



Tool & Hoist Products

# OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

## 1100 SERIES DRILLS

Models 8426-2, 8426-3, 8426-4,  
8426-5, 8426-6 and 8426-7.

SECTION M20  
MANUAL 35  
Released: 5/68  
Revised: 8-2-93  
Form: 4912

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

### 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.
- Disconnect air supply from tool before removing/installing bits or performing other maintenance procedures.

**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** – Flush tool with a solution of three (3) parts cleaning solvent to one (1) part spindle oil.

**EVERY 1000 HOURS OF TOOL OPERATION** – Completely disassemble tool, clean and lubricate motor bearings with NLGI #1 "EP" grease (33153).

### 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:

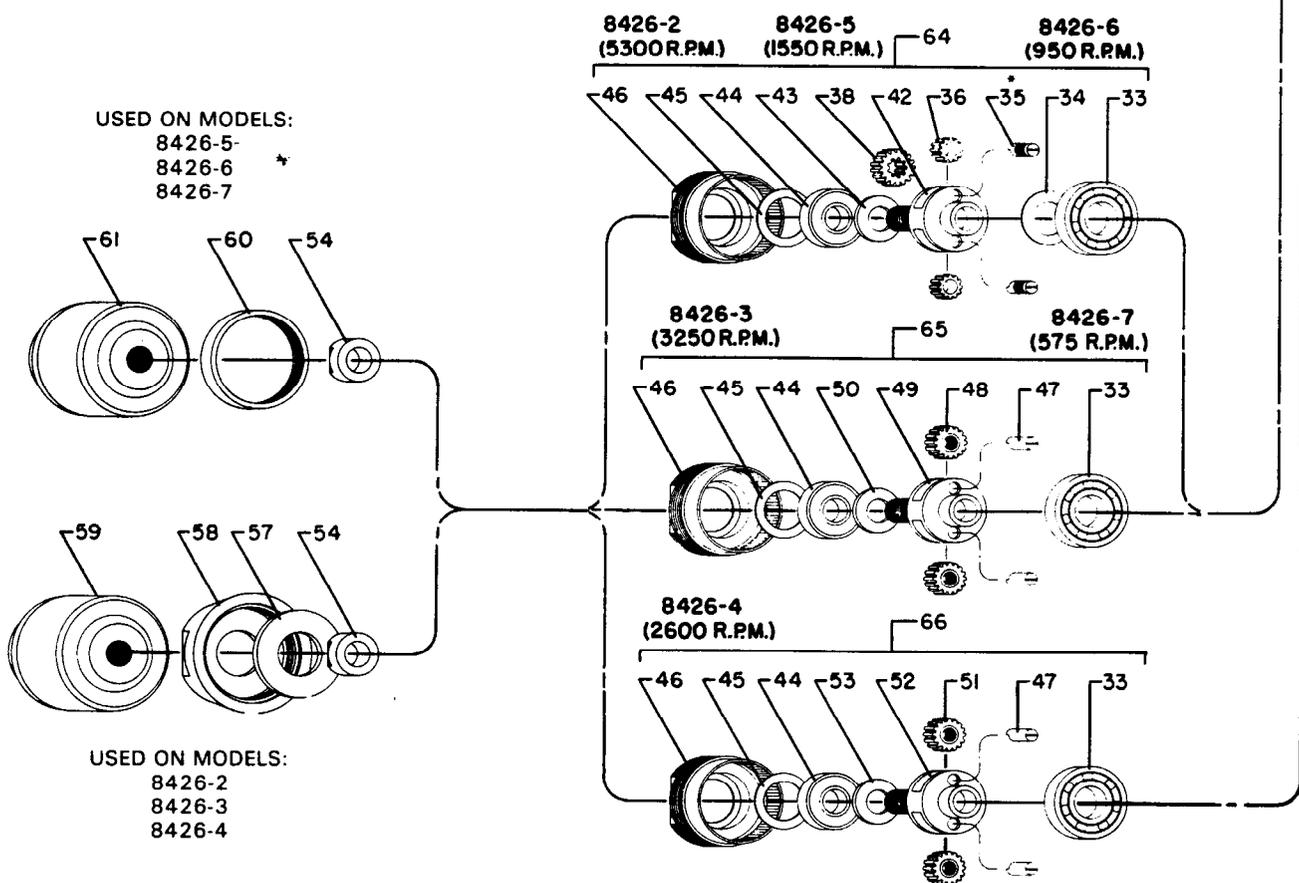
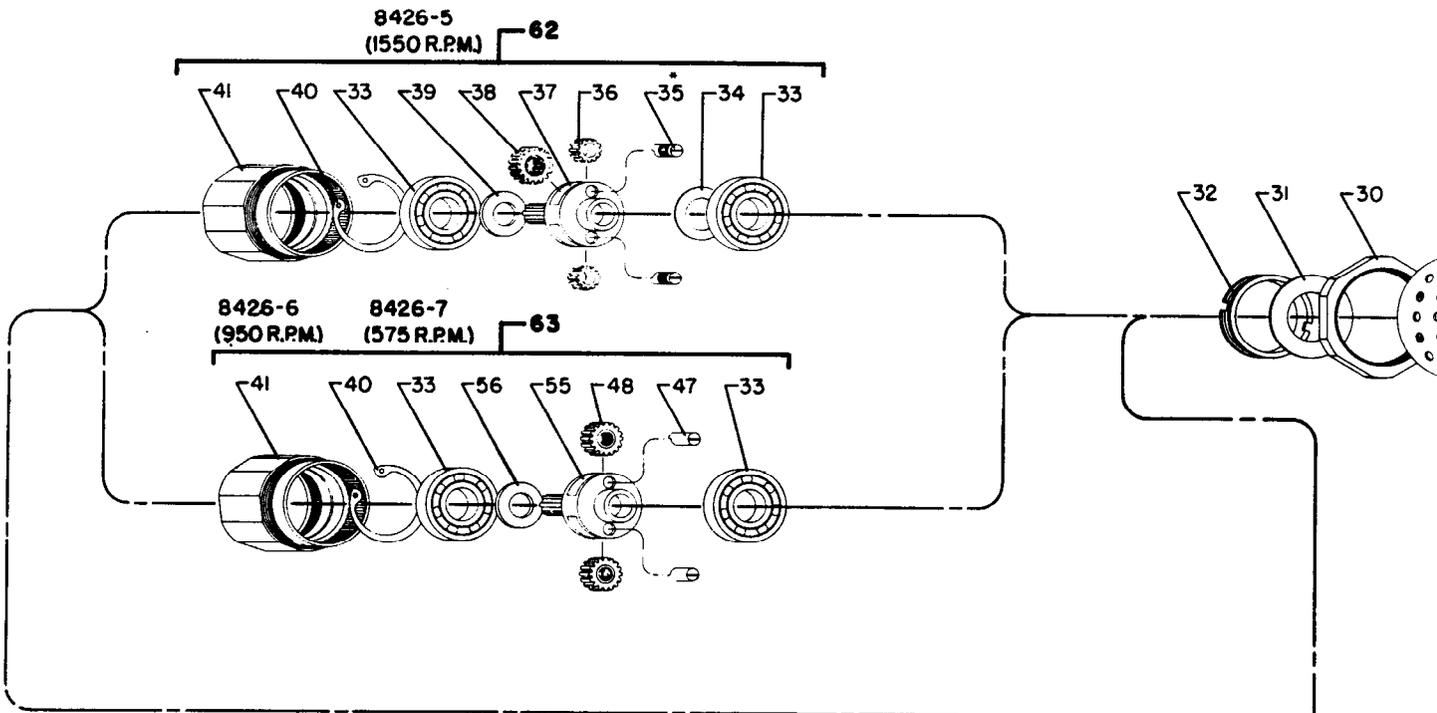
Where Used	ARO Part #	Description
Air Motor	29665	1 qt. Spindle Oil
"O" Rings & Lip Seals	36460	4 oz. Stringy Lubricant
Gears and Bearings	33153	5 lb. "EP" - NLGI #1 Grease

