ARO
Tool Products

OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

3/8" CAPACITY IMPACT WRENCH

SECTION	M35
MANUAL	22
Released:	4-1-91
Revised:	7-7-95
Form:	3801-2

Models: WG037A-( )-( )

⚠ 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 or socket 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.
- Use only impact type sockets.
- 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 servicenter.
- 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) 672-0801.

ARO Tool Products
Ingersoll-Rand Company
1725 U.S. No. 1 North • P.O. Box 8000 • Southern Pines, NC 28388-8000

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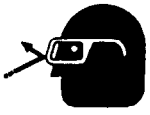
FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

⚠ 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.

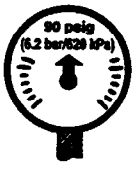
⚠ WARNING

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

⚠ WARNING

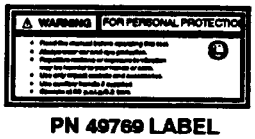
Do not overreach when operating this tool. Keep body stance balanced and firm.

⚠ WARNING



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

NOTICE



PN 49769 LABEL
(NON-EU MODELS)

PN 49883 LABEL
(-EU MODELS)

This label must appear on the tool at all times. If it is lost or damaged, a replacement label is available at no cost.

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.

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.

Work approximately 3 cc of ARO 33153 grease into the impact mechanism. Coat the front portion of the anvil with a small amount of ARO 33153 grease before assembling the hammer case (46).

Inject approximately 1.5 cc of ARO 29665 spindle oil into the tool inlet before starting the tool.

AIR SUPPLY REQUIREMENTS

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

- AIR PRESSURE – 90 p.s.i.g. (6.2 bar)
- AIR FILTRATION – 50 micron
- LUBRICATED AIR SUPPLY
- HOSE SIZE – 5/16" (8 mm) I.D.

An ARO® model C28231-810 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

INSPECTION, MAINTENANCE AND INSTALLATION

Disconnect air supply from the tool or shut off air supply and exhaust (drain) line of compressed air before performing maintenance or service to the tool.

It is important that the tools be serviced and inspected at regular intervals for maintaining safe, trouble-free operation of the tool.

Be sure the tool is receiving adequate lubrication, as failure to lubricate can create hazardous operating conditions resulting from excessive wear.

Be sure that the air supply lines and connectors are of proper size to provide a sufficient quantity of air to the tool.

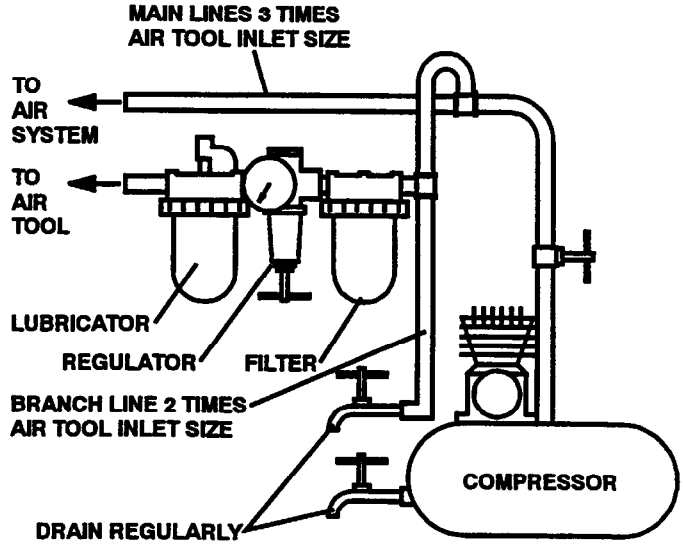
Tool maintenance and repair shall be performed by authorized, trained, competent personnel. Tools, hose and fittings shall be replaced if unsuitable for safe operation and responsibility should be assigned to be sure that all tools requiring guards or other safety devices shall be kept in legible condition. Maintenance and repair records should be maintained on all tools. Frequency of repair and the nature of the repairs can reveal unsafe application. Scheduled maintenance by competent authorized personnel should detect any mistreatment or abuse of the tool and worn parts. Corrective action should be taken before returning the tool for use.

