Clausing No. 2217 Air Feed Attachment Operating Instruction for 20" Drill Press

Mounting the Air Feed Attachment

1. Remove belt guard.
2. Lock spindle at bottom of stroke with quill lock.

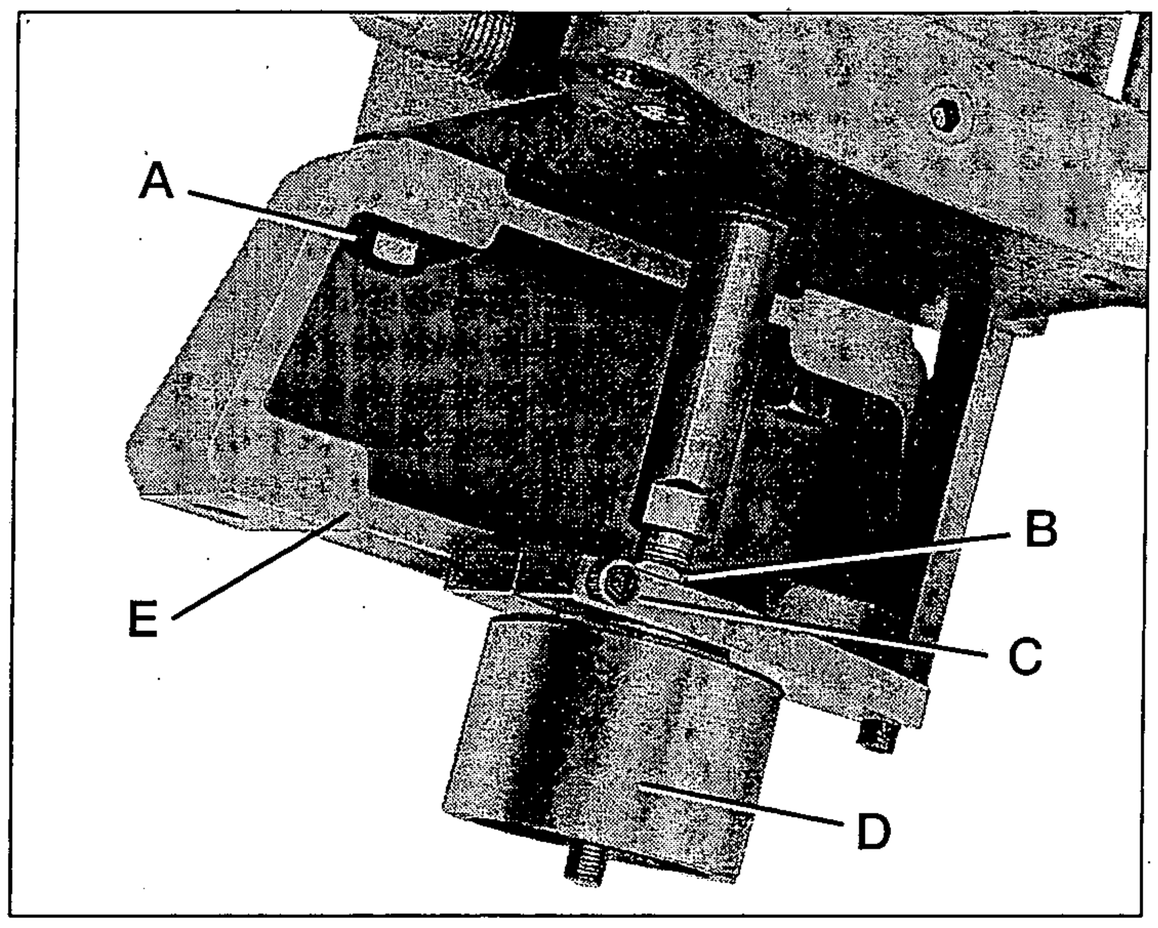


Figure 1

3. Remove cylinder mounting support (E, fig. 1) from air feed assembly by unscrewing cap screws (A).
4. Pull piston rod far enough out of cylinder for convenient removal of thrust bearing housing (D). Loosen arm screw (C) and lock nut (B). Then unscrew housing from rod.

