

OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

SECTION M32
MANUAL 22

"000" SERIES RIGHT-ANGLE SCREWDRIVERS AND NUTSETTERS
MODELS: 7565-A(), 7566-A(), 8296-A(), 8297-A()

Released: 4-1-88
Revised: 4-29-91
Form: 3266-2

**IMPORTANT: READ THIS MANUAL CAREFULLY BEFORE INSTALLING,
OPERATING OR SERVICING THIS TOOL.**

OPERATING AND SAFETY PRECAUTIONS

Pneumatic tools should always be installed and used in accordance with A.N.S.I. B186.1 "Safety Code For Portable Air Tools."

CAUTION:

- Keep hands and clothing away from rotating end of tool.
- Wear suitable eye protection while operating tool.
- Never exceed rated r.p.m. of tool.
- Use tool only for purposes for which it was intended.
- SHUT OFF and DISCONNECT AIR SUPPLY from tool BEFORE performing maintenance, service or disassembly of tool or device attached to tool and also before removing or installing bit, socket, etc.

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.

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 160 HOURS OF TOOL OPERATION — Lubricate clutch parts with molybdenum grease (40036-1). Lubricate gearing. Pack ball bearing, coat shafts and lubricate gears with NLGI #1 "EP" grease (33153). Gearing should contain approximately 1/16 oz. (1.8 g) of grease per reduction. Right-angle assembly should contain approximately 1/16 oz. (1.8 g) of grease.

AIR SUPPLY REQUIREMENTS

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

- AIR PRESSURE — 90 PSIG (6 bar)
- AIR FILTRATION — 50 micron
- LUBRICATED AIR SUPPLY
- HOSE SIZE — 5/16" (8 mm) I.D.

ARO® model 128231-800 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
Gears and Bearings	33153	5 lb. "EP" — NLGI #1 Grease
"O" Rings & Lip Seals	36460	4 oz. Stringy Lubricant
Clutches	40036-1	1 lb. "EP" Molybdenum Disulfide

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MODEL IDENTIFICATION

MODEL NO.	TYPE	R.P.M.	MOTOR ASS'Y	GEARING		CLUTCH ASS'Y	HEAD ASS'Y	DRIVE ASS'Y	RIGHT ANGLE ASS'Y (Includes Angle Ass'y 43681 and Drive Ass'y)							
				AUX.	DRIVE											
7565-A31	Nutsetter	1600	33254-1		36524		40345-1 SINGLE ROTATION	40449	43682-2							
7565-A32	Screwdriver							40454	43682-7							
7565-A34	Nutsetter							40457	43682-10							
7565-A36	Screwdriver							40455	43682-8							
7565-A37	Nutsetter							36511	40449	43682-2						
7565-A38	Screwdriver								40454	43682-7						
7565-A40	Nutsetter								40457	43682-10						
7565-A42	Screwdriver								40455	43682-8						
7566-A31	Nutsetter								550	35098-1	36017	37168		40345-1 SINGLE ROTATION	40449	43682-2
7566-A32	Screwdriver														40454	43682-7
7566-A34	Nutsetter	40457	43682-10													
7566-A36	Screwdriver	40455	43682-8													
7566-A37	Nutsetter	36511-1	40449	43682-2												
7566-A38	Screwdriver		40454	43682-7												
7566-A40	Nutsetter		40457	43682-10												
7566-A42	Screwdriver		40455	43682-8												
8296-A31	Nutsetter		1250	33047-1		36524		37223 REVERSIBLE ROTATION							40449	43682-2
8296-A32	Screwdriver														40454	43682-7
8296-A34	Nutsetter	40457							43682-10							
8296-A36	Screwdriver	40455							43682-8							
8296-A37	Nutsetter	36511							40449	43682-2						
8296-A38	Screwdriver								40454	43682-7						
8296-A40	Nutsetter								40457	43682-10						
8296-A42	Screwdriver								40455	43682-8						
8297-A31	Nutsetter								400	36264-1	36017	37168		37223 REVERSIBLE ROTATION	40449	43682-2
8297-A32	Screwdriver														40454	43682-7
8297-A34	Nutsetter	40457	43682-10													
8297-A36	Screwdriver	40455	43682-8													
8297-A37	Nutsetter	36511-1	40449	43682-2												
8297-A38	Screwdriver		40454	43682-7												
8297-A40	Nutsetter		40457	43682-10												
8297-A42	Screwdriver		40455	43682-8												

DISASSEMBLY AND REASSEMBLY OF TOOL

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 reassemble this tool (any part or completely), be sure to read "Operating and Safety Precautions."

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

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

RIGHT-ANGLE SECTION

Using wrenches on flats of housing (37098) and housing nut (37104), loosen nut completely (L.H. threads) and pull right-angle section from gearing (or clutch). See page 3 for complete disassembly.

CLUTCH SECTION

Remove right-angle section. Using a wrench on flats of ring gear and

a strap type wrench on clutch housing, unthread and remove clutch housing – L.H. threads. Grasp clutch assembly and pull from gearing. See page 4 for complete disassembly.

