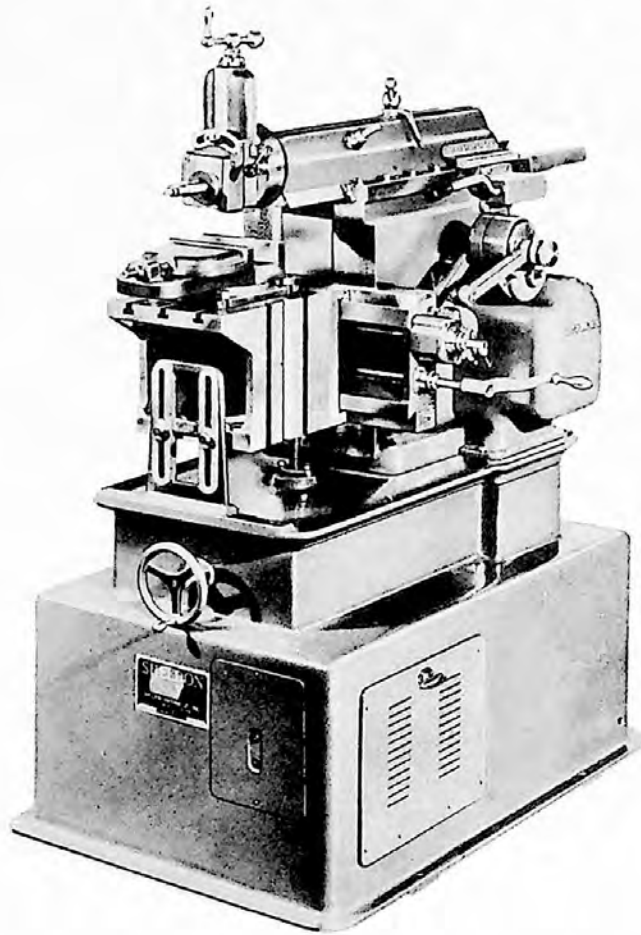


SHELDON SHAPERS

Parts List

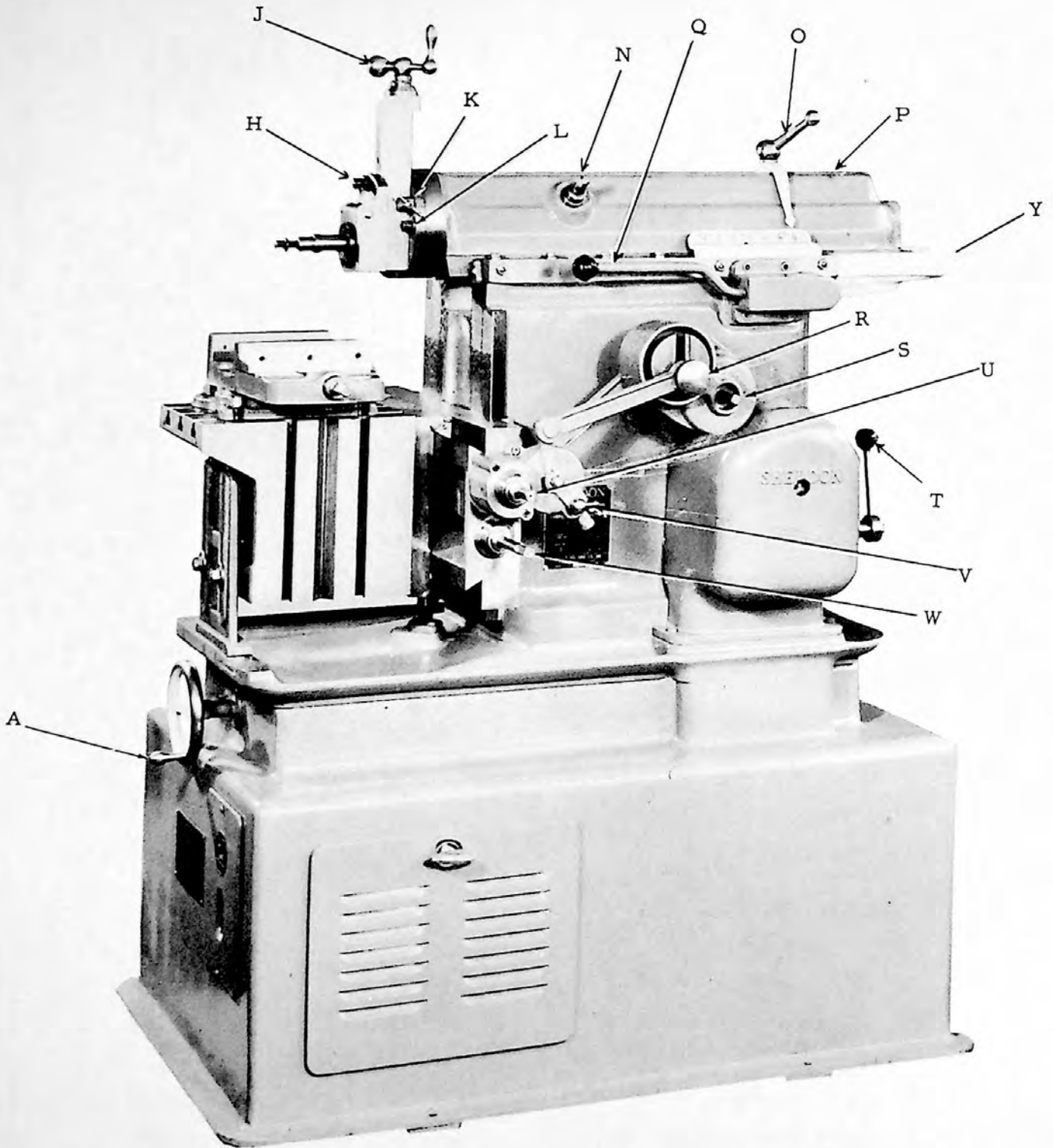


SHELDON MACHINE CO. Inc.

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



OPERATION OF THE SHELDON SHAPER

The shaper is an important machine in surfacing, grooving, and machining metals rapidly. You will find it a simple machine to operate, but you must exercise care in its operation to prevent damage to the workpieces as well as damage to the machine.

The following instructions should help you understand how the Sheldon shaper operates and how it can be adjusted to fit your piece of work.

SETTING UP

After you uncrate your shaper, make sure that it is set on a level and solid foundation. Bolt it securely to the floor and level it accurately.

Put on the Ram Guard (Y) now.

Check the motor tag to determine the correct characteristics of the motor. This tag is located on the Variable Speed Handle (A) and tells you how the motor has been wired. Power can be wired directly to the cable on the inside of the motor base.

After the motor has been wired and the machine is running, note the speed of the ram. If it moves forward more slowly than on the return stroke, the leads are wired correctly. If, however, it moves forward more quickly than on the return stroke, reverse the leads.

THE RAM

The Ram (P) requires two adjustments--one for placing the ram in correct relation to the workpiece and the other for setting the desired length of stroke.

