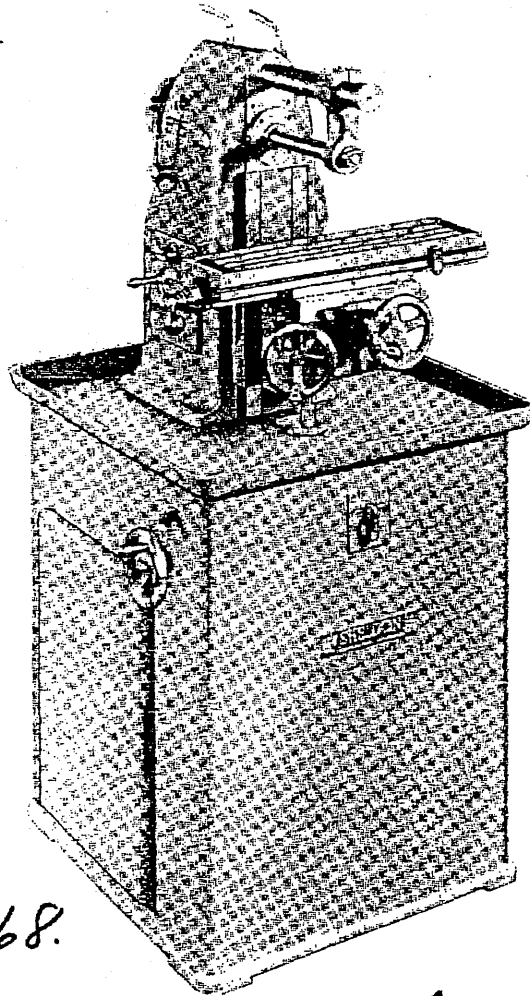


# Parts List

## HORIZONTAL MILLING MACHINE



*machine # 268.*

Catalog Number 3000PQ and 3000P

Serial Number 3-5950

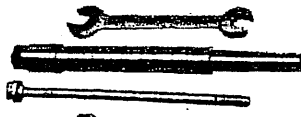
*Sheldon machine.  
May 31-74.*

### SHELDON MACHINE CO. Inc.

*Manufacturers of Sheldon Precision Lathes • Milling Machines • Shapers*  
4258 N. KNOX AVENUE • CHICAGO 41, ILLINOIS, U. S. A.  
TELEPHONE: MULBERRY 5-1970 • CABLE ADDRESS: SHELDONCO

# SHELDON MILLING MACHINE A

## ARBORS

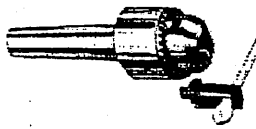


wrench. One drawbar is used for tightening any collet within the spindle.

No. 9001  $\frac{3}{4}$ ", weight 1 lb.  
No. 9002  $\frac{1}{2}$ ", weight 1 lb.  
No. 9003 1", weight 1 lb.

Arbors are heat-treated, accurately ground, and have a No. 9 B&S tapered shank. They include collars, nut, drawbar, and

## CHUCK, DRILL



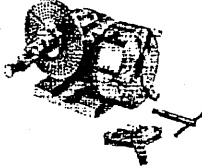
valuable for drilling accurately spaced holes and is handy for roughing out cavities to be finished by straight and rose type end mills.

No. 34M, 0- $\frac{1}{2}$ " capacity, No. 9 B&S taper, weight 4 lbs.

Arbor of drill chuck is threaded for  $\frac{1}{2}$ " by 13 t. p. i. drawbar. It can be used in horizontal spindle or in vertical spindle of A9033 vertical attachment.

This accessory is particularly valuable for drilling accurately spaced holes and is handy for roughing out cavities to be finished by straight and rose type end mills.

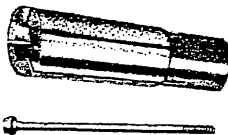
## CHUCK, UNIVERSAL



No. 53DH, 5" 3-jaw Universal, weight 17 lbs.

Self-centering chuck shown fitted to the  $1\frac{3}{4}$ " by 8 t. p. i. spindle nose of the universal dividing head. The chuck is furnished with two sets of jaws for inside and outside chucking and a wrench. The thin body assures maximum capacity between dividing head and footstock.

## COLLETS



are drawn into place and tightened by standard drawbar which is furnished with the horizontal arbors.

No. 9025A,  $\frac{1}{8}$ " to  $\frac{3}{4}$ " in 32nds, weight 1 lb.

No. 9025A-1,  $\frac{1}{16}$ " only, weight 1 lb. These collets are used in the horizontal spindle of the mill, in the A9033 vertical milling attachment, and the 9039 dividing head. They are spring type and have a No. 9 B&S taper. Collets

## COOLANT SYSTEM

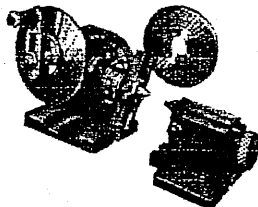


No. A2079-1M with single-phase motor, weight 45 lbs.

No. A2079-3M with three-phase motor, weight 45 lbs.

Attachment consists of a large coolant reservoir with chip strainer,  $\frac{1}{2}$  h. p. motor, switch, centrifugal type circulating pump, and all necessary fittings, and is mounted to pedestal base and column of the machine.

## DIVIDING HEAD



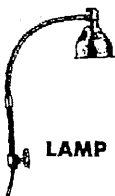
No. 9039, 6" diameter swing, weight 28 lbs.

A sturdy, universal dividing head unit, complete with footstock, two standard index plates having 15 to 20, 21 to 33, and 37 to 49 hole circles. Dividing head is graduated in degrees and can be set and locked at any angle from 10° below horizontal to 10° beyond the perpendicular.

The spindle has a  $1\frac{3}{4}$ " by 8 t. p. i. spindle nose, a No. 9 B&S tapered hole, and a  $\frac{1}{4}$ " diameter hole through the spindle. This dividing head can use the 9025A collets, the 9039-28 drawbar or 53DH chuck.

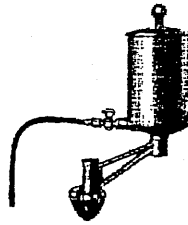
No. A1909, weight 2 lbs.

Adjustable lamp is attractively finished in chrome and clamps on the machine. It is furnished complete with 6 ft. oil-resistant cord and two-prong plug for operation on 110 Volts. Maximum size of bulb 60 Watts. Bulb not included.



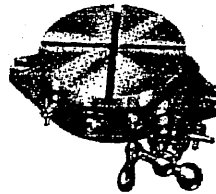
LAMP

## OILER, DRIP POT



1 Oiler, drip pot, and the use it unit i- for eas

## ROTARY TABLE

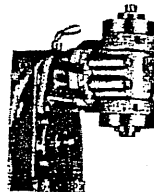


No. 9023, diameter, weight 25 lbs.

An accurate, precision ground, heavily ribbed rotary table, complete with keys in base, conveniently located crank handle, lock, and eccentric throwout device for worm. Provision is made for take-up due to wear. Table is graduated 0° to 90° in each quadrant by degrees. Crank handle is graduated in 240 minutes by

minutes, with a 90:1 worm and wheel ratio. The table has two  $\frac{5}{8}$ " T-slots at right angles to each other for  $\frac{3}{4}$ " T-bolts. Overall height of table is 2 $\frac{3}{4}$ ".

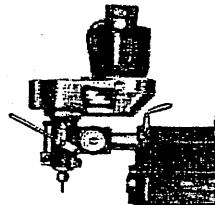
## VERTICAL MILLING ATTACHMENT



No. 9033, weight 48 lbs.

This attachment provides for vertical and angular milling operations. It is mounted in the overarm holes and is driven from the rear by a pulley arrangement and an "A" section belt connected to the main spindle. This attachment uses 9025A collets (described under "Collets") and has a capacity of  $\frac{3}{4}$ ". Center line of the vertical spindle will trace a rectangular pattern 5 $\frac{1}{2}$ " by 11 $\frac{1}{2}$ " on the table top.

## VERTICAL MILLING ATTACHMENT

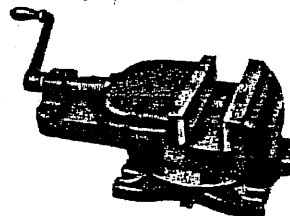


No. 9041, Independent Motor Drive, weight 60 lbs.

This attachment clamps easily on the overarm and can be fixed to work at any angle in the plane parallel to the face of the mill or in the plane perpendicular to the face. Power is supplied by a  $\frac{1}{4}$  h. p. 115 volt, reversible motor. Spindle speeds: 380, 700, 1200, 2500, or 5200 r. p. m. It uses A9041-Y1 or A9041-Y2 collets and has a capacity of  $\frac{1}{2}$ ".

The center line of the vertical spindle will trace a rectangular pattern 5 $\frac{1}{2}$ " by 11 $\frac{1}{2}$ " on the table top. Standard equipment includes a  $\frac{3}{8}$ " A9041-Y1 collet.

## WISE, SWIVEL BASE



No. A9042, 5" diameter, weight 29 lbs.

This sturdy vise is especially designed to give maximum vise capacity to Sheldon mills. Vise is graduated 180° and can be swiveled and locked at any angle. Other dimensions: width of jaws, 5"; depth of jaws, 1 $\frac{1}{4}$ "; maximum opening with steel jaws, 3"; without steel

jaws, 3 $\frac{1}{2}$ "; overall length, 11"; overall height, 3 $\frac{1}{4}$ ".

# OPERATING INSTRUCTIONS

**PREPARATION FOR USE.** The Horizontal Mounted Bench Type, Milling Machine is shipped complete. After removing the crate, protective coating, and checking for possible damage, machine will be ready for immediate use.

**UNCRATING.** Carefully remove protective paper and crating, leaving the machine on the skids until it is moved to its approximate location. Inspect machine thoroughly for possible damage caused in shipment. Remove the accessories found strapped to the inside of the pedestal.

## NOTE

Do not move the vertical, longitudinal or cross feeds until the machine and ways have been properly cleaned.

**REMOVE PROTECTIVE COATING.** The machine has a protective coating on all parts which would be effected by exposure to the elements. If the machine has been uncrated in doors and is ready for installation, wash off protective coating with solvent, and allow to dry. Follow up by wiping machine with clean cloths to remove any trace of coating. Apply a thin film of light machine oil to exposed unpainted surfaces. Release both the saddle and knee lock levers. Operate the feed handwheels and handlever to expose the way surfaces. Apply a light coating of oil to way surfaces, then move the parts back and forth on the ways to insure even and complete distribution of lubricant.

**INSTALLING AND LEVELING.** This machine was accurately aligned and tested before leaving the factory. Be careful not to bump, drop or tilt against anything when machine is being handled during installation. The machine pedestal is provided with four leveling screws, one at each corner. Select a reasonable level floor surface. Move machine to the site on a dolly. Remove four bolts securing machine to the skid and remove skid. Tilt the machine just enough to slide a dolly under the pedestal. Lifting the machine by the overarm is not recommended, as this may cause misalignment. After machine has been moved to its final location, remove from dolly. Operate the feed handwheels to center the saddle on the knee and the table on the saddle. Place a precision level on the table, first lengthwise, then crosswise, and adjust leveling screws as necessary. After machine is properly leveled, lock leveling screws in position with the lock nuts.

## NOTE

Such troubles as tool chatter, vibration and inaccuracy in work, are most often due to improper leveling of the machine. Take the time to level it properly now and avoid these troubles later on.

**PRE-OPERATING CHECK.** Before attempting to operate the machine, first be sure all of the following have been checked.

a. Check to be sure that all points shown in figure have been properly lubricated. Machine was adequately lubricated before shipment, however, if machine has been left to stand for any extended period, evaporation of lubricant may have taken place.

b. Check to be sure machine has been correctly wired to power source.

c. Check to be sure motor drive belts and spindle drive belts are in place on pulleys.

d. Check to be sure machine is levelled properly.

e. Check the rotation of the motor. The arbor should rotate clockwise, viewing end of arbor from the front of machine.

