OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

"OOO" SERIES POWER MOTORS

SECTION	M40
MANUAL	22
Released:	4-1-88
Revised:	
Form:	3268-2

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.
- Use tool only for purposes for which it is intended.
- SHUT OFF and DISCONNECT AIR SUPPLY from tool BEFORE performing maintenance, service or disassembly of tool.

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.

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 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.

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

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MODEL IDENTIFICATION

MODEL	R.P.M.	ROTATION	HEAD	MOTOR ASS'Y	GEARING DRIVE	GEARING AUX.	DRIVE SPINDLE	SPACER	WRENCH	TOTAL REDUCTION
7533-B	550	FORWARD	36277	33254-1	35901	36287	3/8-24 TH'D	33651	30131	38.6:1
7534-B	900			35098-1	35901	36017				23.3:1
7535-C	2700			33254-1	35903					8:1
7536-B	4500			35098-1	35901					4.83:1
7537-C	20,000			35098-1	35904-1					DIRECT DRIVE
7538-B	550			33254-1	36268	36287	KEYED			38.6:1
7539-B	900			35098-1	36268	36017				23.3:1
7540-B	2700			33254-1	36266					8:1
7541-B	4500			35098-1	36268					4.83:1
7542-C	20,000			35098-1	36267-1					DIRECT DRIVE
7543-B	550	REVERSIBLE	36274	33047-1	36268	36287				38.6:1
7544-B	900			36264-1	36268	36017				23.3:1
7545-B	2700			33047-1	36266					8:1
7546-B	4500			36264-1	36268					4.83:1
7547-C	20,000			36264-1	36267-1					DIRECT DRIVE

DISASSEMBLY AND REASSEMBLY 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 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:

GEARING SECTION

Remove thread guard (33653) from ring gear. Using wrenches on flats of ring gear and motor housing, unthread and remove gearing section from tool. Models with drive and auxiliary gearing, separate gearing using wrenches on flats of each gear housing.

MOTOR SECTION

The motor assembly can be removed from housing after the removal of the gearing section or the head section. See page 4 for complete disassembly of motor.

HEAD SECTION

Using wrenches on flats of motor housing and head, unthread and remove head section from tool.

GEARING SECTION

DISASSEMBLY

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. 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 and spacer from drive end of spindle. Remove shafts releasing gears. To remove bearing from opposite end of spindle, insert shafts in spindle and alternately tap ends of shafts loosening bearing.

REASSEMBLY

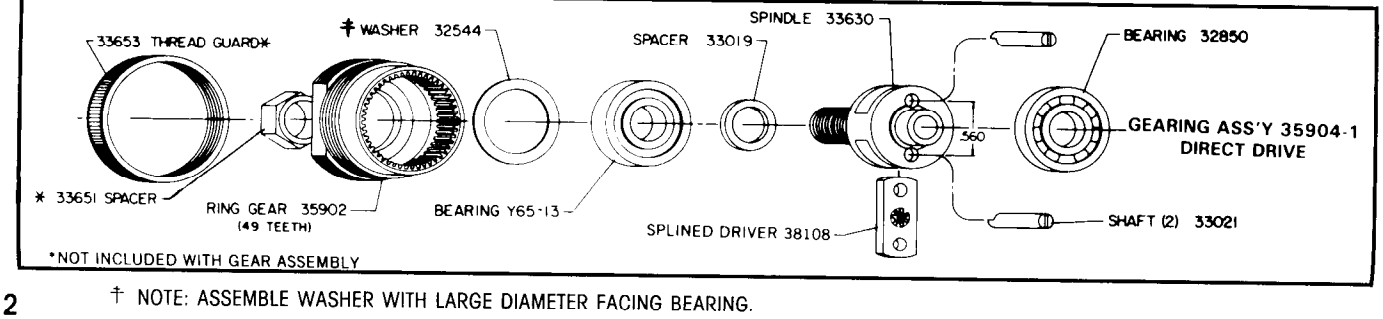
NOTE: Pack bearings and lubricate gears liberally with 33153 grease, or equivalent, upon assembly. Gearing assembly should contain approximately 1/16 oz. (1.8 g) grease.