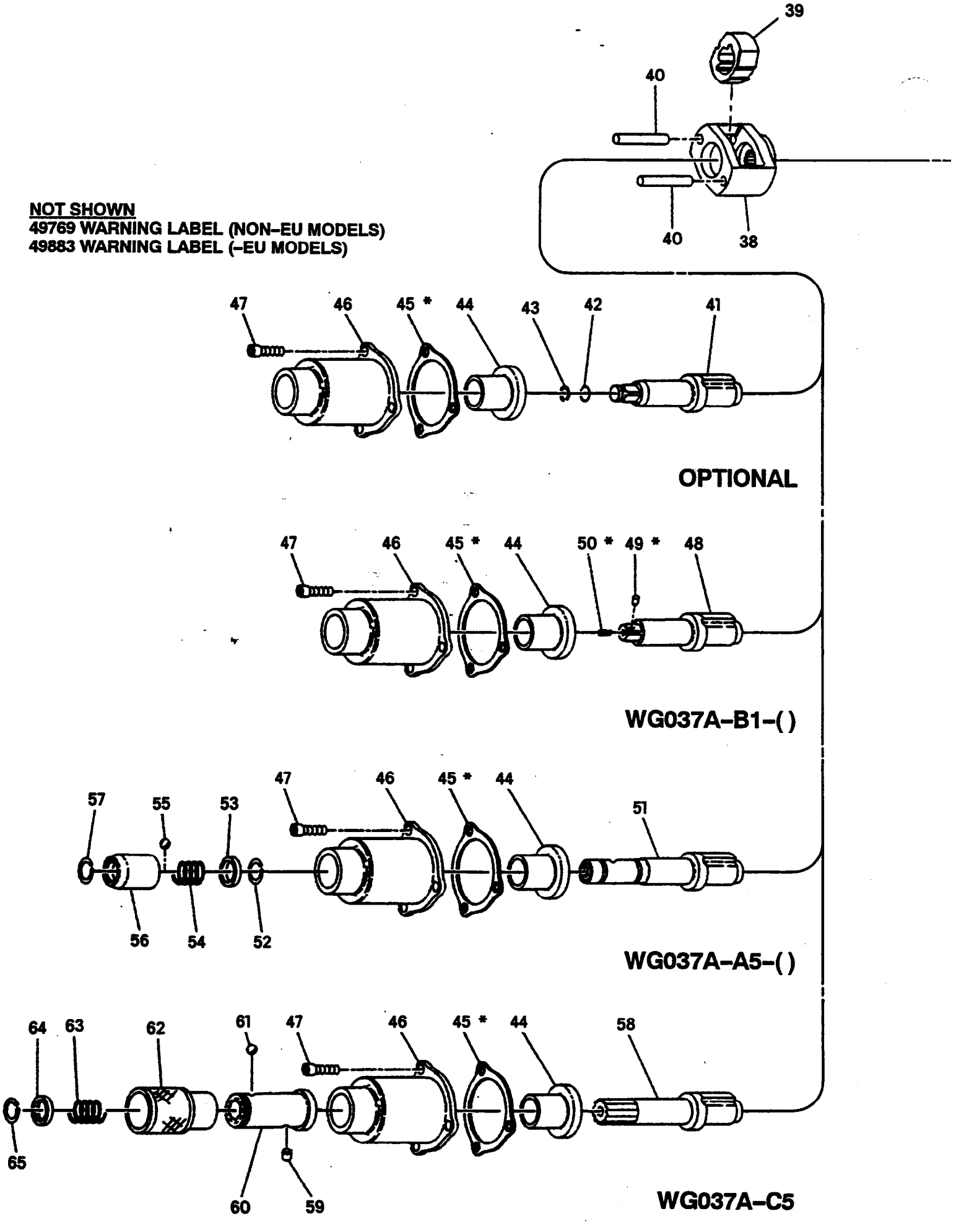
Disassembly should be done on a clean work bench with a clean cloth spread to prevent the loss of small parts. After disassembly is completed, all parts should be thoroughly washed in a clean solvent, blown dry with air and inspected for wear levels, abuse and contamination. Double sealed or shielded bearings should never be placed in solvent unless a good method of re-lubricating the bearing is available. Open bearings may be washed but should not be allowed to spin while being blown dry.

Upon reassembling, lubricate parts where required. Use 33153 grease, or equivalent, in bearings. Use 36460 lubricant for "O" ring assembly. When assembling "O" rings or parts adjacent "O" rings, care must be exercised to prevent damage to the rubber sealing surfaces. A small amount of grease will usually hold steel balls and other small parts in place while assembling.

