

“2200” SERIES WIRE BRUSH AND ROTARY FILE

Models: 7874-E1-(), 7874-E2-(), 7875-E1,
7875-E2, 8067-E1-() AND 8067-E2-().



⚠ 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 wire brush or rotary file or performing other 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.
- Do not lubricate tools with flammable or volatile liquids such as kerosene, diesel or jet fuel.
- Use tool only for purposes for which it was intended.
- Do not use excessive work pressure.
- 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

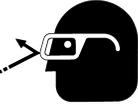
Ingersoll-Rand Company

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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

<p>⚠ WARNING</p> <p>Read the manual before operating this tool. Operate at 90 psig/6.2 bar max.</p>	
<p>PN 48176-1 LABEL (NON-EU MODELS)</p>	<p>PN 49883 LABEL (-EU MODELS)</p>

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.

EVERY 40 HOURS OF TOOL OPERATION – Flush tool with a solution of three (3) parts cleaning solvent to one (1) part spindle oil.

EVERY 160 HOURS OF TOOL OPERATION – Pack bearings with NLGI #1 “EP” grease (33153). Lubricate gearing of tool thru grease fitting with ARO 33153 grease or equivalent. Gearing should contain approximately 1/4 oz. (7 g) of grease per reduction.

AIR SUPPLY REQUIREMENTS

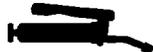
For maximum operating efficiency, the following air supply specifications should be maintained to this air tool:

- AIR PRESSURE – 90 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:



<u>Where Used</u>	<u>ARO Part #</u>	<u>Description</u>
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.

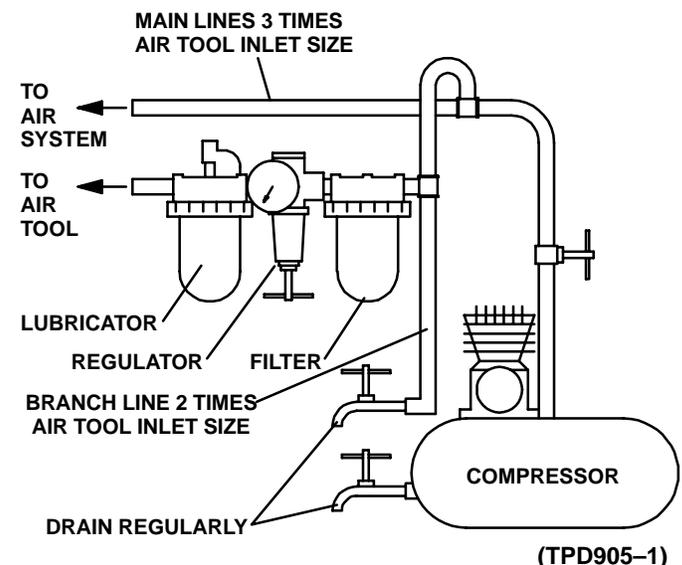
Tool maintenance and repair shall be performed by authorized, trained, competent personnel. Tools, hose and fittings shall be replaced if unsuitable for safe operation and responsibility should be assigned to be sure that all tools requiring guards or other safety devices shall be kept in legible condition.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



MODEL IDENTIFICATION

MODEL NUMBER	R.P.M.	MOTOR HOUSING	LEVER	DRIVE GEARING	SPINDLE ASSEMBLY	WHEEL ADAPTER ASSEMBLY	COLLET
7874-E1	4500	37082	36603	37250		36934	
7874-E1-EU	4500	49906	45779	37250		36934	
7874-E2	4500	37082	36603	37250			41753-3
7874-E2-EU	4500	49906	45779	37250			41753-3
7875-E1	2400	37082	36603	37251		36934	
7875-E2	2400	37082	36603	37251			41753-3
8067-E1	4500	37082	36603	43138	38847	36934	
8067-E1-EU	4500	49906	45779	43138	38847	36934	
8067-E2	4500	37082	36603	43138	38847		41753-3
8067-E2-EU	4500	49906	45779	43138	38847		41753-3

CANCELLED MODELS

MODELS WITH -EU ARE "EC" COMPLIANT MODELS

DISASSEMBLY AND ASSEMBLY OF TOOLS

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

Before starting to disassemble or assemble this tool (any part or completely), be sure to read "Inspection, Maintenance and Installation" section.

To minimize the possibility of parts damage and for convenience, the steps for disassembly or assembly listed on the following pages are recommended.

The basic sections and instructions for removing them from the tool are as follows:

SPINDLE SECTION

Remove wire brush/rotary file. Using a wrench on flats of ring gear (43136) and lock ring (36764), unthread lock ring completely and pull spindle section from ring gear. Remove drive adapter (38843) and spring (30032). See page 6 for complete disassembly.

GEARING SECTION

Secure tool in a suitable holding device. Remove spindle section if attached. Remove spacer (33697), nose housing (38379) and seal (37774). Using a wrench on flats of ring gear (34490), unthread and remove gearing from tool. See page 7 for complete disassembly.

