



OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

AIR FEED PECK DRILL

SECTION M103
MANUAL 85

Released: 4-20-92

Revised: 11-12-01

MODELS FA072A-() AND FA104A-()
FA072A-()-EU AND FA104A-()-EU

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

OPERATING AND SAFETY PRECAUTIONS

- Keep hands and clothing away from rotating end of tool.
- Wear suitable eye protection while operating tool.
- Shut off and disconnect air supply from tool BEFORE removing/installing bit or performing other maintenance procedures.
- Do not operate this tool with more than 110 p.s.i.g. at the air inlet.
- Keep covers (33 and 80) in place while operating 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)(MAX. 110 PSIG)
- AIR FILTRATION - 50 micron
- LUBRICATED AIR SUPPLY
- HOSE SIZE - 1/2" (13 mm) I.D.

An ARO® model C28231-810 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 with NLGI #1 "EP" grease (33153). Gearing should contain approximately 1/4 oz. (7 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:

<u>Where Used</u>	<u>ARO Part #</u>	<u>Description</u>
Air Motor	29665	1 qt Spindle Oil
"O" Rings	36460	4 oz. Stringy Lubricant
Gears and Bearings	33153	5 lb. "EP" - NLGI #1 Grease

For parts and service information, contact your local ARO distributor, or the Customer Service Dept. of the Ingersoll-Rand Distribution Center, White House, TN at PH: (615) 672-0321, FAX: (615) 672-0801.

ARO Tool Products

Ingersoll-Rand Company

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MODEL IDENTIFICATION CHART

MODEL NUMBER	STROKE LENGTH	R.P.M.	AUXILIARY GEARING	DRIVE GEARING	ADAPTER (ITEM 79)
FA072A-401	2"	4000	49269	49273	49303-1
FA072A-402	2"	4000	49269	49273	49282
FA072A-403	2"	4000	49269	49273	49274
FA072A-404	2"	4000	49269	49273	49303-2
FA072A-405	2"	4000	49269	49273	49518
FA072A-221	2"	2200	49270	49273	49303-1
FA072A-222	2"	2200	49270	49273	49282
FA072A-223	2"	2200	49270	49273	49274
FA072A-224	2"	2200	49270	49273	49303-2
FA072A-225	2"	2200	49270	49273	49518
FA072A-101	2"	1000	49269	49271	49303-1
FA072A-102	2"	1000	49269	49271	49282
FA072A-103	2"	1000	49269	49271	49274
FA072A-104	2"	1000	49269	49271	49303-2
FA072A-105	2"	1000	49269	49271	49518
FA072A-051	2"	550	49269	49272	49303-1
FA072A-052	2"	550	49269	49272	49282
FA072A-053	2"	550	49269	49272	49274
FA072A-054	2"	550	49269	49272	49303-2
FA072A-055	2"	550	49269	49272	49518
FA072A-056-EU*	2"	550	49269	49272	49518
FA072A-031	2"	300	49270	49272	49303-1
FA072A-032	2"	300	49270	49272	49282
FA072A-033	2"	300	49270	49272	49274
FA072A-034	2"	300	49270	49272	49303-2
FA072A-035	2"	300	49270	49272	49518
FA104A-401	4"	4000	49269	49273	49303-1
FA104A-402	4"	4000	49269	49273	49282
FA104A-403	4"	4000	49269	49273	49274
FA104A-404	4"	4000	49269	49273	49303-2
FA104A-405	4"	4000	49269	49273	49518
FA104A-221	4"	2200	49270	49273	49303-1
FA104A-222	4"	2200	49270	49273	49282
FA104A-223	4"	2200	49270	49273	49274
FA104A-224	4"	2200	49270	49273	49303-2
FA104A-225	4"	2200	49270	49273	49518
FA104A-226-EU*	4"	2200	49270	49273	49518
FA104A-101	4"	1000	49269	49271	49303-1
FA104A-102	4"	1000	49269	49271	49282
FA104A-103	4"	1000	49269	49271	49274
FA104A-104	4"	1000	49269	49271	49303-2
FA104A-105	4"	1000	49269	49271	49518
FA104A-106-EU*	4"	1000	49269	49273	49518
FA104A-051	4"	550	49269	49272	49303-1
FA104A-052	4"	550	49269	49272	49282
FA104A-053	4"	550	49269	49272	49274
FA104A-054	4"	550	49269	49272	49303-2
FA104A-055	4"	550	49269	49272	49518
FA104A-056-EU*	4"	550	49269	49272	49518
FA104A-031	4"	300	49270	49272	49303-1
FA104A-032	4"	300	49270	49272	49282
FA104A-033	4"	300	49270	49272	49274
FA104A-034	4"	300	49270	49272	49303-2
FA104A-035	4"	300	49270	49272	49518
FA104A-011	4"	140	(2) 49269	49272	49303-1
FA104A-012	4"	140	(2) 49269	49272	49282
FA104A-013	4"	140	(2) 49269	49272	49274
FA104A-014	4"	140	(2) 49269	49272	49303-2
FA104A-015	4"	140	(2) 49269	49272	49518

*Includes exhaust option, 49520 "D" handle and a specific nose housing. Does not include 49041 pistol grip handle.

1. Position the peck-feed drill in the fixture, being certain the unit is in the full retract position (control rod (37) all the way back).
2. Shut off air supply to the drill.
3. Loosen screws (30), releasing cover (33).
4. Determine the total distance the drill bit must travel (distance "A", figure 4). Also determine the distance from the drill point to the workpiece (distance "B", figure 4). NOTE: This distance to be a minimum of .100 inches.
5. To set pre-travel (figure 1), set adjustment knob on the hydraulic check (129) to its lowest setting. Push plunger of hydraulic check forward to achieve desired pre-travel distance (this distance should be .005 to .015 inches less than distance "B" to assure the drill point does not strike the workpiece during rapid advance).
6. To set the stroke adjustment "A" (figure 1), push adjustment screw (20) forward (lightly) to take the slack out of plunger in valve assembly (137). Adjust collar (23) to achieve desired distance "A" and tighten screw (22) to secure collar.
7. Replace cover (33) and secure with screws (30).
8. Attach air supply to tool. NOTE: Air supply at inlet should not exceed 110 P.S.I.
9. Set hydraulic check adjustment to a medium setting (approximately 20).
10. Remove cap screw (117)(figure 3). Back meter needle (114) out against retaining ring and depress start button. Tool should start and peck at a rapid rate. Turn meter needle (114) in several turns and depress start button. Peck rate will decrease as needle is adjusted inward. When desired peck rate is achieved, replace cap screw (117).
11. Start the drill, check for proper feed rate. If feed rate is correct, go to step 13.
12. To adjust feed rate, stop the drill. Increase or decrease feed rate by rotating hydraulic check knob toward lower numbers or higher numbers respectively. Continue until desired feed rate is achieved. "0" equals highest feed rate. "30" equals lowest feed rate.
13. Depressing the stop button at any point in the cycling of the tool should cause the tool to retract and shut down completely. When tool stops, the hydraulic check should return to its original position.

