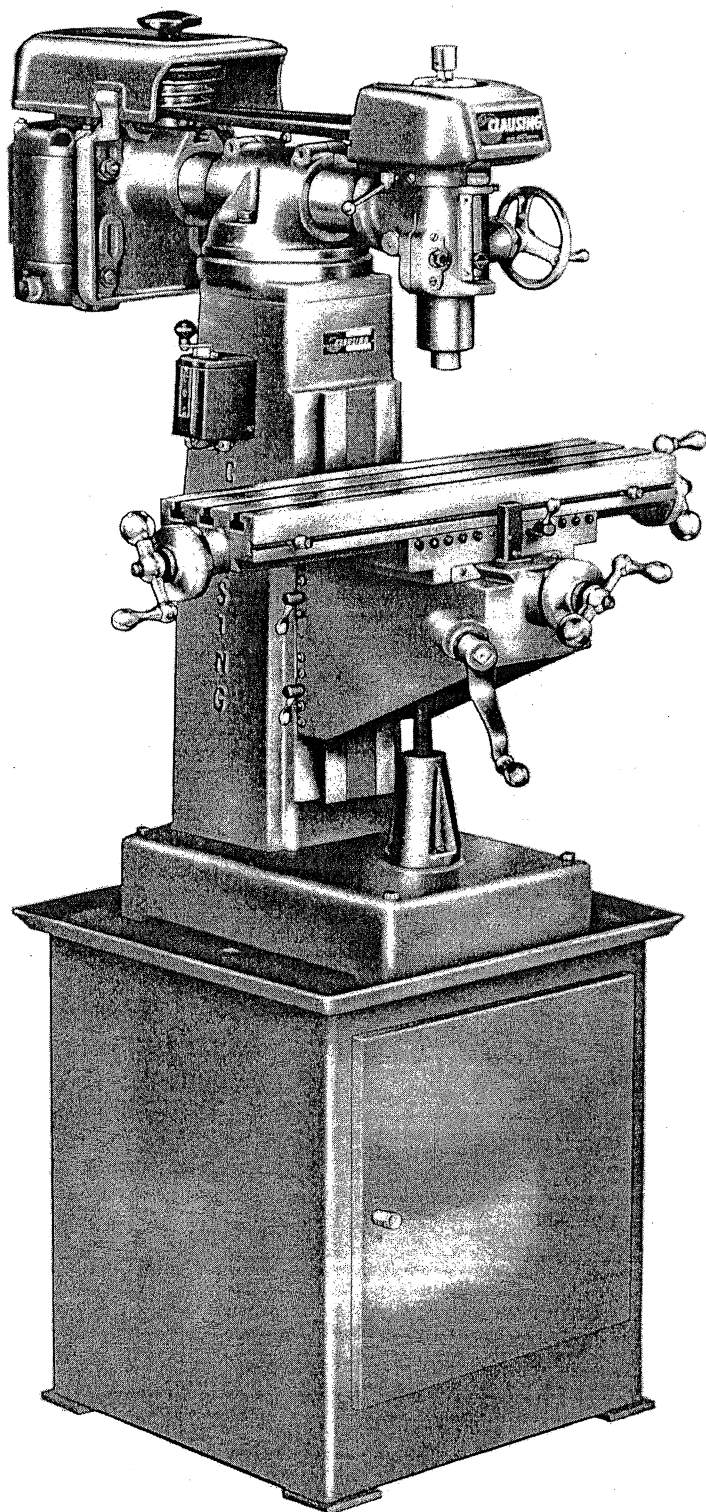


## INSTRUCTIONS AND PARTS



DIVISION, ATLAS PRESS COMPANY  
KALAMAZOO, MICHIGAN 49001



## NOS. 8520 & 8525 CLAUSING VERTICAL MILLING MACHINES

NOVEMBER 1966 FILE NO. 8520-9

Motor pulley, switch, wrench, crank, feed lever, handwheel and mounting screws are packed in the carton in the miller crate. Be sure all parts have been removed before carton is destroyed.

The milling machine cabinet is shipped in a separate carton. Be sure to remove the shelf that's packed with the cabinet before container is destroyed.

### MOTOR RECOMMENDATION

A  $\frac{1}{2}$  or  $\frac{3}{4}$  HP, 1725 RPM motor, preferably a capacitor or repulsion - induction type, is required to operate the mill.

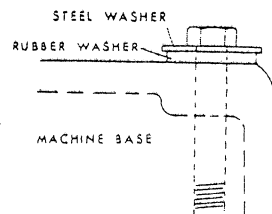
# INSTALLATION INSTRUCTIONS

## CABINET INSTALLATION

1. Mount the cabinet on a concrete or well-braced wood floor capable of withstanding the load.
2. Fasten latch handle to cabinet door with mounting screws furnished.
3. Mark location of mounting holes on floor and drill holes large enough to receive expansion bolts or set studs or bolts in melted lead. Use lag screws or bolts to fasten cabinet to a wood floor. DO NOT tighten bolts securely until miller is mounted and leveled.

## MILLING MACHINE INSTALLATION

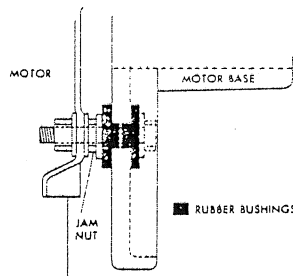
1. Place the miller on the cabinet, positioning it over the holes, and fasten securely with the four mounting bolts furnished — to prevent chipping the paint at the mounting holes, be sure to use the rubber bushings as shown at right.