MOTOR SECTION

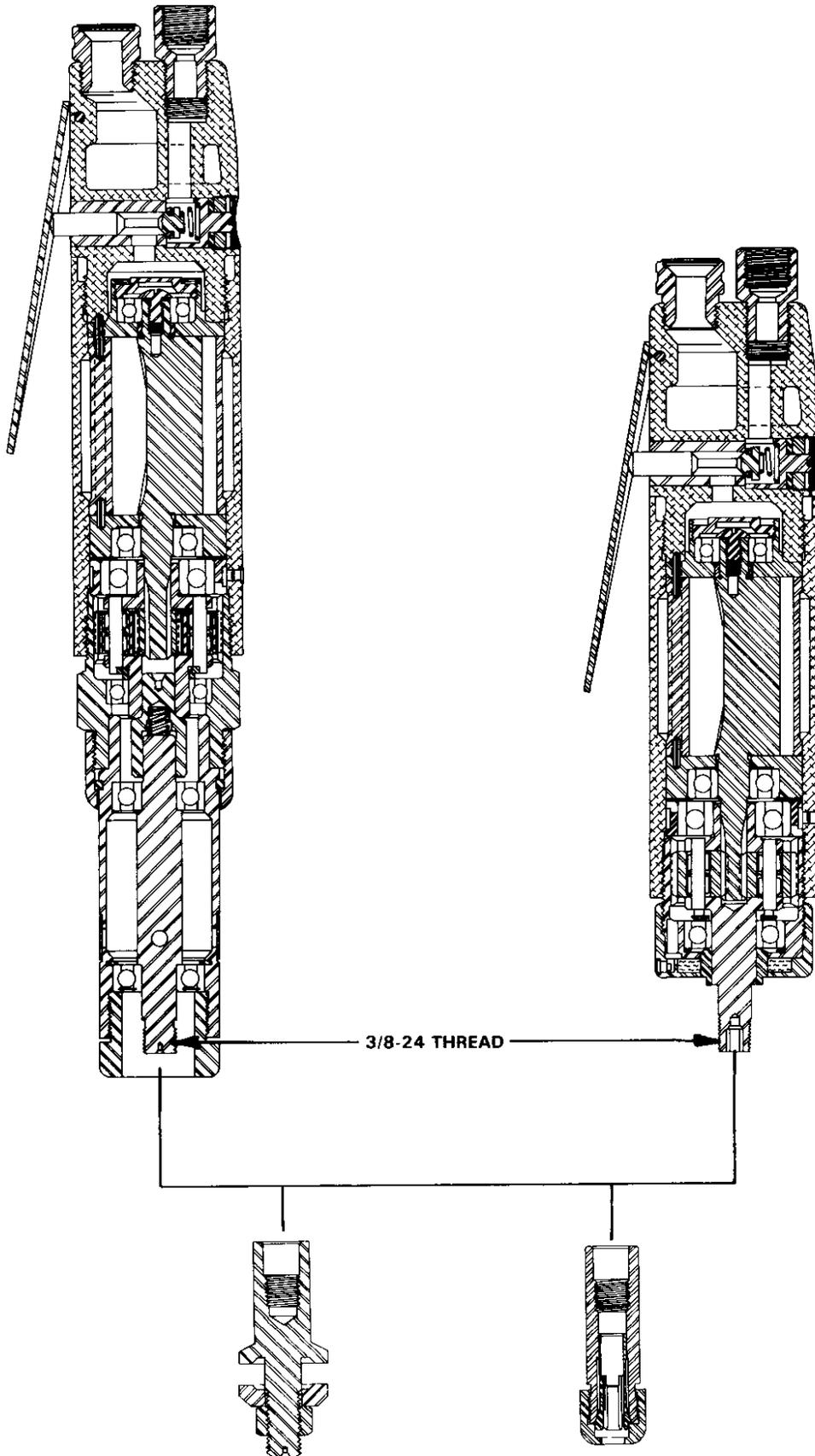
With head of tool in a suitable holding device, remove spindle section (models 8067-E1-() and 8067-E2-()) and gearing section from tool. Using a strap type wrench, remove motor housing from tool. See page 8 for complete disassembly.

HEAD SECTION

Throttle components can be serviced without removing head section from tool. See page 9 for complete disassembly.