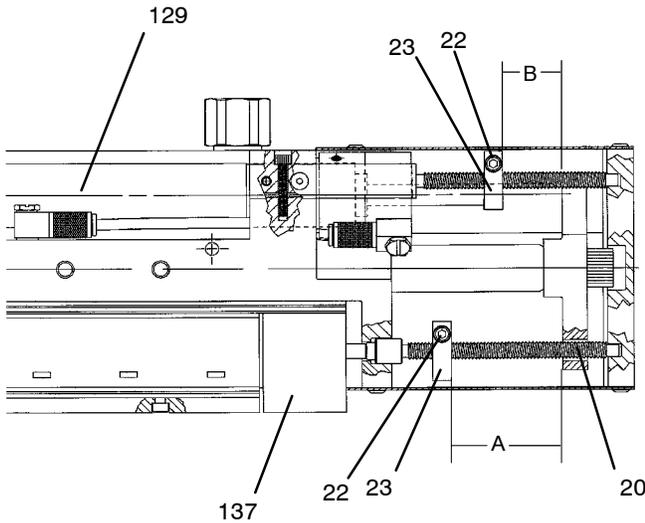


FIGURE 1
TOP VIEW

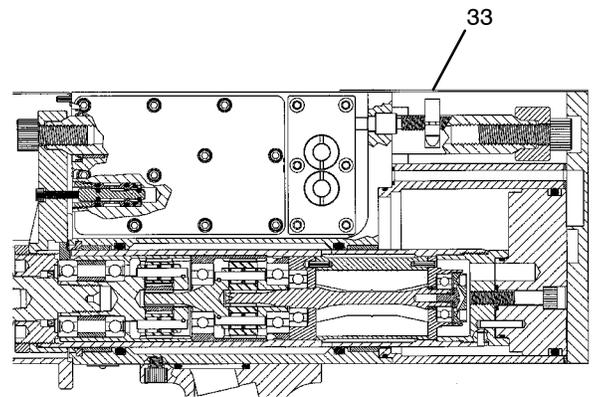


FIGURE 1
LEFT SIDE

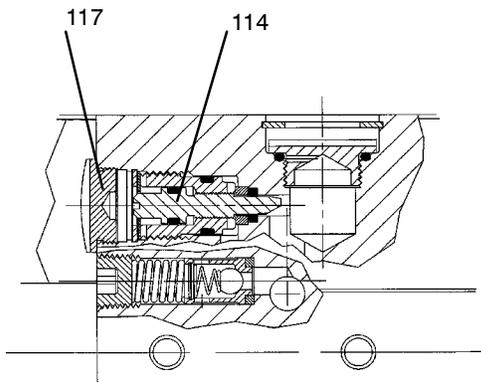
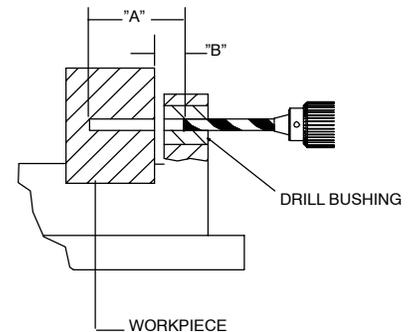


FIGURE 3



TPT_1008

FIGURE 4

DISASSEMBLY/ASSEMBLY INSTRUCTIONS

- Never apply excessive pressure by a holding device which may cause distortion of a part.
- Apply pressure evenly to parts which have a press fit.
- Apply even pressure to the bearing race that will be press fitted to the mating part.
- Use correct tools and fixtures when servicing this tool.
- Don't damage "O" rings when servicing this tool.
- Use only genuine ARO replacement parts for this tool. When ordering, specify part number, description, tool model number and serial number.

VALVING DISASSEMBLY

- Clamp tool in a smooth face vise, clamping on square portion of handle (140).
- Remove retaining ring (26), releasing cap screw (25) with "O" ring (24).
- The three valve assemblies on the front of the tool can be disassembled without disassembling the entire tool.
- Remove screw (83), releasing cover (80) and end cap (81).
- Loosen four cap screws (4). Twist nose housing (84) clockwise and remove from tool.
- Remove adapter (79).
- Remove nut (78) - LEFT HAND THREADS.
- Remove cap screws (34), releasing torque arm (73). NOTE: Do not lose key (75).
- Remove cap screws (117) and retaining ring (116), releasing washer (115) and meter needle (114).
- Remove insert (112), releasing washer (110) and "O" ring (109).
- Remove pipe plug (108), releasing spring (107), valve insert (103) and seal washer (102).
- Remove retaining ring (106), releasing spring (105) and ball (104).
- Remove nut (123), releasing plunger (122), body (121) and spacer (118).
- Spool valve (92) can be removed only after removal of cylinder (6) and piston (11).

VALVING ASSEMBLY

- Lubricate "O" rings (119 and 120) and assemble "O" rings (119) to body (121).
- Assemble "O" ring (120) to plunger (122), assembling in groove toward nut (123).
- Assemble plunger (122) into body (121), securing with "O" ring (120).
- Assemble spacer (118) and body (121) into housing, securing with nut (123).
- Assemble ball (104) and spring (105), small end toward ball, into valve insert (103), securing with retaining ring (106).
- Assemble seal washer (102), valve insert (103) and spring (107) into housing, securing with pipe plug (108).
- Lubricate "O" rings (109, 111 and 113).
- Assemble "O" ring (109) and washer (110) into housing.
- Assemble "O" ring (111) to groove in insert (112) and assemble insert into housing.
- Assemble "O" ring (113) to groove in meter needle (114) and assemble meter needle and washer (115) into housing, securing with retaining ring (116).
- Assemble cap screw (117) to housing.
- Lubricate "O" ring (24) and assemble to cap screw (25).
- Assemble cap screw (25) to housing, securing with retaining ring (26).
- Assemble key (75) into slot in housing (7), long leg of key upward. NOTE: Short leg of key to be flush with o.d. of housing (7).
- Assemble torque arm (73) to tool.
- Assemble cap screw (34) to control rod, securing torque arm.
- Assemble nut (78) to lock nut (77) - LEFT HAND THREAD.
- Assemble adapter (79) to gearing spindle.
- Assemble nose housing (84) to housing (1), securing with four cap screws (4).

- Assemble cover (80) and end cap (81) to tool, securing with screw (83).

GEARING AND MOTOR DISASSEMBLY

- Clamp tool in a smooth face vise, clamping on square portion of handle (140).
- Remove screw (83), releasing cover (80) and end cap (81).
- Loosen screws (30), releasing cover (33).
- Loosen four cap screws (4). Twist nose housing (84) clockwise and remove from tool.
- Remove four cap screws (18), releasing end cap (17) and gasket (16). Remove adjustment screws (20 and 21).
- Remove cap screw (13).
- Remove cylinder (6), including piston (11), feed tube (98) and components.
- Remove adapter (79).
- Remove nut (78) and lock nut (77) - LEFT HAND THREAD.
- Remove cap screw (34), releasing torque arm (73) and key (75).
- Remove housing (7) and components from the front end of housing (1).
- Thread adapter (79) into spindle and pull gearing from housing (7).
- Tap front edge of housing (7) to remove motor assembly.

DRIVE GEARING

- Grasp ring gear (64) in one hand and tap drive end of spindle with a soft face hammer; spindle and components will loosen from ring gear.
- Rotate snap ring on spindle so the open portion of the ring aligns with one shaft (51).
- Remove shaft, releasing gear. Repeat for removal of opposite shaft and gear.

AUXILIARY GEARING

- Grasp ring gear (57) in one hand and tap drive end of spindle with a soft face hammer; spindle and components will loosen from ring gear.
- Remove bearing (50) from splined end of spindle.
- Rotate snap ring on spindle so the open portion of the ring aligns with one shaft (51).
- Remove shaft, releasing gear. Repeat for removal of opposite shaft and gear.

MOTOR

- Remove nut (38) and sems fastener (39).
- Grasp cylinder in one hand and tap drive end of rotor with a soft face hammer; motor will come apart.
- Remove end plate (41) and bearing (40) from rotor.

GEARING AND MOTOR ASSEMBLY

MOTOR

- Pack bearings with ARO 33153 grease and assemble bearing (40) to end plate (41), pressing on outer race of bearing. NOTE: Bearing (40) is a flush face type and must be assembled to end plate with the identification markings facing out.
- Assemble end plate (41) and spacer (42) to rotor (43), pressing on inner race of bearing. Secure with sems fastener (39). NOTE: Torque fastener to 28 in. lbs.
- Coat i.d. of cylinder (45) with ARO 29665 spindle oil and assemble over rotor. NOTE: Align air inlet and roll pin of cylinder with air inlet slot and hole in end plate.
- Coat five rotor blades (44) with ARO 29665 spindle oil and assemble to rotor slots - straight side out.
- Assemble bearing (48) to end plate (47), pressing on outer race of bearing.

- Assemble end plate (47) to rotor, aligning hole in end plate with roll pin in cylinder. NOTE: Press on inner race of bearing.
- Assemble nut (38) to end plate (41) and torque to 9 - 12 ft lbs. Be sure rotor turns without binding.