The Ram Control Lever (N) determines the place where the ram will begin its stroke. To start the ram at any desired position, first loosen the Ram Clamp (O) then crank the ram to the desired position. Tighten the ram clamp before starting the machine.

The Stroke Adjusting Rod (S) determines the length of stroke. The length of stroke is indicated by the stroke indicator when the ram is as far back as it will move. The ram may be stopped at this point by means of the Clutch and Brake Handle (Q). To start the ram, pull the clutch and brake handle away from the machine. To stop, push it in towards the machine.

After the length of stroke is set, the ram position may be changed as explained before. The maximum stroke of the ram is 13-1/2"

TOOL HEAD

The Tool Head moves up and down as well as radially. The Ball Crank (J) moves the tool head up and down to determine the depth of cut, and the Tool Head Lock (K) locks this up-and-down movement. The tool head Swivel Nuts (L) lock the radial direction of the tool head. The Clapper Box Nut (H) locks the clapper box in desired position.

TABLE

To set the table at the proper height, loosen the Table Support Nuts and the Cross Rail Lock. The cross rail lock is located on the left side of the machine (as you face the machine) behind the cross rail. Turn the Elevating Shaft (W) clockwise to raise the table and

counterclockwise to lower it. When the table is at proper height, make sure that the table support is solid on its base, then lock the cross rail lock and the table support nuts. The table can be set longitudinally by turning the Cross Feed Screw (U) with the crank provided.

TABLE FEEDS

The Feed Adjusting Knob (R) regulates the amount of table feed and, in conjunction with the Ratchet Handle (V) controls the direction of feed. The instruction plate on the side of the machine explains the procedure for determining the direction of table feed. To set the amount of table feed, loosen the feed adjusting knob and move it to the right or left of the center to correspond to the direction of table feed which has already been determined. The following chart gives the amount of feed per stroke for the various numerical settings.

| | |
|-----------|-----------|
| 1 - .0025 | 4 - .0125 |
| 2 - .005 | 5 - .0175 |
| 3 - .0075 | |

These are the feeds which may be obtained by setting the indicator on the numbers. By setting the feed indicator knob at various points between the numbers from 0 to 5, infinite feeds can be obtained.

BACK GEAR

The back gear is for the slower and heavier cuts. The back gears should be engaged when the machine is in motion. To shift from direct open belt to back gear, pull the Backgear Lever (T) away from the machine, making sure that it is fully engaged. At slow speeds, the back gear can be engaged or disengaged without stopping the ram motion or using the clutch. At high speeds, however, slow down the machine or use the clutch lever simultaneously with operation of the backgear lever. Do not engage or disengage the back gears when the machine is operating at high speeds.

VARIABLE SPEEDS

The Variable Speed Handle (A) controls the strokes per minute of the ram. Total strokes per minute vary from 12 to 180--12 to 55 in back gear, and 55 to 180 in direct drive.

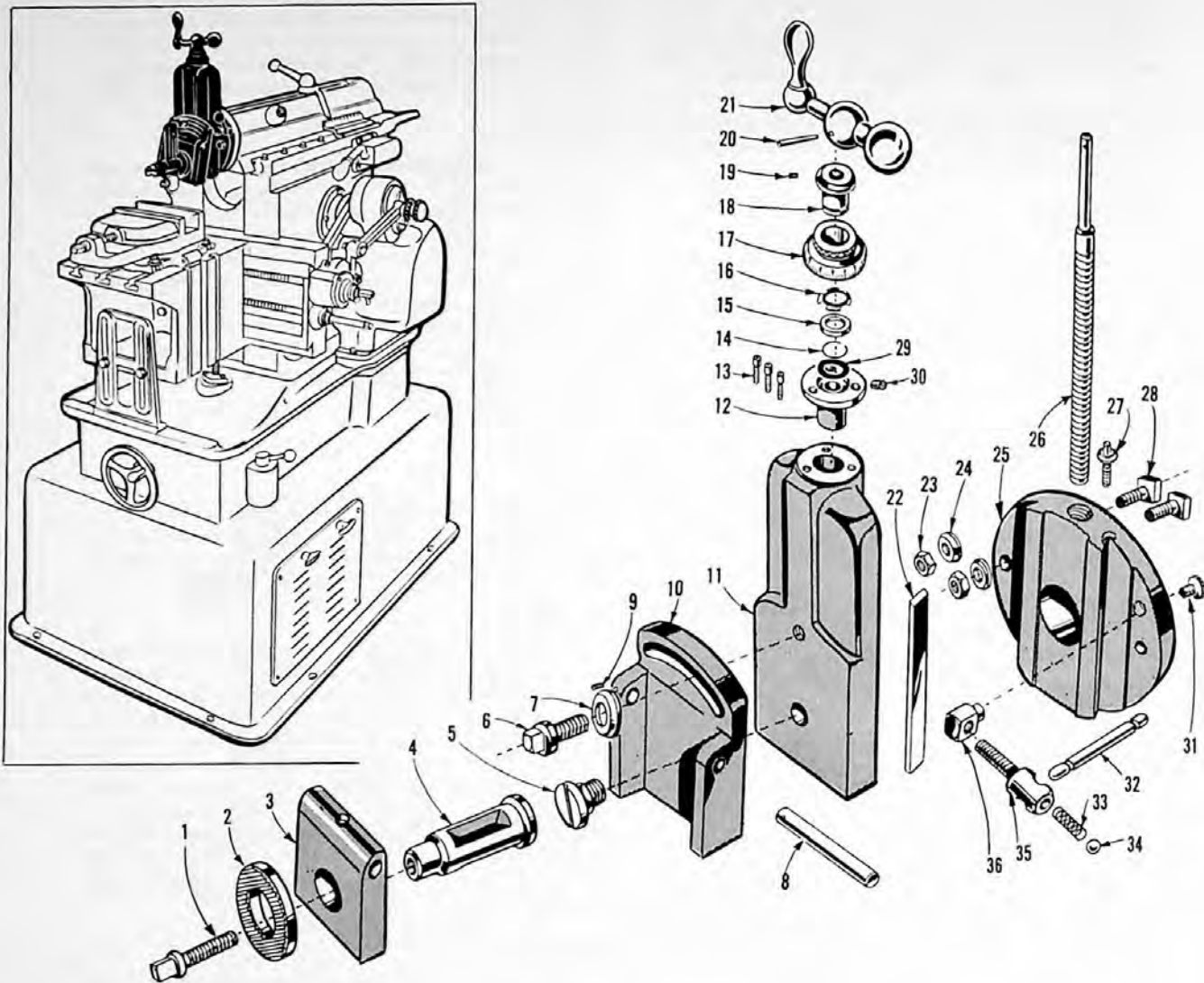
LUBRICATION

Use a neutral mineral oil, viscosity 250 to 300 sec., 100°, approximately SAE 20 on the following parts.