2. The miller should be level and the cabinet bolted to the floor to prevent vibration and to assure accurate performance. Remove rust protective coating from table. Check level readings on table — level readings should be identical. Compensate variations by placing shims under the cabinet feet. Now tighten the four cabinet mountings screws and place shelf in the cabinet.
3. Position the head by loosening the two tilt lock screws on turret and place head right angles to the table by lining up the degree witness mark on the overarm with zero degrees on tilt gauge — see Figure 7. To position accurately, place a piece of ground bar stock in the spindle and with a dial indicator mounted on the table, dial indicate side of bar while raising and lowering the table.
4. Remove rust protective coating from machined surfaces with kerosene.

## MOUNTING MOTOR (See Figure 1)

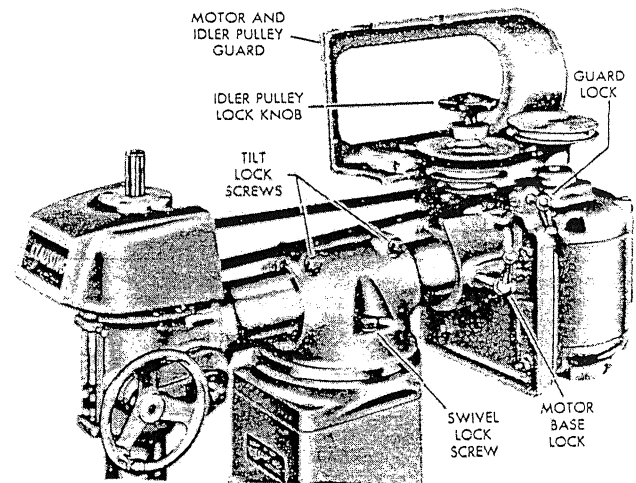
1. Slide two-step motor pulley on motor shaft with small step toward motor. Do not tighten pulley lock screw.



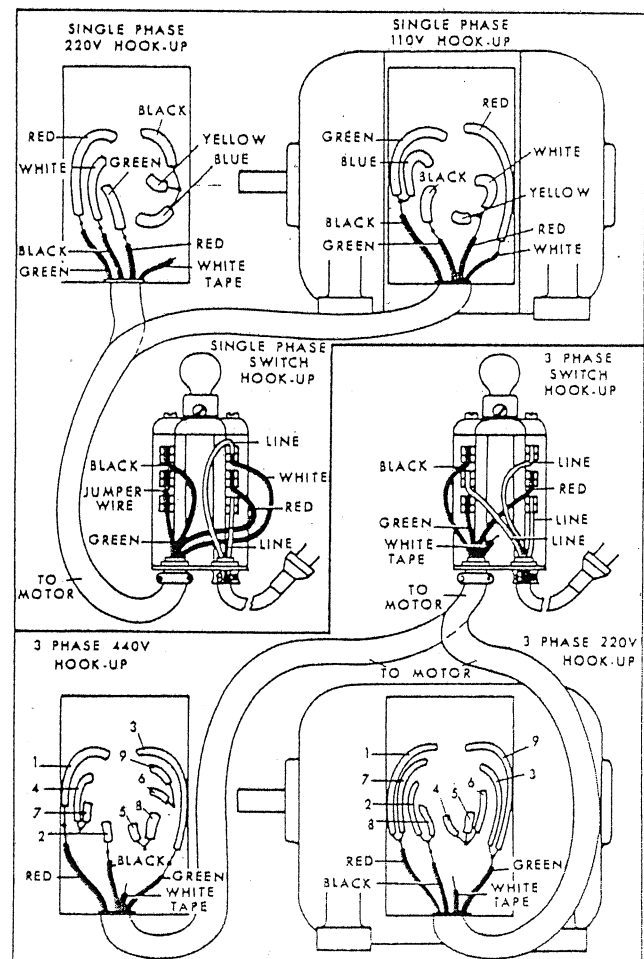
2. Fasten motor to motor base with bolts and rubber bushings furnished. To eliminate transfer of vibration from motor to milling machine be sure to use bushings as shown in Figure at right. Do not tighten bolts securely as it may be necessary to shift the motor for proper belt alignment. Ground motor to eliminate static electricity.
3. Loosen idler pulley lock knob. Place spindle belt in the bottom steps of the spindle and idler pulleys.
4. Place motor belt over the idler pulley and motor pulley and adjust motor pulley on motor, or position the motor, until pulleys are in line and belt is straight, then tighten motor pulley set screw and motor mounting bolts.
5. Loosen idler pulley lock knob and slide pulley forward to tension the motor belt — belt should be just tight enough to prevent slipping. Tighten idler pulley lock.
6. Adjust tension on spindle belt by loosening motor base lock knob on side of motor base and slide motor base back until belt is tight — belt should be just tight enough to prevent slipping. Tighten lock knob.

## WIRING SWITCH AND MOTOR

Mount switch to left side of column with screws furnished — see illustration on page 1. Switch can be used with either single or 3-phase current — see wiring instructions in motor wiring diagram Figure 2. For other make motors follow diagram supplied with motor. Wire so that when switch lever is moved to the forward position, spindle will turn clockwise for right hand cutters — when moved to the reverse position, spindle will rotate counterclockwise for left hand cutters.



1. Idler pulley, turret and motor base controls.



2. Motor wiring diagram for single or 3-phase hook-up.

# CONTROLS

(See Figure 3)

**1. TABLE ELEVATING SCREW** — The elevating screw raises and lowers table — use crank furnished. Make sure the two knee locks on left side of knee (See Figure 4) are loose before positioning table.

