

OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

Released: 2-18-91
Revised: 6-17-91
Form: 3818-2

"O" SERIES POWER UNIT

MODELS 7270-()

**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.
- Never exceed rated r.p.m. of 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 1/8 oz. (3.5 g) of grease per reduction.

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:

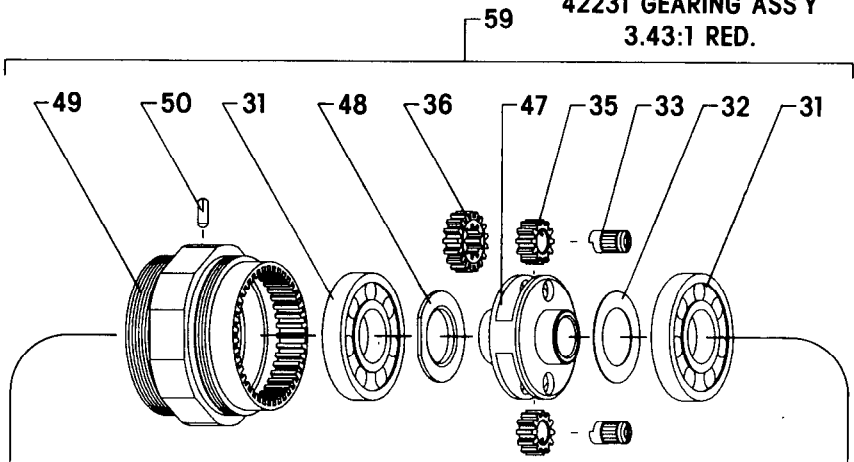
| Where Used | ARO Part # | Description |
|-----------------------|------------|-----------------------------|
| Air Motor | 29665 | 1 qt. Spindle Oil |
| Gears and Bearings | 33153 | 5 lb. "EP" — NLGI #1 Grease |
| "O" Rings & Lip Seals | 36460 | 4 oz. Stringy Lubricant |

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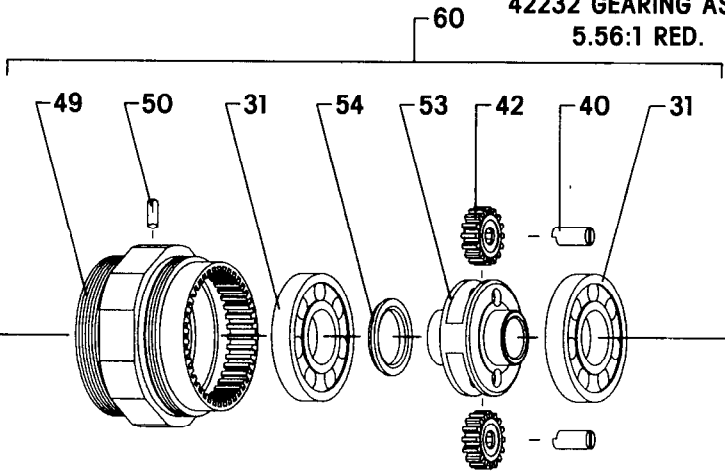


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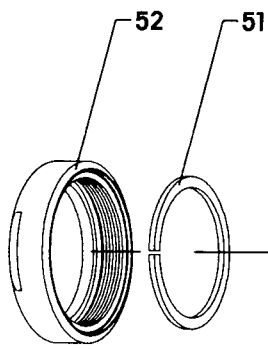
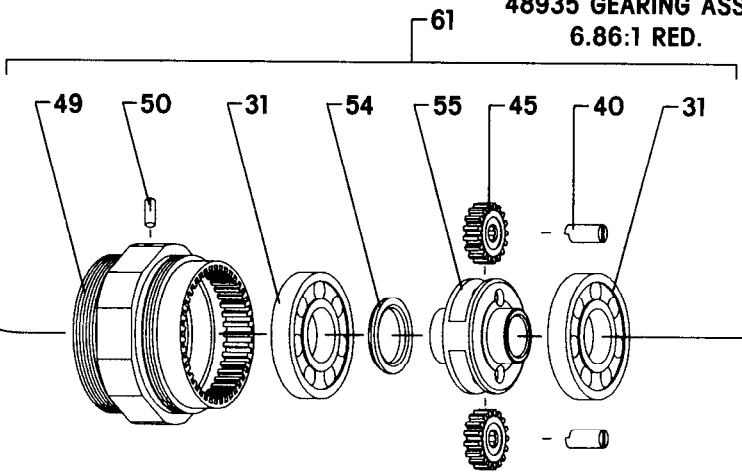
42231 GEARING ASS'Y
3.43:1 RED.