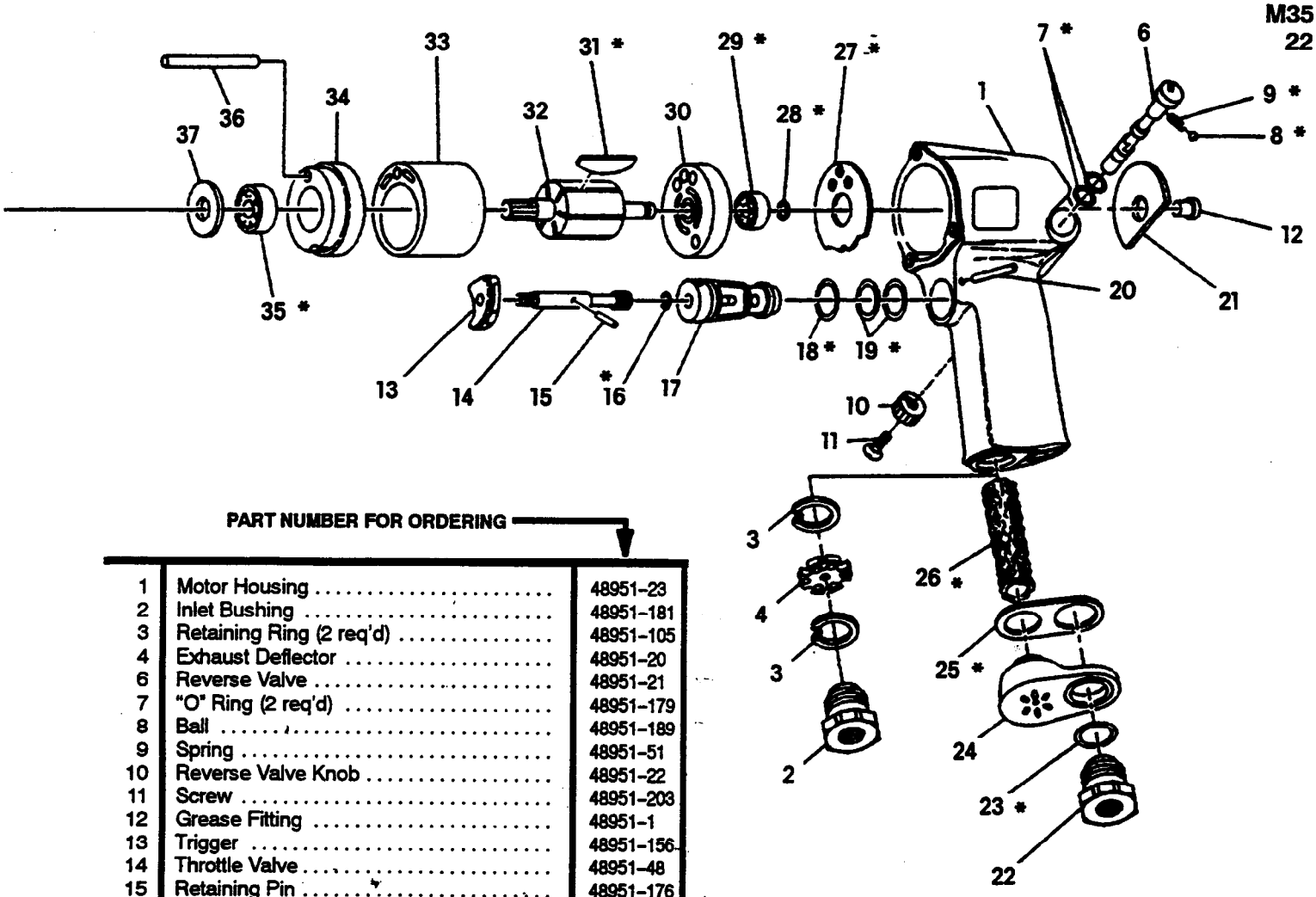
When replacement parts are necessary, consult drawing containing the part for identification.