**2. TABLE TRANSVERSE HANDLE** — controls the forward and backward movement of the table. Always release the gib lock located on right side of cross slide before positioning table.

**3. TABLE FEED HANDLES** — on each end of the table control the longitudinal movement of the table. Always loosen lock on front of cross slide before moving table. (See Figure 3).

**4. MICROMETER DIALS** — all are graduated in .001". The small knurled knob in front of the dials lock dials at the zero reading. Always remove backlash before setting dial.

**5. ADJUSTABLE TABLE STOPS** — two table feed stops — one on each end of table, stop the table at any desired position. Stop block is on front of cross slide.

**6. MILLER HEAD CONTROLS** — (See Figures 6, 7 and 8)

— **SPINDLE LOCK** — located on left side of head locks the spindle quill in position — use wrench furnished.

— **HEAD CASTING** — is split and has two screws that have been set to provide an accurate fit between head and quill. This setting should not be disturbed unless play develops between quill and head. To eliminate play, adjust the two screws on each side of lock bolt until all play has been removed. Move quill up and down in head to make sure it slides freely with no play — **do not have adjustment too tight.**

— **DEPTH STOP** — used to stop cutters, boring tools, or drills at any desired depth. To set, loosen the knurled depth gauge lock knob, turn micrometer adjusting dial until the indicator on lower part of screw is at desired reading. Micrometer dial is graduated in .001" for accurate settings. Tighten lock knob after desired setting has been obtained.

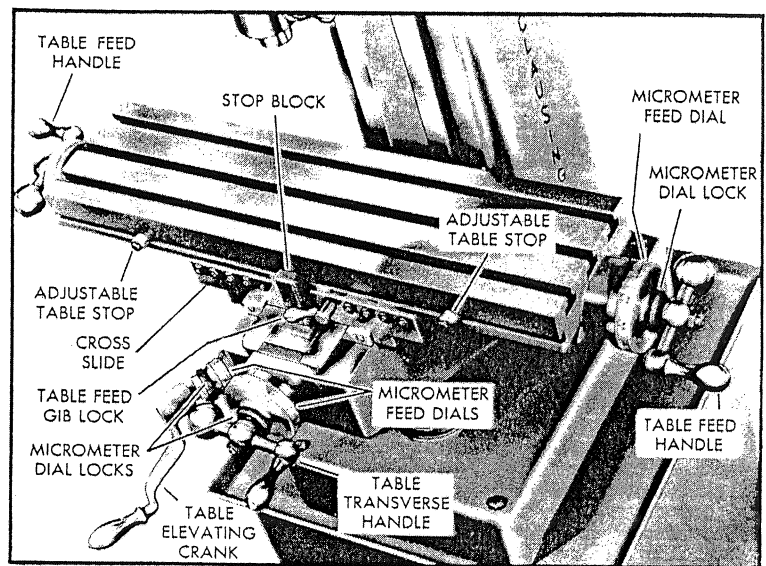
— **FAST FEED AND RETURN LEVER** — used for fast feeding and quick positioning of quill. Mounts on the rear pinion shaft. To operate, loosen quill lock and push in feed pinion shaft so pinion gear meshes with quill — see Figure 6.

— **SENSITIVE FEED HANDWHEEL** — use for extra fine feeding in boring and drilling operations. Hand-wheel mounts on front feed shaft. To operate, loosen quill lock and pull out the fast feed lever shaft, disengaging pinion gear from quill — see Figure 7.

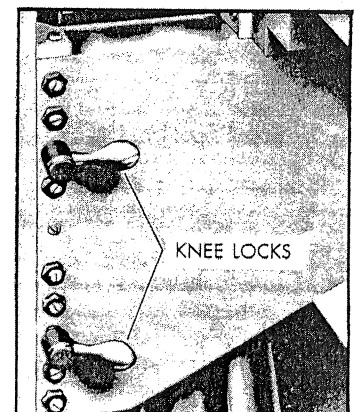
— **SPINDLE BRAKE LEVER** — holds spindle for convenient changing of tools and to quickly stop the spindle. To operate, shift lever either forward or backward.

**7. TURRET SWIVEL LOCKS** — loosen the two swivel lock bolts on each side of the turret to swing miller head to any position right or left of the column — see Figure 8. Tighten bolts after correct setting is obtained.

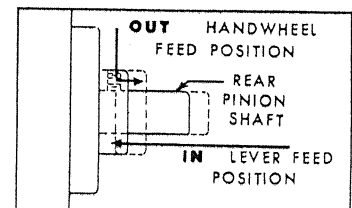
**8. HEAD TILT LOCKS** — loosen the two lock bolts on top of turret to tilt head, or to slide head forward or backward — see Figure 8. Head tilts 90° right or left — graduations shown on turret tilt gauge.



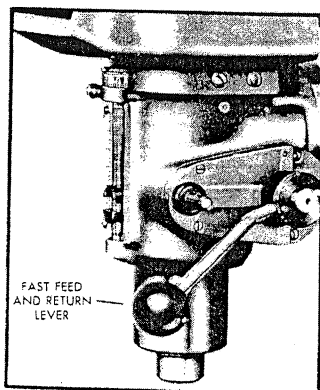
3. Miller table controls.