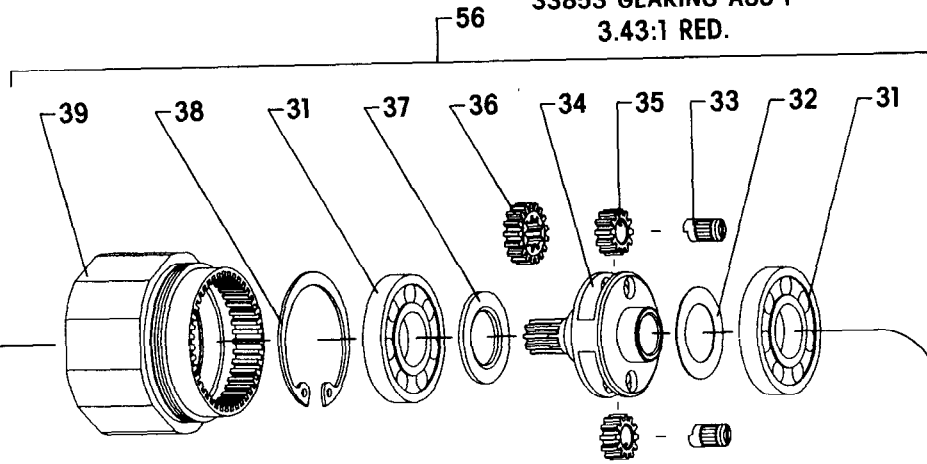
42232 GEARING ASS'Y
5.56:1 RED.



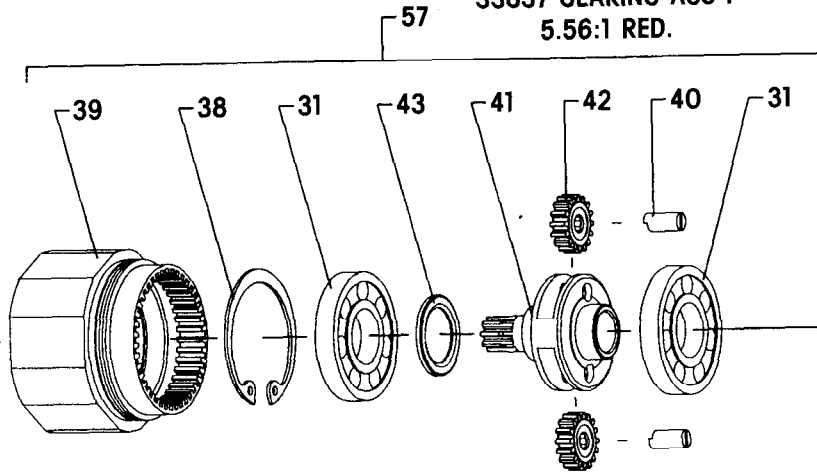
48935 GEARING ASS'Y
6.86:1 RED.



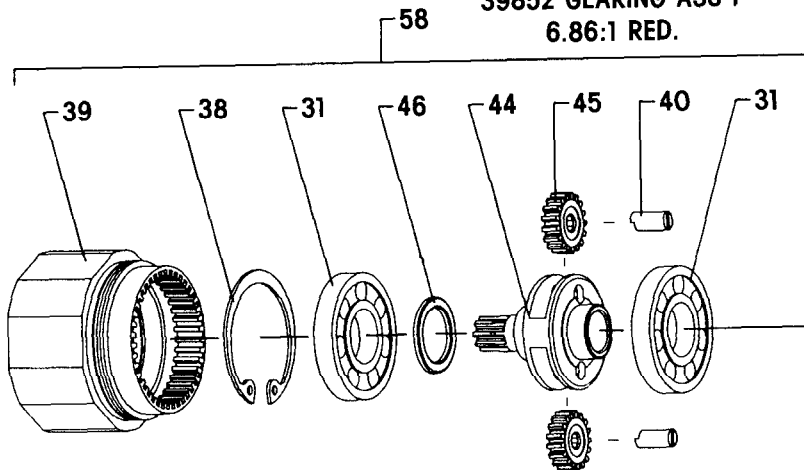
33853 GEARING ASS'Y
3.43:1 RED.

