



ROCKWELL
MANUFACTURING COMPANY
PITTSBURGH 8, PENNSYLVANIA



DATED 1M 8-10-61

RAM-TYPE RADIAL DRILL PRESS

SETTING UP THE MACHINE

Having removed the machine from the packing case, place the table and column assembly on the floor stand or bench where it is to be used. Untie clamp lock and slide it in position so as to allow free movement of the arm. The drill head and arm assembly should be slid into position in the cradle. When placing the arm assembly, care should be taken to prevent jarring the ball bearings in the cradle. Guide the arm carefully being sure that it is properly seated and that it slides freely. The stop block located on the back end of the arm should then be turned down to prevent withdrawal of the arm in operation. Insert raising blocks under each corner of frame. The table should now be leveled using shims between the frame and stand; the machine will then be ready for use.

ELEVATING SCREW

The elevating crank operates a pair of bevel gears which in turn cause the elevating screw to raise or lower the arm and drill head. This assembly is carefully made and tested before shipment, but if knocked or jarred during shipment it may be misaligned. This misalignment will cause the crank to operate stiffly and impose an unnecessary strain on the gears. The trouble can be eliminated simply by loosening the nut on top of the elevating screw and turning the crank until the screw aligns itself. Then tighten the nut securely after correct alignment has been attained. **DO NOT FORCE THE ELEVATING CRANK.**

BELT TENSION

Belt tension may be varied by moving the belt housing after loosening the two bolts which secure it to the head casting. Do not tighten belt too much as the needless tension will cause undue wear on both the motor and drill press pulley bearings.

TO REMOVE AND REPLACE BELT

The drive belt is easily replaced as follows:

1. Remove three hex head screws and lockwashers holding upper bearing holder to head. This will permit the upper bearing holder to be withdrawn from top bearing on pulley.
2. Loosen lock handle on left hand side of jackshaft and move jackshaft bearing unit forward.
3. Lower quill assembly approximately four inches and lock with quill locking handle.

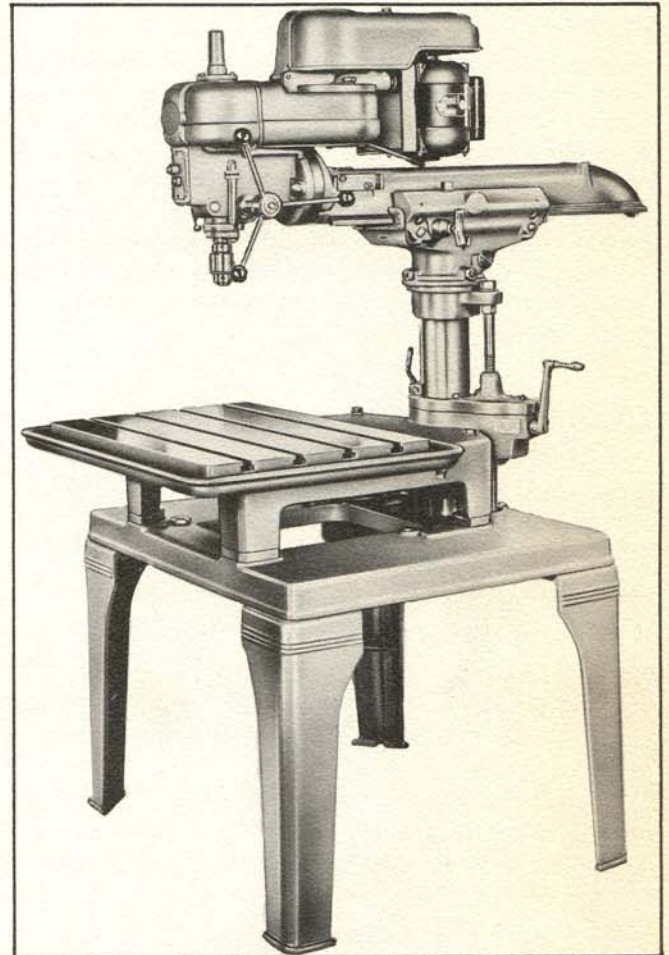


Fig. 1.

4. The old belt may now be slipped under lower pulley on bearing unit and then over top of spindle pulley.

5. New belt is installed by reversing these instructions.

REMOVING THE CHUCK

Located on the spindle directly above the chuck is a lock nut which is part of chuck. Screwing this nut down on the chuck will force it off the taper on end of spindle without damage. A spanner wrench is furnished with the machine, use spanner wrench to turn lock nut and end of chuck wrench handle to hold spindle from turning. Always be sure that taper on spindle and socket in chuck are clean before replacing chuck on spindle, then tighten lock nut.

REMOVING SPINDLE AND QUILL ASSEMBLY

To take out - Remove depth gauge adjusting nuts from graduated depth rod. Grasp spindle nose with left hand to prevent it from falling, and turn hand feed wheel until spindle and quill assembly comes right down out of head casting, keep holding hand feed handle and allow it to turn back slowly, counting number of revolutions, until tension is out of return spring. Do not let it spin back to "neutral" as momentum will break spring when it reaches zero tension.

To put in - Using right hand, turn feed wheel as if feeding spindle down - winding up spring the same number of revolutions as counted above, or vary as necessary to get smooth return without banging at end of travel. Insert spindle and quill assembly with left hand, to engage feed pinion gear; it may be necessary to rotate spindle slightly to engage splines in pulley. Allow spindle to rise to normal return position. Put depth gauge adjusting nuts back on depth gauge.

ADJUSTMENT TO COMPENSATE FOR WEAR BETWEEN QUILL AND HEAD

On six inch spindle travel models only, after considerable use, play may develop between quill and drill press head due to wear.