TYPICAL CROSS SECTION OF TOOL

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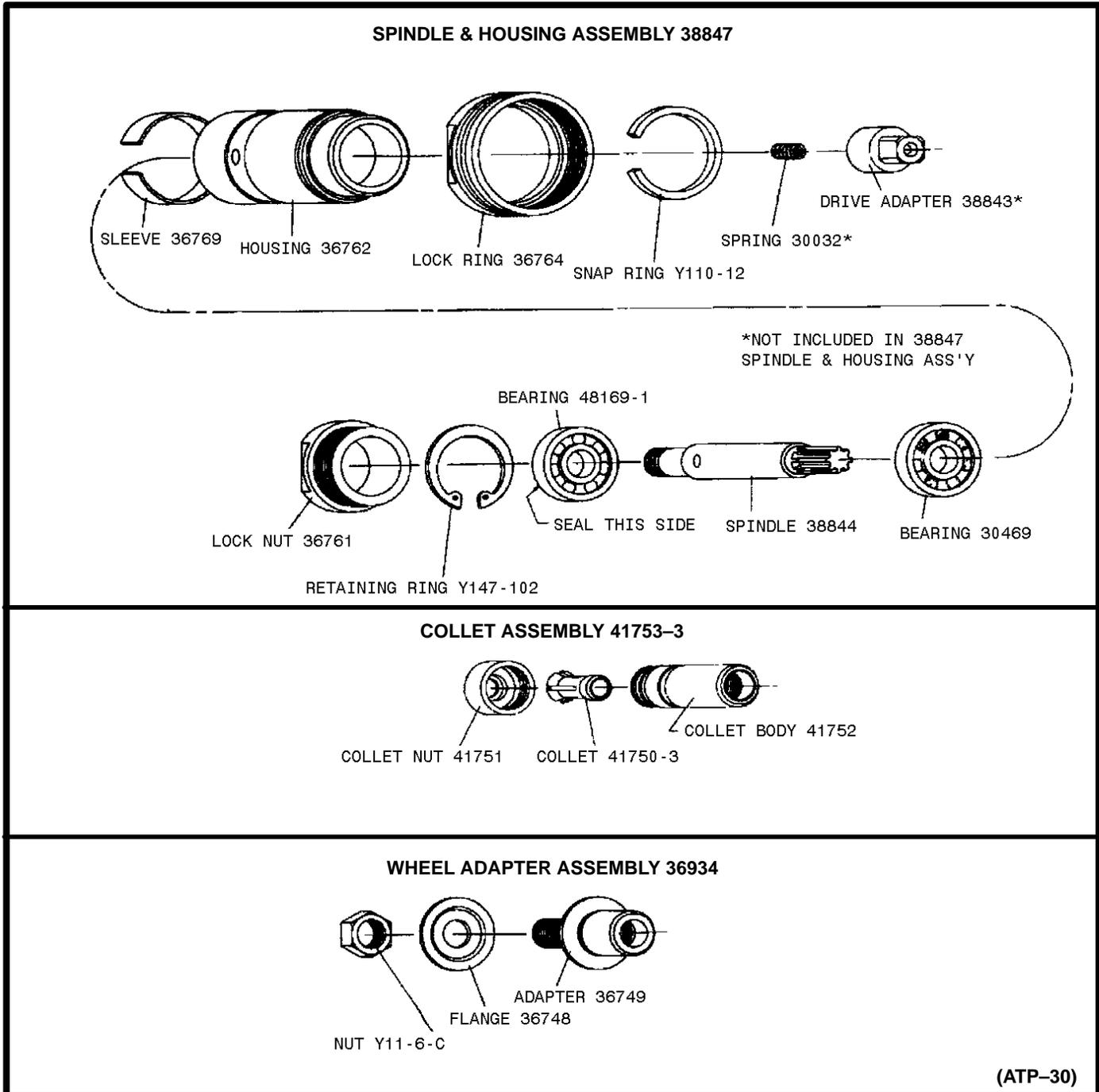
SPINDLE SECTION

DISASSEMBLY

Remove spindle section from tool as outlined on page 4. Rotate open portion of sleeve (36769) to align with hole in housing. Rotate spindle (38844) to align with hole in housing and insert a punch or similar tool thru hole in housing and spindle to secure spindle and remove wheel adapter (36934) or collet assembly (41753-3). Remove lock nut (36761). Tap splined end of spindle with a soft face hammer; Spindle and bearings will loosen from housing. Remove spindle part way from housing and remove retaining ring (Y147-102). Spindle and bearings can now be removed from housing.

ASSEMBLY

Pack bearings with ARO 33153 grease and assemble bearings to spindle (38844). NOTE: Assemble bearing (42313) to spindle with shield side facing out. Assemble spindle part way into housing and assemble retaining ring (Y147-102) into housing. Assemble spindle completely into housing and secure with lock nut (36761). Coat splines of spindle and rotor of motor with ARO 33153 grease and assemble drive spindle (38844) to spindle. Assemble spindle section to tool and secure with lock ring (36764).