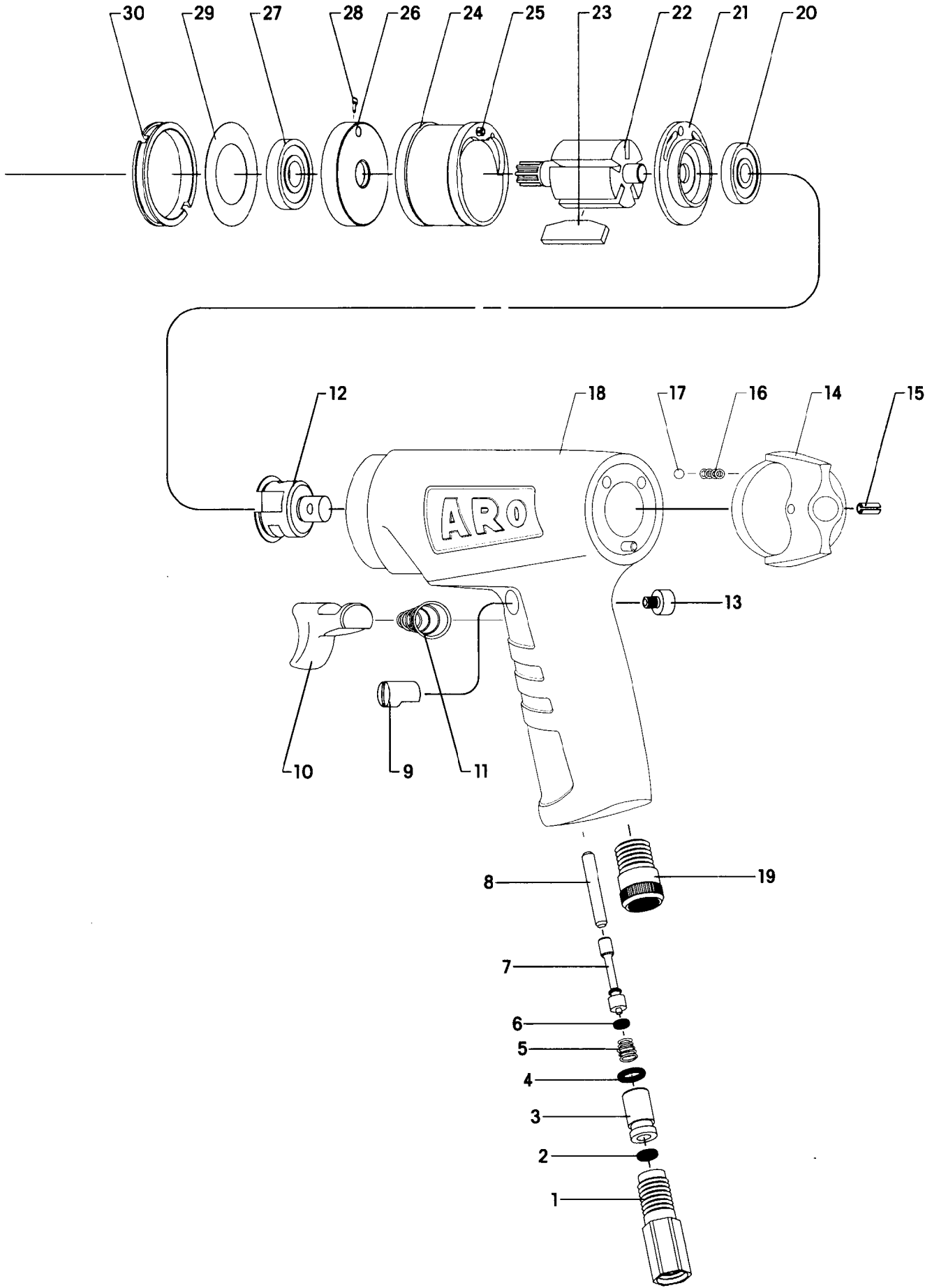


33837 GEARING ASS'Y
5.56:1 RED.



39852 GEARING ASS'Y
6.86:1 RED.





PART NUMBER FOR ORDERING

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| | | | | | |
|----|---|---------|----|-------------------------------|---------|
| 1 | Hose Adapter | 40273 | 29 | Spacer | 32310 |
| 2 | "O" Ring | Y325-10 | 30 | Spacer | 32305 |
| 3 | Insert (includes item 4) | 36658 | 31 | Bearing (2 req'd) | 32325 |
| 4 | "O" Ring | Y325-11 | 32 | Spacer | 37676 |
| 5 | Spring | 39451 | 33 | Shaft (2 req'd) | 33686 |
| 6 | "O" Ring | Y325-7 | 34 | Spindle 3.43:1 ratio | 37667 |
| 7 | Valve Stem | 36270 | 35 | Gear (2 req'd) 12 teeth | 30899 |
| 8 | Valve Extension | 39770 | 36 | Sun Gear 17 teeth | 30901 |
| 9 | Guide Pin | 39768 | 37 | Spacer | 32314 |
| 10 | Trigger | 39764 | 38 | Retaining Ring | Y147-7 |
| 11 | Spring | 39452 | 39 | Housing Adapter | 32326 |
| 12 | Reverse Valve | 36970 | 40 | Shaft (2 req'd) | 33436 |
| 13 | Locking Screw | 39769 | 41 | Spindle 5.56:1 ratio | 33425 |
| 14 | Knob | 36971 | 42 | Gear (2 req'd) 16 teeth | 33440 |
| 15 | Roll Pin | Y178-37 | 43 | Spacer | 32312 |
| 16 | Spring | 33173 | 44 | Spindle 6.86:1 ratio | 39849 |
| 17 | Ball | Y16-204 | 45 | Gear (2 req'd) 17 teeth | 33438 |
| 18 | Housing | 40183 | 46 | Spacer | 39850 |
| | Housing Assembly (includes items 1 thru 18) | 40184 | 47 | Spindle 3.43:1 ratio | 37674 |
| 19 | Exhaust Muffler | 40191 | 48 | Spacer | 33691 |