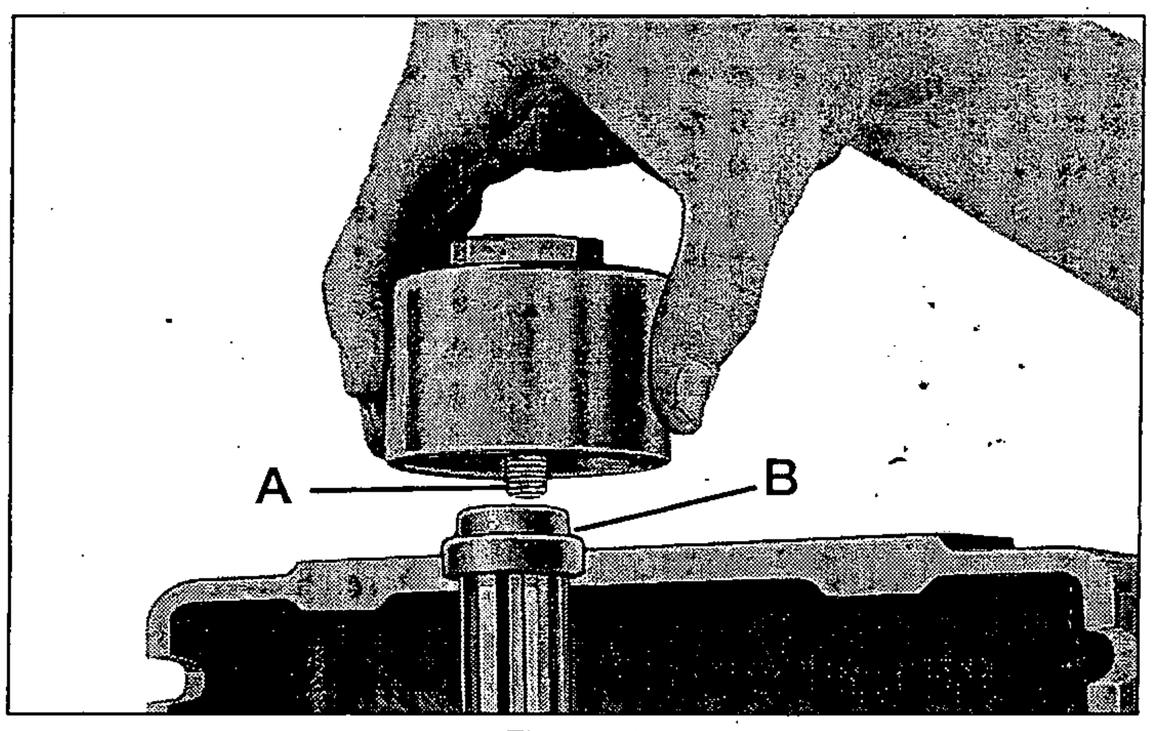


Figure 2

5. Place adapter (B, fig. 2) and bearing housing on top of spindle and tighten screw (A) securely.

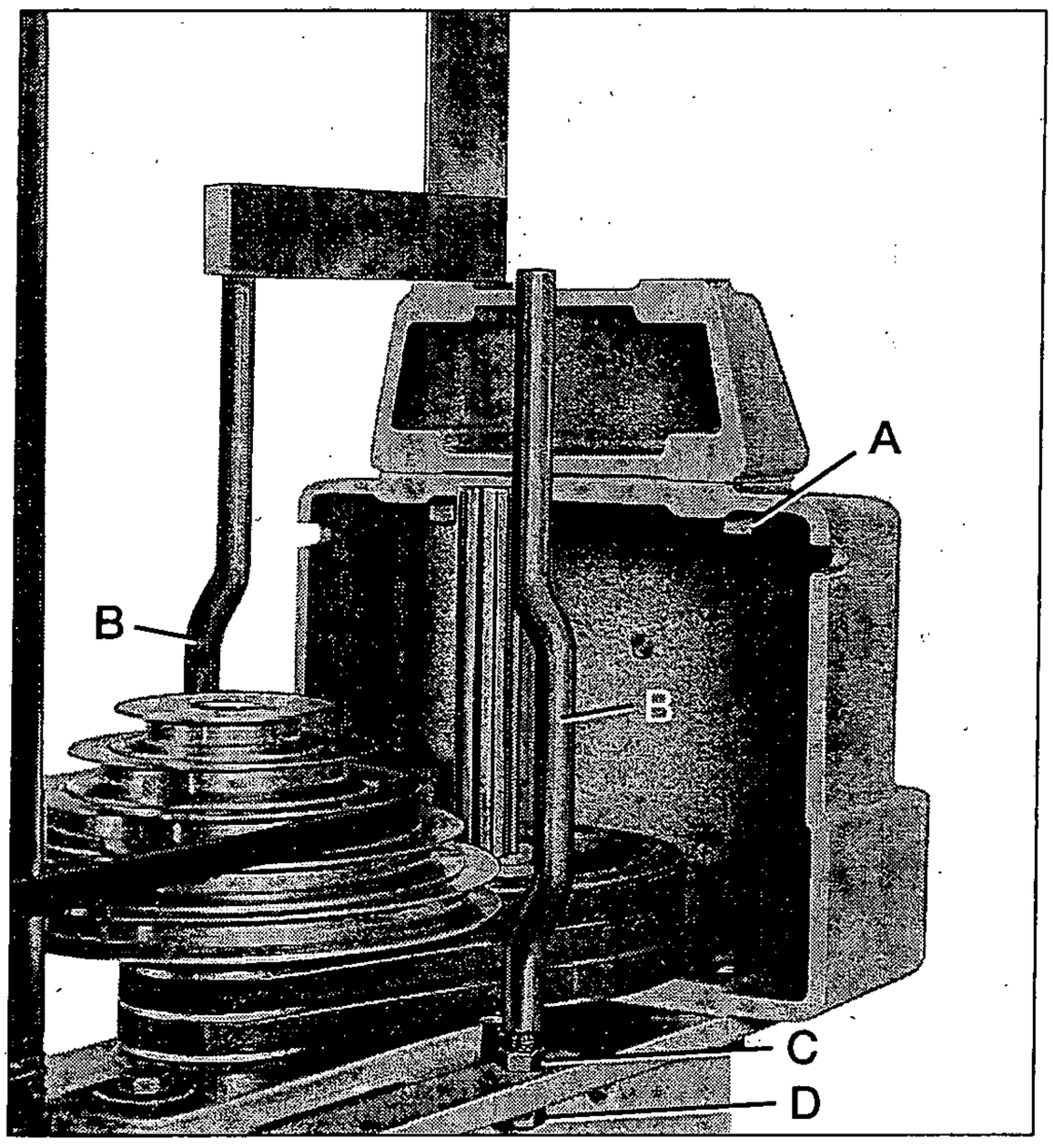


Figure 3

6. Place cylinder mounting support on top of spindle pulley guard and start the two mounting screws (A, fig. 3).
7. Turn nuts (C) onto support rods (B). Insert support rods into holes in drill press head. Adjust nuts until top of each rod is level with cylinder mounting support. Check with straight edge and lock in place with nuts (D).

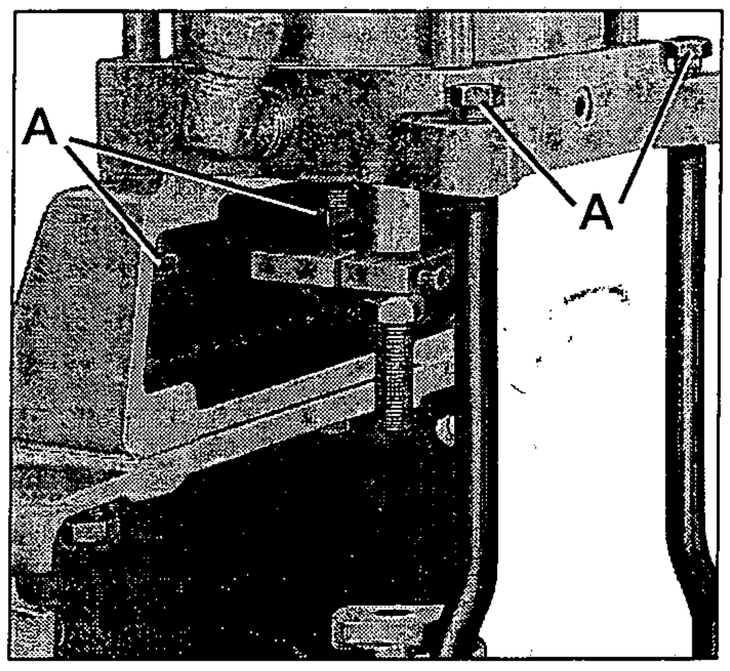


Figure 4

8. With piston rod at top of stroke - figure 4, place air feed assembly on top of cylinder mounting support and support rods.
9. Start the four mounting screws (A).

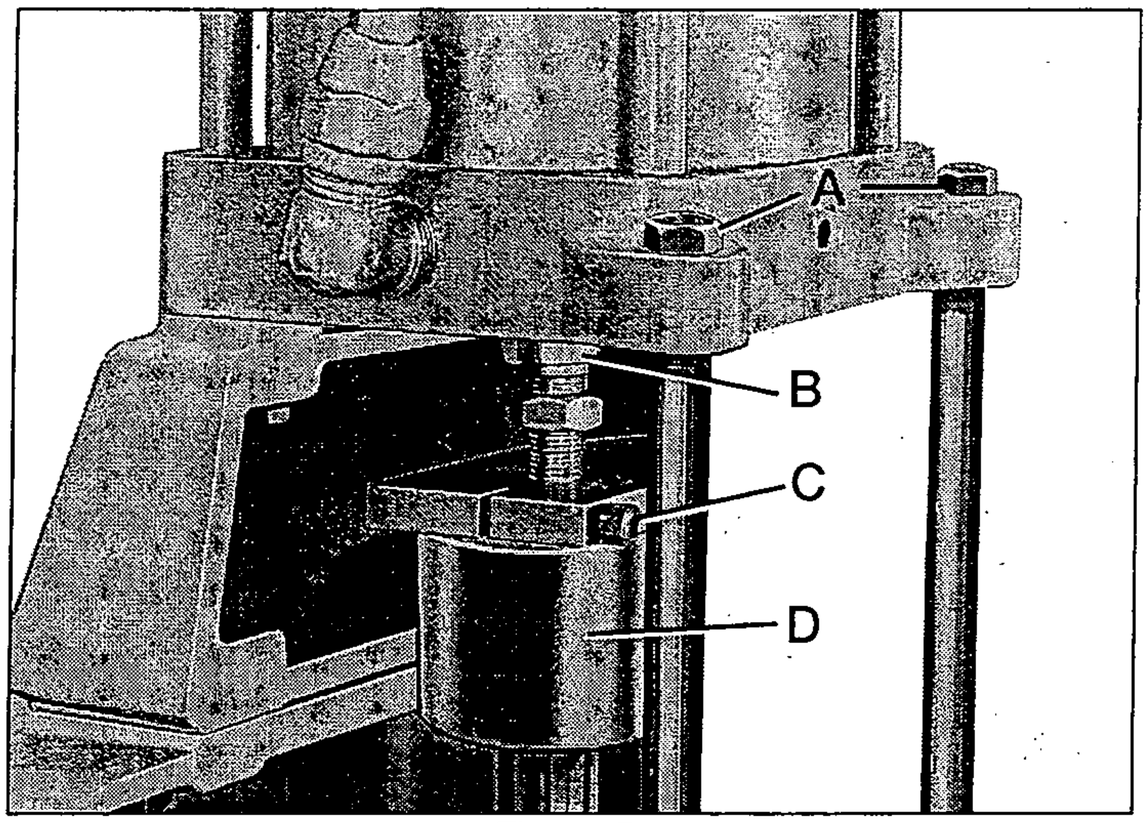


Figure 5

10. Unlock and move spindle up with feed handle until bearing housing (D, fig. 5) slides into piston rod mounting arm and contacts bottom of piston rod (B). Do not tighten arm screw (C).

11. Lock spindle with quill lock.

12. Shift position of air feed assembly until piston rod (B) is in alignment with top of bearing housing (D) - alignment is correct when bearing housing screws freely onto piston rod.

    CAUTION: Improper alignment will cause excessive noise and spindle wear.