GEARING SECTION

Remove right-angle and clutch sections. Secure motor housing in a suitable holding device or with a strap wrench and remove gearing using a wrench on flats of ring gear. Models with both drive and auxiliary gearing, separate gearing using wrenches on flats of each ring gear. See pages 4 and 5 for complete disassembly.

MOTOR SECTION

The motor section can be removed from motor housing after the removal of either the gearing section or head section. See page 5 for complete disassembly.

HEAD SECTION

Secure head in a suitable holding device and, using a strap type wrench, unthread and remove motor housing and motor from head. See page 6 for complete disassembly.

DISASSEMBLY

Remove right-angle section from tool as outlined on page 2.

Remove nut (38795), except drive assembly (40455), and remove drive assembly from right-angle housing. Remove nut (37106) to remove gear (39563) and/or bearing (Y65-13) from bit holder or shaft.

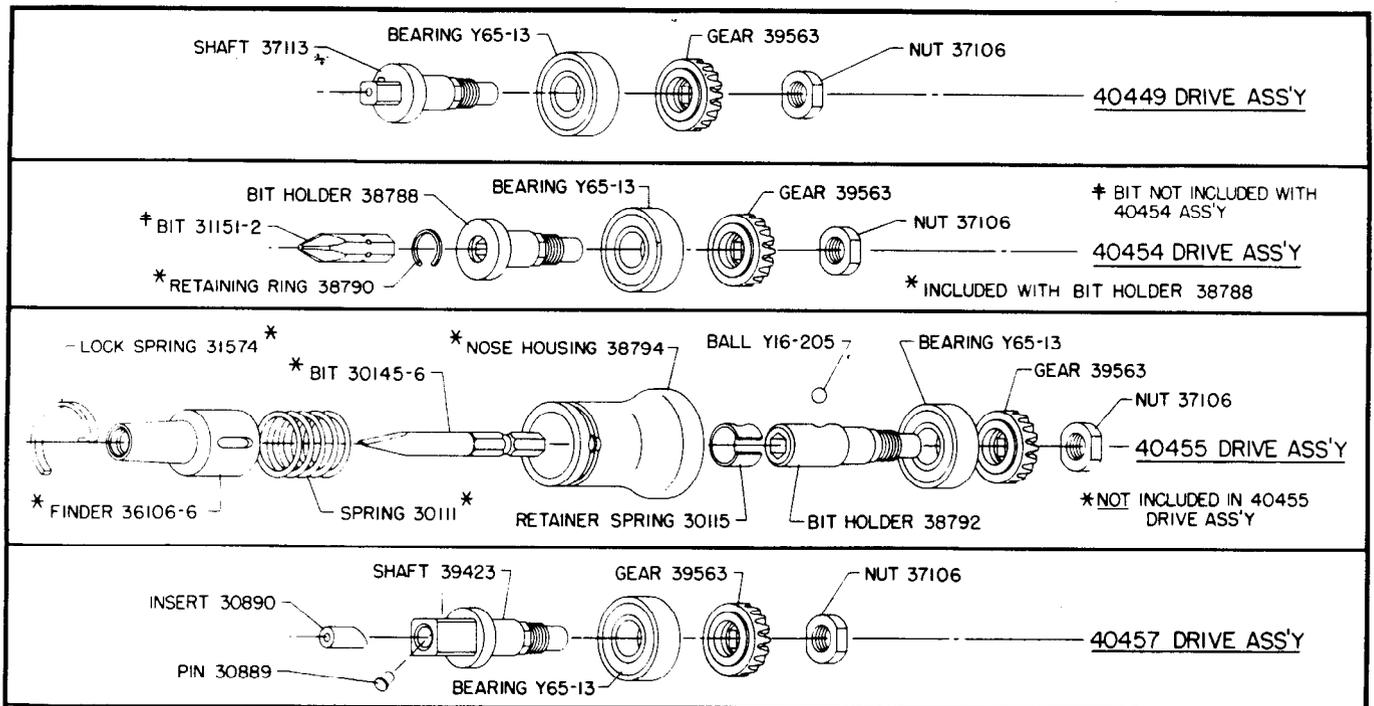
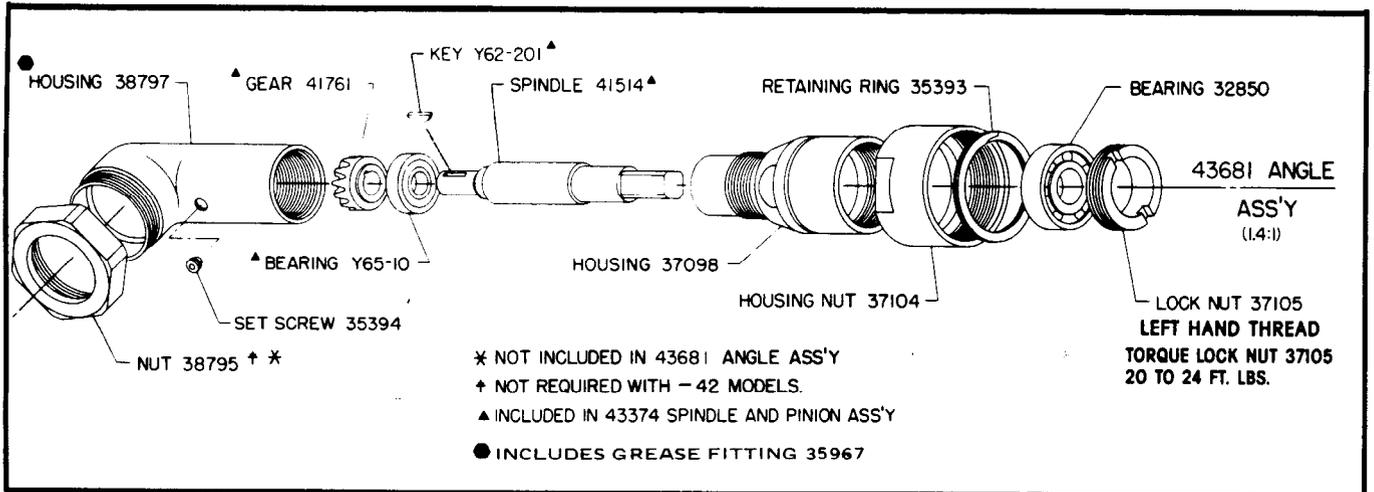
Loosen set screw (35394) completely and unthread housing (38797) from housing (37098) – L.H. threads. Pull spindle and components from housing. NOTE: Gear (41761) and bearing (Y65-10) are press