AUXILIARY GEARING

- Pack bearings and lubricate gears liberally with ARO 33153 grease upon assembly.
- Assemble one gear, with two bearings (52), to spindle, securing with shaft (51).
- Assemble sun gear, where applicable, and opposite gear to spindle, securing with shaft (51).
- Rotate open portion of snap ring 90° from either shaft.
- Assemble bearings (50) to spindle, pressing on inner race of bearings.
- Gearing assembly should contain approximately 1/4 oz. (7 g) of grease.
- Assemble spindle and components into ring gear (57).

DRIVE GEARING

- Pack bearings and lubricate gears liberally with ARO 33153 grease upon assembly.
- Assemble one gear, with two bearings (52), to spindle, securing with shaft (51).
- Assemble sun gear, where applicable, and opposite gear to spindle, securing with shaft.
- Rotate open portion of snap ring 90° from either shaft.
- Gearing assembly should contain approximately 1/4 oz. (7 g) of grease.
- Assemble one bearing (65) into ring gear (64), pressing on outer race of bearing. NOTE: Assemble bearing with shielded side toward gears.
- Assemble spindle and components into ring gear.
- Assemble paired spacers (66) and bearing (65) into ring gear.
- Assemble auxiliary gearing to drive gearing.
- Assemble spacer (49) and motor assembly to auxiliary gearing.
- Thread adapter (79) into spindle and slide motor and gearing into housing (7), aligning key groove in ring gear (64) with slot in housing. Remove adapter (79).
- Lubricate "O" rings (2) and wiper (3) and assemble into housing (1).
- Assemble housing (7) into housing (1) from the rear.
- Assemble key (75) into slot in housing (7), long leg of key upward. NOTE: Short leg of key to be flush with o.d. of housing (7).
- Assemble seal (76) to lock nut (77) and assemble lock nut to housing (7) - LEFT HAND THREAD. Do not tighten lock nut (77).
- Assemble torque arm (73) to housing (7), aligning slot with key (75).
- Push housing (7) toward the rear of the tool.
- Assemble cap screw (34) to control rod (37), but do not tighten.
- Orient cylinder (6) and components with housing (1), aligning feed tube (98) with hole in housing.
- Push piston (11) all the way forward in cylinder (6) and secure piston to housing (7) using cap screw (13). Do not tighten cap screw (13).
- Push housing (7) and piston (11) toward the back of the tool while sliding cylinder (6) into position.
- Align components, then tighten cap screw (13).
- Pull control rod (37) back and assemble adjustment screw (20) into position.
- Assemble adjustment screw (21) to bracket (28) and assemble gasket (16) and end cap (17) to cylinder (6), securing adjustment screws.
- Secure end cap with four cap screws (18). Do not tighten.
- Tighten lock nut (77) securely - LEFT HAND THREAD. NOTE: If lock nut is not tight enough, motor and gearing could spin in housing, due to high torque.

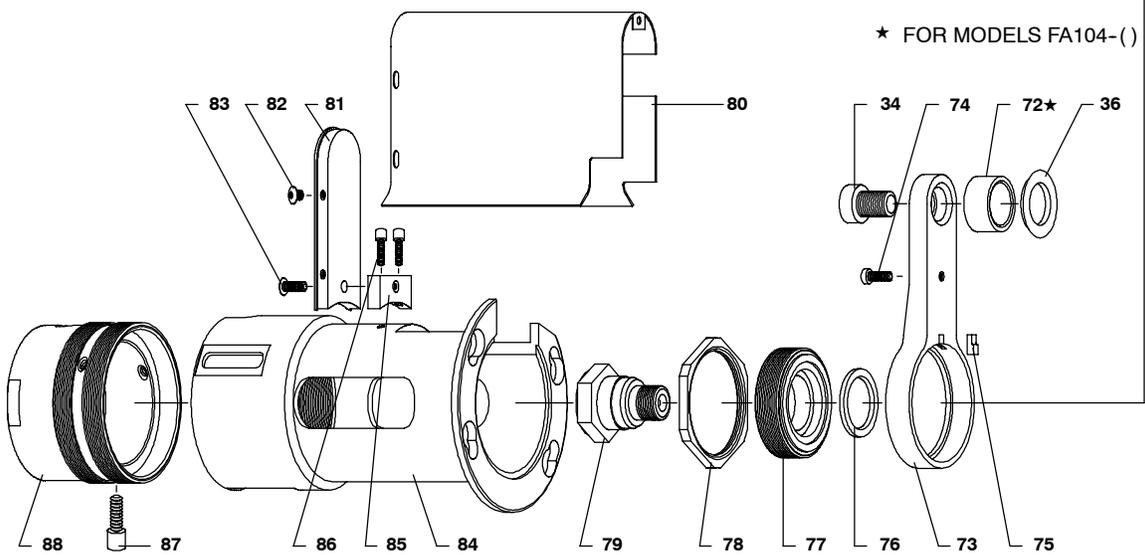
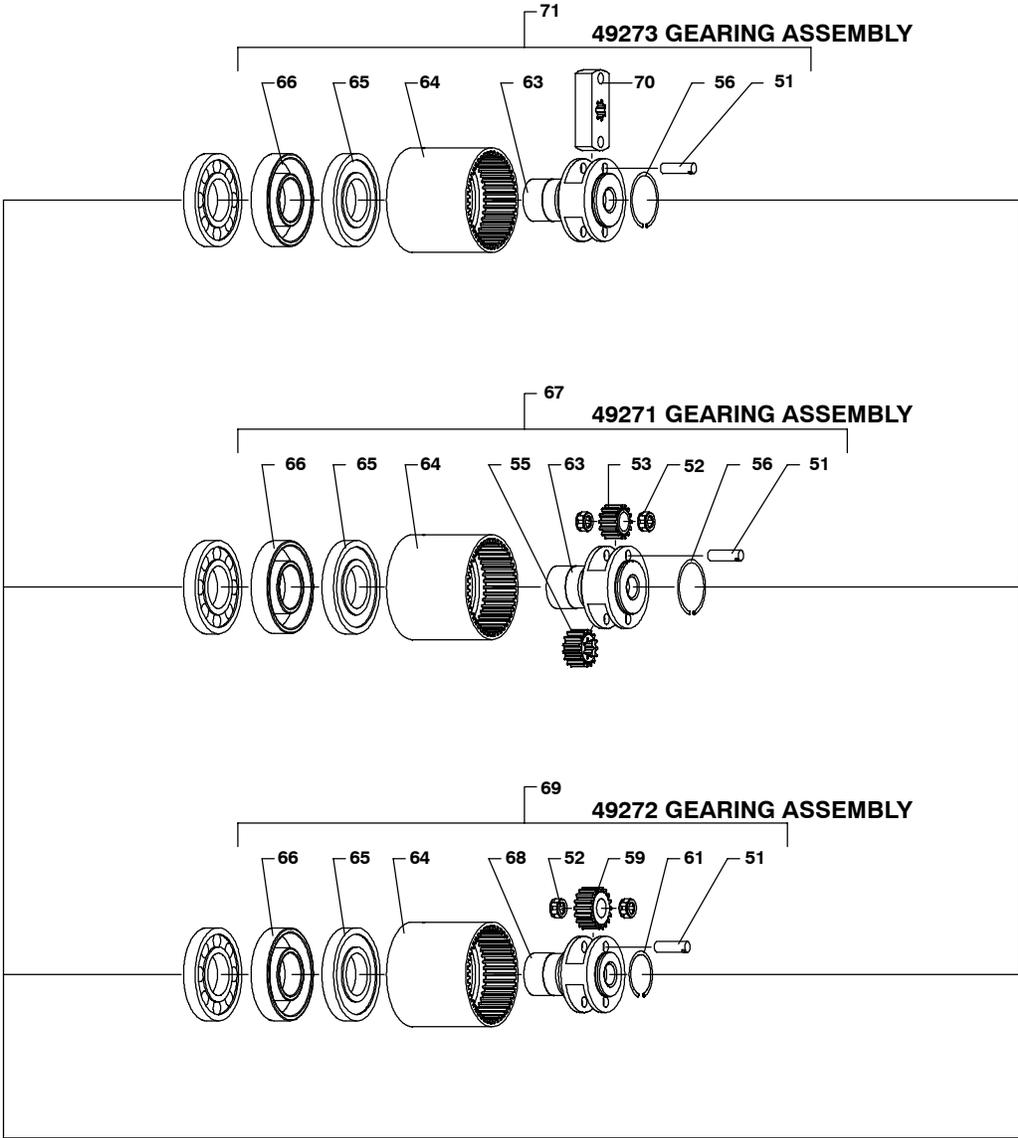
- Assemble nut (78) to lock nut (77) - LEFT HAND THREAD.
- Assemble adapter (79) to gearing spindle.
- Align bracket (35) with adjustment screws (20 and 21). NOTE: Adjustment screw (20) is to be free in hole in bracket (35) and collar (23) on adjustment screw (21) is to clear bracket (35).
- Tighten cap screws (18 and 34).
- Assemble nose housing (84) to housing (1), securing with cap screws (4).
- Assemble cover (80) and end cap (81) to tool, securing with screw (83).
- Assemble cover (33) to tool, securing with screws (30).