To adjust:

1. Remove the two screws, (86), and washers (87) (Fig. 3).
2. Tighten quill lock screws (88) against plugs. It will not be necessary to tighten these screws too much.
3. Turn pilot wheel to test movement of quill and play. If there is a slight "drag" quill lock screws have been adjusted too tight, back off lock screws with very little turn.
4. If quill still has play, turn lock screws slightly tighter.
5. After proper adjustment has been made, replace screws and washers.

On six inch spindle travel models there is a calibrated depth indicator.

This depth indicator is located next to the spring housing on the left side of drill press head. Each division is equal to 1/32 inch spindle travel. To set the vernier, loosen nut and turn vernier until zero mark matches a line on the spring housing and retighten nut. Hole can then be drilled to exact depth.

TO REMOVE SPINDLE PULLEY FROM HEAD

Follow instructions for removing belt and for removing quill assembly, then remove hex cap screw and washer, nearest to head, that holds jackshaft to head, Then loosen other hex cap screw (do not remove) that holds jackshaft to head and slide jackshaft toward head and remove pulley.

TILTING HEAD

The head of this drill press is adjustable to 45 degrees either side or vertical by loosening the two cap nuts holding the head to the ram. Care should be used to hold the head in position when loosening these nuts to prevent it from tilting suddenly from its own weight. Retighten nuts when head is in desired position.

FOUR ADJUSTING SCREWS

Four adjusting screws bear on brass plugs to provide extra snug fit between cradle and column.

DRILL HEAD LUBRICATION

Complete lubrication of the pulley and spindle bearings is affected by applying oil through the ball oiler on top of the spindle cap, the oil will run down the spindle lubricating the ball bearings. DO NOT OVER LUBRICATE.

GENERAL LUBRICATION

The arm cradle must be kept well lubricated to insure freedom of operation, an oil cup located on the side of the cradle should be kept filled with lubricating oil. The column and the guide key should be oiled occasionally. All other moving parts such as lock handles, feed handles, elevating crank and screw will function better if occasionally lubricated with a few drops of oil.

HEAD ASSEMBLY 4 1/4" TRAVEL

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	344C1	Pulley, Including:	31	365-8	Knob
2	12-8	Insert	32	211-7	Spoke
3	370-1	Bearing	33	12-15	Hub
4	370-2	Bearing	34	240-87	21/64 x 15/16 x 1/8" Washer
5	12-9	Bottom Bearing Holder	35	254A35	Collar, Including:
6	Cat. #49-105	V-Belt	36	SP-6227	1/4-20 x 3/16" Soc. Hd. Set Scr.
7	SP-626	1/4-20 x 3/4" Hex. Hd. Scr.	37	SP-2696	3/16 x 3/16 x 5/16" Straight Key
8	SP-1702	1/4" Lockwasher	38	212-4	Spring Pin
9	12A7	Top Bearing Holder, Including:	39	380-6-2	Name Plate
10	SP-2486	Oiler	40	SP-2250	#4 x 3/16 Drive Screw
11	SP-6861	3/16 x 5/8" Groove Pin	41	SP-6462-S	Wire Assembly
12	SP-7351	Bearing Spring Washer	42	SP-4882	Switch
13	16-67	Head Casting	43	SP-4880	Switch Cover
14	321-12	Pointer	44	SP-553	#6-32 x 1/2 Rd. Hd. Screw
15	SP-558	#8-32 x 1/4 Rd. Hd. Screw	45	SP-6461-S	Wire Assembly
16	311-3	Spring	46	12-39	Oil Splash Guard Sleeve
17	12-14	Spring Housing	47	370-10-1	Bearing
18	242-22	Washer	48	12-3	Quill
19	SP-605	5/16-18 x 1/2" Hex. Hd. Scr.	49	904-07-060-3774	1 13/16 x 2 1/16 x 1/8" Gasket
20	254A34	Collar, Including:	50	401-02-112-5002	1/4-20 x 2 1/4" Sq. Hd. Screw
21	SP-208	1/4-20 x 1/4" Soc. Hd. Set Scr.	51	SP-1034	1/4"-20 Hex. Nut
22	230-1	Locking Plug	52	223-3	Depth Gauge Stop Nut
23	231-1	Locking Plug	53	241-31	21/32 x 1 x 1/8" Fiber Spacer
24	SP-1615	13/32 x 13/16 x 1/16" Washer	54	12-17	Depth Gauge
25	361-6	Locking Handle	55	12R10	Stop Collar Assembly
26	492-2	Spanner Wrench	56	SP-1704	3/8" Lockwasher
27	12M6	Spindle (1/2 Key Chuck)	57	SP-5433	3/8"-16 Hex. Jam Nut
28	12M11	Spindle (#1 Morse Taper)	58	Cat. #15-830	Chuck, Including:
29	12M12	Spindle (#2 Morse Taper)	59	DP-597	Chuck Key
30	12-2	Pinion Shaft			

