



Tool & Hoist Products

# OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

## 20 SERIES DRILL

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Form: 3575-2

MODELS 7779-( )  
(2600 R.P.M.)

**IMPORTANT: READ THIS MANUAL CAREFULLY BEFORE INSTALLING,  
OPERATING OR SERVICING THIS TOOL.**

### OPERATING AND SAFETY PRECAUTIONS

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

#### CAUTION:

- Keep hands and clothing away from rotating end of tool.
- Wear suitable eye protection while operating tool.
- Use tool only for purposes for which it was intended.
- SHUT OFF and DISCONNECT AIR SUPPLY from tool BEFORE performing maintenance, service or disassembly of tool or device attached to tool and also before removing or installing bit, socket, etc.

**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.

### ROUTINE LUBRICATION REQUIREMENTS

Lack of or an excessive amount of lubrication will affect the performance and life of this tool. Use only recommended lubricants at below time intervals:

**EVERY 8 HOURS OF TOOL OPERATION** — Fill lubricator reservoir of recommended F.R.L. with spindle oil (29665). If an in line or air line lubricator is not used, apply several drops of spindle oil (29665) in air inlet.

**EVERY 160 HOURS OF TOOL OPERATION** — Lubricate gearing. Pack bearings, coat shafts and lubricate gears with NLGI #1 "EP" grease (33153). Gearing should contain approximately 1/32 oz. (.9 g) of grease.

### AIR SUPPLY REQUIREMENTS

For maximum operating efficiency, the following air supply specifications should be maintained to this air tool:

- AIR PRESSURE — 90 PSIG (6 bar)
- AIR FILTRATION — 50 micron
- LUBRICATED AIR SUPPLY
- HOSE SIZE — 5/16" (8 mm) I.D.

An ARO® model 128231-800 air line FILTER/REGULATOR/LUBRICATOR (F.R.L.) is recommended to maintain the above air supply specifications.

### RECOMMENDED LUBRICANTS

After disassembly is complete, all parts, except sealed or shielded bearings, should be washed with solvent. To relubricate parts, or for routine lubrication, use the following recommended lubricants:

Where Used	ARO Part #	Description
Air Motor	29665	1 qt. Spindle Oil
Gears and Bearings	33153	5 lb. "EP" — NLGI #1 Grease
"O" Rings & Lip Seals	36460	4 oz. Stringy Lubricant

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 & Hoist Products

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**INGERSOLL-RAND®**  
**PROFESSIONAL TOOLS**

# DISASSEMBLY/ASSEMBLY INSTRUCTIONS

- 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 tool.
- Use only genuine ARO replacement parts for this tool. When ordering, specify part number, description, tool model number and serial number.

## GEARING DISASSEMBLY

- Remove chuck (32) from tool.
- Remove ring gear (25) using a strap wrench.
- Remove spindle and gears from ring gear.
- Do not remove bearings (27) or spacers (26 and 28) unless damage is evident.
- To remove bearings (27) and spacers (26 and 28) from ring gear, remove lock nut (30) from ring gear and press on spacer (26) inside ring gear from splined end.

## GEARING ASSEMBLY

- Assemble spacer (26) into ring gear.
- Press bearing (27) into ring gear. NOTE: Press on outer race of bearing.
- Coat shafts of spindle (24) with ARO 33153 grease.
- Assemble gears (23) to shafts of spindle.
- Lubricate gears liberally with ARO 33153 grease (approx. 1/32 oz.).
- Assemble spindle (24) and gearing into ring gear. Rotate spindle and gears to align gear teeth with splines of ring gear.
- Assemble spacer (28) to spindle.
- Press bearing (27) into ring gear.
- Assemble washer (29) and lock nut (30) to ring gear.
- Thread ring gear to tool and tighten with strap wrench.
- Assemble spacer (31) and chuck (32) to tool.

## MOTOR DISASSEMBLY

- Remove gearing from tool.
- Remove spacer (21)
- Tap front edge of housing to remove motor assembly. Locating pin (22) should also come out.
- Tap splined end of rotor (16) with a soft faced hammer; motor will come apart. NOTE: Bearings are press fit on rotor.

- Remove end plate (14) and bearing (13) from rotor.

## MOTOR ASSEMBLY

- Lubricate bearings with ARO 33153 grease before assembly.
- Assemble bearing (13) into end plate (14), pressing on outer race of bearing.
- Assemble end plate (14) to rotor, pressing on inner race of bearing.
- Coat five rotor blades (15) with ARO 29665 spindle oil and assemble to rotor slots – straight side out.
- Coat i.d. of cylinder (17) with ARO 29665 spindle oil and assemble over rotor. NOTE: Air inlet slots in end of cylinder must be aligned with two air inlet holes in end plate (14).
- Assemble bearing (19) into end plate (18), pressing on outer race of bearing.
- Assemble end plate (18) to rotor, pressing on inner race of bearing. Be sure rotor turns without binding.
- Insert locating pin (22) into .081 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 (22).
- Grease and assemble "O" ring (20) to end plate (18).
- Assemble spacer (21) to motor with chamfer facing motor.
- Assemble gearing to tool.

## HOUSING DISASSEMBLY

- Drive pin (9) out left side of housing.
- Remove trigger (12), plug (11) and valve stem (10).
- Remove inlet adapter (2), releasing muffler (7), spring (4) and tip valve (5). DO NOT remove seat (6) unless damage is evident.

