



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

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

## OPERATING AND SAFETY PRECAUTIONS

- Keep hands and clothing away from rotating end of tool and all moving parts of the tool.
- Wear suitable eye protection while operating tool or when near tool when it is being operated.
- Disconnect air and electrical supply from tool before removing/installing bits or performing other maintenance or service procedures.

## ROUTINE LUBRICATION REQUIREMENTS

When this tool was built, an "O" ring lubricant was applied to all appropriate dynamic seals to insure continued operation. Drive train components and bearings were also supplied / filled with grease to insure appropriate life of components. As long as all exterior seals and wipers are maintained in good working order and all covers and breather vents are kept in place, it is reasonable to expect that external debris will not enter the tool. It is also reasonable to expect that lubricants applied to the tool interior will require replenishment for at least 5000 hours of normal operation. Adding spindle oil to the power air inlet of this tool is not necessary.

## MOUNTING

Mounting clamps **49690** and **46982-1** are available for mounting of this tool. These items are shown on page 11. Both mounts allow the clamp to grip the outer sleeve of the tool and feature keyways for alignment.

## 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
- HOSE SIZE – 5/16" (8 mm) I.D.

An ARO® model P29231-110 air line FILTER/REGULATOR plus 100067 gauge 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:

<u>Where Used</u>	<u>ARO Part #</u>	<u>Description</u>
"O" Rings, Lip Seals and Air Cylinder	36460	4 oz. Stringy Lubricant
Sliding Splines 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.

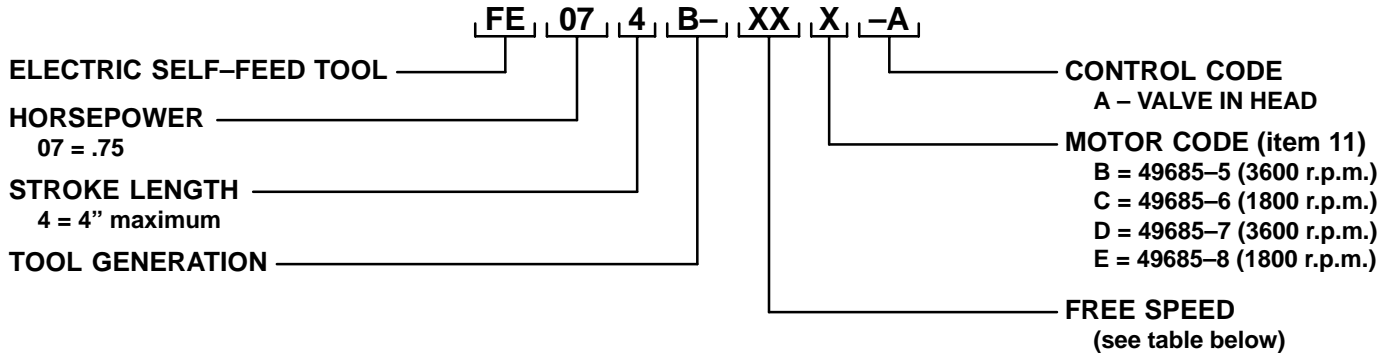
### ARO Tool Products

#### Ingersoll-Rand Company

1725 U.S. No. 1 North • P.O. Box 8000 • Southern Pines, NC 28388-8000

©1999 INGERSOLL-RAND COMPANY • PRINTED IN U.S.A.

## MODEL IDENTIFICATION



MODEL NUMBER	R.P.M. @ 60 Hz	R.P.M. @ 50 Hz	PULLEY SET	# OF TEETH (ITEM 7)	# OF TEETH (ITEM 12)	TOTAL REDUCTION
<b>3600 R.P.M. MODELS (-B and -D motor code)</b>						
FE074B-17()-A()	1684	1404	49763-1	22	47	.468:1
FE074B-19()-A()	1918	1600	49763-2	24	45	.533:1
FE074B-22()-A()	2178	1815	49763-3	26	43	.605:1
FE074B-24()-A()	2398	2000	49763-4	28	42	.666:1
FE074B-27()-A()	2700	2250	49763-5	30	40	.750:1
FE074B-30()-A()	3031	2525	49763-6	32	38	.842:1
FE074B-34()-A()	3398	2832	49763-7	34	36	.944:1
FE074B-38()-A()	3808	3173	49763-7	36	34	1.058:1
FE074B-43()-A()	4274	3562	49763-6	38	32	1.187:1
FE074B-48()-A()	4800	4000	49763-5	40	30	1.333:1
FE074B-54()-A()	5400	4500	49763-4	42	28	1.500:1
FE074B-59()-A()	5954	4961	49763-3	43	26	1.654:1
FE074B-67()-A()	6750	5625	49763-2	45	24	1.875:1
FE074B-77()-A()	7690	6408	49763-1	47	22	2.136:1
<b>1800 R.P.M. MODELS (-C and -E motor code)</b>						
FE074B-08()-A()	842	702	49763-1	22	47	.468:1
FE074B-10()-A()	959	799	49763-2	24	45	.533:1
FE074B-11()-A()	1089	907	49763-3	26	43	.605:1
FE074B-12()-A()	1199	999	49763-4	28	42	.666:1
FE074B-14()-A()	1350	1125	49763-5	30	40	.750:1
FE074B-15()-A()	1516	1263	49763-6	32	38	.842:1
FE074B-17()-A()	1699	1416	49763-7	34	36	.944:1
FE074B-19()-A()	1904	1587	49763-7	36	34	1.058:1
FE074B-22()-A()	2137	1781	49763-6	38	32	1.187:1
FE074B-24()-A()	2400	2000	49763-5	40	30	1.333:1
FE074B-27()-A()	2700	2250	49763-4	42	28	1.500:1
FE074B-30()-A()	2977	2481	49763-3	43	26	1.654:1
FE074B-34()-A()	3375	2812	49763-2	45	24	1.875:1
FE074B-38()-A()	3845	3204	49763-1	47	22	2.136:1

MODELS WITH -EU SUFFIX ARE "EC" COMPLIANT MODELS.

## INSTALLATION

The ARO model FE074B-() is NOT supplied with the required motor starter. The motor starter must conform to the local / national regulations governing the use of this type of electrical equipment and must provide motor overload protection. The recommended overload setting is given on the wiring diagram. The power supply, motor starter and the motor nameplate ratings

must be equivalent.

MOTOR: The electric motor develops a minimum of .75 horsepower. The voltage requirements are shown in the following Electrical Connection Diagram.

spindle fails to rotate or rotates in the wrong direction, de-energize the motor starter immediately. Turn off the power supply and recheck the wiring.

