



Tool Products

OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

SECTION M32
MANUAL 7

Released: 5-13-94

Revised: 3-31-95

50 SERIES RIGHT-ANGLE SCREWDRIVER

Models: SRB51A-()-()



⚠ WARNING

READ THIS MANUAL CAREFULLY BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

Pneumatic tools should always be installed and used in accordance with A.N.S.I. B186.1 "Safety Code For Portable Air Tools."

⚠ WARNING

- Operate this tool at 90 p.s.i.g. (6.2 bar) maximum air pressure at the air inlet of the tool.
- Disconnect air supply from tool before removing/installing bit, socket or device attached to tool or performing maintenance procedures.
- Keep hands, clothing and long hair away from rotating end of tool.
- Anticipate and be alert for sudden changes in motion during start up and operation of any power tool.
- Never exceed rated r.p.m. of tool.
- Wear suitable eye and hearing protection while operating tool.
- Tool shaft can continue to rotate briefly after throttle is released.
- Do not lubricate tools with flammable or volatile liquids such as kerosene, diesel or jet fuel.
- Do not remove any labels. Replace any damaged label.
- Use only accessories recommended by ARO.

⚠ WARNING

Repeated prolonged operator exposure to vibrations which may be generated in the use of certain hand-held tools may produce Raynaud's phenomenon, commonly referred to as Whitefinger disease. The phenomenon produces numbness and burning sensations in the hand and may cause circulation and nerve damage as well as tissue necrosis. Repetitive users of hand-held tools who experience vibrations should closely monitor duration of use and their physical condition.

NOTICE

- The use of other than genuine ARO replacement parts may result in safety hazards, decreased tool performance and increased maintenance and may invalidate all warranties.
- ARO is not responsible for customer modification of tools for applications on which ARO was not consulted.
- Tool maintenance and repair should be performed by authorized, trained, competent personnel. Consult your nearest ARO authorized servicer.
- It is the responsibility of the employer to place the information in this manual into the hands of the operator.

For parts and service information, contact your local ARO distributor, or the Customer Service Dept. of the Ingersoll-Rand Distribution Center, White House, TN at PH: (615) 672-0321, FAX: (615) 672-0601.

ARO Tool Products

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FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

⚠ WARNING



Wear eye protection when operating or performing maintenance on this tool.

⚠ WARNING



Wear hearing protection when operating this tool.

⚠ WARNING



Turn off air supply and disconnect air supply hose before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool.

⚠ WARNING



Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands and arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.

⚠ WARNING



Do not carry the tool by the hose.

⚠ WARNING



Do not use damaged, frayed or deteriorated air hoses and fittings.

⚠ WARNING



Do not overreach when operating this tool. Keep body stance balanced and firm.

⚠ WARNING



Operate at 90 p.s.i.g. (6.2 bar/620 kPa) maximum air pressure.

NOTICE

<p>⚠ WARNING</p> <p> Read the manual before operating this tool. Operate at 90 psig/6.2 bar max.</p>	<p>This label must appear on the tool at all times. If it is lost or damaged, a replacement label is available at no cost.</p>
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PN 48176-1 LABEL

WARNING = Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.

