Rockwell
MANUFACTURING COMPANY
The Rockwell Building • Pittsburgh, Pa.

PM-402-04-651-5007

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Mdl. 15-017
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ROCKWELL—DELTA
15" UTILITY DRILL PRESS

Your 15" Utility Drill Press has been completely assembled and tested at the factory. All that is necessary for you to do is loosen the clamp nut (A) Fig. 2, on left hand side of head, that clamps the head to the column, slide the head up until casting top is level with the top of the column and retighten clamp.

MOTORS AND SPEEDS

Usually a 1725 rpm motor is used, but for exceptional applications an 1140 rpm motor may be used. For average duty, we recommend a 1/2 h.p. constant speed motor. Under production conditions a 3/4 h.p. motor should be used. With a 1725 rpm motor the spindle speeds for high speed models are: 680, 1250, 2400, and 4600 rpm. For slo-speed models the spindle speeds are: 470, 780 ,, 1300 and 1950 rpm. The highest speed is obtained when the belt is on the largest step of the motor pulley and the smallest step of the spindle pulley. Consult your Rockwell Dealer for a six inch frame motor of the correct characteristics to meet your requirements.
When selecting a motor from any other source, be certain that it is capable of taking the end thrust due to the weight of the rotor, and that it is protected against loss of lubricant when operated in the vertical position. This is especially important in sleeve bearing motors.

The motor should turn in a clockwise direction when it is viewed from the top when installed. Rockwell motors should be bolted to the motor plate so that the switch is on the left-hand side as you face the drill press. If you use another motor and it runs the wrong way, either turn it around or reverse it's rotation.

MOTOR INSTALLATION

The following procedure is recommended for assembling the motor to the Drill Press Head.

1. Assemble motor pulley to motor. Be sure that the flat on the motor shaft lines up with set screw holes in pulley.

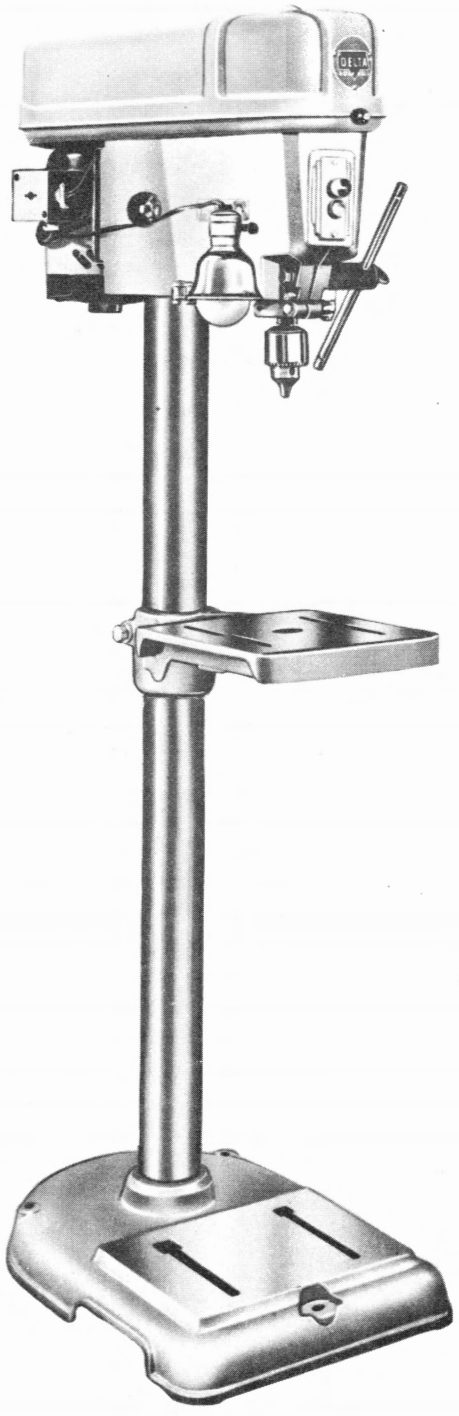

Fig. 1.

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Printed in U.S.A.

