

CAUTION: Before servicing air motor or attempting to replace any part or attached component read all relevant instruction sheets, noting cautions. Shut off air motor, bleed and disconnect all pressure lines.

DISASSEMBLY

NOTE: Air motor must be disassembled with piston in *UPSTROKE* position *ONLY*.

1. Separate air motor piston rod from pump tube assembly by removing upper spring clip from pump tube/piston rod coupler and unscrewing pump tube assembly, with attached coupler, downward to complete separation.
 2. Remove air inlet adapter, two hex head cap screws [25] and two lockwashers [30]. Lift off cover [42] (Figure 1).
 3. Remove four screws [33], four lockwashers [28] and two clamps [58] securing bumper [18]. Exercise caution removing bumper because it is glued in place.
- Unthread 3 nuts with lockwashers to separate connecting rods of motor from pump tube.

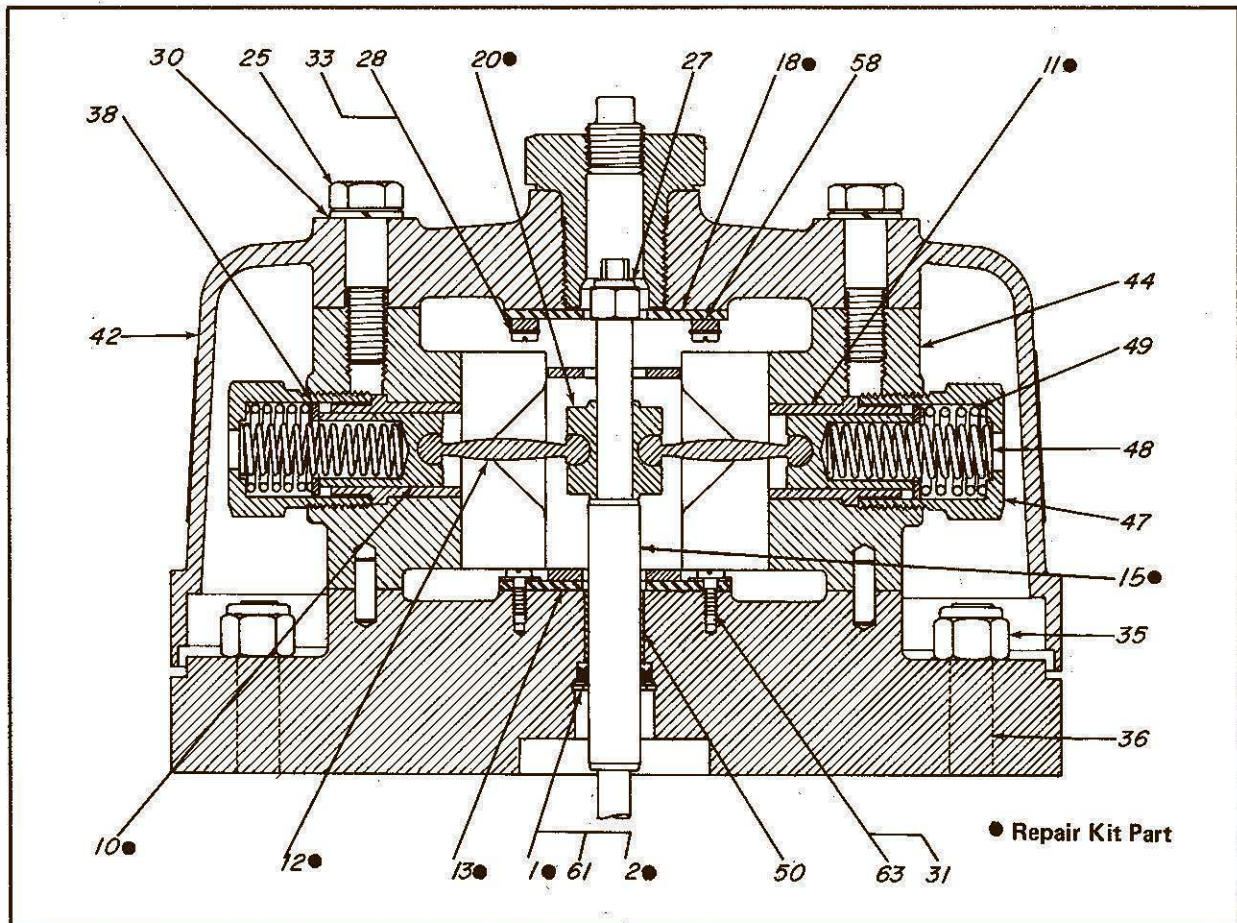


FIGURE 1 330400 and 330400-4 Air Motor Assembly Upper Section

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DISASSEMBLY (Cont'd)

4. Unscrew two compression nuts [39] and remove crossover tube [56] with two sleeves [40] from two elbows [41] (Figure 2).
5. Unscrew hex toggle cap [47] from body [44]; withdraw plunger spring [49], bushing spring [48], and washer [38] from body. Repeat procedure on other body (Figure 1).
6. Remove two hex socket head cap screws [34] and washers [29] securing body [44] to cylinder head [57]. Remove body with plunger bushing [11]. Repeat procedure on other body. (Figures 1, 2, 3).
7. Using a 9/16" open end wrench, detach elastic stop nut [27] on top of trip rod assembly [15] (insert allen wrench in top of rod to keep it from turning) (Figure 1).

