

INSTRUCTIONS FOR UNCRATING AND POSITIONING YOUR MILLING MACHINE

The Millrite is an accurate, precision built machine tool. It should be carefully uncrated and inspected. Be sure that all items listed on the packing slip are contained in the crate. Report any shortages immediately. In the event of shipping damage please make a notation on the bill of lading, have the delivering carrier sign to this effect, and notify us.

While moving the machine to its permanent position try to jar it as little as possible. A rope sling around the overarm will facilitate positioning. Or, if preferred, rollers under the skid may be used.

Do not turn the head over until the machine has been permanently positioned. Once the machine has been properly located it should be securely bolted to the floor.

The chief consideration in setting up your Millrite is that all four corners of the base rest firmly on the floor, (shims, or vibration reducing pads).

Leveling the machine is desirable, but not nearly as important as making sure that there is no twist or strain on the column.

Before connecting the motor, read and verify the current characteristics contained on the motor plate. Be sure the motor is wired correctly, so that when the drum type switch is turned to the "forward" position the spindle rotates in the proper direction.

The shipping sludge used to protect the ways in transit should be carefully removed with kerosene or other solvent. Thereafter lubricate all bearing surfaces, shafts, and screws with a good grade of medium viscosity machine oil.

Please note that the plate to which the motor is secured may be swung in either direction by loosening the cap screws that secure it to the head. This will simplify turning the head over, and eliminate bumping the motor plate against the under side of the ram.

GENERAL INSTRUCTIONS

GIB ADJUSTMENT

Adjustable gibs are located between the column and knee, knee and saddle, and saddle and table. To adjust the knee gib loosen the square headed locking screws and the retaining nuts that are attached to the adjusting screws.

Alter the tension on the adjusting screws the desired amount and retighten the nuts to hold them in position.

To adjust the table gib loosen the gib lock handle and alter the position of the two exposed screws. It will not be necessary to change the adjustment of the screws that are not in view.

Adjustment of the saddle gib is made in the same manner.

GIB LOCKS

The gib lock handles for the table and saddle are located on the left side of the saddle. The knee gib has two $\frac{5}{8}$ " square headed locking screws that are turned by using the elevating crank handle. It is normally not considered necessary to lock the knee gib, but when boring the saddle and table gib should be secured.

Good milling practice is to secure all gib slides that are not being used for a particular operation. When milling horizontally be sure the quill lock is engaged.

ADJUSTMENT OF SCREWS

The lead screws (longitudinal, cross, and vertical), are all equipped with thrust bearings and adjusting nuts. The "drag" on the screws may be altered by repositioning the adjusting nuts. The crossfeed nut is split, with a socket head screw holding the two sections together.

To reduce backlash turn this screw. A very slight adjustment will serve to reduce backlash to a minimum.

CHANGING COLLETS

The Millrite is equipped with an exclusive anti-friction bearing draw bar, furnished to assist you in breaking the bind of the self holding #9 B & S Taper spindle and its mating long taper collet.

To change collets raise the spindle lock plunger until it engages one of the holes in the spindle pulley provided for this purpose.

The $\frac{5}{8}$ " square draw bar nut may be turned by using the elevating crank handle. Counter-clockwise rotation ejects the collet, and clockwise rotation tightens the collet in position.

When the cutter is positioned and secured, be sure that the spindle lock is disengaged before turning on the motor.

CHANGING BELT POSITIONS

Merely loosen the wing nuts on either side of the spindle guard to permit pivoting the guard forward.

Loosen the nut on the right side of the motor mount, slide the motor forward to decrease belt tension, and reposition the drive belt, (refer to the speed chart for the desired belt position).

TURRET, RAM, AND HEAD POSITIONING

The turret, ram, and head positions are altered manually. When the position of the head has been changed it is absolutely necessary to sweep the table with an indicator to make sure that the head is in a true vertical position. This is most easily accomplished by securing an indicator to the spindle nose or in a test bar held in the spindle.

On Millrites with single swivel head the sweep need only be right and left. With compound swivel head machines the table must be swept to the front and back as well.

The Millrite is sometimes used for horizontal milling. If you find that the motor interferes with your set up, merely loosen the two screws that hold the motor plate on the head, and swivel the motor out of the way. The machine may be efficiently used with the motor in any convenient location.

SPINDLE BEARING ADJUSTMENT

The Millrite has an exclusive, exceptionally rigid spindle design incorporating the use of 5 bearings. A double row of shielded ball bearing supports the pulley sleeve. A single row of shielded ball bearings acts as a pilot, and all of the thrust is taken up at the spindle nose by a double row of precision tapered roller bearings mounted back to back.

The sketch and description on the following page tells how to adjust the preload of the roller bearings either to compensate for wear or for extreme ranges of milling speeds.

QUILL FEED MECHANISM

Another Millrite feature is the manner in which the quill is actuated. A bronze nut is attached to the side of the quill, and through it runs a 5 pitch acme screw. Turning the feed handle rotates the screw to feed the quill just as the table and saddle handles actuate their respective assemblies.

This permits exceptionally accurate boring feed and depth control. The adjustable micrometer dial, graduated in .001", .200" per revolution, may be used as a reliable depth measuring instrument. (Please note that in the parts section the alternate rapid hand quill feed head is also pictured.)

LUBRICATION

A number of alemite fittings are located in conspicuous positions around the machine. They should be regularly lubricated with heavy machine oil similar to Sunoco's Way Lube.

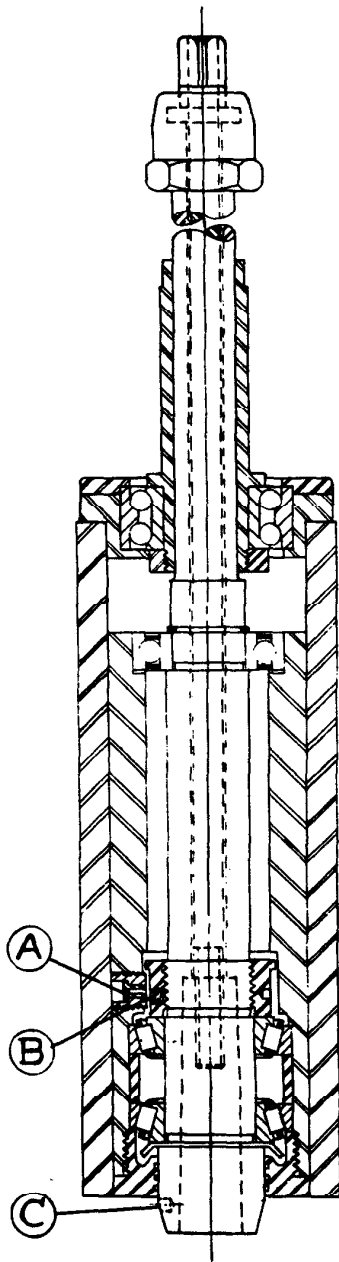
The easiest way to apply the oil is by using a small grease gun. **Caution:** Grease is not a recommended lubricant because of its tendency to "cake", trap foreign matter, and adhere to the bearing surfaces.

The Timken bearings in the spindle may be lubricated through the plug hole in the rear of the quill. Each 45 days, or after 200 hours of operation a small amount of grease should be applied. Use a conventional alemite gun, and any good grade of bearing grease.

Specifically, the best grease to use for this purpose is a short fibre, medium sponge grease, with sodium soap base. This is not a critical requirement however, and the main concern is not to lubricate these bearings too often or too heavily. None of the other spindle bearings need additional lubricant.

On page 14 is a wiring diagram of both single and three phase motors and the alternative controls provided. There is no overload protection furnished as standard equipment, and for this reason we strongly suggest mounting a fused disconnect switch between the factory power supply and the drum type reversing switch.

HOW TO CHANGE PRELOAD OF SPINDLE BEARINGS



- 1.) Feed out quill until plug "A" is exposed.
- 2.) Remove plug "A" with 5/16" hex key.
- 3.) Rotate spindle manually until 1/4" socket set screw "B" in preloading nut is accessible through plug hole. Loosen this set screw with 1/8" hex key.
- 4.) Insert pin wrench in any of (3) 3/16" radial holes in preloading nut. Be careful not to damage thread in plug hole.
- 5.) Turn spindle at "C" position to right to increase preload or vice versa.
- 6.) Assure proper seating of bearing races on spindle by lightly tapping top and bottom of spindle. Rotate spindle to feel the "drag" on the bearings. There should be no noticeable drag when running predominantly at high spindle speeds.
- 7.) Tighten set screw "B" and replace outer plug "A" in quill. Make sure that plug clears quill housing, but do not force it in too far or it might interfere with inner rotating parts.