fit on spindle. To remove bearing (32850), remove lock nut (37105).

REASSEMBLY

Pack bearing (32850) and lubricate gear teeth liberally with grease (33153), or equivalent, upon assembly. Right-angle section should contain approximately 1/16 oz. grease.

Reassembly will be the reverse of the disassembly procedure.



CLUTCH SECTION

REASSEMBLY

CLUTCH ADJUSTMENT (36511-); Remove clutch assembly (36511-) from tool. Place pin in hole of jaw (36513) or wrench on square end of spindle (37240) to adjust nut (36313). To adjust properly, release nut to least tension. Tighten nut one or two positions – each click one position. Assemble clutch to tool and test torque on fastener to be tightened. Repeat until desired torque is obtained.

DISASSEMBLY

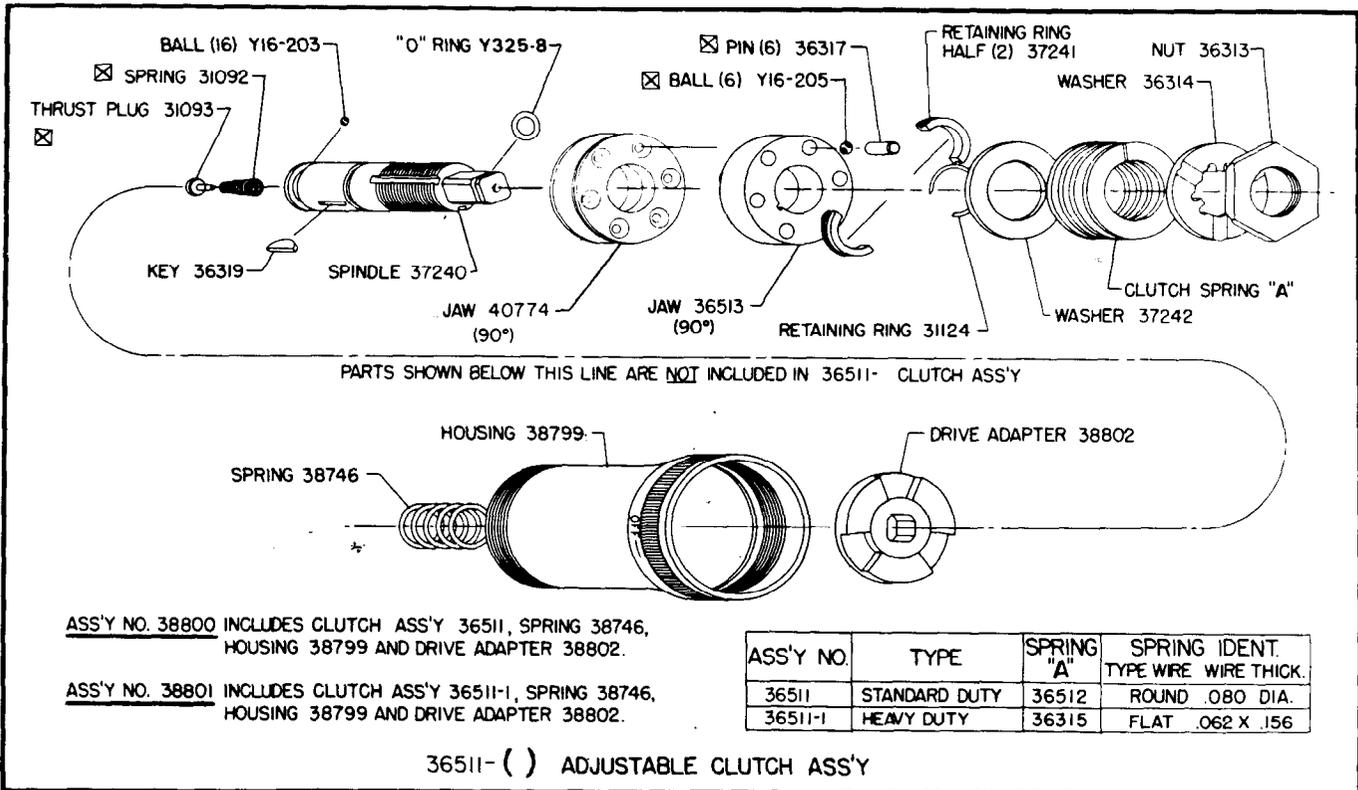
Remove clutch assembly from tool as outlined on page 2. Remove nut (36313), releasing washer (36314), spring (see table), washer (37242), pins (36317) and steel balls (Y16-205). Remove retaining ring (31124) and retainer (37241), releasing jaw (36513), key (36319), jaw (40774) and steel balls (Y16-203).