4. Loosen the two knee locks before raising or lowering table.

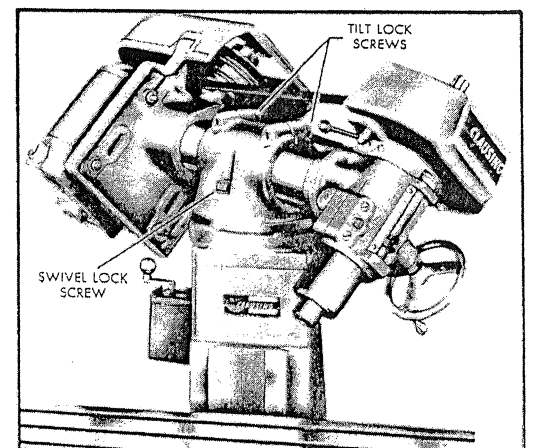
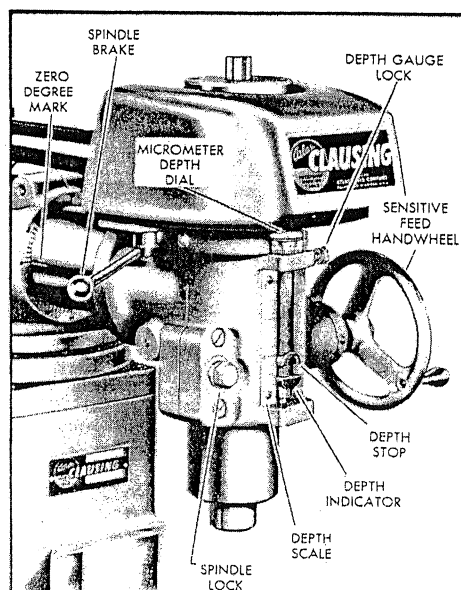


5. Push in pinion shaft when using fast feed lever — pull out for sensitive feed hand-wheel.



6. Fast feed and return lever.

7. Miller head controls.



8. Head tilted for angular work.

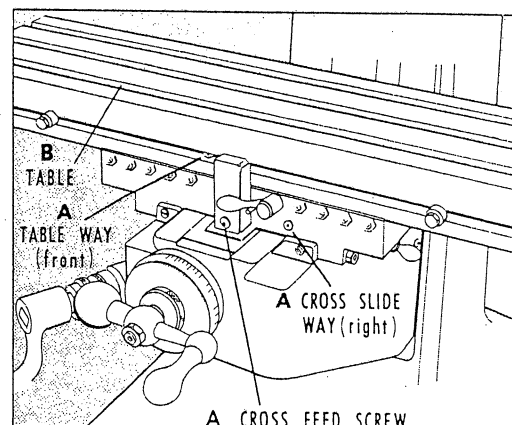
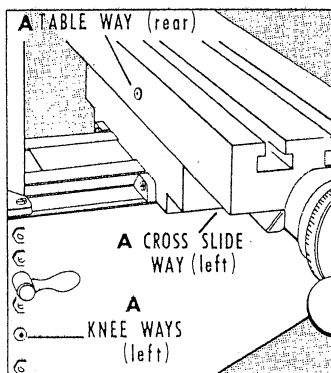
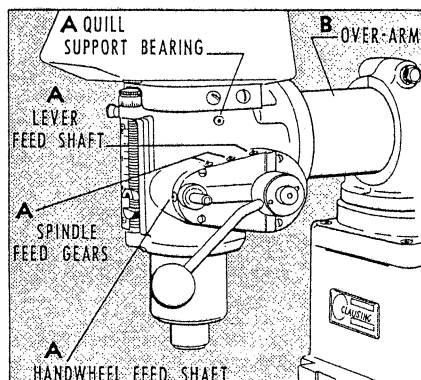
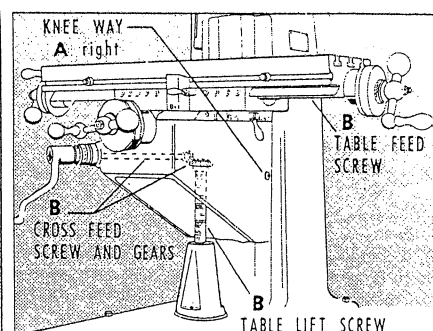
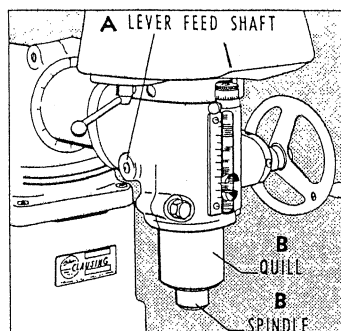
## LUBRICATION

### LUBRICATE MILLER BEFORE OPERATING

SPINDLE-QUILL BEARINGS, IDLER PULLEY BEARING AND TABLE FEED SCREW BEARINGS — are shielded ball bearings and do not require further lubrication.

CODE:

- A**— OIL DAILY with S.A.E. No. 20 oil.  
**B**— KEEP CLEAN and well oiled with S.A.E. No. 20 oil at all times.



### KEEP THE MILLING MACHINE CLEAN

Oil, dirt and chips can easily damage carefully fitted bearing surfaces and feed screws. Wipe the table, table ways, knee ways, overarm, spindle and quill with a clean oily rag at frequent intervals. Use a brush to clean the feed screws.

### SPINDLE SPEEDS

Spindle speeds in R.P.M. are listed on chart attached to right side of column. Chart indicates the positions of the motor and spindle belts to obtain the speeds listed. To change spindle speeds, loosen the motor base lock knob, slide motor base forward to release spindle belt tension, then shift spindle belt to step desired. Loosen idler pulley knob and slide idler pulley back to release belt tension and shift motor belt to step desired. Reset idler pulley to tighten motor belt — lock in place with idler pulley lock knob. Slide motor base back to tighten the spindle belt — lock in place with motor base lock handle.