- Crossfeed
- Ramways
- Ram control lever
- Horizontal and vertical ways
- Crossrail
- Dovetails
- Backgear shifter fork
- Vari-drive (two cups)
- Rocker arm slide block
- Upper rocker arm bearing
- Rocker arm link block

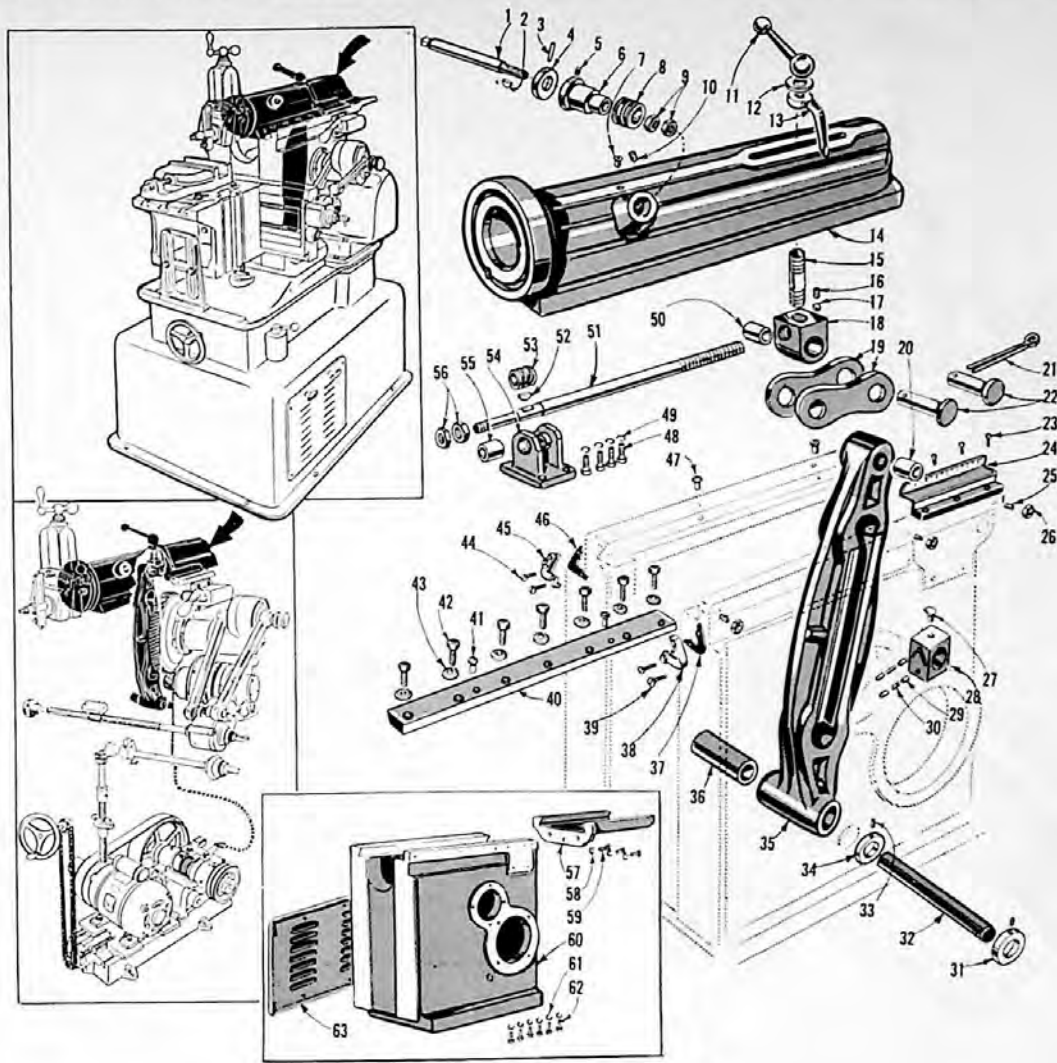
Use a premium ball and roller bearing grease with melting point around 200° with a consistency of a No. 2 on NLGI classification for the following:

- Back gear (Three pressure fittings)
- Bull gear shaft housing
- Vari-drive (Three pressure fittings)