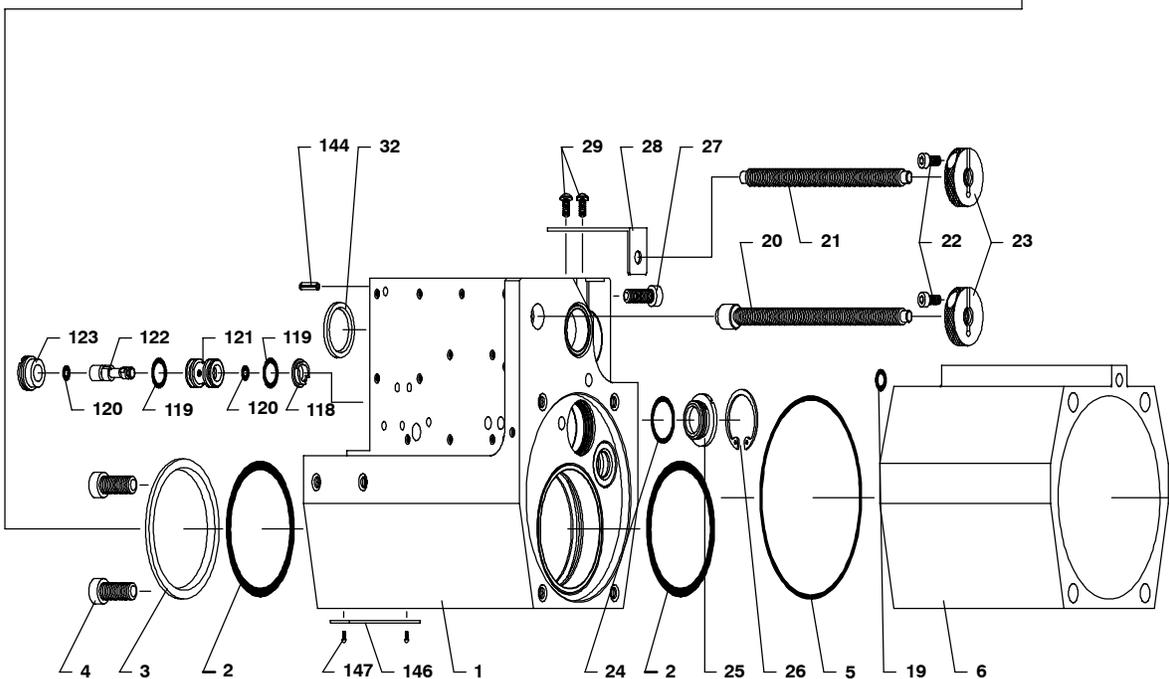
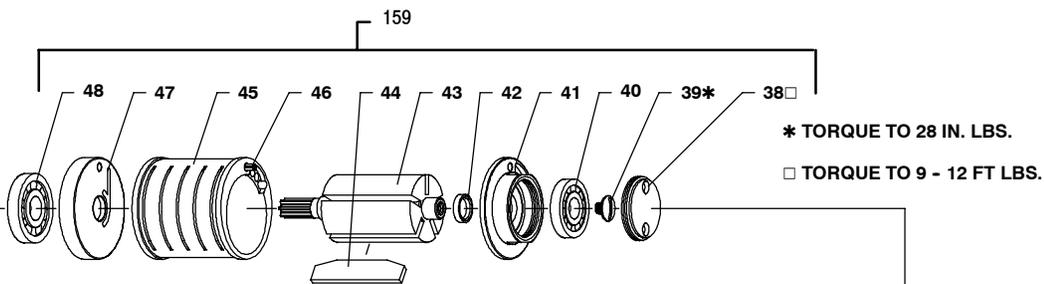
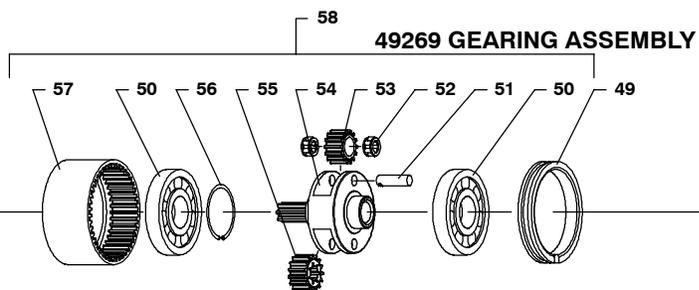
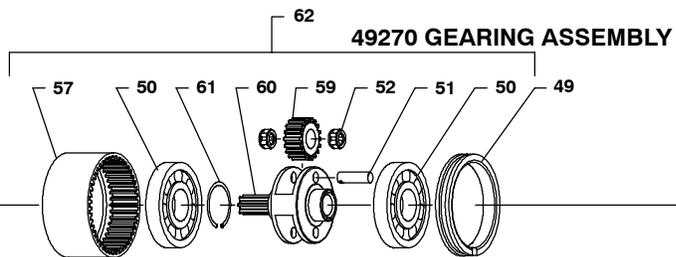
PISTON AND HYDRAULIC CHECK DISASSEMBLY

- Clamp tool in a smooth face vise, clamping on square portion of handle (140).
- Remove screw (83), releasing cover (80) and end cap (81).
- Loosen screws (30), releasing cover (33).
- Loosen four cap screws (4). Twist nose housing (84) clockwise and remove from tool.
- Remove four cap screws (18), releasing end cap (17) and gasket (16). Remove adjustment screws (20 and 21).
- Remove cap screw (34) at front end of tool and pull control rod (37) and bracket (35) from housing (1).
- Remove cap screw (13).
- Remove cylinder (6), including piston (11), feed tube (98) and components. NOTE: Do not remove "O" rings (96) unless damage is evident.
- Remove piston (11) from the rear end of cylinder (6).
- Remove retaining ring (101), releasing feed tube (98) from piston (11). NOTE: Do not remove set screw (97).
- Remove two screws (29), releasing bracket (28).
- Unthread and remove swivel fitting (124) (toward front of tool) and tube (126) from housing.
- Loosen cap screw (27).
- Unthread and remove swivel fitting (124) from control assembly (127).
- Loosen set screws in control assembly (127) and remove control assembly from hydraulic check (129).
- Remove retaining ring (128), releasing hydraulic check (129).
- Remove cap screw (95), releasing spring (93) and spool (92). NOTE: Do not remove valve sleeve (90) unless damage is evident.
- Remove retaining rings (143), releasing screens (142) and muffler pads (141).
- NOTE: Do not remove logic assembly (135) or valve assembly (137).

PISTON AND HYDRAULIC CHECK ASSEMBLY

- Lubricate "O" ring (138) and assemble "O" ring and handle (140) to housing, securing with cap screws (139).
- Assemble muffler pads (141) and screens (142) into handle, securing with retaining ring (143).
- Lubricate "O" rings (89) and assemble to grooves in valve sleeve (90).
- Assemble valve sleeve (90) into housing (1).
- Lubricate "O" rings (91) and assemble to grooves in spool (92).
- Assemble spool (92) and spring (93) into valve sleeve (90).
- Lubricate "O" ring (94) and assemble to cap screw (95).
- Assemble cap screw (95) to housing (1), securing spool and spring.
- Assemble bracket (35) to control rod (37), securing with cap screw (34).
- Assemble control rod (37) into housing (1).
- Push housing (7) toward the rear of the tool.
- Assemble cap screw (34) to control rod (37), but do not tighten.
- Lubricate "O" ring (15) and assemble backup rings (14) and "O" ring (15) to groove in piston (11). NOTE: "O" ring to be located between backup rings.