HEAD ASSEMBLY 6" TRAVEL

1	344C1	Pulley, Including:	34	240-87	21/64 x 15/16 x 1/8" Washer
2	12-8	Insert	37	SP-2696	3/16 x 3/16 x 5/16" Straight Key
3	370-1	Bearing	38	212-4	Spring Pin
4	370-2	Bearing	39	380-6-2	Name Plate
5	12-9	Bottom Bearing Holder	40	SP-2250	#4 x 3/16 Drive Screw
6	Cat. #49-105	V-Belt	41	SP-6462-S	Wire Assembly
7	SP-626	1/4-20 x 3/4" Hex. Hd. Scr.	42	SP-4882	Switch
8	SP-1702	1/4" Lockwasher	43	SP-4880	Switch Cover
9	12A7	Top Bearing Holder, Including:	44	SP-553	#6-32 x 1/2 Rd. Hd. Screw
10	SP-2486	Oiler	45	SP-6461-S	Wire Assembly
11	SP-6861	3/16 x 5/8" Groove Pin	47	370-10-1	Bearing
12	SP-7351	Bearing Spring Washer	49	904-07-060-3774	1 13/16 x 2 1/16 x 1/8" Gasket
14	321-12	Pointer	50	401-02-112-5002	1/4-20 x 2 1/4" Sq. Hd. Screw
15	SP-558	#8-32 x 1/4 Rd. Hd. Screw	51	SP-1034	1/4"-20 Hex. Nut
19	SP-605	5/16-18 x 1/2" Hex. Hd. Scr.	52	223-3	Depth Gauge Stop Nut
20	254A34	Collar, Including:	57	SP-5433	3/8"-16 Hex. Jam Nut
21	SP-208	1/4-20 x 1/4" Soc. Hd. Set Scr.	58	Cat. #15-830	Chuck, Including:
26	492-2	Spanner Wrench	59	DP-597	Chuck Key
31	365-8	Knob	70	17-2	Head Casting
32	211-7	Spoke	71	13-67	Pinion Retainer
33	12-15	Hub	72	SP-8015	1/4-20 x 1/2" Button Hd. Cap Scr.

HEAD ASSEMBLY 6" TRAVEL (Continued)

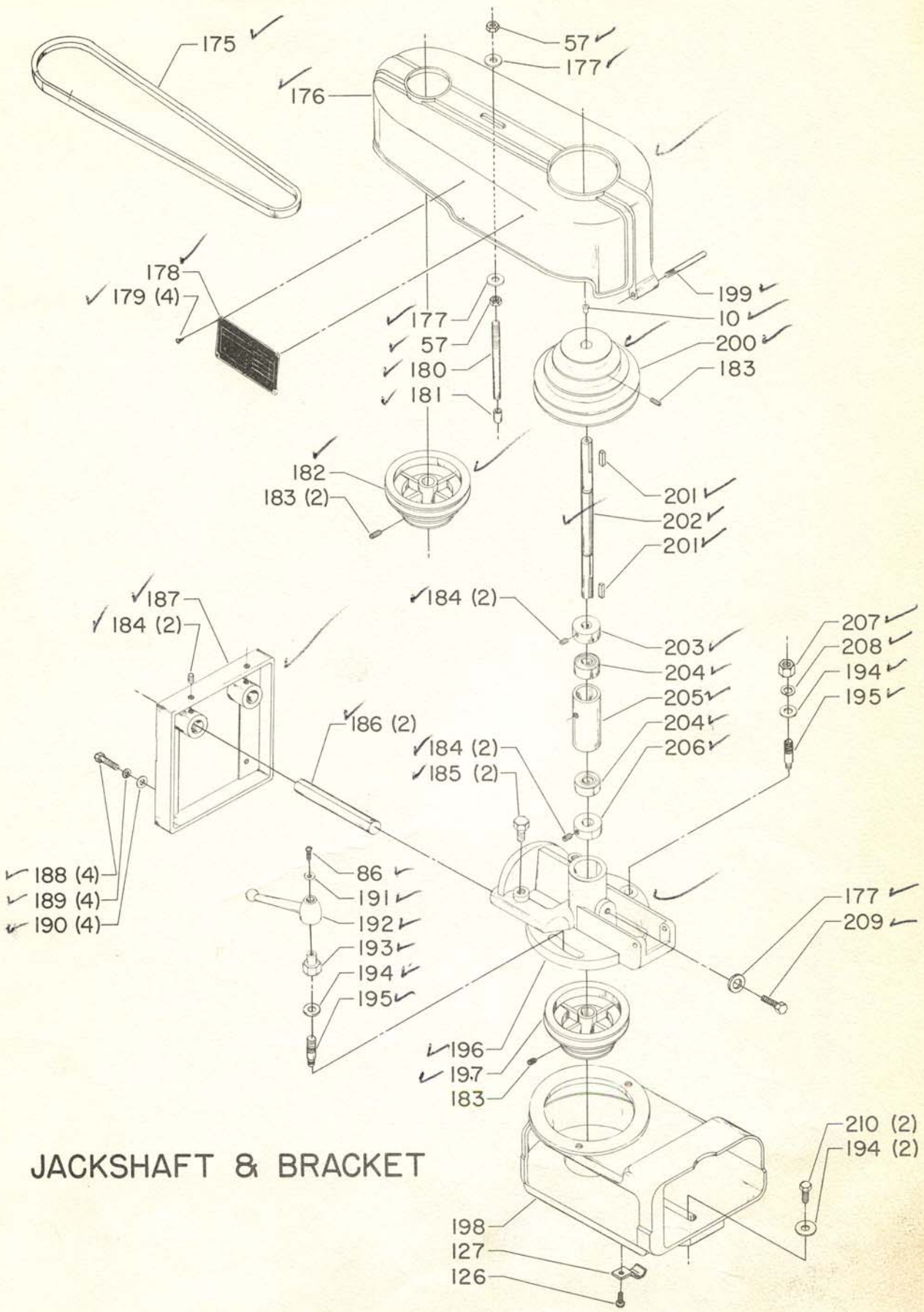
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
73	311-4	Spring	85	234-6	Plug
74	11-14	Spring Housing	86	SP-509	1/4-20 x 1/2" Rd. Hd. Screw
75	13-50	Depth Vernier Dial	87	240-49	Washer
76	244-7	"D" Washer	88	204-11	Quill Adjusting Screw
77	365-1-4	Hand Knob	89	211A29	Hand Knob w/ Stud
78	SP-1620	11/32 x 11/16 x 1/16" Washer	90	13A55	Depth Stop
79	13-39	Oil Splash Guard Sleeve	91	206-8	Hand Screw
80	13-3	Quill	92	13-17	Depth Gauge
81	13M6	Spindle (1/2 Key Chuck)	93	13-10-1	Stop Collar
82	13M11	Spindle (#1 Morse Taper)	94	SP-1789	3/8" Internal Tooth Lockwasher
83	13M12	Spindle (#2 Morse Taper)	*	SP-4889	Cable Clip
84	13-2	Pinion Shaft	*	Not Shown	