GEARING SECTION

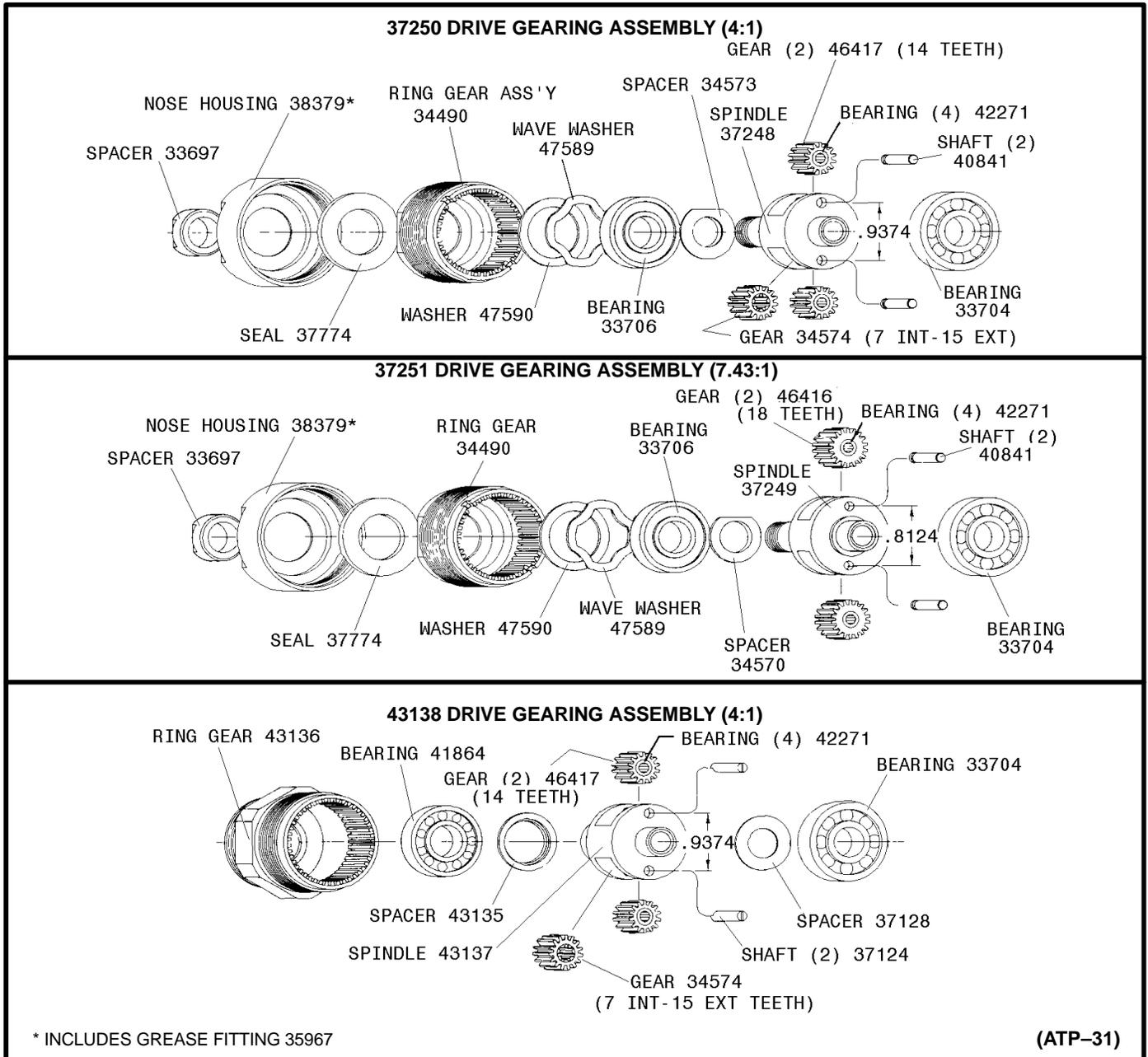
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DISASSEMBLY

Remove gearing from tool as outlined on page 4. 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. NOTE: Further disassembly should be done only if it is necessary to replace a part, as Brinelling of the bearing races may occur, making replacement necessary. To disassemble completely; remove bearing (33706 or 41864) and rotate spacer (34573 or 34570) – or remove spacer (43135) – allowing the removal of shafts and gears from spindle. To remove bearing (33704), insert shafts into spindle and alternately tap ends of shafts, loosening bearing from spindle.

ASSEMBLY

Pack bearings and lubricate gears liberally with ARO 33153 grease. Gearing assembly should contain approximately 1/4 oz. (7 g) of grease. Assemble spacers to spindle. Assemble gears to spindle and secure with shafts. Rotate flat side of spacer or align slot in shafts with spacer, securing shafts. Assemble bearing (33706 or 41864), spacer (37128) and bearing (33704) to spindle (see illustration). Assemble spindle with washer (47590) and wave washer (47589) – depending on gearing assembly – to ring gear. Assemble gearing to tool and tighten securely. Assemble seal (37774) to nose housing and assemble nose housing to ring gear and tighten securely. Assemble spacer (33697) to spindle.



MOTOR SECTION

DISASSEMBLY

Remove motor section from tool as outlined on page 4. Remove motor assembly from housing. Using a spanner type wrench, remove nut (33694) and sems fastener (33700). Grasp cylinder in one hand and tap splined end of rotor with a soft face hammer; motor will come apart.