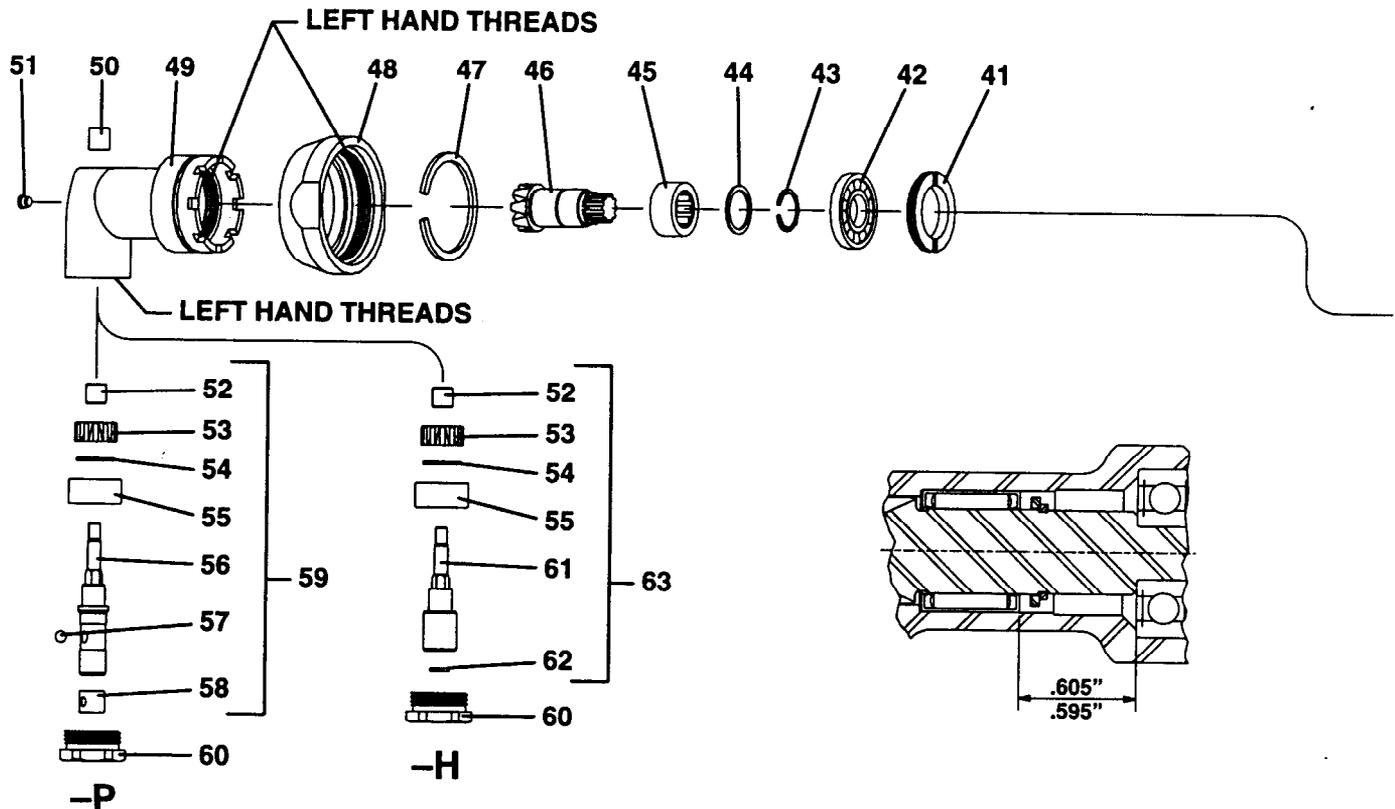
CAUTION = Hazards or unsafe practices which could result in minor personal injury or product or property damage.