CAUTION

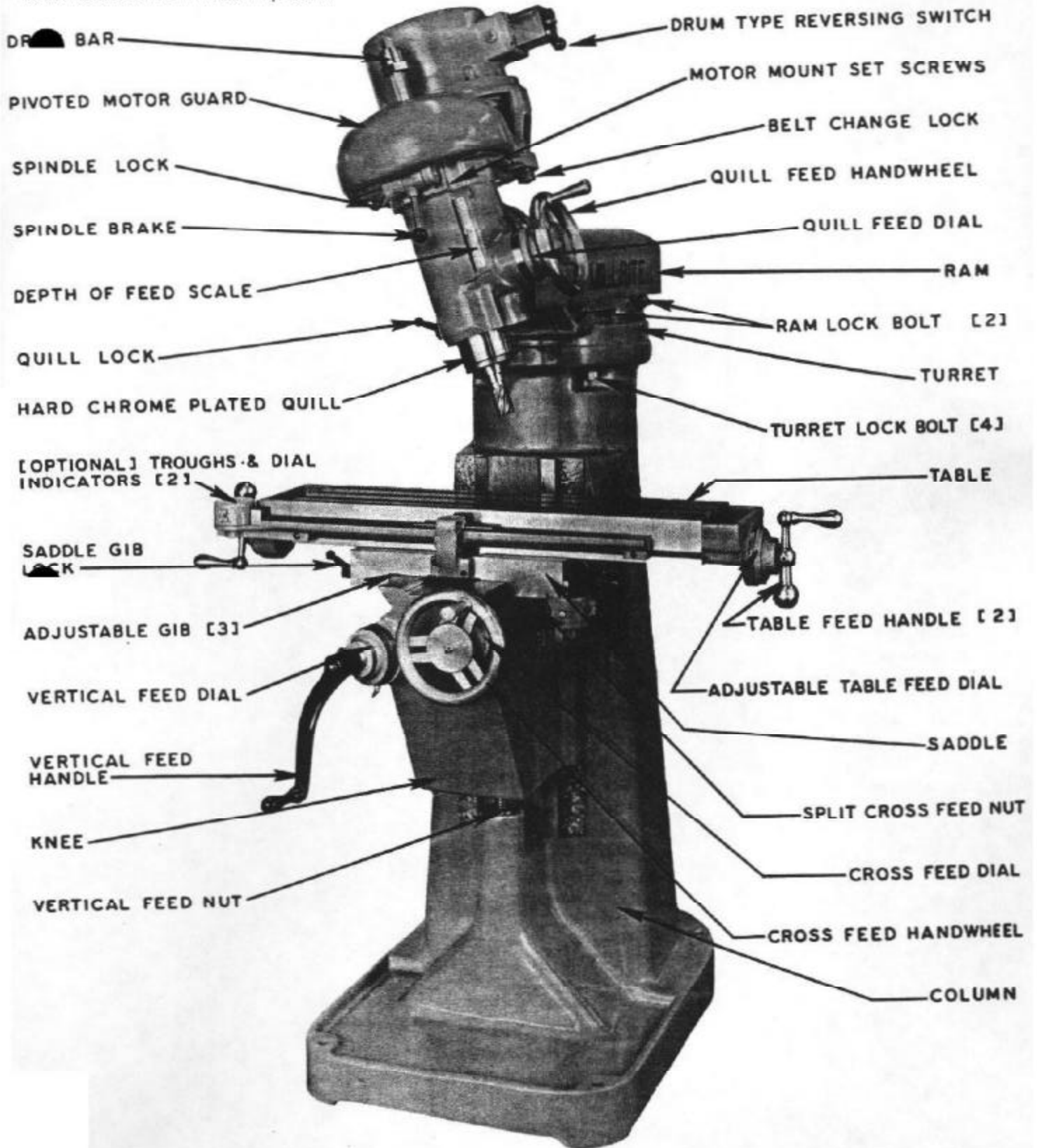
The roller bearings are grease lubricated. If the spindle is rotated at very high speeds, and the pre-load set too tight, excessive heat will be generated. This will liquify the spindle grease, and cause what appears to be an oil leak.

In the event such high speed milling will be performed for a relatively short period the pre-load need not be altered.

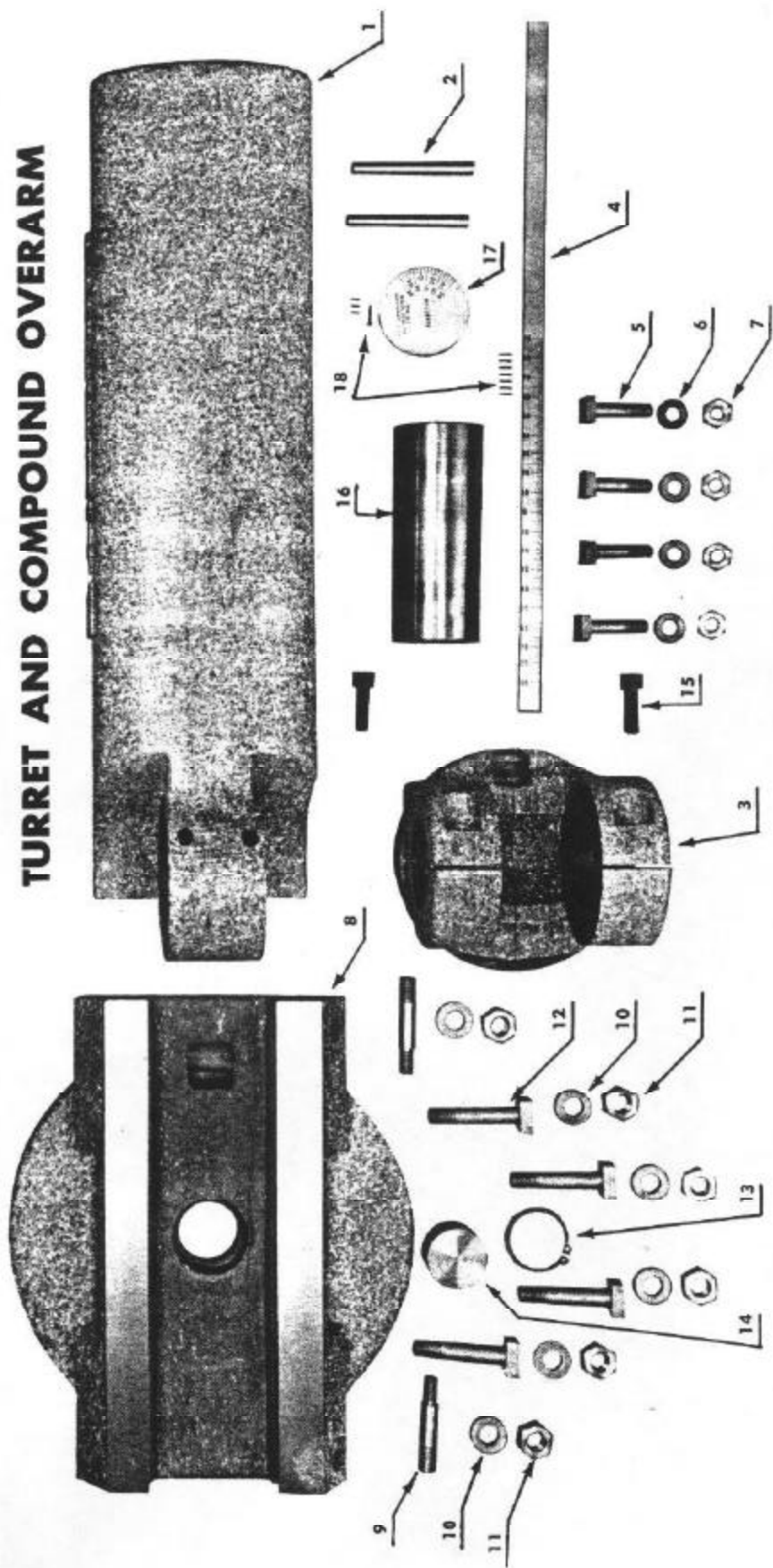
Another caution is to make sure that the adjusting nut is held against the top bearing. If it is too loose the bearings can lock, creating the impression of a "seized" or "frozen" spindle, and causing too much end play.

MILLRITE CONTROLS AND MAJOR COMPONENTS

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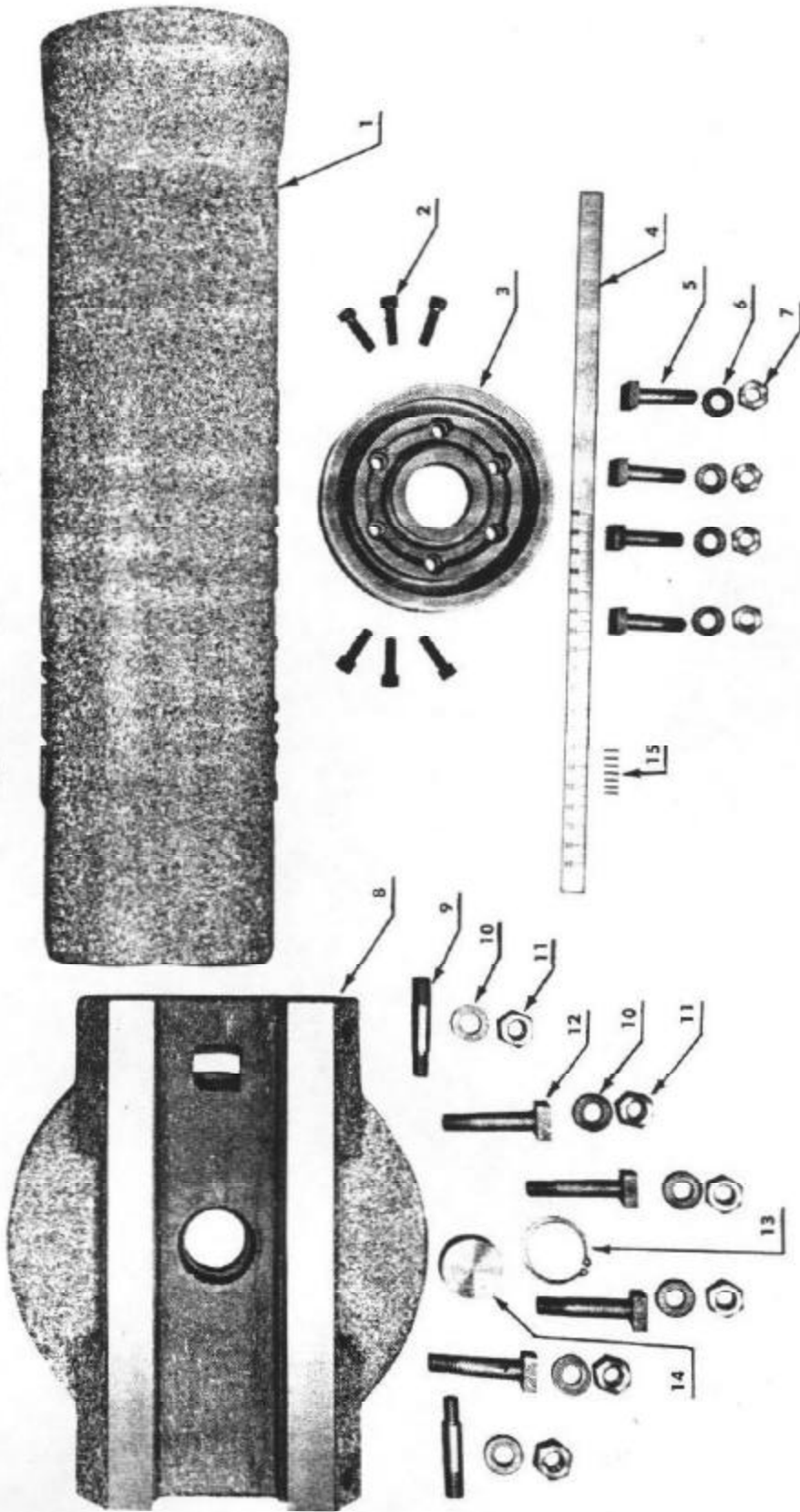