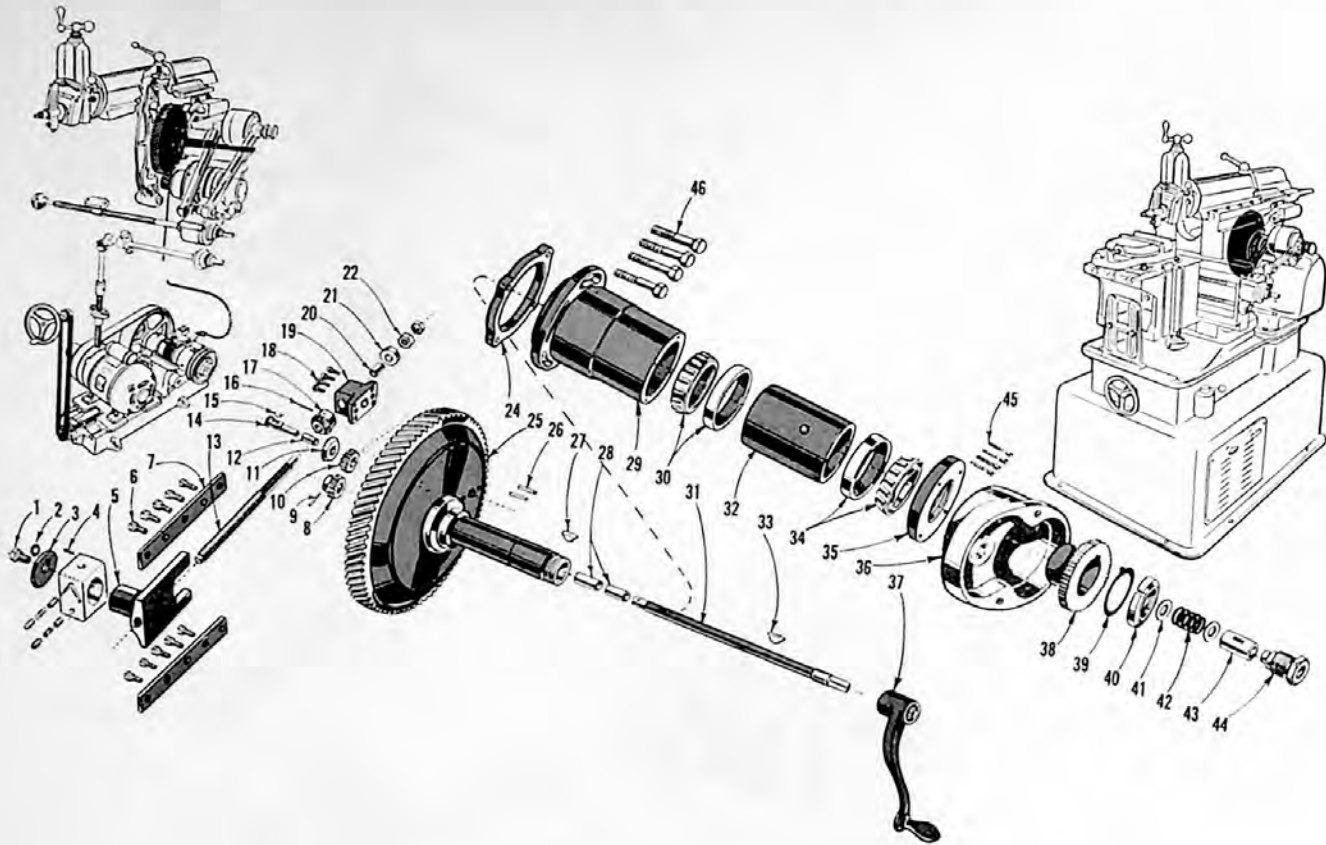
TOOL HEAD ASSEMBLY

| Ref. No. | Part No. | Description | Quan. | Ref. No. | Part No. | Description | Quan. |
|----------|----------|--------------------------|-------|----------|----------|------------------------|-------|
| 1 | 8003-28 | Tool Post Screw | 1 | 19 | A-646 | Set Screw 10-32 x 1/4" | 2 |
| 2 | 8003-18 | Tool Post Washer | 1 | 20 | A-815 | Taper Pin #0 x 1-1/2" | 1 |
| 3 | 8003-9 | Clapper | 1 | 21 | 1014 | Ball Crank | 1 |
| 4 | 8003-17 | Tool Post | 1 | 22 | 8003-7 | Tool Head Gib | 1 |
| 5 | 8003-10 | Clapper Box Swivel Screw | 1 | 23 | A-139 | Hex. Nut 3/8 -24 | 2 |
| 6 | 8003-11 | Clapper Box Lock Screw | 1 | 24 | K-93 | Washer | 2 |
| 7 | 8003-19 | Lock Screw Washer | 1 | 25 | 8003-2 | Swivel Block | 1 |
| 8 | A-835 | Taper Pin #7 x 4" | 1 | 26 | 8003-3 | Tool Head Screw | 1 |
| 9 | A-657 | Set Screw 10-32 x 1/2" | 1 | 27 | 8005-25 | Gib Screw | 1 |
| 10 | 8003-8 | Clapper Box | 1 | 28 | 8003-29 | Tool Head "T" Bolt | 2 |
| 11 | 8003-1 | Tool Head | 1 | 29 | 8003-20 | Dial Washer | 1 |
| 12 | 8003-4 | Tool Head Screw Bearing | 1 | 30 | A-1004 | Oil Hole Cover | 1 |
| 13 | A-413 | Cap Screw, 10-32 x 1/4" | 3 | 31 | 8003-24 | Binding Stud Screw | 1 |
| 14 | 1012-3 | Dial Snap Ring | 1 | 32 | 8003-26 | Binding Handle | 1 |
| 15 | 1012-2 | Dial Retainer Washer | 1 | 33 | 8003-27 | Binding Handle Spring | 1 |
| 16 | A-1112 | Dial Tension Spring | 1 | 34 | A-1401 | Steel Ball 3/16" | 1 |
| 17 | 8003-6 | Tool Head Dial | 1 | 35 | 8003-25 | Binding Screw | 1 |
| 18 | 8003-5 | Dial Sleeve | 1 | 36 | 8003-22 | Binding Stud | 1 |