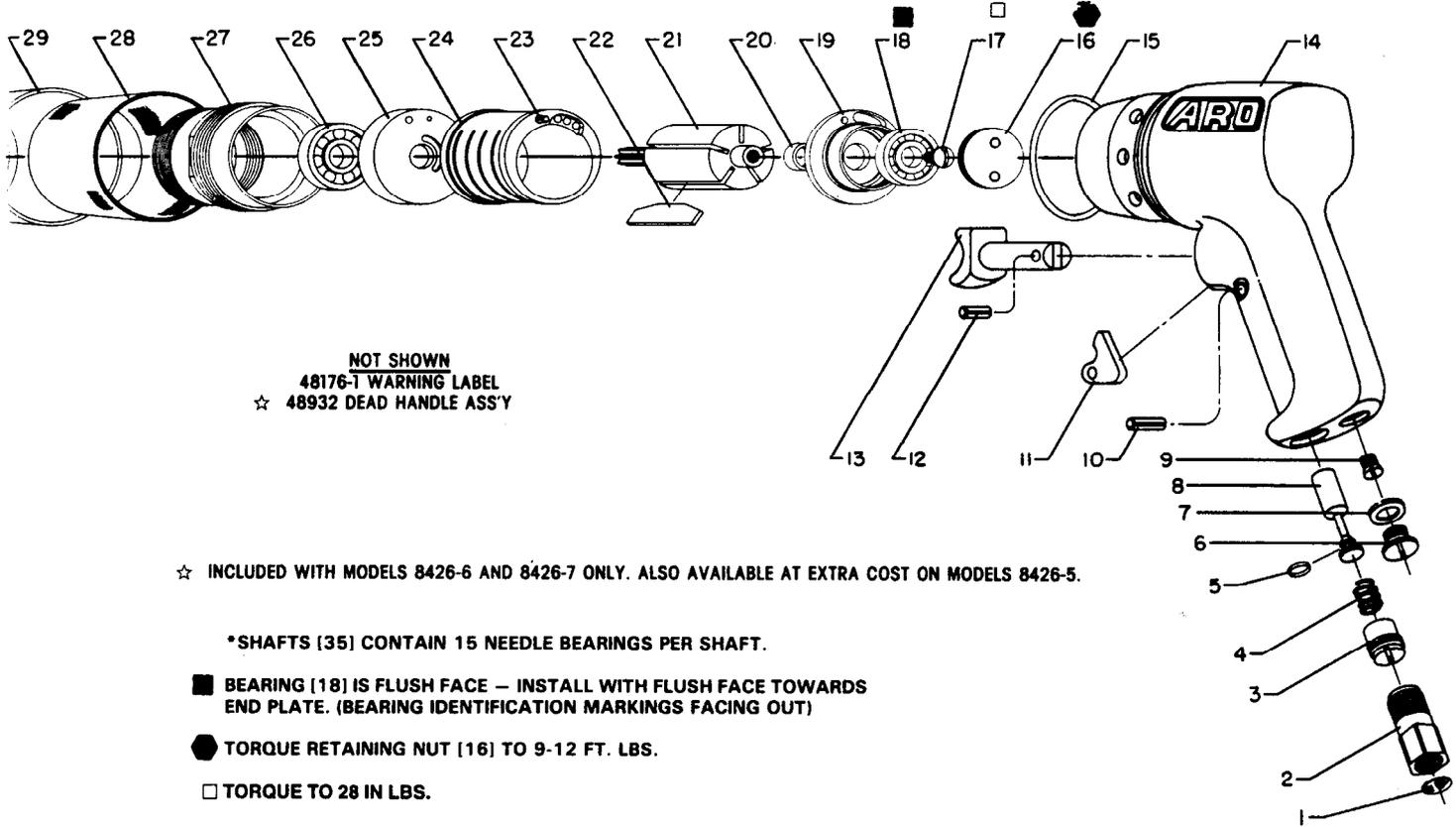
For parts and service information, contact your local ARO distributor, or the Customer Service Dept. of the Ingersoll-Rand Distribution Center, White House, TN at PH: (615) 672-0321, FAX: (615) 672-0601.