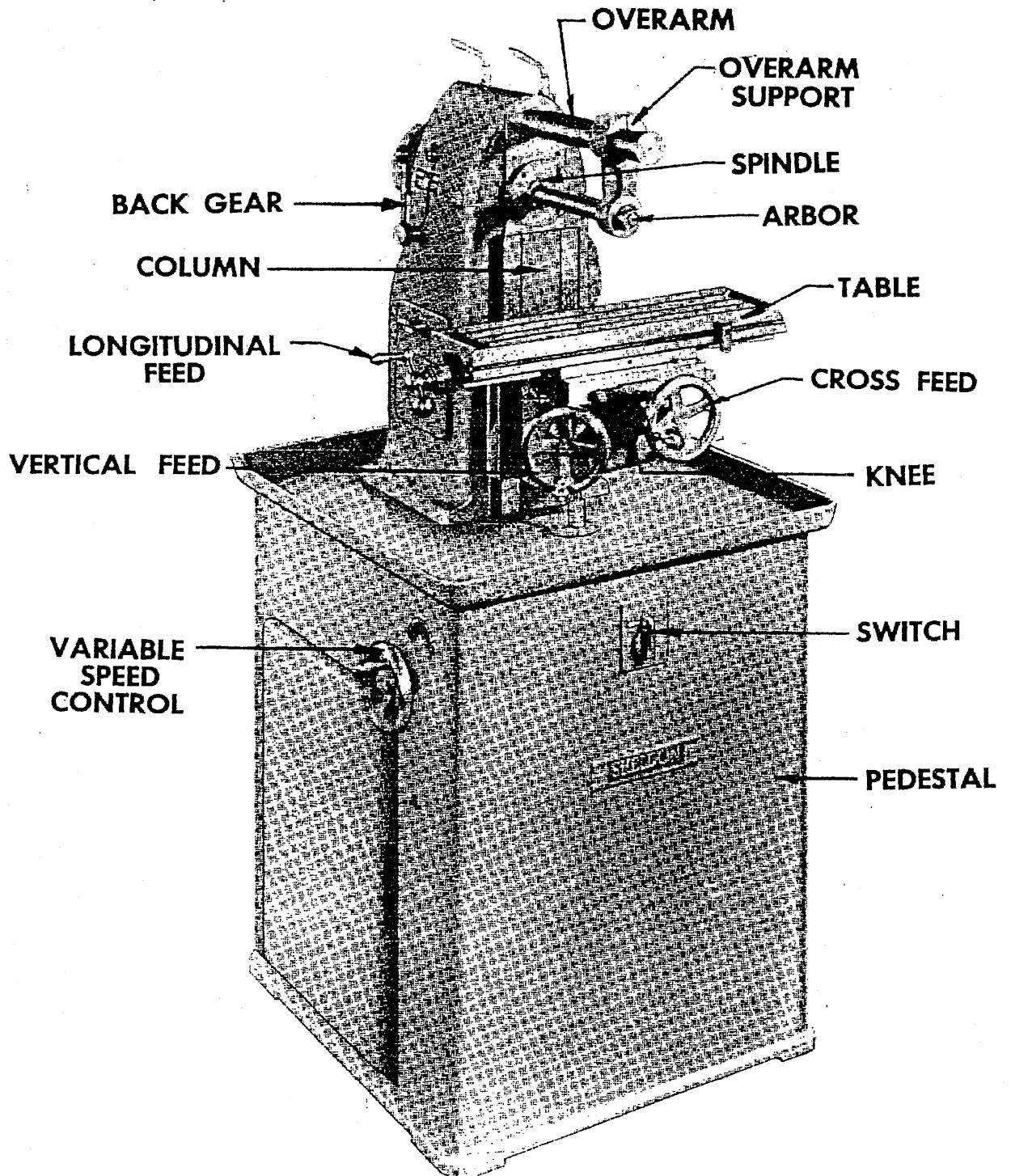
f. Remove inspection door from the side of column and turn spindle over a few revolutions by pulling on belts, to be certain parts are free and in functioning order.

g. Release the table, saddle and knee locking clamps.

**LONGITUDINAL FEED.** The longitudinal feed is controlled by a handcrank, located at the left end of the table and controls the table movement from left to right. Feed is equipped with a direct reading micrometer dial, graduated from 0 to 0.90 thousandths. By turning the handcrank in a clockwise direction, work is moved into the cutter. By turning the handcrank in a counterclockwise direction, work is moved out of the cut. The adjustable table stops provided, can be adjusted to limit table travel from left to right.

**CROSS FEED.** The cross feed is controlled by a handwheel situated at the center of the knee, to the right of the vertical feed handwheel. This handwheel controls the "in" and "out" movement of table and saddle. Feed is equipped with a direct reading micrometer dial, graduated from 0 to 0.90 thousandths. By turning the handwheel in a clockwise direction, work is moved "in" toward the column. By turning the handwheel in a counterclockwise direction, work is moved "away" from the column.

**VERTICAL FEED.** The vertical feed is controlled by a handwheel situated at the left side of the knee to the left of the cross feed handwheel. This handwheel controls the vertical movement of the knee. Feed is equipped with a direct reading micrometer dial, graduated from 0 to 0.90 thousandths. By turning the handwheel in a clockwise direction, work is moved vertically into the cutter. By turning the handwheel in a counterclockwise direction, work is moved vertically out of the cut.



### VARIABLE SPEED DRIVE CONTROL.

Machine speed is controlled by a handwheel located on the side of the pedestal. Turning the handwheel clockwise, increases the cutting tool speed, while turning it counterclockwise reduces the cutting tool speed. Cutting speed can be quickly controlled by this handwheel without shutting down machine to change speed. Immediate speed change can be made as necessitated by the material being machined.

### PRECAUTIONS WHILE OPERATING.

- Do not over feed. Over feeding can cause tool breakage.
- Engage work slowly at moderate cutter speed.
- Maintain sufficient clearance between the work and stationary parts of the machine to prevent damage.
- Shut the machine off before brushing chips from the work area. Never remove cuttings with bare hands.
- Never reach into or over the cutter while operating.
- Work must be securely clamped in place before engaging cutter.
- Cutters are sharp and should be handled with care.

### OPERATING TIPS.

- Thoroughly clean the machine after each setup, so that it will be ready for the next. A brush is best suited for removing chips, fine dust, etc.
- Brush chips away from the way surfaces during operation. Do not permit chips to accumulate between the saddle and column face. Cuttings and fine dust will cause premature wear of gibs if not thoroughly removed.
- Always inspect arbor taper as well as the spindle bore before inserting arbor.

d. Be sure the inside diameter of cutter as well as collars are clean and free from burrs before placing on arbor.

e. Never force cutter on arbor with a mallet. This may score and even cut arbor, ruining it. Cutter should easily slide on arbor. If it doesn't, remove burr or edge with a smooth half round file.

f. Always loosen and tighten arbor nut with overarm bracket in place.

g. Set-ups should be made so that table is as close to column face as the work will permit. This will offer greater stability when the cutter engages the work.

h. Never set-up so that table is at the extreme end of cross feed, away from column. Overarm bracket should be placed close to the cutter as work and fixture will permit, otherwise a strain may be put on arbor causing it to spring.

i. Be sure the work is properly supported and clamped before taking a cut. The same applies to all other fixtures as well.

j. Always be sure cut will clear the table surface and work holding fixture.

k. Use the knee and saddle locks to full advantage. Lock the travel of the feed not being used, to prevent accidental movement while engaged in a cut.

l. On short work, alternate the placement of work on table, so as to provide uniform wear.

m. Cutting fluid is necessary in the machining of non-ferrous materials such as bronze, aluminum and its alloys. Use a cutting fluid suitable for the job at hand.

n. Provide a short pipe nipple at table drain hole, with a flexible hose attached, to permit fluid to drain.

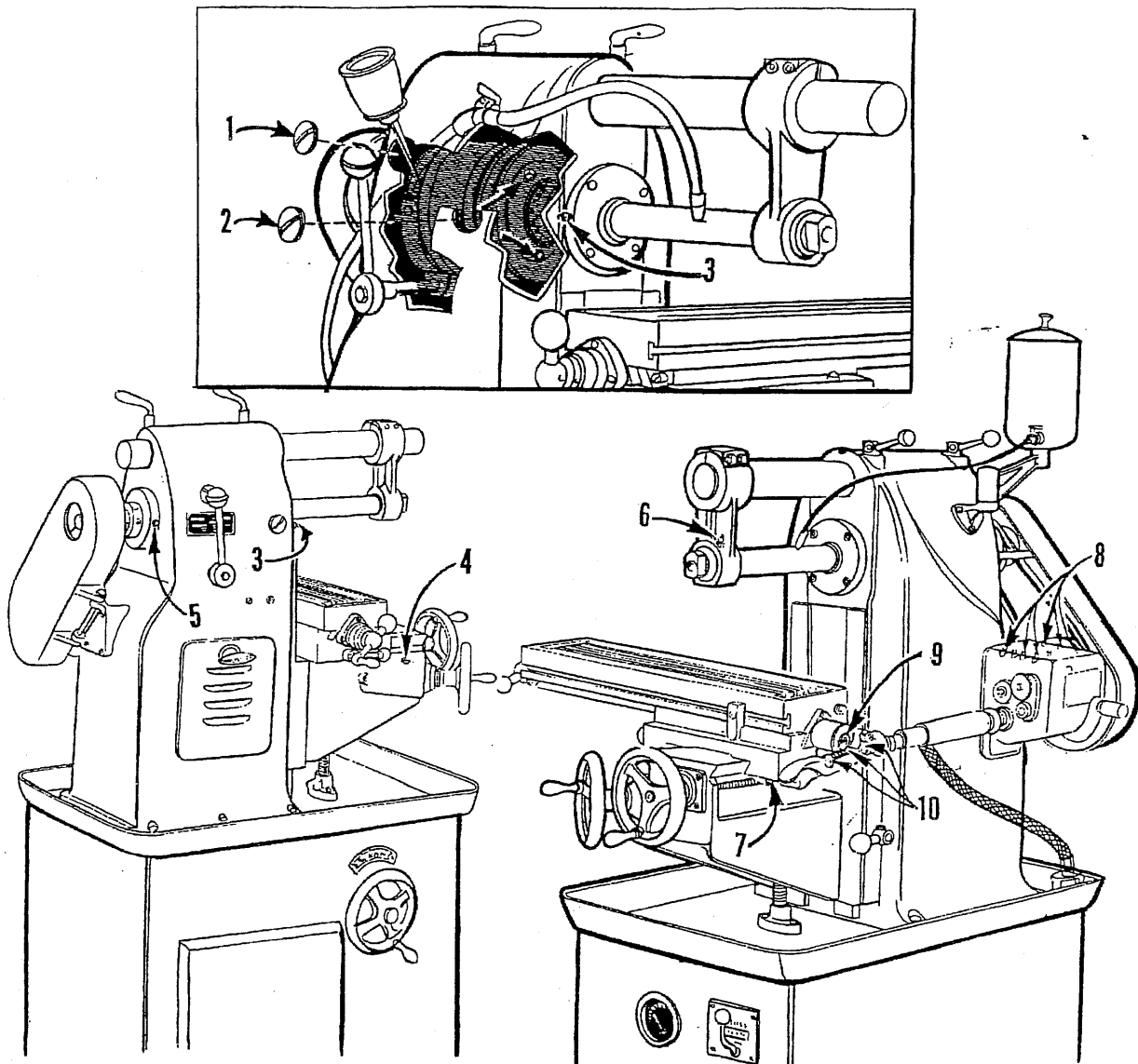
o. Speeds and feeds vary depending upon the material and cutter used. The information contained in Table I will be of assistance for determining speeds. This data is only an approximation and can vary according to specific application.