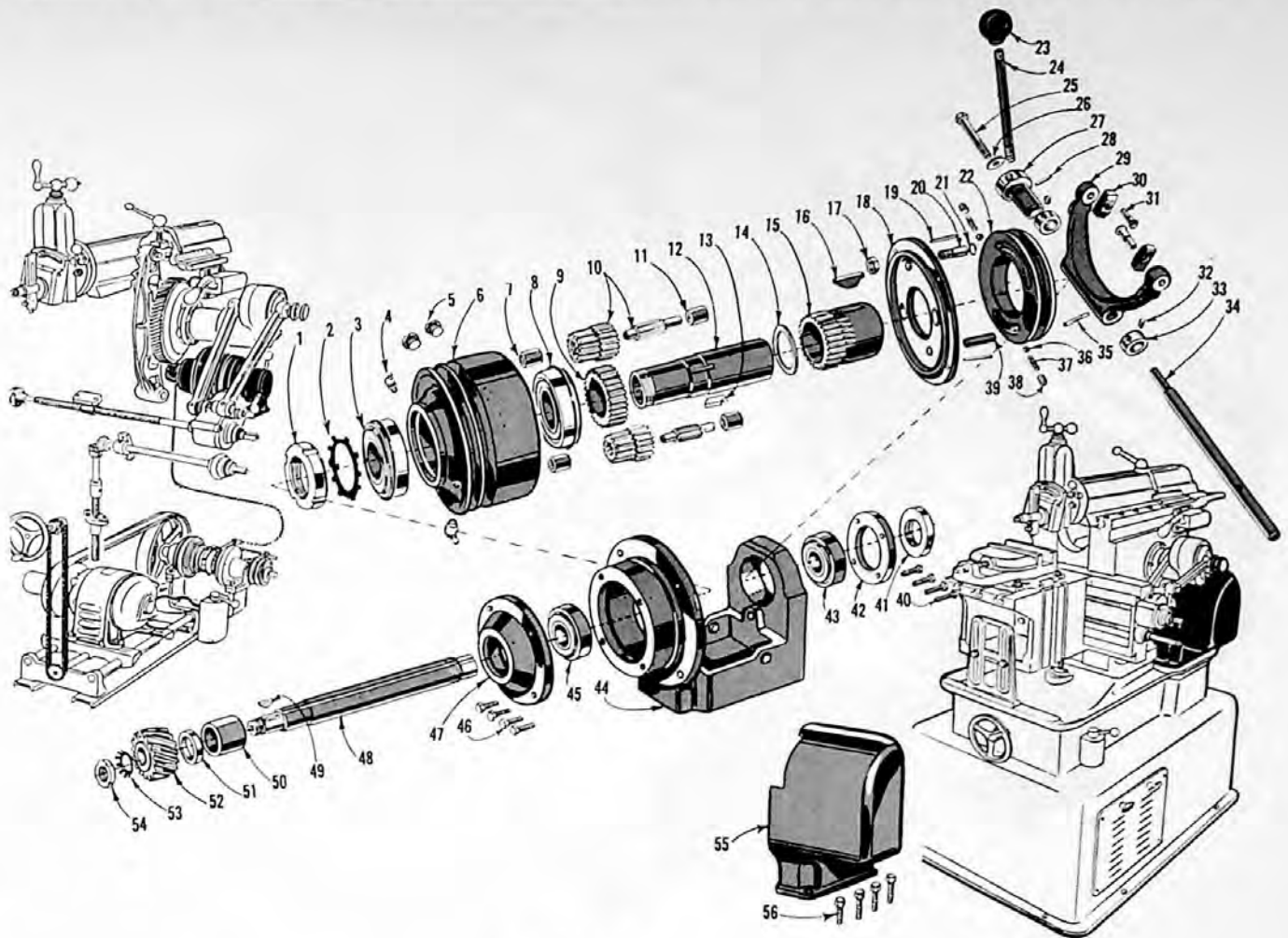
RAM AND ROCKER ARM ASSEMBLY

| Ref. No. | Part No. | Description | Quan. | Ref. No. | Part No. | Description | Quan. |
|----------|----------|---------------------------|-------|----------|----------|----------------------------|-------|
| 1 | 8001-18 | Spiral Gear Shaft | 1 | 32 | 8004-2 | Pivot Shaft | 1 |
| 2 | A-902 | Hi-Pro Key 1/2 x 1/2 | 2 | 33 | A-618 | Set Screw 3/8-16 x 3/8 | 2 |
| 3 | A-804 | Taper Pin #2 x 1-1/4 | 1 | 34 | U-139 | Stop Collar | 1 |
| 4 | 8002-23 | Shaft Collar | 1 | 35 | 8004-1 | Rocker Arm | 1 |
| 5 | A-1003 | Oil Cup | 1 | 36 | 1372 | Bearing | 1 |
| 6 | 8001-17 | Spiral Gear Shaft Bushing | 1 | 37 | 8002-8 | Ram Wiper Felt | 1 |
| 7 | A-1003 | Oil Cup | 1 | 38 | 8002-7 | Ram Wiper R. H. | 1 |
| 8 | A-2015 | Spiral Gear 10 T. | 1 | 39 | A-403 | Machine Screw | 2 |
| 9 | A-100 | Hex. Nut 3/8-16 | 2 | 40 | 8002-3X | Ram Gib | 1 |
| 10 | A-656 | Set Screw 5/16-18 x 3/8 | 1 | 41 | A-1016 | Oil Cup | 1 |
| 11 | 1017 | Ram Lock Handle | 1 | 42 | A-435 | Cap Screw | 7 |
| 12 | 8012-19 | Ratchet Spacer | 1 | 43 | 9008-5 | Ram Gib Washer | 7 |
| 13 | 8001-13 | Stroke Indicator | 1 | 44 | A-403 | Machine Screw | 2 |
| 14 | 8001-10 | Ram | 1 | 45 | 8002-5 | Ram Wiper L. H. | 1 |
| 15 | 8001-16 | Stud | 1 | 46 | 8002-8 | Ram Wiper Felt | 1 |
| 16 | A-638 | Set Screw 5/6-18 x 3/8 | 1 | 47 | A-1016 | Oil Cup | 2 |
| 17 | A-1400 | Steel Ball 1/4" | 1 | 48 | A-344 | Cap Screw 5/16-18 x 1-1/4 | 4 |
| 18 | 8001-14 | Link Block | 1 | 49 | A-226 | Lock Washer 5/16 | 4 |
| 19 | A-1938 | Roller Chain Side Plate | 2 | 50 | 8004-11 | Bearing | 1 |
| 20 | 8004-11 | Bearing | 1 | 51 | 8001-15 | Screw | 1 |
| 21 | A-704 | Cotter Pin 1/4 x 4" | 1 | 52 | A-902 | Hi-Pro Key 1/2" x 1/8" | 1 |
| 22 | 8004-4 | Rocker Arm Link Pin | 2 | 53 | A-2015 | Spiral Gear 10 T | 1 |
| 23 | A-395 | Cap Screw | 3 | 54 | 8001-11 | Screw Bearing Bracket | 1 |
| 24 | 8001-20 | Scale | 1 | 55 | 8001-12 | Screw Bushing | 1 |
| 25 | A-689 | Set Screw 1/4-20 x 1-1/4 | 3 | 56 | A-106 | Hex Nut 1/2-13 | 2 |
| 26 | A-101 | Hex Nut 1/4-20 | 3 | 57 | 8002-2 | Ram Guard | 1 |
| 27 | A-1008 | Oil Hole Cover | 1 | 58 | A226 | Lock Washer 5/16 | 3 |
| 28 | 8013-5 | Sliding Block | 1 | 59 | A-441 | Cap Screw 5/16-18 x 7/8" | 3 |
| 29 | 8013-27 | Sliding Block Felt | 4 | 60 | 8002-1X | Column | 1 |
| 30 | S-1158 | Felt Spring | 2 | 61 | A-237 | Lock Washer 1/2" | 6 |
| 31 | U-139 | Stop Collar | 1 | 62 | AA-309 | Cap Screw 1/2-13 x 1-3/4 | 6 |
| | | | | 63 | 8002-11 | Upper Door (With Hardware) | 1 |