TURRET AND COMPOUND OVERARM



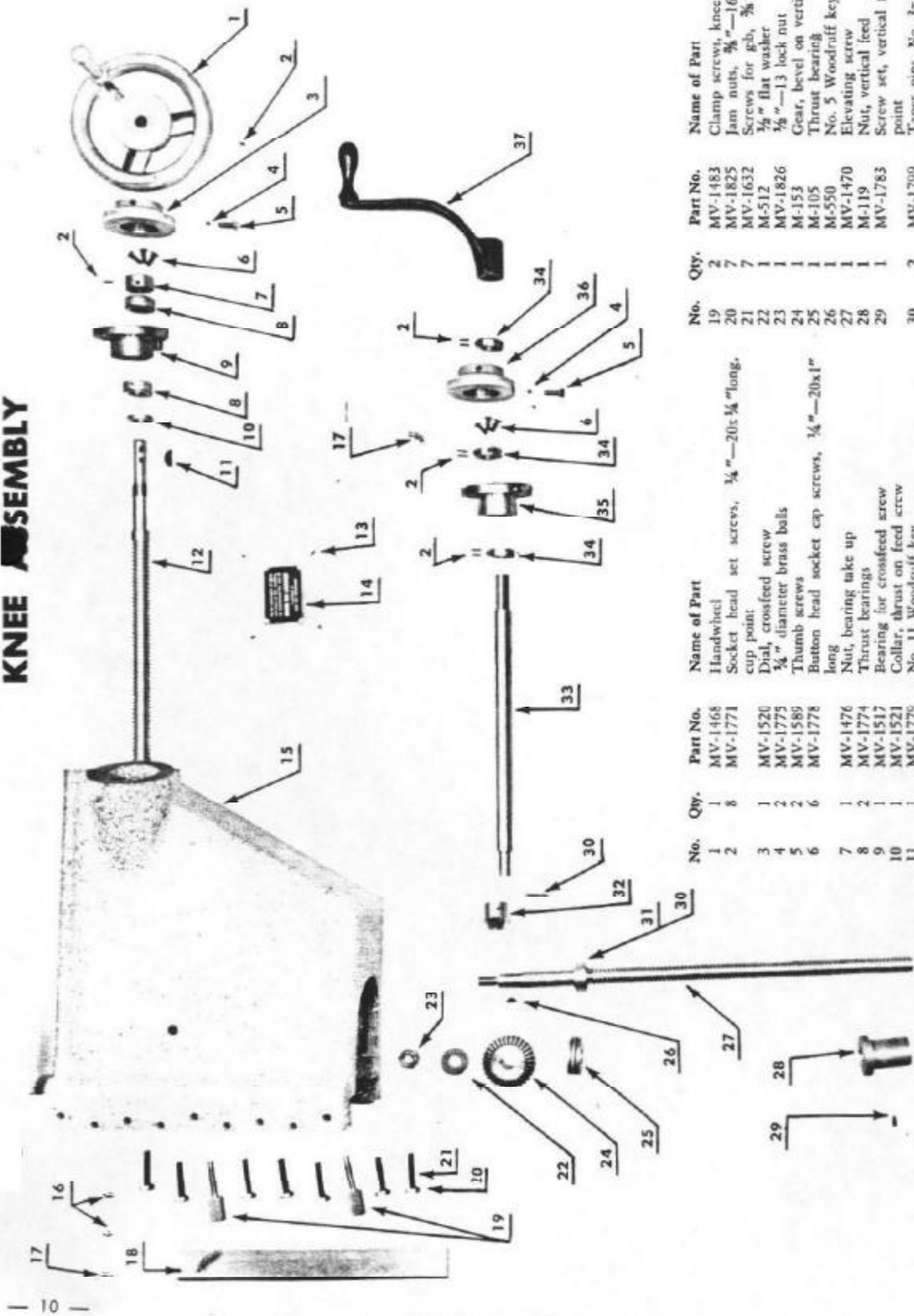
No.	Qty.	Part No.	Name of Part
1	1	MV-1464	Overarm, compound
2	2	MV-1764	Taper pins, No. 8 x 4" long
3	1	MV-1480	Compound bracket
4	1	MV-1523	Scale
5	4	MV-1490	Tree bolts, for head
6	4	MV-1765	Washers, 3/8" bolt
7	4	MV-1767	Hex nuts, 3/8"-13
8	1	MV-1454	Turret
9	2	MV-158B	Studs, overarm clamp
10	6	MV-1761	Washers, 5/8" bolt
11	6	MV-1762	Hex nuts, 5/8"-11
12	4	MV-1508	Tree bolts, turret clamp
13	1	MV-1760	Snap ring
14	1	MV-1507	Pilot for turret
15	2	MV-1765	Socket head cap screws, 1/2"-13x1 3/4" long
16	1	MV-1511	Shaft, compound swivel
17	1	MV-1529	Scale, compound swivel
18	10	MV-1768	Type U drive screws, No. 2 x 3/4"

TURRET AND PLAIN OVERARM



No.	Qty.	Part No.	Name of Part
1	1	MV-1463	Overarm, plain
2	6	MV-1763	Socket head cap screws, $\frac{3}{8}$ " - $16 \times 1 \frac{3}{4}$ " long
3	1	MV-1481	Swivel disc head
4	1	MV-1528	Scale
5	4	MV-1490	Tee bolts for head
6	4	MV-1766	Washers, $\frac{3}{8}$ " bolt
7	4	MV-1767	Hex nuts, $\frac{3}{8}$ " - 13
8	1	MV-1454	Turret
9	2	MV-1509	Stud, overarm clamp
10	6	MV-1761	Washers, $\frac{3}{8}$ " bolt
11	6	MV-1762	Hex nuts, $\frac{3}{8}$ " - 11
12	4	MV-1508	Tee bolts, turret clamp
13	1	MV-1760	Snap ring
14	1	MV-1507	Pilot for turret
15	7	MV-1768	Type U drive screws, No. 2 x $\frac{3}{4}$ "