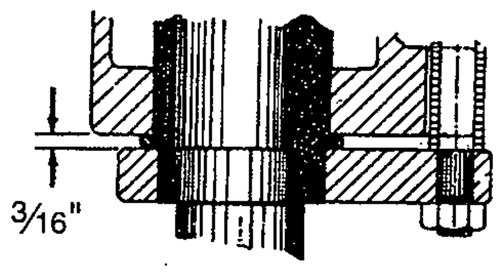


Figure 6

13. Tighten the six mounting screws (A) and unlock spindle.

IMPORTANT: *Check distance between depth stop and bottom of head - figure 6.*

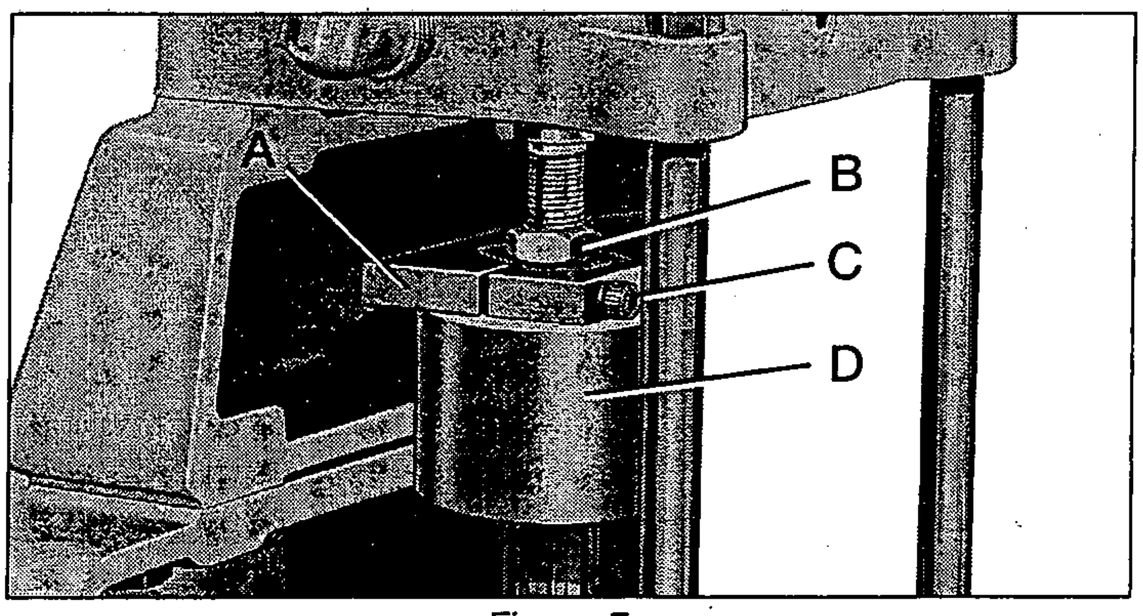


Figure 7

14. With piston rod at top of stroke, turn bearing housing (D, fig. 7) on piston rod until distance between head and bracket is 3/16". (See Figure 6)

15. Lock piston rod mounting arm (A) in place with arm screw (C).

16. Tighten lock nut (B) against bearing housing.

17. Replace belt guard.

18. Mounting Filter and Oil Regulator.

Drill two 9/32 dia. holes in left side of belt guard. Locate 1¼" down from top and 15½ inches from front edge of guard to the first hole; and then 3 inches to the next hole.

Mount the two clamps to guard as shown in fig. (8).

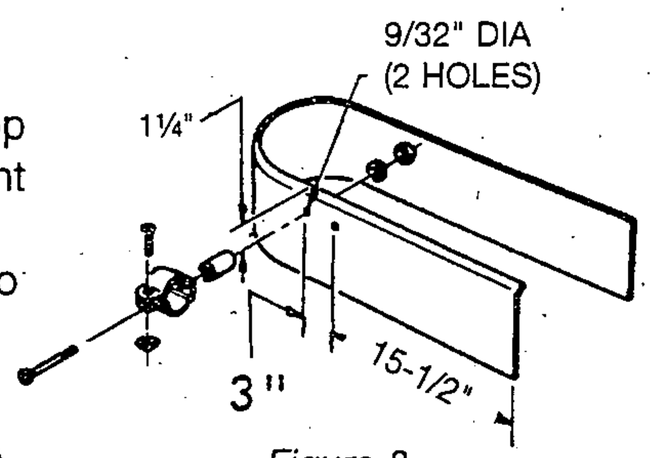


Figure 8

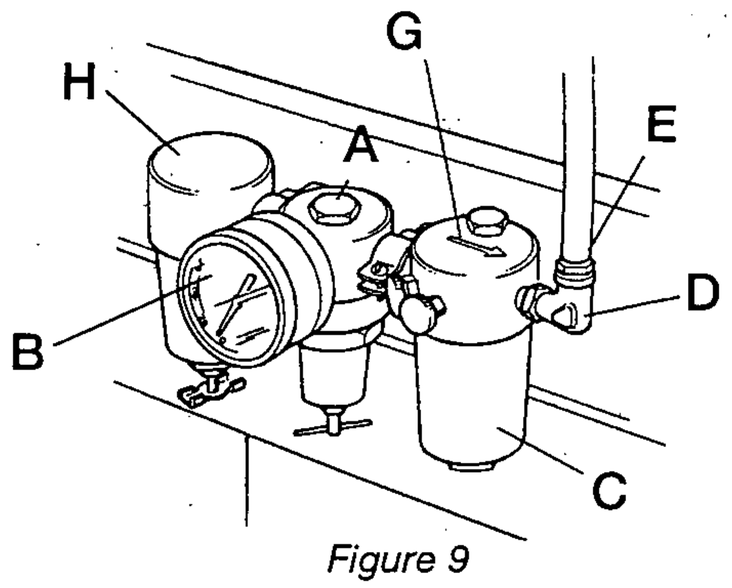


Figure 9

19. Install Pressure Gauge (B) on Regulator (A).

    Screw elbow (D) into lubricator (C) and then airline with fitting (E) onto the elbow.

    NOTE: A shut-off cock (not furnished) should be installed at the filter (H).

    Mount the regulator assembly on the two brackets already attached to the guard. Note: Flow arrow (G) on top of lubricator (C) should point toward front of drill press.

    NOTE: *Flow arrows should point towards front of drill press.*

    Attach hose (E) from air cylinder to fitting (D).

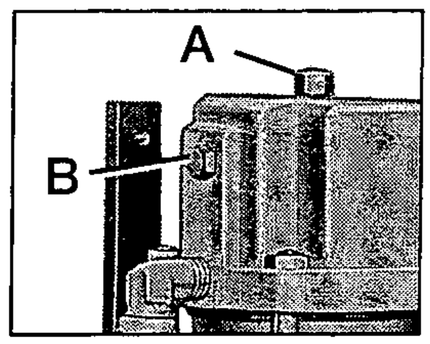


Figure 10

20. Fill lubricator (C) to top of bowl with a good grade of light spindle oil - 80 to 150 SSU viscosity (oil should be thinner than No. 10SAE).
    DO NOT OVER FILL.

21. CHECK HYDRAULIC OIL LEVEL.

    With cylinder at top of stroke, remove top plug (A, fig. 10) and side plug (B).

    Add #10 premium grade hydraulic oil until oil starts to run out hole (B) on side of cylinder.

    Replace plugs.

22. Install kick-out arm.

    Remove depth stop stud from bracket and install kick-out arm as shown in figure 11 - reinstall stud.