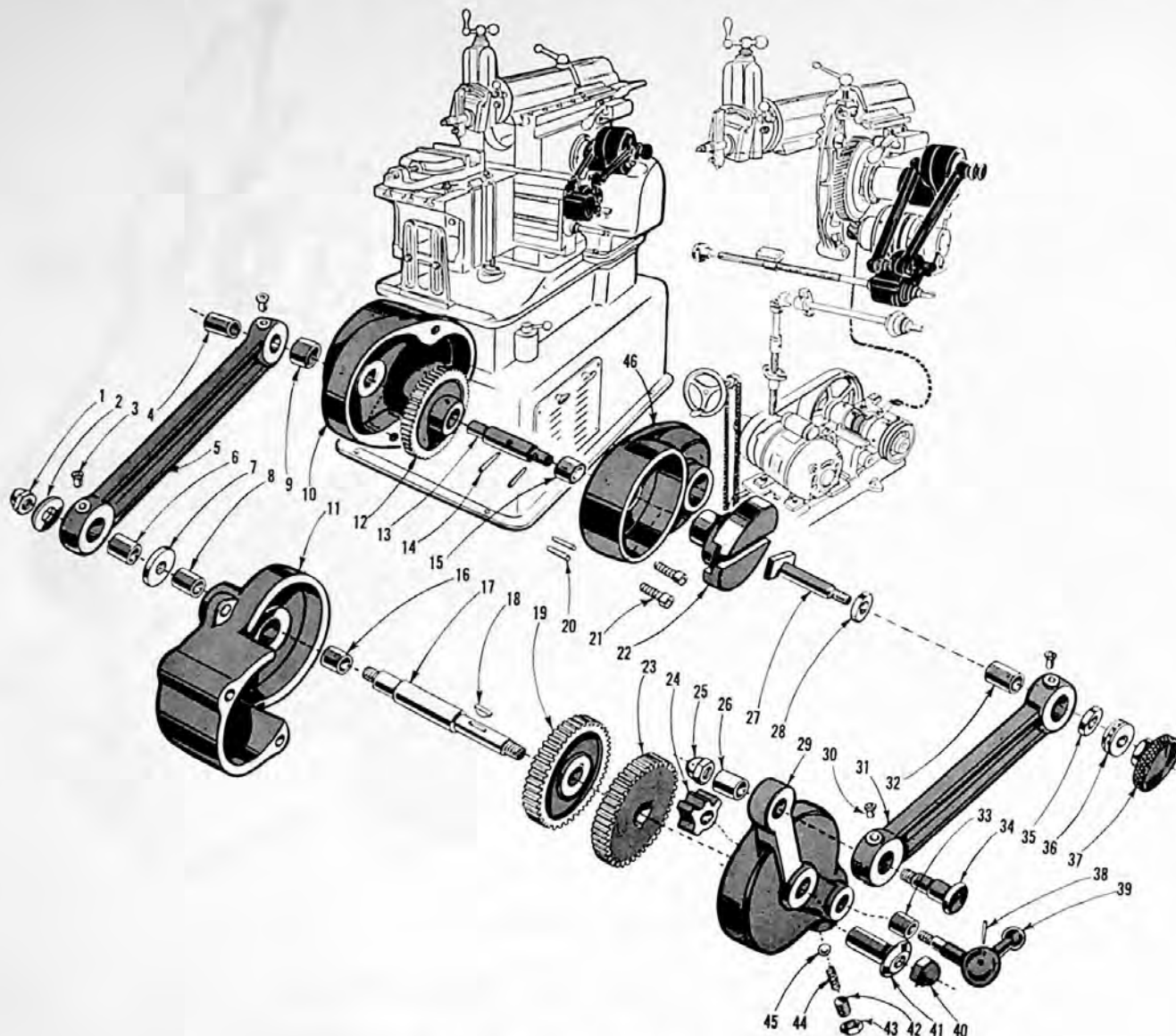
BULL GEAR ASSEMBLY

| Ref. No. | Part No. | Description | Quan. | Ref. No. | Part No. | Description | Quan. |
|----------|----------|---------------------------|-------|----------|----------|----------------------------|-------|
| 1 | A-466 | Cap Screw 3/8-16 x 5/8 | 1 | 24 | 8008-14 | Housing Ring | 1 |
| 2 | A-202 | Lockwasher 3/8 | 1 | 25 | 8013-3 | Bull Gear 73 T. | 1 |
| 3 | 8013-24 | Sliding Stud Washer | 1 | 26 | A-856 | Dowell Pin 1/4" x 1" | 2 |
| 4 | A-860 | Groove Pin 1/8 x 1/2 | 1 | 27 | A-902 | Hi-Pro Key | 1 |
| 5 | 8013-4 | Sliding Stud | 1 | 28 | A-1369 | Oilite Bearing | 2 |
| 6 | AA-302 | Cap Screw 1/4-20 x 5/8 | 10 | 29 | 8013-2 | Housing | 1 |
| 7 | 8013-23 | Sliding Stud Clamp | 2 | 30 | A-1109 | Roller Bearing | 1 |
| 8 | 8013-19 | Gear With Boss 16 T. | 1 | 31 | 8013-18 | Adjusting Rod | 1 |
| 9 | A-800 | Taper Pin 0 x 3/4" | 1 | 32 | 8013-25 | Spacer | 1 |
| 10 | 8013-21 | Gear 16 T. | 1 | 33 | A-902 | Hi-Pro Key | 1 |
| 11 | 8013-20 | Bevel Gear (Short) | 1 | 34 | A-1109 | Roller Bearing | 1 |
| 12 | A-1368 | Oilite Bearing | 1 | 35 | 8013-1 | Bearing Cap | 1 |
| 13 | 8013-11 | Screw | 1 | 36 | 8012-2 | Rear Housing | 1 |
| 14 | 8013-22 | Gear Stud | 1 | 37 | 8005-24 | Crank | 1 |
| 15 | A-902 | Hi-Pro Key 1/2" x 1/8" | 1 | 38 | 8012-5 | Feed Gear 56 T. (Driver) | 1 |
| 16 | A-813 | Taper Pin | 1 | 39 | A-1149 | Washer | 1 |
| 17 | 8013-13 | Bevel Gear (Long) 20 T. | 1 | 40 | A-1148 | Locknut | 1 |
| 18 | AA-319 | Cap Screw 1/4-20 x 1-3/4 | 4 | 41 | 8013-17 | Washer | 2 |
| 19 | 8013-16 | Screw Bearing | 1 | 42 | 8013-16 | Tension Spring | 1 |
| 20 | A-1323 | Oilite Bearing | 1 | 43 | 8013-15 | Tension Bushing | 1 |
| 21 | 8013-12 | Screw Washer | 1 | 44 | 8013-14 | Tension Nut | 1 |
| 22 | A-137 | Hex. Nut 8/16-20 | 2 | 45 | A-396 | Cap Screw 1/4-20-5/8 " | 4 |
| | | | | 46 | A-371 | Cap Screw 3/8-16-2-1/2" | 4 |