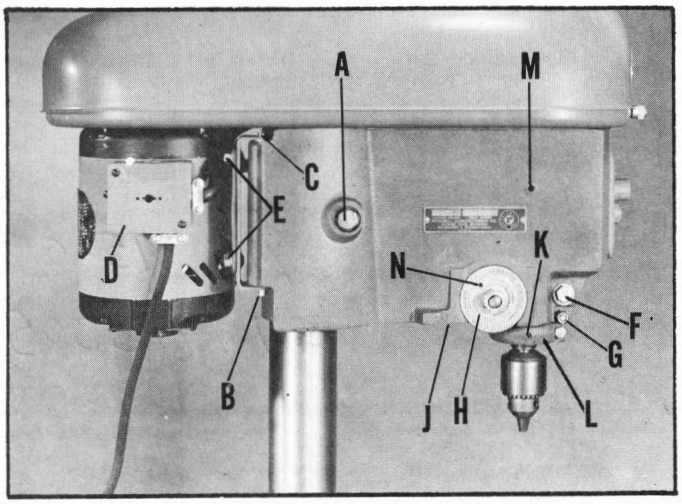


Fig 2.

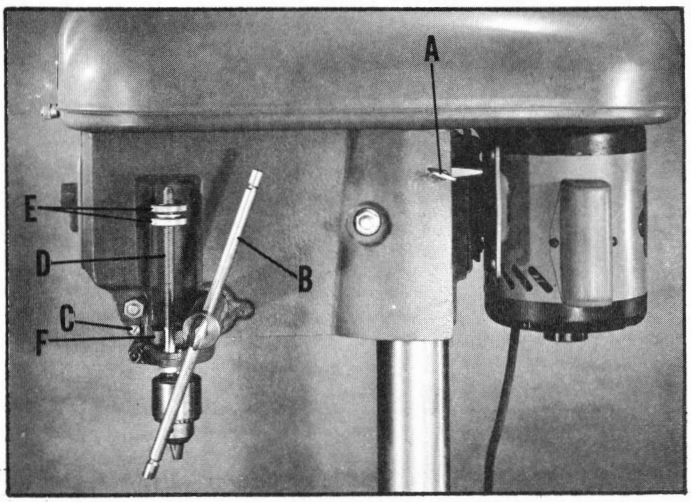


Fig. 3.

2. Remove the two hexagon head cap screws (B) and (C) Fig. 2, and remove motor plate from drill press head.

3. Mount motor to motor plate. Switch box (D) Fig. 2, on motor, should be on left hand side as shown.

4. Tighten finger tight the four motor mounting nuts (E) Fig. 2, that fasten motor to motor plate.

5. Lift whole unit to drill press head and replace the two hexagon head cap screws (B) and (C) Fig. 2.

6. Loosen thumb screw (A) Fig. 3, and push motor and motor plate in towards Drill Press Head as far as it will go. Then tighten thumb screw (A).

7. Visually line up the motor so that it is in parallel alignment with the spindle. In most cases it will be necessary to raise the motor all the way and move it to the extreme right of head when looking from front of drill press. Tighten the four motor mounting nuts (E) Fig. 2, and line up the motor pulley with the spindle pulley.

8. To install V-belt, push motor toward Drill Press as far as possible (See Step #6). Assemble belt, loosen thumb screw (A) Fig. 3, and push motor back to desired belt tension and retighten thumb screw.

SPINDLE ADJUSTMENTS

The spindle is raised and lowered by the hand lever (B) Fig. 3. The quill can be locked at any desired point in its travel by tightening the quill locking screw (F) Fig. 2. This is an especially desirable feature for router and shaper work.

The adjusting screw (C) Fig. 3 and nut (G) Fig. 2, are set at the factory to give the quill the proper sliding fit in the head casting. After long service, play between quill and head casting can be removed without the need to replace these parts. The nut (G) Fig. 2 is loosened, adjustment is made with the screw (C) Fig. 3, and the nut is again tightened to prevent the screw from turning. Hold the screw with a screw driver when nut is tightened, and check by moving the quill up and down several times to be sure the quill does not bind. This adjustment should be made with stop rod (D) Fig. 3, removed.

ADJUSTING SPINDLE RETURN SPRING

For the purpose of automatically returning the spindle upward after the hole has been drilled, a clock spring is provided enclosed in the case (H) Fig. 2. This spring has been properly adjusted at the factory and the adjustment should not be disturbed unless absolutely necessary. If at any time it is necessary to adjust it, proceed as follows:

1. To increase the tension of the spring, turn the screw (J) Fig. 2 which is located underneath the head, clockwise. CAUTION: BE CAREFUL NOT TO BOTTOM RETURN SPRING WHILE TURNING SCREW (J) FIG. 2, CLOCKWISE. THERE SHOULD BE ENOUGH SLACK LEFT IN SPRING TO PERMIT LOWERING THE SPINDLE THE FULL AMOUNT OF TRAVEL.

