	TRH-211			
33	Motor Clamp Washer	TRH-207			
34	Gear Retainer	TRH-28			
35	Gear Head Spacer	TRH-81			
36	Planet Gear Head Drive Plate (for Series QA35 and QA27, and Models QA2119, QA2129, QA2139, QA2159, QA1719, and QA1729)	TRH-17			
37	Planet Gear Head Assembly (includes gear shafts)				
	for TRL1 angle heads with 2700, 2100, 850, and 500 free speeds; TRL3 angle heads with 2700, 850, 500 free speeds and TRL4 angle heads with 3500, 2100, and 1750 free speeds	TRH-A2169-16			
	for TRL1 and TRL3 angle heads with 3500 free speeds and TRL4 angle heads with 2700 free speeds	TRH-A216-12			
	for TRL1 angle heads with 1750 free speed for TRL3 angle heads with 2100 free speed	TRH-A2169-10			
	for TRL1 angle heads with 1270 free speed	TRH-A216-15			
	for TRL3 angle heads with 1750 free speed and TRL4 angle heads with 1270 free speed	TRH-A2169-12			
	for TRL3 angle heads with 1270 free speed and TRL4 angle heads with 850 free speed	TRH-A21612-12			

* Not Illustrated.

QA Series Air Drill Angle Heads Exploded Diagram



(Dwg. TPA1824-1)

QA Series Air Drill Angle Heads Parts List

Item	Part Description	Part Number	Item	Part Description	Part Number
49B	Shaft Coupler (for large and 45° angle heads)	TRL1-213	62	Spindle Lower Bearing	
	90° Angle Head Assembly			for small angle heads only (2)	TRL1-593
	for Models with large angle head and 3/8"-24 male thread for 1/4" drill chuck (Chuck not included in Assembly)	TRL4M24	63	Spindle	
	for Models with small angle head and 9/32"-40 female thread for collet (Collet not included in Assembly)	TRL1F40		for TRL1F40 Angle Head Assembly	TRL1-551-F40
	for Models with small angle head and 1/4"-28 female thread Spindle	TRL1F28		for TRL1F28 Angle Head Assembly	TRL1-551-F28
				for TRL1P45 Angle Head Assembly	TRL1-551-P45
50	Angle Housing		64	Spindle Upper Bearing Shaft	
	for large angle head	48203-1		(for small angle heads only)	TRL1-110
	for small angle head	TRL1-550	65	Lower Spindle Bearing Cap	
51	Grease Fitting (for large angle head only)	35967		for large angle head	48187-1
*	Angle Housing Cover (for large angle head only)	48192-1		for small angle head	TRL1-531
52	Spindle Upper Bearing		66	Drill Chuck (for large angle heads only)	
	for large angle head	46750		1/4"	R0H-99
	for small angle head	W22-654		3/8"	6A-99
53	Spindle Upper Bearing Cap (for small angle heads only)	TRL2-531	67	Drill Chuck Key	
54	Coupling Nut			for R0H-99	R1H-J253
	for large angle head	48185-1		for 6A-99	R0J-253
	for small angle head	TRL-27		45° Angle Head Assembly	
55	Coupling Nut Retainer			for Models with small angle head and 9/32"-40 female thread for 3/16" collet (Collet not included in Assembly)	TRL3F40
	for large angle head	TRL1-305		for Models with small angle head and 1/4"-28 female thread Spindle	TRL3F28
	for small angle head	TRL-29	68	Angle Housing	43833-1
56	Angle Head Plug (for small angle heads only)	TRL1-532	69	Grease Fitting	35967
57	Bevel Pinion		70	Coupling Nut	48185-1
	for large angle head	48181-1	71	Coupling Nut Retainer	TRL1-305
	for small angle head	TRL1-552	72	Bevel Pinion	48836-1
58	Pinion Front Bearing		73	Pinion Front Bearing	46222
	for large angle head	48202-1	74	Pinion Rear Bearing	Y65-8
	for small angle head	TRL-654	75	Pinion Housing	48196-1
58A	Bearing Spacer (for large angle head)	46742	76	Spindle	
58B	Bearing Spacer Retainer (for large angle head)	Y110-5		for TRL3F40 Angle Head Assembly	48838-1
59	Pinion Rear Bearing			for TRL3F28 Angle Head Assembly	48837-1
	for large angle head	Y65-8		for TRL3P45 Angle Head Assembly	48838-P45
	for small angle head	TRL-514	77	Spindle Lower Bearing	44424
60	Spindle Assembly (for TRL4M24 only)	48213-1	78	Lower Spindle Bearing Cap Ball (11)	Y16-203
61	Bevel Gear	46735	79	Lower Spindle Bearing Cap	48840-1
61A	Bevel Gear Retainer	47600	80	Collet Insert (for TRL3F40 Angle Head Assembly)	43497-169
61B	Bevel Gear Spacer	47694	81	Wrench Pin	48182-1
61C	Spindle Lower Bearing	Y65-13	*	Suspension Bail	7L-365
			*	Piped-Away Exhaust Kit (optional)	LG1-K284

* 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 16572158.

Air Drill Maintenance Information Manual 16572653.

Manuals can be downloaded from www.irttools.com.

www.irttools.com

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