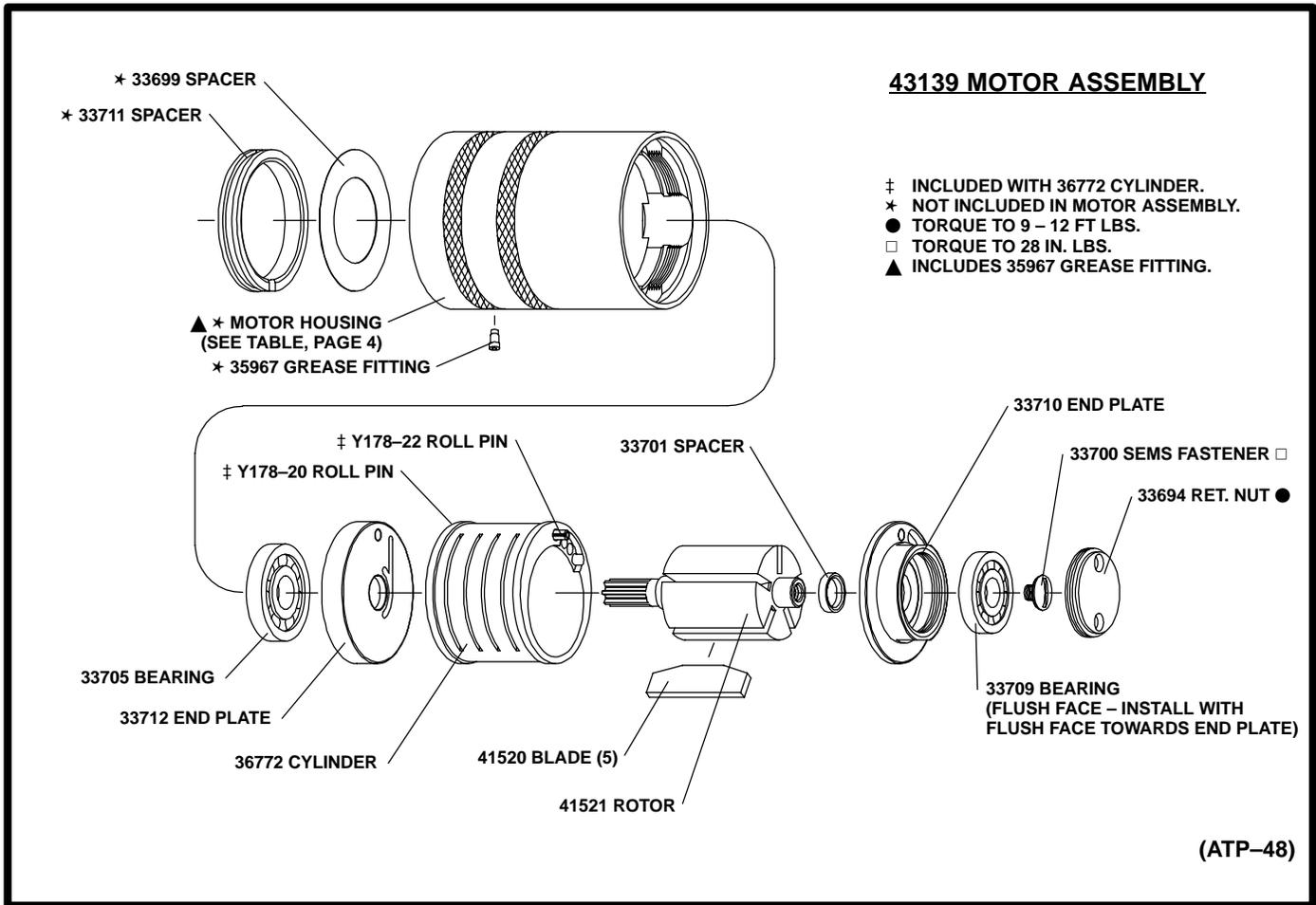
ASSEMBLY

NOTE: Pack bearings with ARO 33153 grease and coat i.d. of cylinder with ARO 29665 spindle oil upon assembly. Assemble bearings into end plates, pressing on outer race of bearings. NOTE: Assemble bearing (33709) into end plate with the identification markings on the bearing facing "out". Assemble end plate (33710) to rotor and secure with sems fastener. NOTE: Torque fastener to 28 in. lbs. Assemble cylinder over rotor, aligning air inlet holes in cylinder with air inlet slot of end plate and as-

semble roll pin in hole of end plate. Assemble blades to rotor. Assemble end plate (33712) to rotor and cylinder, aligning hole in end plate with roll pin in cylinder. Assemble nut (33694) to end plate and torque to 9 – 12 ft lbs. Be sure rotor does not bind (if rotor binds, lightly tap splined end of rotor with a soft face hammer to loosen) and assemble to tool.