2. To decrease the tension of the spring, turn the screw (J) Fig. 2, counterclockwise.

3. The tension of the spring can be tested by pulling down the feed lever (B) Fig. 3, and testing to see if the quill will return to the up position. Be sure the quill locking screw (F) Fig. 2, is loose while testing. NOTE: Before determining if this adjustment is necessary make sure the stop rod (D) Fig. 3, runs freely up and down and is not twisted in the slot or guide of the head casting.

DRILLING HOLES TO DEPTH

When drilling one or two holes to a predetermined depth, the calibrations on the face of the depth stop rod (D) Fig. 3, can be used.

Where a number of holes are to be drilled to exactly the same depth, the stop nuts (E) Fig. 3 on the threaded stop rod (D) are used. After the first hole has been drilled to depth, the lower stop nut is set against the lug (F) on the head through which the stop rod passes. Return the quill to the up position and tighten the upper stop nut against the lower stop nut and all subsequent holes will be drilled to exactly the same depth.

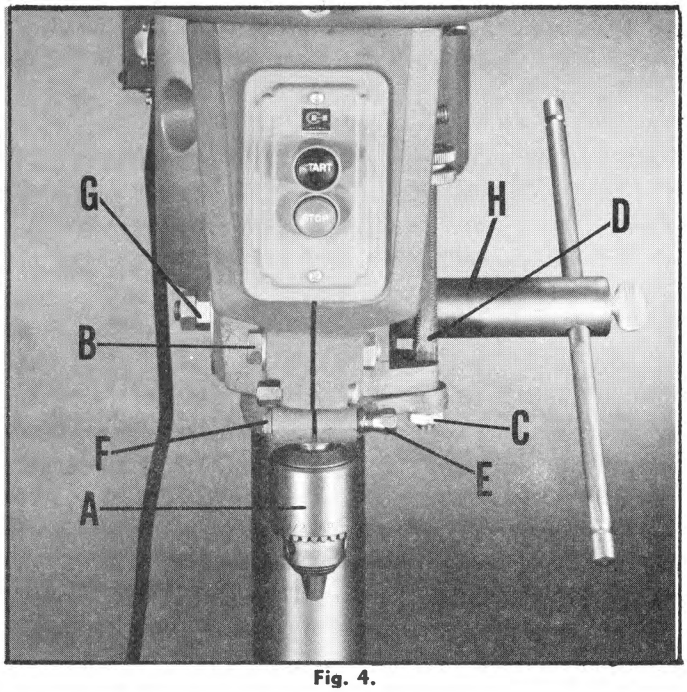


Fig. 4.

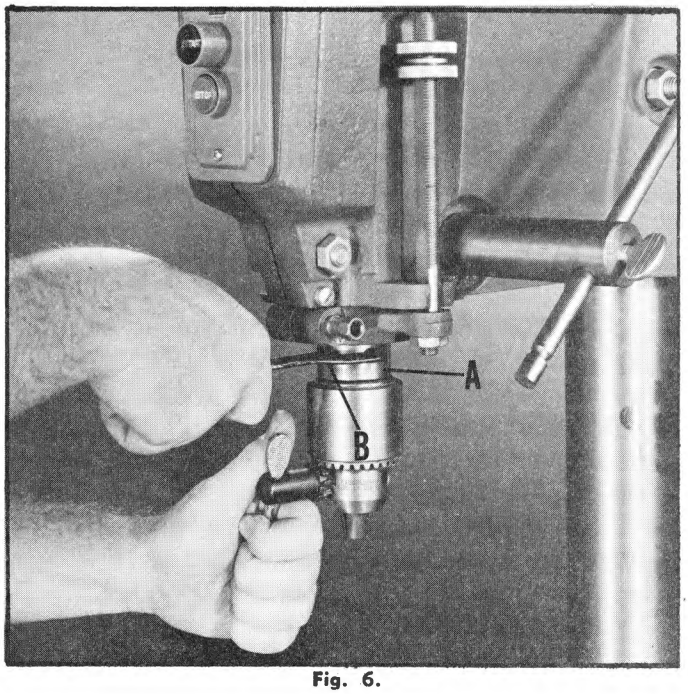


Fig. 6.