COLUMN AND BASE

78	SP-1620	11/32 x 11/16 x 1/16" Washer	133	SP-1713	5/8" Lockwasher
110	SP-9104	3/4"-16 Hex. Jam Nut	134	220-33	5/8"-11 Hex. Lock Nut
111	242-12	Flange Washer	135	SP-3459	1/2" Pipe Plug
112	SP-31	3/8" Steel Ball	136	41A44	Raising Screw for 30" Column
113	SP-1123	1/2-13 x 5/8" Soc. Hd. Set Scr.	137	41A81	Raising Screw for 42" Column
114	16-59	Column Collar	138	SP-609	5/16-18 x 1 1/2" Hex. Hd. Scr.
115	SP-7105	1/4 x 1 1/4" Groove Pin	139	364A5-1	Crank, Including:
116	42-64	Key Block	140	SP-2712	1/4 x 1 1/4" Roll Pin
117	16A29	Cover, Including:	141	SP-2695	3/16 x 3/16 x 1" Straight Key
118	SP-1270	3/8"-24 Hex. Jam Nut	142	240-39	Washer
119	SP-6243	3/8-24 x 1 1/4" Soc. Hd. Set Scr.	143	439-01-351-5002	Gear, Including:
120	242-22	Washer	144	SP-206	5/16-18 x 5/16" Soc. Hd. Set Scr.
121	SP-606	5/16-18 x 5/8" Hex. Hd. Scr.	145	16-65	Base
122	331A4	Gear, Including:	146	200-5	1/2-20 x 3/4" Hex. Hd. Scr.
123	222-4	Bushing	147	242-8	Flange Washer
124	SP-278	#10-32 x 1/2 Soc. Hd. Set Scr.	148	16M8	42" Column, Including:
125	240-40	1 5/32 x 1 5/8 x 1/8" Washer	149	215-11	Alignment Pin
126	SP-7562	#10-32 x 5/16 Rd. Hd. Screw	150	SP-2720	1/4 x 1" Roll Pin
127	396-81	Cable Clip	151	16M60	30" Column, Including:
128	213-38	Locking Stud	150	SP-2720	1/4 x 1" Roll Pin
129	231-10	Locking Block	152	215-10	Alignment Pin
130	SP-9103	5/8"-11 Hex. Jam Nut	153	41-40	Column Guide Key for 42" Column
131	362-19	Locking Handle	154	41-41	Column Guide Key for 30" Column
132	240-85	5/8 x 1 1/8 x 3/32" Washer	155	SP-5640	5/16-24 x 5/8" Fil. Hd. Screw