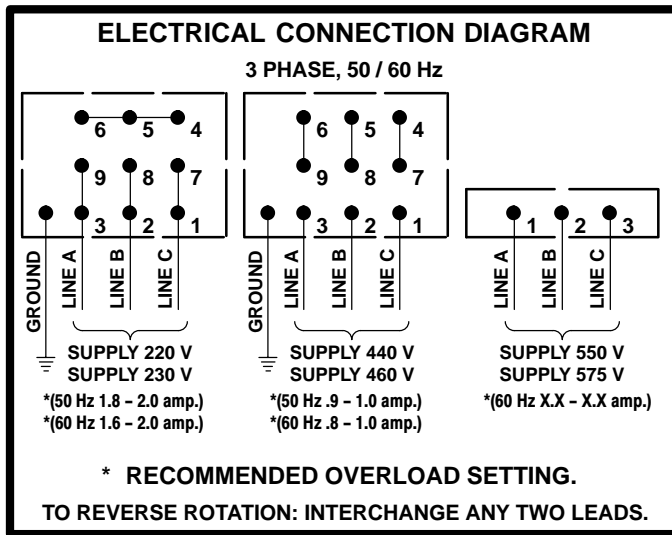
## SET-UP PROCEDURE

**WARNING:** Keep clear of rotating end of unit with hands and/or clothing.

- Shut off air supply to tool.
- Loosen screw (41), releasing cover (33).
- Determine the TOTAL STROKE LENGTH the drill must travel to perform the drilling operation.
- Loosen cap screw (28) securing yoke assembly (27) to quill (55) and position yoke assembly on quill approximately 5/8" (16 mm) greater distance between control valve (39) and yoke assembly than the distance of the Total Stroke Length.
- Tighten cap screw (28), securing yoke assembly (27) to quill (55).
- Loosen nut (29), securing cap screw (30) and turn cap screw (30) so the distance between the head of the cap screw (30) and control valve (39) equals the total stroke length.
- Tighten nut (29), securing cap screw (30).
- Replace cover (33), securing with screw (41).
- Attach air supply to tool.

## FEED RATE CONTROL VALVES

- Turn valve (103), marked "R" at side of control assembly (93), approximately 1-1/2 turns counter-clockwise (open) from the closed position.
- Turn the other valve (103), marked "F" at side of control assembly (93), clockwise until closed (do not tighten too snugly).
- Start the unit and slowly turn valve (103) marked "F" counter-clockwise (open) until the desired forward rate of feed is reached.
- A final adjustment of the rate of return (retract) can be made with the valve (103) marked "R".



**WARNING:** BE SURE THE ELECTRICAL POWER SUPPLY IS OFF BEFORE MAKING ANY ELECTRICAL WIRING CONNECTIONS.

**WARNING:** FAILURE TO PROPERLY GROUND THE MOTOR MAY CAUSE SERIOUS INJURY TO PERSONNEL.

DO NOT BLOCK THE AIR FLOW TO OR FROM THE MOTOR COOLING FAN. DO NOT DAMAGE THE MOTOR FAN COVER. KEEP SMALL OBJECTS CLEAR OF THE OPENINGS IN THE FAN COVER.

Connect the motor starter to the motor as shown in the wiring diagram. The minimum wire size should be AWG No. 14, or equivalent, (4107 circular mil) and conform to local / national regulations governing the use of this type of electrical equipment.

Once the motor is connected, turn on the power supply. If the

## DISASSEMBLY/ASSEMBLY INSTRUCTIONS

- Disconnect air and electrical supply "BEFORE" performing maintenance or service to tool.
- 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.

### BELT AND PULLEY SECTION DISASSEMBLY

- Remove four screws (1), releasing cover (2).
- Loosen cap screw (13), loosening tensioner assembly.
- Remove belt (3).
- Remove cap screws (4) and washers (5), releasing pulleys (7 and 12) and keys (6).
- To remove motor (11), remove four cap screws (9).
- Remove cap screw (13), releasing tensioner assembly.
- To disassemble, remove retaining ring (14), releasing spring washer (15), bearings (16) and tension wheel (17).

### BELT AND PULLEY SECTION ASSEMBLY

- Apply thread adhesive (Loctite 242) to threads of tension wheel pin (18) and assemble to bracket (19).
- Assemble bearing (16), tension wheel (17) and bearing (16) to tension wheel pin (18), securing with spring washer (15) and retaining ring (14).

- Assemble tensioner assembly to housing (10), securing with cap screw (13). Do not tighten cap screw.
- Assemble motor (11) to housing (10), securing with four cap screws (9).
- Assemble keys (6) and pulleys (7 and 12) to spindle (23) and motor spindle.
- Apply thread adhesive (Loctite 290) to threads of cap screws (4) and assemble screws and washers (5) to spindles, securing pulleys. NOTE: Tighten screws (4) to 50 - 60 in. lbs.
- Assemble belt (3) over pulleys (7 and 12) and inside belt tensioner.
- Hold tensioner assembly firmly against belt (3) and secure by tightening cap screw (13).
- Assemble cover (2) to housing, securing with four screws (1).

### PULLEY SPINDLE SECTION DISASSEMBLY

- Follow instructions for disassembly of BELT AND PULLEY SECTION and remove belt (3) and pulley (12).
- Remove four cap screws (20) and separate drive housing (10) from frame assembly (35). NOTE: Housings will have to be pulled apart approximately 11" (279 mm) to completely separate pulley spindle (23) from frame assembly (35).
- Using a spanner type wrench, unthread and remove lock screw (25).
- Pull spindle (23) and components from housing (10).
- NOTE: Bearings (21) are press fit on spindle (23). Do not remove unless it should become necessary to replace, as Brinelling of the bearing races may occur, making replacement necessary.

# DISASSEMBLY/ASSEMBLY INSTRUCTIONS

## PULLEY SPINDLE SECTION ASSEMBLY

- Assemble felt seal (24) to lock screw (25).
- Assemble bearing (21) to “pulley” end of spindle (23), pressing on inner race of bearing.
- Assemble spindle (23) and bearing into housing (10), pressing on outer race of bearing.
- Assemble bearing spacer (22) and bearing (21) onto spindle, pressing on inner race of bearing.
- Assemble lock screw (25) to housing (10), securing spindle and components.
- Apply approximately 1/4 oz. (7 g) of ARO 33153 grease to internal splines of spindle (23) and assemble housing (10) and components to frame assembly (35), securing with four cap screws (20).
- Refer to “BELT AND PULLEY SECTION” to complete the assembly procedure.

## PISTON SECTION DISASSEMBLY

- Loosen upper cap screw (28) on yoke assembly (27) to allow for removal of quill (55).
- Using a strap type wrench, unthread and remove outer sleeve assembly (64) and components from the tool. NOTE: Remove sleeve (64) with care. Pull sleeve straight away from the tool so as not to bend the piston cylinder (63), damaging the inside diameter.
- Remove spindle nut (62) and locknut (68).
- Remove spindle (58), bearing stop (60), bearings (59), spacer (57) and bearing (56) from quill (55).
- Remove quill (55) and piston cylinder (63) from sleeve. NOTE: Handle the piston cylinder carefully to prevent damaging or distorting the inside diameter.
- Remove piston cylinder (63) from quill (55).
- Remove seal (50) and unthread and remove plate nut (51), releasing plate (52) and spring washer (53).
- Do not remove wiper (26) from groove in frame assembly (35), unless damage is evident. To remove wiper (26), refer to “Pulley Spindle Section” to separate drive housing (10) from frame assembly (35).
- Remove two cap screws (32), releasing stabilizer rod (31) and yoke assembly (27) from tool. Wiper (26) can now be removed.