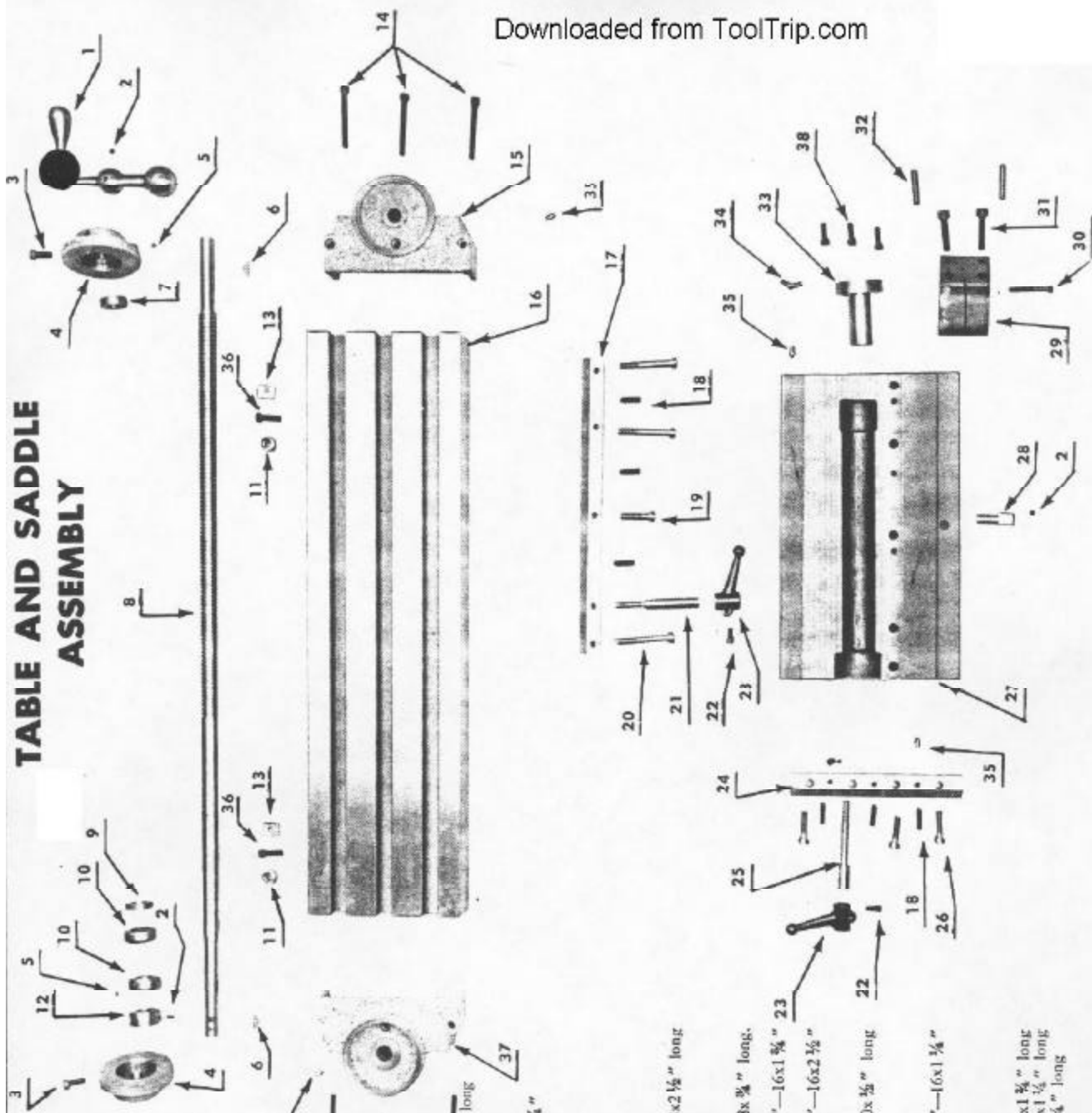
KNEE ASSEMBLY



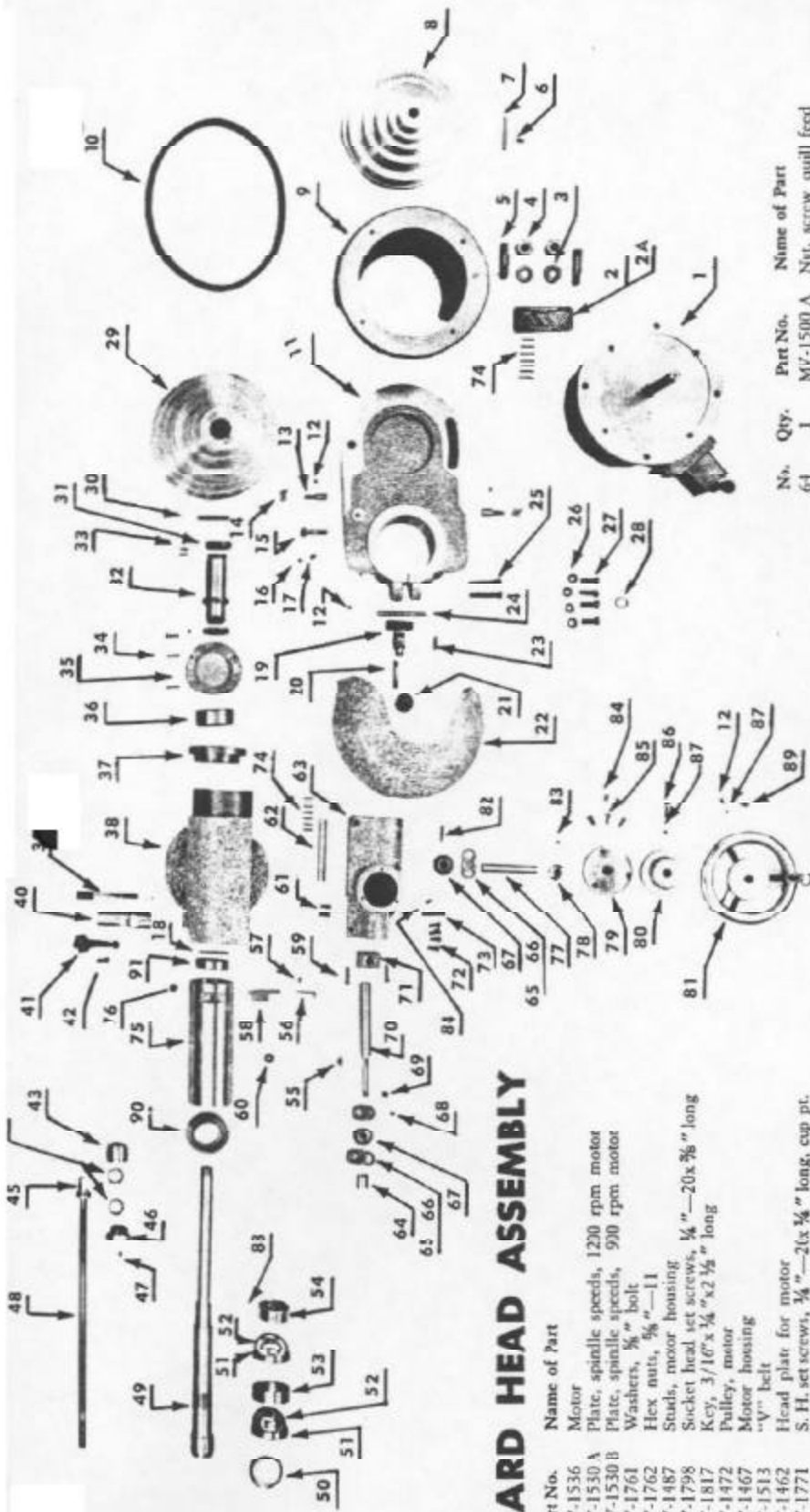
Part No.	Name of Part	Qty.
MV-1483	Clamp screws, knee	2
MV-1825	Jam nuts, $\frac{3}{8}$ "-16	7
MV-1632	Screws for gib, $\frac{3}{8}$ "-16x2" long, dog point	7
M-512	$\frac{1}{2}$ " flat washer	1
MV-1826	$\frac{1}{2}$ "-13 lock nut	1
M-153	Gear, bevel on vertical screw	1
M-105	Thrust bearing	1
M-550	No. 5 Woodruff key	1
MV-1470	Elevating screw	1
M-119	Nut, vertical feed	1
MV-1783	Screw set, vertical feed nut, $5/16$ "x $\frac{3}{4}$ " cup point	1
MV-1799	Taper pins, No. 3x1 $\frac{1}{4}$ " long	2
MV-1471	Collar on elevating screw	1
M-152	Pinion bevel, vertical feed	1
MV-1477	Shaft, vertical feed	1
MV-1634	Collars, vertical feed shaft	3
MV-1527	Bearing for elevating shaft	1
MV-1519	Dial, elevating	1
MV-1510	Crank, elevating	1

No.	Name of Part	Qty.
19	Handwheel	1
20	Socket head set screws, $\frac{3}{8}$ "-20x $\frac{1}{4}$ " long.	8
21	Dial, crossfeed screw cup point	1
22	$\frac{3}{4}$ " diameter brass balls	2
23	Thumb screws	2
24	Button head socket cap screws, $\frac{1}{4}$ "-20x1" long	6
25	Nut, bearing take up	1
26	Thrust bearings	2
27	Bearing for crossfeed screw	1
28	Collar, thrust on feed screw	1
29	No. 11 Woodruff key	1
30	Crossfeed screw	1
31	Type U drive screws, No. 2x $\frac{3}{4}$ " long	4
32	Lubrication plate	1
33	Knee	1
34	No. 400 grease fittings	1
35	No. 451 grease fittings, 45° angle	2
36	Gib for knee	2
37		1