NOTE: Lubricate steel balls, jaw faces and pins when assembling, using grease 40036-1, or equivalent.

Assemble jaw (40774) on spindle (37240), aligning face of jaw with center of ball bearing groove in spindle. Assemble 16 steel balls (Y16-203) to groove in spindle and slide jaw ahead to secure balls in place.

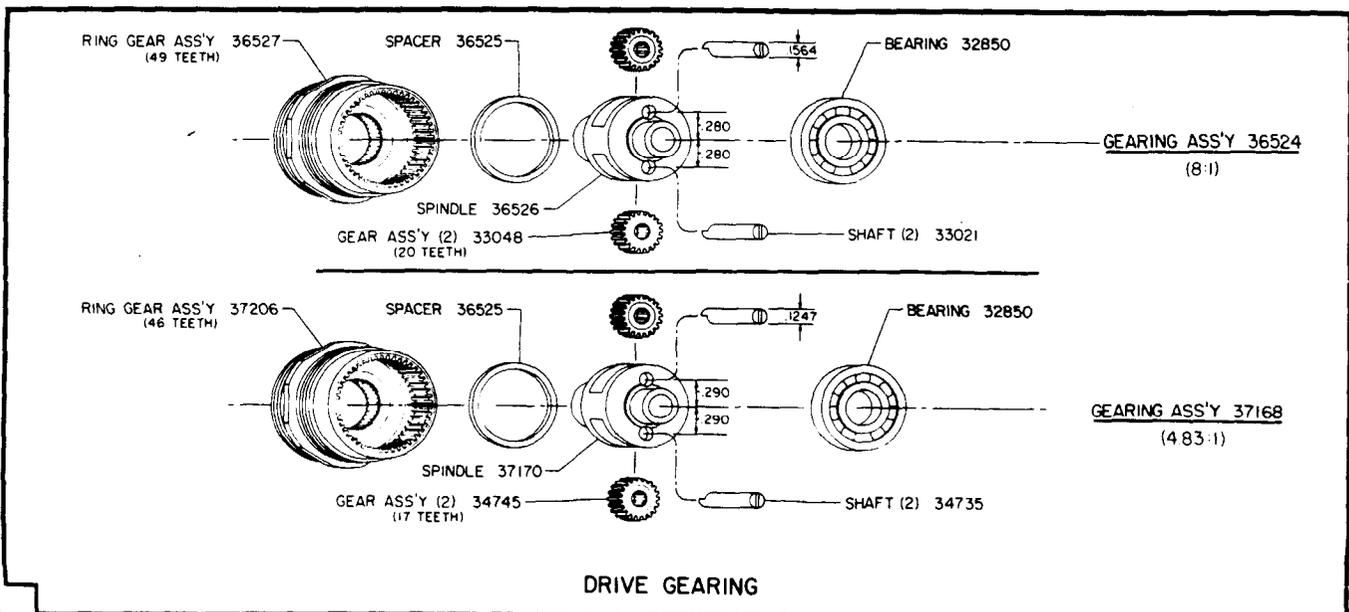
Assemble key (36319) and jaw (36513) to spindle and secure with retaining ring halves (37241) and retaining ring (31124). NOTE: Assemble jaw (36513) to spindle with small diameter hole in face of jaw facing jaw (40774).

Assemble six steel balls (Y16-205) and pins (36317) to jaw (36513) and assemble washer (37242), clutch spring, washer (36314) and nut (36313) to spindle. Adjust to desired tension – see clutch adjustment above.



PARTS MARKED THUS ☒ ARE INCLUDED IN SERVICE KIT NO. 40932, SEE PAGE 8.

GEARING SECTION



GEARING SECTION

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DISASSEMBLY

DRIVE GEARING

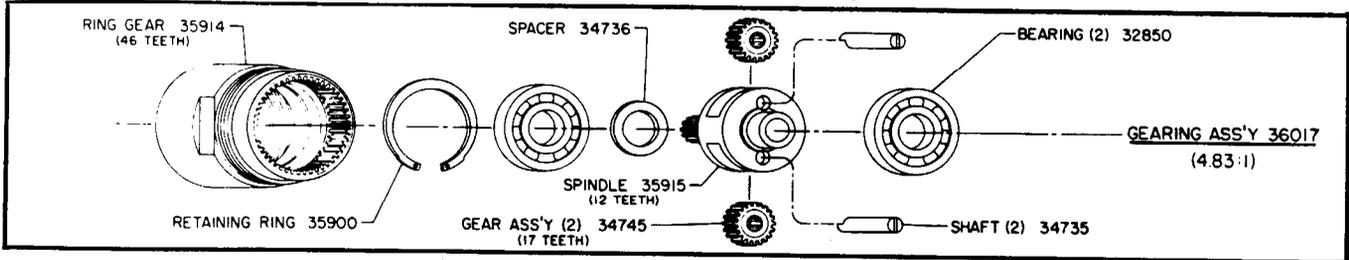
REASSEMBLY

Remove gearing from tool as outlined on page 2.
Grasp ring gear in one hand and tap drive end of spindle with a non-metallic hammer; spindle and components will loosen from ring gear. Alternately tap ends of shafts to loosen and remove bearing (32850). Remove shafts to remove gears from spindle.