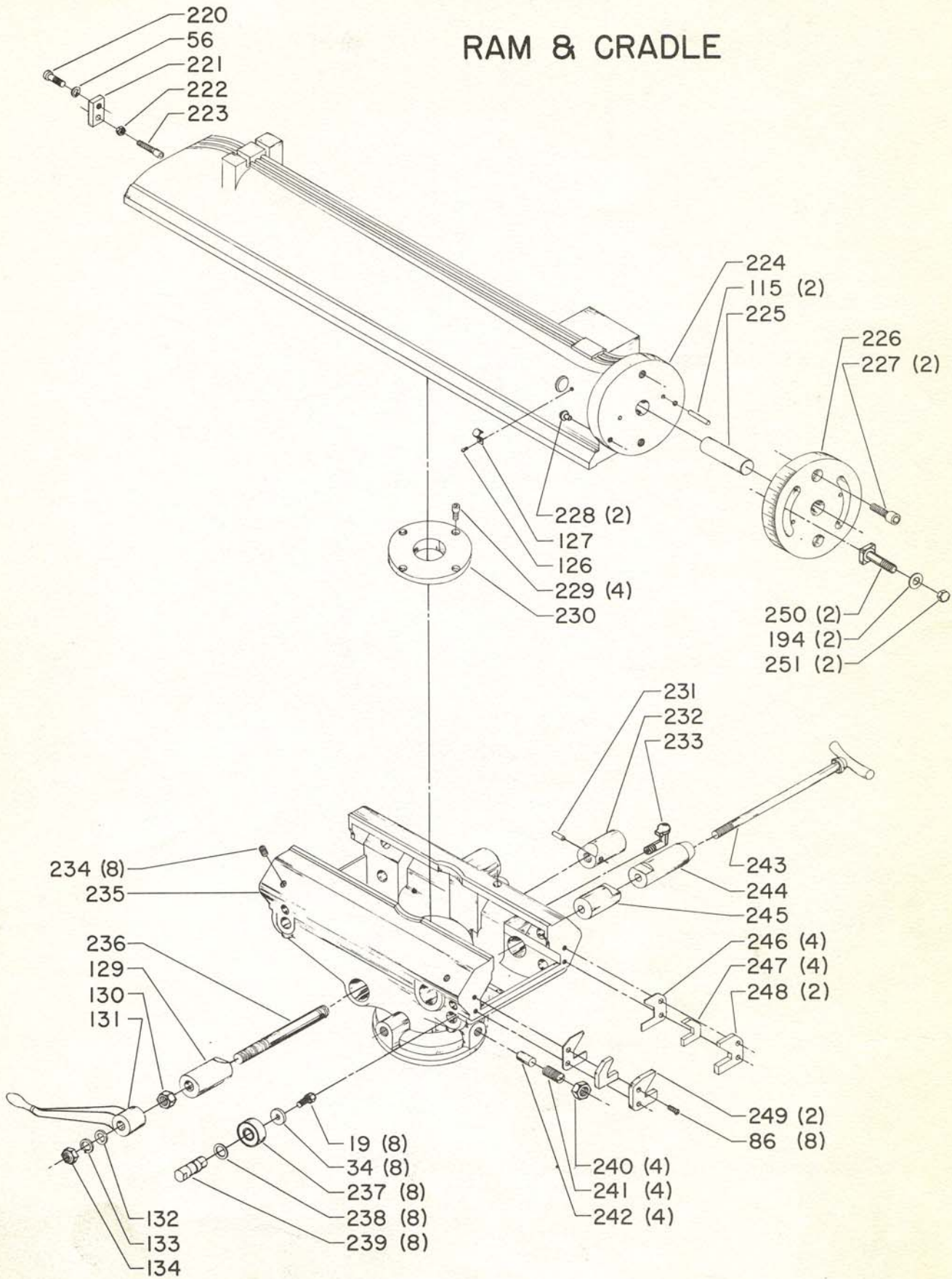
JACKSHAFT AND BRACKET

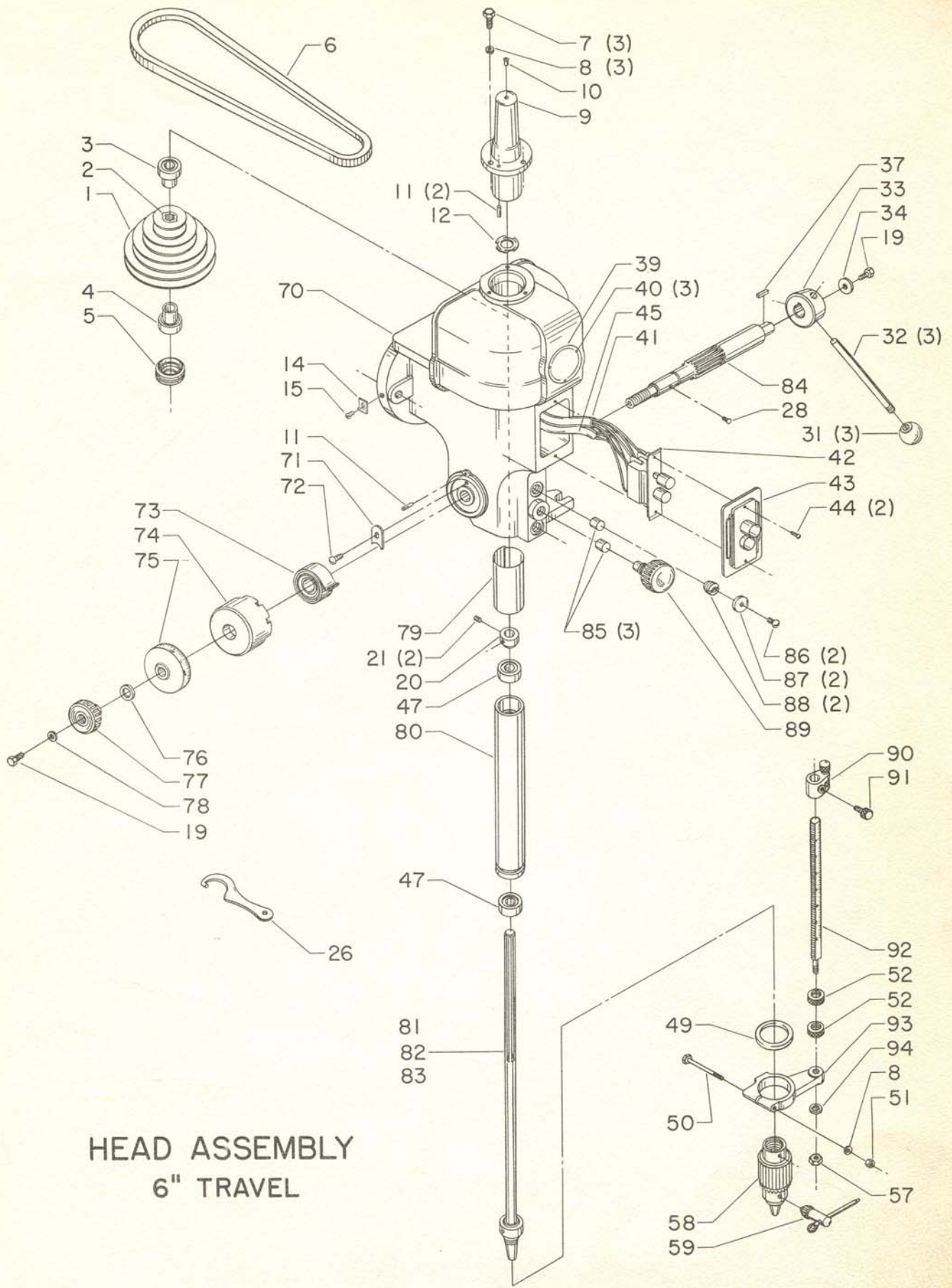
10	SP-2486	Oiler	182	Cat. #41-772	Pulley, Including:
86	SP-509	1/4-20 x 1/2" Rd. Hd. Screw	183	SP-202	1/4-20 x 1/2" Soc. Hd. Set Scr.
126	SP-7562	#10-32 x 5/16 Rd. Hd. Screw	184	SP-231	5/16-18 x 3/8" Soc. Hd. Set Scr.
127	396-81	Cable Clip	185	SP-5781	1/2-20 x 3/4" Hex. Hd. Scr.
175	Cat. #287	V-Belt	186	299-10	Pin
176	439-01-354-5001	Guard, Including:	187	439-01-072-5002	Motor Plate
57	SP-5433	3/8"-16 Hex. Jam Nut	188	SP-649	5/16-18 x 1" Hex. Hd. Scr.
177	SP-1606	7/16 x 1 x 5/64" Washer	189	SP-2086	5/16" Lockwasher
178	960-04-011-8315	Speed Chart	190	SP-1605	3/8 x 7/8 x 1/16" Washer
179	SP-2252	#2 x 3/16 Drive Screw	191	SP-1614	9/32 x 5/8 x 1/16" Washer
180	211-18	Stud	192	362-1-2	Handle
181	399-8	Bumper	193	225-2	Lock Nut



