



Tool Products

OPERATOR'S MANUAL

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

SERIES 7 ELECTRA-FEED DRILL

Model FE074A-()-()

SECTION M107
MANUAL 25

Released: 9-16-91

Revised: 3-10-95

Form: 3766-2

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 and all moving parts of 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

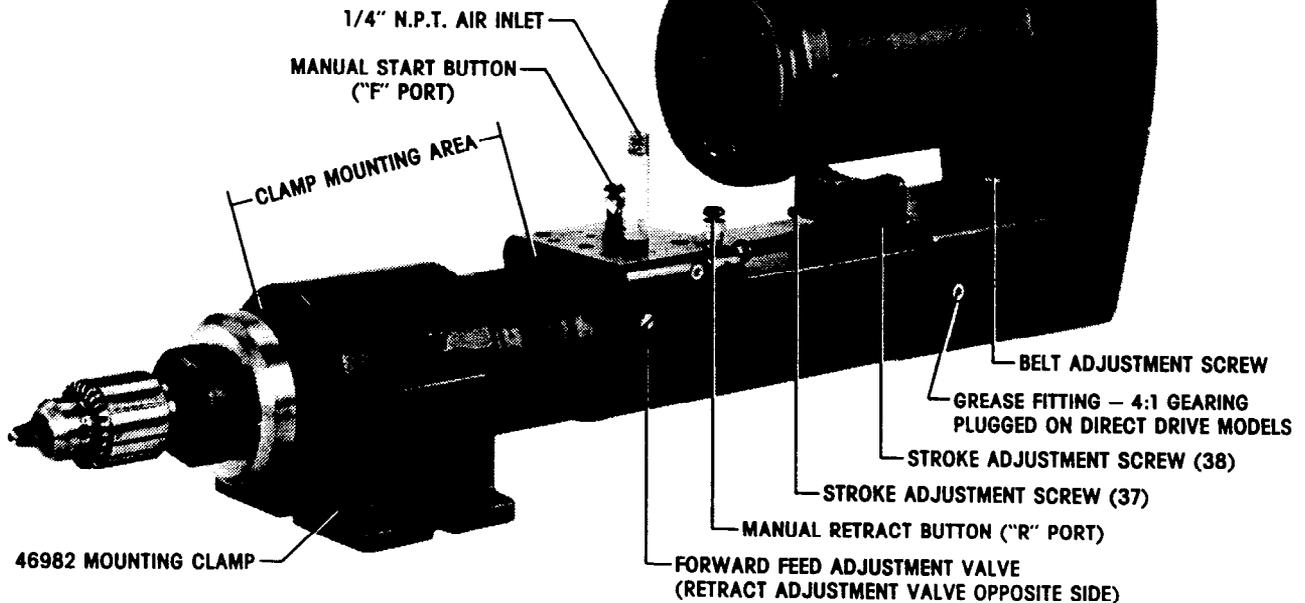
Lack of or an excessive amount of lubrication will affect the performance and life of this tool. Use only recommended lubricants at below time intervals:

EVERY 160 HOURS OF TOOL OPERATION – EXCEPT DIRECT DRIVE MODELS (direct drive models are supplied with grease fitting) – Inject NLGI #1 "EP" grease (33153), 1 to 2 strokes, thru grease fitting in gear housing. Gearing should contain approximately 1/4 oz. (7 g) of grease.

EVERY 2000 HOURS OF TOOL OPERATION – Completely disassemble tool and clean and inspect all possible wear points. Lubricate parts/areas as specified in assembly instructions.

MOUNTING

Clamp assembly (46982) is available for tool mounting. Clamp fits over o.d. of sleeve housing and is provided with cross-slotted keyway and four #10-24 threaded holes for use with keys and key slot type mountings.



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:

Where Used	ARO Part #	Description
"O" Rings, Lip Seals and Air Cylinder	36460	4 oz. Stringy Lubricant
Sliding Splines, Gears and Bearings	33153	5 lb. "EP" – NLGI #1 Grease

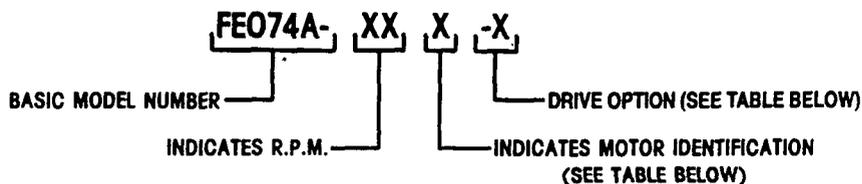
For parts and service information, contact your local ARO distributor, or the Customer Service Dept. of the Ingersoll-Rand Distribution Center, White House, TN at PH: (615) 672-0321, FAX: (615) 672-0601.

ARO Tool Products

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INGERSOLL-RAND®
PROFESSIONAL TOOLS

MODEL IDENTIFICATION



MODELS	R.P.M. @ 60 Hz	R.P.M. @ 50 Hz	MOTOR PULLEY (TEETH)	SPLINE PULLEY (TEETH)	GEAR RATIO	PULLEY RED.	TOTAL RED.
FE074A-66X-()	6600	5500	46918 (44)	46913 (24)	DIRECT DRIVE	.545:1	.545:1
FE074A-46X-()	4600	3800	46917 (38)	46914 (30)	DIRECT DRIVE	.789:1	.789:1
FE074A-40X-()	4000	3400	46916 (36)	46915 (32)	DIRECT DRIVE	.889:1	.889:1
FE074A-32X-()	3200	2700	46915 (32)	46916 (36)	DIRECT DRIVE	1.125:1	1.125:1
FE074A-28X-()	2800	2400	46914 (30)	46917 (38)	DIRECT DRIVE	1.267:1	1.267:1
FE074A-20X-()	2000	1600	46913 (24)	46918 (44)	DIRECT DRIVE	1.833:1	1.833:1
FE074A-16X-()	1600	1400	46918 (44)	46913 (24)	4:1	.545:1	2.182:1
FE074A-11X-()	1100	950	46917 (38)	46914 (30)	4:1	.789:1	3.158:1
FE074A-10X-()	1000	850	46916 (36)	46915 (32)	4:1	.889:1	3.556:1
FE074A-8X-()	800	700	46915 (32)	46916 (36)	4:1	1.125:1	4.500:1
FE074A-7X-()	700	600	46914 (30)	46917 (38)	4:1	1.267:1	5.067:1
FE074A-5X-()	500	400	46913 (24)	46918 (44)	4:1	1.833:1	7.333:1

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

MOTOR IDENTIFICATION

MODELS	MOTOR	MOTOR ASS'Y NO.	MOTOR DESCRIPTION
FE074A-XXA-()	A	46907-4	3/4 HP, 230 / 460 V, 3 PHASE, 50 / 60 Hz
FE074A-XXB-()	B	46907-5	3/4 HP, 220 / 380 V, 3 PHASE, 50 Hz
FE074A-XXC-()	C *	46907-6	3/4 HP, 575 VAC, 3 PHASE, 60 Hz

DRIVE OPTION

OPTION	DESCRIPTION
-A	46977 CHUCK (ITEM 86)
-B	46987 ADAPTER (ITEM 95)
-C	46986 ADAPTER (ITEM 96)

INSTALLATION

The ARO model FE074A-() is NOT supplied with the required motor starter. The motor starter must conform to local/national regulations governing the use of this type 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. See motor description in above table for nominal voltage requirements.