NOTE: Pack bearings and lubricate gears liberally with grease (33153), or equivalent, when assembling. Gearing assembly should contain approximately 1/16 oz. grease.
Assemble gears to spindle and secure with shafts. Align notch in ends of shafts with step on spindle. Assemble bearing (32850) to spindle and assemble spacer (36525) and spindle to ring gear.

AUXILIARY GEARING

Disassembly and reassembly of the auxiliary gearing is similar to that of the drive gearing.



MOTOR SECTION

DISASSEMBLY

Remove motor from tool as outlined on page 2.
Grasp cylinder in one hand and tap splined end of rotor with a non-metallic hammer; motor will come apart.

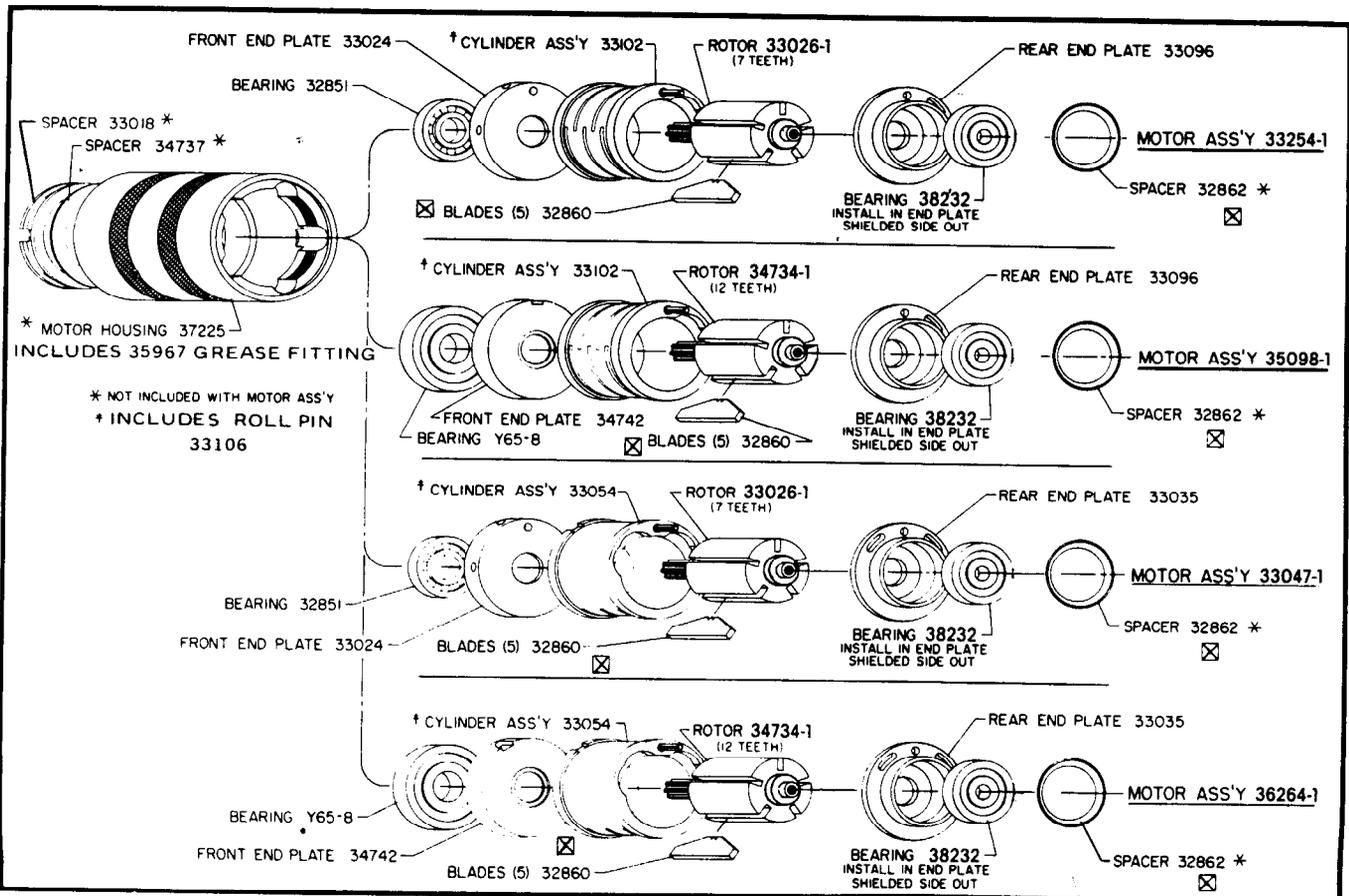
REASSEMBLY

NOTE: Pack bearings with grease (33153), or equivalent, and coat i.d. of cylinder with spindle oil when assembling.
Assemble bearings into end plates (see view below) and assemble rear end plate to rotor.
Assemble cylinder over rotor, aligning air inlet slots of cylinder and end plate and roll pin in cylinder with hole in end plate. Assemble

blades to rotor and assemble front end plate (with bearing) to rotor and cylinder. Insure rotor does not bind and assemble motor to tool (if rotor binds, tap splined end lightly with a non-metallic hammer to loosen).