## PISTON SECTION ASSEMBLY

- Grease wiper (26) with ARO 36460 lube and assemble to groove in frame assembly (35). NOTE: Assemble wiper with lips towards “chuck” end of tool.
- Assemble yoke assembly (27) to stabilizer rod (31) and assemble stabilizer rod to frame assembly (35), securing with two cap screws (32).
- Refer to “Pulley Spindle Section” to assemble housing (10) to frame assembly (35).
- Grease wiper (67) with ARO 36460 lube and assemble to groove in front bushing of outer sleeve assembly (64), with lips of wiper facing towards sleeve (64).
- Grease wipers (54) with ARO 36460 lube and assemble to grooves in quill (55), with lips of wipers facing away from each other.

- Assemble spring washer (53) and plate (52) to quill (55), securing with plate nut (51).
- Assemble square seal (50) to quill (55).
- Assemble bearing (56) to spindle (58), pressing on inner race of bearing.
- Assemble spindle (58) and spacer (57) into quill (55).
- Pack bearings (59) with ARO 33153 grease and assemble onto spindle (58) and into quill (55). NOTE: Assemble bearings with open faces together (shielded sides facing out).
- Assemble wiper (61) to groove in bearing stop (60), assembling with lip of wiper toward the “chuck” end of the tool.
- Assemble bearing stop (60) into quill (55).
- Assemble spindle nut (62) to spindle and tighten securely.
- Lubricate i.d. of piston cylinder (63) and o.d. of quill (55) with ARO 36460 lube and assemble into outer sleeve assembly (64). Handle piston cylinder with care so as not to damage or distort the i.d.
- Assemble locknut (68) to quill (55) and tighten securely.
- Grease “O” rings (48 and 49) with ARO 36460 lube and assemble to grooves in frame assembly (35).
- Assemble outer sleeve assembly (64) and components to frame assembly (35), assembling quill (55) thru yoke assembly (27). Tighten outer sleeve securely. NOTE: Use caution when inserting quill (55) thru frame assembly so as not to damage wiper (26).
- Tighten upper cap screw (28), securing yoke assembly.

## VALVE HOUSING SECTION DISASSEMBLY

- Control valves (37 and 39), manifold assembly (77) and control assembly (93) can be serviced without disrupting any other section of the tool.
- Remove set screws (36 and 40), releasing control valves (37 and 39).
- To service bushing assembly (45), pin (44), stem (43) or spring (42), remove outer sleeve assembly (64) and components as described in “PISTON SECTION”.
- Remove three cap screws (47), releasing piston stop (46).
- Remove bushing assembly (45), pin (44), stem (43) and spring (42).
- See pages 8 and 9 for disassembly and assembly of manifold assembly (77) and control assembly (93).

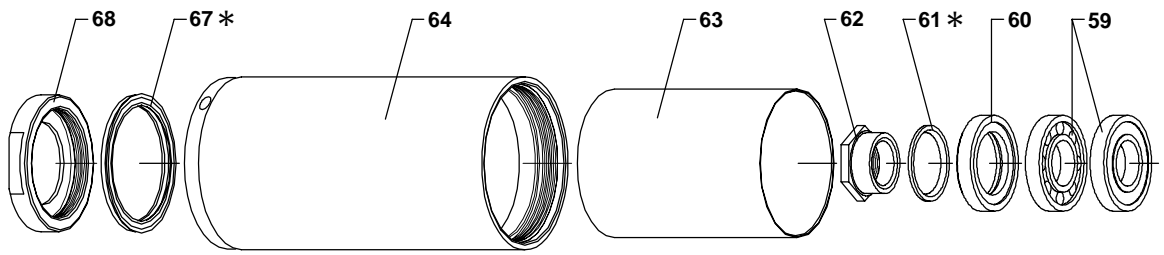
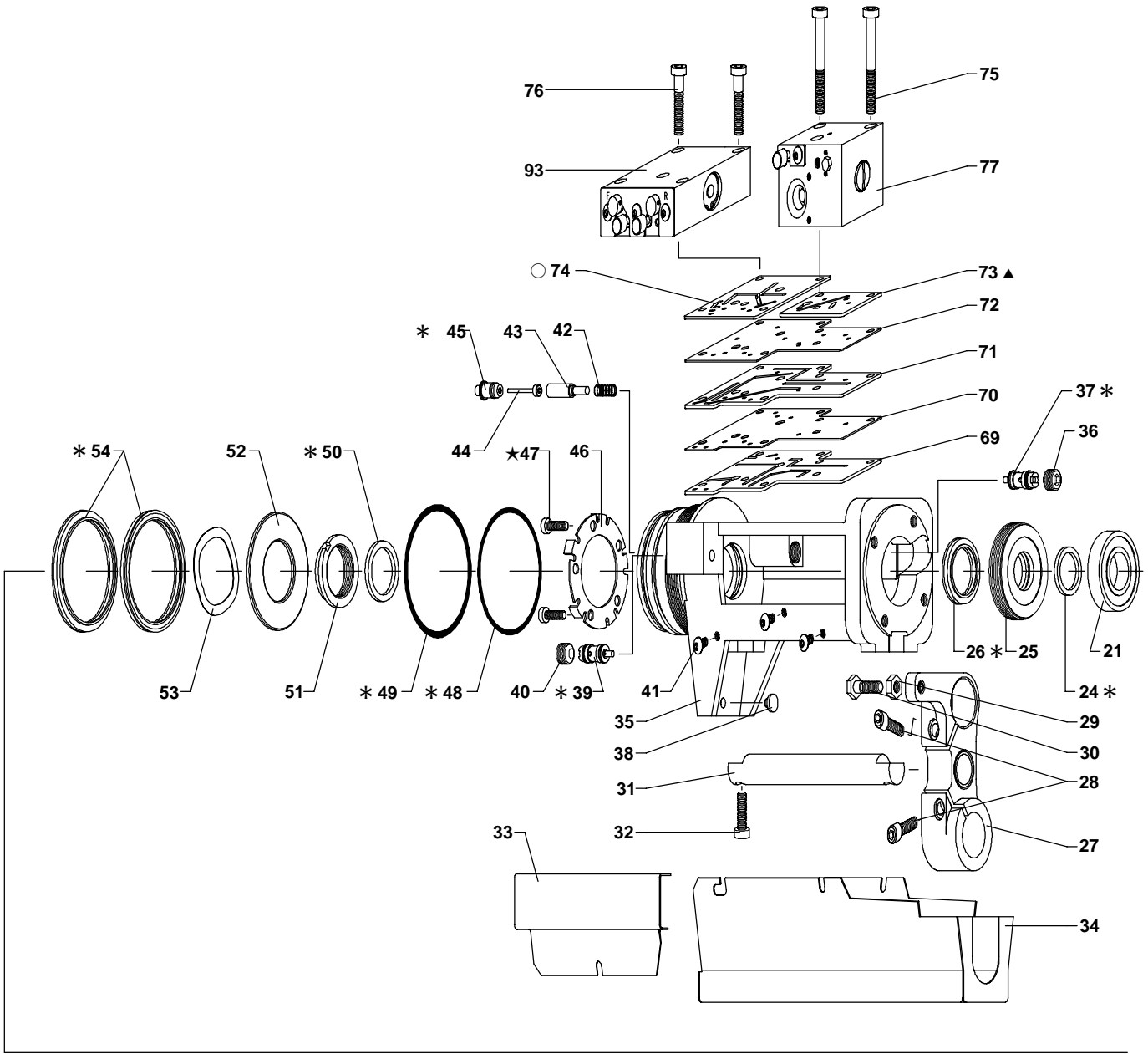
## VALVE HOUSING SECTION ASSEMBLY