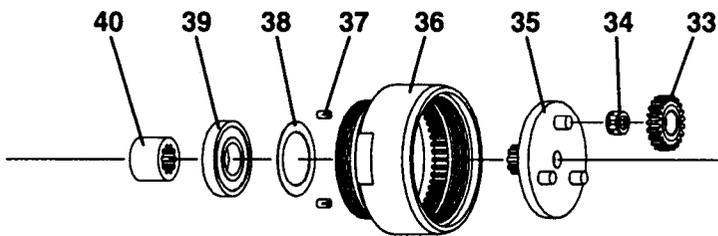
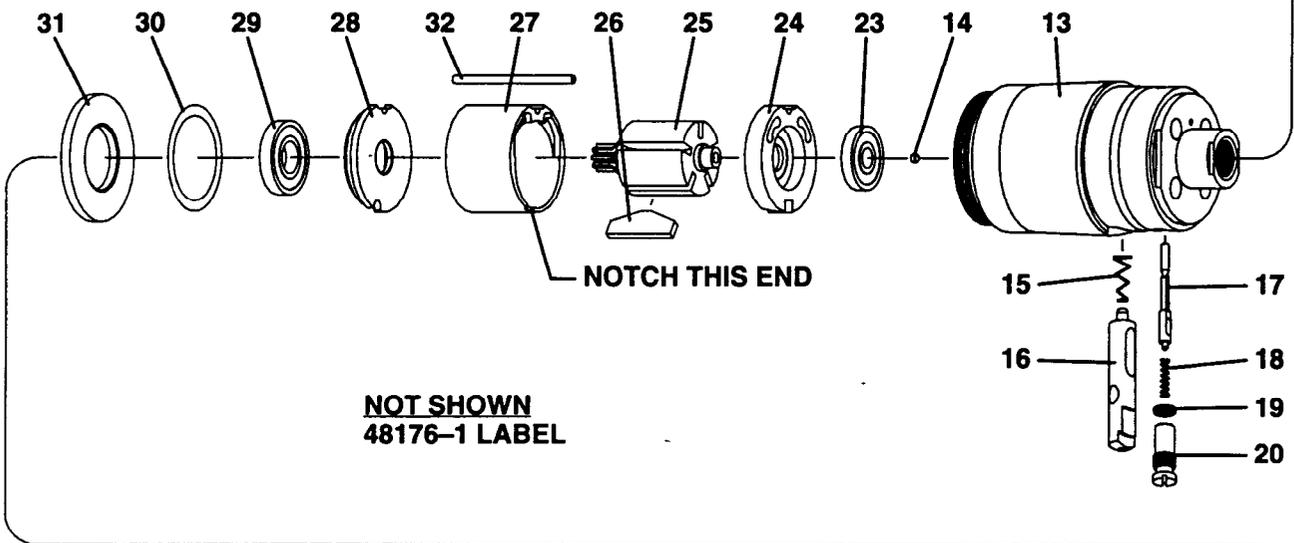
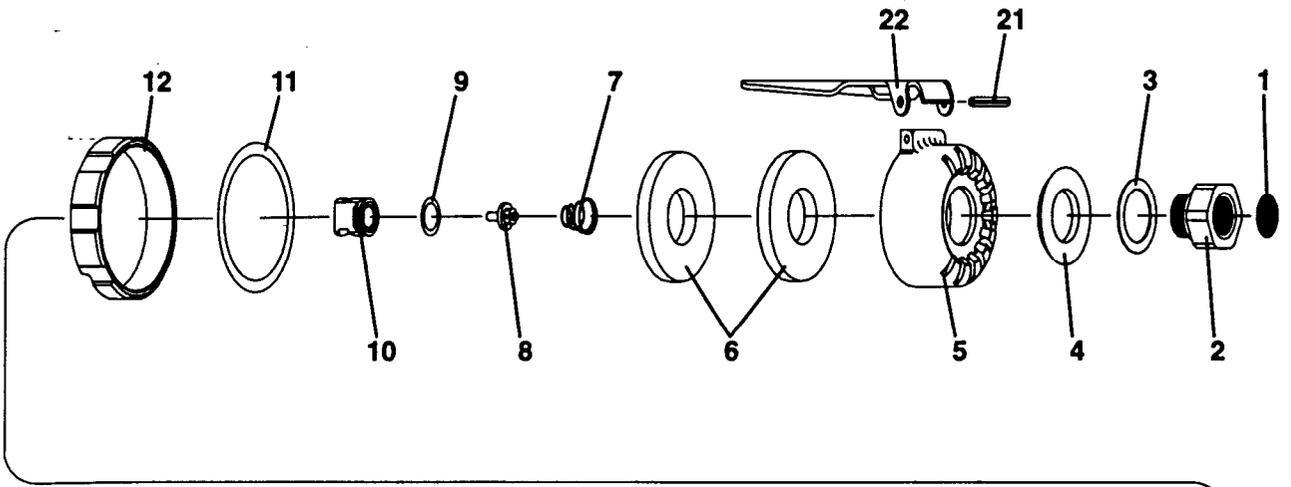
NOTICE = Important installation, operation or maintenance information.