Assemble spacer and bearing to drive end of spindle. Assemble gears to spindle and secure with shafts, aligning notches in end of shafts with spacer.

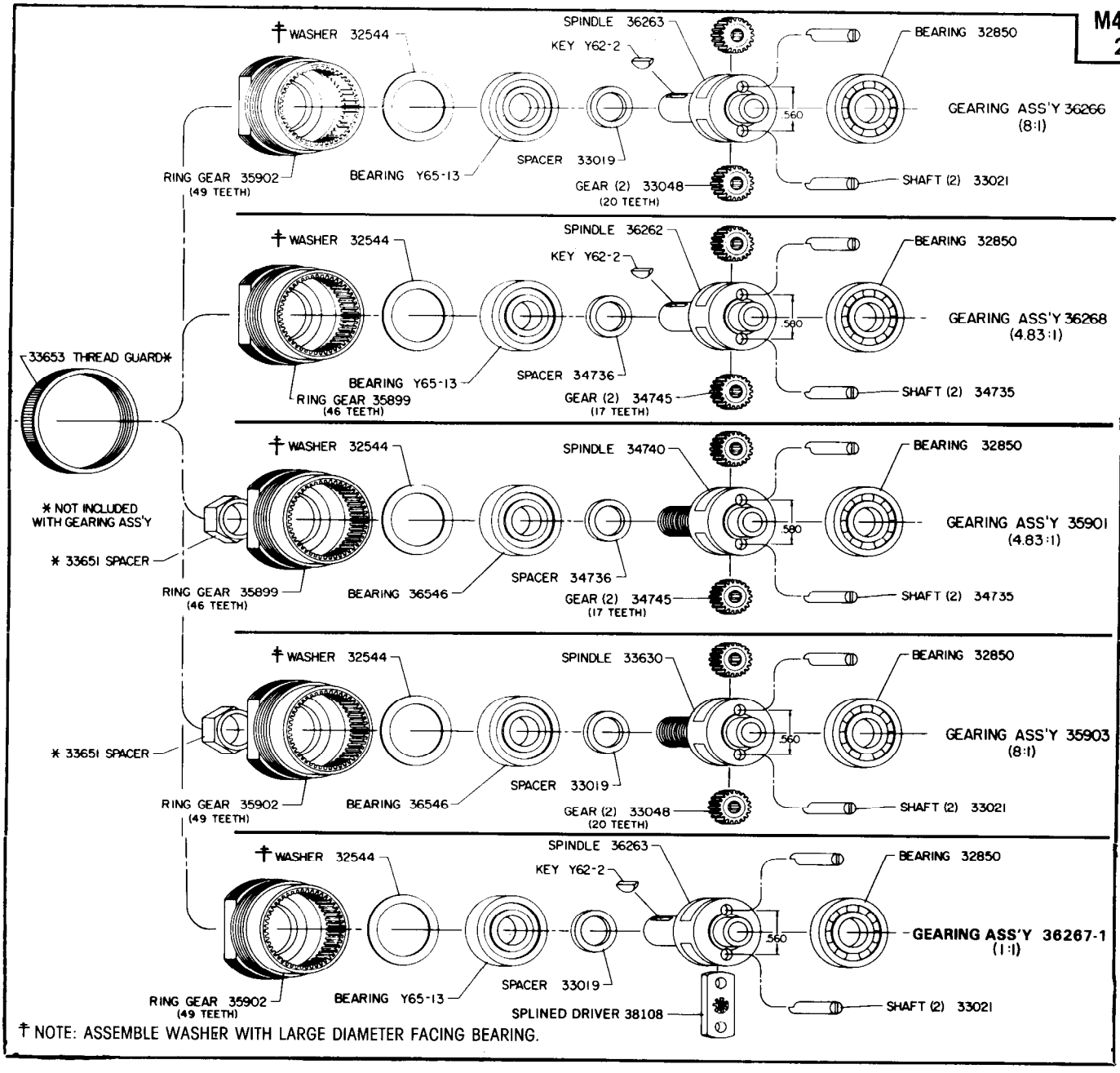
Assemble bearing to opposite end of spindle and assemble with washer (32544) into ring gear.