Always use clean, dry air. Dust, corrosive fumes and/or excessive moisture can damage the motor of an air tool. An air line filter can greatly increase the life of an air tool. The filter removes rust, scale, moisture and other debris from the air lines. Low air pressure (less than 90 p.s.i.g.) reduces the speed of the air tool. High air pressure (more than 90 p.s.i.g.) raises performance beyond the rated capacity of the tool and could cause injury. Shown below is a typical piping arrangement.





NOT SHOWN
49769 WARNING LABEL (NON-EU MODELS)
49883 WARNING LABEL (-EU MODELS)



		PART NUMBER FOR ORDERING
1	Motor Housing	48951-23
2	Inlet Bushing	48951-181
3	Retaining Ring (2 req'd)	48951-105
4	Exhaust Deflector	48951-20
6	Reverse Valve	48951-21
7	"O" Ring (2 req'd)	48951-179
8	Ball	48951-189
9	Spring	48951-51
10	Reverse Valve Knob	48951-22
11	Screw	48951-203
12	Grease Fitting	48951-1
13	Trigger	48951-156
14	Throttle Valve	48951-48
15	Retaining Pin	48951-176
16	"O" Ring	48951-191
17	Valve Bushing	48951-50
18	"O" Ring	48951-142
19	"O" Ring (2 req'd)	48951-47
	Throttle Valve Assembly (includes items 13 thru 19)	48951-53
20	Retaining Pin	48951-195
21	Nameplate	
	for non "EU" models	48952
	for "-EU" models	49971
22	Inlet Bushing (includes item 23)	48951-54
23	"O" Ring	48951-44
24	Exhaust Deflector	48951-46
25	Deflector Gasket	48951-45
26	Exhaust Silencer	48951-163
	Exhaust Muffler Kit (includes items 22 thru 26)	48951-55
27	Gasket	48951-52
28	Retaining Ring	48951-186
29	Bearing	48951-123
30	Rear End Plate	48951-40
31	Rotor Blade (6 included)	48951-126
32	Rotor	48951-127
33	Cylinder	48951-124
34	Front End Plate	48951-39
35	Bearing	48951-193
36	Cylinder Dowel	48951-180
37	Washer	48951-5
38	Hammer Frame Assembly (includes item 40)	48951-10
39	Hammer	48951-6
40	Hammer Pin (2 req'd)	48951-4
41	3/8" Square Drive Anvil (optional) (includes items 42 and 43)	48951-9
42	Retainer Support Ring	48951-3
43	Retaining Ring	48951-2
44	Hammer Case Bushing	
	standard size	48951-129
	.005" oversize	48951-130

		PART NUMBER FOR ORDERING
45	Gasket	48951-125
46	Hammer Case Assembly (includes item 44)	48951-11
47	Cap Screw (3 req'd)	48951-128
48	Square Drive Anvil (includes items 49 and 50)	48951-14
49	Retainer Pin	48951-150
50	Spring	48951-132
51	Quick Change Anvil (1/4" hex)	48951-7
52	Snap Ring	48951-118
53	Thrust Ring	48951-182
54	Spring	48951-119
55	Retaining Ball	48951-115
56	Retaining Sleeve	48951-117
57	Snap Ring	48951-168
	Quick Change Anvil Assembly (includes items 51 thru 57)	48951-12
58	Quick Change Anvil (7/16" hex)	48951-8
59	Lock Pin	48951-185
60	Anvil Body	48951-183
61	Retaining Ball	48951-116
62	Retaining Sleeve	48951-184
63	Spring	48951-145
64	Thrust Ring	48951-146
65	Snap Ring	48951-147
	Quick Change Anvil Assembly (includes items 58 thru 65)	48951-13

(continued on page 6)

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.