ASSEMBLING MOTOR TO TOOL

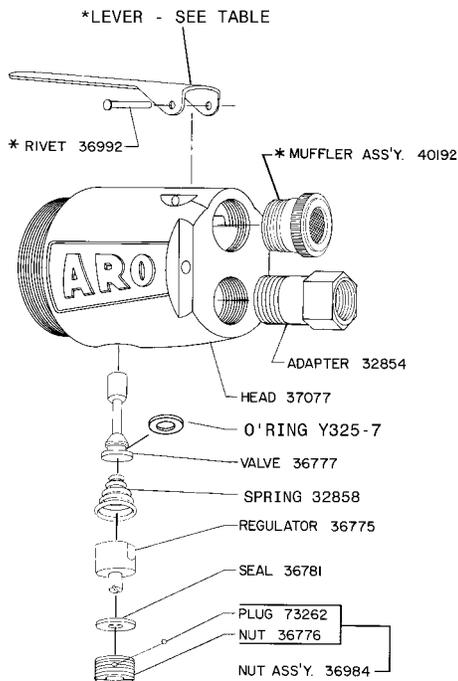
Remove motor housing from head. Place head in a suitable holding device with the "motor end" in an upright position. Assemble motor assembly to head, aligning roll pin in motor with hole provided in head (.125" diameter blind hole). Slip motor housing over motor and secure to head. Assemble spacers (33699 and 33711) and gearing to tool.



HEAD SECTION

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37079 LEVER HEAD ASSEMBLY



* NOT INCLUDED IN HEAD ASSEMBLY

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DISASSEMBLY

Remove nut (36776), releasing seal (36781), regulator (36775), spring (32858) and valve stem (36777).

ASSEMBLY

Assemble "O" ring (Y325-7) to valve stem (36777) and insert into valve opening. Assemble spring (32858), air regulator (36775) and seal (36781) into valve opening and secure with nut (36776).

ACCESSORIES

41753-() 3-PIECE COLLET ASSEMBLY (not shown)

COLLET ASSEMBLY NO.	SIZE	COLLET INSERT NO.
41753-1	1/8"	41750-1
41753-2	3/16"	41750-2
41753-3	1/4"	41750-3
41753-11	3 mm	41750-11
41753-12	6 mm	41750-12

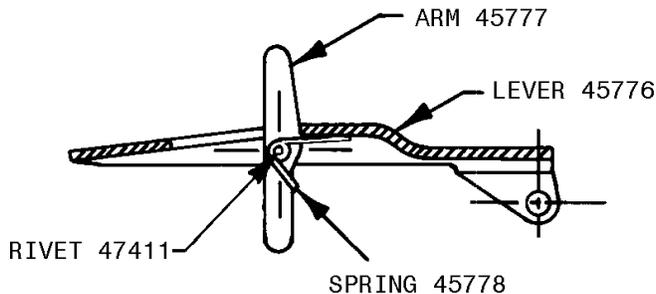
COLLET NUT - 41751
COLLET BODY - 41752
3/8" - 24 THREAD

COLLET NUT DIA. - 3/4"
COLLET BODY DIA. - 21/32"
OVER ALL LENGTH - 2 1/4"

30246 RADIAL WIRE BRUSH (not shown)

O.D.	DRIVE DIAMETER	THICKNESS	WIRE SIZE
4"	3/8"	1"	.0118"

45779 LOCK-OFF LEVER ASSEMBLY



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33226-() 3-PIECE COLLET ASSEMBLY (not shown)

COLLET ASSEMBLY NO.	SIZE	COLLET INSERT NO.
33226-1	3/64"	31812-1
33226-2	5/64"	31812-2
33226-3	3/32"	31812-3
33226-4	1/8"	31812-4
33226-5	5/32"	31812-5
33226-6	3/16"	31812-6
33226-7	7/32"	31812-7
33226-8	1/4"	31812-8