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.

Select the wiring diagram from page 3 that corresponds with the make and type of motor supplied with the Electra-Feed Drill (mo-

* FOR ELECTRICAL CONNECTION DIAGRAM FOR MOTOR ASSEMBLY (46907-6), REFER TO DIAGRAM LOCATED ON THE INSIDE OF THE OUTLET BOX COVER.

tor identification table, page 2) and connect the motor starter to the motor. 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 electrical equipment.

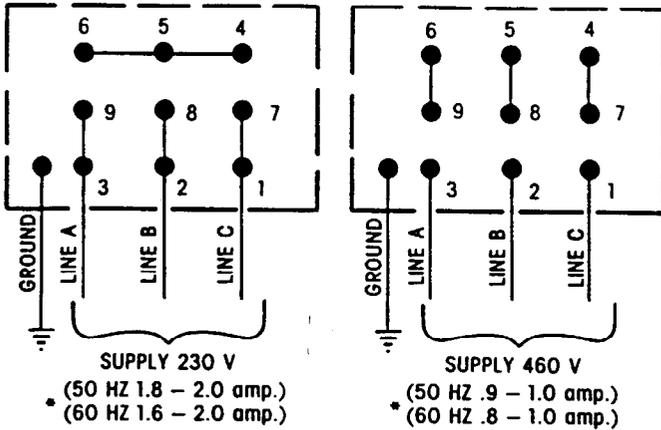
Once the motor is connected, turn on the power supply. If the drill spindle fails to rotate or rotates in the wrong direction, then de-energize the motor starter immediately. Turn off the power supply and recheck the wiring.

MANUAL OPERATION

- Install button bleed valve (51) in either the "F" port located at the top of valve housing or the "F" port located at the side of valve housing (remove pipe plug [52] to use port at side of housing). NOTE: Unused port must be plugged with pipe plug (52). See cover page illustration.
- Depress button bleed valve (51) marked "F" on valve housing. The unit will start in the forward (advancing) mode and continue to feed forward until the adjusting screw (38) has depressed bleed valve (49) marked "R" to retract the unit. See set-up procedure, page 3.
- A manual emergency retract button bleed valve (51) is installed in the "R" port at top of valve housing. This valve can also be installed in the "R" port at the side of housing. NOTE: Unused port must be plugged with pipe plug (52). The manual emergency retract valve can be used to immediately retract the unit in case of misaligned part or other emergency.

46907-4 MOTOR

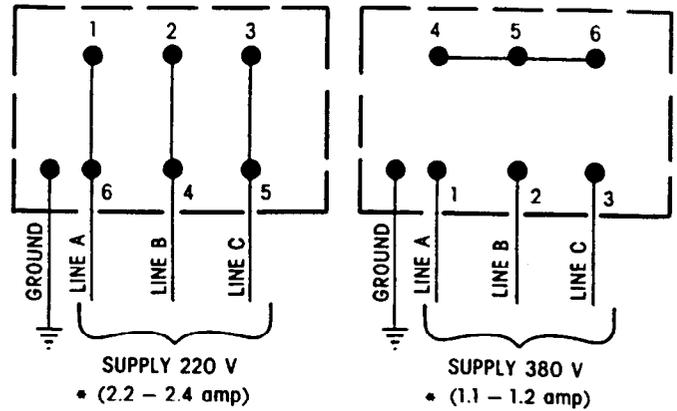
3 - PHASE 50/60 HZ



- **RECOMMENDED OVERLOAD SETTING.**
TO REVERSE ROTATION: INTERCHANGE ANY TWO LINE LEADS.

46907-5 MOTOR

3 - PHASE 50 HZ



- **RECOMMENDED OVERLOAD SETTING.**
TO REVERSE ROTATION: INTERCHANGE ANY TWO LINE LEADS.

SET-UP PROCEDURE

WARNING: Keep clear of rotating end of unit with hands and/or clothing. Keep fingers/hands from being pinched between housing or valves and adjustment screws and/or trip bracket.

- Determine the **TOTAL STROKE LENGTH** the drill must travel to perform drilling operation.
- Loosen cap screw (41) securing control arm (40) to piston rod (61) and position control arm on piston rod approximately 1/4" (6 mm) greater distance between button bleeder valve (49) and control arm (40) than the distance of the total stroke length. **NOTE:** It may be necessary to use a blade type screwdriver, or similar tool, to slightly spread control arm bracket for ease in positioning control arm on piston rod.
- Tighten cap screw (41) securing control arm to piston rod (61).
- Loosen jam nut (39) securing adjustment screw (37) and turn adjustment screw (37) so the distance between the end of the screw and the striker plate (48) equals the total stroke length.
- Tighten jam nut (39) securing adjustment screw (37).
- Loosen jam nut (39) securing adjustment screw (38) and turn screw until the distance between the end of the screw and button bleeder valve (49) is slightly greater than the distance set for adjustment screw (37).
- Start and let the unit advance until the adjustment screw (37) makes contact with the striker plate (48).
- Carefully, and **BE AWARE THAT THE UNIT IS GOING TO**

RETRACT, turn adjustment screw (38) until it depresses the button bleeder valve (49) enough to cause the unit to retract.