IMPORTANT: DO NOT scratch chrome finish on trip rod assembly. A scored surface could cause damage, thereby necessitating replacement.

8. Carefully lift carrier assembly [21] containing shuttle [20] with attached toggles [12] and plungers [10] off trip rod. Remove valves [22] / [14], spring [16], washers [17] and "O" rings [8] from assembly (Figure 3).
9. Remove four screws [26] and lockwashers [29] holding tube assemblies [53] and [54]. Detach tube assemblies and remove "O" rings [5] on bottom (Figure 3).
10. Remove four remaining socket head cap screws [34] and lockwashers [29] securing two valve

bodies [43] to cylinder head. Remove four "O" rings [6] from valve bodies and two "O" rings [4] from cylinder head [57] after removal of valve bodies (Figures 2 & 3).

11. Remove two screws [32], lockwashers [28] and clamp [58] securing valve retaining spring [59]. Repeat procedure on other retaining spring (Figure 2).
12. Remove two screws [63] and washers [31] holding bumper [13] to cylinder head (Figure 1).

NOTE: Exercise caution in removing bumper because it is glued in place.

13. Unfasten eight cylinder head nuts [35] from tie rods [36]. Carefully lift cylinder head assembly [57] from cylinder [55]. Remove retaining ring [1], washer [61], "O" ring [19], quad ring [2] and bearing [50] from cylinder head (Figure 1 & 3).
14. Pull trip rod assembly [15], piston assembly and cylinder from base assembly [60]. (Remove wrapper assembly [62] if model is so equipped). Remove "O" ring [19] from base assembly (Figure 3).
15. Clamp piston hub [51] in vise and loosen piston nut [52]. Unscrew piston rod [46] from piston hub [51]; carefully remove piston nut from piston rod.

IMPORTANT: DO NOT scratch chrome finish of piston rod [46] or this part could be rendered useless.