### MOUNTING CUTTERS

Split holding collets with  $\frac{3}{8}$ "-16 threads to fit the draw bar are recommended for holding end mills and drills in the spindle.

To mount holding collets or adapters with  $\frac{3}{8}$ "-16 threads in the spindle, first insert the collet, then with draw bar wrench, turn draw bar into the collet. Insert cutter in collet and continue turning draw bar until cutter is held securely.

To remove cutter, simply turn draw bar counterclockwise.

To remove collet, continue turning draw bar until it releases the collet.

Drills, cutters, and cutter adapters with tangs are not recommended — they may slip in spindle taper and damage the taper.

To remove draw bar, take out set screws in collar at top of draw bar and remove collar. Pull out draw bar from top of spindle. When replacing collar, make sure lock screws seat in the spindle splines.

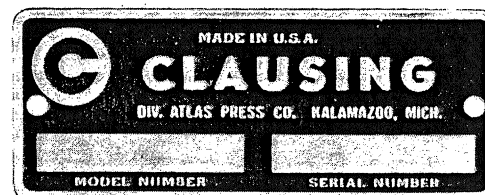
## ORDERING INFORMATION

IMPORTANT: The following information must be furnished on all repair part orders —

- 1 — Quantity Required
- 2 — PART NUMBER and NAME of Part
- 3 — Model and Serial Number

- Parts shown without part number are standard parts and should be purchased locally.

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Be sure to give Model and Serial Number on this plate. Plate located on Miller Column.

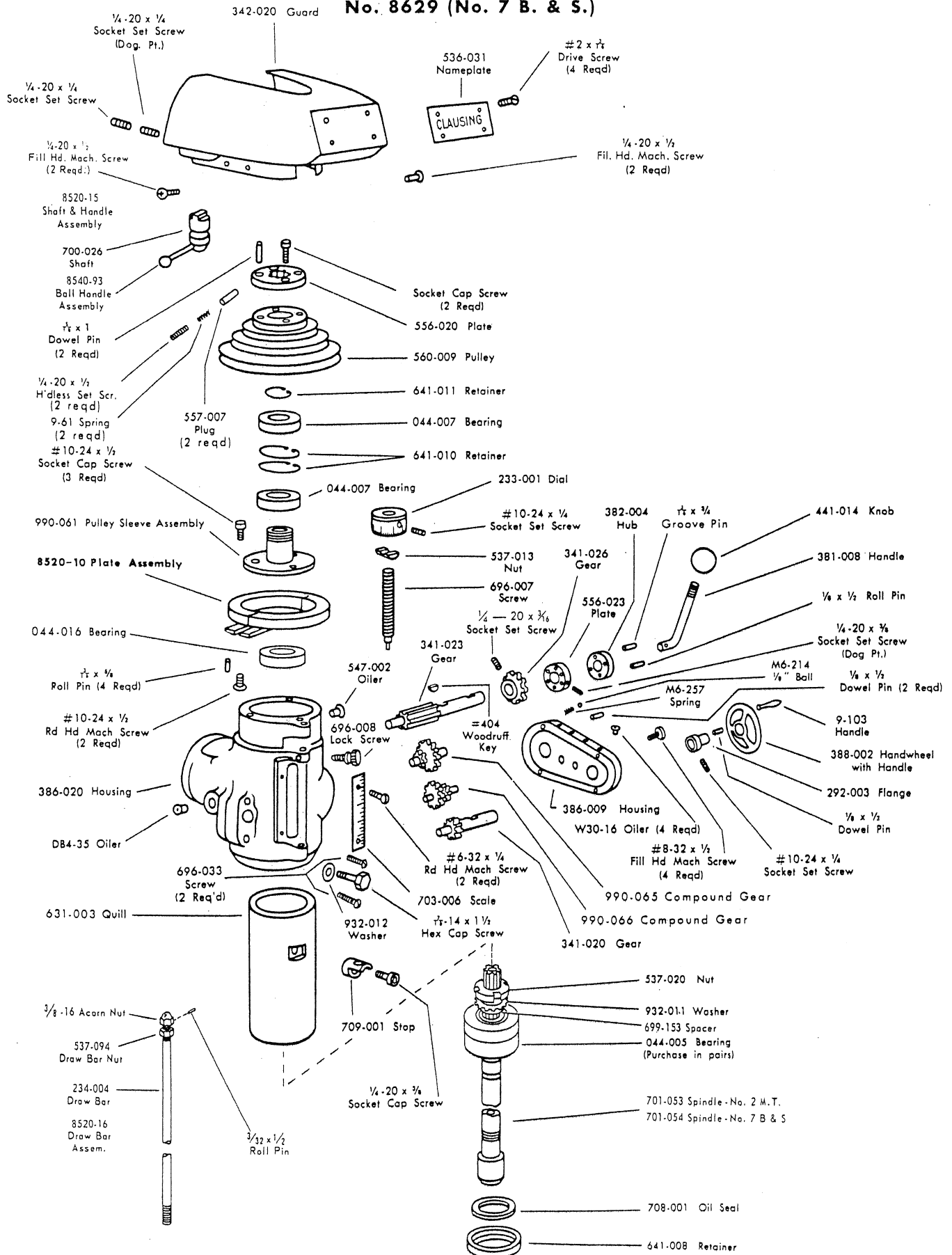
We reserve the right to make changes in design and specifications without notice.