PART NUMBER FOR ORDERING

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1	Screen	33911	32	Locating Pin	47723-2
2	Inlet Adapter	46377	33	Planet Gear (3 req'd) 6.67:1 ratio (21 teeth)	46901
3	Spacer	47205	34	Needle Bearing (3 req'd)	42315
4	Diffuser Washer	46449	35	Spindle Assembly 6.67:1 ratio	48224-1
5	Exhaust Cap	46448	36	Ring Gear	46468-1
6	Filler (2 req'd)	46452	37	Pin (2 req'd)	Y124-61
7	Spring	41654	38	Spacer	46496
8	Valve Assembly	46354-2	39	Ball Bearing	Y65-13
9	"O" Ring	Y325-11	40	Coupling	46741
10	Valve Block	48335-1	41	Bearing Lock Nut	37105
11	"O" Ring	48347-1	42	Ball Bearing	32850
12	Reverse Sleeve	48337-2	43	Snap Ring	Y110-5
13	Head and Bushing Assembly	48351-1	44	Spacer	46742
14	Plug	49266	45	Needle Bearing	48202-1
15	Spring	49794	46	Pinion	46733
16	Valve Body	48349-2	47	Snap Ring	Y110-11
17	Valve Stem	48342-2	48	Lock Nut	46745
18	Spring	31058	49	Right-Angle Housing	48205-1
19	"O" Ring	Y325-10	50	Needle Bearing	46750
20	Cap	48338-2	51	Grease Fitting	35967
21	Roll Pin	Y178-28	52	Sleeve	47600
22	Lever	48246-1	53	Bevel Gear	46735
23	Ball Bearing	47724	54	Washer	47694
24	Rear End Plate	46312-1	55	Ball Bearing	Y65-13
25	Rotor	46470	56	Spindle (1/4" hex drive)	48238-1
26	Blade (5 req'd)	46413	57	Ball	Y16-204
27	Cylinder	46311	58	Ball Clip	47695
28	Front End Plate	47722	59	Spindle Assembly (1/4" hex drive)	48236-1
29	Ball Bearing	Y65-13	60	Lock Nut	48187-1
	MOTOR ASSEMBLY (includes items 23 thru 29) ..	47727	61	Spindle (1/4" hex drive)	48231-1
30	"O" Ring	Y325-214	62	Retaining Ring	38790
31	Spacer	46412	63	Spindle Assembly (1/4" hex drive)	48232-1





MODEL NUMBER	R.P.M.	DRIVE SPINDLE ASSEMBLY
SRB51A-16-H	1600	48232-1 (ITEM 63)
SRB51A-16-P	1600	48236-1 (ITEM 59)

DISASSEMBLY/ASSEMBLY INSTRUCTIONS

NOTICE

- Never apply excessive pressure by a holding device which may cause distortion of a part.
- Apply pressure evenly to parts which have a press fit.
- Apply even pressure to the bearing race that will be press fitted to the mating part.
- Use correct tools and fixtures when servicing this tool.
- Don't damage "O" rings when servicing this tool.
- Use only genuine ARO replacement parts for this tool. When ordering, specify part number, description, tool model number and serial number.

RIGHT-ANGLE DISASSEMBLY

- Using wrenches on flats of ring gear (36) and lock nut (48), loosen nut completely and pull right-angle housing (49) and components from tool – LEFT HAND THREADS.
- Remove lock nut (60) – LEFT HAND THREADS – releasing drive assembly (59 or 63).
- Remove lock nut (41) from housing – LEFT HAND THREADS.
- Do not disassemble further unless damage is evident. To disassemble, pull pinion (46) from housing.
- Remove bearing (42), snap ring (43) and spacer (44) to allow removal of needle bearing (45).