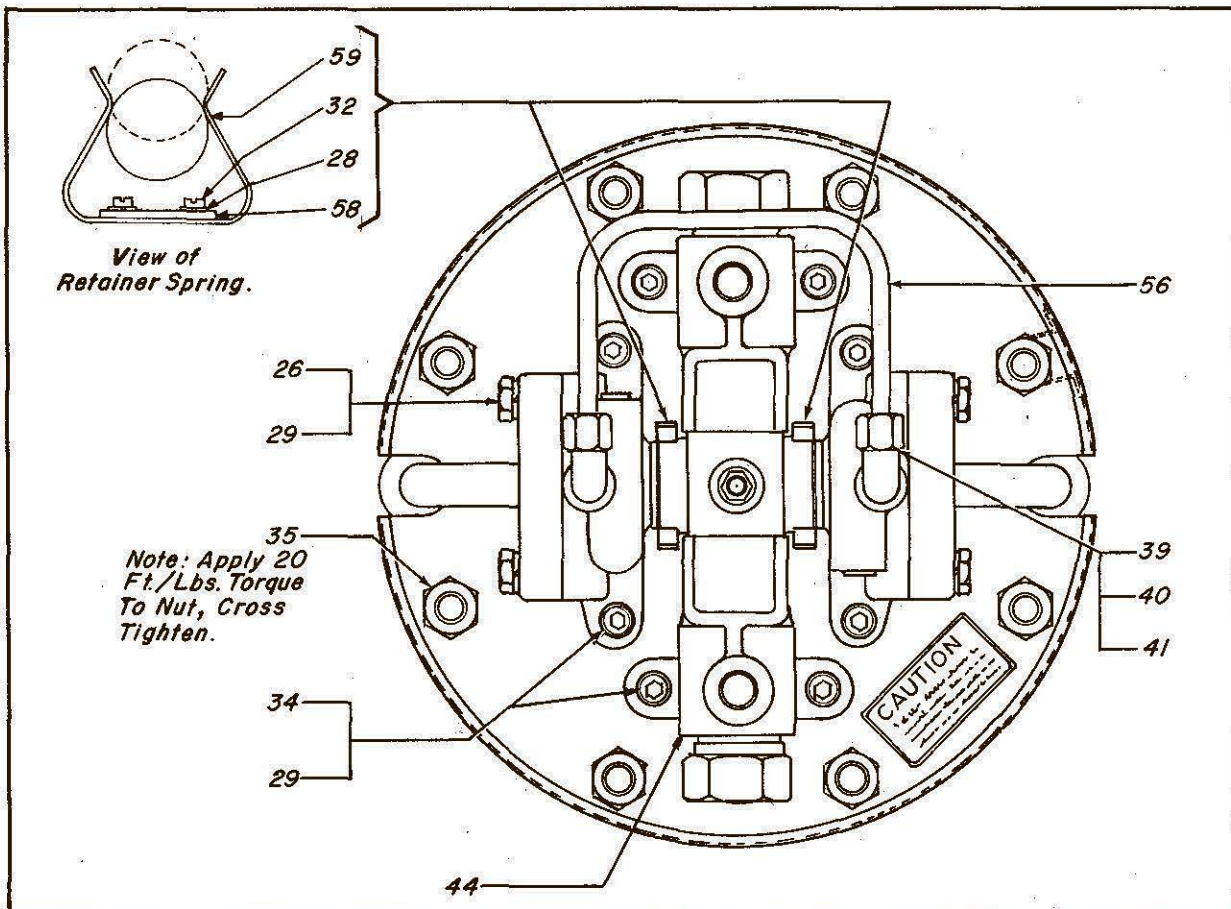
