



Tool Products

OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

SECTION M35
MANUAL 26

Released: 4-1-91

Revised: 7-7-95

Form: 3810-2

3/8" CAPACITY IMPACT WRENCH

Models: WL037A-()-()



⚠ 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 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) 672-0801.

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

⚠ WARNING FOR PERSONAL PROTECTION

- Read the instruction before operating with the
- Always wear the safety equipment.
- Read the instruction and warnings to user.
- Use only original accessories and extension.
- Operate at 90 p.s.i.g. (6.2 bar)



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 (43).

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

AIR SUPPLY REQUIREMENTS

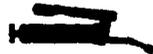
For maximum operating efficiency, the following air supply specifications should be maintained to this air tool:

- 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.

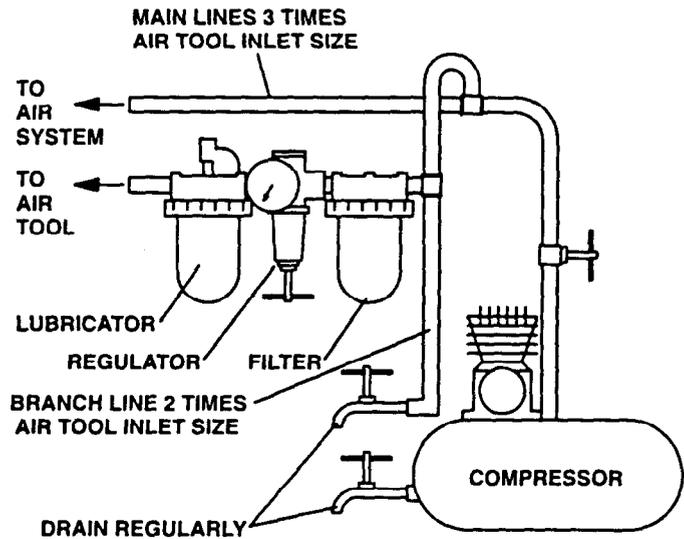
Tool maintenance and repair shall be performed by authorized, trained, competent personnel. Tools, hose and fittings shall be replaced if unsuitable for safe operation and responsibility should be assigned to be sure that all tools requiring guards or other safety devices shall be kept in legible condition. 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.

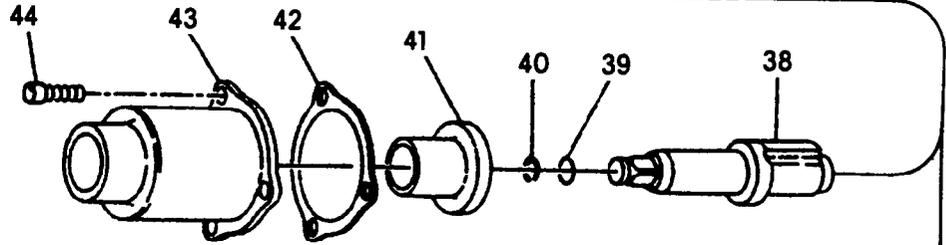
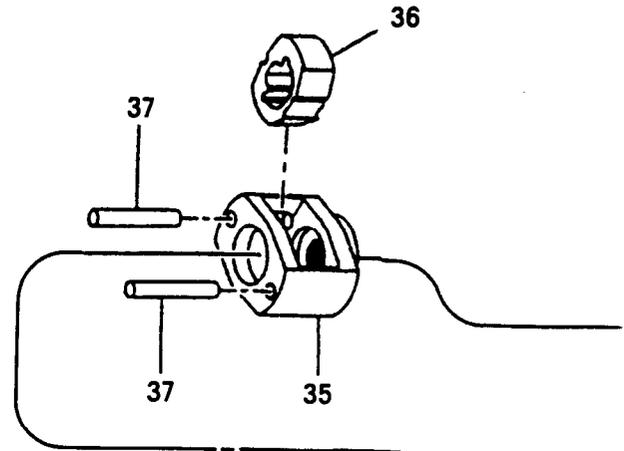
Upon reassembling, lubricate parts where required. Use 33153 grease, or equivalent, in bearings. Use 36460 lubricant for "O" ring assembly. When assembling "O" rings or parts adjacent "O" rings, care must be exercised to prevent damage to the rubber sealing surfaces. A small amount of grease will usually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