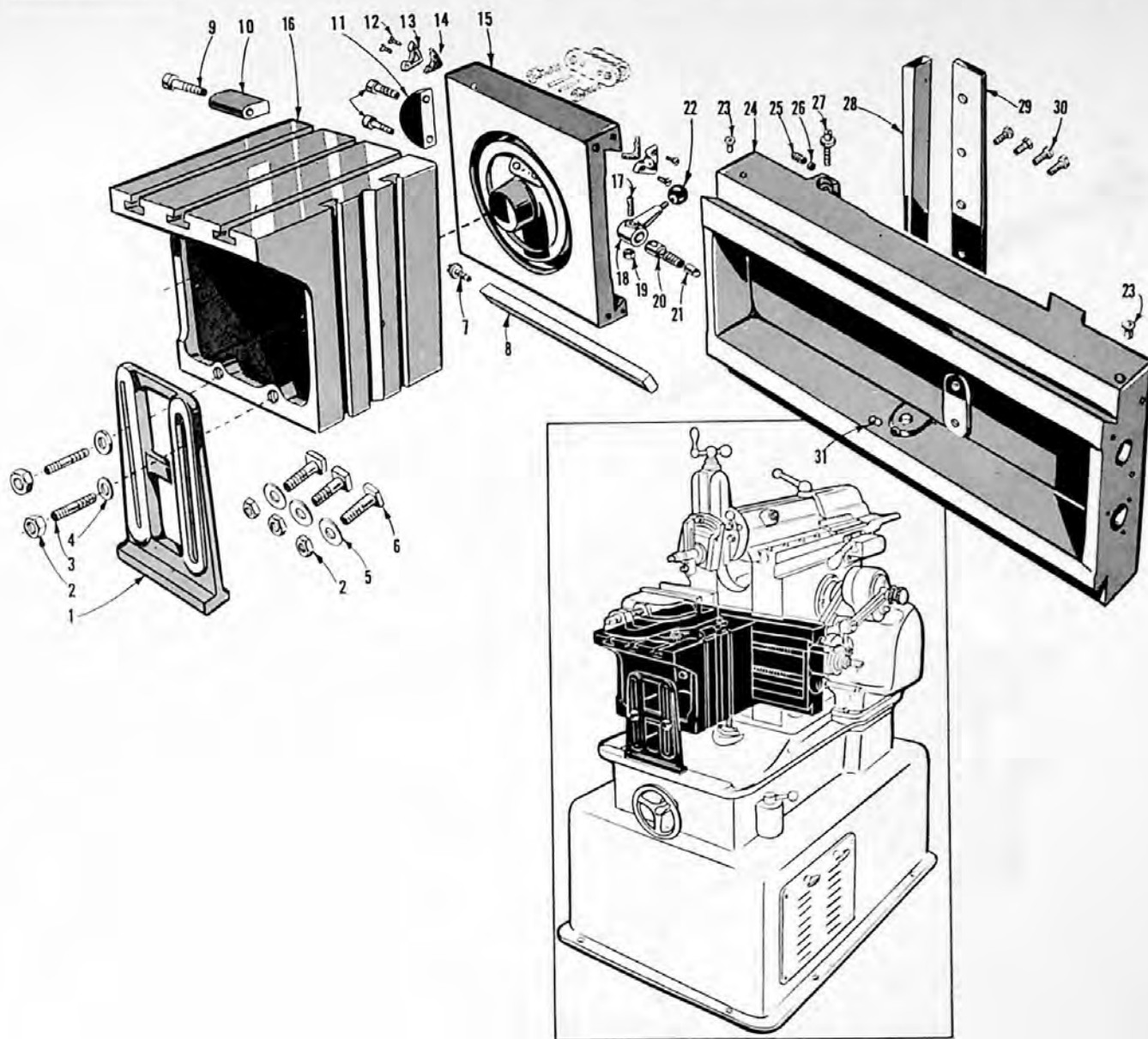
BACK GEAR ASSEMBLY

| Ref. No. | Part No. | Description | Quan. | Ref. No. | Part No. | Description | Quan. |
|----------|------------|---|-------|----------|----------|-----------------------------|-------|
| 1 | A-1173 | N-08 Lock Nut | 1 | 29 | 9040-1 | Shifter Fork | 1 |
| 2 | A-1172 | W-08 Lock Washer | 1 | 30 | C-237 | Shifting Shoe | 2 |
| 3 | A-1170 | New Departure Bearing | 1 | 31 | C-238 | Shifter Shoe Stud | 2 |
| 5 | 9040-10 | Grease Plug | 2 | 32 | A-601 | Set Screw (Cup Point) | 2 |
| 6 | 9040-A | V-Belt Pulley | 1 | 33 | U-140 | Clutch Handle Shaft Collar | 2 |
| 7 | A-1174 | Needle Bearing # GB 912 | 2 | 34 | 8011-14 | Shifter Fork Pivot | 1 |
| 8 | A-1170 | New Departure Bearing | 1 | 35 | A-802 | Taper Pin # 3 x 1-1/4" | 1 |
| 9 | CL-226 | Spindle Drive Gear 30 T. | 1 | 36 | A-1400 | Steel Ball 1/4" Dia. | 2 |
| 10 | AS8011-62A | Pinion Assembly 14 T. and 16T. Consisting: | | 37 | K-159 | Spring | 2 |
| | | 8011-60X Pinion 16 T. | | 38 | A-613 | Set Screw (Cup Point) | 2 |
| | | 8011-61X Pinion 14 T. | | 39 | 8011-30 | Balance Pin | 1 |
| | | 8011-62A Splined Shaft | | 40 | A-319 | Hex Head Screw 1/4-20 x 1" | 4 |
| 11 | A-1174 | Needle Bearing # GB 912 | 1 | 41 | 9040-20 | Collar | 1 |
| 12 | 8011-56 | Threaded Bushing For Clutch | 1 | 42 | 8011-53 | Clam Plate | 1 |
| 13 | A-921 | H. P. 608 Hi-Pro Key 3/4 x 1/4 | 1 | 43 | A-1171 | New Departure Bearing | 1 |
| 14 | A-1378 | Thrust Washer | 1 | 44 | 8011-51 | Back Gear Support | 1 |
| 15 | 8011-59X | Stop Collar Gear 28 T. | 1 | 45 | A-1171 | New Departure Bearing | 1 |
| 16 | A-915 | H. P. 808 Hi-Pro Key 1" x 1/4 | 1 | 46 | A-319 | Hex. Head Screw 1/4-20 x 1" | 4 |
| 17 | A-137 | Hex. Nut 7/16-20 | 1 | 47 | 8011-52 | Housing Cap | 1 |
| 18 | C-206-X | Pulley End Plate | 1 | 48 | 8011-55 | Pinion Shaft | 1 |
| 19 | A-880 | Dowel Pin 3/16 Dia. x 3/4" | 2 | 49 | A-920 | Hi-Pro Key 7/8 x 1/4" | 1 |
| 20 | 8011-31 | Stop Pin | 1 | 50 | 8011-57 | Bushing for Pinion Shaft | 1 |
| 21 | A-1202 | Snap Ring | 1 | 51 | 8011-58 | Spacer for Pinion Shaft | 1 |
| 22 | C-236-X | Shifter Collar | 1 | 52 | 8011-10 | Bull Gear Pinion | 1 |
| 23 | U-128 | Clutch Lever Knob | 1 | 53 | A-1153 | W-04 Lockwasher | 1 |
| 24 | 9040-9 | Shifter Fork Handle | 1 | 54 | A-1152 | N-04 Lock Nut | 1 |
| 25 | A-470 | Cap Screw 3/8-16 x 3 | 1 | 55 | 8011-6 | Back Gear Guard | 1 |
| 26 | K-93 | Washer | 1 | 56 | A-441 | Cap Screw | 4 |
| 27 | 8011-15 | Shifter Lever Hub | 1 | | | | |
| 28 | A-803 | Taper Pin # 3 x 1" | 1 | | | | |



FEED HOUSING ASSEMBLY

| Ref. No. | Part No. | Description | Quan. | Ref. No. | Part No. | Description | Quan. |
|----------|----------|-----------------------|-------|----------|----------|------------------------|-------|
| 1 | A-135 | Acorn Nut 3/8-16 | 1 | 24 | 8012-15 | Pawl | 1 |
| 2 | K-93 | Washer | 1 | 25 | A-135 | Acorn Nut 3/8-16 | 1 |
| 3 | A-1003 | Oil Hole Cover | 2 | 26 | A-1360 | Oilite Bearing | 1 |
| 4 | A-1360 | Oilite Bearing | 1 | 27 | 8012-37 | T-Bolt | 1 |
| 5 | 8012-4 | Guide Arm | 1 | 28 | 8012-39 | Washer | 1 |
| 6 | A-1306 | Bronze Bearing | 1 | 29 | 8012-7X | Ratchet Housing Cover | 1 |
| 7 | 8012-19 | Ratchet Spacer | 1 | 30 | A-1003 | Oil Hole Cover | 1 |
| 8 | A-1366 | Oilite Bearing | 1 | 31 | 8012-3X | Indexing Arm | 1 |
| 9 | A-1362 | Bushing | 1 | 32 | A-1361 | Oilite Bearing | 1 |
| 10 | 8012-2 | Rear Housing | 1 | 33 | A-1371 | Oilite Bearing | 1 |
| 11 | 8012-8 | Ratchet Housing | 1 | 34 | 8012-18 | Indexing Stud | 1 |
| 12 | 8012-6 | Feed Gear 56 Ft. | 1 | 35 | 8012-19 | Spacer | 1 |
| 13 | 8012-25X | Eccentric Shaft | 1 | 36 | A-1108 | Thrust Bearing | 1 |
| 14 | A-821 | Taper Pin # 1 x 1-1/4 | 2 | 37 | 8012-38 | Locknut | 1 |
| 15 | A-1362 | Bushing | 1 | 38 | A-813 | Taper Pin # 0 x 1 | 1 |
| 16 | A-1366 | Oilite Bearing | 1 | 39 | 8012-30 | Index Pawl Handle | 1 |
| 17 | 8012-17 | Ratchet Shaft | 1 | 40 | A-135 | Acorn Nut 3/8-16 | 1 |
| 18 | A-902 | Hi-Pro Key | 1 | 41 | 8012-40 | Guide Arm Bushing | 1 |
| 19 | 8012-28X | Feed Gear 45 Ft. | 1 | 42 | A-607 | Set Screw 3/8-16 x 5/8 | 1 |
| 20 | A-809 | Taper Pin # 2 x 1 | 2 | 43 | A-107 | Hex Nut 3/8-16 | 1 |
| 21 | AA-303 | Cap Screw | 2 | 44 | K-159 | Shifting Spool Spring | 1 |
| 22 | 8012-36 | Eccentric | 1 | 45 | A-1405 | Steel Ball 5/16 | 1 |
| 23 | 8012-16 | Ratchet Wheel | 1 | 46 | 8012-1 | Housing | 1 |