| 20 | Bearing | Y65-7 | 49 | Ring Gear (includes item 50) | 42229 |
| 21 | Rear End Plate | 31601 | 50 | Pin | Y121-81 |
| 22 | Rotor | | 51 | Snap Ring | 31509 |
| | 7 teeth | 31633 | 52 | Housing Nut | 31508 |
| | 9 teeth | 31603 | 53 | Spindle 5.56:1 ratio | 36326 |
| 23 | Blade (5 req'd) | 31363 | 54 | Spacer | 33693 |
| 24 | Cylinder (includes item 25) | 37683 | 55 | Spindle 6.86:1 ratio | 36330 |
| 25 | Roll Pin (2 req'd) | Y178-20 | 56 | Gearing Assembly 3.43:1 ratio | 33853 |
| 26 | Front End Plate | 31602 | 57 | Gearing Assembly 5.56:1 ratio | 33837 |
| 27 | Bearing | Y65-15 | 58 | Gearing Assembly 6.86:1 ratio | 39852 |
| | Motor Assembly (includes items 20 thru 27) | | 59 | Gearing Assembly 3.43:1 ratio | 42231 |
| | 7 tooth rotor | 33852 | 60 | Gearing Assembly 5.56:1 ratio | 42232 |
| | 9 tooth rotor | 33823 | 61 | Gearing Assembly 6.86:1 ratio | 48935 |
| 28 | Locating Pin | 32814 | | | |

| MODEL NUMBER | R.P.M. | ROTOR (ITEM 22) | MOTOR ASSEMBLY | AUXILIARY GEARING | DRIVE GEARING | TOTAL RED. |
|--------------|--------|-----------------|----------------|-------------------|---------------|------------|
| 7270-3 | 350 | 31633 | 33852 | 39852 | 42232 | 38.1:1 |
| 7270-5 | 450 | 31603 | 33823 | 33837 | 42232 | 30.9:1 |
| 7270-7 | 700 | 31603 | 33823 | 33837 | 42231 | 19.07:1 |
| 7270-12 | 1200 | 31603 | 33823 | 33853 | 42231 | 11.76:1 |
| 7270-20 | 2000 | 31633 | 33852 | | 48935 | 6.86:1 |