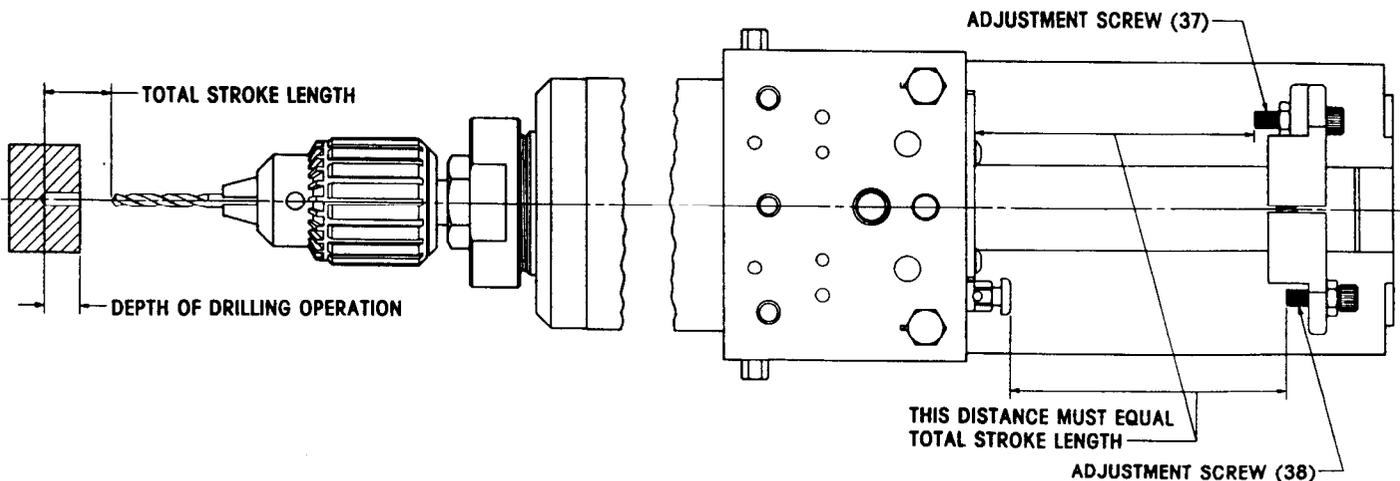
- Tighten jam nut (39) securing adjustment screw (38) at this setting.

FEED RATE CONTROL VALVES

- Turn valve (45), marked "R" at side of housing, approximately 1 1/2 turns counterclockwise (open) from closed position.
- Turn the other valve (45), marked "F" at side of housing, clockwise until closed (do not tighten too snugly).
- Start the unit and slowly turn valve (45) marked "F" counterclockwise (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 (45) marked "R" on housing.

REMOTE OPERATION

- Install a pressure bleed valve - ARO part number 9600 - in valve port marked "F" at either the top or side of valve housing.
- Connect pressure bleed valve (using 1/8" i.d. tubing) to a remote operated valve which, when actuated, feeds air pressure to the pressure bleed valve. Pressure bleed valve will bleed the air from "F" port of valve housing causing spool valve in housing to shift to the forward feed position, thus starting the forward stroke of the unit.



- Install a pressure bleed valve – ARO part number 9600 – in valve port marked “R” at the top or side of the valve housing and connect (using 1/8” i.d. tubing) to a remote MANUALLY operated valve. This valve is used as an emergency retract only, such as in case of a part misalignment. When properly set-up and applied, the unit will automatically retract and return to the start position. See set-up procedure. Refer to page

11 for plumbing and schematic diagrams.

SPECIAL NOTE: The air inlet and remote ports of valve housing have tapered pipe threads and should not require the use of thread sealants, such as sealant tape or pipe joint compounds. Thread sealants, when used improperly, can contaminate air passages and cause valve or unit to malfunction.

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

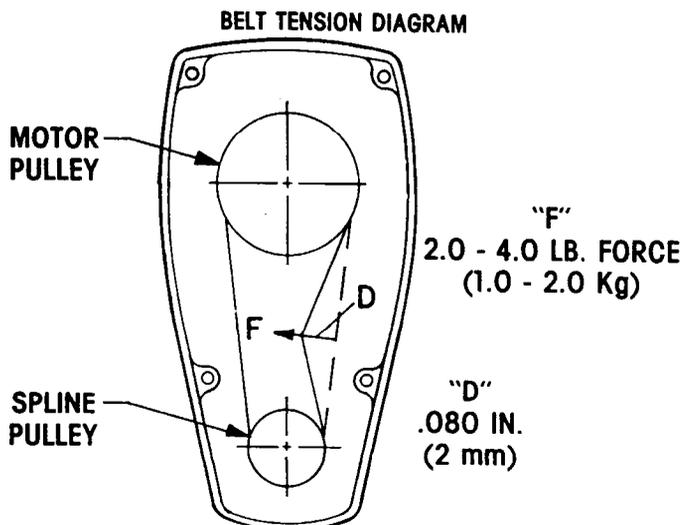
- Thread cap screw (18) all the way into motor mount (14) – RIGHT HAND THREAD.
- Remove four cap screws (1) and cover (2).
- Loosen four cap screws (13). Motor will slip down on belt housing, allowing sufficient slack in timing belt (3) for belt to be removed from pulleys (6 and 7).
- To remove pulleys, remove cap screws (97), lockwashers (92) and washers (4). Remove pulleys and keys (5).

BELT AND PULLEY SECTION ASSEMBLY

- Assemble pulleys (6 and 7), with keys (5), to gearing and motor spindles and secure with washers (4), lockwashers (92) and cap screws (97).
- Assemble timing belt (3) over pulleys.
- Refer to “ADJUSTING BELT TENSION” section or belt tension instructions on cover (2).
- Assemble cover (2) to housing and secure with four cap screws (1).

ADJUSTING BELT TENSION

- Thread cap screw (18) out (counterclockwise) to increase (tighten) the belt tension.
- Gradually increase the belt tension until the belt deflection is .07” to .08” (1.7 to 2.0 mm) when a 2 to 4 lb. (1 to 2 kg) force is applied to side of belt (see diagram).



- Tighten motor mounting cap screws (13) completely and install cover (2), securing with four cap screws (1).

GEARING SECTION DISASSEMBLY

- Follow instructions for disassembly of BELT AND PULLEY SECTION and remove timing belt and pulleys.
- Remove four cap screws (10) and separate belt housing (11) from head assembly (64). NOTE: Housings will have to be pulled apart approximately 12 inches (305 mm) to completely separate gearing spindle from splines of spindle (79). Gearing is contained in belt housing.
- Using a spanner type wrench, unthread and remove lock screw (26) – RIGHT HAND THREADS. NOTE: Thread adhesive has been used on threads of lock screw (26) at assembly.
- Pull gearing assembly from belt housing.
- NOTE: Bearings (23) are press fit on spindles, do not remove unless it should become necessary to replace a part, as Brinelling of the bearing races may occur, making replacement necessary.
- To remove gears (32) from spindle (34), separate spindles (28 and 34), remove spacer (29), bearing (23), washer (30) and pins (33). Pins must be removed from spindle as shown in parts illustration.

GEARING SECTION ASSEMBLY

- Lubricate gears and pins liberally with ARO 33153 grease. Gearing should contain approximately 1/4 oz. (7 g) of grease.
- Assemble gears (32), with roller bearings (31), to spindle (34) and secure with pins (33).
- Assemble washer (30) and bearing (23) to spindle.
- Assemble spindle (34) to ring gear (35) and assemble bearing (23) to spindle and ring gear.
- Assemble spacer (29) over bearing.
- Assemble bearings (23) and sleeve (27) to spindle (28).
- Assemble spacer (22) to spindle (28).
- Assemble wave washer (24) over spindle and assemble spindle (28) to spindle (34).
- Assemble gearing into housing and secure with lock screw (26). Tighten lock screw to 40 – 60 ft. lbs (54 – 81 Nm).
- Align gearing spindle with spindle (79), slide housings together and secure with four cap screws (10).
- Refer to “BELT AND PULLEY SECTION” to complete the assembly procedure.