TABLE I - CORRECT SPEED SELECTION  
MATERIAL IN CUTTER

Material to be Milled	Carbon Tool	High-Speed	Super High-Speed Steel	Stellite	Tantalum Carbide	Tungsten Carbide
	Cutter Speed in Feet Per Minute					
Aluminum	250- -500	500- -1000		800- -1500		1000- -2000
Brass Soft	40- -80	70- -175		150- -250		350- -600
Bronze Hard	30- -60	65- -130		100- -160		200- -425
Bronze Very Hard		30- -50	50- -70			125- -200
Cast Iron Soft	30- -40	50- -80	60- -115	90- -130		250- -325
Cast Iron Hard		30- -50	40- -70	60- -90		150- -200
Cast Iron Chilled			30- -50	40- -60		100- -200
Malleable Iron	35- -50	70- -100	80- -125	115- -150		250- -370
Steel Soft	30- -45	60- -90	70- -100		150- -250	
Steel Medium	30- -40	50- -80	60- -90		125- -200	
Steel Hard		30- -50	40- -70		100- -150	

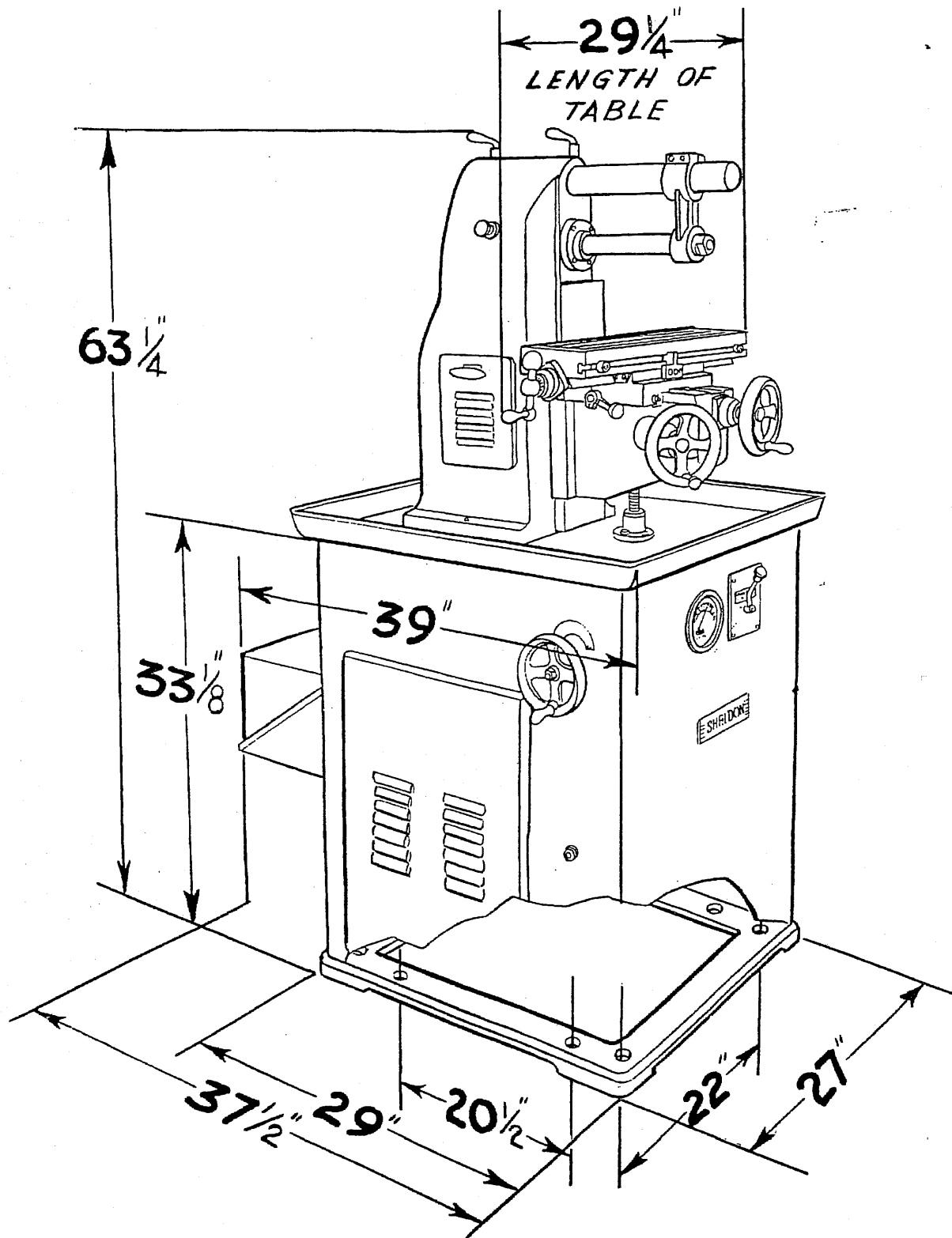
The correct RPM may be determined from the following formula:  $RPM = \frac{CS \times 4}{d}$

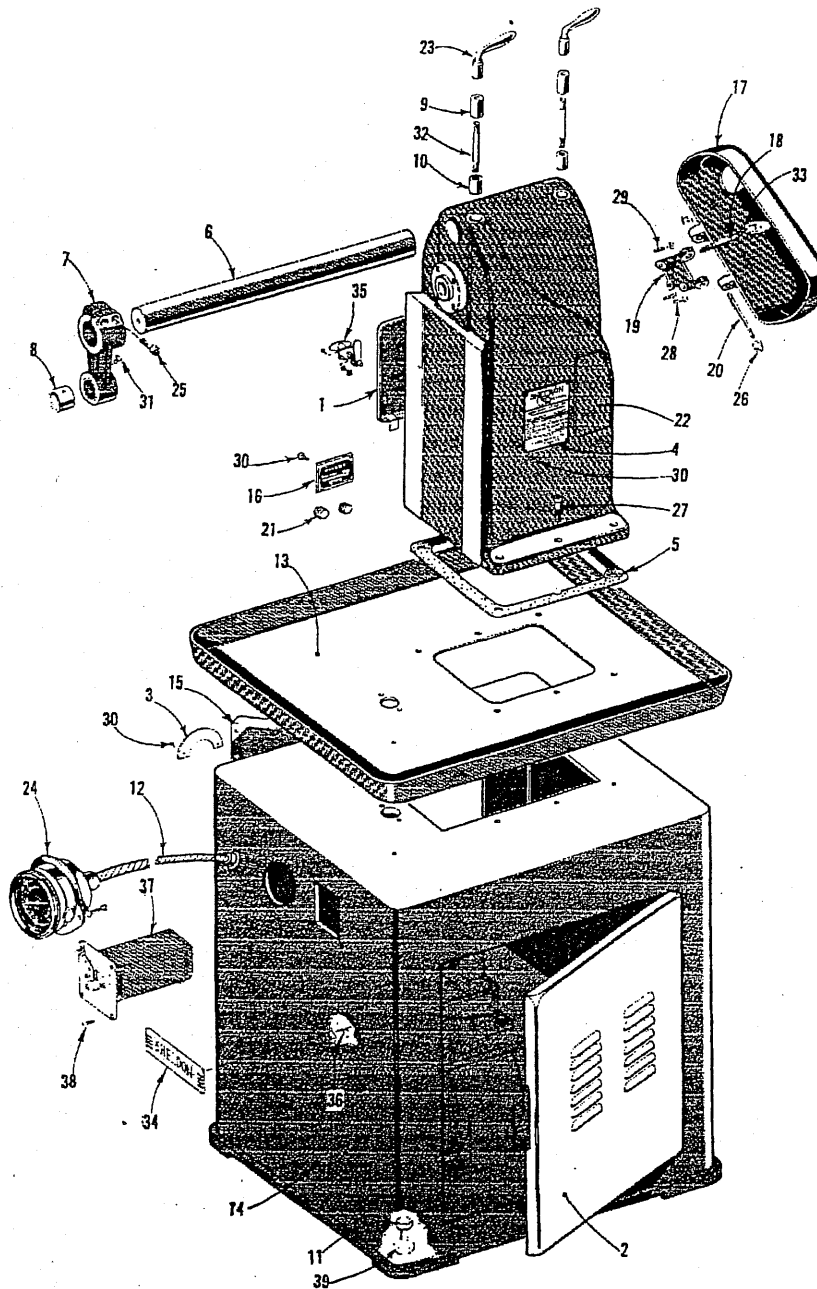
Where RPM is revolutions per minute, CS is the cutter speed in feet per minute and d is the diameter in inches of the cutter being used.



LUBRICATION INSTRUCTIONS

Ref. No.	Description	Daily	Weekly	Monthly
1	Oil Shifter Shoes			x
2	Grease Back Gear		x	
3	Grease Front Bearing			x
4	Oil Elevating Handwheel Shaft			x
5	Grease Rear Bearing			x
6	Oil Arbor Support Bearing	x		
7	Grease Crossfeed Nut		x	
8	Oil Gear Box	x		
9	Oil Feed Screw Pilot		x	
10	Oil Wormwheel, Worm, Shaft	x		