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

- ___ Using wrenches on flats of ring gear (49) and adapter (39), unthread and remove gearing assembly (59, 60 or 61).
- ___ Grasp ring gear in one hand and tap drive end of spindle with a soft face hammer; spindle and components will loosen from ring gear.
- ___ Do not disassemble further unless damage is evident.
- ___ To disassemble, remove bearing (31) and spacer (48 or 54) from drive end of spindle.
- ___ Alternately tap ends of shafts (33 or 40) to loosen bearing (31) and spacer (32), where applicable, from opposite end of spindle.
- ___ Remove shafts, releasing gears.
- ___ Disassembly of auxiliary gearing is similar to that of drive gearing.

GEARING ASSEMBLY

- ___ Pack bearings and lubricate gears and shafts liberally with ARO 33153 grease upon assembly. Gearing should contain approximately 1/8 oz. (3.5 g) of grease per reduction.
- ___ Assemble spacer (48 or 54) and bearing (31) to drive end of spindle, pressing on inner race of bearing.
- ___ Assemble sun gear (36), where applicable, and planet gears to spindle, securing with shafts. NOTE: Align notch in shafts with spacer.
- ___ Assemble spacer (32), where applicable, and bearing (31) to spindle, pressing on inner race of bearing.
- ___ Assemble spindle and components to ring gear (49).
- ___ Assemble ring gear and components to tool.
- ___ Assembly of auxiliary gearing is similar to that of drive gearing.

MOTOR DISASSEMBLY

- ___ Using a wrench on flats of adapter (39), unthread and remove gearing from tool.
- ___ Tap front edge of housing to remove motor assembly.
- ___ Grasp cylinder in one hand and tap splined end of rotor with a

- soft face hammer; motor will come apart.
- ___ Remove end plate (21) and bearing (20) from rotor.