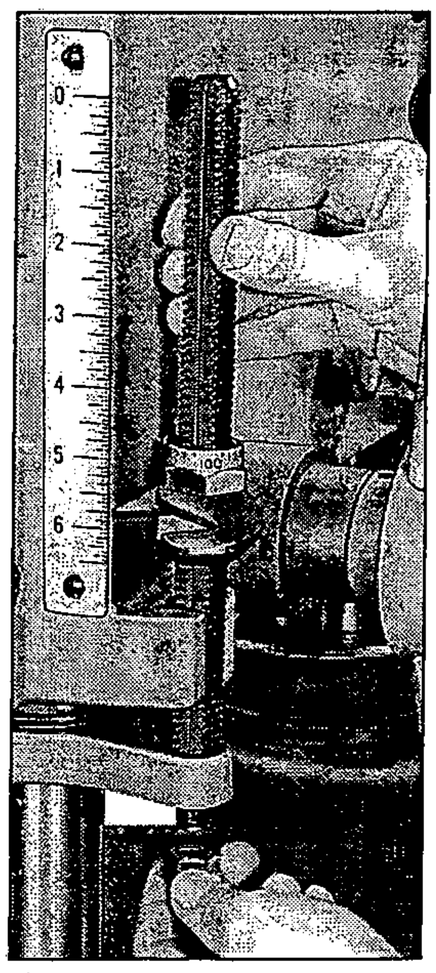


Figure 11

23. Install hose channel (B, fig. 12) with hex cap screw (A) on right side of pulley guard.

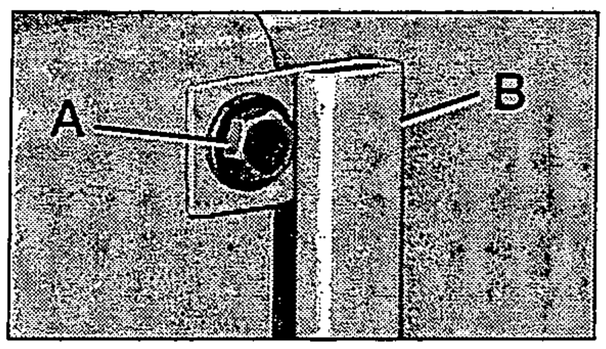


Figure 12

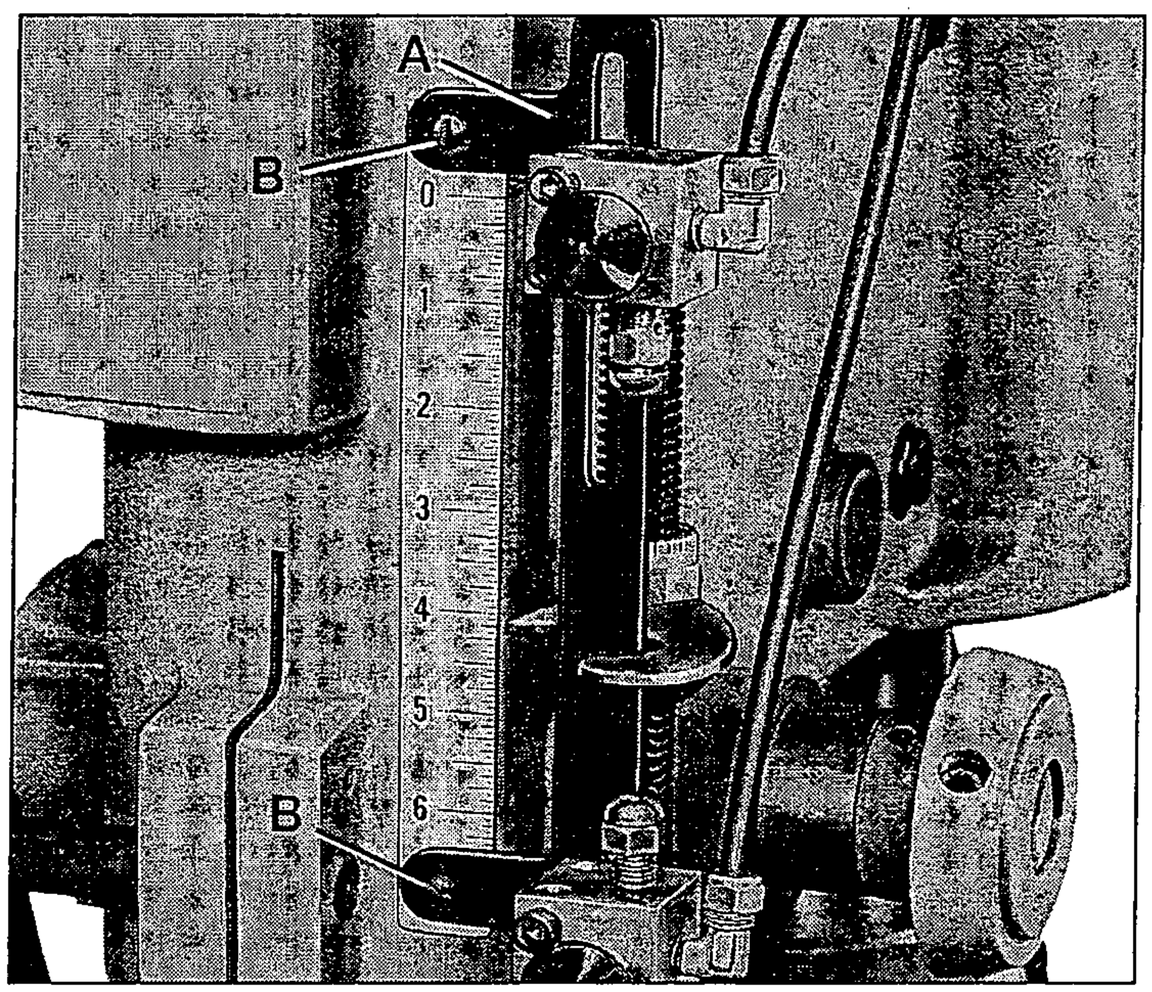


Figure 13

24. Install valve assembly.

    Remove screws from depth scale. Place bracket (A, fig. 13) over scale and install, using longer screws (B) furnished.

25. Slide two hoses thru channel (C, fig. 14).

    Connect back hose to upper valve (D), front hose to lower valve (E).

    Connect back hose to back elbow (B) of manifold - front hose to front elbow (A).

26. Connect air supply to shut-off cock.

CAUTION: DO NOT TURN ON AIR UNTIL DRILL IS SET FOR OPERATION.

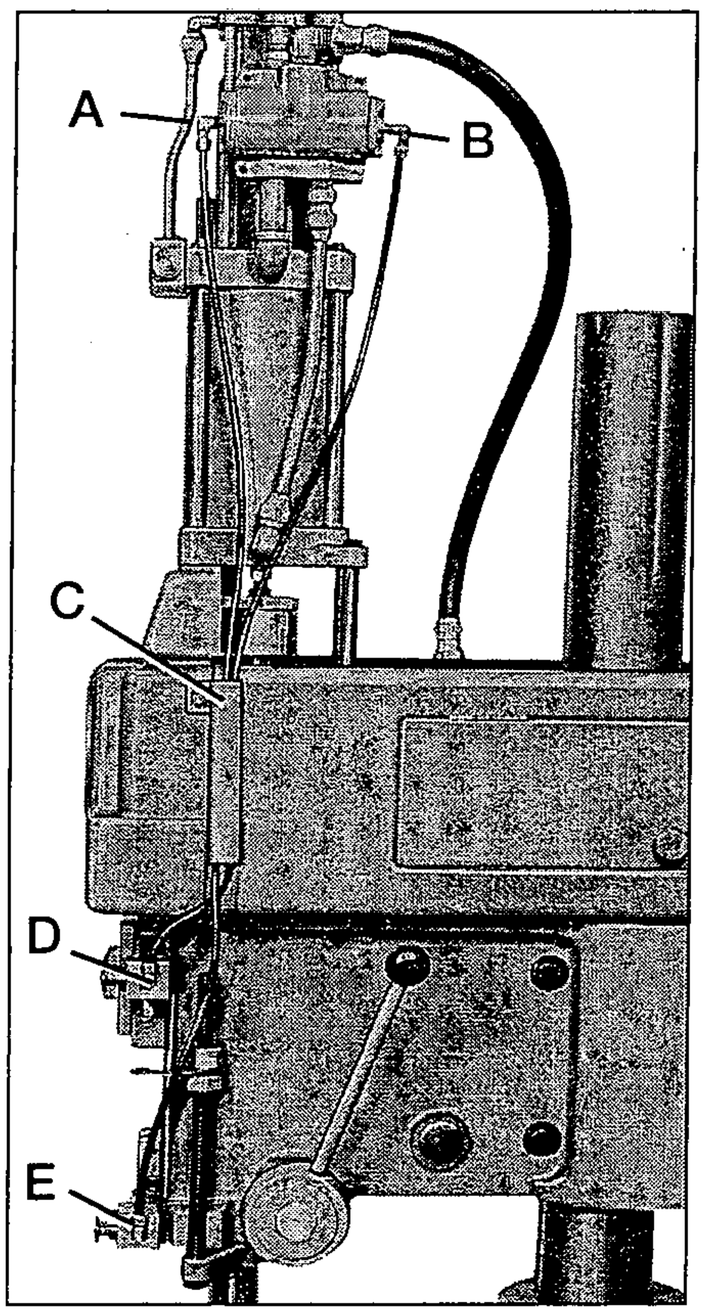


Figure 14

MAINTENANCE

Make following checks only after air supply has been turned off.

DAILY:

1. Check oil level in lubricator. Keep filled to top of bowl with #80 to #150 SSU spindle oil (thinner than SAE #10). Filler cap is on top of lubricator - DO NOT OVER FILL.
2. Check filter bowl for accumulated water - to empty, unscrew knurled ring and remove filter bowl.

WEEKLY:

1. Check hydraulic oil level in reservoir on top of hydraulic cylinder.

   CAUTION: *Cylinder must be at top of stroke.*
2. With cylinder at top of stroke, remove plugs (A) and (B, fig. 10).
3. Add #10 premium hydraulic oil until oil runs out plug hole (B). Replace plugs.

OCCASIONALLY GREASE cam bar, cam plate, cam roller and cam roller arm.

If feed becomes sluggish, it is time to clean oil filter. (Also applies to Air-hydraulic drilling unit.)

TO CLEAN OIL FILTER

1. Shut OFF AIR SUPPLY.
2. Push and hold large button (A, fig. 17) on upper valve until air feed is at bottom of stroke and air has bled out of unit.
3. Turn feed rate knob (D, fig. 16) all the way in.
4. Remove (4) slotted head screws (E, fig. 16), loosen (2) screws (F) two or three turns. Lift cap (G) from housing to clear filter housing and remove. Withdraw filter from housing for cleaning.
5. Wash filter in a cleaning solvent. Then force dirt out by placing finger over one end of filter and shooting a stream of air into opposite end.
6. Replace filter in housing, seat cap (G, fig. 16), secure with screw (E), tighten screws (F).
7. Turn on air and piston will return to top of stroke - then shut off air.
8. Remove plugs (A) and (B, fig. 10).
9. Add clean #10 premium hydraulic oil until oil runs out plug hole (B). Replace plugs.

Capacity of hydraulic cylinder - approximately 1-7/8 pint.