ARO Tool & Hoist Products

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





NOT SHOWN  
48176-1 WARNING LABEL  
☆ 48932 DEAD HANDLE ASS'Y

☆ INCLUDED WITH MODELS 8426-6 AND 8426-7 ONLY. ALSO AVAILABLE AT EXTRA COST ON MODELS 8426-5.

\*SHAFTS [35] CONTAIN 15 NEEDLE BEARINGS PER SHAFT.

■ BEARING [18] IS FLUSH FACE — INSTALL WITH FLUSH FACE TOWARDS END PLATE. (BEARING IDENTIFICATION MARKINGS FACING OUT)

● TORQUE RETAINING NUT [16] TO 9-12 FT. LBS.

□ TORQUE TO 28 IN LBS.

PART NUMBER FOR ORDERING

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1	Screen	33911	32	Spacer	32305
2	Adapter	40273	33	Bearing	32325
3	Spacer Bushing	42025	34	Spacer	37676
4	Spring	33547	35	Shaft (2)	33686
5	O-Ring	Y325-7	36	Planet Gear (2) 12 teeth	30899
6	Screw	30747	37	Spindle	37667
7	Washer	31589	38	Drive Gear 17 Teeth	30901
8	Valve Stem	36777	39	Spacer	32314
9	Oilite Casting	33190	40	Retaining Ring	Y147-7
10	Roll Pin	Y178-37	41	Adapter	32326
11	Lever	42027	42	Spindle	37669
12	Roll Pin	Y178-20	43	Spacer	32315
13	Trigger	42029	44	Bearing	36546
14	Housing	42033	45	Washer	32544
15	O-Ring	Y325-134	46	Ring Gear	32935
16	Retaining Nut	33694	47	Shaft (2)	33436
17	Sems Fastener	33700	48	Planet Gear (2) 16 teeth	33440
18	Bearing	33709	49	Spindle	33427
19	Rear End Plate	33710	50	Spacer	32313
20	Spacer	33701	51	Planet Gear (2) 17 teeth	33438
21	Rotor		52	Spindle	33423
	for models 8426-2,-3,-5,-6 and -7	42017	53	Spacer	32311
	for model 8426-4	42016	54	Spacer	42028
22	Blade (5)	42018	55	Spindle	33425
23	Roll Pin (2)	Y178-20	56	Spacer	32312
24	Cylinder (includes item 23)	42035	57	Felt Washer	42195
25	Front End Plate	33712	58	Nose Housing	42024
26	Bearing	33705	59	Chuck (3/8" cap.)	47341
	Motor Assembly (includes items 16 thru 26)		60	Thread Guard	32070
	for models 8426-2,-3,-5,-6 and -7	42032	61	Chuck (3/8" cap.)	30896
	for model 8426-4	42031	62	Gearing Assembly (3.4:1)	33853
27	Adapter	42019	63	Gearing Assembly (5.56:1)	33837
28	Screen	42163	64	Gearing Assembly (3.4:1)	33835
29	Muffler Sleeve	42023	65	Gearing Assembly (5.56:1)	33836
30	Nut	42022	66	Gearing Assembly (6.8:1)	34009
31	Spacer	32310			

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

## GEARING DISASSEMBLY

- Clamp tool in a vise.
- Remove chuck. Remove thread guard (60) and spacer (54) or nose housing (58), felt washer (57) and spacer (54).
- Remove drive gearing assembly from tool.
- Remove spindle and components from ring gear.
- Remove bearing (33) (and spacer 34 where applicable) and bearing (44).
- Remove shafts and gears.
- Remove and disassemble auxiliary gearing.

## GEARING ASSEMBLY

- Assemble spacer and bearing (44) to spindle.
- Assemble gears and shafts to spindle.
- Assemble bearing (33) (and spacer 34 where applicable) to spindle.
- Assemble spindle and washer (45) (large diameter facing out) into ring gear.
- Assemble auxiliary gearing.
- Assemble gearing to tool.
- Assemble spacer (54) to tool. Assemble felt washer (57), nose housing (58) and chuck (59) or thread guard (60) and chuck (61) to tool.

## MOTOR DISASSEMBLY

- Remove gearing from tool.
- Remove nut (30), muffler sleeve (29), screen (28) and adapter (27).
- Remove motor assembly and spacers (32 and 31).

- Remove retaining nut (16) and sems fastener (17).
- Tap splined end of rotor with a soft face hammer; motor will come apart.

## MOTOR ASSEMBLY

- Lubricate bearings with ARO 33153 grease.
- Assemble bearing (18) to end plate (19) and bearing (26) to end plate (25).
- Assemble end plate (19), with bearing and spacer (20), to rotor. NOTE: Bearing is press fit on rotor, press on inner race of bearing.
- Coat i.d. of cylinder (24) with ARO 29665 spindle oil and assemble over rotor.
- Coat five rotor blades (22) with ARO 29665 spindle oil and assemble to rotor slots.
- Assemble end plate (25), with bearing (26), to rotor. NOTE: Bearing is press fit on rotor, press on inner race of bearing.
- Assemble sems fastener (17) and retaining nut (16) to end plate. NOTE: torque fastener to 28 in. lbs and nut to 9 – 12 ft lbs. Be sure rotor turns without binding.
- Assemble motor to housing (14). Assemble adapter (27), spacers (31 and 32), screen (28), muffler sleeve (29) and nut (30) to housing.

## THROTTLE HOUSING DISASSEMBLY

- Remove inlet adapter (2) and screen (1).
- Remove spacer bushing (3), spring (4) and valve stem (8).
- Drive out roll pin (10).
- Remove lever (11) and trigger (13).
- Remove screw (6), washer (7) and oilite casting (9).

## THROTTLE HOUSING ASSEMBLY

- Assemble trigger (13) and lever (11) to housing (14).
- Install roll pin (10).
- Lubricate and assemble "O" ring (5) to valve stem (8).
- Assemble valve stem (8), spring (4), spacer bushing (3) and inlet adapter (2) to housing.
- Clean and replace screen (1) in inlet adapter (2).
- Assemble oilite casting (9) to housing.
- Fill oil cavity and seal with washer (7) and screw (6).