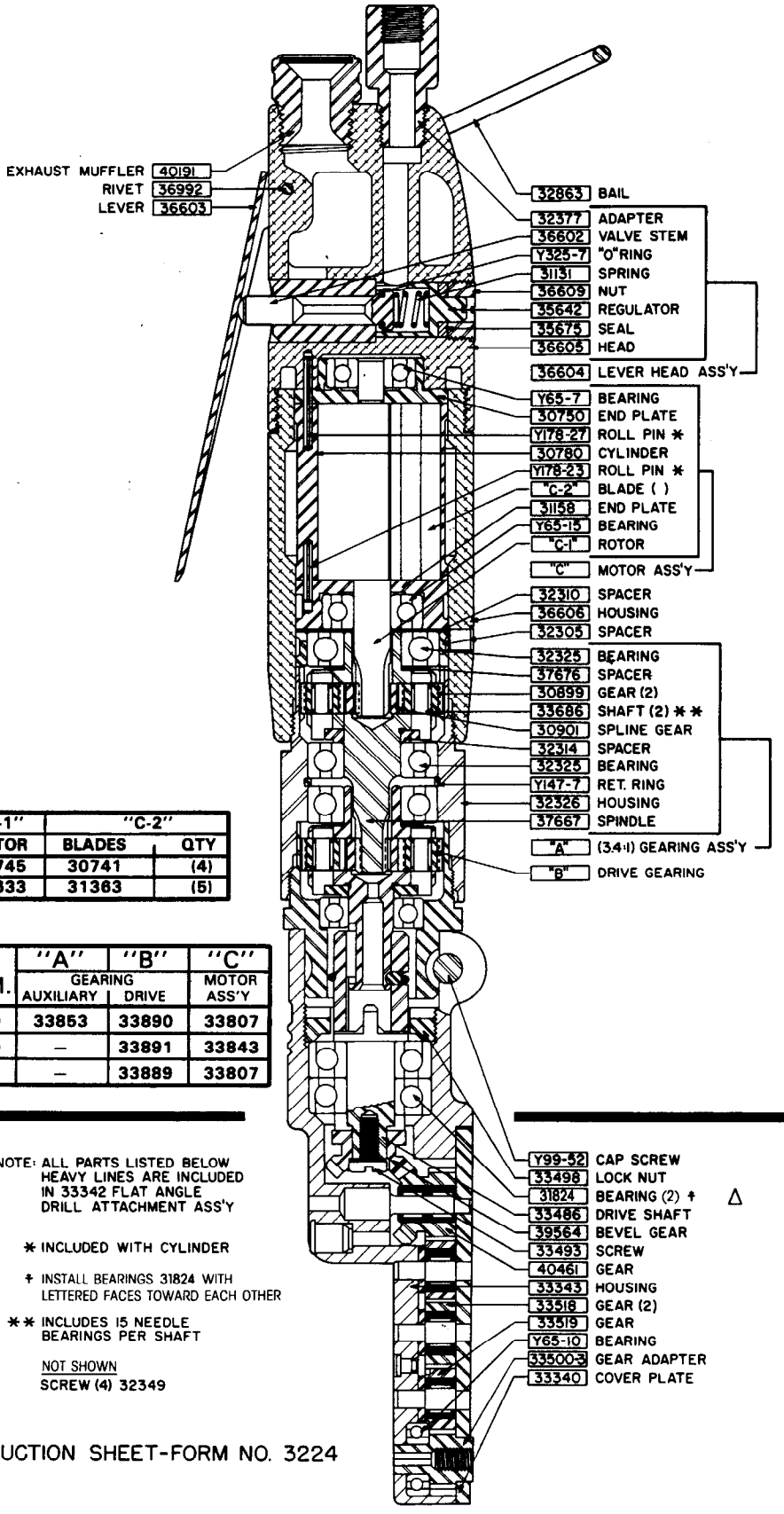
SALES AND ENGINEERING DATA

"0" SERIES F/A DRILLS
SPINDLE MOUNTED-PLAIN BEARING
LEVER TYPE



"C" MOTOR ASS'Y	"C-1" ROTOR	"C-2" BLADES	"C-2" QTY
33807	30745	30741	(4)
33843	31633	31363	(5)

MODEL	R.P.M.	"A" GEARING AUXILIARY	"B" GEARING DRIVE	"C" MOTOR ASS'Y
7438-D	1,450	33853	33890	33807
7439-D	2,500	—	33891	33843
7441-D	3,300	—	33889	33807