RIGHT-ANGLE ASSEMBLY

- Lubricate bearings with ARO 33153 grease before assembly.
- Assemble bearing (45) and spacer (44) to pinion, securing with snap ring (43). NOTE: Bearing (45) is to be located .600" from shoulder on pinion (see illustration, page 4).
- Assemble bearing (42) to pinion, pressing on inner race of bearing.
- Assemble pinion (46) and components into housing (49), pressing on outer race of bearing (42).
- Assemble lock nut (41) to housing – LEFT HAND THREADS – securing pinion.
- Apply approximately 1/16 oz. of grease to right-angle gearing upon assembly.
- Assemble drive assembly (59 or 63) to lock nut (60) and assemble to right-angle housing – LEFT HAND THREADS.
- Assemble lock nut (48) to right-angle housing, securing with snap ring (47).
- Assemble coupling (40) to pinion, and assemble right-angle housing and components to tool, securing with lock nut (48) – LEFT HAND THREADS.

GEARING DISASSEMBLY

- Remove right-angle assembly from the tool.
- Remove ring gear (36) using a wrench on flats.
- Remove spindle (35) and gears from ring gear.
- Do not remove bearing (39) or spacer (38) unless damage is evident.
- To remove bearing (39) and spacer (38) from ring gear, press on spacer (38) from inside splined end of ring gear.

GEARING ASSEMBLY

- Assemble spacer (38) and bearing (39) into ring gear, pressing on outer race of bearing.
- Coat shafts of spindle (35) with ARO 33153 grease.
- Assemble gears (33) and bearings (34) to shafts of spindle (35).
- Lubricate gears liberally with ARO 33153 grease (see "Routine Lubrication Requirements", page 3).
- Assemble spindle (35) and gearing into ring gear. Rotate spindle and gears to align gear teeth with splines of ring gear (36).

- Thread ring gear (36) to tool, tightening with wrench on flats.
- Assemble right-angle assembly to tool.

MOTOR DISASSEMBLY

- Remove right-angle section and gearing from the tool.
- Remove spacer (31) and "O" ring (30).
- Tap front edge of housing (13) to remove motor assembly. Locating pin (32) should also come out.
- Tap splined end of rotor (25) with a soft face hammer; motor will come apart. NOTE: Bearings are light press fit in end plates. Bearing (23) is press fit on rotor.
- Remove end plate (24) and bearing (23) from rotor.

MOTOR ASSEMBLY

- Lubricate bearing (23) with ARO 33153 grease and assemble to end plate (24), pressing on outer race of bearing.
- Assemble end plate (24) to rotor (25), pressing on inner race of bearing.
- Coat five rotor blades (26) with ARO 29665 spindle oil and assemble to rotor slots – straight side out.
- Coat i.d. of cylinder (27) with ARO 29665 spindle oil and assemble over rotor, aligning air inlet slots of cylinder with air inlet slots in end plate (24).
- Assemble bearing (29) to end plate (28), pressing on outer race of bearing.
- Assemble end plate (28) to rotor, pressing on inner race of bearing. Be sure rotor turns without binding.
- Insert locating pin (32) into .096" diameter blind hole at bottom of motor cavity in housing.
- Align notches of end plates and cylinder and install motor into housing, aligning notches with locating pin (32).
- Grease and assemble "O" ring (30) to end plate (28).
- Assemble spacer (31) to motor.
- Assemble gearing and right-angle section to tool.