PISTON SECTION DISASSEMBLY

- Remove screw (87) and chuck (86) from spindle (79).
- Loosen cap screw (41) in control arm (40) to allow for removal of piston assembly (61).
- Remove screw (89) and cam washer (90). Using a strap wrench, unthread sleeve (74) from head (64) – LEFT HAND THREADS.
- Remove spindle nut (85) and locknut (84).
- Remove spindle (79), bearing stop (83), bearings (81), spacer (80) and bearing (77) from piston assembly (61).
- Remove piston (61) and air cylinder (73) from sleeve. CAUTION: Handle the air cylinder carefully to prevent damaging or distorting the inside diameter.

PISTON SECTION ASSEMBLY

- Assemble quad ring (75) to nose bushing of sleeve (74), with lips of quad ring facing towards sleeve.

- Assemble wiper (76) to nose bushing.
- Assemble "U" cup packing (60) to piston (61).
- Assemble seal washer (78) and bearing (77) to spindle (79).
- Assemble spindle (79), spacer (80) and bearings (81) to piston (61).
- Assemble felt seal (82) to bearing stop (83) and assemble to spindle.
- Assemble spindle nut (85) to spindle and tighten securely.
- Lubricate i.d. of air cylinder (73) and o.d. of piston (61) with "O" ring lube (36460) and assemble into sleeve. Handle air cylinder with care so as not to damage or distort i.d.
- Assemble locknut (84) to piston assembly and tighten securely.
- Assuming seal (59) and "O" rings (57 and 58) have not been removed from head, assemble sleeve to head and tighten securely – LEFT HAND THREAD. Use caution when inserting piston rod thru head so as not to damage "O" rings (42). Assemble control arm (40) to piston rod.
- Assemble chuck (86) to spindle and secure with screw (87).

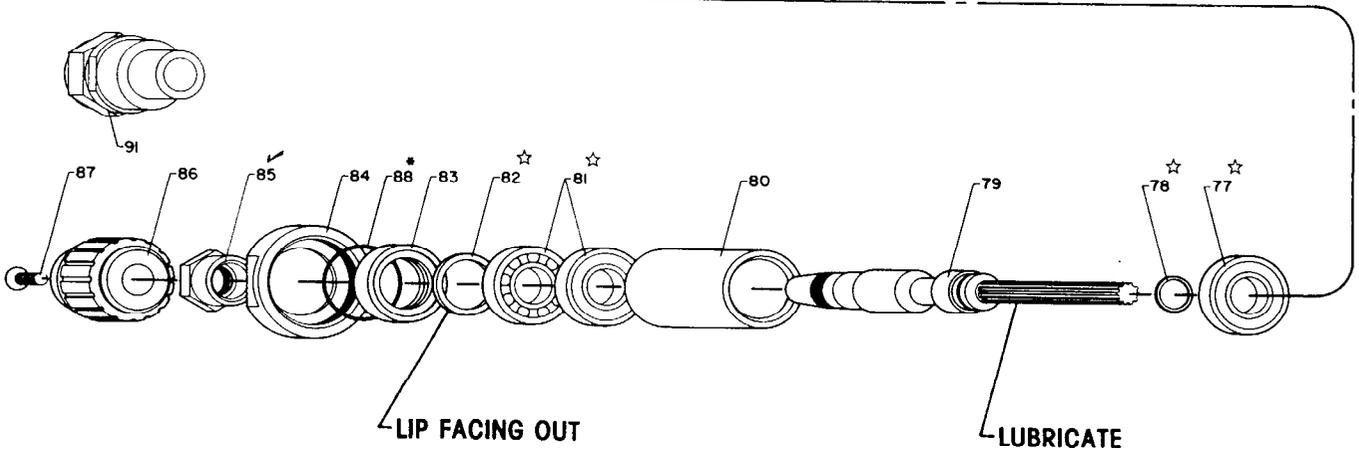
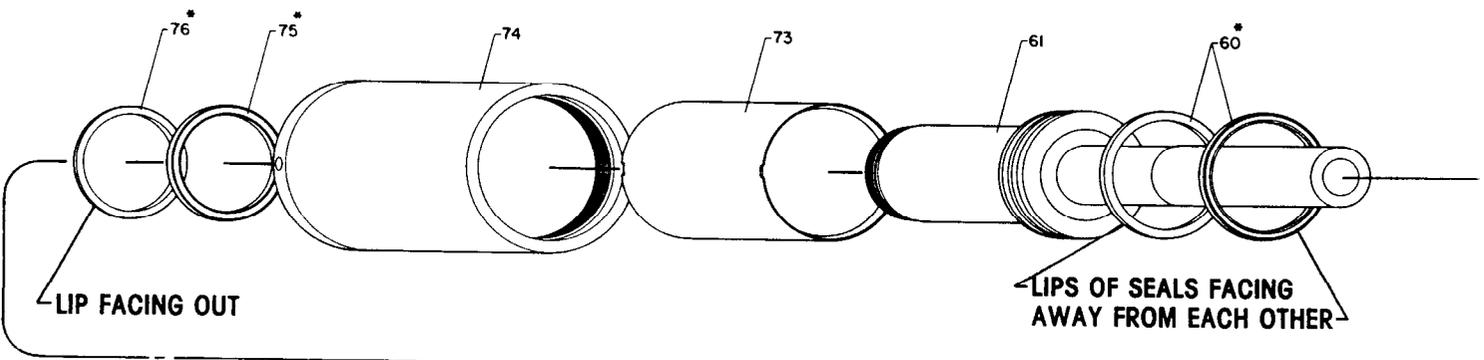
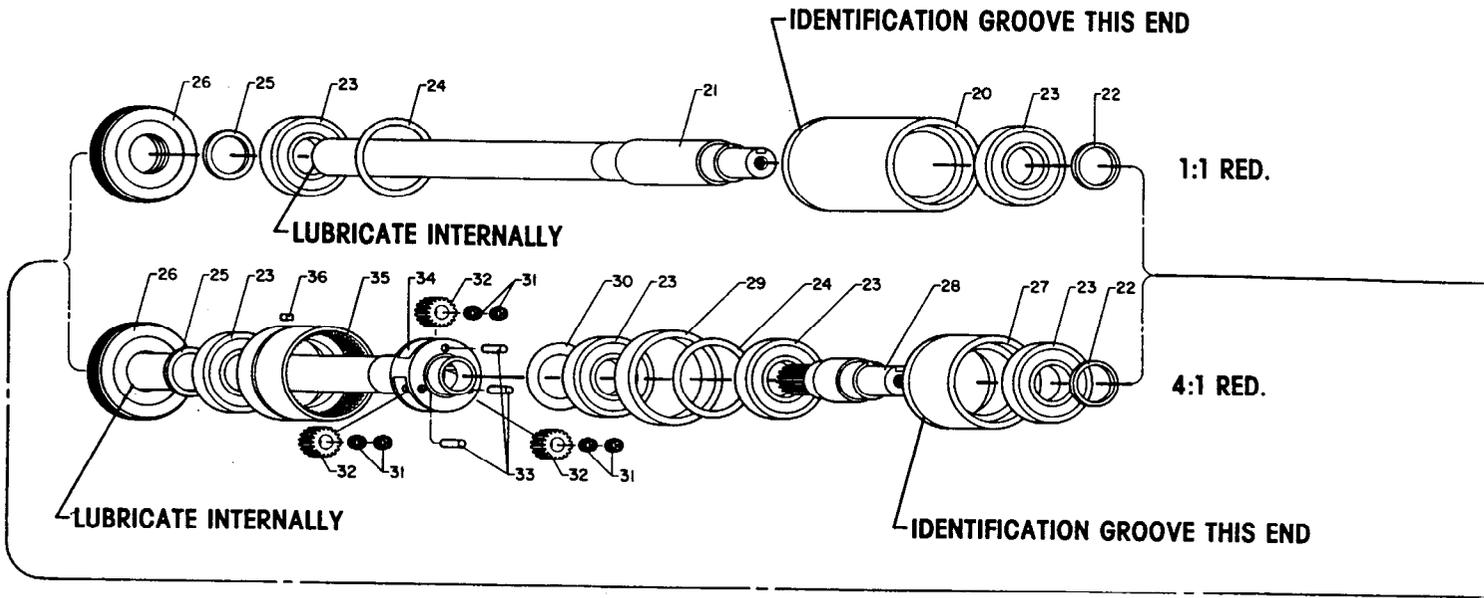
VALVE HOUSING (HEAD) DISASSEMBLY