MOTOR ASSEMBLY

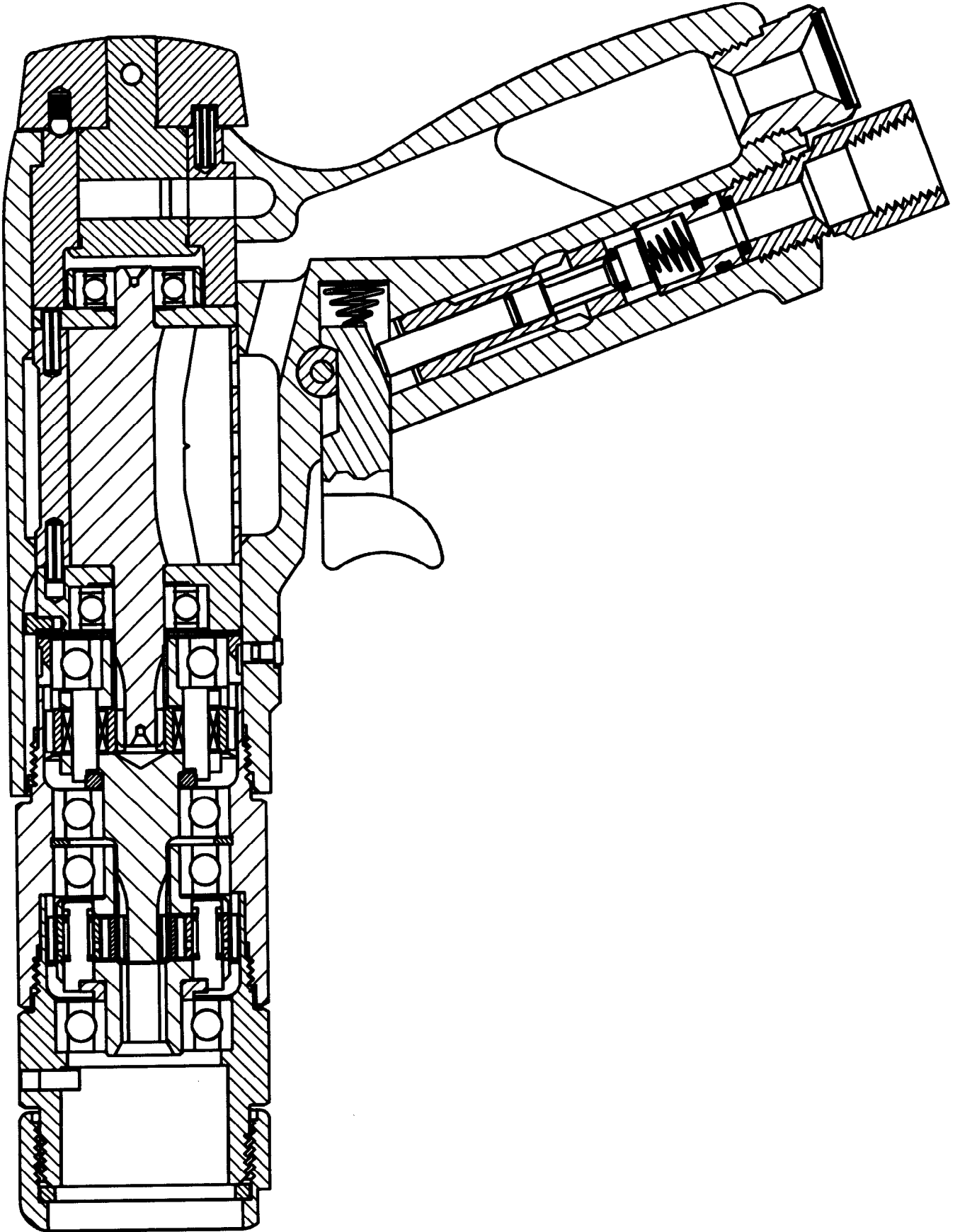
- ___ Assemble bearing (20) to end plate (21), pressing on outer race of bearing.
- ___ Assemble end plate (21) to rotor, pressing on inner race of bearing.
- ___ Coat five rotor blades (23) with ARO 29665 spindle oil and assemble to rotor slots — straight side out.
- ___ Coat i.d. of cylinder (24) with ARO 29665 spindle oil and assemble over rotor, aligning roll pin (25) in cylinder with hole in end plate.
- ___ Assemble bearing (27) to end plate (26), pressing on outer race of bearing.
- ___ Assemble end plate (26) to rotor, pressing on inner race of bearing. NOTE: Align hole in end plate with roll pin in cylinder.
- ___ Be sure rotor does not bind.
- ___ Assemble locating pin (28) to end plate (26) and assemble motor assembly to housing, aligning locating pin with groove in housing.
- ___ Assemble spacers (29 and 30) and gearing to tool.

HEAD DISASSEMBLY

- ___ Remove adapter (1).
- ___ Depress trigger (10) and tap lightly at air inlet to remove valve components.
- ___ Remove locking screw (13).
- ___ Depress trigger (10) and remove guide pin (9), releasing trigger (10) and spring (11).
- ___ Reverse valve (12) can be removed only after removal of motor.
- ___ Remove roll pin (15), releasing knob (14), spring (16) and ball (17). Reverse valve can now be removed.

HEAD ASSEMBLY

- ___ Assemble reverse valve (12) into housing.
- ___ Assemble spring (16) and ball (17) to knob (14) and assemble knob to housing, securing with roll pin (15).
- ___ Assemble spring (11) and trigger (10) to housing. Depress trigger and assemble guide pin (9) to housing, securing with locking screw (13).
- ___ Grease and assemble "O" ring (6) to valve stem (7).
- ___ Assemble valve extension (8) and valve stem (7) into housing.
- ___ Grease "O" rings (2 and 4) and assemble "O" ring (4) to insert (3).
- ___ Assemble spring (5) and insert (3) into housing, securing with "O" ring (2) and adapter (1).





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