HOW TO USE SPINDLE ADAPTERS

One of the unique features of the 15" Utility Drill Press is the ease with which various spindle adapters may be used. Changing these adapters is simple if instructions are followed.

1. Remove the chuck (A) Fig. 4. This may be done by first lowering the spindle about two or three inches and locking the quill locking screw (B) Fig. 4.

2. Remove the nut (C) and stop rod (D), Fig. 4.

3. Loosen the nut (E) and screw (F) Fig. 4.

4. Loosen set screw (K) and remove the stop collar (L), Fig. 2.

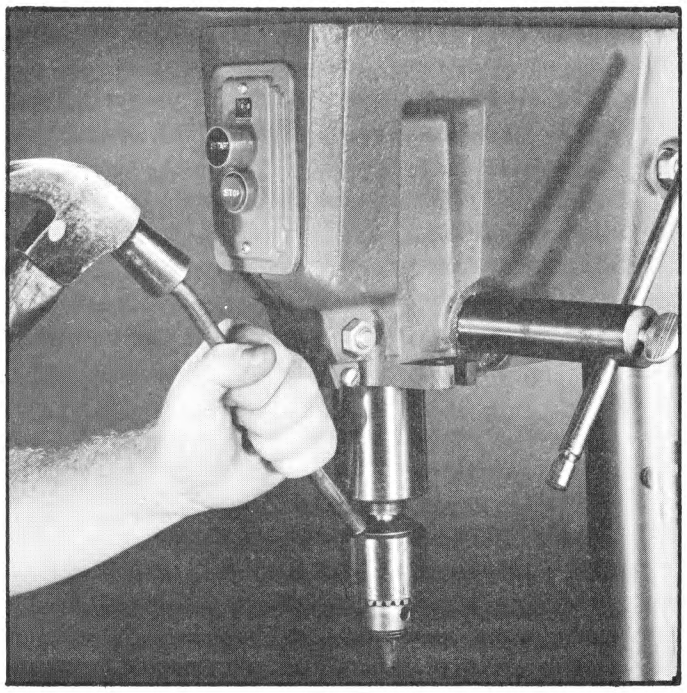


Fig. 5.

5. Using a hammer and a brass rod, tap once on the chuck as shown in Fig. 5. Then turn the chuck with your hand about a quarter of a turn and tap again. Repeat this until the chuck is free from the spindle.

6. When attaching adapters to the spindle, it is very important to wipe clean both the spindle taper and taper hole in adapter. Then place the adapter on the spindle and tighten the locking collar (A) Fig. 6. If in checking the spindle for accuracy, there should be a run out, we suggest that the adapter be removed and turned perhaps one quarter or one-half turn and replaced. This may reduce or eliminate the run out, it may also increase it, in which case, remove the adapter and turn it some more on the spindle.

7. When removing either the spindle adapters or the Cat. #15-830 chuck, we recommend the use of Cat. # 15-838 spanner wrench (B), Fig. 6, which is available as an accessory. Turn the locking collar of the adapter or chuck with the spanner wrench while keeping the spindle from turning by either holding V-belt or holding the chuck with the chuck key in one of the pilot holes in the nose of the chuck.

REPLACING SPINDLE OR SPINDLE BEARINGS

If it becomes necessary to remove or replace the spindle of your drill press, proceed as follows:

1. Remove the guard and spindle pulley from the drill press head.

2. Lock the quill in place by tightening the quill locking screw (B) Fig. 4.

3. Remove nut (A) and stop rod (B), Fig. 7.

4. Loosen the screw (C) and nut (D) Fig. 7.

5. Loosen set screw (E) Fig. 7, and remove the stop collar (F).

6. Release tension on clock spring by turning screw (J) Fig. 2 counterclockwise.

7. Remove the two nuts (G) Fig. 4, and remove the pinion shaft (H)

8. Loosen the quill locking screw (B) Fig. 4, and remove the quill and spindle from the drill press head.

9. Using a screw driver and a hammer remove the bearing closure nut (G) Fig. 7, by turning it counterclockwise as viewed from the spindle end.

10. Remove the retaining ring (I) Fig. 7, and with a soft hammer tap the top of the spindle (H) until it comes free from the quill (J). The bearing (L) remains in the quill, and can be extracted with your fingers.