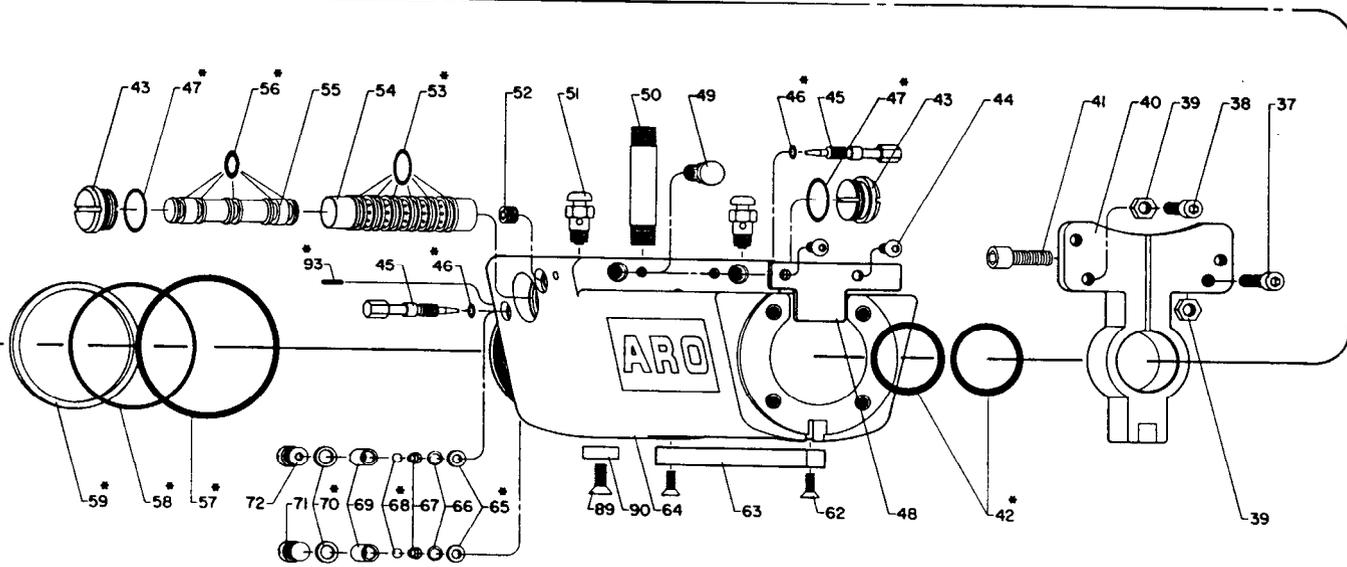
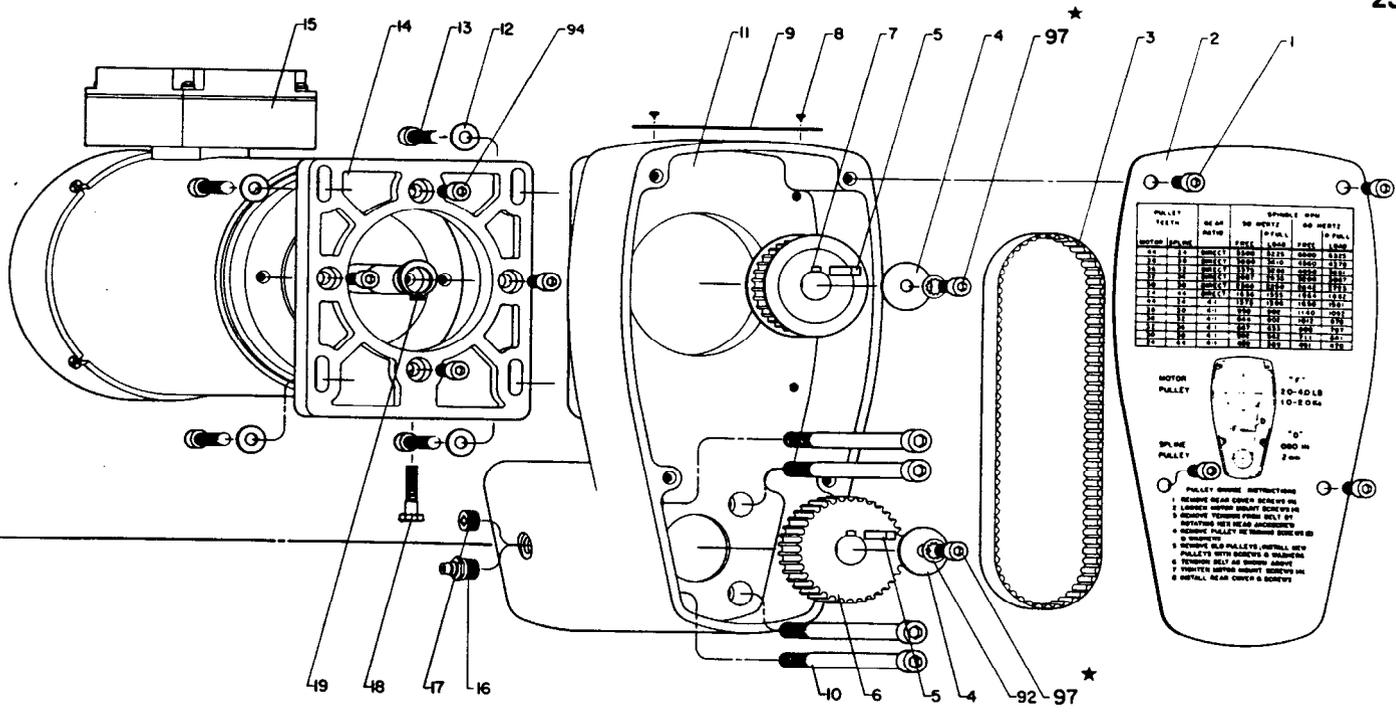
The spool valve (55), "O" rings (56), sleeve (54), "O" rings (53), needle valves (45) and "O" rings (46) can be serviced without disrupting any other section of the tool. To service check valve components (65 thru 72), remove sleeve (74) and components as described in "PISTON SECTION".