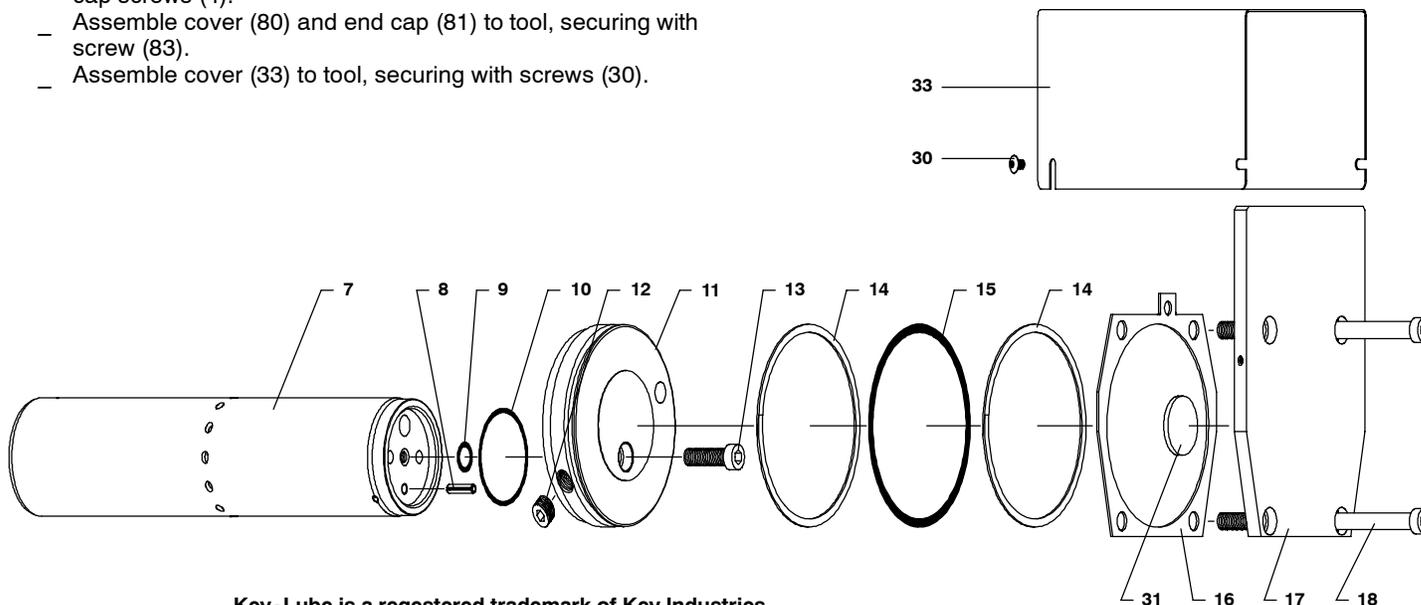


DISASSEMBLY/ASSEMBLY INSTRUCTIONS

PART NUMBER FOR ORDERING

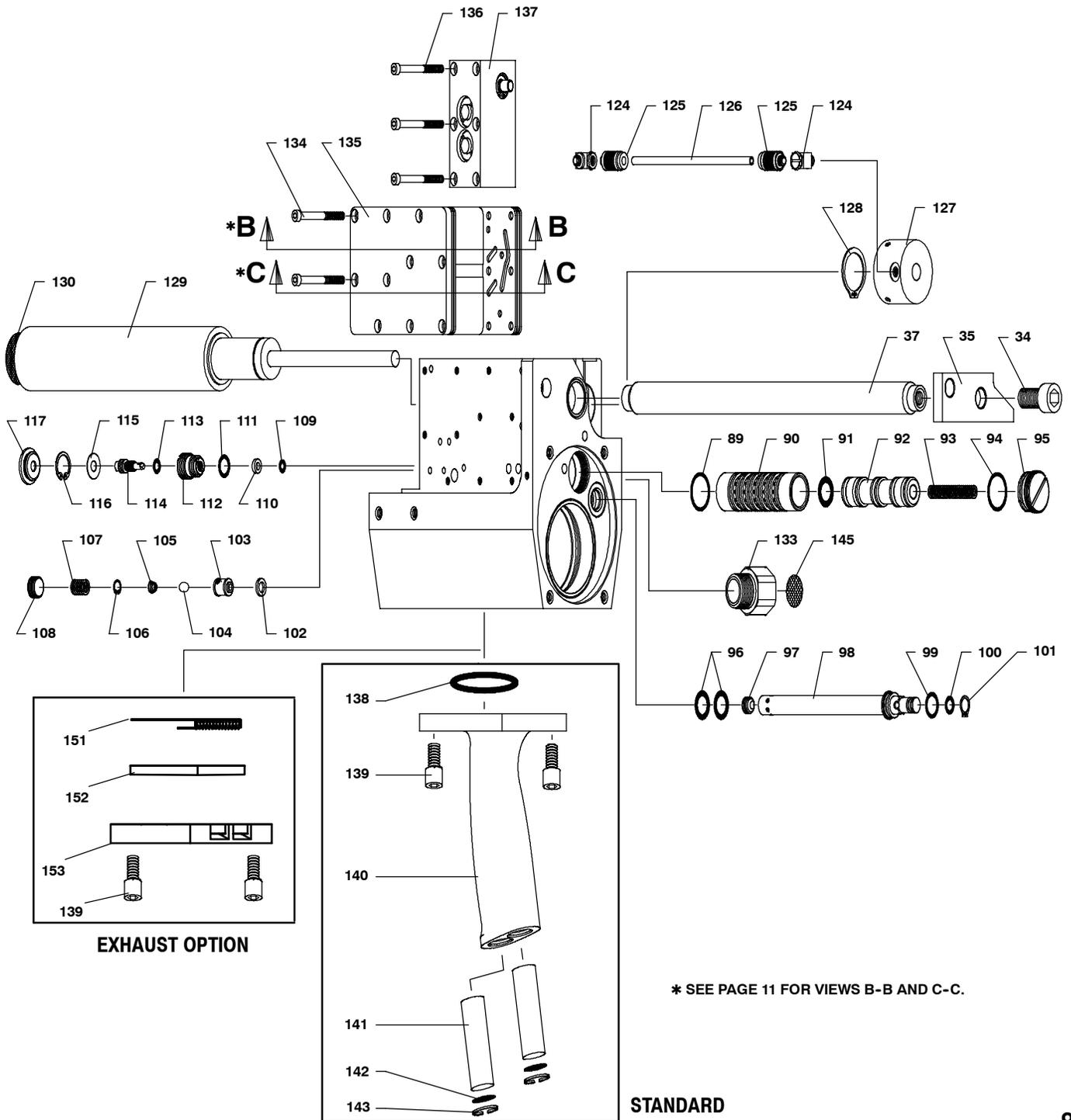
- Lubricate “O” rings (99 and 100) and assemble to grooves in feed tube (98).
- Assemble feed tube (98) to piston (11), securing with retaining ring (101).
- Lubricate “O” rings (5 and 19) and assemble to cylinder (6).
- Coat i.d. of cylinder (6) with “O” ring lube.
- Lubricate “O” rings (9 and 10) and assemble to piston (11).
- Coat i.d. of feed tube (98) with Key-Lube® and assemble piston (11) into cylinder (6) with feed tube (98) oriented to slide into appropriate hole in housing (1).
- Orient cylinder (6) and components with housing (1), aligning feed tube (98) with hole in housing.
- Push piston (11) all the way forward and secure piston to housing (7) using cap screw (13). Do not tighten cap screw (13).
- Push housing (7) and piston (11) toward the back of the tool while sliding cylinder (6) into position.
- Align components, then tighten cap screw (13).
- Pull control rod (37) back and assemble adjustment screw (20) into position.
- Assemble hydraulic check (129) to housing, securing with retaining ring (128).
- To assemble control assembly (127) to hydraulic check, while blowing air into inlet hole in o.d. of control assembly to disengage jaws, slide control assembly all the way onto hydraulic check.
- Assemble swivel fitting (124) and connector (125) to control assembly (127).
- Turn control assembly to align swivel fitting (124) with hole in housing for tube (126).
- Turn hydraulic check (129) so “O” on scale is up. Tighten three set screws in control assembly and cap screw (27).
- Assemble tube (126) to connector (125) and assemble swivel fitting (124) and connector (125) to housing. Assemble tube (126) thru hole in housing and into connector (125).
- Assemble bracket (28) to housing, securing with two screws (29).
- Assemble adjustment screw (21) to bracket (28) and assemble gasket (16) and end cap (17) to cylinder (6), securing adjustment screws.
- Secure end cap with four cap screws (18). Do not tighten.
- Align bracket (35) with adjustment screws (20 and 21).
- NOTE: Adjustment screw (20) is to be free in hole in bracket (35) and collar (23) on adjustment screw (21) is to clear bracket (35).
- Tighten cap screws (18 and 34).
- Assemble nose housing (84) to housing (1), securing with cap screws (4).
- Assemble cover (80) and end cap (81) to tool, securing with screw (83).
- Assemble cover (33) to tool, securing with screws (30).