TABLE AND SADDLE ASSEMBLY

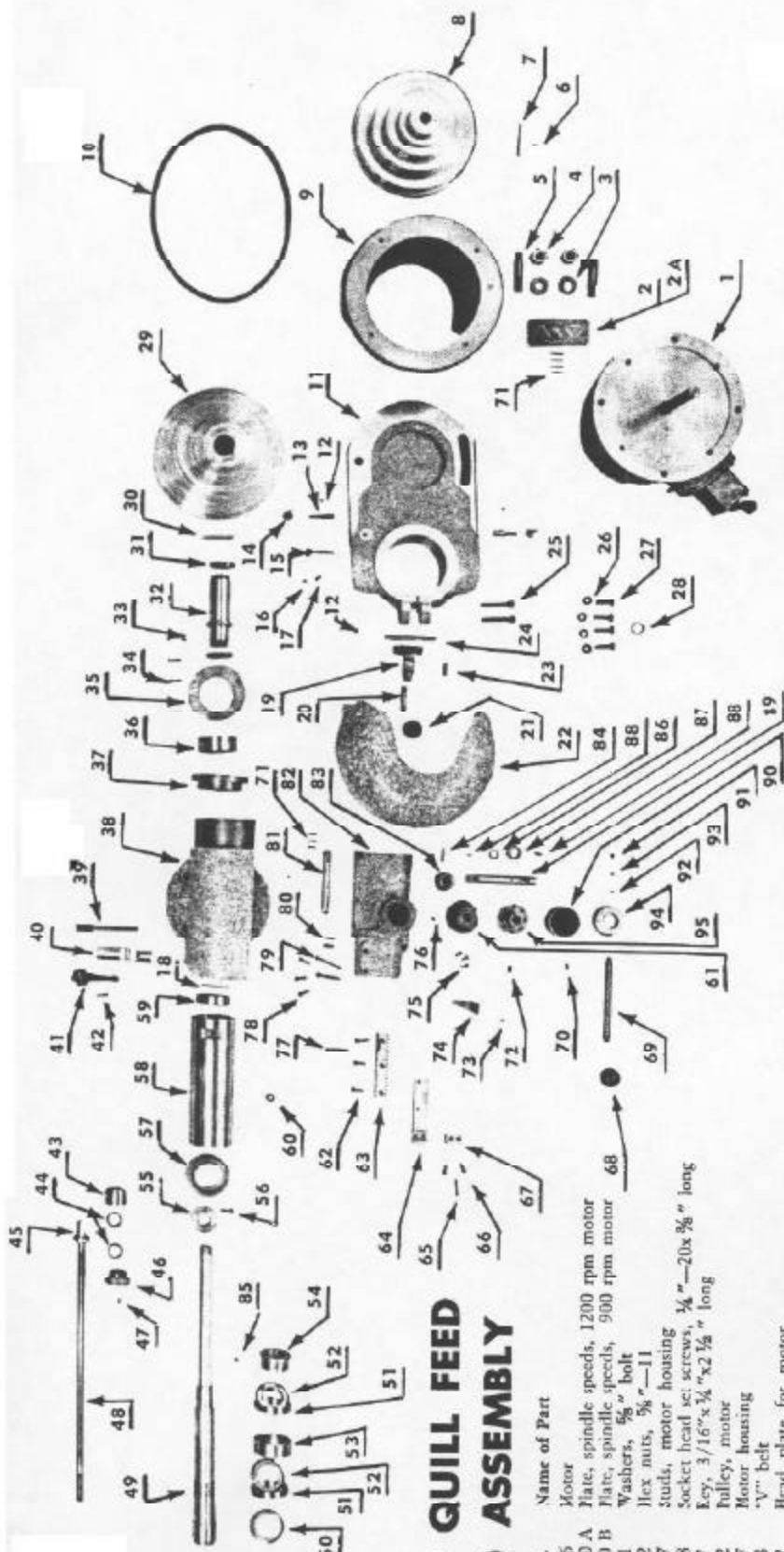


No.	Qty.	Part No.	Name of Part
1	2	MV-1597	Bull cranks, 5/8" bore
2	4	MV-1771	Socket set screws, 3/8"-20x1 1/4" long
3	2	MV-1589	Thumb screws
4	2	MV-1520	Diabs, longitudinal feed screw
5	2	MV-1775	3/4" diameter brass balls
6	2	MV-1776	No. 606 Woodruff key, 3/16"x 3/4"
7	1	MV-1596	Spacer
8	1	MV-1474	Screw, longitudinal table feed
9	1	MV-1521	Collar, thrust on feed screw
10	2	MV-1774	Thrust bearing
11	2	MV-1523	Stops, moveable in table
12	2	MV-1476	Nut, bearing take up
13	2	U-132-N	Nut in tee slot
14	3	MV-1769	Socket head cap screws, 5/16"-18x2 1/4" long
15	1	MV-1458	Table bracket, right hand
16	1	MV-1455	Table, 7"x27"
17	1	MV-1515	Gib for table
18	6	MV-1783	Socket head set screws, 5/16"-18x 3/8" long.
19	1	MV-1788	dog point
20	3	MV-1787	Fillister head machine screws, 3/8"-16x2 1/2" long.
21	1	MV-1485	Clamp, screw, table
22	2	MV-1784	Socket head cap screws, 3/4"-20x 3/8" long
23	2	M-151	Handles, gib clamp
24	1	MV-1516	Gib for saddle
25	1	MV-1484	Clamp screw, saddle
26	4	MV-1782	Fillister head machine screws, 3/8"-16x1 1/4" long
27	1	MV-1456	Saddle
28	1	MV-1522	Stop in saddle
29	1	MV-1525	Nut, crossfeed
30	1	MV-1781	Socket head cap screw, 5/16"-18x1 3/4" long
31	2	MV-1763	Socket head cap screws, 3/8"-16x1 1/4" long
32	2	MV-1780	Dowel pins, 5/16" diameter x 1 3/4" long
33	1	MV-1482	Nut, longitudinal feed
34	1	MV-1785	No. 451 grease fitting, 45° angle
35	4	MV-1770	No. 400 grease fittings
36	2	MV-1777	Socket head cap screws, 5/16"-18x 3/8" long
37	1	MV-1457	Table bracket, left hand
38	1	MV-1772	Socket head cap screws, 5/16"-18x1" long
39	2	MV-1773	Socket head cap screws, 5/16"-18x3" long



STANDARD HEAD ASSEMBLY

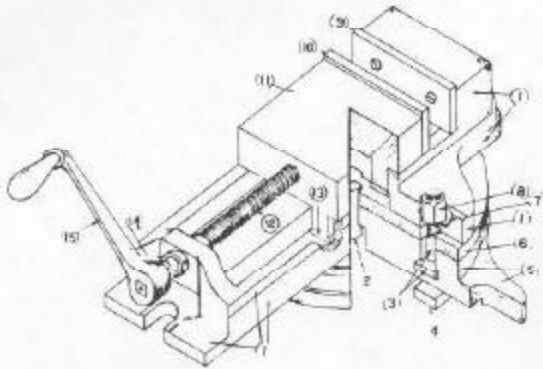
No.	Qty	Part No.	Name of Part	No.	Qty.	Part No.	Name of Part	No.	Qty.	Part No.	Name of Part
1	1	MV-1536	Motor	64	1	MV-1500 A	Nut, screw quill feed	70	1	MV-1499 A	Screw, quill feed
2	1	MV-1530 A	Plate, spindle speeds, 1220 rpm motor	65	3	MV-1800	Noelle thrust bearings	71	1	MV-1498	Nut, quill feed
2A	1	MV-1530 B	Plate, spindle speeds, 900 rpm motor	66	6	MV-1801	Thrust races	72	4	MV-1789	Socket head cap screws, 3/8"-20x 3/4" long
3	2	MV-1761	Washers, 3/8" bolt	67	1 set	MV-1501 A	Miter gears for quill feed	73	1	MV-1790	Socket head cap screw, 3/8"-20x 1 1/4" long
4	2	MV-1762	Hex nuts, 3/8"-11	68	1	MV-1798	Socket head set screw, 3/8"-10x 3/8" long	74	7	MV-1768	Type U drive screws, No. 2x 1/4" long
5	2	MV-1487	Studs, motor housing	69	1	MV-1802	S.H. set screws, 3/8"-11 N. C. x 3/8" long	75	1	MV-1531	Quill, Timken bearing
6	2	MV-1798	Socket head set screws, 3/8"-20x 3/8" long	70	1	MV-1499 A	Socket head cap screw, 3/8"-20x 3/8" long	76	1	MV-1793	Socket head cap screw, 3/8"-16x 3/8" long
7	1	MV-1817	Key, 3/16"x 3/4"x 2 1/2" long	71	1	MV-1499 A	Screw, quill feed	77	1	MV-1502 A	Shaft for handwheel
8	1	MV-1472	Pulley, motor	72	1	MV-1498	Nut, quill feed	78	1	MV-1504	Collar
9	1	MV-1467	Motor housing	73	1	MV-1539	Needle roller thrust bearings	79	1	MV-1503 A	Bearing for bev'd gear
10	1	MV-1513	"V" belt	74	1	MV-1538	End piece, drawbar	80	1	MV-1505	Dial, screw feed head
11	1	MV-1462	Head plan for motor	75	1	MV-1537	Connector, drawbar	81	1	MV-1468	Handwheel
12	4	MV-1771	S. H. set screws, 3/8"-20x 3/8" long, cup pt.	76	1	MV-1630	Greaselinger	82	1	MV-1799	Taper pin, No. 3 x 1 3/4" long
13	2	MV-1488	Clamp screws, guard	77	2	MV-1120	Timken cups, No. 9268, grade 3	83	2	MV-1835	Socket head set screw, 5/16"-18x 3/4" long
14	2	MV-1808	Pin, puller lock	78	2	MV-1121	Timken cones, No. 19150, grade 3	84	2	MV-1770	Socket head cap screws, 3/8"-20x 1 1/4" long
15	1	MV-1489	Wing nut & washer, 5/16"-18x 3/16" long, cup pt.	79	1	MV-1535	Spacer, Timken bearing	85	3	MV-1792	Socket head cap screws, 3/8"-20x 1 1/4" long
16	1	MV-1806	S. H. set screws, 5/16"-18x 3/16" long, dog pt.	80	1	MV-1534	Nut on spindle-bearing take up	86	1	MV-1506	Thumb screw
17	1	MV-1807	S.H. set screw, 5/16"-18x 3/8" long, dog pt.	81	1	M-5580	No. 5 Woodruff key	87	2	MV-1803	3/16" diameter brass balls
18	1	MV-1819	Snap ring	82	1	MV-1526	Painter	88	1	MV-1818	Brass shoe, 3/16" diameter x 1/16" long
19	1	MV-1479	Brake lever	83	1	MV-1794	Fillister head machine screw, No. 10-24x 3/4" long	89	1	MV-1797	No. 9 Woodruff key
20	1	MV-1491	Handle for brake	84	1	MV-1497	Connector for quill	90	1	MV-1533	Quill nut
21	1	MV-1811	Plastic control ball	85	1	MV-1775	S. H. cap screws, 3/8"-20x 1 1/4" long	91	1	MV-1822	Ball bearing
22	1	MV-1469	Belt guard	86	1	MV-1631	S. H. pipe plug, 3/8" long, Alrcmic fitting No. 1853				
23	1	MV-1812	Spring, 3/8" O. D.	87	1	MV-1791	Dowel pins, 5/16" diameter x 3/4" long				
24	1	MV-1486	Pivot pin	88	1	MV-1541	Scale, quill travel				
25	2	MV-1805	Socket head cap screws, 3/8"-16x 2" long	89	1	MV-1466 A	Cover for head				
26	4	MV-1809	Lock washers, 3/8" bolt								
27	4	MV-1809	Hex head cap screws, 3/8"-16x 1" long								
28	1	MV-1824	Soap ring								
29	1	MV-1473	Pulley, spindle								
30	1	MV-1848	Key, 3/8"x 3/4"x 2 1/2" long								
31	2	U-12	Pulley sleeve nut								
32	1	MV-1478	Pulley sleeve								
33	2	MV-1815	S. H. set screws, No. 10 x 24-3/16" long								
34	3	MV-1814	F. H. machine screws, No. 10x24x1" long								
35	1	U-10	Bearing cage, cover								
36	1	MV-1816	Ball bearing								
37	1	U-9	Bearing cage								
38	1	MV-1461	Head, milling								
39	1	MV-1493	Clamp screw, quill lock								