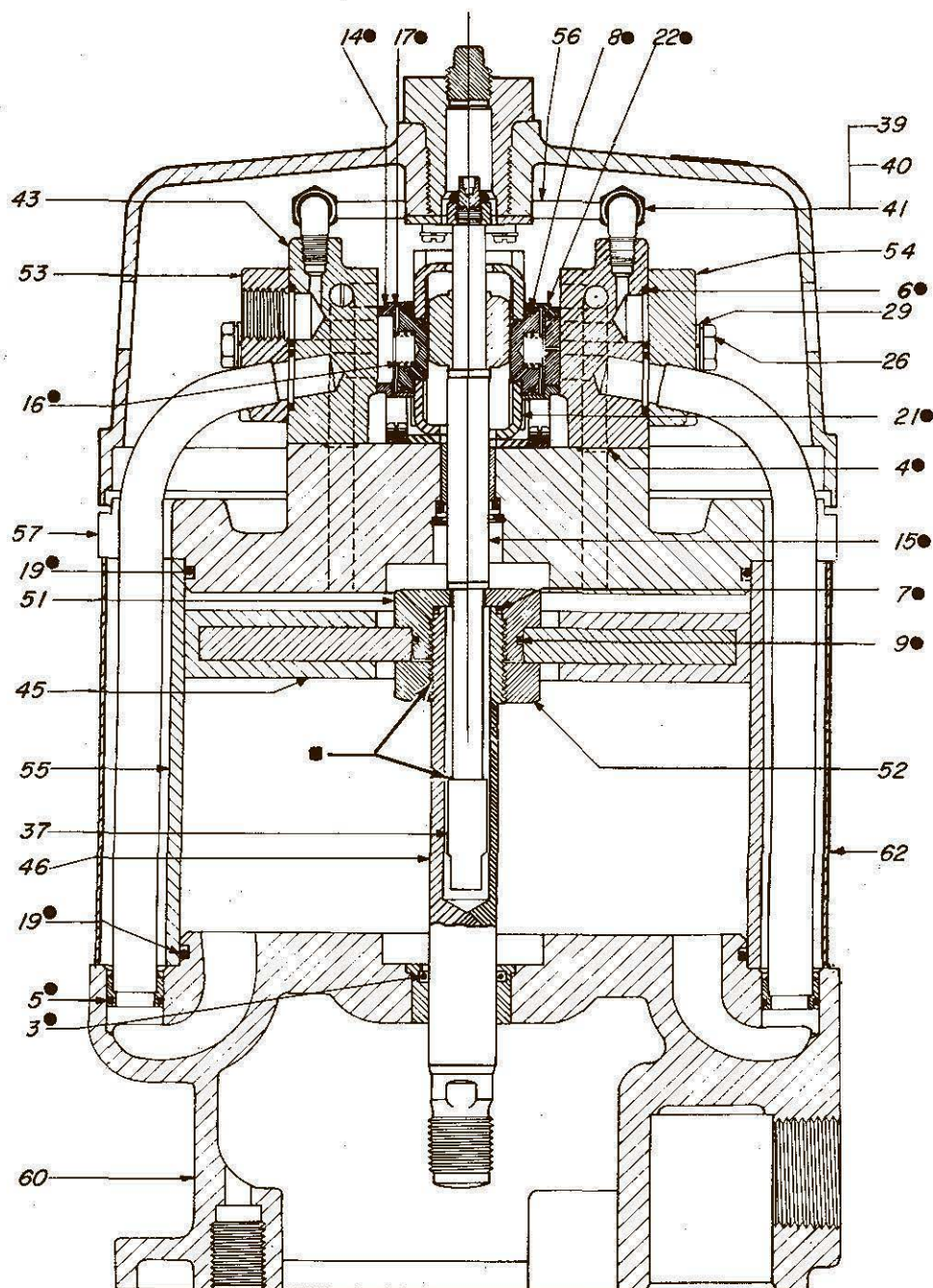