1	Housing Assembly for models FA072A-()	49334
	for models FA104A-()	49365
2	“O” Ring (2 req’d)	Y325-224
3	Wiper	49326
4	Cap Screws (4 req’d)	Y99-478
5	“O” Ring	Y325-40
6	Cylinder for models FA072A-()	49342-1
	for models FA104A-()	49342-2
7	Housing Assembly for models FA072A-()	49343
	for models FA104A-()	49361
	for models FA104A-011 thru -015	04560017
8	Roll Pin	Y178-41
9	“O” Ring	Y325-11
10	“O” Ring	Y325-27
11	Piston Assembly (includes item 12)	49275
12	Pipe Plug	Y227-2
13	Cap Screw	Y99-43
14	Backup Ring (2 req’d)	49331
15	“O” Ring	Y325-232
16	Gasket	49314
17	End Cap	49312
18	Cap Screw (4 req’d) for models FA072A-()	49335-1
	for models FA104A-()	49335-2
19	“O” Ring	Y325-8
20	Adjustment Screw for models FA072A-()	49311-1
	for models FA104A-()	49311-2
21	Adjustment Screw for models FA072A-()	49322-1
	for models FA104A-()	49322-2
22	Cap Screw (2 req’d)	Y154-31
23	Collar (2 req’d)	49313
24	“O” Ring	Y325-15
25	Cap Screw	49347
26	Retaining Ring	Y147-81
27	Cap Screw	Y154-54
28	Bracket	49336
29	Screw (2 req’d)	Y211-11
30	Screw (4 req’d)	Y211-11
31	Pad	49760



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32	Seal	45556	43	Rotor	
33	Cover			for models FA072A-()	41521
	for models FA104A-()	49340		for models FA104A-()	49263
	for models FA104A-()	49363	44	Blade (5 req'd)	
34	Cap Screw (2 req'd)	Y99-678		for models FA072A-()	41520
35	Bracket	49309		for models FA104A-()	49369
36	Diffuser Washer	46371	45	Cylinder (includes item 46)	
37	Control Rod			for models FA072A-()	35679
	for models FA072A-()	49308-1		for models FA104A-()	49265
	for models FA104A-()	49308-2	46	Roll Pin (2 req'd)	Y178-20
38	Nut	33694	47	End Plate	33712
39	Sems Fastener	33700	48	Bearing	33705
40	Bearing	33709		MOTOR HOUSING (includes items 38 thru 48)	
41	End Plate	33710		for models FA072A-()	41522
42	Spacer	33701		for models FA104A-()	49370



* SEE PAGE 11 FOR VIEWS B-B AND C-C.