HOUSING DISASSEMBLY

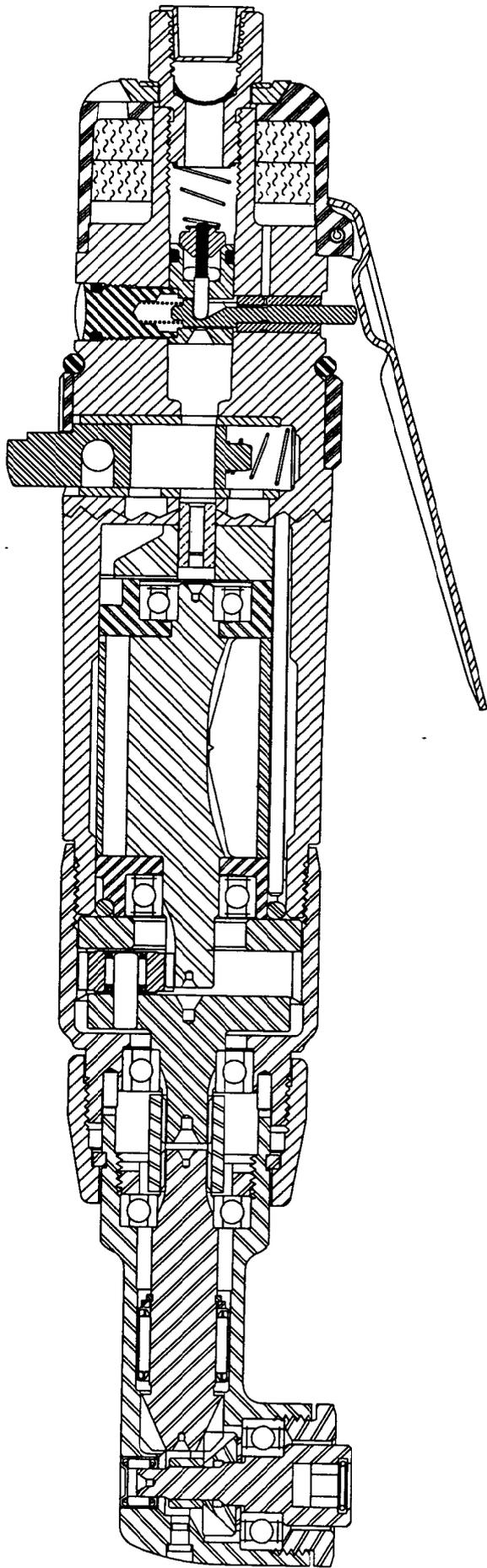
- Clamp inlet adapter (2) in a smooth face vise.
- Using a strap type wrench, unthread housing (13).
- Remove spacer (3), diffuser washer (4), exhaust cap (5), fillers (6), spring (7) and valve assembly (8). NOTE: Do not remove or adjust rubber portion of valve assembly (8), as it is preset at the factory.
- Remove cap (20) and spring (18), releasing valve stem (17).
- Remove valve block (10).
- Remove "O" ring (11) and reverse sleeve (12), releasing valve body (16) and spring (15).

HOUSING ASSEMBLY

- Assemble spring (15) to housing, securing with valve body (16).
- Assemble reverse sleeve (12) and "O" ring (11) to housing, securing valve body (16).
- Grease and assemble "O" ring (9) to valve block (10) and assemble valve block to housing. NOTE: Assemble with counterbore towards cap (20).
- Grease and assemble "O" ring (19) to cap (20).
- Assemble valve stem (17) and spring (18) to housing, securing with cap (20). NOTE: Assemble valve stem (17) with slot turned to accept valve assembly (8).
- Assemble fillers (6) and exhaust cap (5) to housing, aligning lever (22) with valve stem (17).
- Assemble valve assembly (8) to housing, being certain valve assembly seats in slot in valve stem (17).
- Assemble spring (7) to housing, securing with diffuser washer (4), spacer (3) and inlet adapter (2).
- Clean and install screen (1) in inlet adapter.

TYPICAL CROSS SECTION

M32
7





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