ASSEMBLING MOTOR TO TOOL: Remove motor housing (37225) from head. Place head in a suitable holding device with the "motor end" in an upright position. Assemble spacer (32862), with large dia. facing head, and motor assembly to head, aligning roll pin in motor with hole provided in head (.078 dia. blind hole). Slip motor housing over motor and secure to head. Assemble spacer (34737), spacer (33018) and gearing to tool.

Assemble gasket (70837) to head also, on reversible models.



PARTS MARKED THUS ☒ ARE INCLUDED IN SERVICE KIT NO. 40932, SEE PAGE 8.

HEAD SECTION

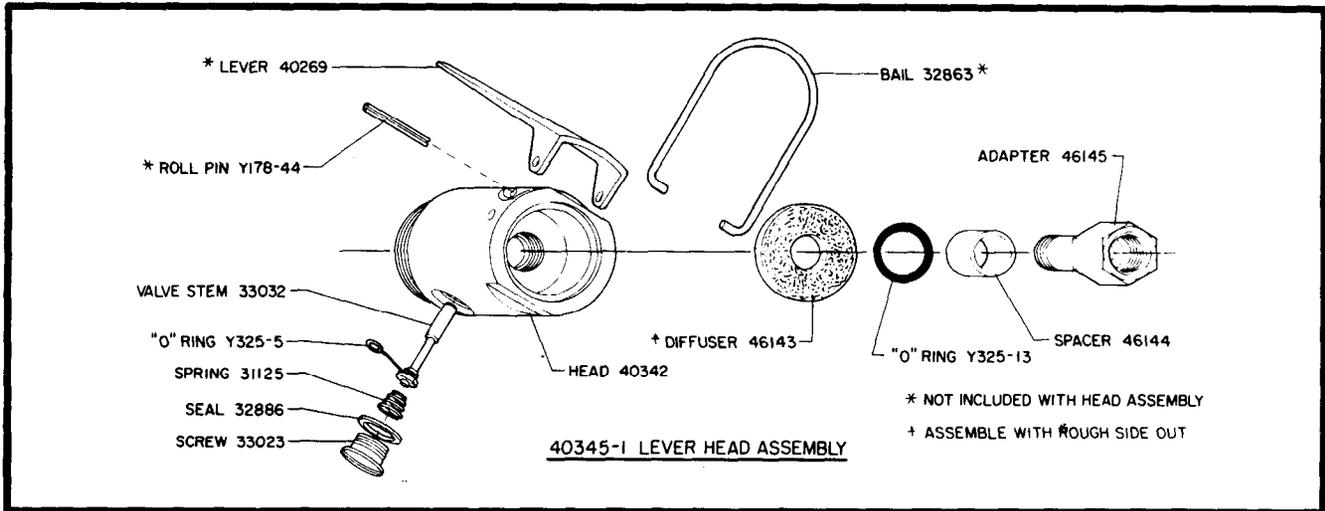
DISASSEMBLY

To remove valve components from head, remove screw (33023). To remove diffuser (46143), remove adapter (46145), spacer (46144), and "O" ring (Y325-13).

REASSEMBLY

Assemble diffuser (46143), "O" ring (Y325-13), and spacer to head and secure with adapter (46145). Assemble "O" ring (Y325-5) to valve stem (33032) and assemble to head. Assemble spring (31125) to head and secure with seal (32886) and screw (33023).

NOTE: When assembling head to motor section, refer to "ASSEMBLING MOTOR TO TOOL," page 5.