NOTE: Assemble washer (32544) to ring gear with large diameter facing bearing.

Assemble spacer (33651) to spindle and assemble gearing to tool.

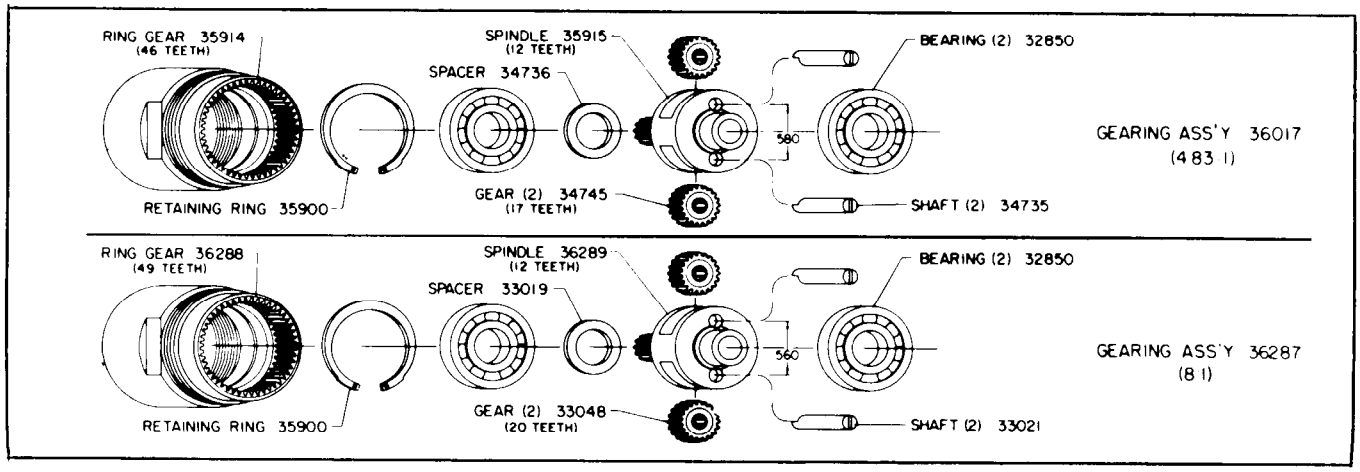


† NOTE: ASSEMBLE WASHER WITH LARGE DIAMETER FACING BEARING.



AUXILIARY GEARING

Disassembly and reassembly procedure will be similar to that for drive gearing.