11. When replacing the spindle reverse the above instructions.

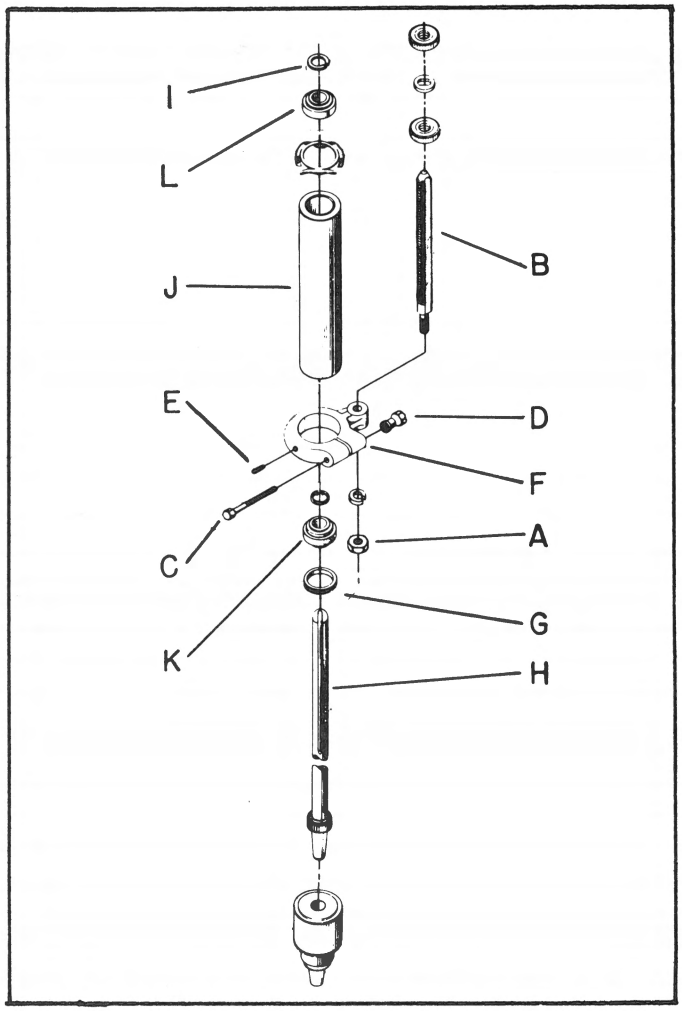


Fig. 7.