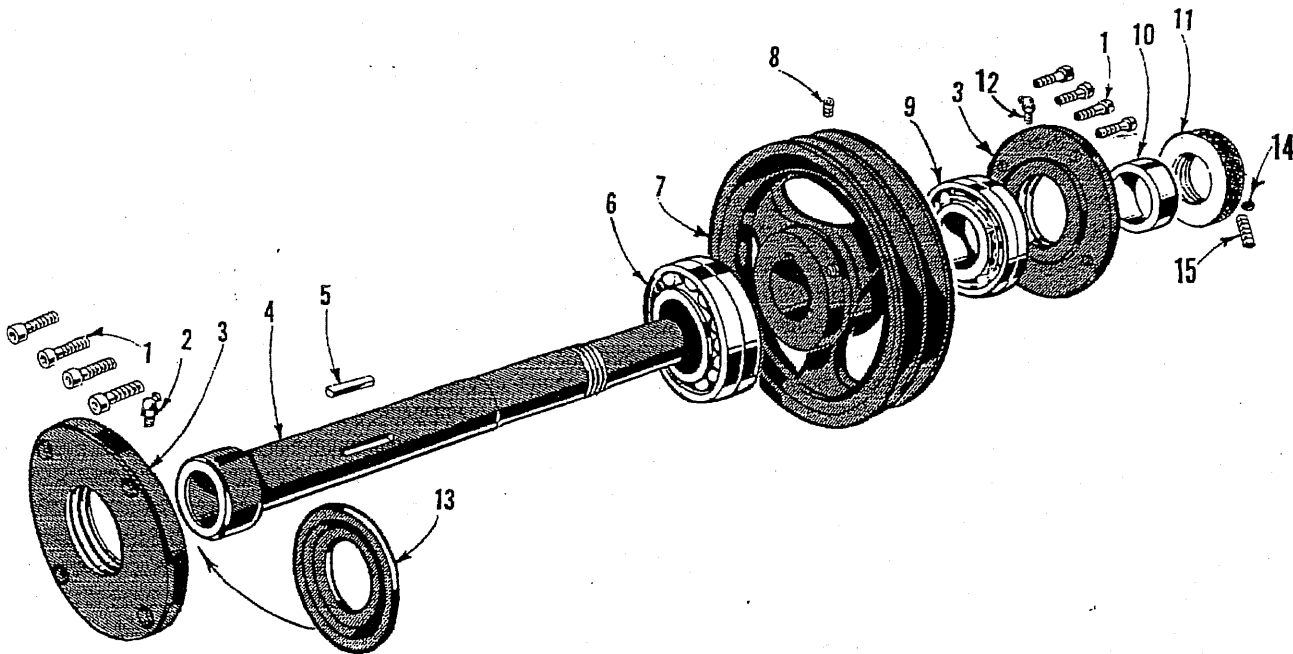




**MOUNTING ASSEMBLY**

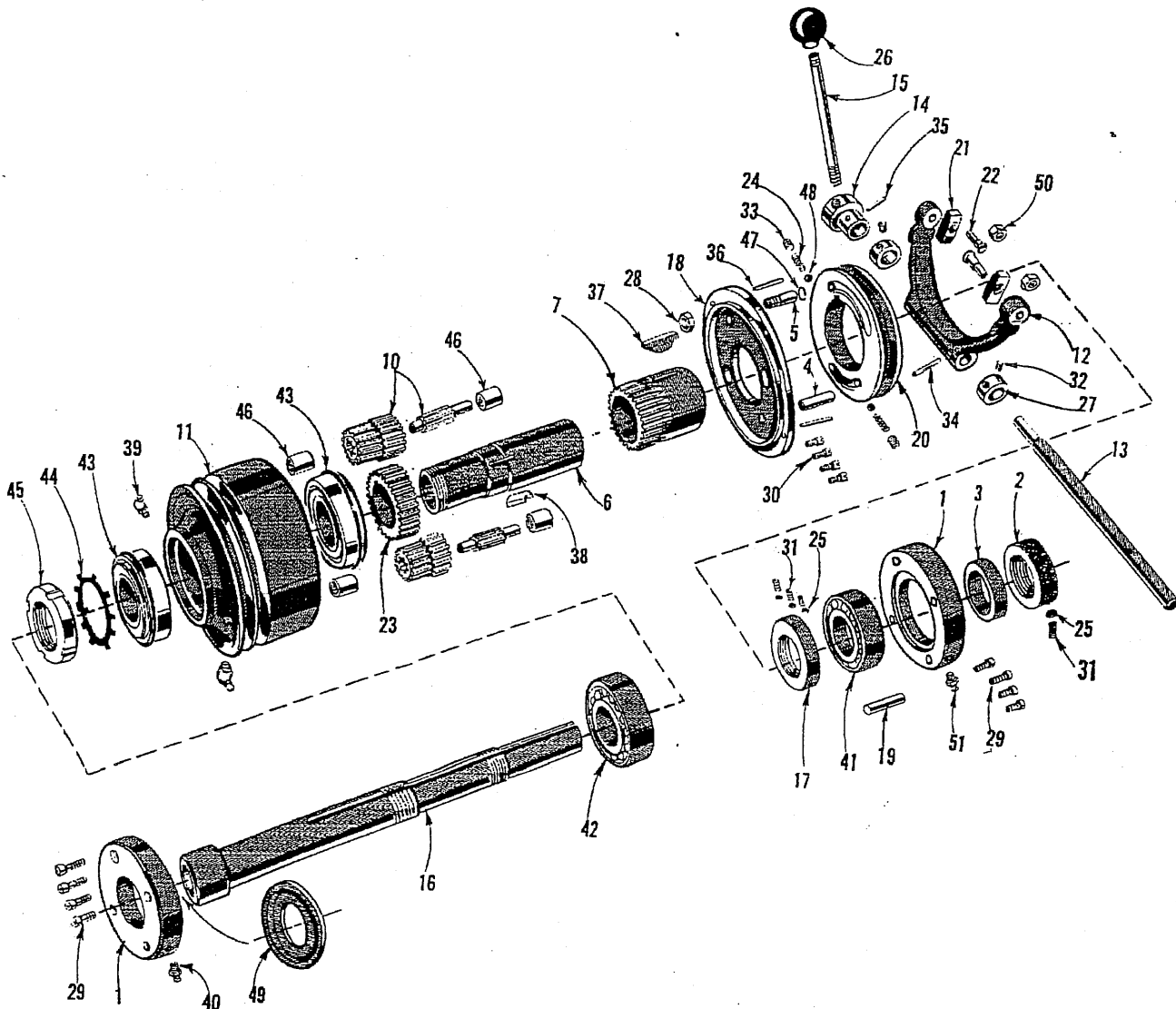
Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	1001-1A	Door (Complete)	1	20	9011-5	Hinge Pin	1
2	9060-1R	Door (Complete) Right	1	21	9040-10	Grease Plug	2
3	9060-40	Fast & Slow Chart	1	22	9040-15	Column	1
4	3001-5	Lubrication Instruction Chart	1	23	X-570	Binding Handle	2
5	3001-1	Column Gasket	1	24	UF-1997	Industrial Tachometer Model 770C	1
6	3002	Overarm	1	25	A-428	3/8-16 x 1 3/4 Socket Head Cap Screw	2
7	3003	Overarm Bracket	1	26	A-152	Acorn Nut	2
8	3003-1	Bushing (for Overarm Bracket)	1	27	A-487	3/8-16 Cap Screw	2
9	3024-10	Overarm Clamp (Upper)	2	28	AA-401	#10-24 x 1" Screw	6
10	3024-11	Overarm Clamp (Lower)	2	29	AA-400	#10-24 x 2" Screw	1
11	AA-369	1/2-13 x 2 1/4 Hex. Head Tap Bolt	4	30	A-872	#4 x 1/4 Round Head Drive Stud	10
12	AA-2004	Threaded Full Length Flexible Shaft 36" Long	1	31	A-1001	Oil Hole Cover	1
13	9060-2	Chip Pan	1	32	9060-55	7/16-14 Stud	2
14	9060-1C	Pedestal	1	33	A-1452	Spring Lock (for Guard)	1
15	9060-1L	Door (Complete) Left	1	34	1385B	Name Plate	1
16	8011-63	Back Gear Chart	1	35	N.L.C. 61207	1 1/2 Stem Handles	1
17	9011-1	Belt Guard	1	36	A-143	Tinnerman Speed Nut (Push-on Type)	2
18	9011-2B	Guard Stud	1	37		Draw Switch	1
19	9011-4	Guard Hinge	1	38	AA-322	#10-32 x 3/8 Flat Head Machine Screw	4
				39	A-110	1/2-13 Semi-Fin. Hex. Heavy Full Nut	4





SPINDLE ASSEMBLY (MODEL 3000P MILLING MACHINE)

Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	A-327	Socket Head Cap Screw	8	8	A-606	Set Screw for Sheave	1
2	A-1066	Alemite Fitting #1652	1	9	A-1135	Spindle Bearing (Rear) 2523/2580	1
3	3011-3	Bearing Closure	2	10	3016-2X	Bearing Spacer	1
4	3016-4	Spindle	1	11	3016-1	Spindle Bearing Adjusting Nut	1
5	3016-3	Spindle Key	1	12	A-1065	Alemite Hydraulic Fitting #1636 1/4-28 x 45°	1
6	A-1156	Spindle Bearing (Front) #26822/26878	1	13	9080-52	Grease Retainer	1
7	3029	Spindle Pulley	1	14	L-776	Plug for Lock Screw	1
				15	A-600	1/4-20 x 3/8 Sock. Set Screw (Cup Point)	1



**SPINDLE ASSEMBLY BACK GEARED**

Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	3011-3	Bearing (Cap Front & Rear)	2	27	U-140	Clutch Handle Shaft Collar	2
2	3016-1	Spindle Bearing Adjusting Nut	1	28	A-137	7/16-20 Semi-Fin Hex. Light Jam Nut	1
3	3016-2X	Bearing Spacer	1	29	A-327	1/4-20 x 3/4 Sock. Hd. Cap Screw	8
4	8011-30	Balance Pin	1	30	A-395	1/4-20 x 1/2 Sock. Hd. Cap Screw	4
5	9060-65	Stop Pin	1	31	A-600	1/4-20 x 3/8 Sock. Set Screw (Cup Point)	3
6	8011-56	Threaded Bushing for Clutch	1	32	A-601	1/4-20 x 1/4 Sock. Set Screw (Cup Point)	2
7	8011-59X	Stop Collar Gear 28 Tooth	1	33	A-602	5/16-18 x 5/16 Headless Set Screw (Cup Point)	2
10	AS-8011-62A	Pinion Assembly 14 T. 16 T.	2	34	A-802	#3 x 1 1/4 Taper Pin	1
	Consisting of:			35	AA-957	Spring Pin	1
		8011-60X Pinion 16 Tooth		36	A-880	3/16 Dia. x 3/4 Dowel Pin	2
		8011-61X Pinion 14 Tooth		37	A-915	H.P. 608 Hi-Pro Key 1" x 1/4	1
		8011-62A Splined Shaft		38	A-921	H.P. 608 Hi-Pro Key 3/4 x 1/4	1
11	9040A	V-Belt Pulley	1	39	A-1034	Alemite #1688-1/8 Pipe Tap 45° Fitting	2
12	9060-58	Shifter Fork	1	40	A-1066	Alemite #1652 Straight Drive Fitting 1/4-28 Hole	1
13	9040-7	Shifter Fork Shaft	1	41	A-1135	Tinker Roller Bearing #2580 Cone #2523 Cup	1
14	9040-8	Knob for Shifter Shaft	1	42	A-1156	Tinker Roller Bearing #26878 Cone #26822 Cup	1
15	9040-9	Shifter Fork Handle	1	43	A-1170	New Departure Bearing	2
16	9040-18	Spindle (Back Gear Only)	1	44	A-1172	V-08 Lock Washer	1
17	9060-63	Threaded Collar	1	45	A-1173	V-08 Lock Nut	1
18	C-206X	Pulley End Plate	1	46	A-1174	Torrington Needle Bearing #G.B. 912 Outer Race	4
19	9060-64	Stop Pin	1	47	A-1202	7/16 Reliance Rnd. Section Ring Series 2 Closed Type .080 Thick	1
20	9060-66	Shifter Collar	1	48	A-1400	1/4 Dia. Steel Ball	2
21	U-1925-1	Shifting Shoe	2	49	9060-62	Grease Retainer	1
22	9060-57	Shifter Shoe Stud	2	50	A-107	3/8-16 Semi-Fin. Hex. Reg. Jam Nut	2
23	CL-226	Spindle Drive Gear (30 Tooth)	1	51	A-1065	Alemite #1636 Hydraulic Fitting 1/4-28 x 45°	1
24	K-159	Spring for Shifting Spool	1				
25	L-776	Plug for Lock Screw	4				
26	10010	Clutch Lever Knob	1				