NOTE: ALL PARTS LISTED BELOW HEAVY LINES ARE INCLUDED IN 33342 FLAT ANGLE DRILL ATTACHMENT ASS'Y

* INCLUDED WITH CYLINDER

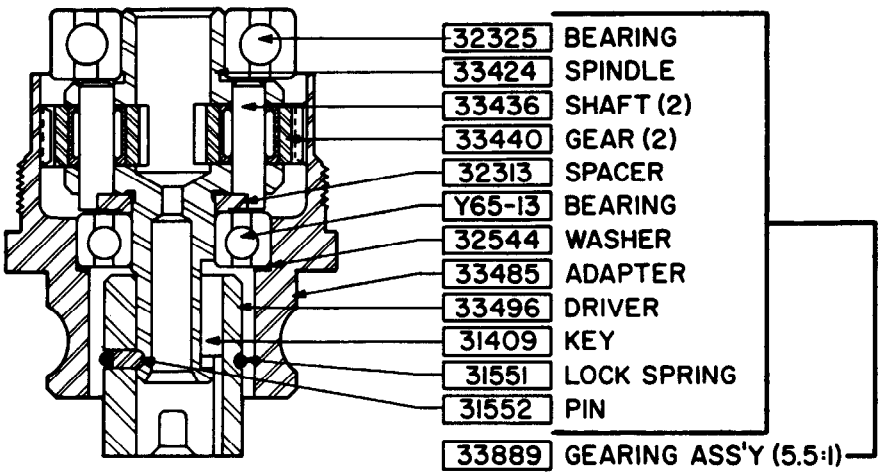
△ † INSTALL BEARINGS 31824 WITH LETTERED FACES TOWARD EACH OTHER

** INCLUDES 15 NEEDLE BEARINGS PER SHAFT

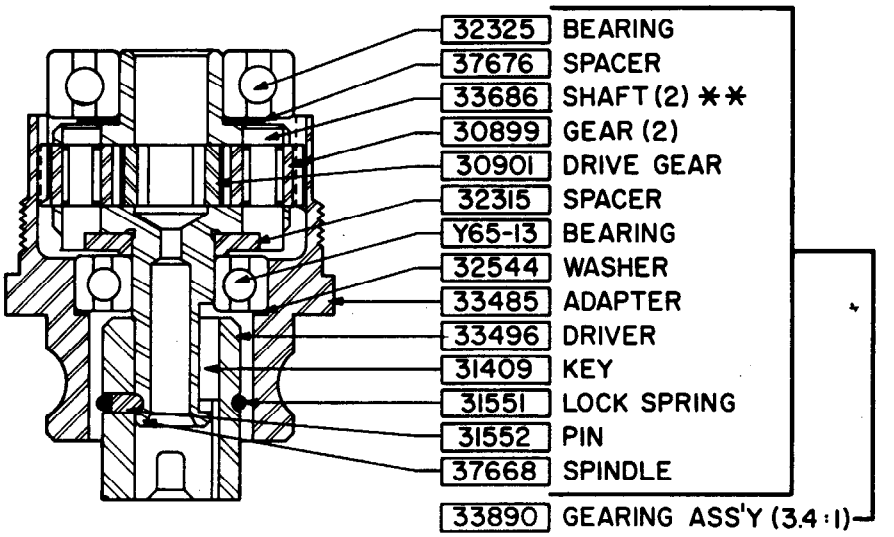
NOT SHOWN
SCREW (4) 32349

INSTRUCTION SHEET-FORM NO. 3224

THE ARO CORPORATION
ONE ARO CENTER, BRYAN, OHIO 43506-0151
PH 419-636-4242•TWX 810-443-2994•TELEX 286456•FAX 419-636-2115