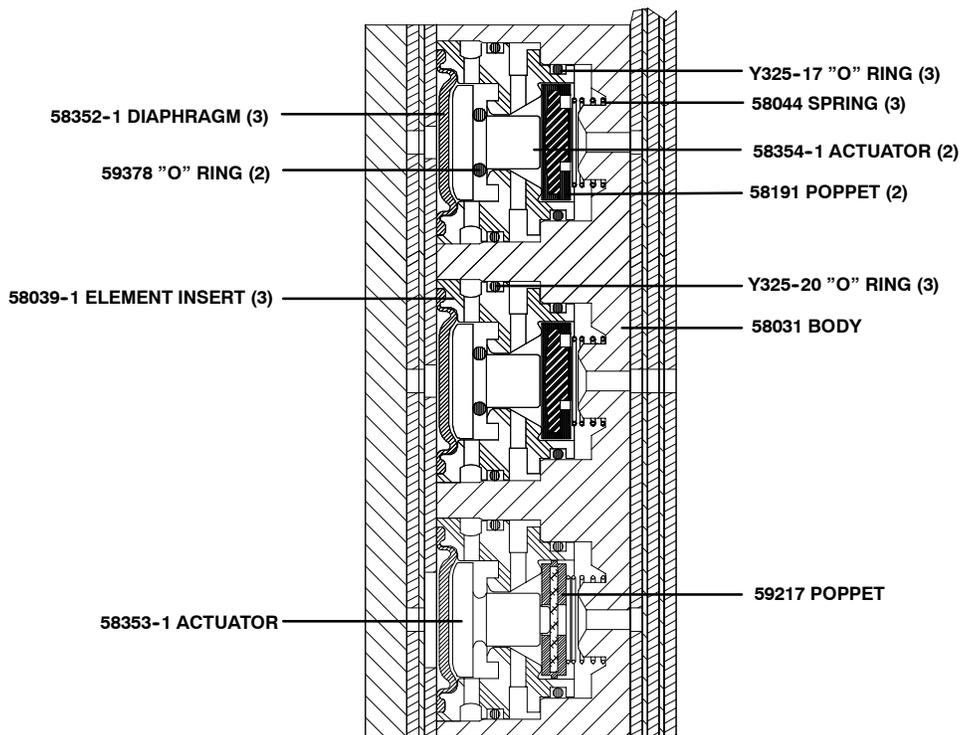
PART NUMBER FOR ORDERING

PART NUMBER FOR ORDERING

49	Spacer	33711	103	Valve Insert	49358
50	Bearing (2 req'd)	33704	104	Ball	44967
51	Shaft (2 req'd)	40841	105	Spring	39679
52	Bearing (4 req'd)	42271	106	Retaining Ring	Y147-1-K
53	Gear (2 req'd)	46417	107	Spring	59342-2
54	Spindle	49368	108	Pipe Plug	Y227-2
55	Gear	34574	109	"O" Ring	Y328-6
56	Snap Ring	40842	110	Washer	49349
57	Ring Gear	49301	111	"O" Ring	Y325-11
58	Gearing Assembly 4.0:1 ratio	49269	112	Insert	49327
59	Gear (2 req'd)	46416	113	"O" Ring	Y325-7
60	Spindle	49305	114	Meter Needle	49348
61	Snap Ring	40843	115	Washer	20194
62	Gearing Assembly 7.43:1 ratio	49270	116	Retaining Ring	Y147-50
63	Spindle	49367	117	Cap Screw	49346
64	Ring Gear	49300	118	Spacer	49359
65	Paired Bearing	33235	119	"O" Ring (2 req'd)	Y325-11
66	Paired Spacer	44900	120	"O" Ring (2 req'd)	Y325-5
67	Gearing Assembly 4.0:1 ratio	49271	121	Body	49333
68	Spindle	49304	122	Plunger	49332
69	Gearing Assembly 7.43:1 ratio	49272	123	Nut	49351
70	Splined Driver	34488	124	Swivel Fitting (2 req'd)	59903
71	Gearing Assembly 1:1 ratio	49273	125	Connector (2 req'd)	59764-004
72	Spacer	49759	126	Tube	44632-004-K
73	Torque Arm for models FA104A-011 thru -015	04560041	127	Control Assembly for models FA072A-()	49356
	for all other models	49345		for models FA104A-()	49268
74	Cap Screw for models FA072A-()	Y154-33	128	Retaining Ring (included with item 129)	
	for models FA104A-()	49281	129	Hydraulic Check Assembly for models FA072A-()	49357
75	Key	49264		for models FA104A-() (includes knurled knob) ..	49366
76	Seal	37389	130	Adjustment Knob (models FA072A only) .	49297
77	Lock Nut	49299	131	Roll Pin (models FA072A only)	Y178-114
78	Nut	49302	132	Set Screw (models FA072A only)	Y29-139
79	Adapter 3/8"-24 UNF-2B thread	49303-1	133	Inlet Adapter	47206
	1/2"-20 UNF-2A thread	49282	134	Cap Screw (10 req'd)(included with item 135)	Y154-39
	#33 Jacob's taper	49274	135	Logic Assembly	49354
	9/16"-18 UNF-2B thread	49303-2	136	Cap Screw (6 req'd)	Y154-39
	Collet	49518	137	Valve Assembly	49355
80	Cover for models FA072A-()	49339	138	"O" Ring	Y325-122
	for models FA104A-()	49362	139	Cap Screw (4 req'd)	Y99-40
81	End Cap	49338	140	Handle	49041
82	Screw (4 req'd)	Y211-11	141	Muffler Pad (2 req'd)	48443-1
83	Screw	Y211-14	142	Screen (2 req'd)	40199
84	Nose Housing (see pages 13 and 14)		143	Retaining Ring (2 req'd)	Y147-62
85	Mounting Block	49350	144	Roll Pin	Y178-22
86	Cap Screw (2 req'd)	Y154-31	145	Screen	40199
87	Cap Screw (3 req'd)	Y99-40	146	Nameplate for standard models	48881
88	Adapter (see pages 13 and 14)			for EU models	04334470
89	"O" Ring (6 req'd)	Y325-16	147	Screw (2 req'd)	Y60-20
90	Valve Sleeve	44979	148	Label (3 req'd)(not shown)	49530
91	"O" Ring (5 req'd)	15066	149	Label (2 req'd)(not shown)	49531
92	Spool	49323	150	Label (2 req'd)(not shown)	49532
93	Spring	13006	151	Screen	49163
94	"O" Ring	Y325-16	152	Muffler Pad	49162
95	Cap Screw	49330	153	Plate	49161
96	"O" Ring (2 req'd)	Y325-110	154	Label (EU) (not shown)	49882
97	Set Screw	Y23-52	155	Label (EU) (3 req'd) (not shown)	04334488
98	Feed Tube for models FA072A-()	49307-1	156	Label (EU) (2 req'd) (not shown)	04334496
	for models FA104A-()	49307-2	157	Handle Kit	49520
99	"O" Ring	Y325-12	158	Label (EU) (not shown)	49883
100	"O" Ring	Y325-9	159	Motor for models FA072A-()	41522
101	Retaining Ring	Y145-8		for models FA104A-()	49370
102	Seal Washer	46955	160	Label (EU) Direction (not shown)	49923