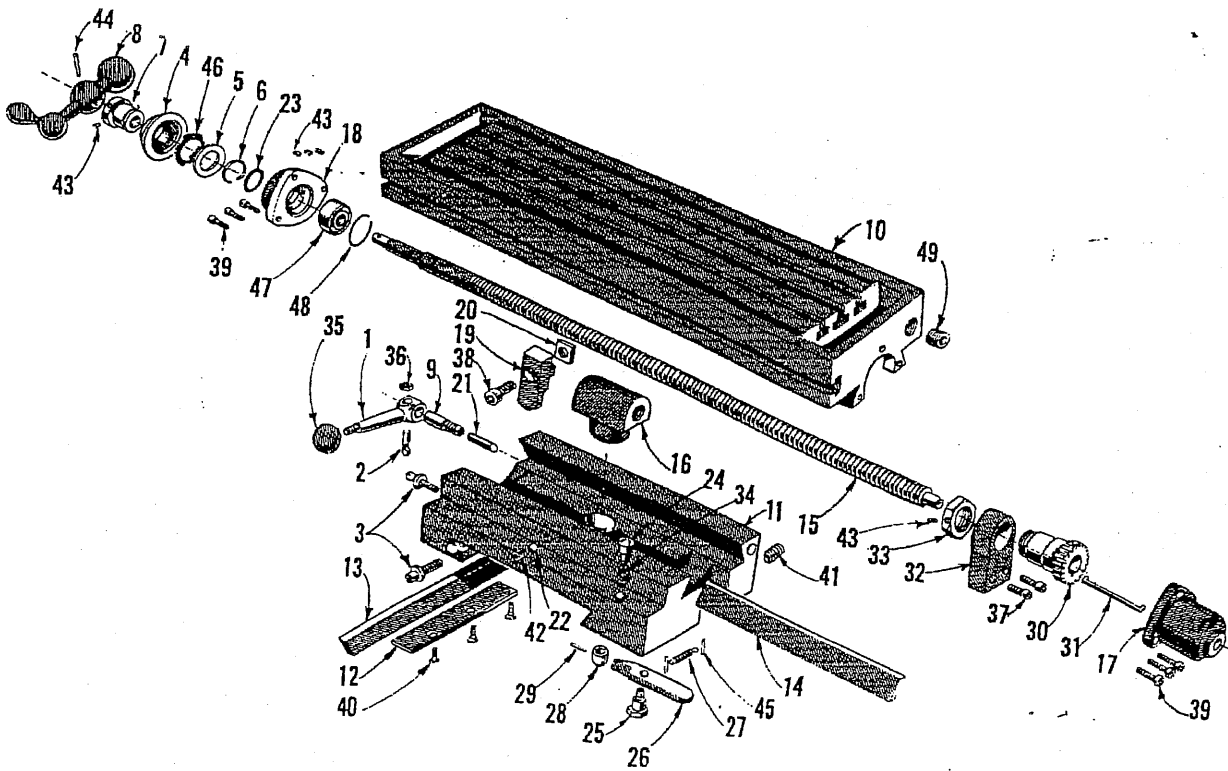
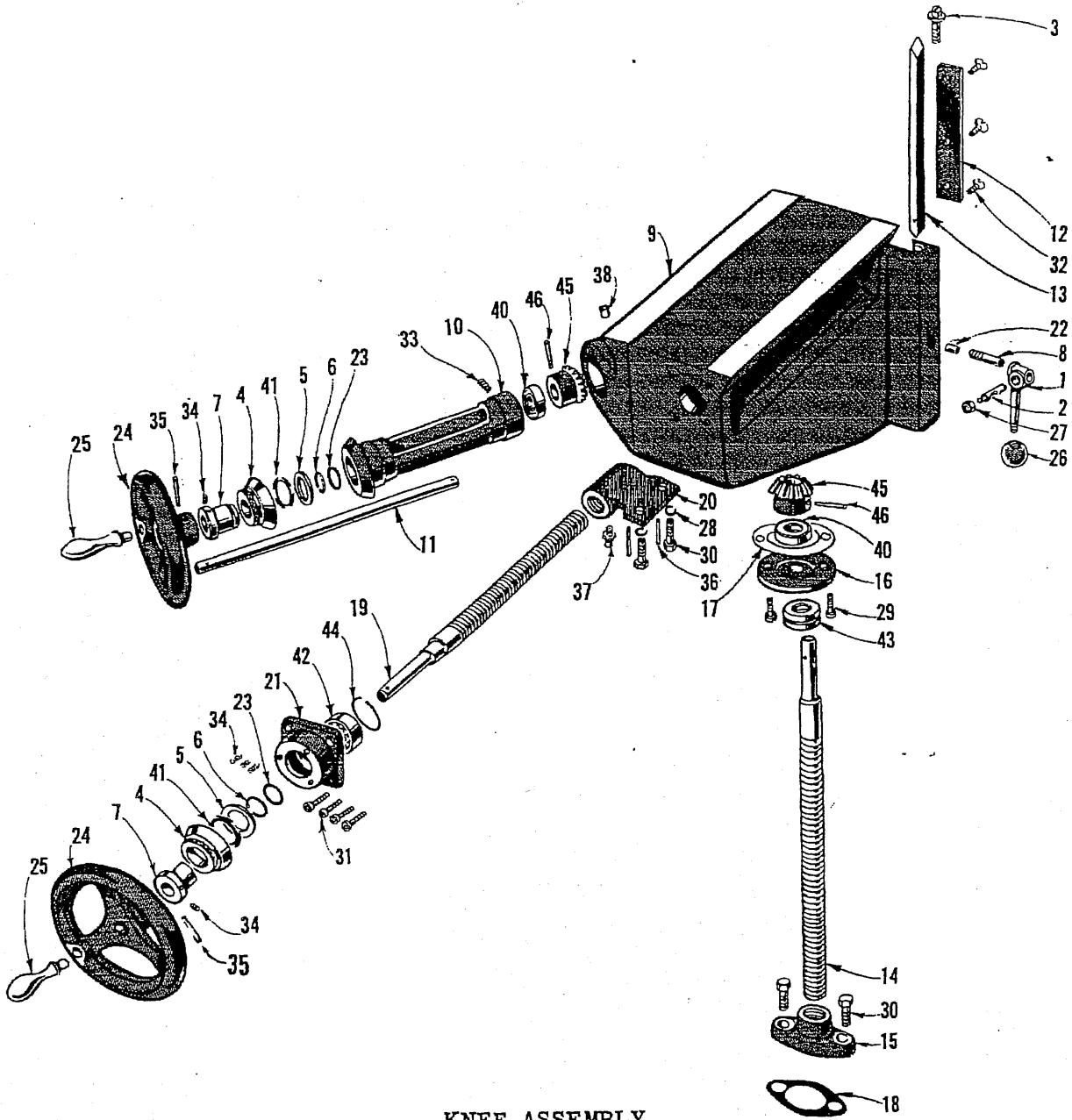


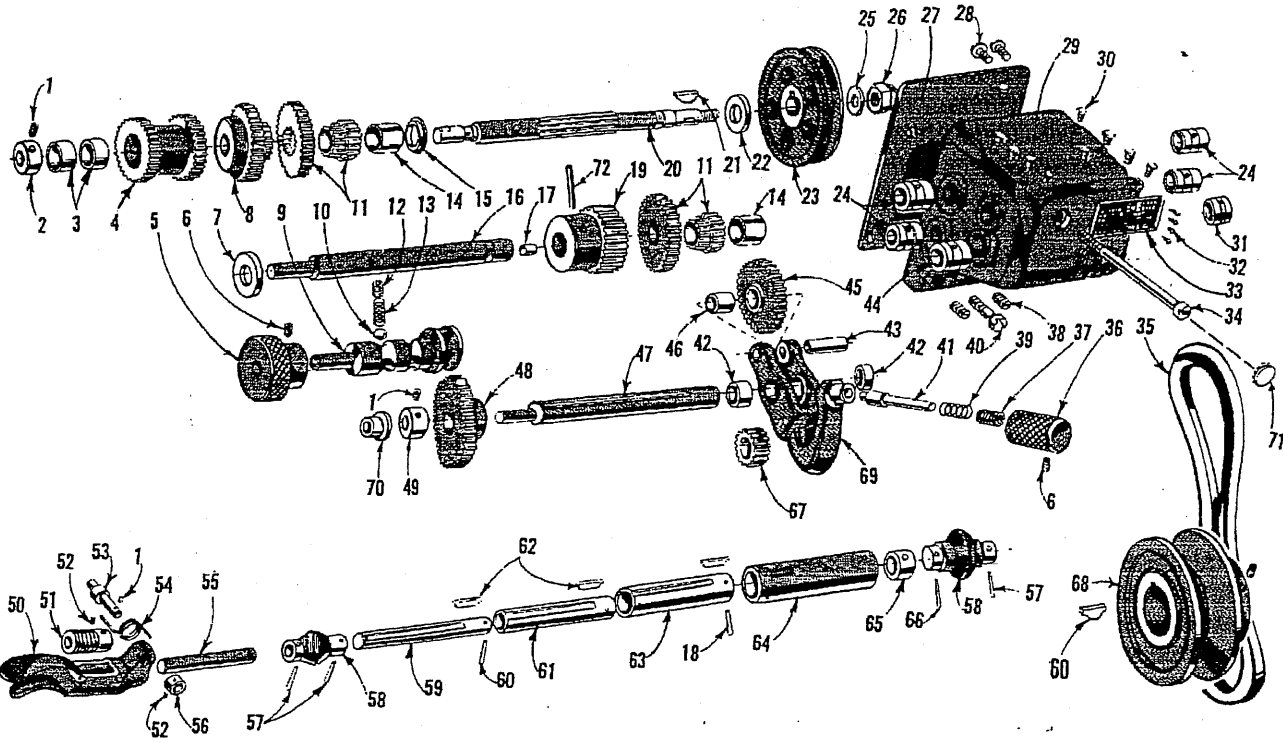
TABLE & SADDLE ASSEMBLY

Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	1008-1	Handle	1	26	9007-3	Latch	1
2	1008-2	Pin	1	27	9007-4	Latch Spring	1
3	1009	Gib Screw	2	28	9007-6	Plunger Button	1
4	1012-1	Dial	1	28	9007-7	Plunger Pin	1
5	1012-2	Retainer Washer	1	28	9010-6	Worm Wheel (Bronze)	1
6	1012-3	Dial Snap Ring	1	30	9010-7	Worm Wheel Key	1
7	1012-5	Dial Sleeve	1	31	9010-8	Worm Wheel Bracket	1
8	1014	Ball Crank	1	32	9010-9	Worm Wheel Nut	1
9	1038	Gib Lock Screw	1	34	X-546	Plunger Spring	1
10	3006-1A	Table Standard (w/3 "T" slots)	1	35	AA-1932	Handle Ball	1
11	3009x-1	Saddle	1	36	A-118	1/4-28 Light Jam Nut	1
12	3009-1	Gib Retaining Plate	1	37	A-379	1/4-20 x 1 Cap Screw	1
13	3010	Tapered Gib	1	38	A-397	5/16-24 x 3/4 Cap Screw	2
14	3010-1	Taper Gib	1	40	A-412	# 10-32 x 5/8 Cap Screw	1
15	3019-01	Longitudinal Screw	1	41	A-430	# 8-32 x 3/8 Mach. Screw	6
16	3019-2	Longitudinal Nut	1	42	A-611	1/4-20 x 1/2 Set Screw	3
17	3020-1	Longitudinal Pilot (Right)	1	42	A-643	5/16-18 x 1/4 Set Screw	1
18	3021-3	Longitudinal Pilot (Left)	1	43	A-648	# 0-32 x 1/4 Set Screw	1
19	3028-1	Longitudinal Stop	1	44	A-815	# 0 x 1-1/2 Long Taper Pin	5
20	3028-2	Back Plate	1	45	A-872	# 4 x 1/4 Lg. Drive Stud	1
21	3032	Dutchman (Saddle to Knee)	1	46	A-1112	S-15 New Departure Spring	1
22	3033	Dutchman (Saddle to Table)	1	47	A-1123	# 55501 Bearing, N.D.	1
23	3037	Shim .002, .003 & .005	1	48	A-1208	Snap Ring	1
24	9007-1	Plunger	1	49	A-1963	3/8 C. I. Pipe Plug (Table)	1
25	9007-2	Shoulder Screw	1				