RAPID QUILL FEED HEAD ASSEMBLY

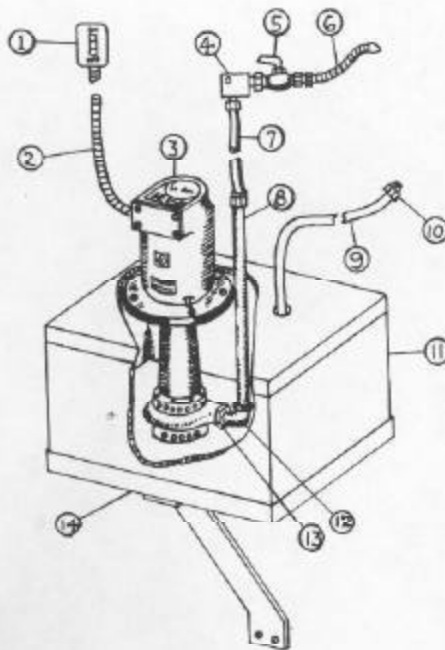
No.	Qty.	Part No.	Name of Part	No.	Qty.	Part No.	Name of Part	No.	Qty.	Part No.	Name of Part
1	1	MV-1536	Motor	42	1	MV-1804	Socket head cap screw, 3/8" - 20x 3/8" long	69	1	MV-1660	Handle
2	1	MV-1530 A	Plate, spindle speeds, 1200 rpm motor	43	1	MV-1540	Cap, drawbar	70	1	MV-1770	Grease fitting, No. 400
2 A	1	MV-1530 B	Plate, spindle speeds, 900 rpm motor	44	2	MV-1823	Needle roller thrust bearings	71	7	MV-1768	Type U drive screws, No. 2x 3/4"
3	2	MV-1761	Washers, 5/8" bolt	45	1	MV-1538	End pieces, drawbar	72	1	MV-1834	Dowel pin, 3/8" x 3/8" long
4	2	MV-1762	Hex nuts, 5/8" - 11	46	1	MV-1539	Connector, drawbar	73	2	MV-1784	Socket head cap screws, 3/8" - 20x 1/2" long
5	2	MV-1487	Studs, motor housing	47	1	MV-1798	S.H. set screw, 3/8" - 20x 3/8" long, cup pt.	74	1	MV-1696	Pointer, rapid quill feed
6	2	MV-1798	Socket head set screws, 3/8" - 20x 3/8" long	48	1	MV-1537	Rod, drawbar	75	3	MV-1838	S.H. cap screws, No. 10 - 24x 3/8" long
7	1	MV-1817	Key, 3/16" x 3/8" x 2 1/2" long	49	1	MV-1532	Spindle, No. 9B&S, Timken bearings	76	1	MV-1843	Set screw, 5/16" - 16, cone point
8	1	MV-1472	Pulley, motor	50	1	MV-1630	Grease sling	77	1	MV-1847	Dowel pin, 5/16" diameter x 1 1/2" long
9	1	MV-1467	Motor housing	51	2	MV-1820	Timken cups No. 19261, grade 3	78	3	MV-1845	Socket head cap screws, 3/8" - 20x 3/8" long
10	1	MV-1513	"V" belt	52	2	MV-1821	Timken cones No. 19150, grade 3	79	2	MV-1844	S.H. cap screws, 3/8" - 20x 1 3/8" long
11	1	MV-1462	Head plate for motor	53	1	MV-1535	Nut, spindle bearings	80	2	MV-1846	Dowel pin, 5/16" diameter x 3/8" long
12	4	MV-1771	S.H. set screws, 3/8" - 20x 3/8" long, cup pt.	54	1	MV-1534	Nut, spindle bearing take up	81	1	MV-1528	Scale
13	2	MV-1488	Clamp screws, guard	55	1	MV-1697	Stop nut, spindle	82	1	MV-1649	Cover
14	2	MV-1808	Wing nut and washer, 5/16" - 18	56	1	MV-1789	Socket head cap screw, 3/8" - 20x 3/8" long	83	1	MV-1651	Gear, feed
15	1	MV-1489	Pin, pulley lock	57	1	MV-1533	Quill nut	84	1	MV-1841	No. 2 taper pin, 1" long
16	1	MV-1806	S.H. set screw, 3/8" - 20x 3/8" long, cup pt.	58	1	MV-1531	Quill, Timken bearing	85	1	MV-1818	Brass shoe, 3/16" diameter x 1/16" long
17	1	MV-1807	S.H. set screw, 5/16" - 18x 3/8" long, dog pt.	59	1	MV-1822	Ball bearing	86	1	MV-1838	Snap ring
18	1	MV-1819	Snap ring	60	1	MV-1631	S.H. pipe plug 3/8", grease fitting No. 1853	87	1	MV-1652	Spacer
19	1	MV-1479	Brake lever	61	1	MV-1842	Sleeve	88	2	MV-1776	No. 9 Woodruff keys
20	1	MV-1491	Handle for brake	62	3	MV-1655	Socket head cap screws, 3/8" - 20x 3/8" long	89	1	MV-1656	Shaft
21	1	MV-1811	Elastic control ball	63	1	MV-1653	Rack	90	1	MV-1657	Spring housing
22	1	MV-1812	Belt guard	64	1	MV-1654	Mounting plate for rack	91	1	MV-1835	S.H. set screw, 5/16" - 18x 3/8" long, cup pt.
23	1	MV-1486	Spring, 5/8" O. D.	65	1	MV-1840	Flat head machine screw, 3/8" - 20x 1" long	92	1	MV-1836	3/4" diameter steel ball
24	2	MV-1805	Pivot pin	66	2	MV-1839	Socket head cap screws, 3/8" - 20x 3/8" long	93	1	MV-1837	3/4" O. D. spring
25	2	MV-1810	Socket head cap screws, 3/8" - 16x 2" long	67	1	MV-1662	Spacer	94	1	MV-1659	Handle ring
26	4	MV-1809	Lock washers, 3/8" bolt	68	1	MV-1811	Plastic ball handle, 1 3/8" diameter	95	1	MV-1658	Hole plate
27	4	MV-1809	Hex head cap screws, 3/8" - 16x 1" long								
28	1	MV-1824	Snap ring								
29	1	MV-1473	Pulley, spindle								
30	1	MV-1848	Key, 3/8" x 3/8" x 2 1/2" long								
31	2	U-12	Pulley sleeve nuts								
32	1	MV-1578	Pulley sleeve								
33	3	MV-1815	S.H. set screws, No. 10 - 24x 3/16" dog pt.								
34	3	MV-1814	F. H. machine screws, No. 10 - 24x 1" long								
35	1	U-10	Bearing cage cover								
36	1	MV-1816	Ball bearing								
37	1	U-9	Bearing cage								
38	1	MV-1461	Feed, milling								
39	1	MV-1493	Clamp screw, quill lock								
40	1	MV-1492	Clamp for quill								
41	1	N-151	Fanicle clamp								

VICE ASSEMBLY



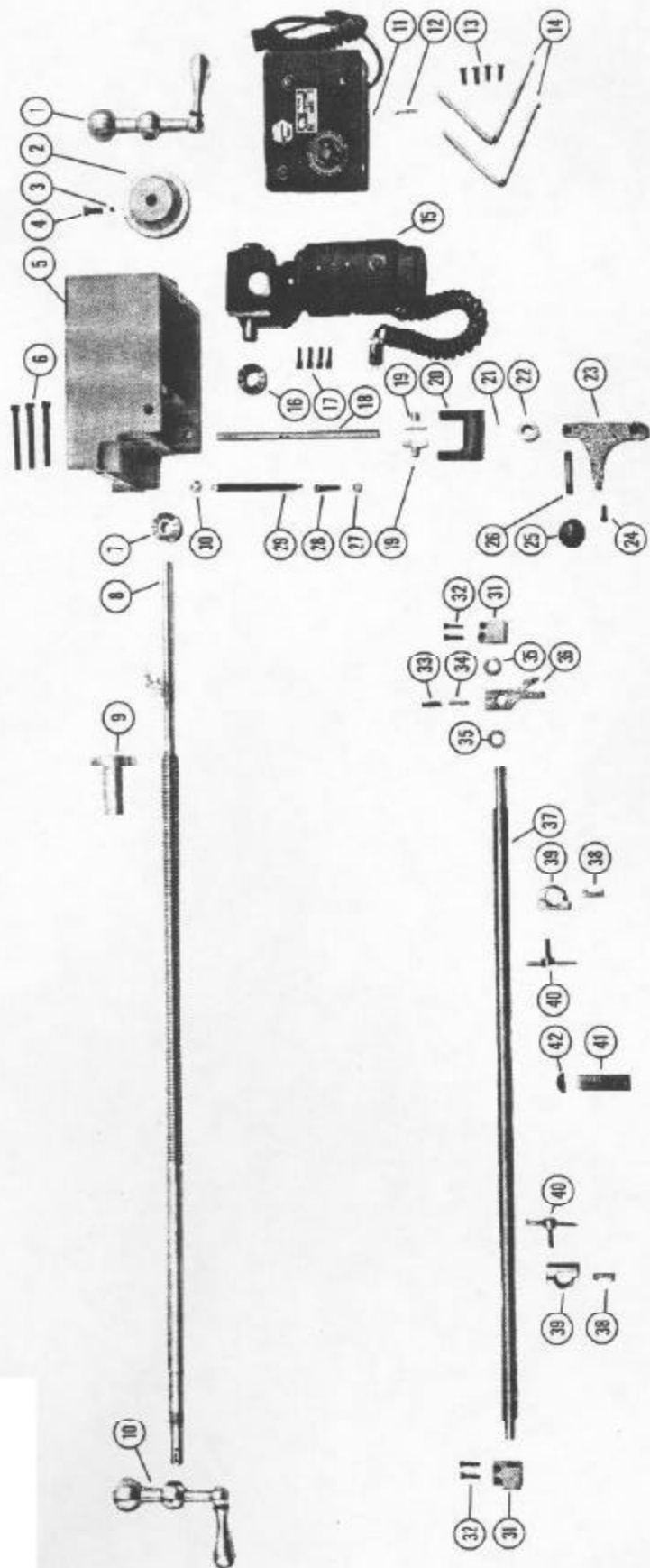
No.	Qty.	Part No.	NAME OF PART
1	1	M-300	Vise Body
2	1	M-332	Swivel Plug
3	2	M-562	T-Bolt
4	2	M-308	Tongue Strip
5	1	M-330-S	Graduated Swivel Base
6	1	M-331	Swivel Plate
7	2	M-563	Washer (Hard.)
8	2	M-564	Nut
9	1	M-304	Body Jaw
10	1	M-305	Slide Jaw
11	1	M-306	Vise Slide
12	1	M-307	Vise Screw
13	2	M-301	Slide Clamp
14	1	M-544	Collar
15	1	MV-1510	Handle