REVERSIBLE DIRECTION

DISASSEMBLY

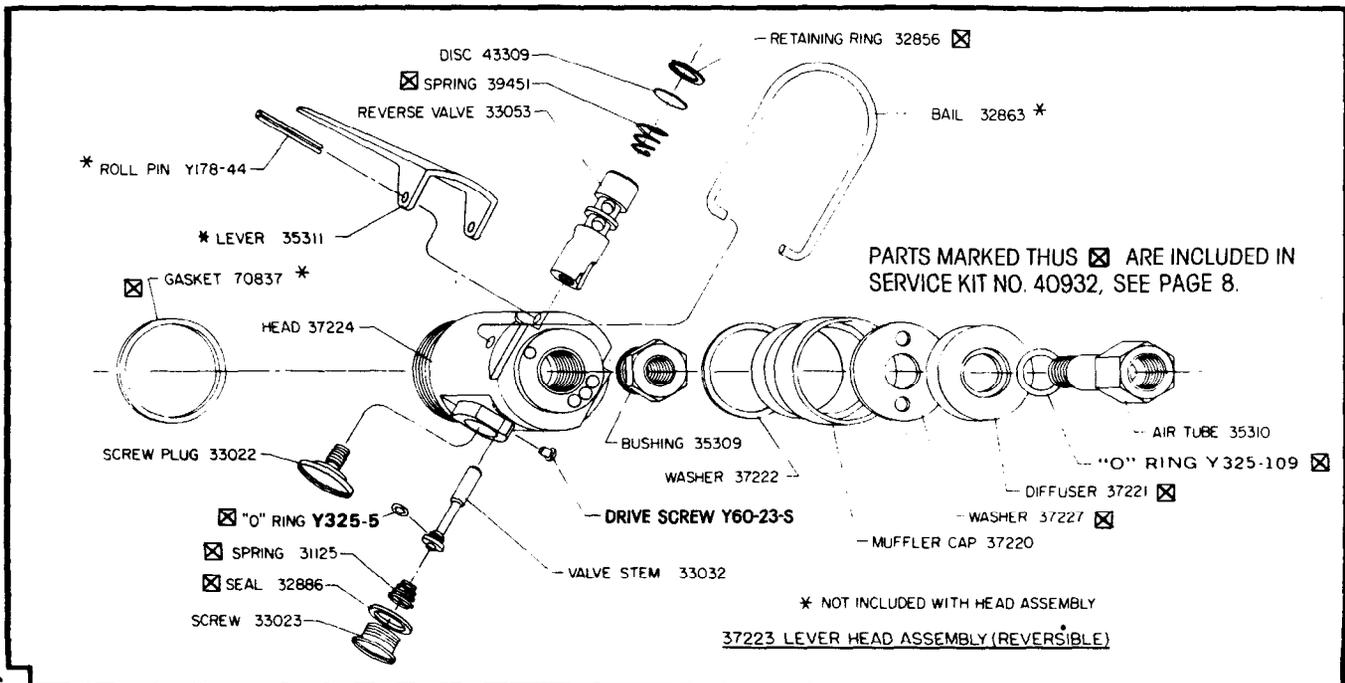
Valve components can be serviced without removing head section from tool. Remove screw (33023) and throttle valve parts can be removed from head. To remove reverse valve (33053) and/or components, remove roll pin (Y178-44), lever (35311), screw plug (33022) and retaining ring (32856). To remove diffuser and/or components, remove air tube (35310).

REASSEMBLY

Assemble reverse valve (33053) to head, aligning notch in valve with drive screw (Y60-23-S) and secure with screw plug (33022). Assem-

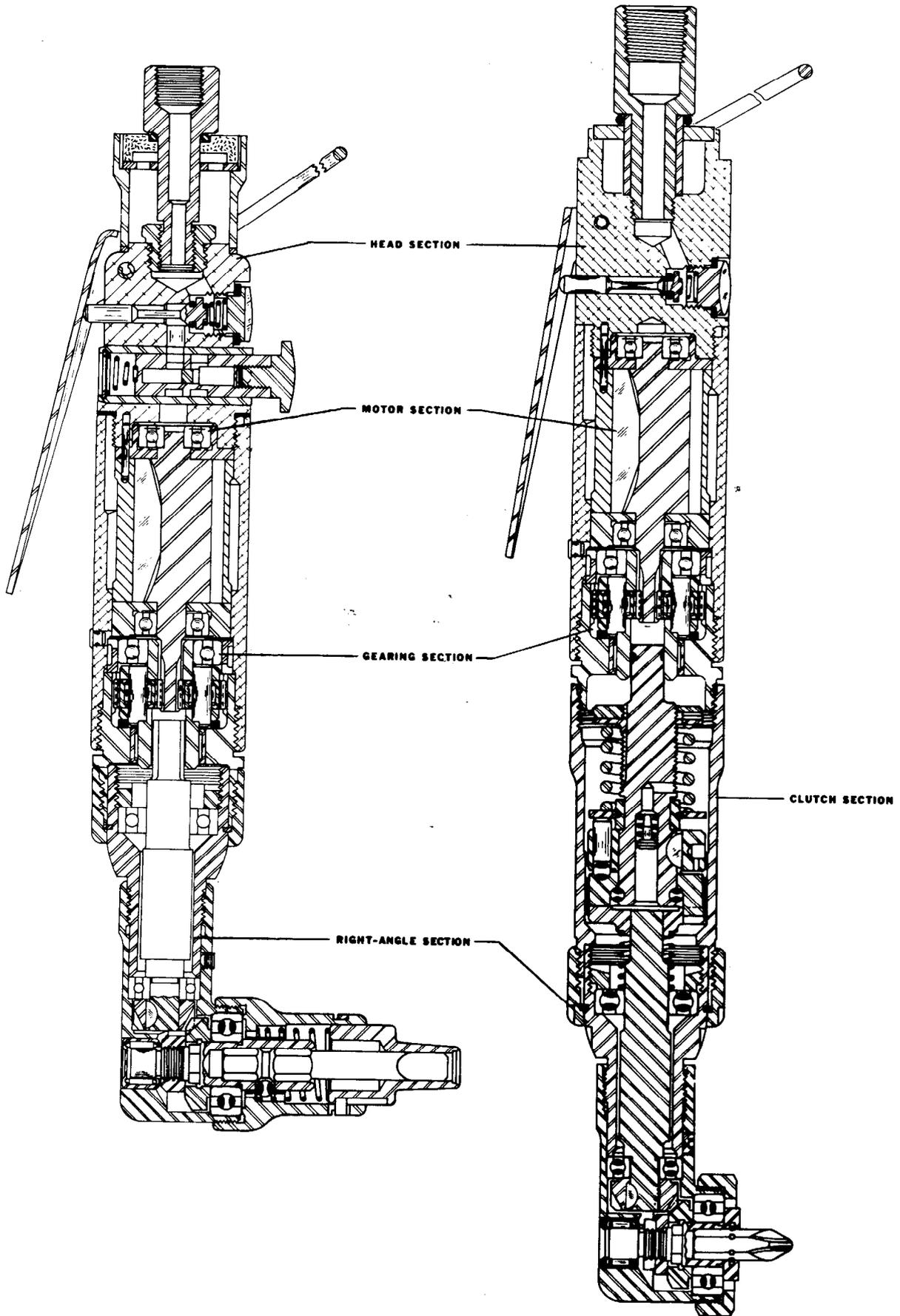
ble spring (39451) and disc to head and secure with retaining ring (32856). Lubricate "O" ring (Y325-5) with "O" ring lube (36460) and assemble "O" ring to valve stem (33032). Assemble valve stem and spring (31125) to head and secure with seal (32886) and screw (33023). Assemble bushing (35309) to head. Assemble "O" ring (Y325-109), diffuser (37221), washer (37227) and muffler cap (37220) to air tube (35310) and assemble parts with washer (37222) to head. Assemble lever to head and secure with roll pin (Y178-44).