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

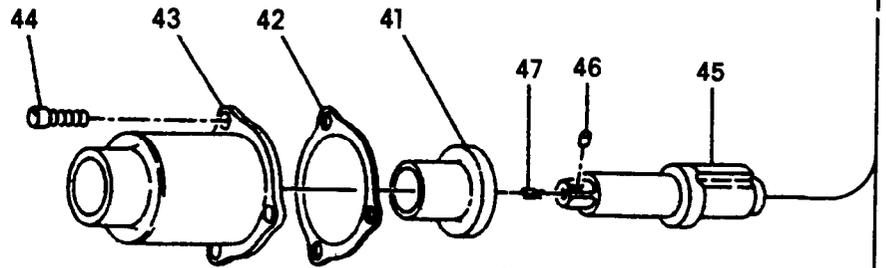
Always use clean, dry air. Dust, corrosive fumes and/or excessive moisture can damage the motor of an air tool. An air line filter can greatly increase the life of an air tool. The filter removes rust, scale, moisture and other debris from the air lines. Low air pressure (less than 90 p.s.i.g.) reduces 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.



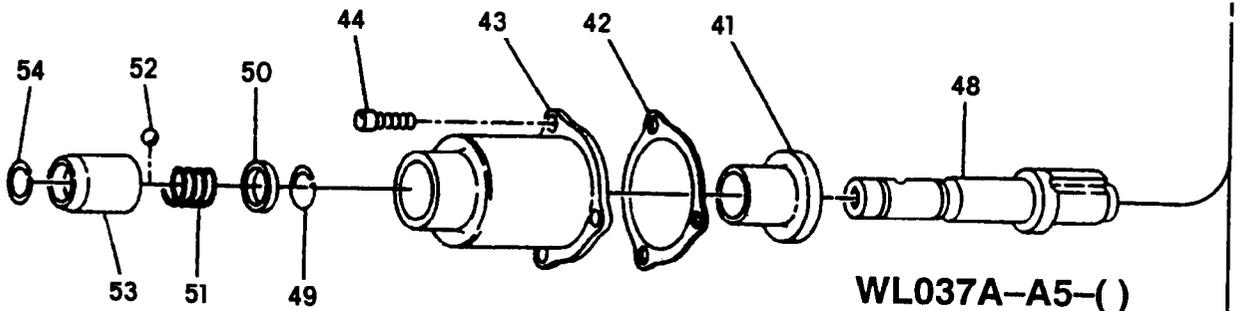
NOT SHOWN
49769 WARNING LABEL (NON-EU MODELS)
49883 WARNING LABEL (-EU MODELS)