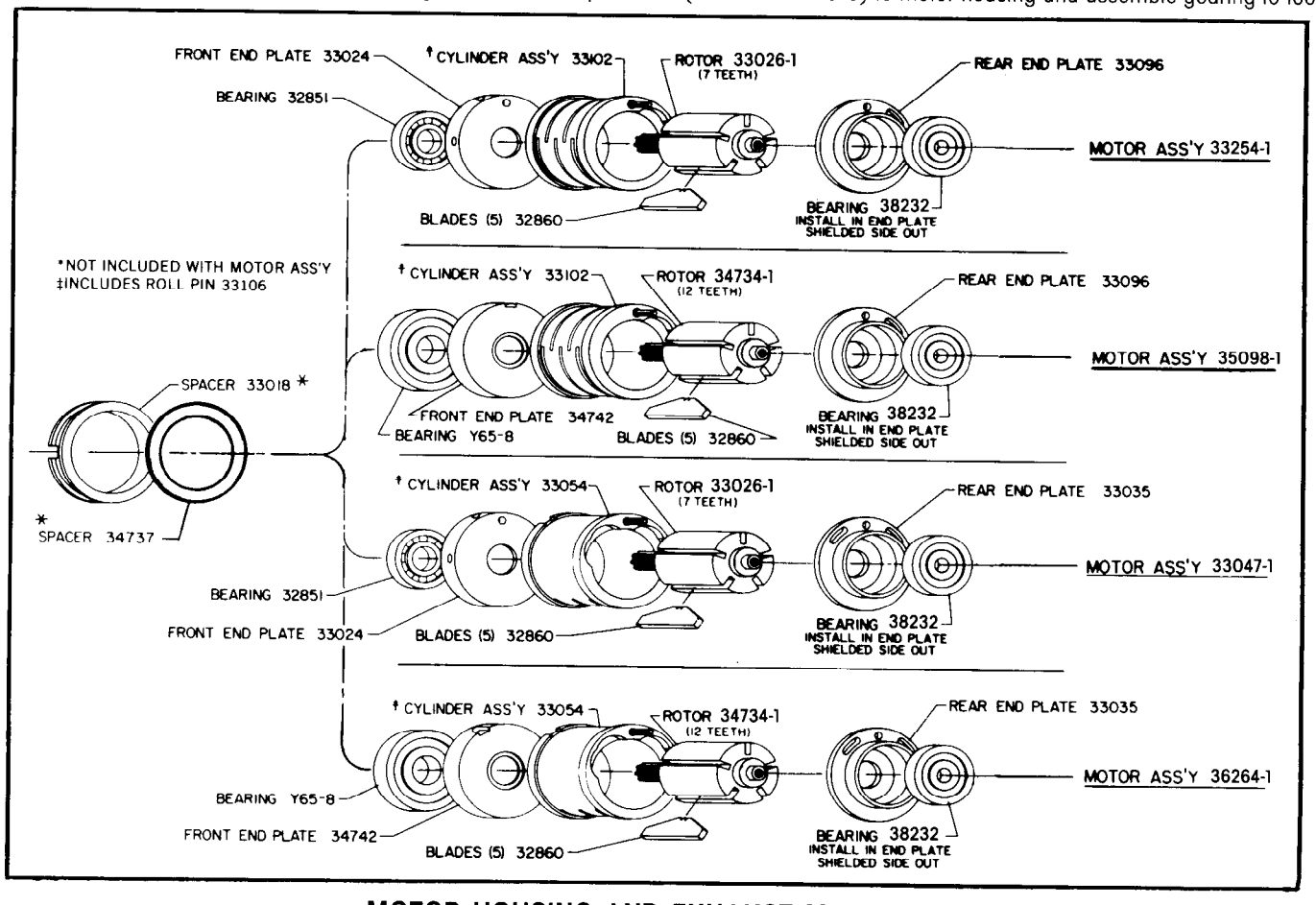
MOTOR SECTION

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

Assemble bearings into end plates and assemble end plate (33035 or 33096) to rotor. When assembling bearing to rotor, insure pressure is applied squarely to the inside race of bearing. Coat i.d. of cylinder with spindle oil and assemble cylinder over rotor, aligning air inlets and roll pin of cylinder with air inlet and hole in end plate for roll pin. Assemble blades to rotor and assemble end plate (33024 or 34742), with bearing, to rotor. Apply pressure to inside bearing race when assembling to rotor. Insure motor does not bind (if rotor binds, tap splined end lightly to loosen) and assemble motor with spacers (34747 and 33018) to motor housing and assemble gearing to tool.