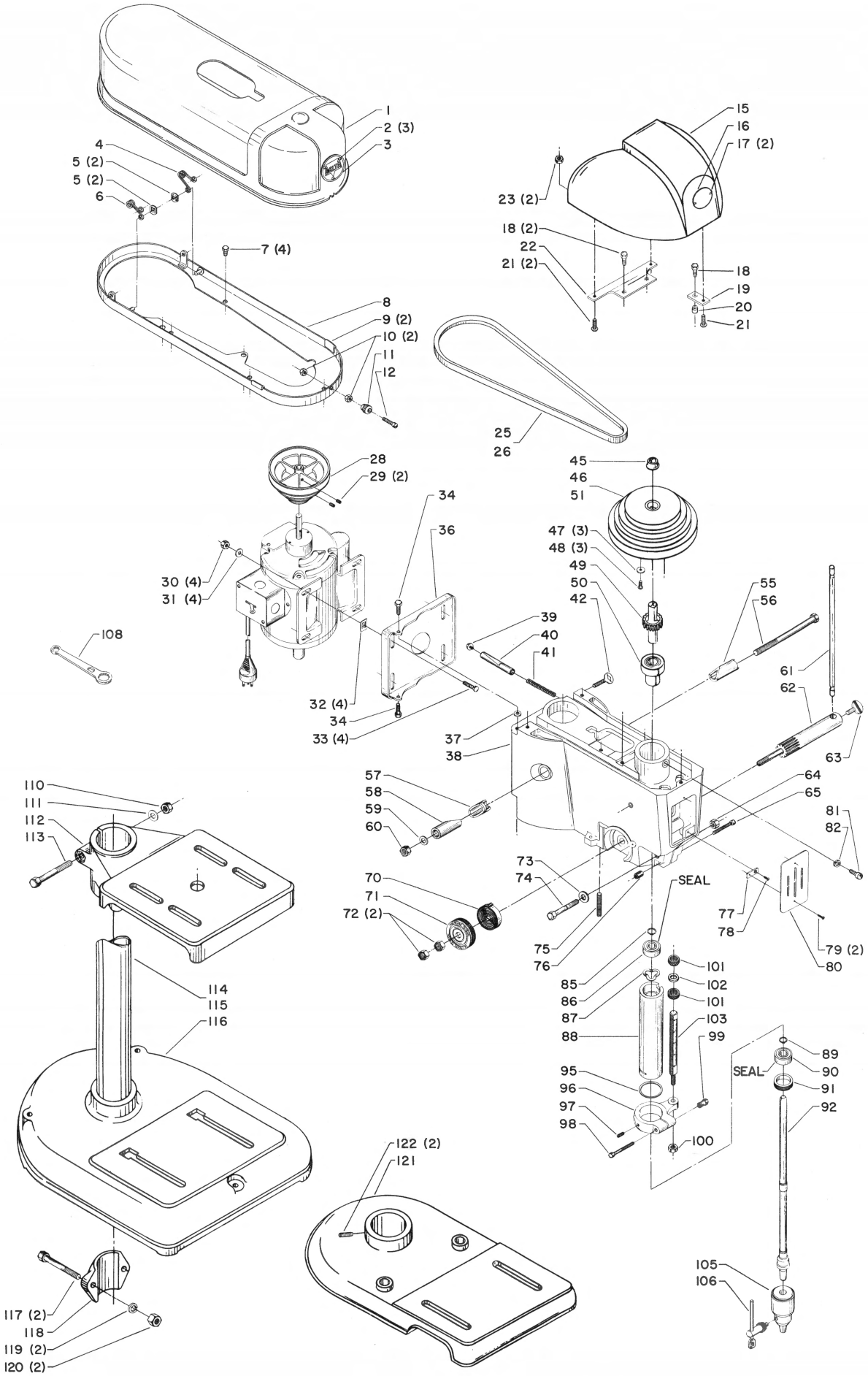
LUBRICATION

The spindle ball bearings in the quill, and the ball bearing in the spindle pulley, do not require lubrication. These sealed ball bearings are lubricated for life, at the factory.

About once a week, squirt machine oil into the oil hole (M) Fig. 2, on the left side of the drill press head, while feeding the quill up and down. This will lubricate the quill in the head, and concentrate oil on the rack of the quill and the teeth of the pinion shaft.

Once a month oil the clock spring and the left end of the pinion shaft, by squirting machine oil in the hole (N) Fig. 2 which is provided in the housing of the spindle return clock spring. Also oil the pinion shaft where it passes through the head on the right.

Once a month lubricate the splines on the top end of the spindle with a tacky lubricant such as the special grease available from Rockwell in one pound cans under Part No. 999-02-021-5018.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Replacement Parts