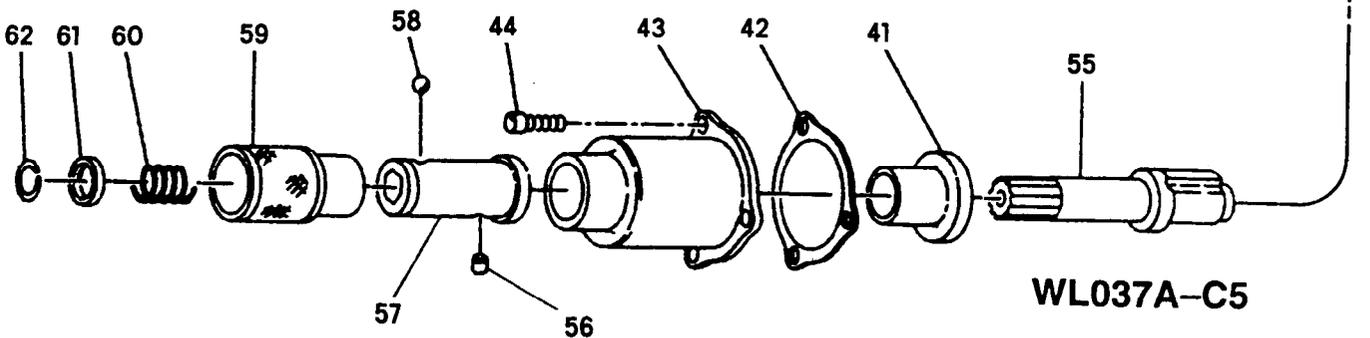
OPTIONAL



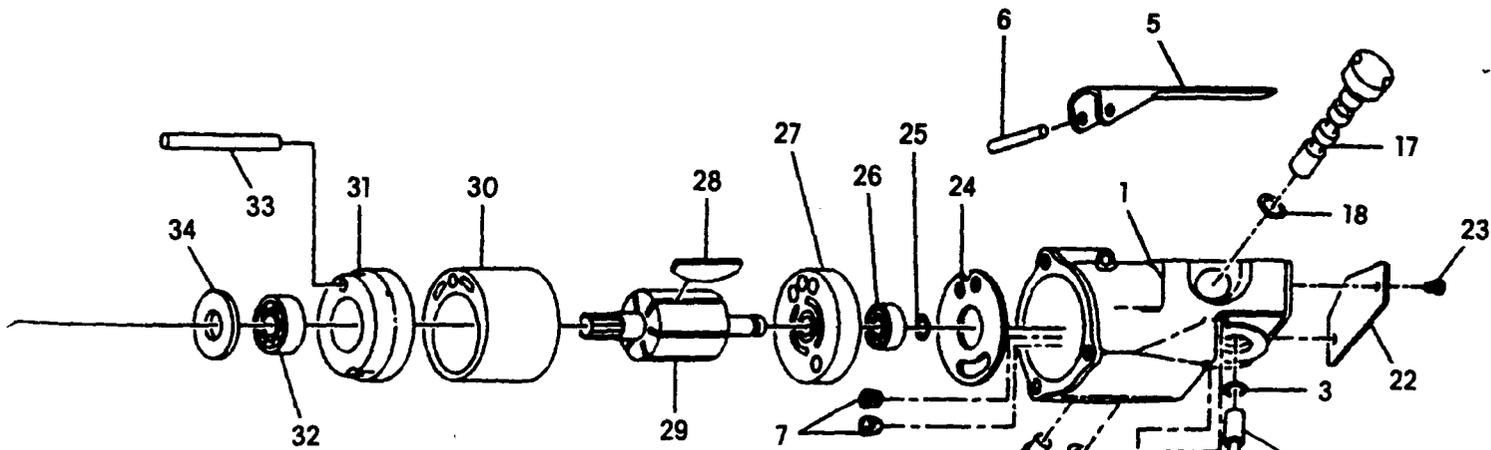
WL037A-B1-()



WL037A-A5-()