INSTRUCTIONS FOR SET UP

Do not turn on air

1. Move lower valve (D, fig. 15) to bottom of slot.
2. With hand feed, lower the spindle until stop nut (B) contacts positive stop (C). Lock spindle in position with quill lock.

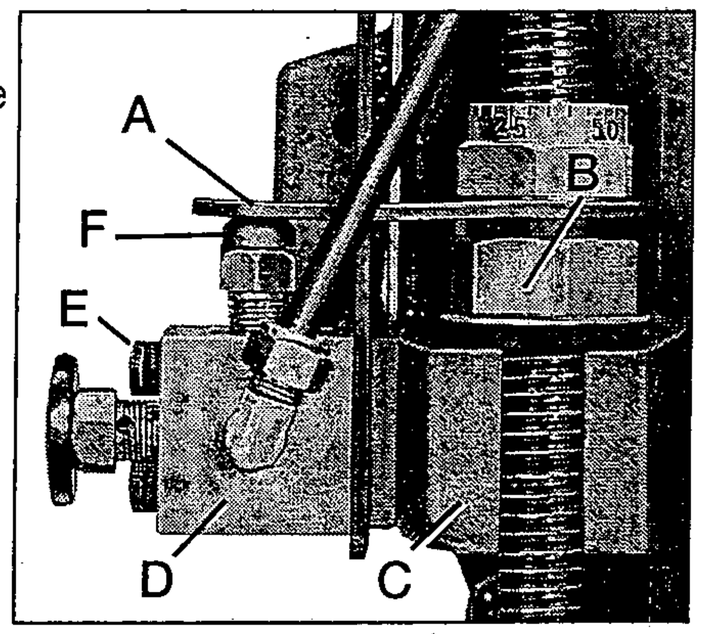


Figure 15

3. Slide lower valve up until button (F) contacts kick-out arm (A).
4. Hold valve in this position and release spindle. Raise valve 1/16" and tighten lock screws (E) - this is the permanent operating position of the lower valve.
5. Remove cam plate (B, fig. 16).

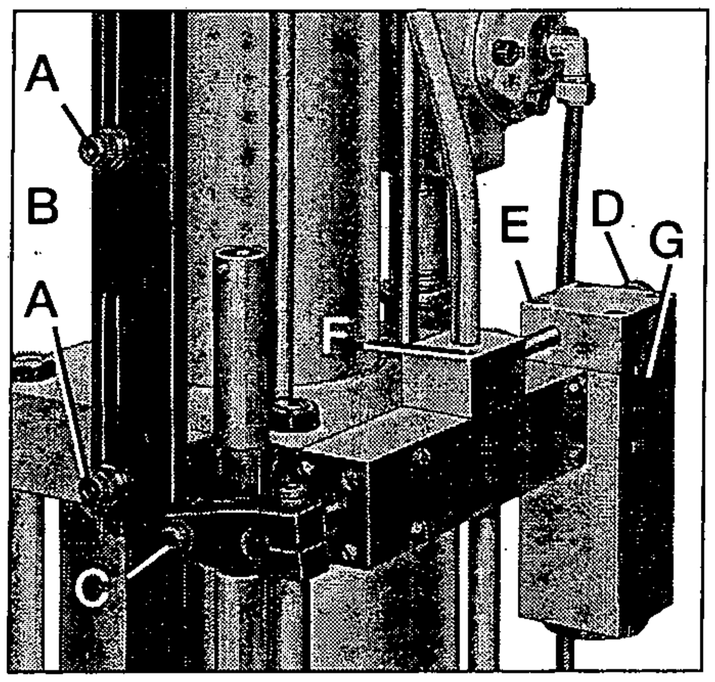


Figure 16

6. Position tool at least ½" above work. Lock spindle in position.
7. Locate cam plate so that it touches the roller (C) and lock in place with the two screws (A). Release the spindle.
8. To set the length of stroke, position nuts on depth stop.
9. Remove drill press hand-feed handles.
10. Turn on the air. Turn handle until gauge shows 90 lbs. pressure. Refer to figure 9.

OPERATION FOR SINGLE CYCLING

1. With the air turned off, move upper valve (A, fig. 17) to top of support bracket and lock in place.
2. Turn on the air. Start drill press motor.
3. To actuate air feed, push large button on upper valve - spindle will make one feed-and-return cycle.

   Spindle can be returned from any position during feed stroke by pushing large button on bottom valve (D).

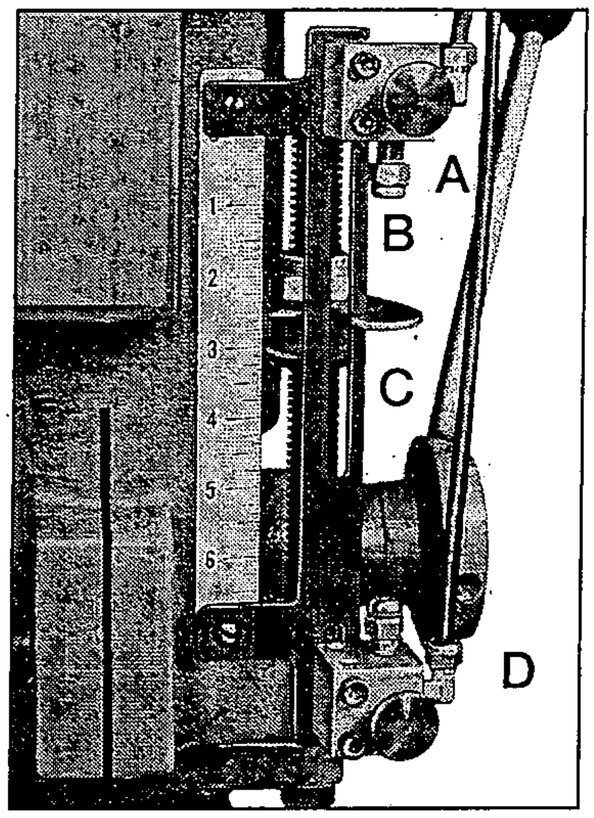


Figure 17

4. Set rate of feed by turning knob (D, fig. 16).

OPERATION FOR AUTOMATIC CYCLING

IMPORTANT: A shut-off cock must be installed in the air supply line at the filter.

After job and machine have been set for "Operation for Single Cycling" as described above:

1. Shut off air supply.

CAUTION: Spindle must be at top of stroke.

2. With spindle at top of stroke, lower upper valve (A, fig. 17) until button (B) is compressed 1/16" against kick-out arm (C). Tighten screws securely.
3. To start automatic cycling, start drill press motor and turn on the air supply.
4. Feed stroke may be stopped temporarily by pushing and holding large button on lower valve (D). Cycling resumes when button is released.
5. To stop automatic cycling, push and hold large button on lower valve, and shut off air supply.

INSTRUCTIONS FOR ORDERING REPAIR PARTS

It is important to furnish the following information in addition to quantity required:

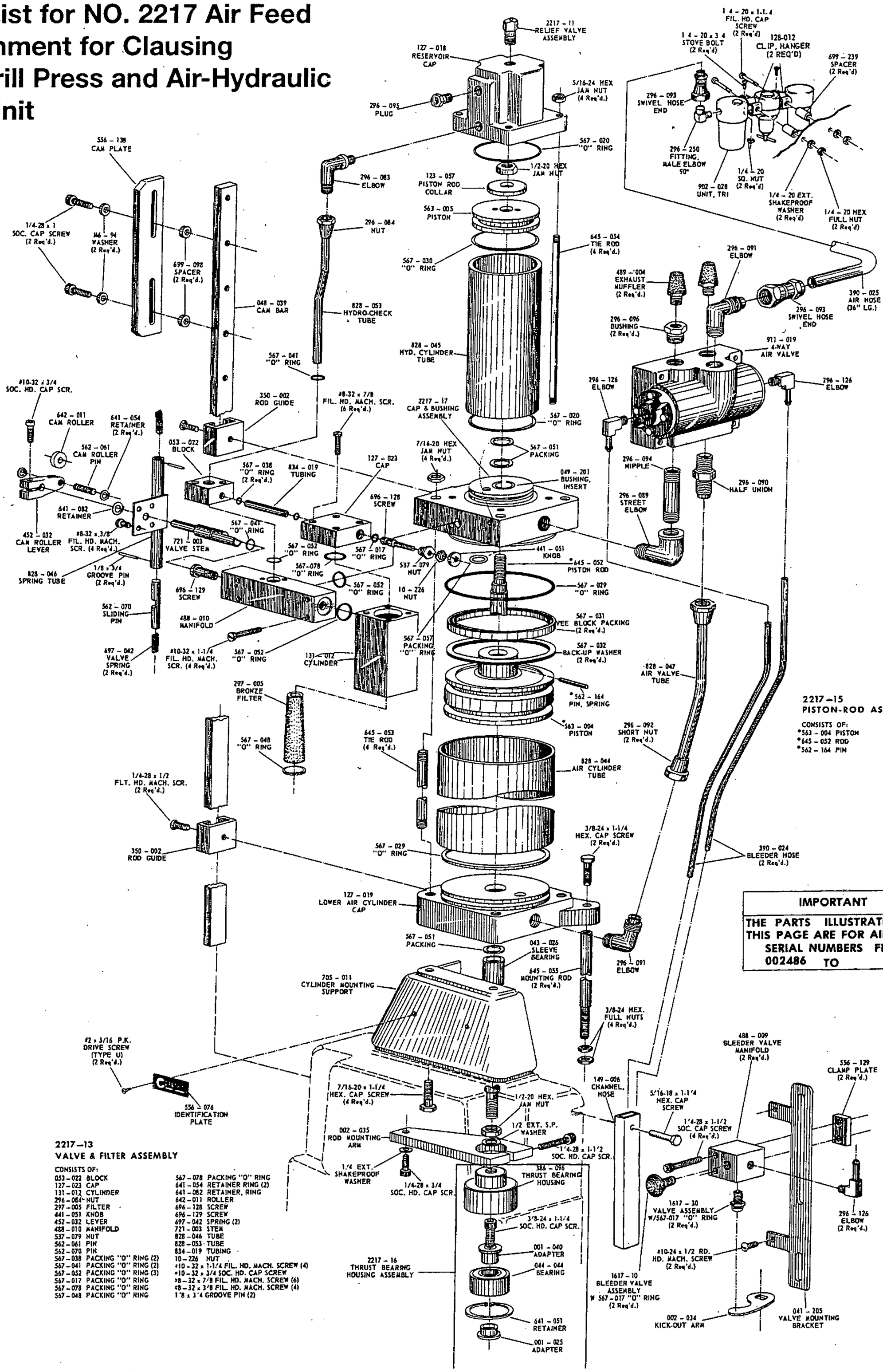
1. Part number
2. Part name
3. Model number of attachment - you'll find this on the metal plate secured to attachment - note illustration at right.