**KNEE ASSEMBLY**

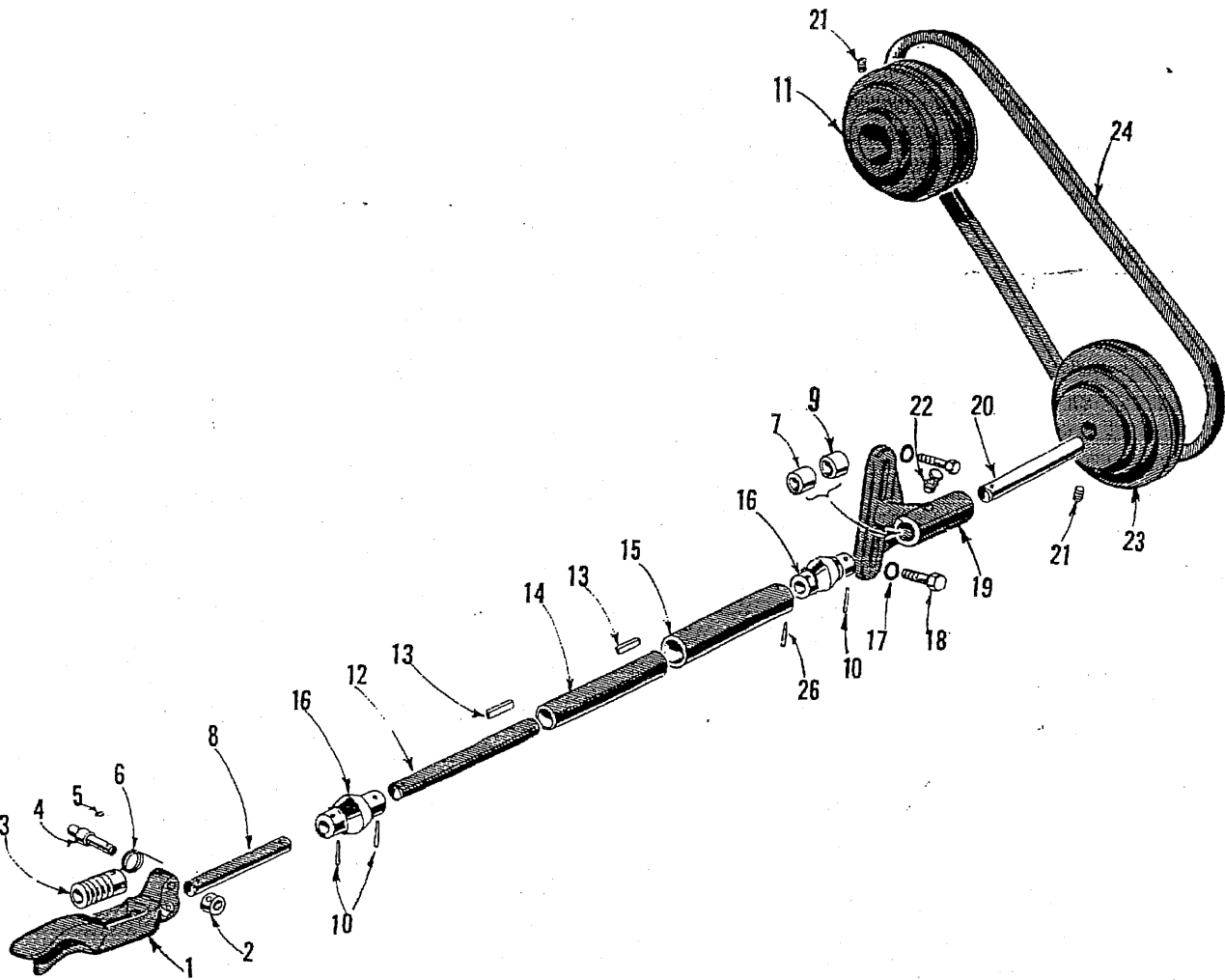
Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	1006-1	Handle	1	25	3140	Machine Handle	2
2	1008-2	Pin	1	26	AA-1932	Ball for Handle	1
3	1009	Gib Adjusting Screw	1	27	A-118	1/4-28 Semi Fin. Light Jam Nut	1
4	1012-1	Dial	2	28	A-226	5/16 Lockwasher (Split Type 1/8 x 1/16)	2
5	1012-2	Dial Retainer Washer	2	29	A-316	1/4-20 x 3/4 Flat Hd. Cap Screw	2
6	1012-3	Dial Snap Ring	2	30	A-347	5/16-18 x 1 Hex. Hd. Cap Screw	4
7	1012-4	Dial Sleeve	2	31	A-412	#10-32 x 5/8 Sock. Hd. Cap Screw	4
8	1038	Gib Lock Screw	1	32	A-430	#8-32 x 3/8 Flat Hd. Mach. Screw	3
9	3004X	Knee	1	33	A-642	1/4-30 x 5/8 Sock. Bet Screw (Cup Point)	1
10	3005X	Elevating Shaft Housing	1	34	A-646	# 10-32 x 1/4 Sock. Hd. Set Screw (Cup Point)	5
11	3005-1X	Elevating Shaft	1	35	A-812	# ) x 1-1/4 Long Taper Pin	2
12	3009-1	Gib Retaining Plate	1	36	A-881	3/16 Dia. x 1 Long Dowel Pin	2
13	3010	Tapered Gib	1	37	A-1008	# 1644 Alecite Str. 1/8 Pipe Thrd.	1
14	3017	Vertical Screw	1	38	A-1019	Gibs Style "GB" Ball Valve #523	1
15	8010-2	Vertical Screw Nut	1	40	A-1111	# 603 Boston Ungrd. Thrust (Ball Bearing)	2
16	3017-2	Vertical Screw Thrust Plate	1	41	A-1112	# 15 New Departure Spring	2
17	3017-3	Shim for Vertical Thrust Plate	1	42	A-1121	# 55502 New Departure Bearing	1
18	3017-4	Vertical Nut Gasket	1	43	A-1131	# 1001 Kice Ground Thrust Bearing	1
19	3018-1	Cross Feed Screw	1	44	A-1208	Soap Ring	1
20	3018-2	Cross Feed Saddle Bracket	1	45	A-1960	# L-127 Boston Steel Miter Gear	2
21	3022-2	Pilot Cross Feed	1	46	AA-853	1/8 Dia. x 15/16 Lg. Spring Pin	2
22	3036	Knee to Column Dutchman	1				
23	3037	Shim .002, .003 & .005	1				
24	E-197-1	Handwheel	2				



**GEAR BOX ASSEMBLY**

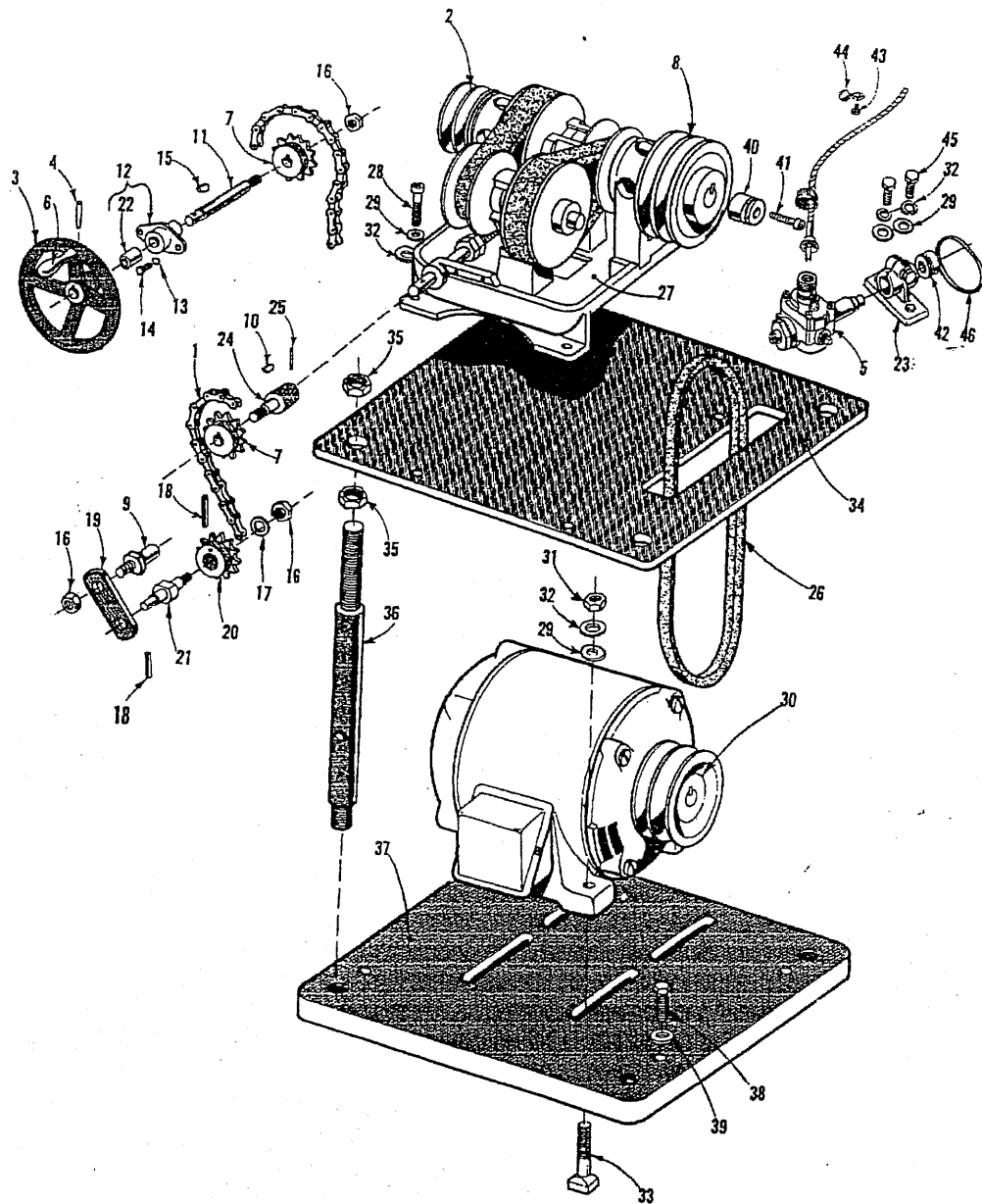
Ref. No.	Part No.	Description	Quantity
1	A-801	1/4-20 x 1/4 Lg. Set Screw	1
2	9050-35-2	Collar for Shaft	2
3	AA-1101	Torrington Needle Bearing	1
4	9050-42	Spool Gear	1
5	9050-32	Reverse Plunger Knob	1
6	A-805	1/4-20 x 5/16 Lg. Set Screw	2
7	9050-37	Washer for Univ. Shaft	1
8	A89050-40	Input Shaft Pinion 16 Tooth	1
9	9050-31A	Reverse Plunger	1
10	A-1400	1/4 Dia. Steel Ball	1
11	A89050-34	Gear 32 Tooth & 16 Tooth	1
12	A-813	5/8-18 x 5/16 Lg. Set Screw	2
13	K-158	Spring	1
14	A-1195	Torrington Needle Bearing	1
15	9050-45	Thrust Spacer	2
16	9050-44	Output Shaft	1
17	L-1760	Brass Plug	1
18	9009-18	Taper Pin	1
19	9050-13A	Output Gear 24 Tooth	1
20	9050-41	Input Shaft	2
21	A-802	Hi-Pro Key	1
22	9050-43	Input Shaft Spacer	1
23	9050-50	Pulley for Gear Box	1
24	A-1318	Oilite Bearing	1
25	K-93	Beveled Edge Washer	4
26	9050-29	3/8 x 16 Steel Acorn Nut	1
27	A-314	Back Plate for Gear Box	1
28	A-314	8-32 x 3/8 Lg. Round Head Machine Screw	1
29	9050-30	Gear Box (Main Casting Only)	1
30	A-1000	Oil Cup 1/4 Drive	1
31	AA-1513	Oilite Bearing	7
32	A-852	#0 Round Head Stud 3/16 Lg.	1
33	9050-51	Feed Chart	1
34	A-378	Attaching Screw	4
35	3L250	V-Belt for Power Feed	1
36	C-418	Knurled Tumbler Handle	1

Ref. No.	Part No.	Description	Quantity
37	L-1746	Knurled Tumbler Handle	1
38	A-639	5/16-18 x 5/8 Lg. Set Screw	2
39	K-546	Plunger Spring	1
40	A-384	Fillister Head Cap Screw	1
41	C-432-1	Tumbler Pull Pin	1
42	L-1797	Bronze-Graphite Bushing	2
43	L-1759	Tumbler Intermediate Shaft	1
44	A-1363	Oilite Bearing	1
45	TC-433	Tumbler Gear 32 Tooth	1
46	A-1188	Needle Bearing	1
47	9050-27	Tumbler Shaft	1
48	9050-28	Reversing Gear 44 Tooth	1
49	9050-35-1	Collar for Shaft	1
50	9010-3A	Worm Housing	1
51	9010-1	Worm	1
52	A-646	#10-32 x 1/4 Set Screw	2
53	9010-5	Worm Housing Pivot Pin	2
54	9010-4	Worm Housing Release Spring	1
55	9010-2A	Worm Shaft	1
56	A-1917	Collar	1
57	A-813	Taper Pin	1
58	9009-1	Universal Joint	3
59	9009-3A	Telescopic Drive Tube	2
60	A-813	3/16 Square x 1 1/2 Lg. Key	1
61	9009-5A	Telescopic Drive Tube	1
62	9009-6	Telescopic Key	3
63	9009-4A	Telescopic Drive Tube	1
64	9009-8A	Telescopic Drive Tube	1
65	9009-10A	Telescopic Drive Tube Bushing	1
66	A-815	Taper Pin	1
67	C-430-A	Tumbler Gear 16 Tooth	1
68	9060-53	Variable Pitch Pulley	1
69	C-402	Tumbler (Main Casting Only)	1
70	9050-47	Flange Bearing	1
71	A-510	5/8 Dia. Shoulder Drive Plug, Chrome	1
72	AA-864	3/16 Dia. x 1 1/4 Lg. Spring Pin	1



POWER FEED ASSEMBLY (MODEL 300P MILLING MACHINE)