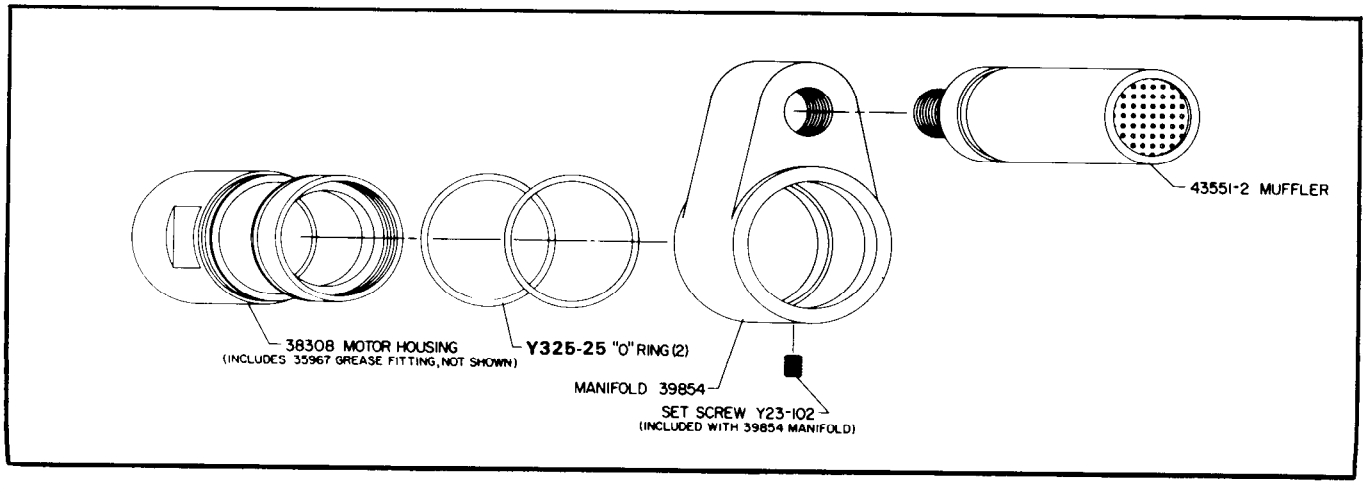
MOTOR HOUSING AND EXHAUST MANIFOLD

DISASSEMBLY

To remove manifold from motor housing, remove head.

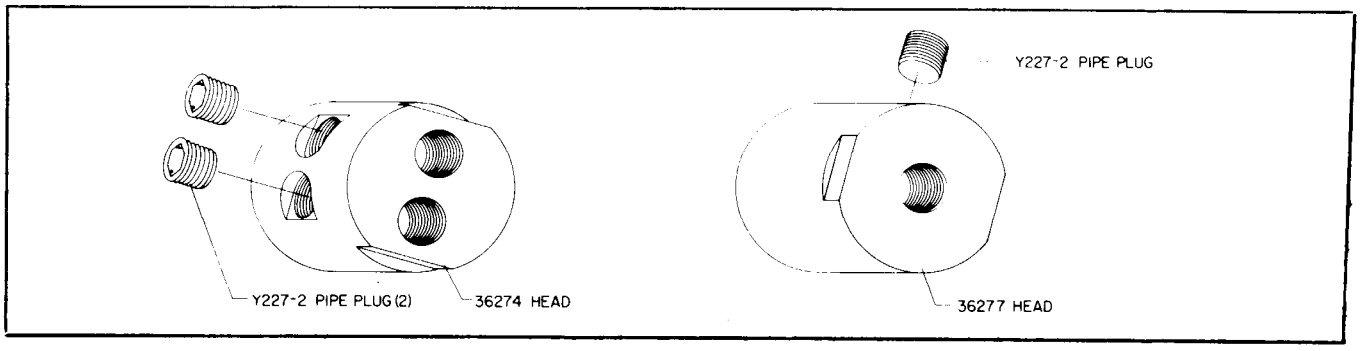
REASSEMBLY

Assemble "O" rings (Y325-25) to motor housing and assemble manifold to housing.