COOLANT ATTACHMENT



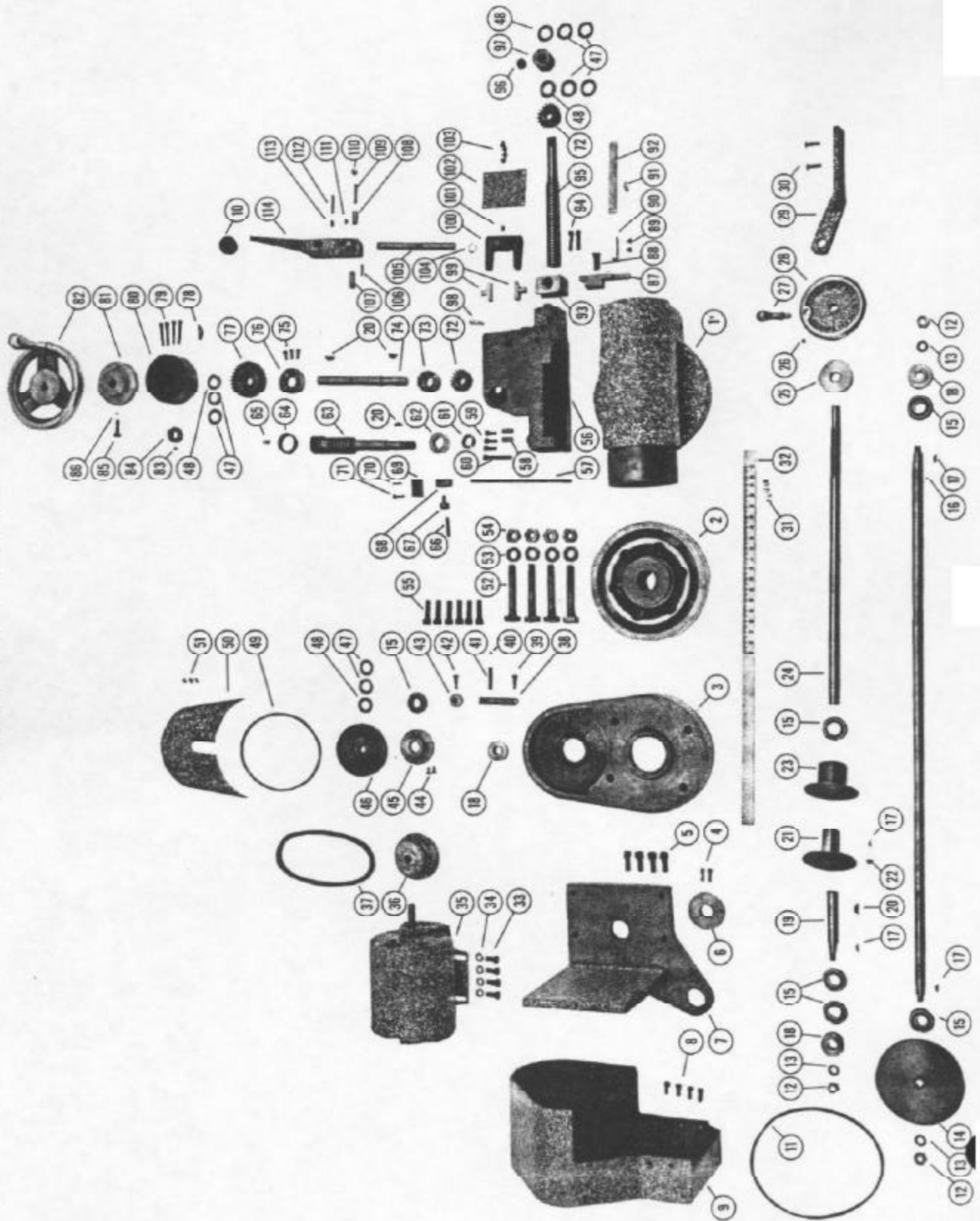
No.	Qty.	Part No.	NAME OF PART
1	1	MV-2464	Manual motor starter
2	1	MV-2465	Flex conduit (3/4" x 2')
3	1	M-250	Gusher pump (1 or 3 phase)
4	1	MV-2466	3/4" 90° Anchor block
5	1	MV-2467	3/4" Shut-off cock
6	1	MV-2468	Coolant spout
7	1	MV-2469	Hose
8	1	M-259	Nipple (3/8" x 11")
9	1	MV-2470	Hose - coolant return
10	1	MV-2471	Hose stem
11	1	MV-1674	Tank
12	1	M-258	Street elbow 90°
13	1	M-257-A	Reducing Bushing
14	1	MV-1670	Bracket pump tank

POWER FEED TABLE



No.	Qty.	Part No.	Name of Part	No.	Qty.	Part No.	Name of Part
1	1	MV-2185	Ball crank, 1/2" bore	22	1	MV-2267	Spacer
2	1	MV-2184	Dial	23	1	MV-2189	Shifter shaft
3	1	MV-1775	Brass ball, 3/4" dia.	24	1	MV-2458	Button Head Cap Screw 3/4"-20 x 5/8" Long
4	1	MV-1589	Thumb screw	25	1	MV-1811	Plastic ball 1 3/8" dia.
5	1	MV-2170	Bracket-table	26	1	MV-1491	Handle
6	3	MV-1773	Socket Head Cap Screws 5/16"-18 x 3" Long	27	1	MV-2462	Hex half nut 1/4"-20
7	1	MV-2173	Clutch sliding	28	1	MV-2455	Socket Head Cap Screw 3/4"-20 x 1 1/4" Long
8	1	MV-2171	Screw, 27" longitudinal feed	29	1	MV-2454	Spring
9	1	MV-1482	Nut, longitudinal feed	30	1	MV-2453	Hex half nut 5/16"-18
10	1	MV-1597	Ball crank, 5/8" bore	31	2	MV-2186	Anchor block
11	1	MV-2459	Control unit	32	2	MV-2452	Socket Head Cap Screw #10-24 x 3/4" Long
12	1	MV-2460	Fuse	33	1	MV-2456	Spring
13	4	MV-2458	Button Head Cap Screw 3/4"-20 x 5/8" Long	34	1	D-120	Plunger
14	2	MV-2212	Control box bracket	35	2	MV-2457	Bronze thrust bearings
15	1	MV-2461	Gear motor	36	1	MV-2180	Trip lever
16	1	MV-2172	Clutch	37	1	MV-2182	Trip rod, 27" table
17	4	MV-2452	Socket Head Cap Screw #10-32 x 3/4" Long	38	2	MV-2181	Key
18	1	MV-2179	Shifter shaft	39	2	MV-2175	Dog
19	2	MV-2006	Shoe-shifter fork	40	2	MV-2190	Clamp screw
20	1	MV-2005	Shifter fork	41	1	MV-2183	Stop in saddle
21	1	MV-1771	Socket Head Set Screw 3/4"-20 x 1/4" Long	42	1	MV-2463	Woodruff key #15