- Unthread and remove screw plugs (43) and push spool valve out thru housing.
- Button bleed valves (51) and valve (49) need not be removed except for replacement.
- After removal of plug (43), push roll pin (93) thru into counter-bore, releasing needle valve (45).

VALVE HOUSING (HEAD) ASSEMBLY

- When assembling parts containing "O" rings, replace "O" rings with new ones.
- Lubricate all "O" rings with "O" ring lubricant (36460) when assembling.
- Assemble needle valve (45) into housing, securing with roll pin (93).





NOT SHOWN
39785 FLAT WRENCH
Y106-5 ALLEN WRENCH
Y106-7 ALLEN WRENCH

- INCLUDED IN SERVICE KIT NO. 46993.
- ☆ INCLUDED IN SERVICE KIT NO. 46994.
- ★ APPLY LOCTITE 242 (BLUE) TO 2-3 THREADS.
- ✓ TIGHTEN TO 25-30 FT LBS.

PART NUMBER FOR ORDERING

PART NUMBER FOR ORDERING

1	Cap Screw (4 req'd)	Y99-40	44	Screw (2 req'd)	Y211-102
2	Cover	46912	45	Needle Valve (2 req'd)	46954
3	Timing Belt	46923	46	"O" Ring (2 req'd)	Y325-7
4	Washer (2 req'd)	46922	47	"O" Ring (2 req'd)	Y325-19
5	Key (2 req'd)	46921	48	Plate	46951
6	Spline Pulley		49	Valve Assembly	46950
	44 teeth	46918	50	Nipple	Y44-12
	38 teeth	46917	51	Button Bleed Valve (2 req'd)	24130
	36 teeth	46916	52	Pipe Plug (4 req'd)	Y227-2-L
	32 teeth	46915	53	"O" Ring (6 req'd)	Y325-16
	30 teeth	46914	54	Sleeve	46952
	24 teeth	46913	55	Spool Valve	44978
7	Motor Pulley		56	"O" Ring (5 req'd)	15066
	24 teeth	46913	57	"O" Ring	Y325-232
	30 teeth	46914	58	"O" Ring	Y325-37
	32 teeth	46915	59	Seal Washer (included with item 64)	46943
	36 teeth	46916	60	"U" Cup Packing (2 req'd)	47628
	38 teeth	46917	61	Piston	46963
	44 teeth	46918	62	Screw (2 req'd)	Y194-95
8	Metal Tack (2 req'd)	98984	63	Key	46946
9	Nameplate		64	Head Assembly (includes item 59)	46945-1
	for non-EU models	46911	65	Seal Washer (2 req'd)	46955
	for -EU models	46911-EU	66	Retaining Ring (2 req'd)	Y147-1-K
10	Cap Screw (4 req'd)	46938	67	Conical Spring (2 req'd)	39679
11	Belt Housing	46908	68	Rubber Ball (2 req'd)	44967
12	Washer (4 req'd)	46909	69	Valve Insert (2 req'd)	46956
13	Cap Screw (4 req'd)	Y99-42		Valve Assembly (2 req'd) includes items	
14	Motor Mount	46910		66 thru 69	46957
15	Electric Motor		70	"O" Ring (2 req'd)	Y325-11
	230 / 460 V, 3 phase, 50 / 60 Hz	46907-4	71	Screw Plug	46959
	220 / 380 V, 3 phase, 50 Hz	46907-5	72	Screw Plug	46960
	575 V, 3 phase, 60 Hz	46907-6	73	Air Cylinder	46965
16	Straight Fitting (used with 4:1 gearing only)	6000	74	Sleeve Assembly	46969
17	Pipe Plug (used with direct drive only)	Y227-2-L	75	Quad Ring	47280
18	Cap Screw	Y6-45	76	Wiper	46970
19	Ring	46919	77	Bearing	46926
20	Sleeve	46935	78	Seal Washer	46964
21	Spindle Assembly	46937	79	Spindle	46976
22	Spacer	46925	80	Spacer	46966
23	Bearing (2 or 4 req'd)	46926	81	Bearing (2 req'd)	46972
24	Wave Washer	46928	82	Wiper	47504
25	Seal	44899	83	Bearing Stop	46973-1
26	Lock Screw	46931	84	Locknut	46971
27	Sleeve	46927	85	Spindle Nut	46975-1
28	Spindle	46924	86	Drill Chuck	46977
29	Spacer	46929	87	Screw (used with item 86)	Y194-46
30	Washer	46944	88	"O" Ring	Y325-29
31	Needle Bearing (6 req'd)	42271	89	Screw	Y194-44
32	Planet Gear (3 req'd) 4:1 ratio (18 teeth)	45315	90	Cam Washer	47503
33	Pin (3 req'd)	45322	91	Optional Drill Chuck (to accept drill bits larger than	
34	Spindle Assembly	46934		1/2" Std. #180 collet range .031" - .750")	48091
35	Ring Gear	46930	92	Lockwasher (2 req'd)	Y1-416-C
36	Key	33017	93	Roll Pin (2 req'd)	Y178-9
	Conversion Kit (direct drive) includes		94	Cap Screw (4 req'd)	Y99-41
	items 17, 20, 21, 23 and 24	46996	95	Adapter (#1 Morse taper)(not shown)	46987
	Conversion Kit (4:1 ratio) includes items		96	Adapter (#2 Morse taper)(not shown)	46986
	16, 23, 24 and 27 thru 36	46995	97	Cap Screw (2 req'd)	Y99-458
37	Cap Screw	Y157-42		SERVICE KIT: includes items 42, 46, 47,	
38	Cap Screw	Y157-41		53, 56, 57, 58, 59, 60, 65, 68, 70, 75,	
39	Jam Nut (2 req'd)	Y11-104		76, 88, 93 and Y325-4 "O" ring (3 req'd)	
40	Control Arm	46947		used in items 49 and 51	46993
41	Cap Screw	Y99-578		SERVICE KIT: includes items 77, 78, 81 and 82	46994
42	"O" Ring (2 req'd)	47626			
43	Plug (2 req'd)	46953			