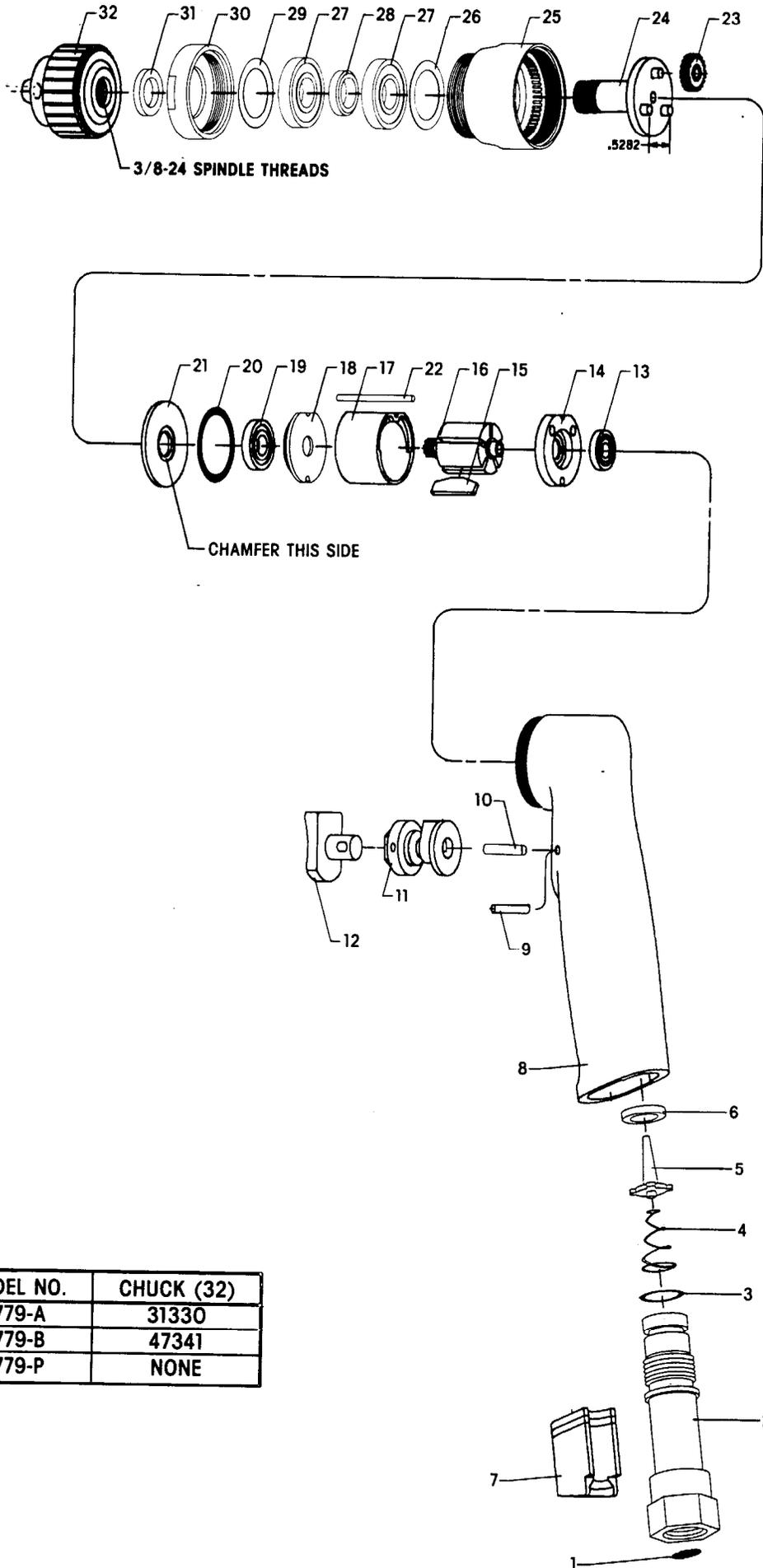
## HOUSING ASSEMBLY

- Grease "O" ring (3) and assemble to inlet adapter (2).
- Assemble seat (6) with rounded corners into housing first.
- Assemble tip valve (5), spring (4) and muffler (7) into housing, securing with inlet adapter (2).
- Clean and replace screen (1) in inlet adapter (2).
- Assemble plug (11) to housing, aligning .102 diameter holes in housing and plug.
- Insert valve stem (10) into plug (11), aligning groove in valve stem with tip valve (5).
- Assemble trigger (12) to plug, securing with pin (9). NOTE: Insert pin from left side of housing.

### PART NUMBER FOR ORDERING

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1	Screen	33911	19	Bearing	Y65-10
2	Inlet Adapter	47944-1		MOTOR ASSEMBLY (includes items 13 thru 19)	47721
3	"O" Ring	Y325-13	20	"O" Ring	Y325-116
4	Spring	47947-1	21	Spacer	47632
5	Tip Valve	48070	22	Locating Pin	47719-1
6	Seat	48071	23	Gear (3 req'd)	46875
7	Muffler Assembly	46388	24	Spindle Assembly	47804-1
8	Housing	47946-1	25	Ring Gear	47635
9	Spirol Pin	46849	26	Spacer	46496
10	Valve Stem	47945-1	27	Bearing (2 req'd)	Y65-13
11	Plug	46406	28	Spacer	46706
12	Trigger	46298	29	Washer	47682
13	Bearing	41643	30	Lock Nut	46704
14	End Plate	46245	31	Spacer	46705
15	Blade (5 req'd)	46301	32	Chuck	
16	Rotor	46338-2		O – 1/4" capacity (model 7779-A)	31330
17	Cylinder	46244		1/16" – 3/8" capacity (model 7779-B)	47341
18	End Plate	47718			



MODEL NO.	CHUCK (32)
7779-A	31330
7779-B	47341
7779-P	NONE