NOTE: Screws and nuts shown without part numbers should be purchased locally. We reserve the right to make changes in design and specifications without notice.

Order repair parts from: **The Clausing Service Center**
Phone: (574) 533-0371 • Fax: (574) 533-0403
E-mail: info@clausingsc.com

Clausing
600Group
Clausing Industrial Inc.
1819 North Pitcher Street
Kalamazoo, Michigan 49007-1822
Web Site: www.clausing-industrial.com
Phone: 269-345-7155
Fax: 269-345-5945
E-mail: info@clausing-industrial.com

Part List for NO. 2217 Air Feed Attachment for Clausing 20" Drill Press and Air-Hydraulic Drill Unit



2217–15
PISTON-ROD ASSEMBLY

CONSISTS OF:
*563 – 004 PISTON
*645 – 052 ROD
*562 – 164 PIN

IMPORTANT

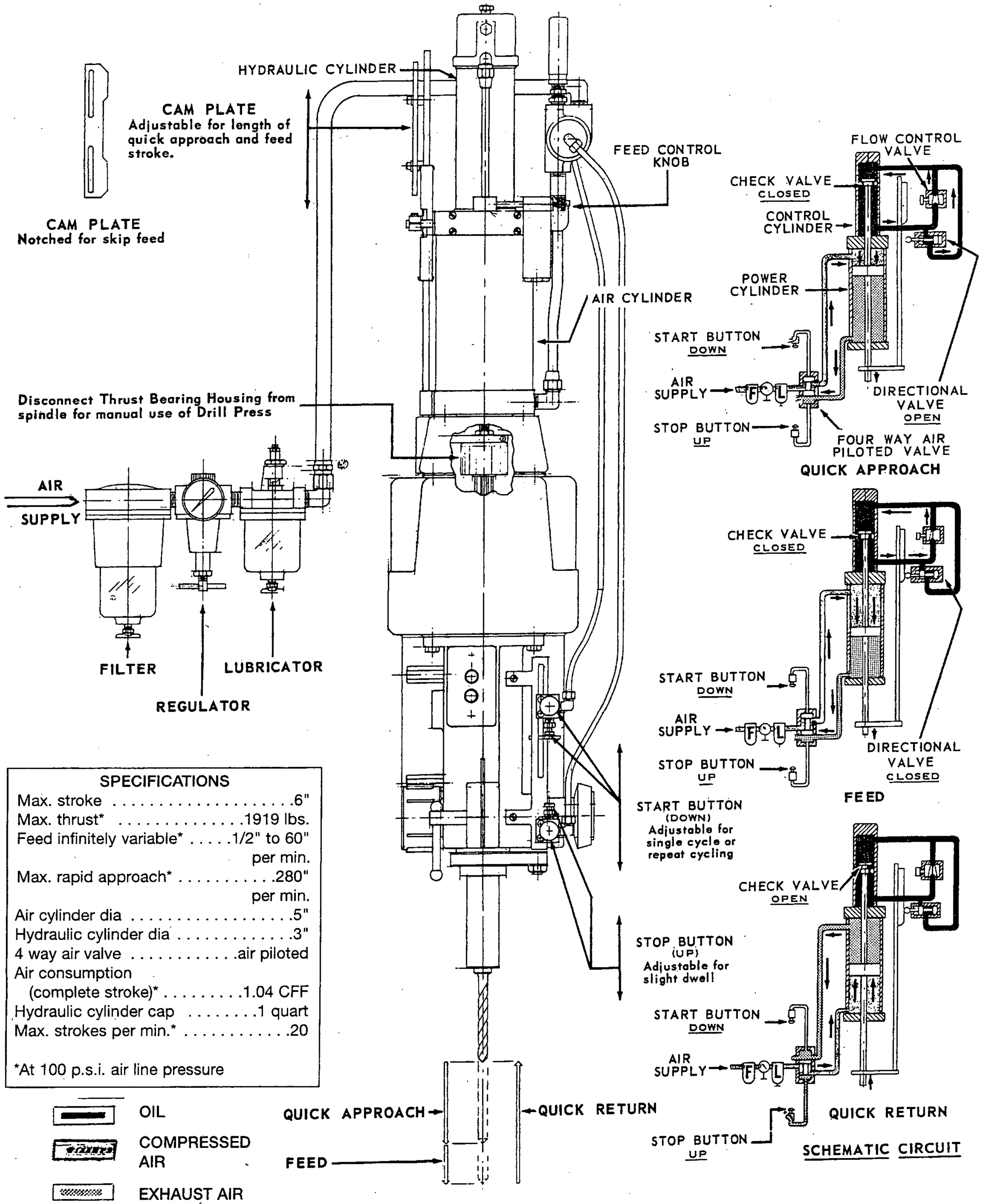
THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR AIR FEEDS SERIAL NUMBERS FROM 002486 TO

2217–13
VALVE & FILTER ASSEMBLY

CONSISTS OF:

053 – 022 BLOCK	567 – 078 PACKING "O" RING
127 – 023 CAP	641 – 054 RETAINER RING (2)
131 – 012 CYLINDER	641 – 082 RETAINER, RING
296 – 084 NUT	642 – 011 ROLLER
297 – 005 FILTER	696 – 128 SCREW
441 – 051 KNOB	696 – 129 SCREW
452 – 032 LEVER	697 – 042 SPRING (2)
488 – 010 MANIFOLD	721 – 003 STEM
537 – 079 NUT	828 – 046 TUBE
562 – 061 PIN	828 – 053 TUBE
562 – 070 PIN	834 – 019 TUBING
567 – 038 PACKING "O" RING (2)	10 – 226 NUT
567 – 041 PACKING "O" RING (2)	#10 – 32 x 1-1/4 FIL. HD. MACH. SCREW (4)
567 – 052 PACKING "O" RING (3)	#10 – 32 x 3/4 SOC. HD. CAP SCREW
567 – 017 PACKING "O" RING	#8 – 32 x 7/8 FIL. HD. MACH. SCREW (6)
567 – 078 PACKING "O" RING	#8 – 32 x 3/8 FIL. HD. MACH. SCREW (4)
567 – 048 PACKING "O" RING	1/8 x 3/4 GROOVE PIN (2)