NOTE: When assembling head to motor section, refer to "ASSEMBLING MOTOR TO TOOL," page 5.



TYPICAL CROSS-SECTION OF TOOL

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TROUBLE SHOOTING

LISTED BELOW ARE SOME OF THE MOST COMMON CAUSES FOR THE RIGHT-ANGLE SCREWDRIVER/NUTSETTER TO MALFUNCTION. MALFUNCTIONS BEYOND THE SCOPE OF THIS MANUAL SHOULD BE BROUGHT TO THE ATTENTION OF YOUR ARO REPRESENTATIVE OR RETURN THE TOOL TO FACTORY FOR REPAIR.

CONDITION	POSSIBLE CAUSE	CORRECTIVE ACTION
LOW SPEED OR FAILURE TO OPERATE.	1. INADEQUATE AIR SUPPLY.	1. CHECK AIR SUPPLY FOR CORRECT REGULATOR ADJUSTMENT (90 PSIG MAX. WHEN TOOL IS OPERATING). SEE AIR SUPPLY REQUIREMENTS, PAGE 1.
	2. CLOGGED AIR INLET. BADLY WORN OR DAMAGED THROTTLE COMPONENTS.	2. DISASSEMBLE, CLEAN, INSPECT THROTTLE COMPONENTS, REPLACE WORN OR DAMAGED PARTS.
	3. IMPROPER LUBRICATION OF UNIT (MOTOR AND/OR GEARING OR RIGHT-ANGLE ASS'Y), OR DIRTY MOTOR (ROTOR BLADES STICKING ETC.), OR BROKEN OR BADLY WORN ROTOR BLADES OR BEARINGS IN MOTOR.	3. INSURE LUBRICATOR IS FULL OF OIL AND GEARING AND RIGHT-ANGLE IS LUBRICATED REGULARLY, REFER TO PAGE 1. DISASSEMBLE, CLEAN, INSPECT, REPLACE WORN OR DAMAGED PARTS, LUBRICATE.
	4. BADLY WORN OR DAMAGED CLUTCH COMPONENTS—CLUTCH MODELS ONLY.	4. DISASSEMBLE CLUTCH, CLEAN, INSPECT, REPLACE WORN OR DAMAGED PARTS, LUBRICATE. REFER TO PAGE 4.
CLUTCH DISENGAGES TOO SOON OR FAILURE OF CLUTCH TO DISENGAGE—CLUTCH MODELS ONLY.	1. IMPROPER CLUTCH ADJUSTMENT	1. REFER TO CLUTCH ADJUSTMENT, PAGE 4.
	2. BADLY WORN OR DAMAGED CLUTCH COMPONENTS.	2. DISASSEMBLE CLUTCH. CLEAN, INSPECT, REPLACE WORN OR DAMAGED PARTS, LUBRICATE. REFER TO PAGE 4.

SERVICE KIT NO. 40932

QTY	PART NO.	DESCRIPTION	QTY	PART NO.	DESCRIPTION
1	Y325-109	"O" Ring	6	Y16-205	Balls
1	37221	Diffuser	1	31092	Spring
1	37227	Washer	1	31093	Plug
1	32886	Seal	1	32862	Spring
1	Y325-5	"O" Ring	5	32860	Blades
1	32856	Retaining Ring	1	41795	Motor Oil
1	39451	Spring	1	41799	Gear Lube
6	36317	Pins	1	70837	Gasket
1	31125	Spring			