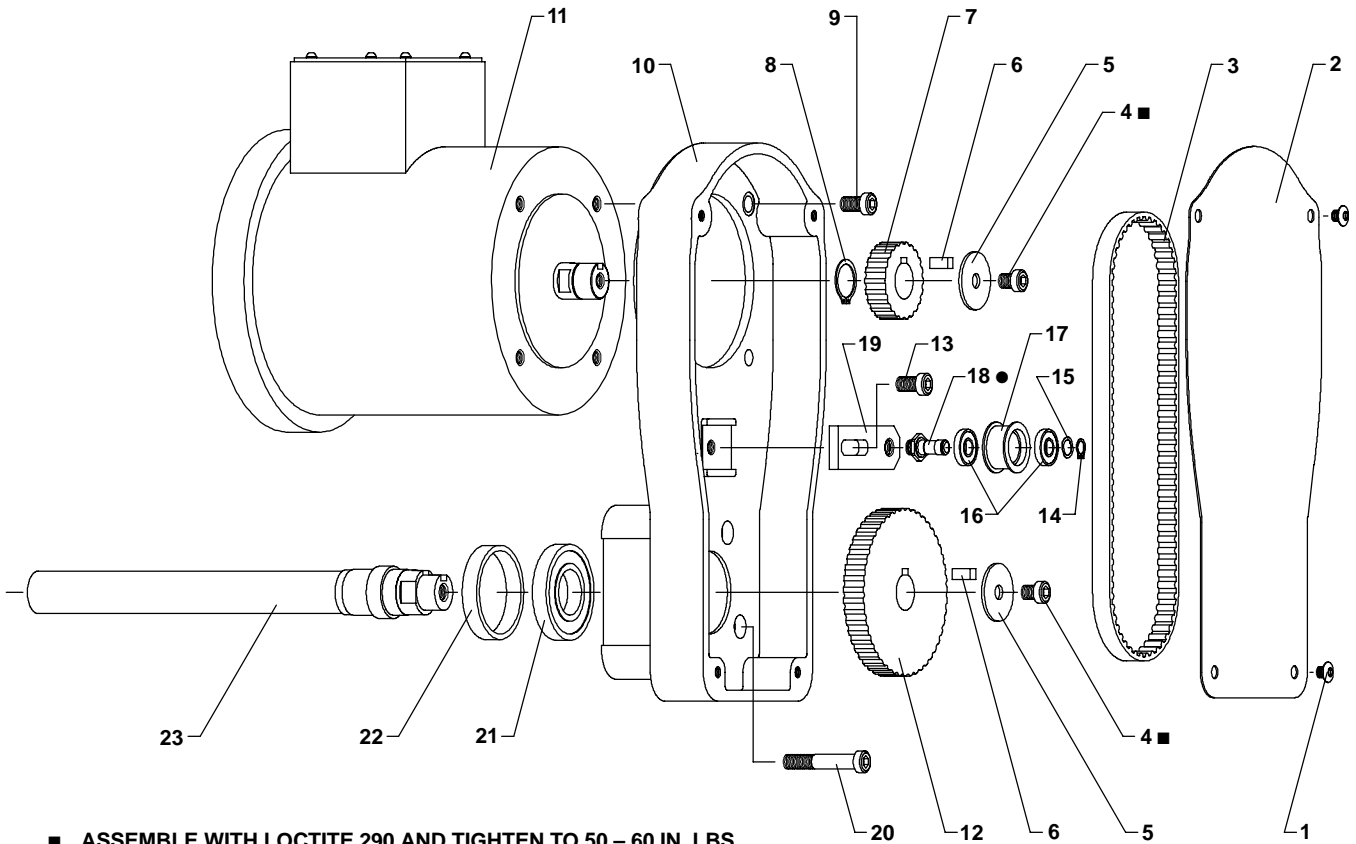
- Lubricate all “O” rings with ARO 36460 lube when assembling.
- Assemble control valves (37 and 39) to frame assembly (35), securing with set screws (36 and 40). Set screws must be air tight.
- Assemble spring (42) to stem (43) and assemble into frame assembly.
- Assemble pin (44) into bushing assembly (45) and assemble into frame assembly.
- Assemble piston stop (46) to frame assembly (tangs on magnet facing away from frame) and secure with three cap screws (47). TIGHTEN TO 45–50 IN/LBS.
- Assemble outer sleeve assembly (64) and components to tool as described in “PISTON SECTION”.