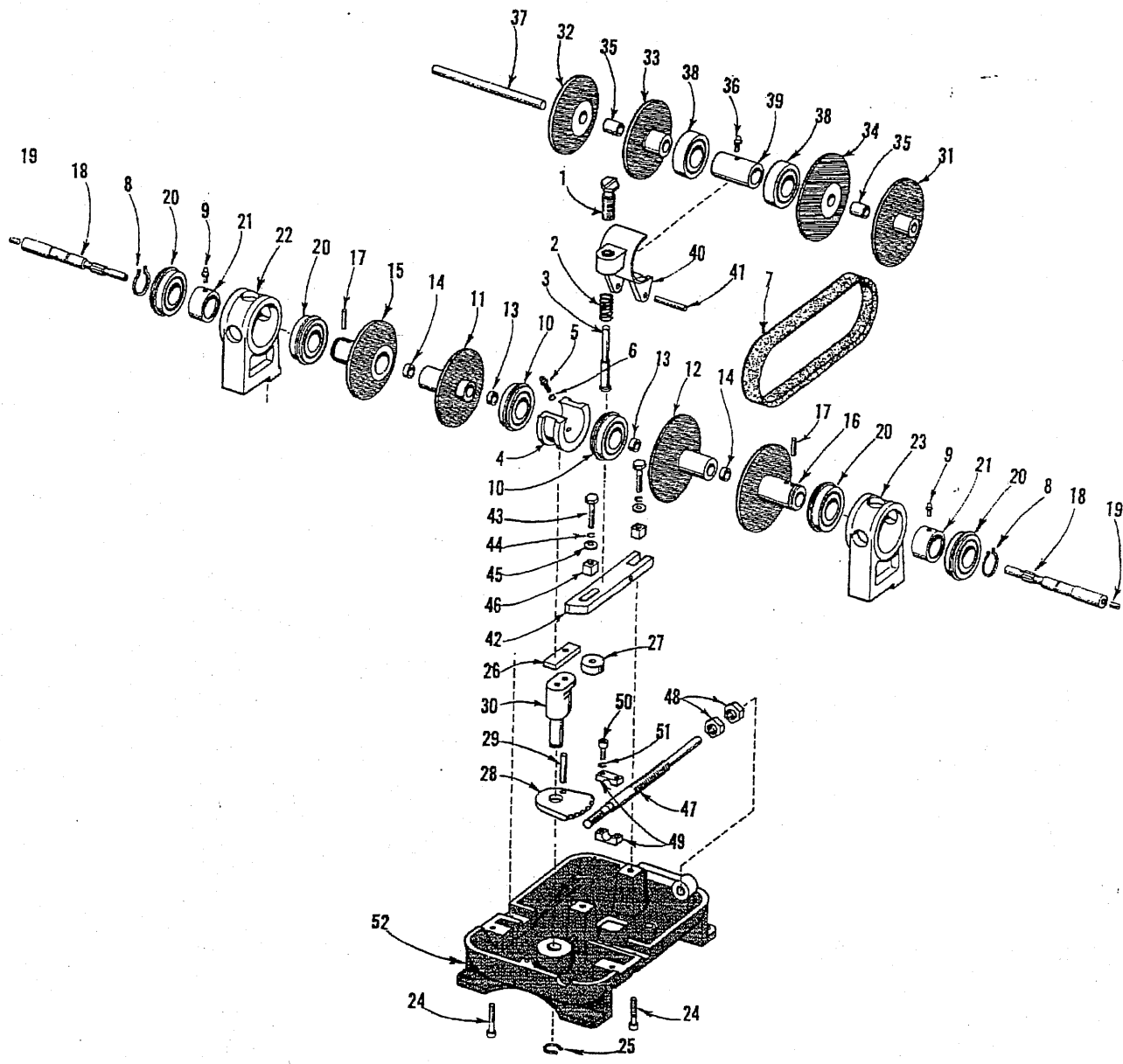
Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	9010-2A	Worm Housing	1	14	9009-5	Telescopic Drive Tube (Inner)	1
2	A-1817	Collar with Set Screw	1	15	9009-4	Telescopic Drive Tube (Outer)	1
3	9010-1	Worm	1	16	9009-1	Universal Joint	2
4	9010-5	Worm Housing Pivot Pin	1	17	9008-5	Washer	2
5	A-846	#10-32 x 1/4 Lg. Sock. Set Screw	2	18	A-344	5/8-16 x 1 1/4 Hex. Head Cap Screw	2
6	9010-4	Worm Housing Release Spring	1	19	9008-4	Bracket	1
7	A-1344	Oilite Bearing	1	20	9008-3	Universal Cone Shaft	1
8	9010-2A	Worm Shaft	1	21	A-645	1/4-20 x 5/8 Socket Set Screw	2
9	A-1369	Oilite Bearing	1	22	A-1825	Oiler	1
10	A-813	#0 x 1" Long Taper Pin	3	23	9008-1	Universal Cone Pulley	1
11	9008-2A	Spindle Cone Pulley	1	24	3L320	Power Feed V-Belt	1
12	9009-3	Telescopic Drive Shaft	1	26	A-812	#0 x 1 1/4 Long Taper Pin	1
13	9009-6	Telescopic Key	2				



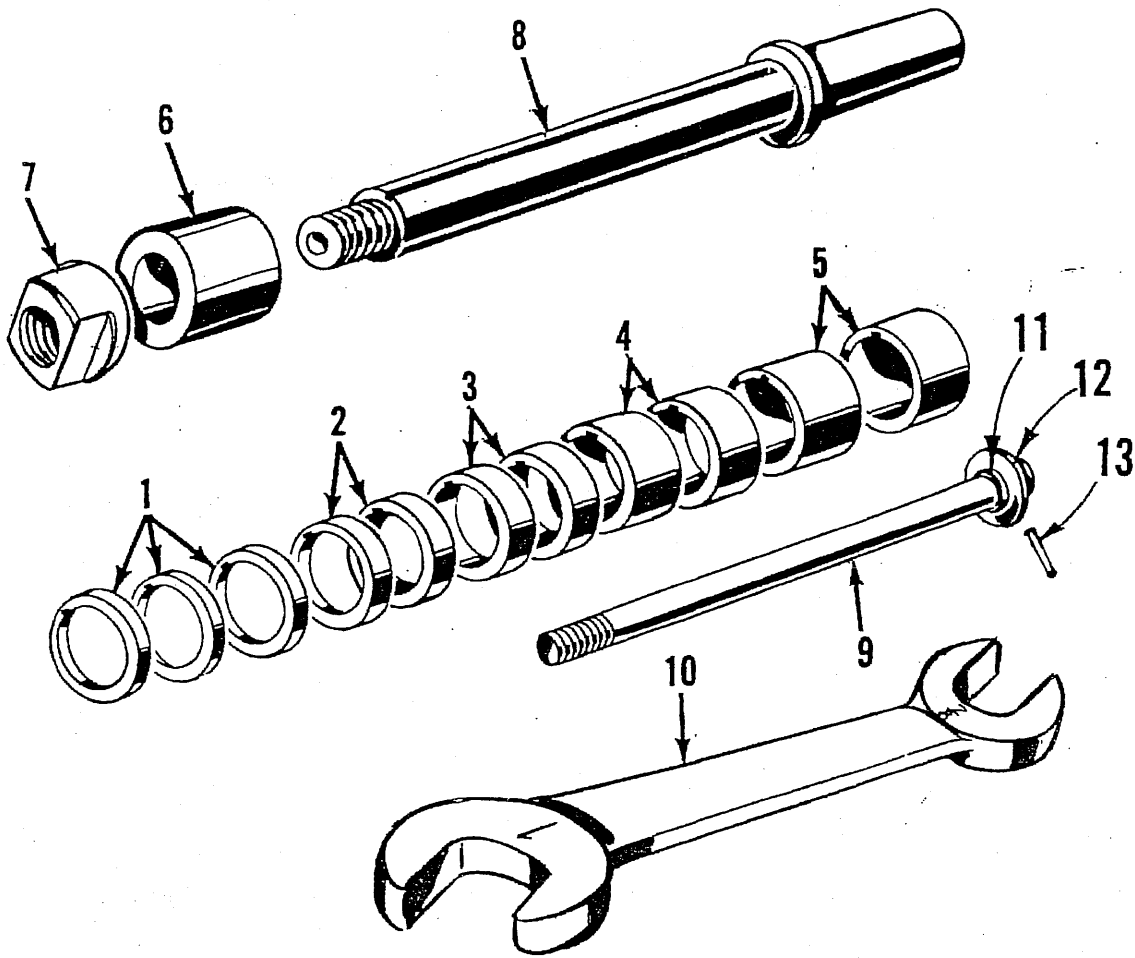
**MOTOR DRIVE ASSEMBLY**

Ref. No.	Part No.	Description	Quantity	Ref. No.	Part No.	Description	Quantity
1	AA-2012	# 48 Roller Chain 39" Lg. 1/2 Pitch	1	24	9060-32-C-1	Extension Shaft for Sprocket	1
2	AA-1502	3.0 P.D. Worthington Pulley	1	25	AA-861	1/8 Dia. x 3/4 Long Spring Pin	1
3	T-197-1	Handwheel	1	26	4L-340	V-Belt	1
4	AA-853	1/8 Dia. x 15/16 Long Spring Pin	1	27	9060-31	Model "A" Worthington Allspeed	2
5	UV-2080	#660-C Direct Drive Joint	1	28	A-317	3/8-16 x 1" Lg. Hex. Head Cap Screw	1
6	2140	Revolving Machine Handle	1	29	AA-1500	3/8 Lockwasher (Split Type)	10
7	8014-56	Steel Sprocket	1	30	A-107	3/8-16 Sewt-Fin. Hex. Reg. Jaw Nut	1
8	AA-1501	4.7 P.D. Worthington Pulley	2	31	AA-374	3/8 S.A.E. Steel Washer	4
9	9060-51	Stud for Pivot Arm	1	32	9060-7	Base for Drive	1
10	A-829	1/8 Square x 5/8 Long Key	1	33	A-123	7/8-14 Finished Jaw Nut	8
11	9060-9	Handwheel Shaft	1	34	9060-6	Base for Motor	4
12	9060-58	Handwheel Flange	1	35	A-475	1/2-13 x 2" Long Ex. Head Cap Screw	1
13	A-243	1/4 Shakeproof Lockwasher	1	36	A-207	1/2 Shakeproof Lock Washer	4
14	A-489	1/4-20 x 7/8 Lg. Sock. Head Cap Screw	2	37	9060-60	Pulley for Worthington Drive	4
15	A-902	R.P. #404 RI Pro Key 1/2 x 1/8	1	38	A-327	1/4-20 x 3/4 Long Sock. Head Cap Screw	1
16	A-138	3/8-16 Elastic Stop Nut	1	39	9060-61	Pulley for Direct Drive Joint	1
17	K-93	Beveled Washer	3	40	A-311	1/4-20 x 1/2 Lg. Round Head Machine Screw	1
18	AA-851	1/8 Dia. x 1" Long Spring Pin	2	41	A-1832	#130 Jiffy Clip	1
19	9060-50	Pivot Arm for Adj. Sprocket	1	42	A-377	3/8-16 x 1" Sock. Head Cap Screw	2
20	A-2004	Sprocket 12 Tooth	1	43	A-1582	Atlantic India Rubber Round Cord Belt	1
21	9060-52	Stud for Adj. Sprocket	1				
22	AA-1330	Bronze Bearing	1				
23	AA-2005	Clamp (for Drive Joint)	1				

REFER TO REFERENCE NUMBERS ONLY WHEN ORDERING REPLACEMENT PARTS







**3/4" ARBOR**

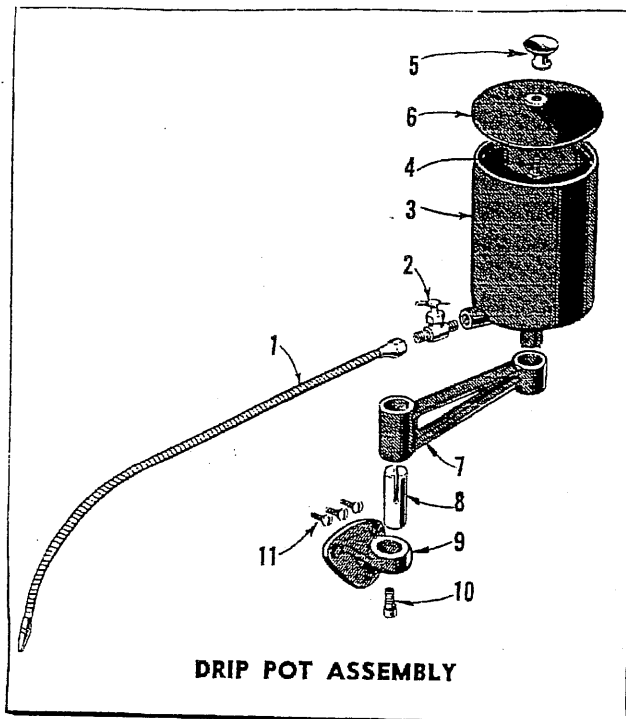
**7/8" ARBOR**

Ref. No.	Part No.	Description	Quantity
1	9001-2	Arbor Nut	1
2	9001-3	Running Collar	1
3	9001-1	Arbor # 9 B. & S.	1
4	9005-2	Draw Bar	1
5	9001-4	Arbor Collar, 1 1/2" Long	1
6	9001-5	Arbor Collar, 1" Long	2
7	9001-6	Arbor Collar 1/2" Long	2
8	9001-7	Arbor Collar 3/8" Long	2
9	9001-8	Arbor Collar 1/4" Long	3
10	AA-1941	Wrench 7/8" & 1"	1
11	9005-3	Arbor Collar	1
12	A-106	1/2-13 Semi-Fin. Hex. Heavy Jaw Nut	1
13	AA-852	1/8 Dia. x 7/8 Long Spring Pin	1