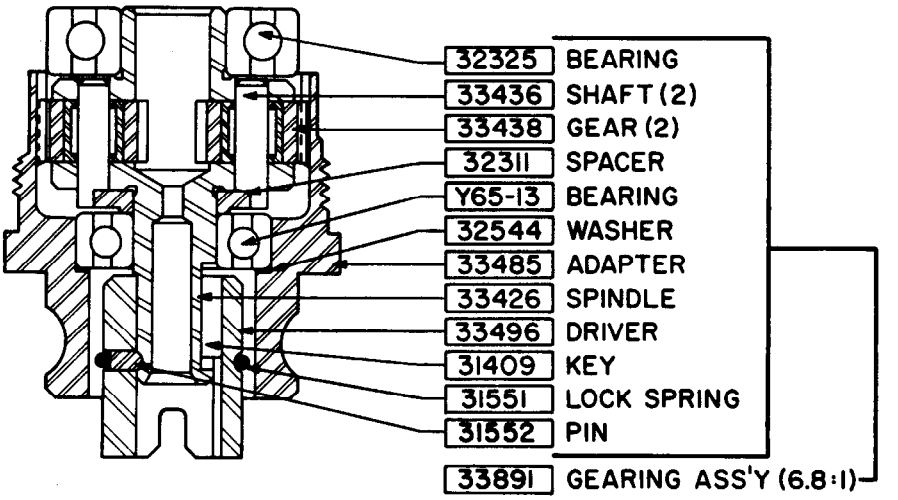


32325	BEARING
33424	SPINDLE
33436	SHAFT (2)
33440	GEAR (2)
32313	SPACER
Y65-13	BEARING
32544	WASHER
33485	ADAPTER
33496	DRIVER
31409	KEY
31551	LOCK SPRING
31552	PIN
33889	GEARING ASS'Y (5.5:1)



32325	BEARING
37676	SPACER
33686	SHAFT (2) **
30899	GEAR (2)
30901	DRIVE GEAR
32315	SPACER
Y65-13	BEARING
32544	WASHER
33485	ADAPTER
33496	DRIVER
31409	KEY
31551	LOCK SPRING
31552	PIN
37668	SPINDLE
33890	GEARING ASS'Y (3.4:1)

** INCLUDES 15 NEEDLE BEARINGS PER SHAFT



32325	BEARING
33436	SHAFT (2)
33438	GEAR (2)
32311	SPACER
Y65-13	BEARING
32544	WASHER
33485	ADAPTER
33426	SPINDLE
33496	DRIVER
31409	KEY
31551	LOCK SPRING
31552	PIN
33891	GEARING ASS'Y (6.8:1)

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 pressure when 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 128241-800 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.

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.

MAINTENANCE

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 the press fit to the mating part; if this is not practiced, Brinelling of the bearing races may 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 REASSEMBLY OF TOOLS

DISASSEMBLY

Remove exhaust muffler ass'y (40191) from exhaust outlet. Remove adapter (32377) from air inlet. Unscrew bolt (Y99-52) and remove flat angle attachment.
VALVE: Place tool in holding device, securing on flats of head. Unscrew nut (36609) and valve parts may easily be removed.
GEARING: Holding ring gear (32326) with a wrench, unscrew ring gear (33485) and remove drive gearing. Holding motor housing (36606) with strap wrench (640-081), unscrew ring gear (32326) and remove auxiliary gearing. On the drive gearing assembly, remove spring (31551), pin (31552), driver (33496) and key (31409). Grasp ring gear in one hand, tap end of spindle with plastic hammer until gearing is released from ring gear. Remove rear bearing; press planet gear shafts out of spindle releasing planet gears and bearings. Remove front bearing and spacer.
MOTOR: Using strap wrench, remove motor and motor housing assembly (36606). Tap splined end of rotor with plastic hammer to remove motor from housing. Grasp motor cylinder (30780) in one hand and tap splined end of rotor until motor comes apart.
FLAT ANGLE: Remove lock nut (33498), bearings (31824), shafts (33486) and bevel gear (39564) from housing. Unscrew sems fastener (33493) to release gear (39564) from shaft. Remove (4) screws in cover plate which will release bearings and drill bit adapter.

REASSEMBLY

VALVE: Assemble valve stem (36602), spring (31131), regulator (35642), and seal (35675) into valve opening in head and secure with nut (36609).
MOTOR: Assemble rear end plate (30750) and bearing to cylinder and pin assembly (30780). Assemble blades to rotor and assemble into cylinder and end plate. Assemble front end plate (31158) and bearing to cylinder and rotor. Be sure motor spins freely, then assemble into motor housing assembly (36606) and assemble to head.
GEARING: Assemble spacer and bearing to drive end of spindle. Assemble planet gears and bearings into spindle and secure with planet gear shafts. Align planet gear shafts to spacer with a small screwdriver. Assemble bearing to rear end of spindle. This method applies to both gearing assemblies. If gearing assembly has loose needle-type bearings, apply a small amount of grease to bearings to hold them in place while assembling. Assemble key (31409), driver (33496) and pin (31552) to spindle of drive gearing and secure with spring (31551). Assemble spacer (32305) and gearing to tool.
FLAT ANGLE: Place bearings, gear (40461) and drill bit adapter into housing. Place cover plate in place and secure with (4) screws. Assemble gear (39564) to shaft (33486) and secure with sems fastener (33493). Assemble shaft (33486) and bearings (31824) into housing and secure with lock nut (33498). NOTE: Assemble bearings with identification markings towards each other. Assemble flat angle attachment to tool and secure with screw (Y99-52).
Assemble exhaust muffler ass'y (40191) to exhaust outlet and adapter (32377) to air inlet of tool.