PART NUMBER FOR ORDERING

PART NUMBER FOR ORDERING

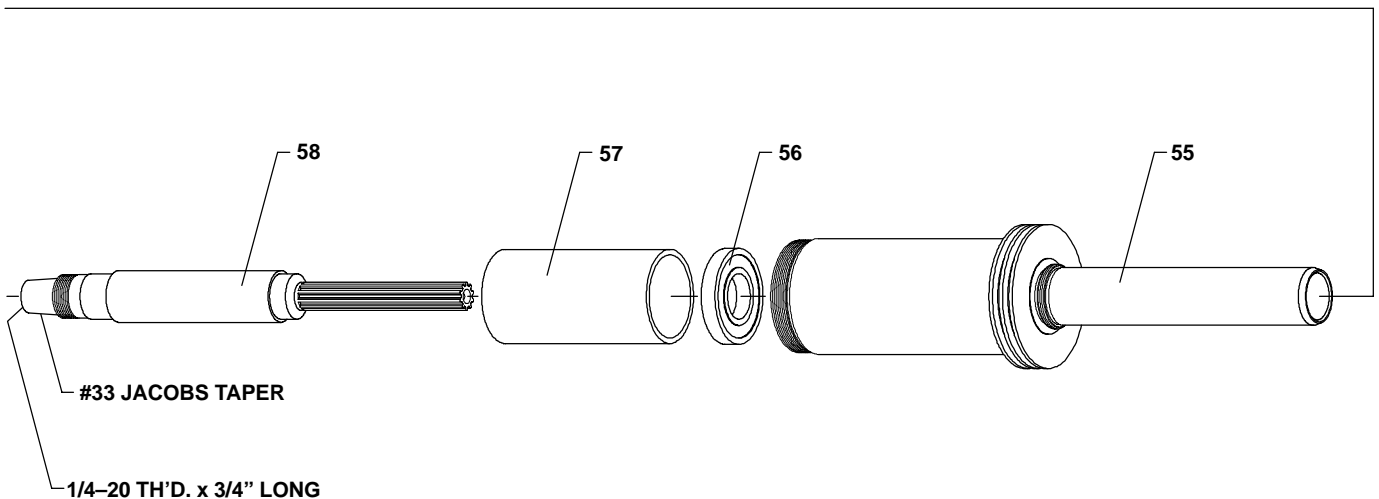
1	Button Head Screw (4 req'd)	49688	55	Quill	49630
2	Drive Housing Cover for non-EU models	49682	56	Bearing	49780
	for -EU models	04333027	57	Bearing Spacer	49632
3	Timing Belt	46923	58	Taper Spindle	49631
4	Cap Screw (2 req'd) (1/4" - 20 x 5/8")	Y99-458	59	Bearing (2 req'd)	49779
5	Washer (2 req'd)	46922	60	Bearing Stop	46973-1
6	Key (2 req'd)	49673	61	Wiper	47504
7	Pulley (available only as a set, see chart)	49763-( )	62	Spindle Nut	46975-1
8	Retaining Ring (.579" i.d.)	Y145-22	63	Piston Cylinder	49637
9	Cap Screw (4 req'd) (1/4" - 20 x 3/4")	Y99-41	64	Outer Sleeve Assembly	04596045
10	Drive Housing	49665	67	Wiper	49635
11	Electric Motor (.75 h.p., 3 phase)	See chart	68	Locknut	46971
12	Pulley (available only as a set, see chart)	49763-( )	69	Frame Gasket	49679
13	Cap Screw (1/4" - 20 x 3/4")	Y99-41	70	Frame Plate	49680
14	Retaining Ring (.225" i.d.)	Y145-7	71	Middle Gasket	49681
15	Spring Washer	49696	72	Middle Plate	49704
16	Ball Bearing (2 req'd)	49695	73	Manifold Gasket	49776
17	Tension Wheel	49669	74	Valve Body Gasket	49705
18	Tension Wheel Pin	49670	75	Cap Screw (3 req'd) (#10 - 24 x 2")	Y154-60-C
19	Tensioner Bracket	49671	76	Cap Screw (5 req'd) (#10 - 24 x 1-1/4")	Y154-57-C
	Tensioner Assembly (includes items 14 thru 19)	49668	77	Manifold Assembly (includes items 78 thru 92)	49775
20	Cap Screw (4 req'd) (1/4" - 20 x 2-1/2")	Y99-48	78	Cap (2 req'd)	46696
21	Bearing (2 req'd)	49780	79	"O" Ring (2 req'd) (1/16" x 1/2" o.d.)	Y325-12
22	Bearing Spacer	49667	80	Spring	40433
23	Pulley Spindle	49643	81	Rubber Ball	49847
24	Seal	44899	82	"O" Ring (1/16" x 1/4" o.d.)	Y325-6
25	Lock Screw	46931	83	Actuator	49773
26	Wiper	49654	84	"O" Ring (1/16" x 11/32" o.d.)	Y325-9
27	Yoke Assembly (includes items 28, 29 and 30)	49662	85	"O" Ring (1/16" x 9/32" o.d.)	Y325-7
28	Cap Screw (2 req'd) (1/4" - 20 x 3/4")	Y99-41	86	Needle Valve	48441-1
29	Nut (1/4" - 20)	Y12-4-C	87	Button Head Screw	49688
30	Cap Screw (1/4" - 20 x 1")	Y6-45	88	Retainer	49788
31	Stabilizer Rod	49653	89	Plug (5 req'd)	59632-1
32	Cap Screw (2 req'd) (#10 - 24 x 3/4")	Y154-54-C	90	Manifold	49678
33	Yoke Guard	49687	91	Rubber Ball (2 req'd)	44967
34	Check Guard	49686	92	Seat	49774
35	Frame Assembly (includes items 36 thru 40)	49646	93	Control Assembly (includes items 94 thru 112)	49674
36	Set Screw	49597	94	Retaining Ring (2 req'd) (.859" i.d.)	Y147-77
37	Control Valve	49648	95	End Cap (2 req'd)	116212
38	Stop Pin	49649	96	"O" Ring (2 req'd) (1/16" x 3/4" o.d.)	Y325-16
39	Control Valve	49648	97	"O" Ring (2 req'd)	116485
40	Set Screw	49597	98	Spool	116207-2
41	Button Head Screw (5 req'd)	49688	99	Face Plate	49677
42	Spring	49655	100	Control Valve (2 req'd)	49648
43	Stem	49661	101	Push Button (2 req'd)	49676
44	Pin	49656	102	"O" Ring (2 req'd) (1/16" x 9/32" o.d.)	Y325-7
45	Bushing Assembly (includes Y325-8 "O" ring [1/16" x 5/16" o.d.]	49658	103	Needle Valve (2 req'd)	48441-1
46	Piston Stop	49641	104	Breather Vent (2 req'd)	20311-1
47	Cap Screw (3 req'd) (#10 - 24 x 1/2")	Y154-52-C	105	Adapter	49689
48	"O" Ring (3/32" x 2-5/8" o.d.)	Y325-143	106	Valve Body	49675
49	"O" Ring (1/16" x 2-1/2" o.d.)	Y325-36	107	Spring (2 req'd)	48304-1
50	Square Seal	49642	108	Rubber Ball (2 req'd)	49784
51	Plate Nut	49639	109	Seat (2 req'd)	49777
52	Plate	49638	110	Rubber Ball (2 req'd)	44967
53	Spring Washer	49789	111	Seat (2 req'd)	49774
54	Wiper (2 req'd)	49633	112	Button Head Screw (3 req'd)	49688
			113	Seat	04596037





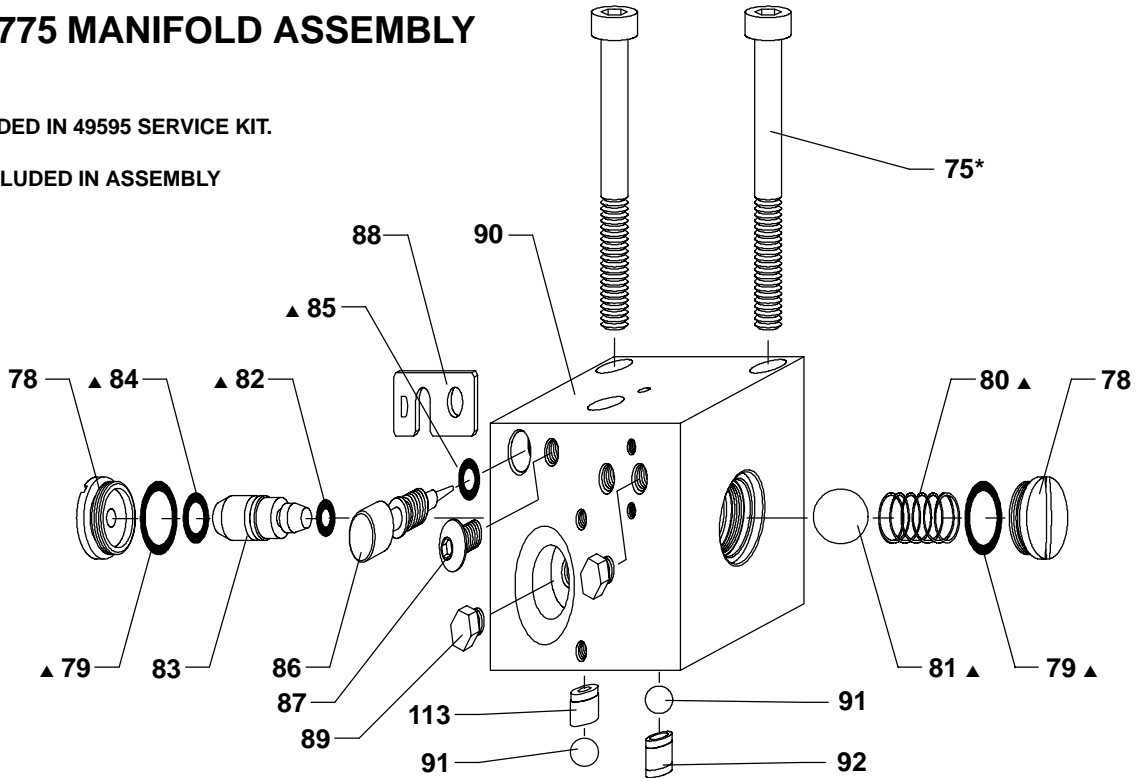
- ASSEMBLE WITH LOCTITE 290 AND TIGHTEN TO 50 – 60 IN. LBS.
- ASSEMBLE WITH LOCTITE 242.
- ▲ INCLUDED IN 49595 SERVICE KIT.
- \* INCLUDED IN 49594 SERVICE KIT.
- INCLUDED IN 49596 SERVICE KIT.
- ★ TIGHTEN TO 45–50 IN/LBS.