HYDRAULIC CHECK ASSEMBLY

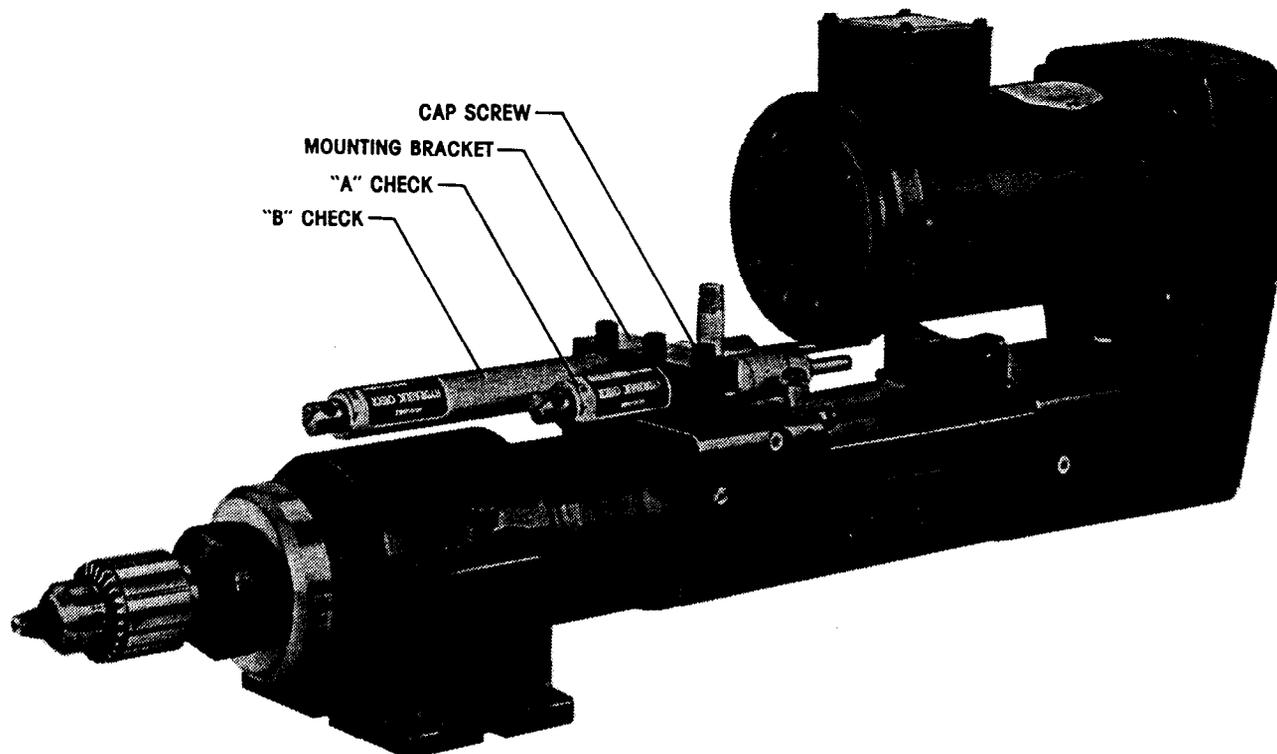
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☆ HYDRAULIC CHECK ASSEMBLY	"A" CHECK	"B" CHECK	MOUNTING BRACKET	Y99-55 REQ'D
46997-1	38922		46985	2
46997-2	38922-1		46985	2
46997-3 *	*38922-2		*46985	2
46998-11	38922	38922	46984	3
46998-12	38922	38922-1	46984	3
46998-13	38922	38922-2	46984	3
46998-22	38922-1	38922-1	46984	3
46998-23	38922-1	38922-2	46984	3
46998-33	38922-2	38922-2	46984	3

HYDRAULIC CHECK NO. 38922 = 1" STROKE, 38922-1 = 2" STROKE, 38922-2 = 3" STROKE.

☆ DASH NO. REPRESENTS STROKE LENGTH OF HYDRAULIC CHECKS. EXAMPLE: 46998-23 CONTAINS ONE 2" AND ONE 3" STROKE HYDRAULIC CHECK.

*FURNISHED WITH MODELS AS STANDARD EQUIPMENT.

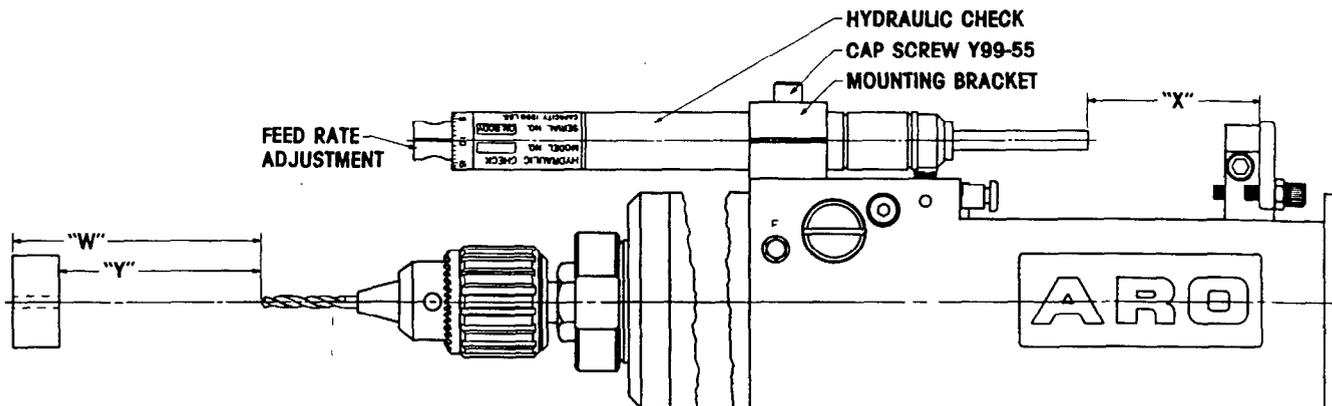


VIEW SHOWING OPTIONAL HYDRAULIC CHECK MOUNTING

(DUAL HYDRAULIC CHECKS, 1" AND 3" STROKES SHOWN)

HYDRAULIC CHECK SET-UP

(FOR HYDRAULIC CHECK ASSEMBLIES, SEE PAGE 9)



