

OPERATING PRECAUTIONS

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.

AIR AND LUBE REQUIREMENTS

Air pressure of 90 p.s.i.g. (6 bar) at the air inlet of the tool is required for maximum motor efficiency. If necessary, an air regulator should be installed to maintain this air pressure when the tool is in operation.

Filtered and oiled air will allow the tool to operate more efficiently and yield a longer life to operating parts and mechanisms. A line filter capable of filtering particles larger than 50 microns should be used with a line oiler.

Filter-Regulator-Lubricator (F-R-L) assembly model C28231-810 is recommended for use with this air tool. The capacity of this F-R-L is adequate to provide clean (40 micron) oiled and regulated air for the tool.

Flush tool with a solution of three parts cleaning solvent and one

part light oil after each 40 hours of operation. After flushing, apply a small amount of spindle oil in air inlet and run free for one minute to insure proper lubrication.

Gearing should be grease lubricated a minimum of once a month. CAUTION: An excessive amount of lubricant in a tool will affect the speed and power. Each set of planetary gearing should contain approximately 1/16 oz. (1.8 g) of grease.

Recommended hose size - 5/16" (8 mm) nominal inside diameter.

Recommended lubricants: spindle oil 29665, 1 qt. (.9 liter) container for oiler and air inlet; grease 33153, 5 lb. (2.3 kg) can for gears and bearings, "O" ring lubricant 36460, 4 oz. (113 g) tube for lubrication and installation of "O" rings.

OPERATION AND MAINTENANCE

Safe and efficient operation of the ARO® grinders, sanders, wire brushes and rotary files can best be attained by observing proper maintenance procedures and good operator practices. When using any of these tools, the operator should wear safety goggles or other face protective gear as well as other devices or clothing deemed necessary for his protection and well being.

Grinders, sanders, wire brushes and rotary files that are furnished without a guard are designed for applications where the area in which the tool is being used provides protection for the operator without the use of a guard on the tool. Whenever the tool is used in other type applications, a guard should be used on the tool to provide operator protection.

To aid in better understanding of proper grinding wheel use, the publication "Use, Care and Protection of Abrasive Wheels", A.N.S.I. B7.1-1978, can be purchased from the American National Standards Institute, Inc., 1430 Broadway, N.Y., N.Y., 10018. Also, the publication "Safety Code for Portable Air Tools", A.N.S.I. B186.1-1975, can be purchased from either A.N.S.I. or the Compressed Air and Gas Institute, 1230 Keith Building, Cleveland, Ohio, 44115.

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

Air tools are made of precision parts and should be handled with reasonable care when servicing. Excessive pressure exerted by a holding device may cause distortion of a part. Apply pressure evenly when disassembling (or assembling) parts which have a press fit. When removing or installing bearings, apply pressure to the bearing race that will be press fit to the mating part; if this is not practiced, Brinelling of the bearing races will occur, making replacement necessary. It is important that the correct tools and fixtures are used when servicing this air tool.

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 relubricating the bearing is available. Open bearings may be washed but should not be allowed to spin while being blown dry. When replacement parts are necessary, consult drawing containing the part for identification.

Before reassembling, lubricate parts where required. Use 33153 grease, or equivalent, in bearings. Use 36460 lubricant for "O" ring assembly. When assembling "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 ordering parts, be sure to list part number, part name, model number and serial number of tool. Use only genuine ARO® replacement parts

DISASSEMBLY AND ASSEMBLY OF TOOLS

DISASSEMBLY

RIGHT-ANGLE ATTACHMENT - Loosen nut (37104) completely and pull right-angle from tool. To remove shaft assembly (40453), remove pad, loosen nut (38795) completely and pull shaft assembly from angle. To remove drive spindle from housing, loosen set screw (35394) and remove housing (38797) from housing (37098) - **LEFT HAND THREADS**. Tap upper end of spindle with a soft face hammer; spindle will loosen from housing. To remove bearing (Y65-10), remove gear (41761) and key (Y62-201). To remove gear/bearing from shaft assembly, remove nut (37106). To remove bearing (32850), remove lock nut

(37105).

MOTOR - Remove right-angle attachment; grasp end of rotor and pull motor from housing. Grasp cylinder in one hand and tap drive end of rotor with a soft face hammer; motor will come apart.

VALVE - Remove screw plug (33023) with seal (32886). Valve parts may now be removed from head. To remove diffuser (46143), remove inlet adapter (46145).

ASSEMBLY

VALVE — Assemble valve stem (33023), with "O" ring (Y325-5) and spring (31125), into head and secure with seal (32886) and screw (plug (33023). Assemble spacer (46144), diffuser (46143) and "O" ring (Y325-13) to head and secure with inlet adapter (46145).

MOTOR — Pack bearings with ARO 33153 grease and assemble bearing into end plates, pressing on outer race of bearings. **NOTE:** Bearing (38232) is flush face type and must be assembled to end plate with the bearing identification markings to the outside. Assemble rear end plate (33096) to rotor, pressing on inner race of bearing. Assemble cylinder (33102) over rotor to rear end plate, aligning roll pin (33106) with hole in end plate. Assemble blades to rotor slots — straight side out. Assemble front end plate (34742) to rotor, pressing on inner race of bearing. Be sure motor does not bind. With head of tool in a suitable holding device ("motor end"

up), assemble spring spacer (32862) and motor assembly (35098-1) on head, aligning roll pin (33106) with hole provided in head (.078" diameter x 5/16" deep). Slip housing (38595) over motor and secure to head. Assemble spacer (38598) to housing and assemble right-angle to tool.

RIGHT-ANGLE ATTACHMENT — **NOTE:** Lubricate gears and bearings during assembly. Right angle assembly should contain approximately 1/16 oz. of grease. Assemble bearing (Y65-10), key (Y62-201) and gear (41761) to drive spindle. Assemble bearing (32850) to housing, securing with lock nut (37105) and assemble drive spindle to housing. Assemble housing (37098) to housing (38797) and secure with set screw (35394). Assemble bearing and gear to shaft (37697) and secure with nut (37106). Assemble to housing and secure with nut (38795).