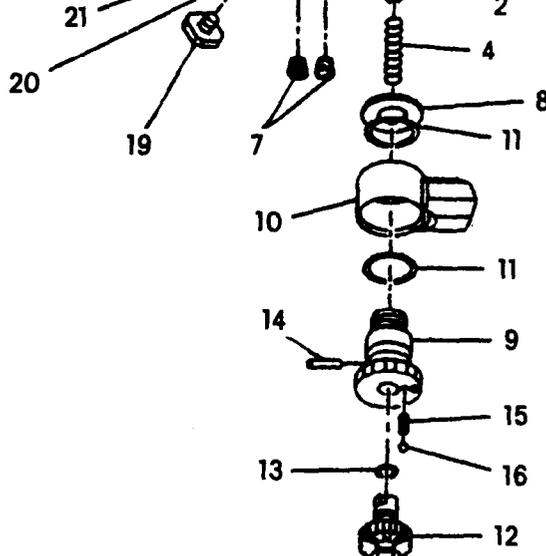


WL037A-C5



PART NUMBER FOR ORDERING

1	Motor Housing	48951-25
2	Throttle Valve (includes item 3)	48951-190
3	"O" Ring	48951-122
4	Spring	48951-153
5	Lever	48951-43
6	Pin	48951-151
7	Silencer (4 req'd)	48951-24
8	Spacer	48951-188
9	Swivel Inlet Body	48951-15
10	Swivel Inlet (includes item 11)	48951-19
11	Seal (2 req'd)	48951-196
12	Regulator (includes item 13)	48951-17
13	Seal	48951-192
14	Regulator Retainer	48951-41
15	Spring	48951-42
16	Ball	48951-189
	Air Inlet Assembly (includes items 9 thru 16)	48951-16
17	Reverse Valve (includes item 18)	48951-18
18	"O" Ring	48951-194
19	Valve Stop (includes item 20)	48951-131
20	Seal	48951-179
21	Grease Fitting	48951-1
22	Nameplate for non "EU" models for "-EU" models	48953 49962
23	Screw (3 req'd)	48951-178
24	Gasket	48951-133
25	Retaining Ring	48951-186
26	Bearing	48951-123
27	Rear End Plate	48951-40
28	Rotor Blade (6 included)	48951-126
29	Rotor	48951-127
30	Cylinder	48951-124
31	Front End Plate	48951-39
32	Bearing	48951-193
33	Cylinder Dowel	48951-180
34	Washer	48951-5
35	Hammer Frame (includes item 37)	48951-10
36	Hammer	48951-6
37	Hammer Pin (2 req'd)	48951-4
38	3/8" Square Drive Anvil (optional)(includes items 39 and 40)	48951-9
39	Retainer Support Ring	48951-3
40	Retaining Ring	48951-2
41	Hammer Case Bushing standard size .005" oversize	48951-129 48951-130
42	Gasket	48951-125
43	Hammer Case (includes item 41)	48951-11
44	Cap Screw (3 req'd)	48951-128
45	Square Drive Anvil (includes items 46 and 47)	48951-14
46	Retainer Pin	48951-150
47	Spring	48951-132



PART NUMBER FOR ORDERING

48	Anvil (1/4" hex)	48951-7
49	Thrust Ring Lock	48951-118
50	Thrust Ring	48951-182
51	Spring	48951-119
52	Ball	48951-115
53	Retaining Sleeve	48951-117
54	Snap Ring	48951-168
	Quick Change Anvil Assembly (includes items 48 thru 54)	48951-12
55	Quick Change Anvil	48951-8
56	Lock Pin	48951-185
57	Anvil Body (7/16" hex)	48951-183
58	Ball	48951-116
59	Retaining Sleeve	48951-184
60	Spring	48951-145
61	Thrust Ring	48951-146
62	Snap Ring	48951-147
	Quick Change Anvil Assembly (includes items 55 thru 62)	48951-13
	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

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

- _ Grasp the motor housing (1) in a smooth face vise, with drive end upright.
- _ Remove cap screws (44), releasing hammer case (43) and gasket (42).
- _ Grasp hammer frame (35) and lift the impact mechanism out of motor housing and set it on the workbench, with the drive end upward.
- _ Grasp the anvil and lift from hammer frame (35).
- _ Remove two hammer pins (37), releasing hammer (36).
- _ Grasp the splined end of rotor and pull the motor assembly from housing.
- _ Remove washer (34).
- _ Grasp cylinder in one hand and tap splined end of rotor with a soft face hammer; motor will come apart.
- _ Remove retaining ring (25), releasing end plate (27) and bearing (26).
- _ Unscrew valve stop (19), releasing reverse valve (17). NOTE: Valve stop (19) is assembled with thread adhesive.
- _ Remove "O" ring (18) from reverse valve (17).
- _ Remove pin (6), releasing lever (5).
- _ Using a wrench on flats of swivel inlet body (9), unthread and remove.
- _ Remove swivel inlet (10) and seals (11) from swivel inlet body.
- _ Remove spacer (8) where applicable.
- _ Remove regulator retainer (14), releasing regulator (12), ball (16) and spring (15).
- _ Remove spring (4) and throttle valve (2). Remove "O" ring (3) from throttle valve.
- _ Remove silencers (7).