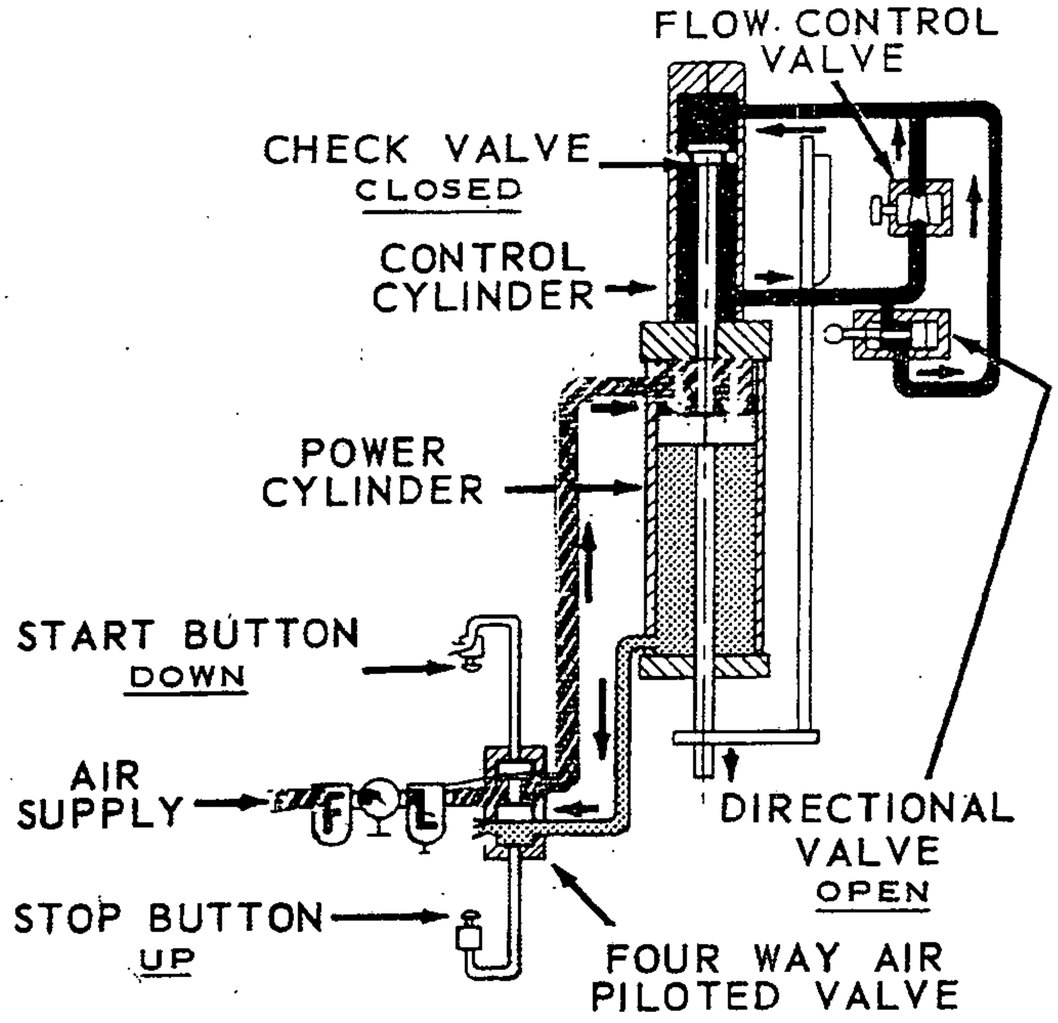
Operating Instructions Diagram for 2217 Air Feed



SPECIFICATIONS

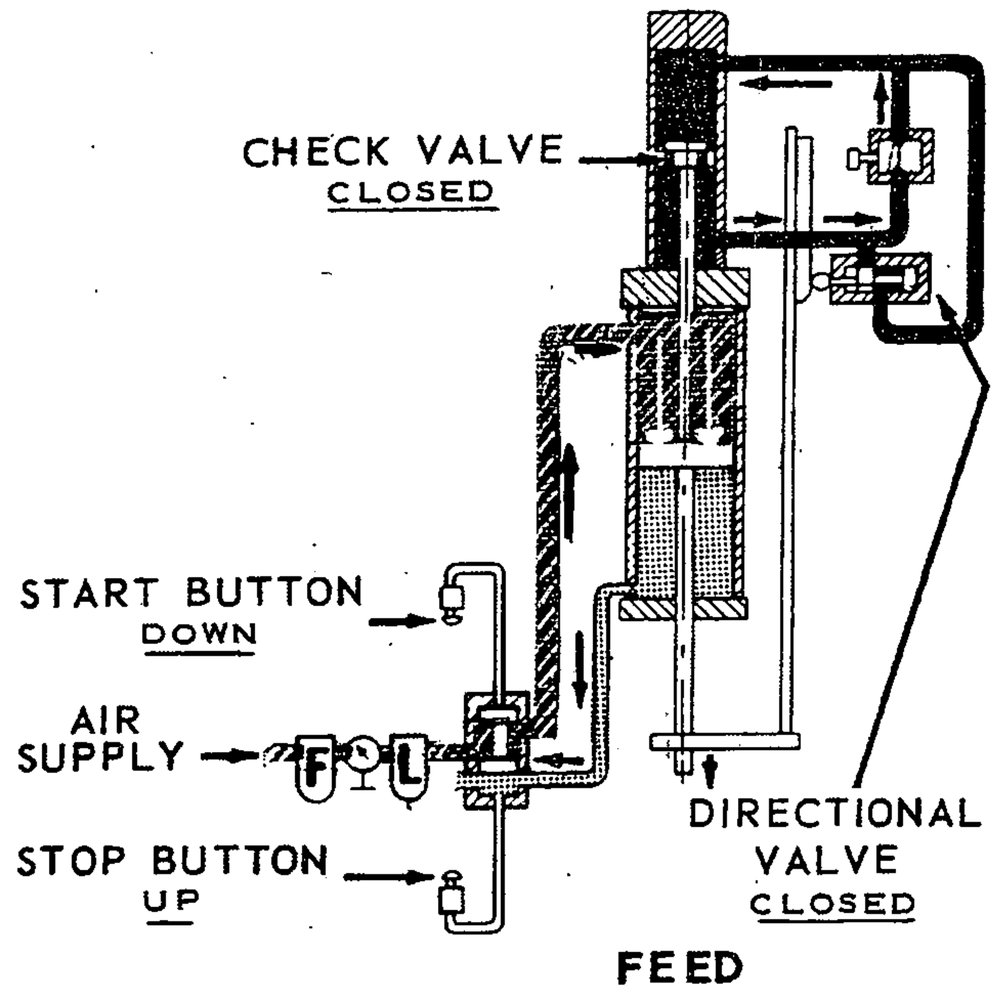
Max. stroke	6"
Max. thrust*	1919 lbs.
Feed infinitely variable*	1/2" to 60" per min.
Max. rapid approach*	280" per min.
Air cylinder dia	5"
Hydraulic cylinder dia	3"
4 way air valve	air piloted
Air consumption (complete stroke)*	1.04 CFF
Hydraulic cylinder cap	1 quart
Max. strokes per min.*	20

*At 100 p.s.i. air line pressure



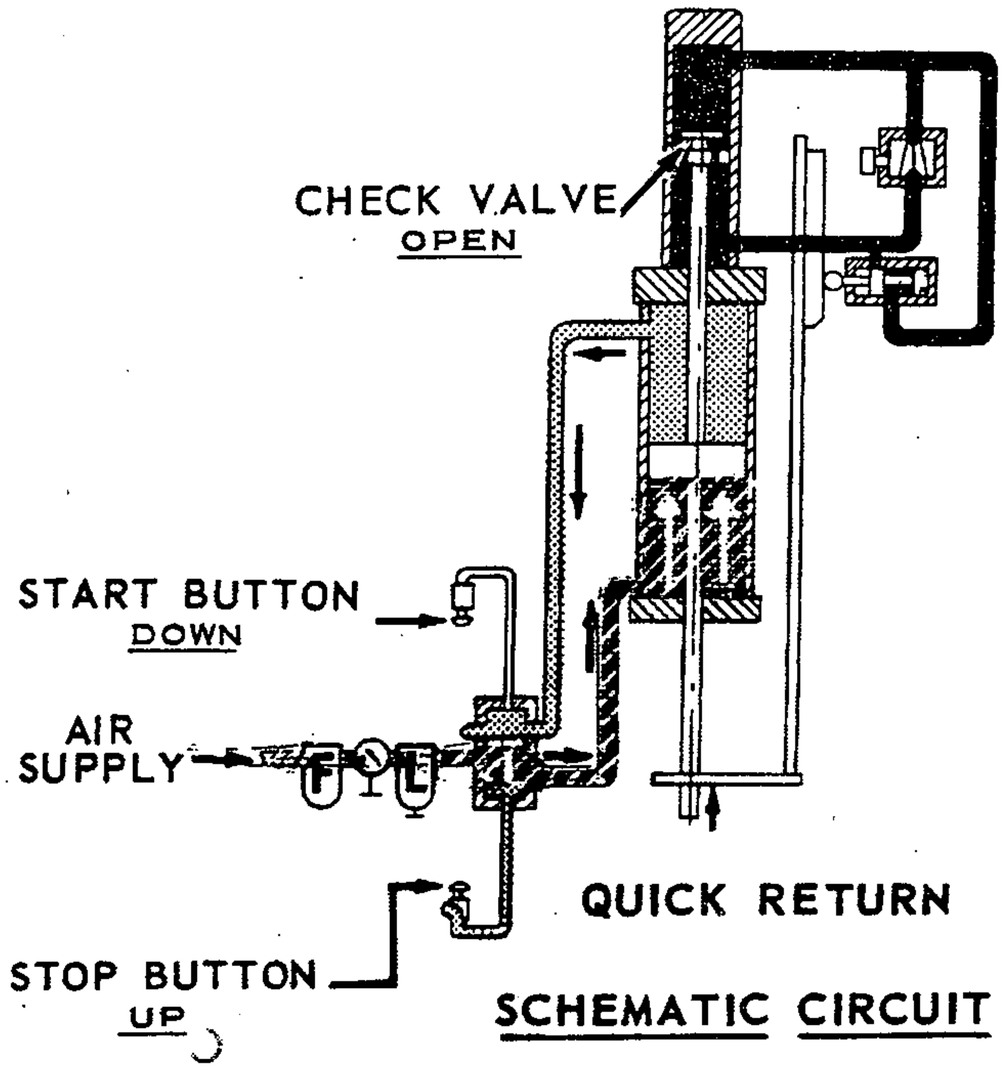
Air supply is delivered through a four way air piloted valve into top side of power cylinder forcing piston downward. Oil in control cylinder is allowed to flow unrestricted through directional valve, causing fast approach to feed cycle.