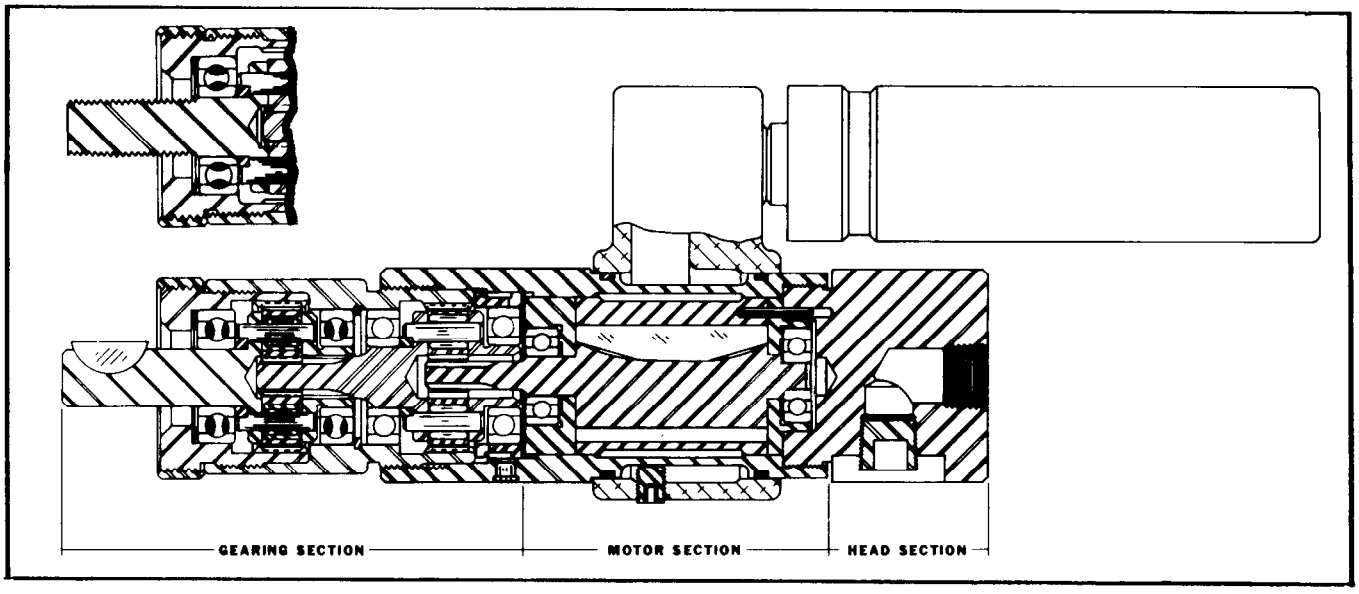


HEAD SECTION

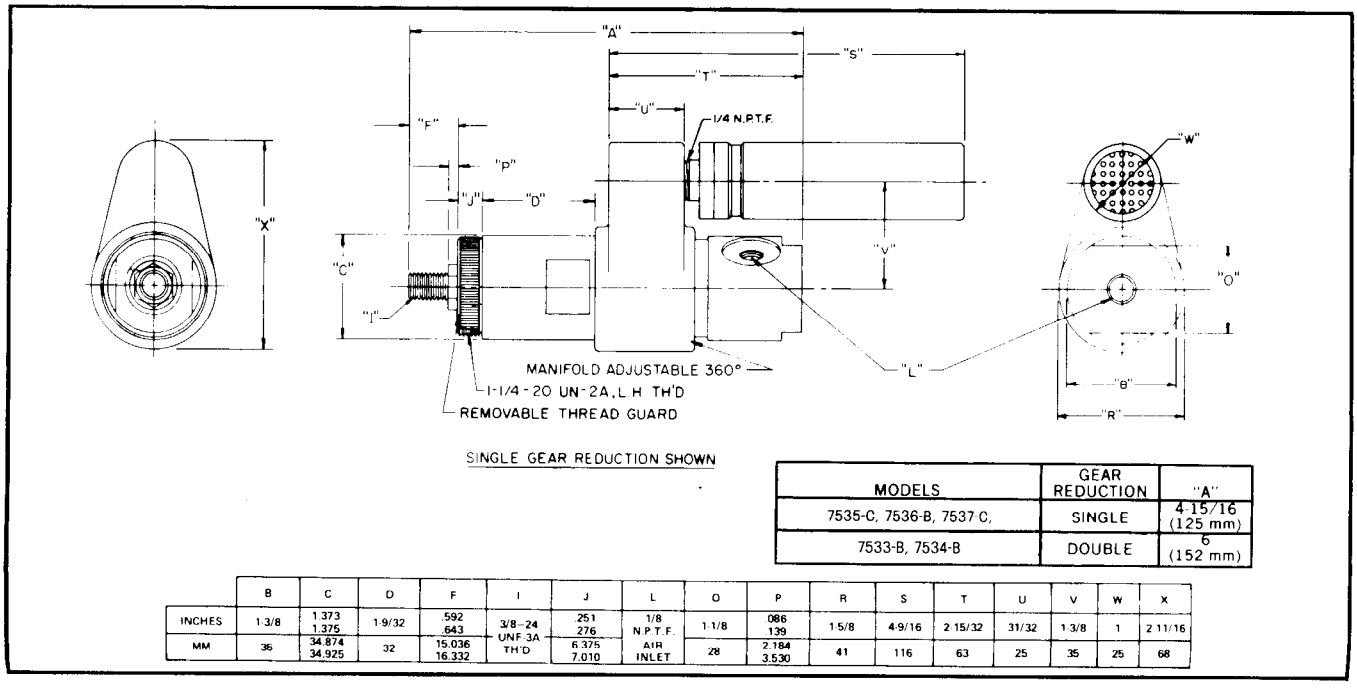
NOTE: When assembling head to tool, place head in a suitable holding device with "motor end" in an upright position. Place motor assembly on head, aligning roll pin (33106) with hole provided in head. Slip motor housing, with manifold, over motor assembly and secure to head. Assemble spacers (34737) and (33018) and gearing to tool.