COLLET NUT - 33220
COLLET BODY - 33218
CLIP RING - 33221
NOSE RING - 33222
3/8" - 24 THREAD

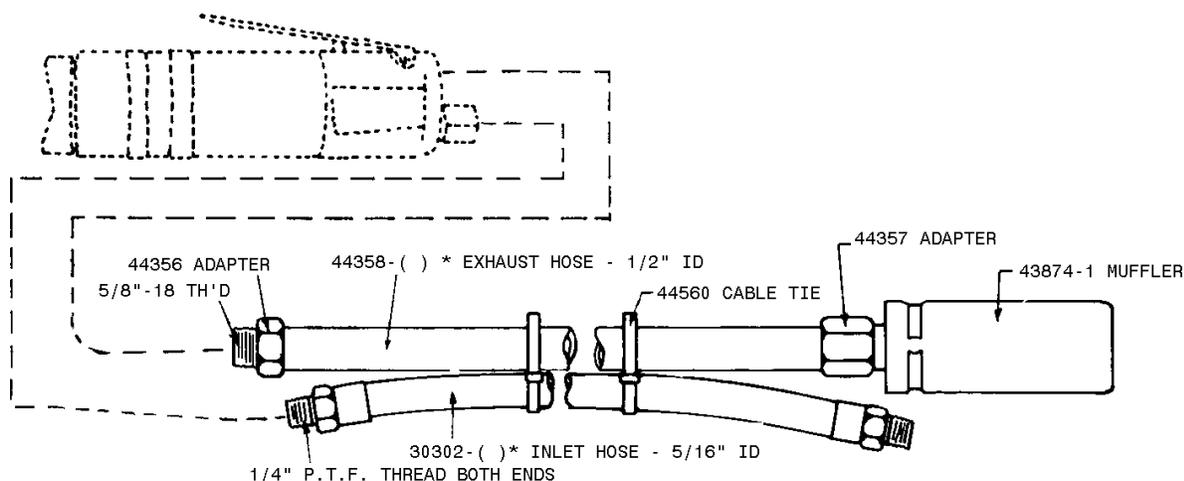
COLLET NUT DIA. - 15/16"
COLLET BODY DIA. - 5/8"
OVER ALL LENGTH - 2"

WRENCHES

30131 FURNISHED WITH ALL MODELS
37167 FURNISHED WITH ALL MODELS EXCEPT 8067-E1-()

ACCESSORIES

PIPED EXHAUST SYSTEM FOR "2200" SERIES TOOLS



PIPED EXHAUST SYSTEM FOR "2200" SERIES TOOLS

TO ASSEMBLE TO TOOL: REMOVE EXHAUST MUFFLER AND ATTACH INLET AND EXHAUST HOSES AS SHOWN.

* TO ORDER: ADD DASH NUMBER TO PART NUMBER TO INDICATE DESIRED LENGTH OF HOSE IN FEET. EXAMPLE: 44561-20, THE -20 INDICATES 20 FEET OF HOSE. ORDER LENGTH DESIRED UP TO 30 FEET MAXIMUM.

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TROUBLESHOOTING

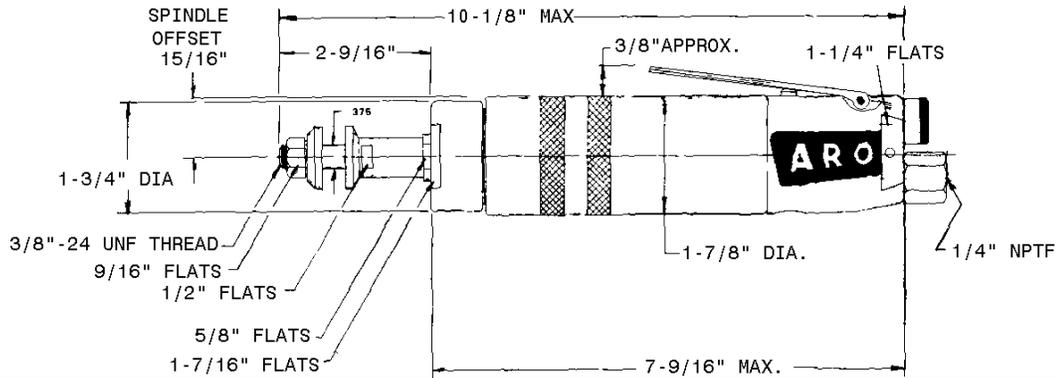
LISTED BELOW ARE SOME OF THE MOST COMMON CAUSES FOR THE ROTARY FILE / WIRE BRUSH TO MALFUNCTION. MALFUNCTIONS BEYOND THE SCOPE OF THIS MANUAL SHOULD BE BROUGHT TO THE ATTENTION OF YOUR ARO REPRESENTATIVE OR RETURN THE TOOL TO THE FACTORY FOR REPAIR.

CONDITION	POSSIBLE CAUSE	CORRECTIVE ACTION
LOW SPEED AND POWER OR FAILURE TO OPERATE.	1. INADEQUATE AIR SUPPLY.	1. CHECK AIR SUPPLY FOR CORRECT REGULATOR ADJUSTMENT (90 P.S.I.G. MAX. WHEN TOOL IS OPERATING).
	2. AIR REGULATOR (36775) IMPROPERLY ADJUSTED.	2. CHECK REGULATOR ADJUSTMENT TO BE SURE OF MAXIMUM AIR FLOW.
	3. AIR INLET OR EXHAUST SCREEN PLUGGED.	3. INSPECT, WASH CLEAN.
	4. OBSTRUCTION IN THROTTLE VALVE OR VALVE NOT OPENING.	4. DISASSEMBLE THROTTLE, CLEAN, INSPECT FOR OBSTRUCTIONS OR DAMAGED PARTS.
	5. MOTOR NOT BEING PROPERLY LUBRICATED.	5. APPLY 2 OR 4 DROPS OF SPINDLE OIL IN AIR INLET. RUN TOOL TO ALLOW OIL TO ENTER MOTOR - BE CERTAIN OILER IS FULL OF OIL.
	6. ROTOR BLADE IS MISSING, INCORRECTLY INSTALLED, BADLY WORN OR BEARING FAILURE.	6. DISASSEMBLE MOTOR, CLEAN AND INSPECT FOR PROPER INSTALLATION, REPLACE BLADES AND/OR BEARINGS IF NECESSARY.
	7. BEARING FAILURE IN SPINDLE SECTION.	7. DISASSEMBLE, CLEAN, INSPECT, REPLACE BEARINGS IF NECESSARY.
THROTTLE VALVE HARD TO OPERATE.	DAMAGED VALVE PIN OR "O" RING.	DISASSEMBLE VALVE COMPONENTS, INSPECT, REPLACE IF NECESSARY.
TOOL WILL NOT SHUT OFF.	DAMAGED VALVE COMPONENTS.	DISASSEMBLE VALVE COMPONENTS, INSPECT, REPLACE PARTS IF NECESSARY.