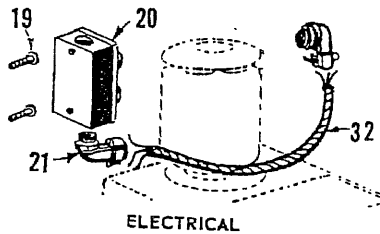
Ref. No.	Part No.	Description	Quantity
1	9002-2	Arbor Nut	1
2	9002-3	Running Collar	1
3	9002-1	Arbor # 9 B. & S.	1
4	9005-2	Draw Bar	1
5	9002-4	Arbor Collar 1 1/2" Long	2
6	9002-5	Arbor Collar 1" Long	2
7	9002-6	Arbor Collar 1/2" Long	2
8	9002-7	Arbor Collar 3/8" Long	2
9	9002-8	Arbor Collar 1/4" Long	3
10	AA-1941	Wrench 7/8" & 1"	1
11	9005-3	Arbor Collar	1
12	A-106	1/2-13 Semi-Fin. Hex. Heavy Jaw Nut	1
13	AA-852	1/8 Dia. x 7/8 Long Spring Pin	1

**1" ARBOR**

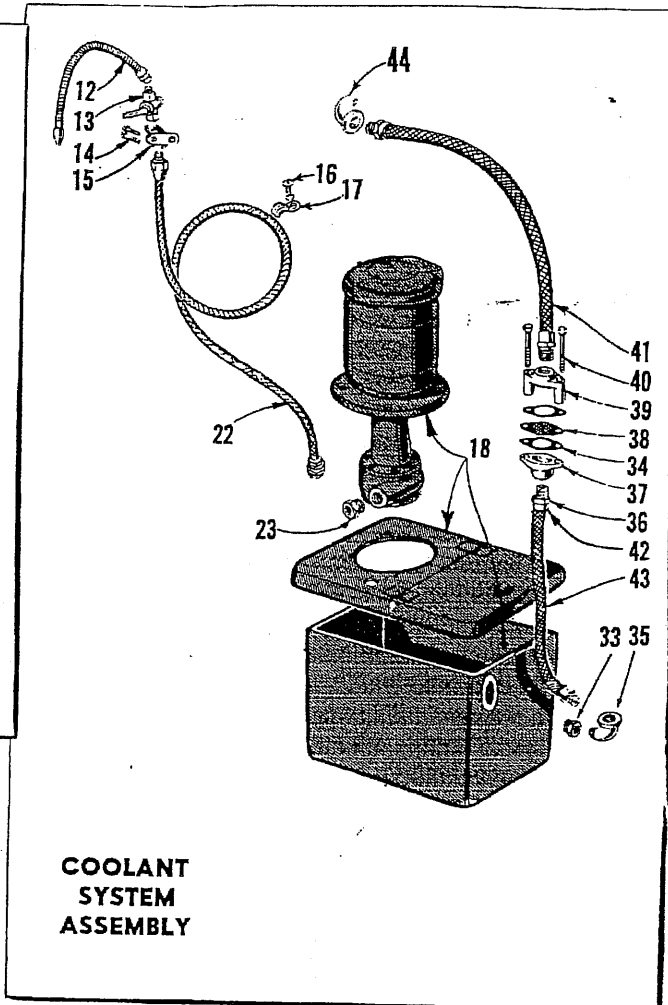
Ref. No.	Part No.	Description	Quantity
1	9003-2	Arbor Nut	1
2	9003-3	Running Collar	1
3	9003-1	Arbor # 9 B. & S.	1
4	9005-2	Draw Bar	1
5	9003-4	Arbor Collar 1 1/2" Long	1
6	9003-5	Arbor Collar 1" Long	2
7	9003-6	Arbor Collar 1/2" Long	2
8	9003-7	Arbor Collar 3/8" Long	2
9	9003-8	Arbor Collar 1/4" Long	3
10	AA-1941	Wrench 7/8" & 1"	1
11	9005-3	Arbor Collar	1
12	A-106	1/2-13 Semi-Fin. Hex. Heavy Jaw Nut	1
13	AA-852	1/8 Dia. x 7/8 Long Spring Pin	1



**DRIP POT ASSEMBLY**



**ELECTRICAL**



**COOLANT SYSTEM ASSEMBLY**

**DRIP POT & COOLANT SYSTEM ASSEMBLY**

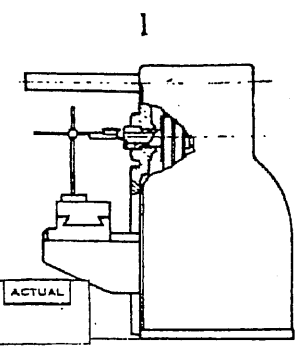
Ref. No.	Part No.	Description	Quantity
1	9015-12	Flexible Tube Assembly	1
2	A-1922	Shut-Off Cock	1
3	9014-1	Drip Pot	1
4	A-384	Washer Head Screw	1
5	AA-1932	Knob	1
6	9014-2	Cover	1
7	9014-3	Arm	1
8	9014-4	Bearing	1
9	9014-5	Anchor Bracket	1
10	A-397	Socket Head Cap Screw	1
11	A-367	Oval-head Machine Screw	1
12	9015-12	Flexible Coolant Spout	3
13	A-1822	Coolant Spout	1
14	A-308	Cap Screw (Millister Head)	1
15	9015-15	Pipe Reducer Bracket	2
16	A-394	Round Head Bolt	1
17	A-1832	Tubing Attaching Clip	1
18	A-2079	Coolant Pump	1

Ref. No.	Part No.	Description	Quantity
19	A-311	Round Head Screw	2
20	A-1834	Three Phase Control	1
21	A-1827	Single Phase Control	1
22	7380V	Connector	2
23	9015-9	Coolant Hose (Pump to Column)	1
24	A-1915X	Reducing Bushing	1
25	A-1921	Greenfield Tubing 3/8 x 18 Long	1
26	A-1919	Reducing Bushing	1
27	9015-13	Gasket	1
28	AA-1934	Street Elbow	1
29	AA-1927	Male Connector	1
30	9015-5	Pan Drain Fitting (Lower)	2
31	9015-14	Strainer	1
32	9015-6	Pan Drain Fitting (Upper)	1
33	A-381	Hex. Head Cap Screw	2
34	9060-54	Coolant Hose (Table to Pan)	1
35	AA-1928	Ferrule	1
36	AA-1928	Coolant Hose (Pan to Tank)	1
37	A-1920	Street Elbow	1

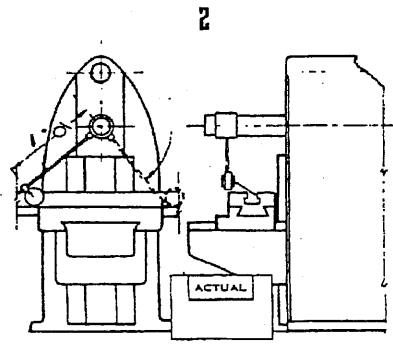
\*Specify Electrical Characteristics When Ordering

# TEST SHEET

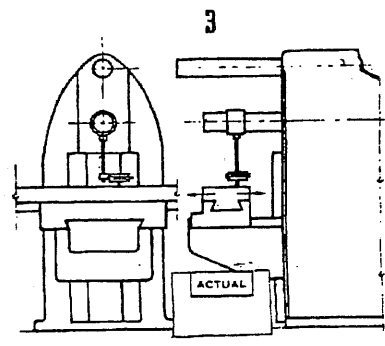
**SHELDON MACHINE CO. Inc.**  
*Manufacturers of Sheldon Precision Lathes • Milling Machines • Shapers*  
 4258 N. KNOX AVENUE • CHICAGO 41, ILLINOIS, U. S. A.



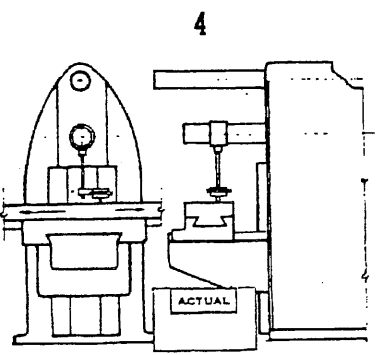
1  
 Check Internal Concentricity of Spindle.  
 Revolve Spindle by hand, indicator reading not to exceed .0002" variation.



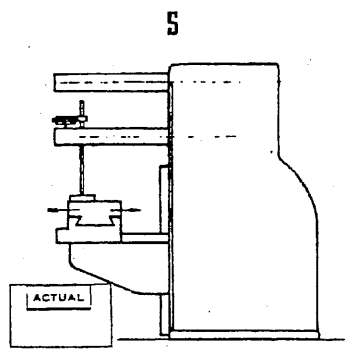
2  
 Squareness of Table in relation to Spindle, indicate using 10" radius.  
 Indicator reading not to exceed .001" in 20" sweep.



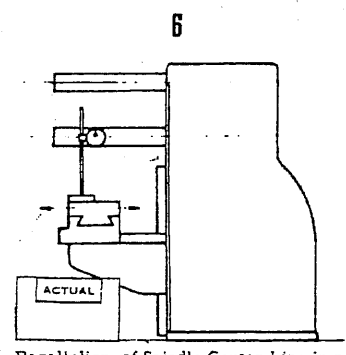
3  
 Parallelism of Table Top in relation to knee.  
 Indicator reading not to exceed .0005" variation in 5-1/2" Transverse Travel.



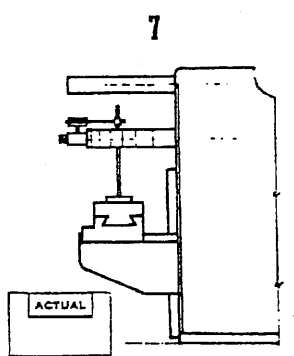
4  
 Parallelism of Table Top in relation to knee.  
 Indicator reading not to exceed .001" variation in 12" of Longitudinal Travel.



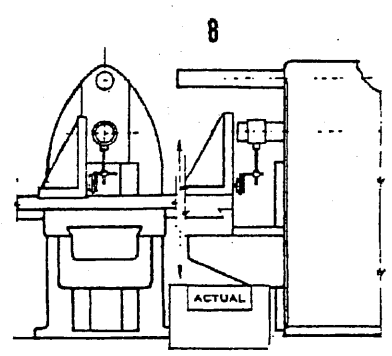
5  
 Parallelism of Spindle Center Line in relation to Knee Ways (Checking top of Test Arbor).  
 Indicator reading not to exceed .0005" in 5-1/2" Transverse Travel.



6  
 Parallelism of Spindle Center Line in relation to Knee Ways (Checking side of Test Arbor).  
 Indicator reading not to exceed .0005" variation in 5-1/2" Transverse Travel.



7  
 Runout at end of Arbor.  
 Indicator reading not to exceed .0015" variation.



8  
 Vertical Travel of Knee in relation to Column Ways.  
 Indicator reading not to exceed .0015 in 6" of Vertical Travel.

ORDER NO. \_\_\_\_\_

SERIAL NO. \_\_\_\_\_

DATE \_\_\_\_\_

INSPECTED \_\_\_\_\_

APPROVED \_\_\_\_\_

73062