DISASSEMBLY

_ Clamp the tool in a smooth face vise, with the drive end of the anvil in an upright position.
_ Remove cap screws (47), releasing hammer case (46) and gasket (45).
_ Grasp the hammer frame (38) and lift the impact mechanism from the housing and set it on the workbench, drive end of anvil upward.
_ Grasp the anvil and lift it from the hammer frame.
_ Remove two hammer pins (40), releasing hammer (39).
_ Grasp the splined end of rotor (32) and pull motor assembly from housing.
_ Remove washer (37).
_ Grasp cylinder in one hand and tap drive end of rotor with a soft face hammer; motor will come apart.
_ Remove retaining ring (28), releasing end plate (30) and bearing (29).
_ Remove gasket (27) from housing.
_ Remove screw (11), releasing knob (10). NOTE: Screw (11) is assembled with thread adhesive.
_ Remove reverse valve (6) from housing.
_ Using a pin punch, tap retaining pin (20) out the right side of housing, releasing throttle valve assembly.
_ Remove trigger (13) from throttle valve (14).
_ Remove "O" rings (18 and 19) from valve bushing (17).
_ Remove "O" ring (19) from housing.
_ Tap out retaining pin (15), releasing throttle valve (14) from bushing (17).
_ Unscrew and remove inlet bushing (2), retaining rings (3) and exhaust deflector (4).
_ If tool is equipped with a built–in muffler, remove inlet bushing (22), releasing exhaust deflector (24) and deflector gasket (25). Remove exhaust silencer (26).

PART NUMBER FOR ORDERING

PARTS NOT SHOWN	
Side Label	48957-1
ACCESSORIES (available at extra cost)	
Socket Adapter	48951-114
Vertical Hanger	48951-37
Horizontal Hanger	48951-38
Lube Injector	636012
Quick Change Chuck	
for 1/4" hex	48951-120
for 7/16" hex	48951-149

ASSEMBLY

_ Grease and assemble "O" rings (7) to grooves in reverse valve bushing in housing.
_ Coat reverse valve (6) with ARO 29665 spindle oil.
_ Assemble spring (9) and ball (8) into reverse valve and assemble reverse valve into left side of housing.
_ Assemble knob (10) to reverse valve.
_ Apply thread adhesive, such as Loctite 242, to the first 2 or 3 threads of screw (11) and assemble to tool, securing reverse valve. NOTE: Tighten to 8 – 15 in. lbs.
_ Assemble "O" ring (16) to groove in throttle valve (14).
_ Grease and assemble "O" rings (18 and 19) to grooves in valve bushing (17).
_ Grease and assemble "O" ring (19) into housing.
_ Assemble throttle valve (14) into valve bushing (17), aligning cross hole in throttle valve with hole in bushing.
_ Assemble retaining pin (15) into hole, securing bushing and throttle valve.
_ Press trigger (13) onto throttle valve.
_ Assemble throttle valve assembly into housing, aligning cross hole in bushing (17) with hole in housing. Secure with retaining pin (20), inserting pin from right side of housing.
_ Insert exhaust silencer (26) into housing.
_ Install retaining ring (3), exhaust deflector (4) and other retaining ring (3), securing with inlet bushing (2).
_ For tools with built–in muffler, assemble gasket (25) and exhaust deflector (24), securing with inlet bushing (22). NOTE: Tighten inlet bushings to 20 – 25 ft lbs.
_ Assemble gasket (27) into housing, aligning holes in gasket with holes in housing.
_ Lubricate bearing (29) with ARO 33153 grease and assemble to rear end plate (30), pressing on outer race of bearing.
_ Assemble rear end plate (30) to rotor, pressing on inner race of bearing.
_ Assemble retaining ring (28) to rotor.
_ Coat rotor blades (31) with ARO 29665 spindle oil and assemble to rotor slots.
_ Coat i.d. of cylinder (33) with ARO 29665 spindle oil and assemble over rotor.
_ Lubricate bearing (35) with ARO 33153 grease and assemble to end plate (34), pressing on outer race of bearing.
_ Assemble end plate (34) to rotor, pressing on inner race of bearing.
_ Insert a guide rod (1/8" diameter x 6" long) thru aligned dowel holes in end plates and cylinder.
_ Using the rod as a guide, install rod into dowel hole in housing and slide motor assembly into housing.
_ Remove guide rod and replace with cylinder dowel (36).
_ Assemble washer (37) to rotor.
_ Coat the spline and pin holes of hammer frame (38) with ARO 33153 grease and assemble to rotor.
_ Coat hammer (39) with ARO 33153 grease and assemble into hammer frame.
_ Coat hammer pins (40) with ARO 33153 grease and insert into holes in hammer frame, engaging notches in hammer.
_ Coat the anvil with ARO 33153 grease and slide into hammer frame until it seats.
_ Coat bushing (44) with ARO 33153 grease and press into hammer case (46).
_ Assemble gasket (45) to motor housing.
_ Assemble hammer (46) to housing, securing with cap screws (47). NOTE: Tighten screws to 45 in. lbs.

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