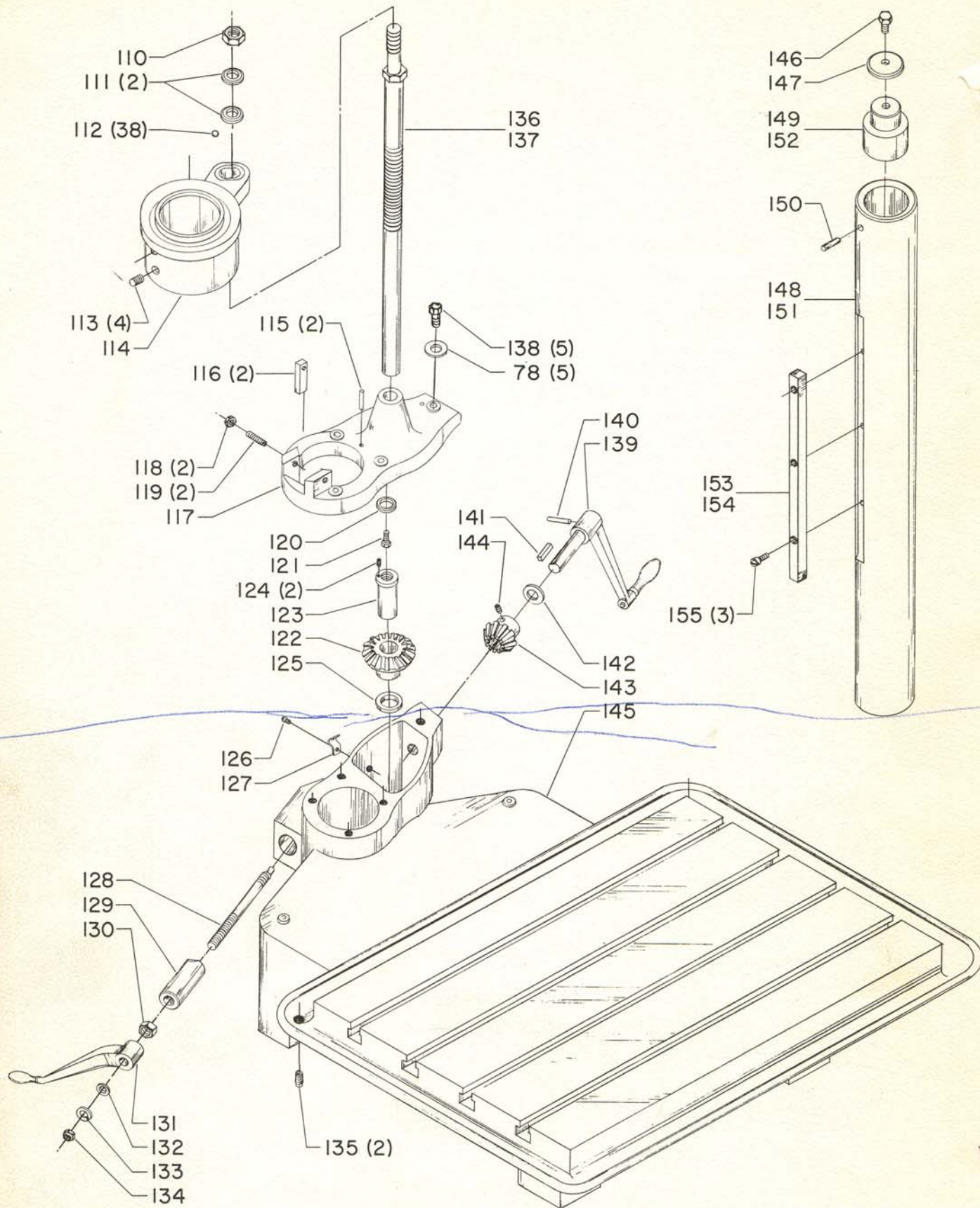
JACKSHAFT & BRACKET

RAM & CRADLE

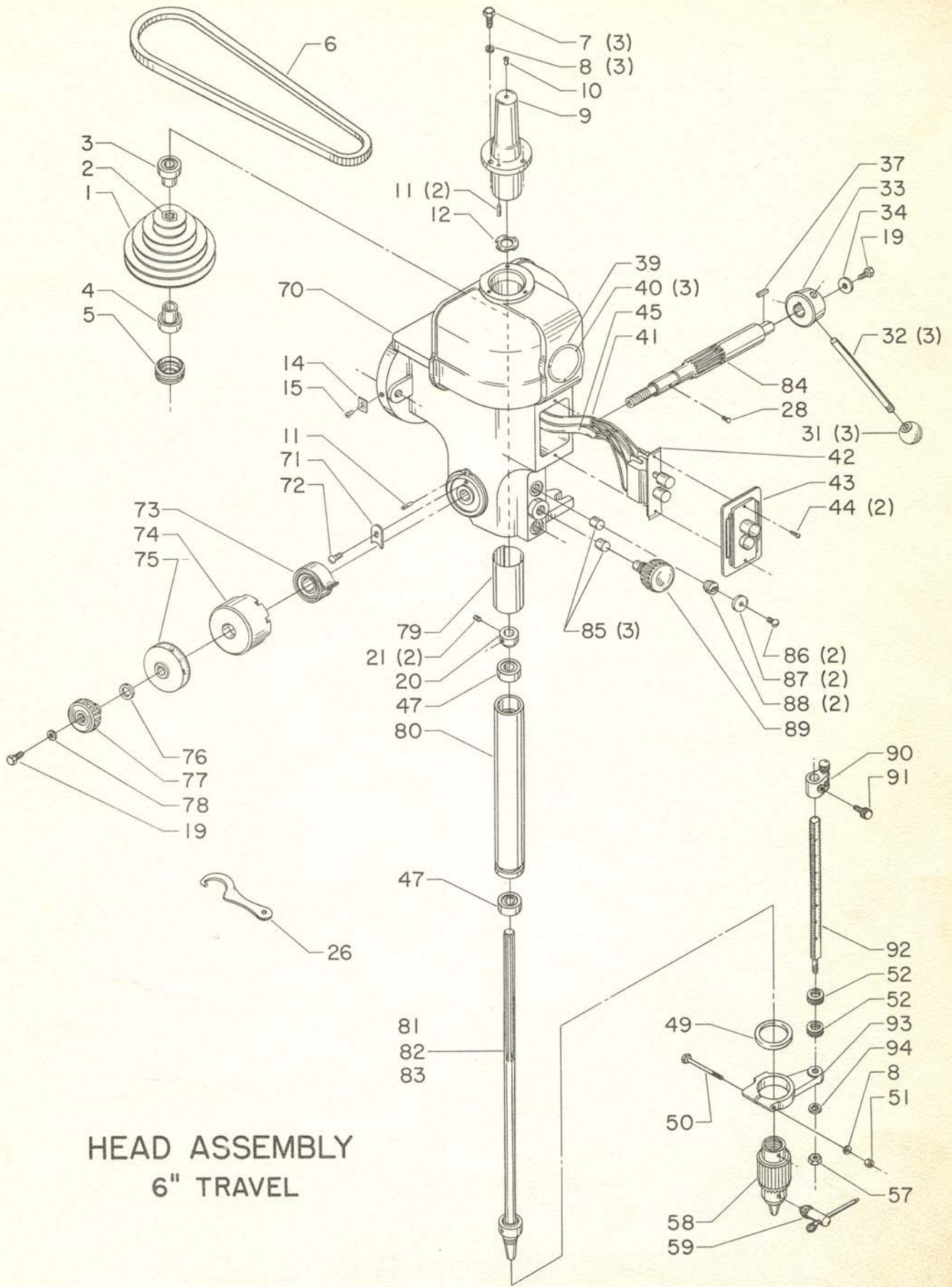




HEAD ASSEMBLY
6" TRAVEL



COLUMN & BASE



HEAD ASSEMBLY
6" TRAVEL

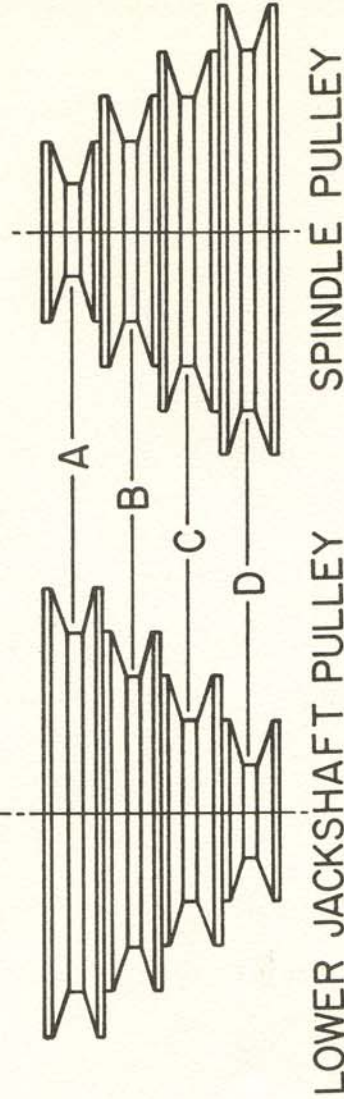
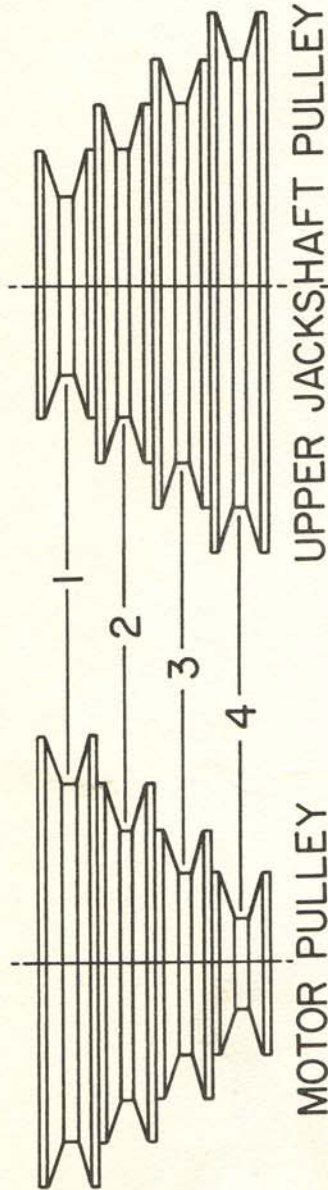
JACKSHAFT AND BRACKET (Continued)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
194	SP-1636	17/32 x 1 1/16 x .095" Washer	202	16-52	Spindle
195	214-8	Stud	203	254-23	Collar
196	16-61	Bracket	204	370-23-1	Bearing
197	Cat. #41-773	Pulley, Including:	205	254-24	Spacer
183	SP-202	1/4-20 x 1/2" Soc. Hd. Set Scr.	206	254-22	Collar
198	16-66	Bracket	207	SP-1266	1/2"-13 Hex. Jam Nut
199	291-11	Hinge Pin	208	SP-1705	1/2" Lockwasher
200	Cat. #51-033	Pulley, Including:	209	SP-642	3/8-16 x 1" Hex. Hd. Scr.
183	SP-202	1/4-20 x 1/2" Soc. Hd. Set Scr.	210	SP-672	1/2-20 x 1 1/4" Hex. Hd. Scr.
201	SP-2662	3/16 x 3/16 x 3/4" Straight Key			