**NOT SHOWN**  
 30131-2 WRENCH  
 49530 WARNING LABEL (2 REQ'D)  
 49684 LOGO PLATE  
 49791 TACK (4 REQ'D)  
 49883 LABEL (-EU MODELS ONLY)  
 04332987 DATE CODE PLATE (-EU MODELS)  
 04332995 DATE CODE PLATE (NON-EU MODELS)



# 49775 MANIFOLD ASSEMBLY

- ▲ INCLUDED IN 49595 SERVICE KIT.
- \* NOT INCLUDED IN ASSEMBLY



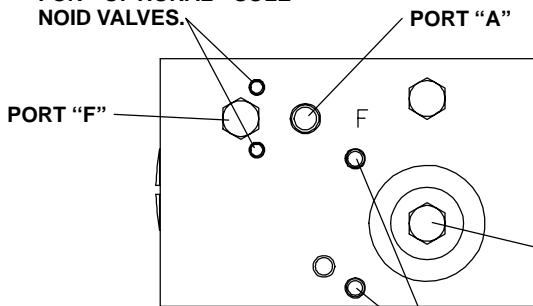
## MANIFOLD DISASSEMBLY

- Spring (80), ball (81) and needle valve (86) can be serviced without removing the manifold from the tool.
- Unthread and remove cap (78), releasing spring (80) and ball (81).
- Remove screw (87), releasing retainer (88).
- Unthread and remove needle valve (86).
- To further disassemble, remove three cap screws (75), releasing manifold from the tool.
- Remove cap (78), releasing actuator (83).

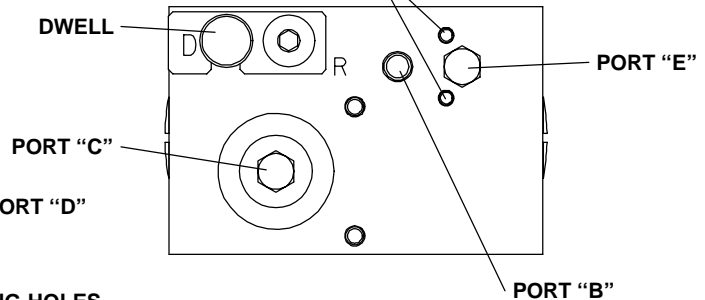
## MANIFOLD ASSEMBLY

- Lubricate all "O" rings with ARO 36460 lube when assembling.
- Assemble "O" rings (82 and 84) to actuator (83) and assemble actuator into manifold, with the small diameter going into the manifold first.
- Assemble "O" rings (79) to caps (78) and assemble one cap to manifold, securing actuator.
- Assemble ball (81) and spring (80), securing with cap (78).
- Assemble "O" ring (85) to groove in needle valve (86) and thread needle valve into manifold.
- Assemble retainer (88) to manifold, securing with screw (87).
- Assemble manifold assembly to tool, securing with three cap screws (75).

#3-56 MOUNTING HOLES FOR OPTIONAL SOLENOID VALVES.



#3-56 MOUNTING HOLES FOR OPTIONAL SOLENOID VALVES.

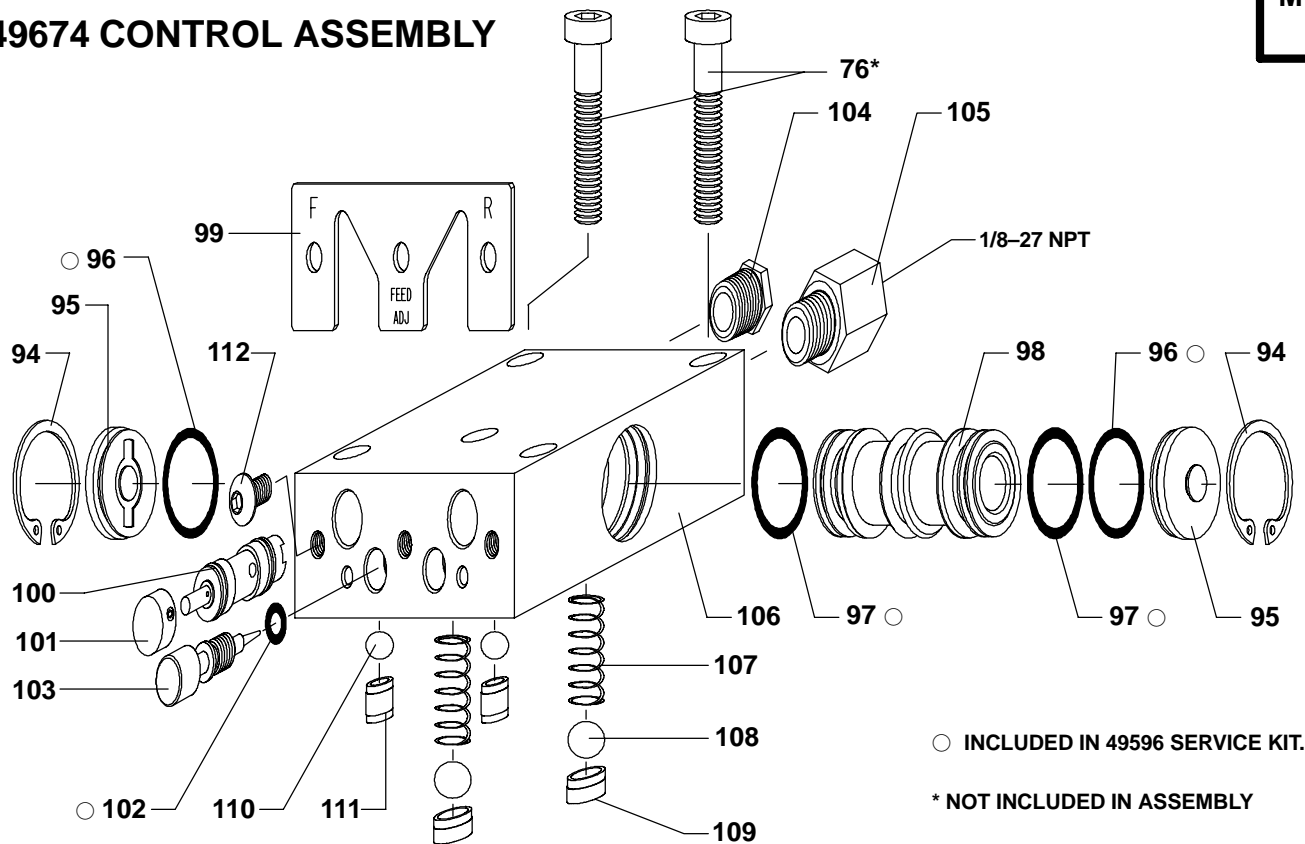


#5-40 MOUNTING HOLES FOR OPTIONAL 49785 PRESSURE SWITCH.