**KALAMAZOO, MICHIGAN**

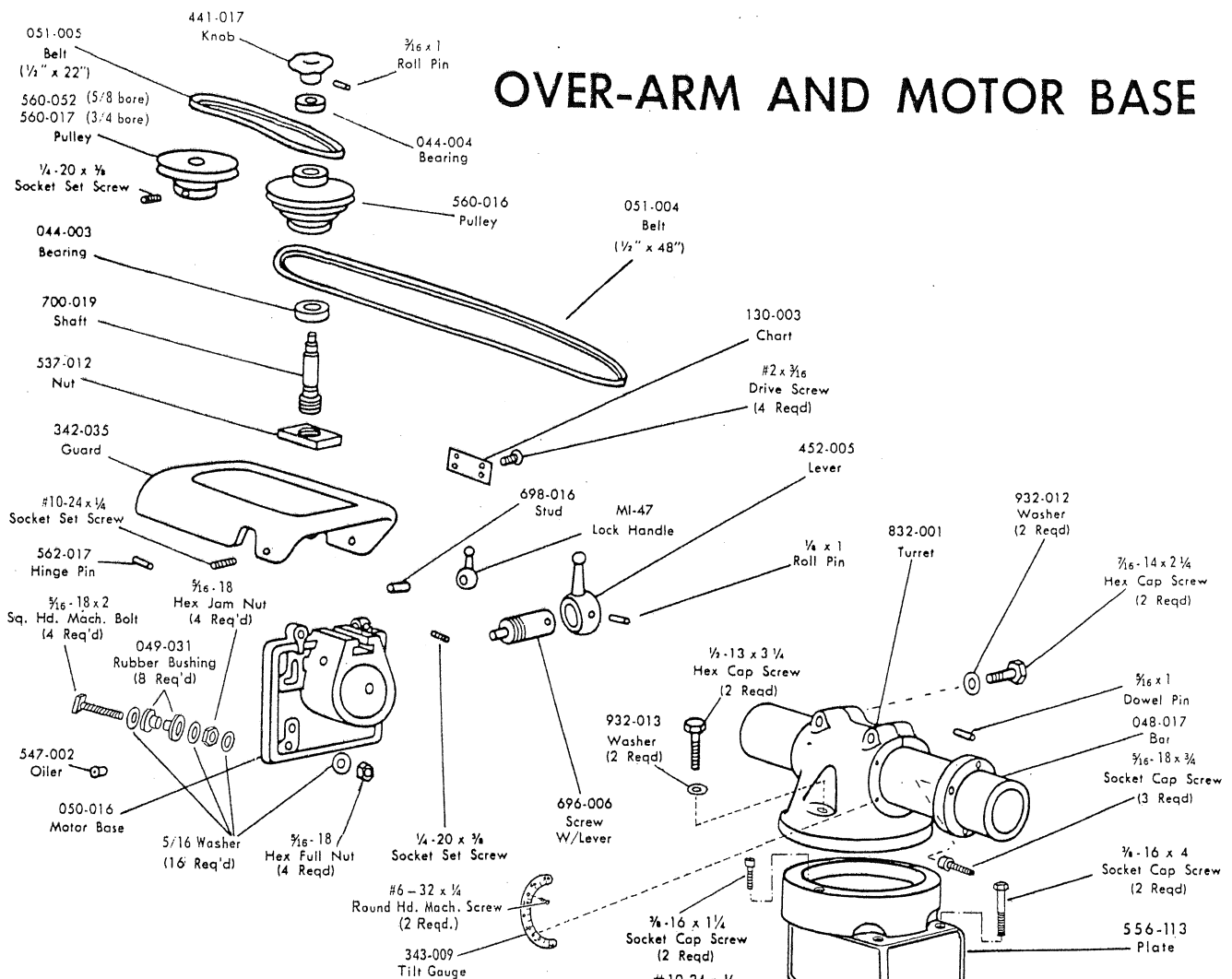
# HEAD ASSEMBLY

No. 8628 (No. 2 M.T.)

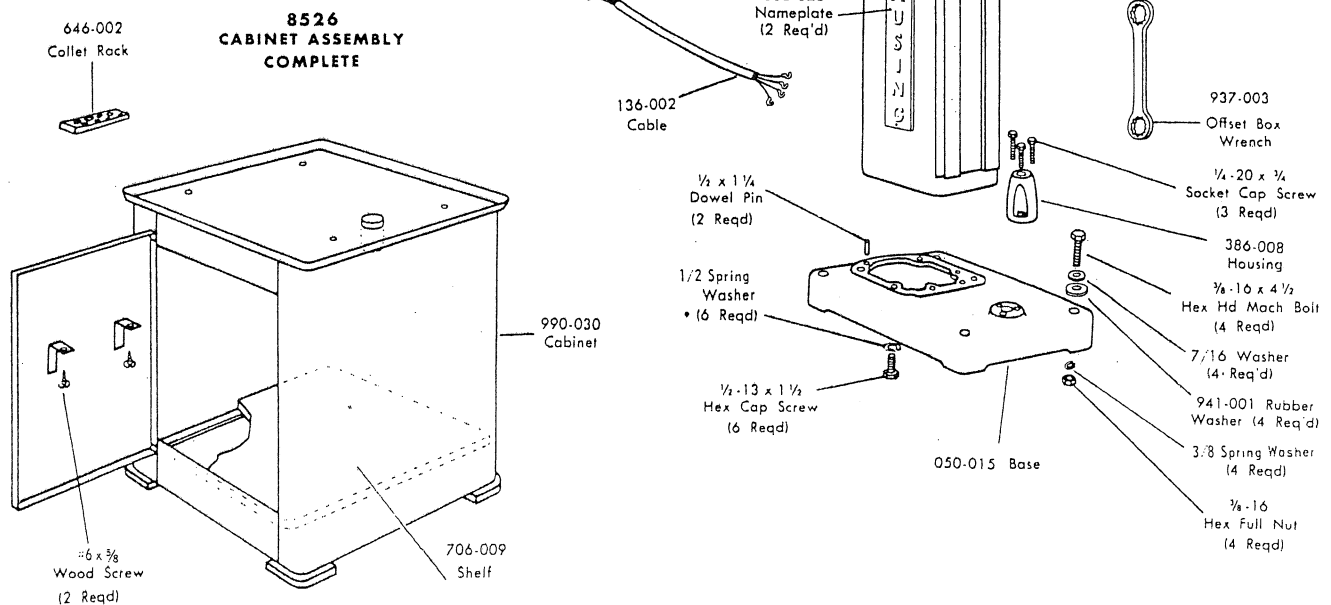
No. 8629 (No. 7 B. & S.)