RAM AND CRADLE

19	SP-605	5/16-18 x 1/2" Hex. Hd. Scr.	229	SP-3350	5/16-18 x 1/2" Soc. Hd. Scr.
34	240-87	21/64 x 15/16 x 1/8" Washer	230	16-53	Flange
56	SP-1704	3/8" Lockwasher	231	SP-6714	5/32 x 1 1/4" Roll Pin
86	SP-509	1/4-20 x 1/2" Rd. Hd. Screw	232	230-4	Locking Plug
115	SP-7105	1/4 x 1 1/4" Groove Pin	233	SP-2521	Oil Cup
126	SP-7562	#10-32 x 5/16 Rd. Hd. Scr.	234	SP-1111	3/8-16 x 3/8" Soc. Hd. Set Scr.
127	396-81	Cable Clip	235	16-58	Cradle
129	231-10	Locking Block	236	213-37	Locking Stud
130	SP-9103	5/8"-11 Hex. Jam Nut	237	SP-5335	Bearing
131	362-19	Locking Handle	238	240-9	Spacer
132	240-85	5/8 x 1 1/8 x 3/32" Washer	239	41-28	Eccentric Stud
133	SP-1713	5/8" Lockwasher	240	SP-1226	5/8-18 Hex. Jam Nut
134	220-33	5/8-11 Hex. Lock Nut	241	202-11	Headless Set Screw
194	SP-1636	17/32 x 1 1/16 x .095" Washer	242	234-4	Brass Plug
220	SP-705	3/8-16 x 1" Fil. Hd. Screw	243	211A19	Ram Locking Stud
221	41-75	Ram Stop	244	233-2	Locking Plug
222	SP-5435	5/16"-18 Hex. Jam Nut	245	232-2	Locking Plug
223	SP-770	5/16-18 x 1 1/4" Soc. Hd. Scr.	246	41-43	Retainer
224	16-62	Ram	247	41-42	Felt Wiper
225	290-29	Guide Pin	248	41-30-1	Holder
226	16-55	Flange	249	41-30-2	Holder
227	201-6	Soc. Hd. Cap Screw	250	200-4	Angle Hd. Lock Stud
228	MJ-4216	Bumper	251	SP-1255	1/2"-13 Acorn Nut

SPINDLE SPEEDS



SPINDLE RPM - 1725 RPM MOTOR

	A	B	C	D
1	* 8200	4000	2200	1030
2	4750	2300	1250	600
3	2800	1380	765	365
4	1450	695	380	175

SPINDLE RPM - 1140 RPM MOTOR

	A	B	C	D
1	5400	2640	1450	680
2	3130	1520	825	395
3	1850	910	505	240
4	960	455	250	115

* 8200 RPM RECOMMENDED FOR OCCASIONAL USE ONLY.

REPLACEMENT PARTS

GEAR HOUSING COVER:

When ordering parts for old style gear housing cover (new #16-29) you should purchase complete assembly - Consisting of:

1	16-29	Gear Housing Cover
2	42-64	Guide Key
2	524-2520	Set Screw
2	545-25	Jam Nut
4	571-1616	Groove Pin

RAM LOCKING DEVISE.

This has been slightly modified in new models. Old style parts are available and should be ordered giving serial number of machine and complete description of parts needed.

SWITCH:

Front mounting switch may be purchased when new head casting is used. Catalog #395C3. This is not needed since a cover plate is supplied for the switch opening. Old style toggle switch is available as an accessory.

When ordering any parts you must include model number and serial number of your machine. If you are not sure of part number, please give a detailed description of the part and where it is used.

Below is a listing of serial numbers which were applied to the RD1175J Radial Drill.

RD-242B	8-6248
RD11242B	RD642-JS
RD642B	9-642
7-642	9-645
7-645	9-6248
7-6248	RD642JLS
8-642	10-642
8-645	10-645
10-6248	

Also all serial numbers beginning with:

50RD
51RD
52RD
53RD
54RD

The right is reserved to make changes in design or equipment at any time without incurring any obligation to install these on machines previously sold, and to discontinue models of machines, motors or accessories at any time without notice.



Rockwell MANUFACTURING COMPANY

4/29/58

WALKER-TURNER POWER TOOL DIVISION

PITTSBURGH 8, PENNSYLVANIA

Printed In USA



RD-1175 J RADIAL DRILL PRESS

The attached PM-1907 covers our current 1600 and 1700 Radial Drills. The RD1175J Radial Drill was discontinued in 1955 when the new model was released. Several improvements have been incorporated to make the new models more efficient but the majority of parts are interchangeable between old and new models.

Following is a list of exceptions where parts are not interchangeable:

HEAD CASTING:

Old style head casting is no longer available. New style (16-67) is interchangeable with addition of following parts.

1	16-67	Head Casting
1	12A7	Spindle Cap
1	395-23	Switch Cover
2	508-0908	Drive Screws
1	571-1210	Roll Pin
1	254A35	Collar Assembly
1	12-9	Lower Bearing Return
1	16-66	Jackshaft Bracket

For adapting new 6" travel head, complete assembly will have to be purchased.

FEED PINION:

Old style feed pinion is not available. New style (12-2 or 13-2) is interchangeable with addition of following:

1	12A15	Feed Wheel Assembly
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HAND WHEEL:

Old style handwheel is not available. New style (12A15) is interchangeable with addition of following:

1	12-2 or 13-2	Pinion
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SPINDLES:

When ordering new spindles for old machines you must purchase following:

2	370-10-1	Bearings
1	254A34	Collar

This is due to a modification of spindle design in 1953. Recent models and spindles which have been replaced since 1953 will need the spindle only.

SPINDLE CAP:

Old style spindle cap is available #12C136R.