POWER FEED HEAD

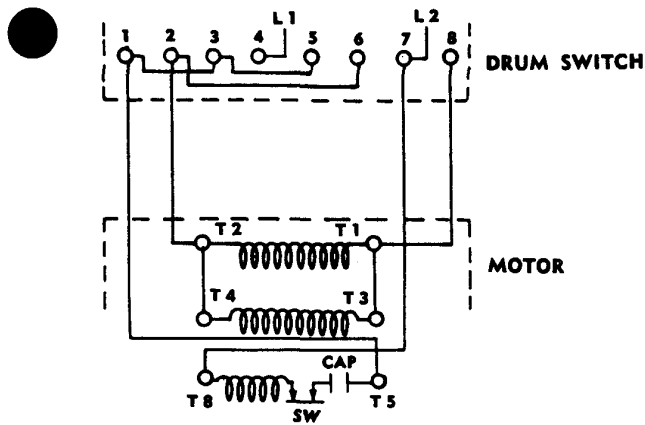


No.	Part No.	Name of Part	No.	Qty.	Part No.	Name of Part	Qty.	Part No.	Name of Part
1	MV-1461	Head Milling	59	3	MV-1845	Socket Head Cap Screws 1/4"-20 x 5/8" Long	1	MV-1845	Socket Head Cap Screws 1/4"-20 x 5/8" Long
2	MV-1997	Swivel Plate	60	1	MV-1804	Socket Head Cap Screw 1/4"-20 x 1 3/4" Long	1	MV-1804	Socket Head Cap Screw 1/4"-20 x 1 3/4" Long
3	MV-1986	Front Pulley Guard	61	1	QV-1900	Locknut	1	QV-1900	Locknut
4	MV-2429	Soc. Head Cap Screw #10-24 x 5/8" Long	62	1	MV-2063	Bushing	1	MV-2063	Bushing
5	MV-1809	Soc. Head Cap Screw #10-24 x 1 1/2" Long	63	1	MV-1992	Worm	1	MV-1992	Worm
6	MV-2012	Pilot	64	1	MV-2062	Bushing	1	MV-2062	Bushing
7	MV-2008A	Motor Mounting Plate	65	1	MV-1770	No. 400 Grease Fitting	1	MV-1770	No. 400 Grease Fitting
8	MV-1804	Socket Head Cap Screw 1/4"-20 x 5/8" Long	66	1	MV-2443	Taper Pin #1 x 1/4" Long	1	MV-2443	Taper Pin #1 x 1/4" Long
9	MV-2047	Guard	67	1	MV-2037	Screw for Adj. Stop	1	MV-2037	Screw for Adj. Stop
10	MV-1811	Plastic Control Ball	68	1	MV-2035	Adj. Stop	1	MV-2035	Adj. Stop
11	MV-2168	"V" Belt	69	1	MV-2032	Bracket Upper	1	MV-2032	Bracket Upper
12	MV-2430	Hex. Jam Nuts 3/8"-16	70	1	MV-2444	Roll Pin	1	MV-2444	Roll Pin
13	MV-2431	Lock Washers 3/8"	71	1	MV-2445	Socket Head Cap Screw #10-24 x 1/2" Long	1	MV-2445	Socket Head Cap Screw #10-24 x 1/2" Long
14	MV-1987	Pulley Rear	72	1	MV-1501A	Miter Gears for Quill Feed	1	MV-1501A	Miter Gears for Quill Feed
15	MV-2166	Ball Bearing	73	1	MV-1998	Clutch Sliding	1	MV-1998	Clutch Sliding
16	MV-2009	Drive Shaft	74	1	MV-1999	Shaft for Handwheel	1	MV-1999	Shaft for Handwheel
17	MV-2432	Woodruff Key #3	75	3	MV-2445	Socket Head Cap Screws #10-24 x 1/2" Long	3	MV-2445	Socket Head Cap Screws #10-24 x 1/2" Long
18	MV-1989	Small Pulley	76	1	MV-2000	Clutch in Worm	1	MV-2000	Clutch in Worm
19	MV-2011	Pulley Shaft	77	1	MV-1996	Worm Gear left Hand	1	MV-1996	Worm Gear left Hand
20	MV-1797	Woodruff Key #9	78	1	MV-1785	No. 451 Grease Fitting 45° Angle	1	MV-1785	No. 451 Grease Fitting 45° Angle
21	MV-2054	Fixed Pulley Half	79	4	MV-2446	Socket Head Cap Screws #10-24 x 1 1/2" Long	4	MV-2446	Socket Head Cap Screws #10-24 x 1 1/2" Long
22	MV-1798	Socket Head Set Screw 1/4"-20 x 3/8" Long	80	1	MV-2041	Bearing for Bevel Gear	1	MV-2041	Bearing for Bevel Gear
23	MV-2055	Moveable Pulley Half	81	1	MV-1468	Dial, Screw Feed Head	1	MV-1468	Dial, Screw Feed Head
24	MV-2049	Shaft Speed Selector	82	1	MV-1835	Socket Head Set Screw 5/16"-18 x 1/4" Long	1	MV-1835	Socket Head Set Screw 5/16"-18 x 1/4" Long
25	MV-2050	Lock Nut	83	1	MV-1504	Collar	1	MV-1504	Collar
26	MV-1771	Soc. Head Set Screw 1/4"-20 x 1/4" Long	84	1	MV-1506	Thumb Screw	1	MV-1506	Thumb Screw
27	MV-2433	Handle	85	1	MV-1803	3/16" Diameter Brass Ball	1	MV-1803	3/16" Diameter Brass Ball
28	D-154-A	Handwheel	86	1	MV-2042	Connector for Quill	1	MV-2042	Connector for Quill
29	MV-2056	B-acket	87	1	MV-2447	Socket Head Cap Screw 3/8"-16 x 3/8" Long	1	MV-2447	Socket Head Cap Screw 3/8"-16 x 3/8" Long
30	MV-2434	Button Head Cap Screws 1/4"-20 x 3/8" Long	88	2	MV-2442	Button Head Cap Screws #10-24 x 1/4" Long	2	MV-2442	Button Head Cap Screws #10-24 x 1/4" Long
31	MV-1768	Drive Screws #2 x 1/4"	89	2	MV-2058	Pointer—Power Feed Head	1	MV-2058	Pointer—Power Feed Head
32	MV-1528	Scale	90	1	MV-1768	Type "U" Drive Screws, No. 2 x 1/4" Long	1	MV-1768	Type "U" Drive Screws, No. 2 x 1/4" Long
33	MV-2435	Hex Head Screws 5/16"-18 x 3/8" Long	91	7	MV-1541	Scale Quill Travel	1	MV-1541	Scale Quill Travel
34	MV-2436	Lockwashers 5/16"	92	1	MV-1498	Nut, Quill Feed	1	MV-1498	Nut, Quill Feed
35	MV-2437	1/4 H. P. 1700 R. P. M. Motor	93	1	MV-1775	Socket Head Cap Screws 1/4"-20 x 1" Long	1	MV-1775	Socket Head Cap Screws 1/4"-20 x 1" Long
36	MV-2165	Variable Pulley Assembly	94	2	MV-1499A	Screw, Quill Feed	1	MV-1499A	Screw, Quill Feed
37	QV-1906	"V" Belt	95	1	MV-1802	Socket Head Set Screw 5/16"-18 x 1/4" Long	1	MV-1802	Socket Head Set Screw 5/16"-18 x 1/4" Long
38	MV-2113	Idle Arm	96	1	MV-1500A	Cap Point	1	MV-1500A	Cap Point
39	MV-2438	Shoulder Screws 10"-24 x 3/4" Long	97	1	MV-2451	Nut, Screw Quill Feed	1	MV-2451	Nut, Screw Quill Feed
40	MV-2439	Socket Head Set Screw #10-24 x 1/4" Long	98	1	MV-2006	Grease Fitting	1	MV-2006	Grease Fitting
41	MV-2440	Socket Head Set Screw 5/16"-18 x 1 1/2" Long	99	2	MV-2005	Shoe Shifter Fork	2	MV-2005	Shoe Shifter Fork
42	MV-2438	Shoulder Screw #10-24 x 3/8" Long	100	1	MV-1798	Shifter Fork	1	MV-1798	Shifter Fork
43	MV-2112	Idle Pulley	101	1	MV-2066	Socket Head Cap Screw 1/4"-20 x 3/8" Long	1	MV-2066	Socket Head Cap Screw 1/4"-20 x 3/8" Long
44	MV-2441	Button Head Cap Screws #10-24 x 3/8" Long	102	1	MV-2442	Button Head Cap Screw #10-24 x 1/4" Long	1	MV-2442	Button Head Cap Screw #10-24 x 1/4" Long
45	MV-2111	Bearing Retainer	103	4	MV-2448	Truarc Ring	1	MV-2448	Truarc Ring
46	MV-1988	Pulley Front	104	1	MV2004	Shifter Shaft	1	MV2004	Shifter Shaft
47	MV-1801	Thrust Races	105	1	MV-2444	Roll Pin	1	MV-2444	Roll Pin
48	MV-1800	Needle Thrust Bearing	106	1	MV-2065	Trip Pin Fixed in Head	1	MV-2065	Trip Pin Fixed in Head
49	MV-2167	"V" Belt	107	1	MV-2064	Trip Pin in Handle	1	MV-2064	Trip Pin in Handle
50	MV-2057	Cover	108	1	MV-2449	Spring	1	MV-2449	Spring
51	MV-2442	Button Head Cap Screws #10-24 x 1/4" Long	109	1	MV-2157	Adj. Screw	1	MV-2157	Adj. Screw
52	MV-2048	Tec Bolt	110	1	MV-2450	Woodruff Key #2	1	MV-2450	Woodruff Key #2
53	MV-1766	Washers 1/2" Bolt	111	1	MV-2443	Taper Pin #1 x 1 1/4" Long	1	MV-2443	Taper Pin #1 x 1 1/4" Long
54	MV-1767	Hex. Nuts 1/2"-13	112	1	MV-1771	Socket Head Set Screw 1/4"-20 x 1/4" Long	1	MV-1771	Socket Head Set Screw 1/4"-20 x 1/4" Long
55	MV-1763	Socket Head Cap Screws 3/8"-16 x 1 1/4" Long	113	1	MV-2003A	Handle	1	MV-2003A	Handle
56	MV-1985	Cover Head Feed	114	1					
57	MV-2030	Trip Rod							
58	MV-1846	Dowel Pin 5/16" Dia. x 3/4" Long							

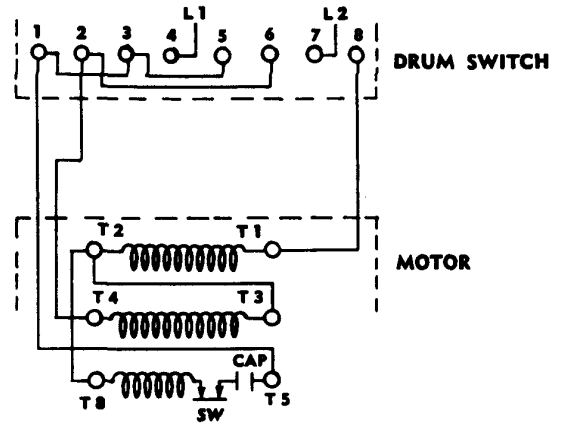
MILLRITE WIRING DIAGRAMS

SINGLE PHASE MOTOR - ALLEN BRADLEY REV. DRUM SWITCH BUL. 350

115 VOLT CONNECTION

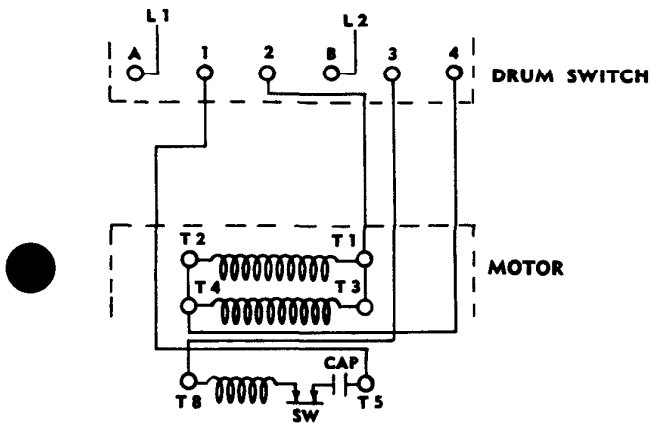


230 VOLT CONNECTION

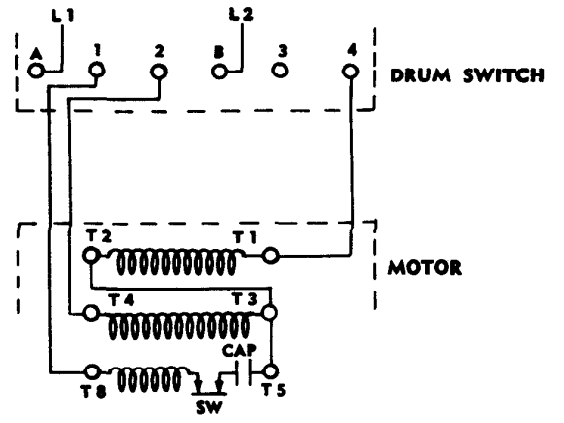


SINGLE PHASE MOTOR - FURNACE ELECT. CO. REV. DRUM SWITCH

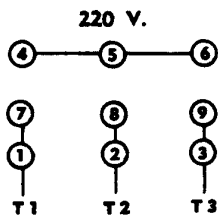
115 VOLT CONNECTION



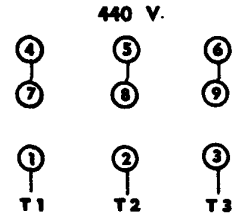
230 VOLT CONNECTION



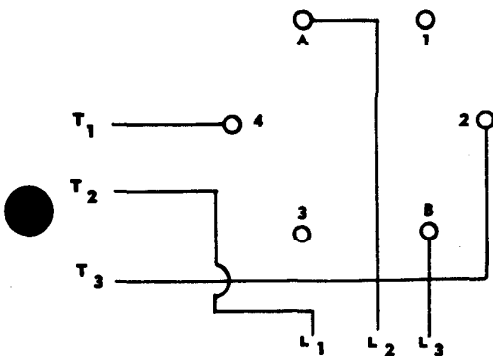
THREE PHASE MOTOR WITH REV. DRUM SWITCH



MOTOR LEADS



CONNECTIONS FOR FURNACE SWITCH



CONNECTIONS FOR ALLEN-BRADLEY SWITCH