TYPICAL CROSS-SECTION OF TOOL



DIMENSIONAL DATA

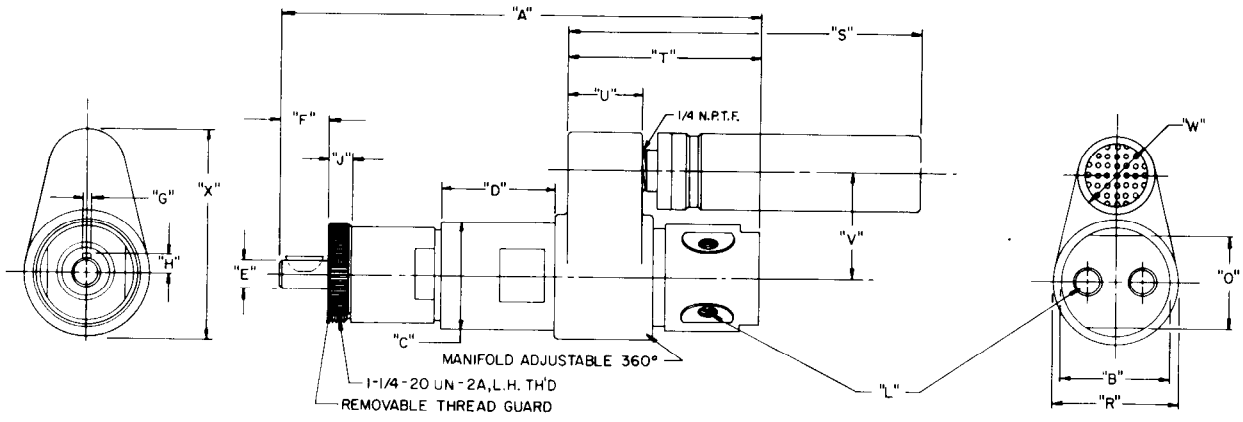


SINGLE GEAR REDUCTION SHOWN

MODELS	GEAR REDUCTION	"A"
7535-C, 7536-B, 7537-C,	SINGLE	4-15/16 (125 mm)
7533-B, 7534-B	DOUBLE	6 (152 mm)

	B	C	D	F	I	J	L	O	P	R	S	T	U	V	W	X
INCHES	1-3/8	1.373 1.375	1-9/32	.592 .643	3/8-24 UNF-3A TH'D	.251 .276	1/8 N.P.T.F. AIR INLET	1-1/8	.086 .139	1-5/8	4-9/16	2-15/32	31/32	1-3/8	1	2-11/16
MM	35	34.874 34.925	32	15.036 16.332		6.375 7.010		28	2.184 3.530	41	116	63	25	35	25	68