SET-UP PROCEDURE FOR SINGLE HYDRAULIC CHECK ASSEMBLY

- Assemble hydraulic check to mounting bracket.
- Position mounting bracket on head of tool – three (3) threaded mounting holes allow mounting bracket to be located to either side of head – and secure with two (2) 5/16" – 18 x 1-3/4" long cap screws (Y99-55) furnished with bracket assembly.
- Measure distance from drill point to work piece – distance "Y".
- Distance "X" between hydraulic check plunger and control arm must be less than distance "Y" to prevent damage to drill point when it approaches the work piece.
- Loosen the cap screws (Y99-55) and position hydraulic check to obtain correct setting for distance "X".
- Tighten cap screws (Y99-55) securely before operating unit.
- Increase the air flow thru the feed control valve marked "F" by opening two (2) full turns from closed position. This will allow drill to advance rapidly until the control arm contacts plunger of hydraulic check.
- The hydraulic check feed rate adjustment is located at the nameplate end. Rotate the extended end until the slot at end of spindle is aligned with the number 15 on the nameplate.
- Start drill unit and the drill will advance at a rapid rate until the control arm contacts plunger of hydraulic check.
- Slowly rotate extended spindle of hydraulic check counter-clockwise toward the number zero (0) on the nameplate until the drill advances at the desired rate of feed.

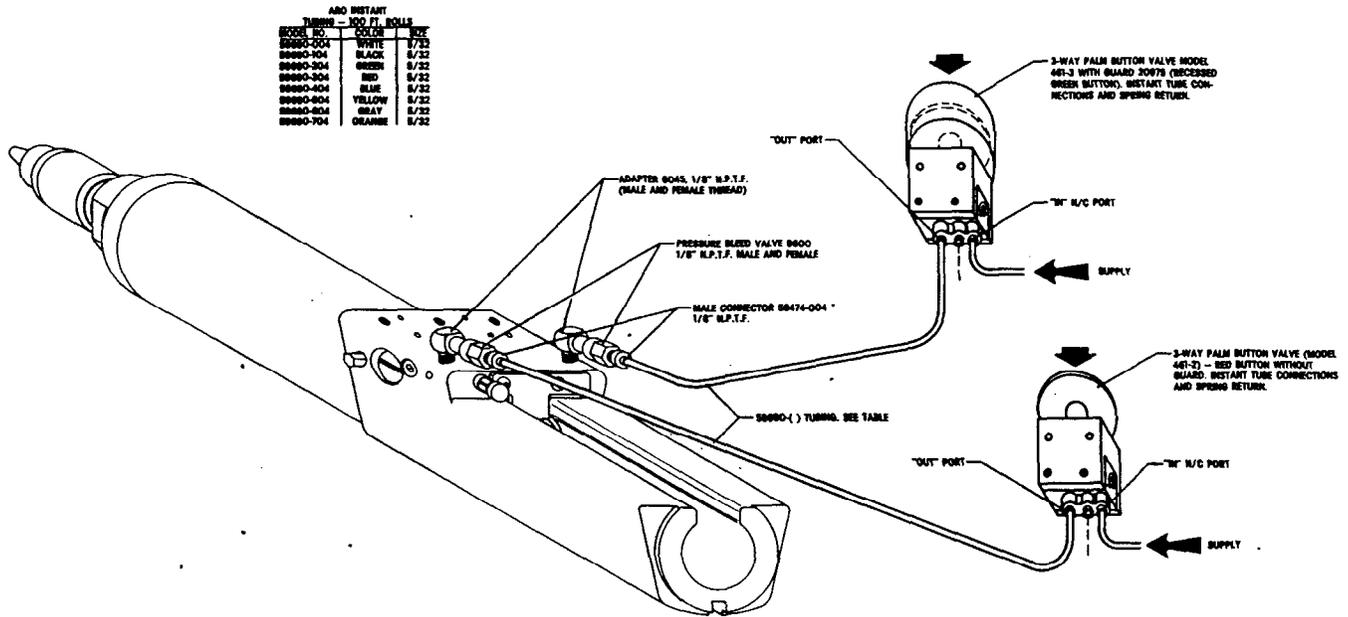
TO CONTROL BREAKTHROUGH

- Position hydraulic check so the distance between the plunger and the control arm (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.

SET-UP PROCEDURE FOR DUAL HYDRAULIC CHECK ASSEMBLY

- The dual hydraulic check assembly can be used when two different thrust control requirements are needed – for example, a 3" stroke length hydraulic check and a 1" stroke length hydraulic check. When used together, the 3" stroke length check is used to control the initial part of the drilling operation and the 1" stroke check set to give additional control at breakthrough.
- Assemble hydraulic checks to mounting bracket and assemble to head of tool with three (3) screws (Y99-55) furnished with bracket assembly.
- Basically, the set-up procedure for the dual hydraulic checks will be the same as for the single check, except you will be doing each step of the set-up twice.
- After the stroke length set-up is made – when two checks of the same stroke lengths are being used, synchronize the two checks more or less by rotating the feed rate adjustment of each check to approximately the same number setting.
- When using two checks of different stroke lengths, testing set-up on a few scrap work pieces will be the best way in determining proper rates of feed.

BASIC REMOTE CONTROL FOR START AND EMERGENCY RETRACT FUNCTIONS



REMOTE OPERATION

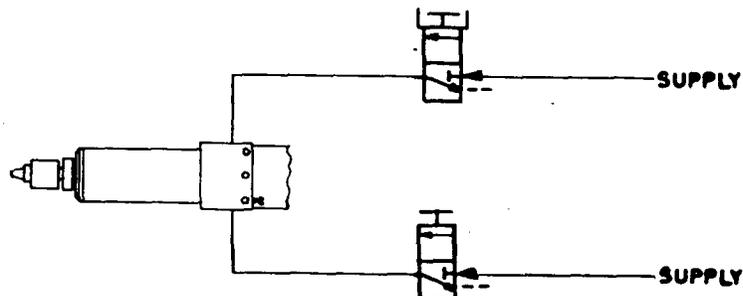
Remote operation of the unit may be achieved by connecting a 3-way valve to the remote start and/or remote retract ports, as shown above.

TO START – Depress the remote button momentarily. The unit will advance the drill to a pre-set depth and automatically retract to the initial position whereupon the unit will stop.

EMERGENCY RETRACT – Depress the emergency button momentarily. This signal to the unit will shift the built-in pressure operated valve, commanding the unit to retract immediately to the initial position whereupon the unit will stop.

NOTE: MANUAL START and EMERGENCY RETRACT buttons on the tool are fully operational even when remote control is used. The manually operated buttons can be used when set-up is required.

Shown below is the same system in schematic form.



TYPICAL CROSS SECTION OF TOOL