- PORT "A" INPUT / START (#10-32 THD.).
- PORT "B" INPUT / EMERGENCY RETRACT (#10-32 THD.).
- PORT "C" OUTPUT / "TOOL IS FORWARD" SIGNAL "ON" AT FORWARD POINT OF PRESET STROKE (#10-32 THD.).
- PORT "D" OUTPUT / "TOOL IS RETRACTED" SIGNAL "ON" WHEN TOOL IS FULLY RETRACTED (#10-32 THD.).
- PORT "E" OUTPUT / AUX. AIR SUPPLY FURNISHES POWER AIR TO SOLENOID VALVE OPTION. SUPPLY IS "ON" WHEN MAIN AIR INLET IS "ON" (#10-32 THD.).
- PORT "F" OUTPUT / AUX. AIR SUPPLY FURNISHES POWER AIR TO SOLENOID VALVE OPTION. SUPPLY IS "ON" WHEN MAIN AIR INLET IS "ON" (#10-32 THD.).
- DWELL TIME CONTROL ADJUSTMENT KNOB ADJUSTS "HESITATION" AT RETRACT POINT. TURN IN TO INCREASE TIME, TURN OUT TO DECREASE TIME.



# 49674 CONTROL ASSEMBLY



## CONTROL DISASSEMBLY

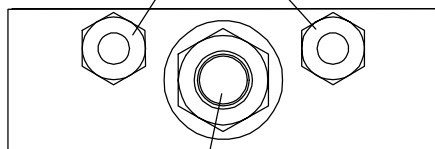
- Control valves (100) and needle valves (103) can be serviced without removing the control assembly from the tool.
- Remove three screws (112), releasing face plate (99).
- Pull control valves (100) from valve body (106).
- Unthread and remove needle valves (103).
- To further disassemble, remove five cap screws (76), releasing control assembly from the tool.
- Remove retaining rings (94) and end caps (95) and push spool (98) out of valve body (106).

- Assemble "O" rings (96) to grooves in end caps (95).
- Assemble one end cap (95) to valve body (106), securing with retaining ring (94).
- Assemble "O" rings (97) to grooves in spool (98) and assemble spool into valve body (106).
- Assemble end cap (95) to valve body, securing with retaining ring (94).
- Assemble "O" rings (102) to grooves in needle valves (103) and thread needle valves into valve body (106).
- Grease "O" rings on control valves (100) and assemble into valve body (106).
- Assemble face plate (99) to valve body, securing with three screws (112).
- Assemble control assembly to tool, securing with five cap screws (76).

## CONTROL ASSEMBLY

- Lubricate all "O" rings with ARO 36460 lube when assembling.

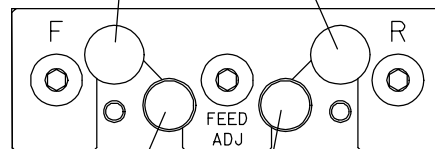
EXHAUST, FEED CYLINDER



MAIN AIR INLET (1/8-27 N.P.T.)

FORWARD / START  
PUSHBUTTON

RETRACT / EMERGENCY  
RETRACT PUSHBUTTON



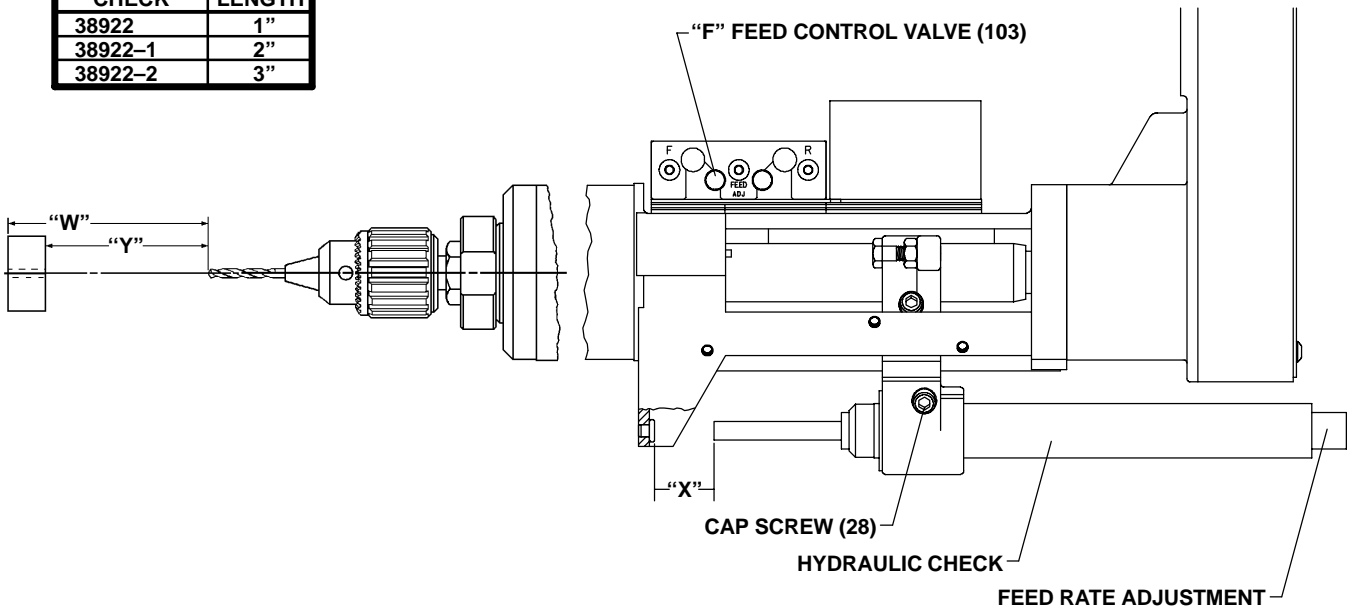
RETRACT FEED RATE  
ADJUSTMENT KNOB \*

FORWARD FEED RATE  
ADJUSTMENT KNOB \*

\* TURN "IN" TO DECREASE FEED RATE.  
TURN "OUT" TO INCREASE FEED RATE.