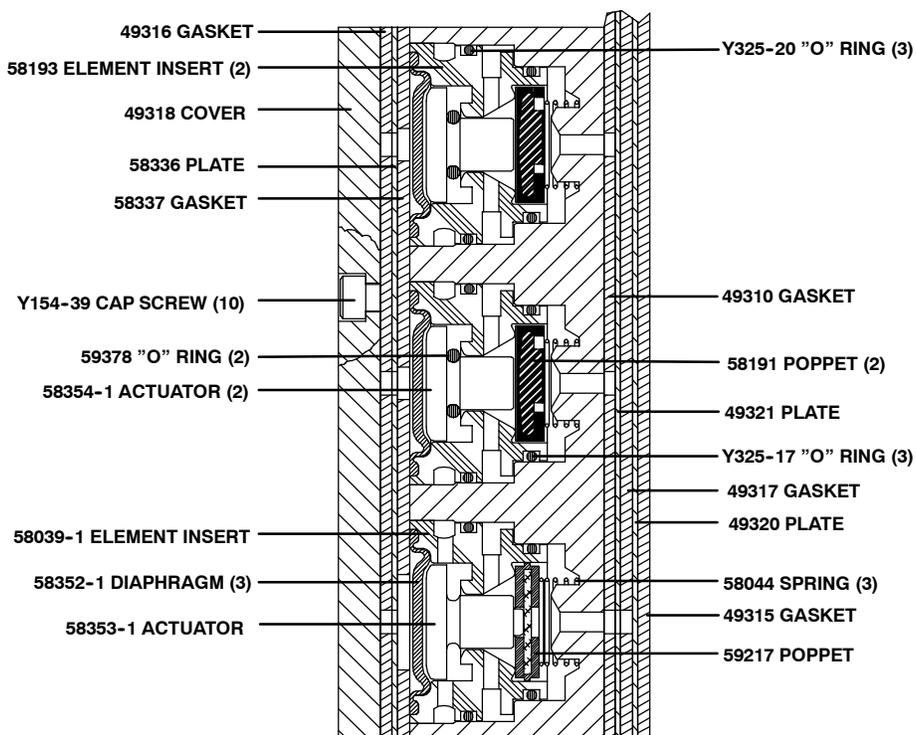
49354 LOGIC ASSEMBLY

SECTION B-B



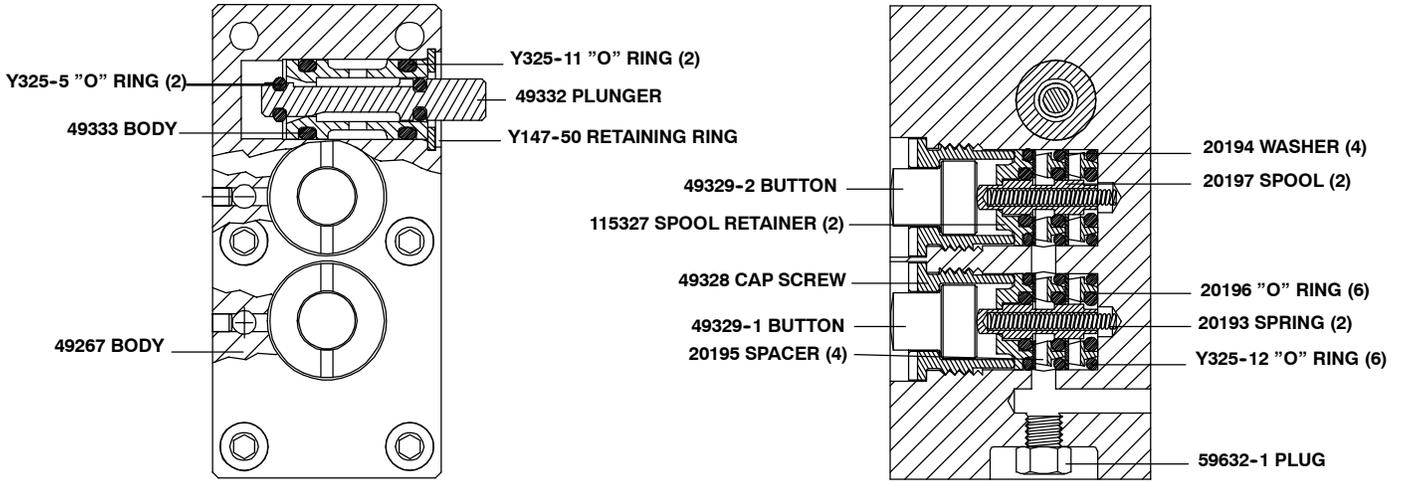
TPT_1001

SECTION C-C



TPT_1002

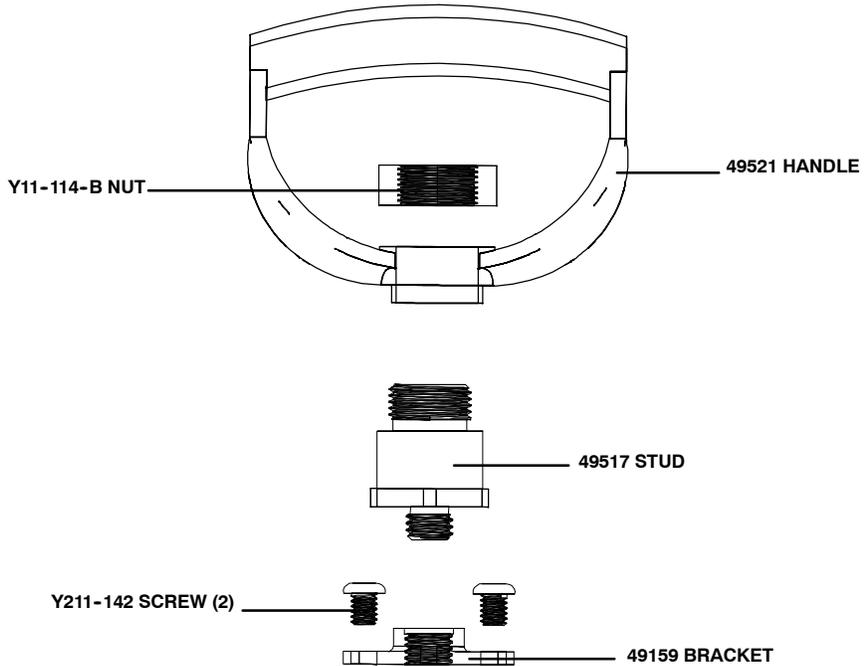
49355 VALVE ASSEMBLY



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TPT_1004

49520 "D" HANDLE



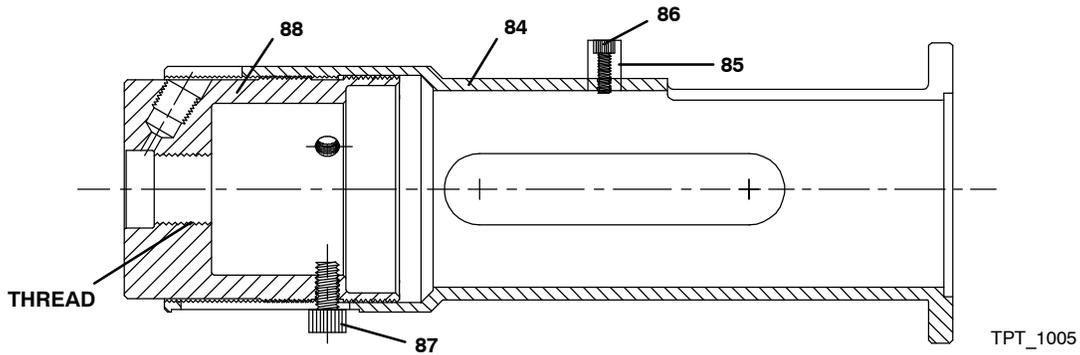
TPT_1010

ADJUSTABLE NOSE HOUSING

STROKE LENGTH	HOUSING ASSEMBLY	NOSE HOUSING (ITEM 84)	ADAPTER (ITEM 88)	THREAD (LEFT HAND)
2 INCH	49294-1	49283-1	49284	3/4"-16 UNF-2B LH
2 INCH	49294-2	49283-1	49285	1"-14 UNF-2B LH
2 INCH	49294-3	49283-1	49286	1-1/4"-12 UNF-2B LH
2 INCH	49294-4	49283-1	49287	1-1/2"-12 UNF-2B LH
2 INCH	49294-5	49283-1	49288	2"-16 UNEF-2B LH
4 INCH	49294-6	49283-2	49284	3/4"-16 UNF-2B LH
4 INCH	49294-7	49283-2	49285	1"-14 UNF-2B LH
4 INCH	49294-8	49283-2	49286	1-1/4"-12 UNF-2B LH
4 INCH	49294-9	49283-2	49287	1-1/2"-12 UNF-2B LH
4 INCH	49294-10	49283-2	49288	2"-16 UNEF-2B LH
*4 INCH	49294-11	49283-3	49284	3/4"-16 UNF-2B LH
*4 INCH	49294-12	49283-3	49285	1"-14 UNF-2B LH
*4 INCH	49294-13	49283-3	49286	1-1/4"-12 UNF-2B LH
*4 INCH	49294-14	49283-3	49287	1 1/2"-12 UNF-2B LH
*4 INCH	49294-15	49283-3	49288	2"-16 UNEF-2B LH

*140 RPM MODELS

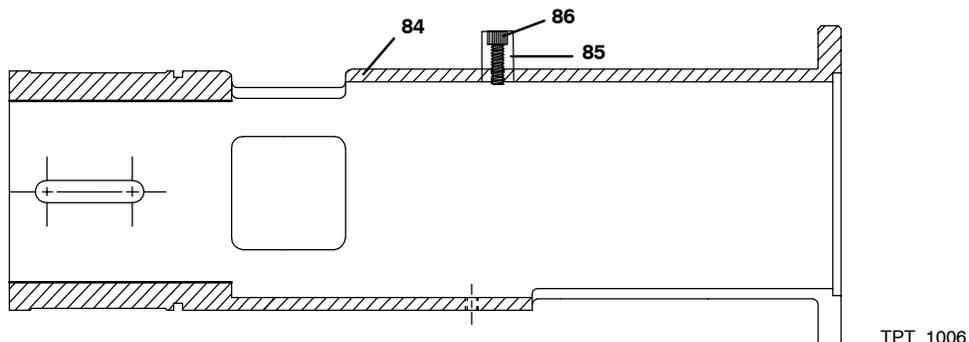
HOUSING ASSEMBLY INCLUDES ALL ITEMS SHOWN



FOR MODELS FA072A-() and FA104A-()

STROKE LENGTH	NOSE HOUSING (ITEM 84)	USED ON MODEL NUMBER
2 INCH	49514-1	FA072A-056-EU
4 INCH	49514-2	FA104A-056-EU
4 INCH	49514-2	FA104A-106-EU
4 INCH	49514-2	FA104A-226-EU

NOSE HOUSING INCLUDES ALL ITEMS SHOWN



FIXED NOSE HOUSING

FOR MODELS FA072A-() (2" STROKE)

(EXCEPT 140 RPM MODELS)

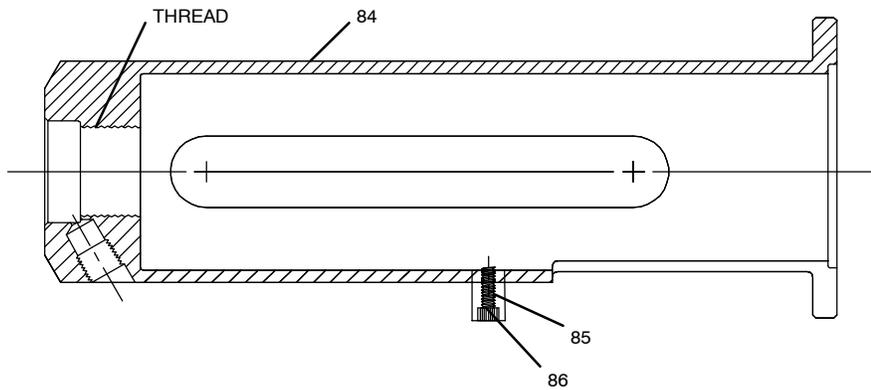
HOUSING ASSEMBLY	NOSE HOUSING (ITEM 84)	THREAD (LEFT HAND)
49295-1	49289	3/4"-16 UNF-2B LH
49295-2	49290-1	1"-14 UNF-2B LH
49295-3	49291-1	1-1/4"-12 UNF-2B LH
49295-4	49292-1	1-1/2"-12 UNF-2B LH

FOR MODELS FA104A-() (4" STROKE)

(EXCEPT 140 RPM MODELS)

HOUSING ASSEMBLY	NOSE HOUSING (ITEM 84)	THREAD (LEFT HAND)
49296-1	49290-2	1"-14 UNF-2B LH
49296-2	49291-2	1-1/4"-12 UNF-2B LH
49296-3	49292-2	1-1/2"-12 UNF-2B LH
49296-4	49293	2"-16 UNEF-2B LH

(INCLUDES ALL ITEMS SHOWN)



TPT_1007