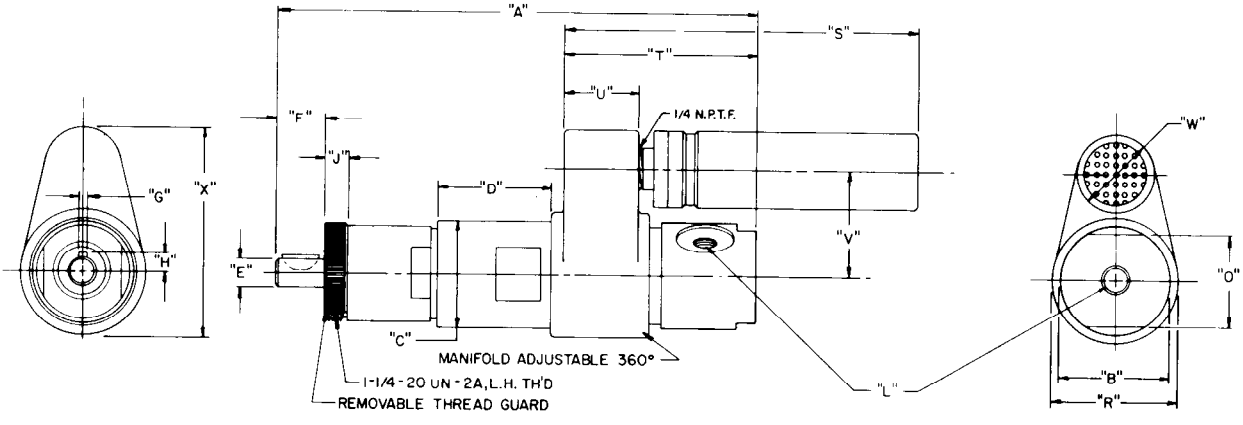
DIMENSIONAL DATA



DOUBLE REDUCTION SHOWN (REVERSIBLE MODELS)

MODELS	GEAR REDUCTION	"A"
7545-B, 7546-B, 7547-C	SINGLE	4-15/16 (125 mm)
7543-B, 7544-B	DOUBLE	6 (152 mm)

	B	C	D	E	F	G	H	J	L	O	R	S	T	U	V	W	X
INCHES	1-3/8	1.373 1.375	1-9/32	.3748 .3751	.592 .643	.0938 .0948	.228 .238	.251 .276	1/8 N.P.T.F. AIR INLET	1-3/16	1-5/8	4-9/16	2-15/32	31/32	1-3/8	1	2-11/16
MM	35	34.874 34.925	32	9.5199 9.5275	15.036 16.332	2.3825 2.4079	5.791 6.045	6.375 7.010		30	41	116	63	25	35	25	68



DOUBLE REDUCTION SHOWN

MODELS	GEAR REDUCTION	"A"
7540-B, 7541-B, 7542-C	SINGLE	4-15/16 (125 mm)
7538-B, 7539-B	DOUBLE	6 (152 mm)

	B	C	D	E	F	G	H	J	L	O	R	S	T	U	V	W	X
INCHES	1-3/8	1.373 1.375	1-9/32	.3748 .3751	.592 .643	.0938 .0948	.228 .238	.251 .276	1/8 N.P.T.F. AIR INLET	1-1/8	1-5/8	4-9/16	2-15/32	31/32	1-3/8	1	2-11/16
MM	35	34.874 34.925	32	9.5199 9.5275	15.036 16.332	2.3825 2.4079	5.791 6.045	6.375 7.010		28	41	116	63	25	35	25	68

TROUBLE SHOOTING

LISTED BELOW ARE THE MOST COMMON CAUSES FOR POWER MOTOR MALFUNCTION. MALFUNCTIONS BEYOND THE SCOPE OF THIS MANUAL SHOULD BE BROUGHT TO THE ATTENTION OF YOUR ARO REPRESENTATIVE OR RETURN 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 ADJUSTMENT (90 P.S.I.G. WHEN TOOL IS OPERATING). SEE AIR SUPPLY REQUIREMENTS, PAGE 1.
	2. MOTOR AND/OR GEARING NOT BEING PROPERLY LUBRICATED.	2. REFER TO AIR SUPPLY REQUIREMENTS, PAGE 1.
	3. CLOGGED MUFFLER.	3. REPLACE MUFFLER.
	4. CLOGGED AIR INLET(S) TO MOTOR. STICKING, BADLY WORN OR BROKEN ROTOR BLADES, OR BEARING IN MOTOR.	4. DISASSEMBLE, CLEAN, INSPECT, REPLACE BADLY WORN OR BROKEN ROTOR BLADES OR BEARINGS. REFER TO MOTOR SECTION, PAGE 4.
	5. BADLY WORN BEARINGS OR GEARS IN GEARING SECTION.	5. DISASSEMBLE, CLEAN, INSPECT. REPLACE WORN OR DAMAGED PARTS. LUBRICATE. REFER TO GEARING SECTION, PAGES 2 AND 3.

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