# HYDRAULIC CHECK SET-UP

HYDRAULIC CHECK	STROKE LENGTH
38922	1"
38922-1	2"
38922-2	3"



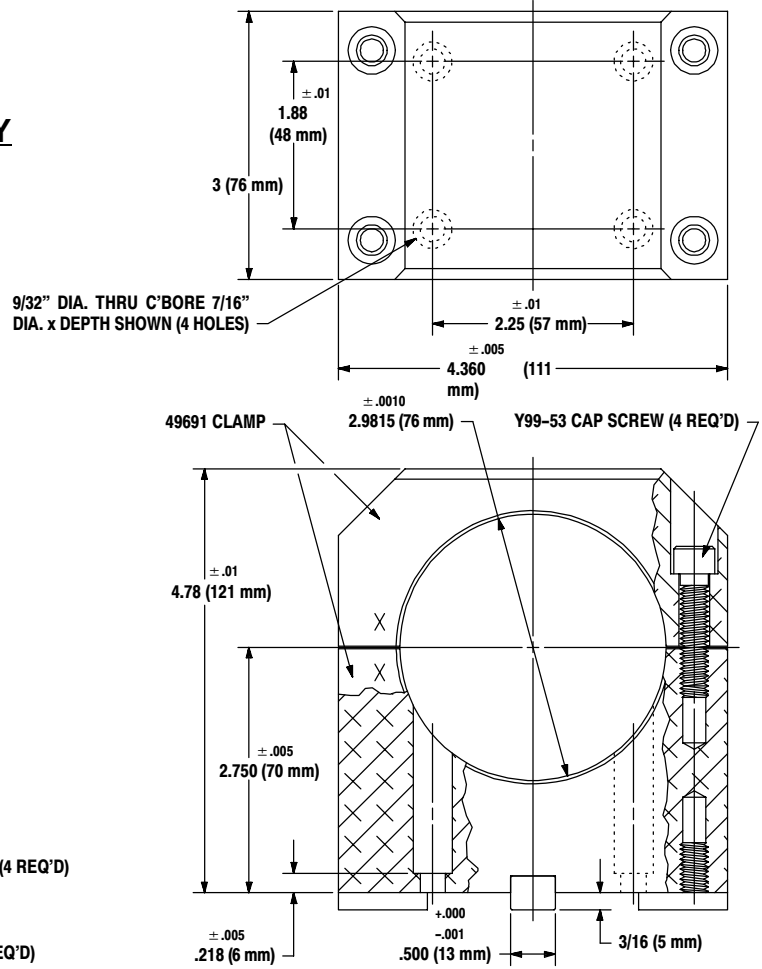
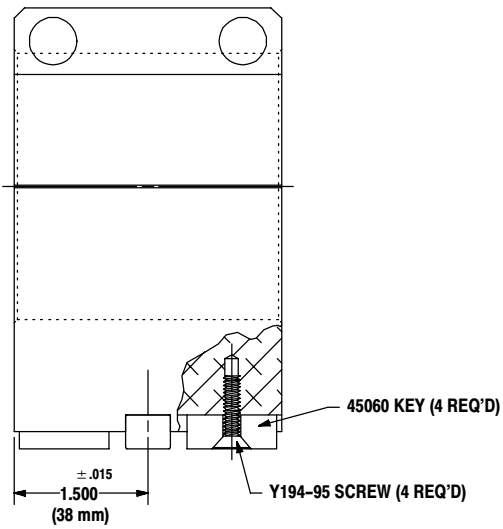
## SET-UP PROCEDURE

- Assemble hydraulic check to yoke assembly (27).
- Measure the distance from the drill point to the work piece – distance “Y”.
- Distance “X” between the hydraulic check plunger and stop pin (38) must be less than distance “Y” to prevent damage to the drill point when it approaches the work piece.
- Loosen cap screw (28) and position the hydraulic check to obtain the correct setting for distance “X”.
- Tighten cap screw (28) securely before operating unit.
- Increase the air flow thru the feed control valve (103) marked “F” by opening two full turns from the closed position. This will allow the drill to advance rapidly until the plunger of the hydraulic check contacts the stop pin (38).
- The hydraulic check feed rate adjustment is located at the nameplate end. Rotate the extended end until the slot at the end of the spindle is aligned with the number 15 on the nameplate.
- Start the drill unit and the drill will advance at a rapid rate until the plunger of the hydraulic check contacts the stop pin (38).
- Slowly rotate the extended spindle of the hydraulic check counter-clockwise toward the number zero on the nameplate until the drill advances at the desired rate of feed.

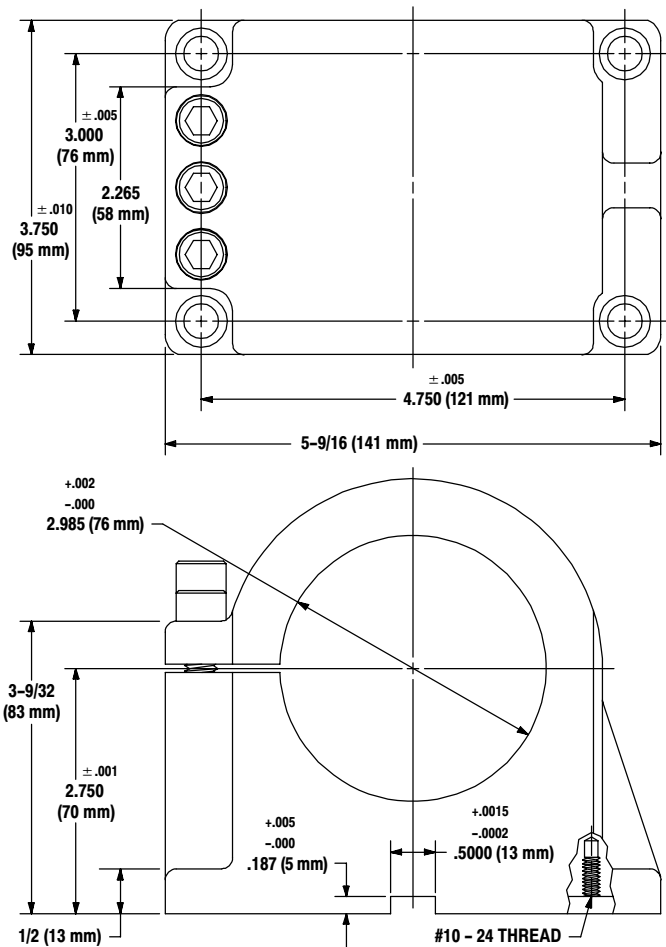
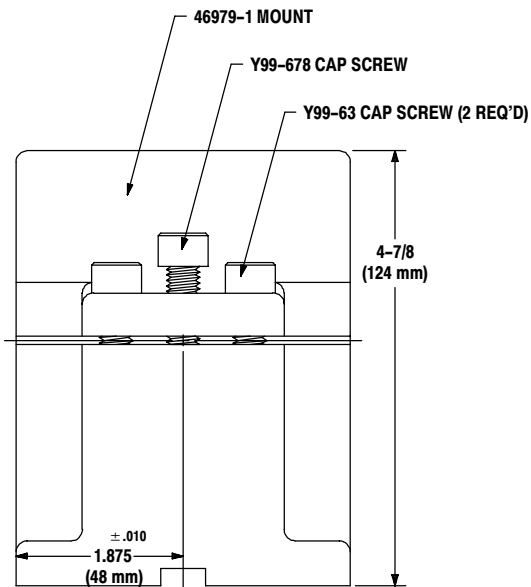
## TO CONTROL BREAKTHROUGH

- Position the hydraulic check so the distance between the plunger and the stop pin (38)(distance “X”) is less than the distance from the drill point to the opposite side of the work piece (distance “W”).
- Set-up of the self-feed drill unit will be the same as explained in “Set-Up Procedure”, page 3.

## 49690 CLAMP ASSEMBLY



## 46982-1 MOUNT ASSEMBLY



# CROSS SECTION