ASSEMBLY

- _ Install silencers (7) into housing.
- _ Install seal (13) into groove in regulator (12) closest to knurled knob.
- _ Assemble spring (15) and ball (16) into hole in swivel inlet body (9), securing with regulator (12).
- _ Align the groove on the end of regulator (12) with the thru hole in swivel inlet body (9) and insert regulator retainer (14).
- _ Assemble seals (11) to counterbores on each side of swivel inlet (10) and assemble swivel inlet over the threaded end of swivel inlet body (9).
- _ Assemble "O" ring (3) to groove in throttle valve (2) and insert throttle valve into motor housing.

- _ Insert spring (4) into housing.
- _ Assemble spacer (8) to housing, securing with swivel inlet (10) and components. NOTE: Tighten swivel inlet body (9) to 23 – 27 ft lbs.
- _ Assemble lever (5) to housing, securing with pin (6).
- _ Insert seal (20) into the undercut inside the reverse valve bushing (inside motor housing).
- _ Assemble "O" ring (18) into the groove closest to the hex end of reverse valve (17).
- _ Coat reverse valve (17) with a light film of ARO 29665 spindle oil and insert the tapered end of valve into the bushing until the tapered end protrudes from opposite side of tool. NOTE: Insert reverse valve into left side of tool.
- _ Apply a thread adhesive, such as Loctite 242, to the first 2 or 3 threads of valve stop (19) and thread the stop into the tapped end of reverse valve (17). NOTE: Tighten valve stop to 4 – 7 in. lbs.
- _ Assemble gasket (24) into motor housing, aligning holes in gasket with holes in housing.
- _ Assemble bearing (26) into end plate (27), pressing on outer race of bearing.
- _ Assemble end plate (27) to rotor, pressing on inner race of bearing.
- _ Secure end plate with retaining ring (25).
- _ Coat six rotor blades (28) with ARO 29665 spindle oil and assemble to rotor slots – straight side out.
- _ Coat i.d. of cylinder (30) with ARO 29665 spindle oil and assemble, pocket end first, over rotor, aligning dowel hole in cylinder with dowel hole in end plate.
- _ Assemble bearing (32) into end plate (31), pressing on outer race of bearing.
- _ Assemble end plate (31) to rotor, aligning dowel hole in end plate with dowel hole in cylinder. NOTE: When assembling, press on inner race of bearing.
- _ Insert a rod (6" long x 1/8" diameter) thru the aligned dowel holes.
- _ Using the rod as a guide, insert the motor assembly into the motor housing, with the ports of end plate (27) aligned with gasket (24).
- _ Remove the rod and replace with cylinder dowel (33).
- _ Assemble washer (34) to rotor.
- _ Coat the spline end and pin holes of hammer frame (35) with ARO 33153 grease and assemble to rotor.
- _ Coat hammer (36) with ARO 33153 grease and slide into hammer frame (35).
- _ Coat hammer pins (37) with ARO 33153 grease and insert into the pin holes in hammer frame so they engage the notches in hammer (36).
- _ Coat the anvil with ARO 33153 grease and assemble thru hammer, until it seats in hammer frame.
- _ Apply a thin film of ARO 33153 grease to bushing (41) and press bushing into hammer case (43).
- _ Assemble gasket (42) to motor housing.
- _ Assemble hammer case (43) to motor housing, securing with cap screws (44). NOTE: Tighten cap screws to 45 in. lbs.



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