FIGURE 2 Air Motor Top View



● Repair Kit Part

■ Apply sealant 394009 to male threads

FIGURE 3 Air Motor Assembly Side View

16. Unscrew nut [37] from trip rod assembly. Drop hub [51] down trip rod and remove "O" rings [7] and [9] from hub.
17. Remove quad ring [3] from top opening of base assembly.
18. Use entire contents of repair kit as replacements when air motor is reassembled. Clean and inspect all parts for damage or wear.

WARNING: Damaged or worn parts are a potential threat to personal safety and property; under no circumstances should worn or damaged parts be reused.

REASSEMBLY

Reassemble by reversing the above steps and observing the following special instructions:

1. **CEMENTING:** In replacing bumpers [13] and [18], cement them with 3M-EC-870 or its equivalent (Figure 1).
2. **SEALING:** The following areas are to be cleaned with a "safety solvent", dried and coated with sealant [23] or Loctite® 242®.
 - a. Lower threads of trip rod [15] (Fig. 3).
 - b. Upper piston rod [46] threads.

REASSEMBLY (Cont.d.)

3. LUBRICATING: Lubricate the parts below with **24**.

- a. Surfaces of valves **14** and **22** (Figure 3).
- b. Both ends of toggles **12** (Figure 1).
- c. Shuttle **20** bore.
- d. Outside diameter of piston **45** (Fig. 3).
- e. All "O" rings and packings.

4. Torque Specifications: See Note in Figure 2.

IMPORTANT: DO NOT scratch smooth surface of trip rod assembly. A scored surface may cause damage and necessitate replacement.

NOTE: Tube assembly **53**, which accomodates air inlet adapter, MUST be installed on the same side of cylinder head that valve **14** is placed (Figure 3).

CAUTION: Read all relevant instructions regarding set up and operation of pump, paying attention to the cautions concerning safety, before activating and operating the pump.

MAJOR REPAIR KIT

394704-4				For 330400 Series Air Motors			
ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1	171006-18	Retainer Ring, 1-5/64 O.D.	1	13	330417	Bumper	1
2	171008-12	Quad Ring, 13/16 O. D.	1	14	330422	Valve, .984 I. D.	1
3	171008-18	Quad Ring, 1-3/16 O.D.	1	15	330435-1	Trip Rod Assembly	1
4	171009-1	"O" Ring, 9/16 O. D.	4	16	330438	Spring, 15/32 O.D.	2
5	171009-5	"O" Ring, 13/16 O. D.	2	17	330439	Washer, 1-15/64 O. D.	2
6	171009-6	"O" Ring, 7/8 O. D.	4	18	330445	Bumper	1
7	171009-7	"O" Ring, 15/16 O. D.	1	19	330449	"O" Ring, 1-5/8	2
8	171009-12	"O" Ring, 1-1/4 O. D.	2	20	333353	Shuttle	1
9	171009-16	"O" Ring, 1-1/2 O. D.	1	21	334567	Carrier Assembly	1
10	323450	Plunger	2	22	334985	Valve, .0625 I. D.	1
11	330413	Bushing	2	23	394009	Liquid Sealant	1
12	330416	Toggle	2	24	398030	Lubricant	1

PARTS LIST

ITEM	DESCRIPTION	QTY.	ITEM	DESCRIPTION	QTY.
25	Screw 1/2-13 x 1-3/4	2	45	Piston	1
26	Screw 3/8-16 x 1-1/4	4	46	Piston Rod	1
27	Elastic Stop Nut 3/8-24	1	47	Screw, 1-3/8-16	2
28	Lt. Spring L. Wash. No. 8	8	48	Spring, 41/64 O.D.	2
29	Lockwasher 3/8 I.D.	12	49	Spring, 1-5/64 O.D.	2
30	Lockwasher 1/2 I.D.	2	50	Bearing	1
31	Washer, 1/2 O.D.	2	51	Piston Hub	1
32	Screw, 8-32 x 7/16	4	52	Piston Nut, 1-20	1
33	Screw, 8-32 x 5/8	4	53	Tube Assembly	1
34	Screw, 3/8-16 x 1-1/4	8	54	Tube Assembly	1
35	Stop Nut, 1/2-20	8	55	Cylinder	1
36	Tie Rod	8	56	Crossover Tube	1
37	Nut, 3/8-24	1	57	Cylinder Head	1
38	Washer, 1-7/64 O.D.	2	58	Clamp	4
39	Hex. Compr. Nut 7/16-24	2	59	Spring	2
40	Sleeve	2	60	Base Assembly	1
41	Body Male Elbow	2	61	Washer, 1" O.D.	1
42	Cover	1	62	Wrapper Ass'y. (Figure 3 and page 2)	1
43	Valve Body	2	63	Screw 8-32 x 7/16 (Nylok type — Steel)	2
44	Body	2			

NOTE: All parts listed in this instruction sheet are for reference identification in instructions and illustrations. They will not necessarily be available unless listed in current parts price list or used on current model. Purchase bolts, nuts and other standard items from local hardware supplier. Refer to current parts price lists and bulletins for availability before ordering parts. ALWAYS mention part number, quantity, description and model used on.

CHANGES SINCE LAST PRINTING

Changed Part Numbers 330435-1 to 330408-1