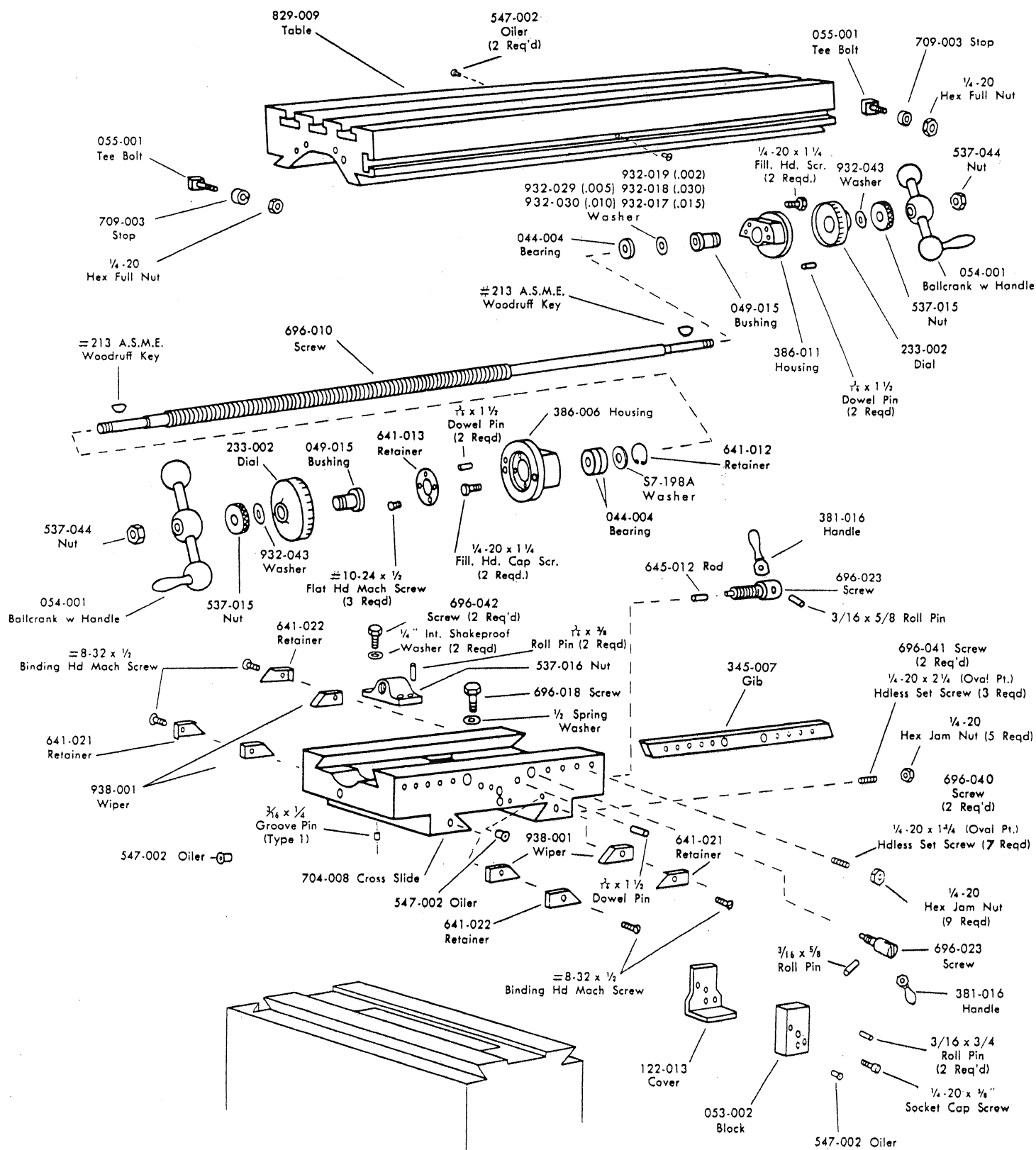
# OVER-ARM AND MOTOR BASE



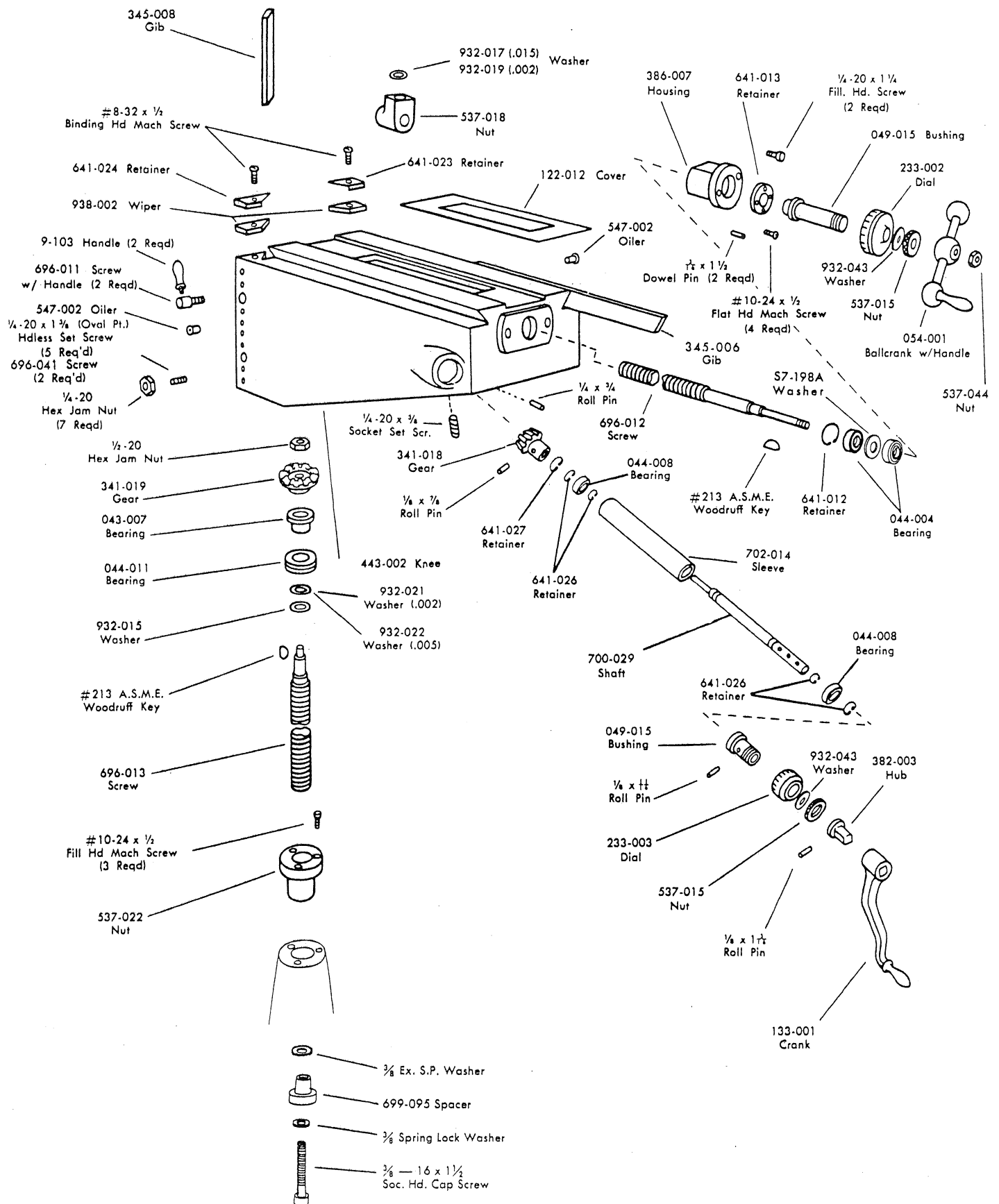
# COLUMN AND CABINET



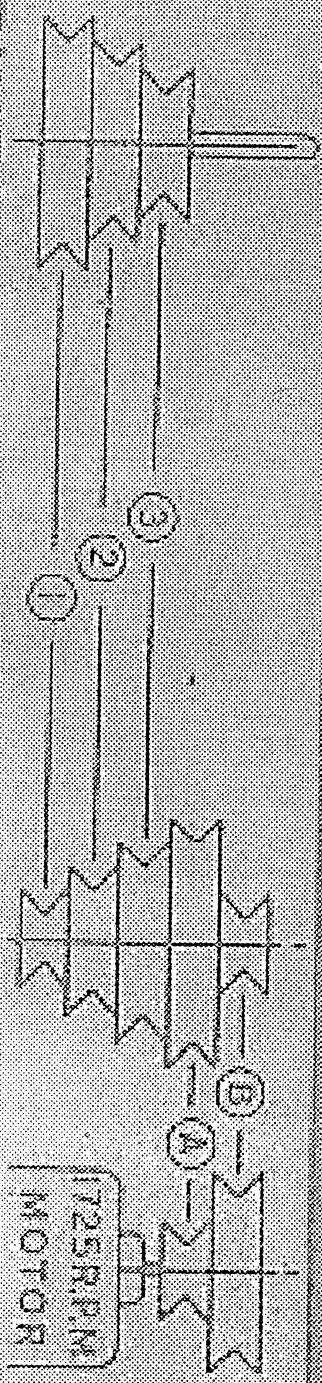
## TABLE AND CROSS SLIDE ASSEMBLY



# KNEE ASSEMBLY







# SPINDLE SPEEDS IN REV. PER MIN.

SPINDLE BELT POSITIONS

①	②	③	MOTOR BELT POSITIONS
180	350	600	A
1000	1900	3250	B