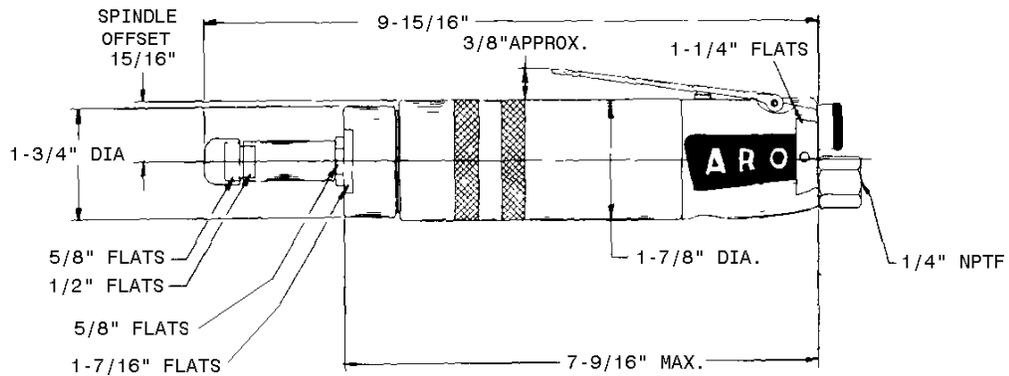
DIMENSIONAL DATA

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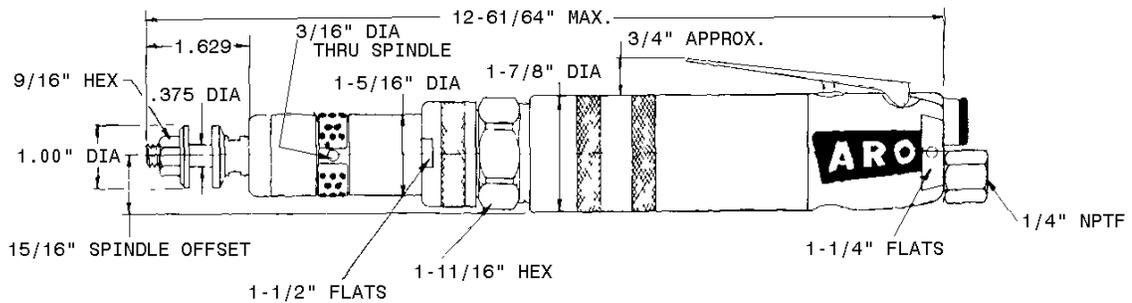
MODELS 7874-E1-() AND 7875-E1



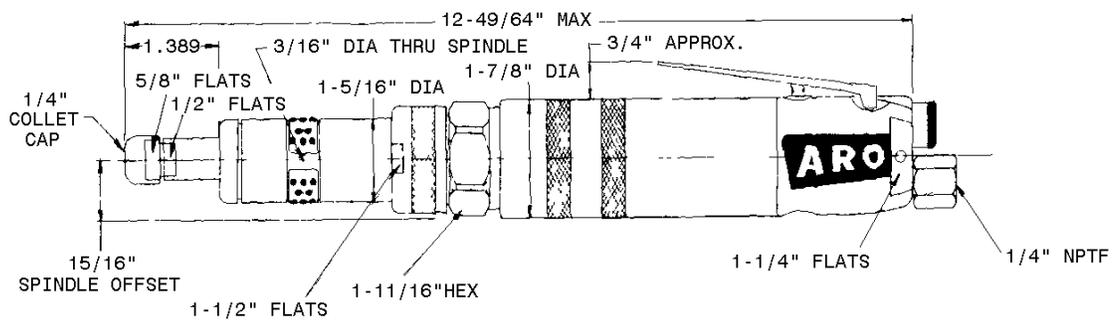
MODELS 7874-E2-() AND 7875-E2



MODELS 8067-E1-()



MODELS 8067-E2-()



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