QUICK APPROACH



FEED

Cam moves downward in quick approach until directional valve is closed. Oil must then flow through control valve which can be adjusted with knob to desired rate of feed.



QUICK RETURN

When piston rod reaches bottom of stroke the stop button is tripped which reverses the four way valve. Air enters bottom side of power cylinder and forces piston upward. The check valve in control cylinder opens automatically and allows control piston to flow through oil unrestricted to top of stroke.

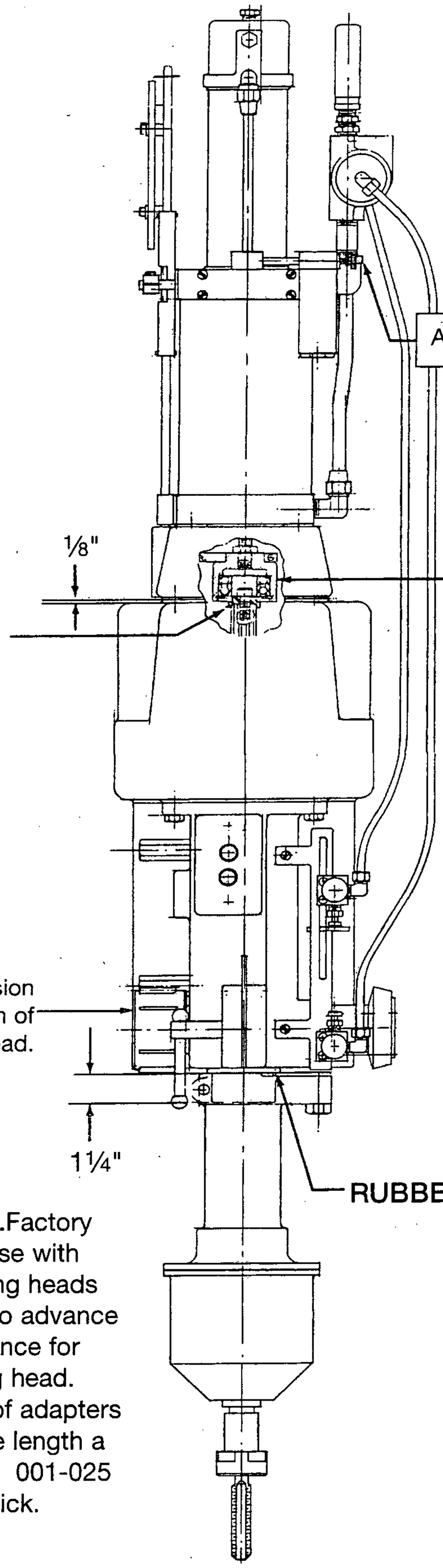
OIL

COMPRESSED AIR

EXHAUST AIR

SCHEMATIC CIRCUIT

Instructions layout for 2217 Air Feed using Tapping Head

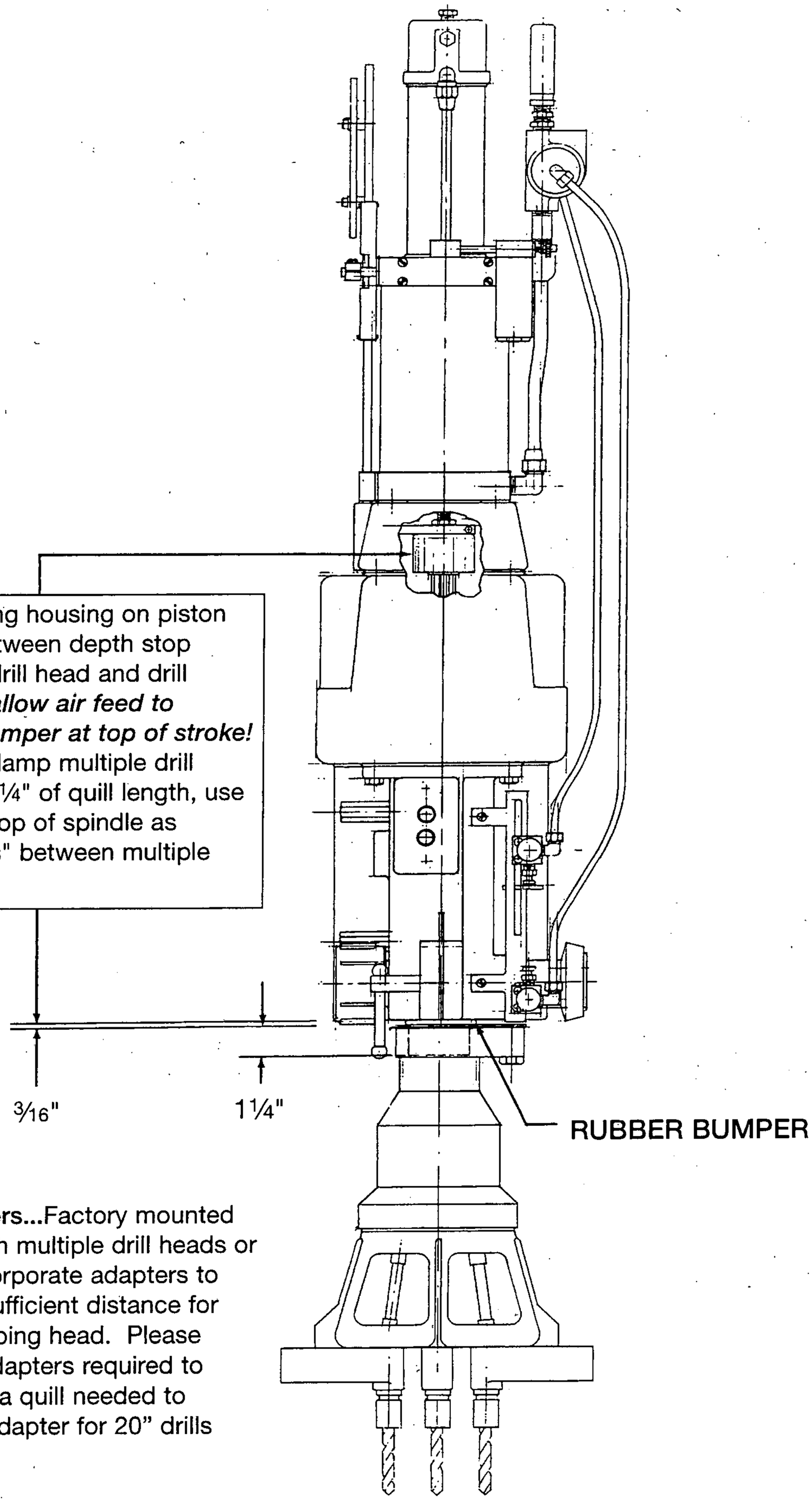


Instruction for disconnecting spindle from air feed when using tapping head

1. Unscrew thrust bearing housing from piston rod. With 5/16" allen wrench, unscrew 3/8"-24 x 1" socket head cap screw and remove housing assembly from top of spindle.
2. Remove retaining ring and ball bearing from housing. Reassemble without cap screw and adapters.
3. Place adapter on top of spindle and secure with 3/8"-24 x 1/2" long socket head cap screw.
4. Position bear in piston rod with 1/8" space between bearing and shoulder on adapter. This will avoid hammering spindle against bearing an return stroke.

Important Stack Adapters... Factory mounted air feed units for use with multiple drill heads or tapping heads must incorporate adapters to advance the spindle a sufficient distance for mounting the drill or tapping head. Please specify the number of adapters required to coincide with the length a quill needed to mount head. 001-025 Adapter for 20" drills 3/8" thick.

Instructions layout for 2217 Air Feed using Multiple Drill Head



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