Ref. No.	Part No.	Description
*	Cat. #15-825	Belt Guard Complete, Consisting of:
1	402-04-354-5013	Belt Guard, Including:
2	SP-2250	#4 x 3/16 Drive Screw
3	960-02-021-8316	Nameplate
4	928-03-011-8878	Spring, R. H.
5	902-03-010-2971	Tinnerman Nut
6	928-03-011-8879	Spring L. H.
7	SP-629	5/16-18 x 3/8 Hex. Hd. Cap Scr.
8	402-04-354-5014	Guard Pan, Including:
9	DP-906	Bumper
10	SP-1203	#10-32 Hex. Nut
11	DP-544	Lock Knob
12	SP-749	#10-32 x 7/8 Fil. Hd. Screw
15	DP-916-S	Front Belt Guard, Including:
16	CBL-486	Nameplate
17	SP-2250	#4 x 3/16 Drive Screw
18	SP-606	5/16-18 x 5/8 Hex. Hd. Cap Scr.
19	402-04-072-5007	Plate
20	402-04-104-5003	Spacer
21	SP-503	1/4-20 x 5/8 Rd. Hd. Screw
22	402-04-014-5012	Bracket
23	SP-1034	1/4-20 Hex. Nut
25	Cat. #49-167	Belt (Slo-Speed)
26	Cat. #49-168	Belt (Hi-Speed)
28	Cat. #985	Motor Pulley (Specify 1/2", 5/8" or 3/4"Bore,)Including:
29	SP-201	5/16-18 x 5/16 Hex. Soc. Set Scr.
30	SP-1300	5/16-18 Hex. Nut
31	SP-1620	11/32 x 11/16 x 1/16 Washer
32	SP-2951	Tinnerman Nut
33	SP-834	5/16-18 x 3/4 Carriage Bolt
34	SP-609	5/16-18 x 1 1/2 Hex. Hd. Cap Scr.
36	DP-515	Motor Plate
37	SP-1620	11/32 x 11/16 x 1/16 Washer
38	400-00-057-5001	Head Casting
39	SP-2851	Rubber Bumper
40	DP-874	Motor Plate Plunger
41	DP-519	Spring
42	901-04-261-4006	5/16-18 x 1 1/4 Thumb Screw
*	DP-283-T	Slo-Speed Pulley, consisting of:
45	DP-267	Spindle Sleeve Cover
46	DP-283	Slo-Speed Pulley
47	240-14	Special Washer
48	SP-3801	#8-32 x 3/8 Rd. Hd. Screw
49	DP-264	Spindle Sleeve
50	SP-5373	Bearing
*	DP-265-U	Hi-Speed Pulley, consisting of:
45	DP-267	Spindle Sleeve Cover
47	240-14	Special Washer
48	SP-3801	#8-32 x 3/8 Rd. Hd. Screw
49	DP-264	Spindle Sleeve
50	SP-5373	Bearing
51	DP-265	Hi-Speed Pulley
55	SDP-22	Sleeve
56	SP-621	1/2-13 x 5 1/2 Hex. Hd. Cap Scr.
57	SDP-49	Column Clamp
58	SDP-21	Clamp Sleeve
59	CBL-447	33/64 x 7/8 x 1/16 Washer
60	SP-1282	1/2-13 Hex. Nut
61	DP-233	Rod
62	DP-234-S	Pinion Shaft, Including:
*	SP-28	1/4 Steel Ball
*	DDL-123	Spring
63	DP-282	3/8-24 x 5/8 Thumb Screw
64	SP-1232	7/16-20 Hex. Nut
65	SP-703	1/4-20 x 1 3/4 Fil. Hd. Screw
70	DP-520-L	Pinion Clock Spring
71	DP-528	Clock Spring Cover
72	SP-1227	1/2-20 Hex. Jam Nut
73	CBL-447	33/64 x 7/8 x 1/16 Washer
74	901-01-060-9971	7/16-20 x 2 1/4 Hex. Hd. Cap Scr.
75	DP-527	Adjusting Screw
76	SD-18	1/4-20 Special Nut
77	438-01-021-0081	Switch Bracket
78	SP-3016	#6 x 7/16 Rd. Hd. Self-Tapping Scr.
79	SP-3015	#6 x 1/4 Rd. Hd. Self-Tapping Scr.
80	DP-572	Switch Opening Cover
81	901-02-551-2884	3/8-24 x 7/8 Fil. Hd. Screw
82	SP-1709	3/8 Lockwasher
*	402-04-377-5002	Quill Assembly, consisting of:
85	SP-7411	Retaining Ring
86	SP-5384	Bearing
87	N L-306	Spring Washer
88	DP-533	Quill
89	SP-7410	Retaining Ring
90	SP-5384	Bearing
91	BG-12	Bearing Nut
92	402-04-385-5005	Spindle
95	SP-3769	Special Gasket
96	DP-524-R	Stop Collar, Including:
97	SP-112	#10-32 x 1/2 Headless Set Scr.
98	SP-622	1/4-20 x 2 Hex. Hd. Cap Scr.
99	DP-221	1/4-20 Spec. Nut
100	SP-1005	3/8-16 Hex. Nut
101	DP-274	Knurled Nut
102	DP-318	Washer
103	DP-273-X	Stop Rod
105	DP-903	Chuck
106	DP-905	Chuck Key
108	Cat. #1538	Box Wrench
*	Cat. #15-801	Table Assembly Complete, Consisting of:
110	SP-1282	1/2-13 Hex. Jam Nut
111	DP-6	Washer
112	402-04-091-5003	Table #15-801
113	SP-643	1/2-13 x 4 Hex. Hd. Cap Scr.
114	DP-213	Column (Bench Model)
115	DP-554	Column (Floor Model)
116	DP-287	Base (Floor Model)
117	SP-2300	7/16-14 x 3 1/2"Hex. Hd. Cap Scr.
118	DP-288	Clamp
119	SP-1716	7/16 Lockwasher
120	SP-5437	7/16-14 Hex. Nut
121	DP-567	Base (Bench Model)
122	SP-1107	5/16-18 x 1 Hex. Soc. Set Scr.
*	999-02-021-5018	1 lb. Can Special Grease
*	Not Shown	