SWIVEL TABLE AND CROSS RAIL ASSEMBLY

| Ref. No. | Part No. | Description | Quantity | Ref. No. | Part No. | Description | Quantity |
|----------|----------|----------------------------|----------|----------|----------|---------------------------|----------|
| 1 | 8006-8 | Table Support | 1 | 17 | 1008-2 | Pin | 1 |
| 2 | A-116 | Hex. Nut, 1/2"-20 | 4 | 18 | 1008-1 | Lock Handle | 1 |
| 3 | 8006-12 | Table Support Stud | 2 | 19 | A-118 | Hex. Nut, 1/4"-28 | 1 |
| 4 | 8002-13 | Table Support Washer | 2 | 20 | 1038 | Gib Lock Screw | 1 |
| 5 | A-213 | Washer, 1/2" | 3 | 21 | 8005-21 | Dutchman | 1 |
| 6 | 8002-12 | Saddle "T" Bolt | 3 | 22 | M-721 | Handle Ball | 1 |
| 7 | 8005-25 | Gib Screw | 2 | 23 | A-1019 | Oil Hole Cover | 3 |
| 8 | 8006-3 | Tapered Gib | 2 | 24 | 8005-1X | Cross Rail | 1 |
| 9 | A-416 | Cap Screw, 8-32 x 1" | 2 | 25 | A-606 | Set Screw, 5/16-18 x 1/2 | 2 |
| 10 | 8006-10 | Protractor Zero Block | 1 | 26 | 8005-26 | Brass Plug | 1 |
| 11 | 8006-9 | Table Protractor | 1 | 27 | 8005-25 | Gib Screw | 2 |
| 12 | A-403 | Machine Screw, 8-32 x 5/8" | 4 | 28 | 8006-3 | Tapered Gib | 2 |
| 13 | 8006-4 | Saddle Wiper | 2 | 29 | 8005-23 | Cross Rail Clamp | 1 |
| 14 | 8006-5 | Saddle Wiper Felt | 2 | 30 | A-302 | Cap Screw, 5/16-18 x 3/4" | 4 |
| 15 | 8006-1X | Saddle | 1 | 31 | A-1000 | Oil Cup | 1 |
| 16 | 8006-7 | Swivel Table | 1 | | | | |

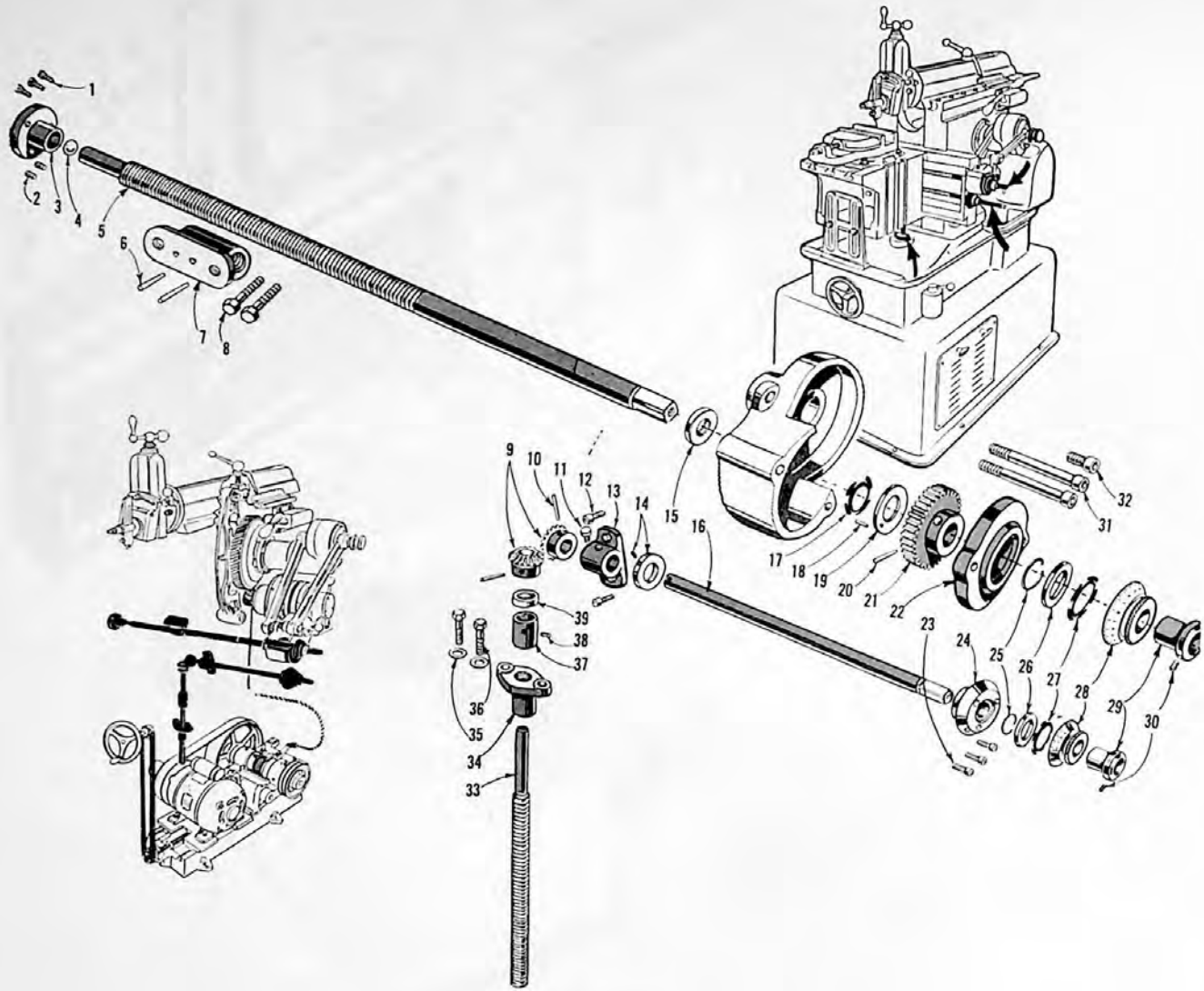
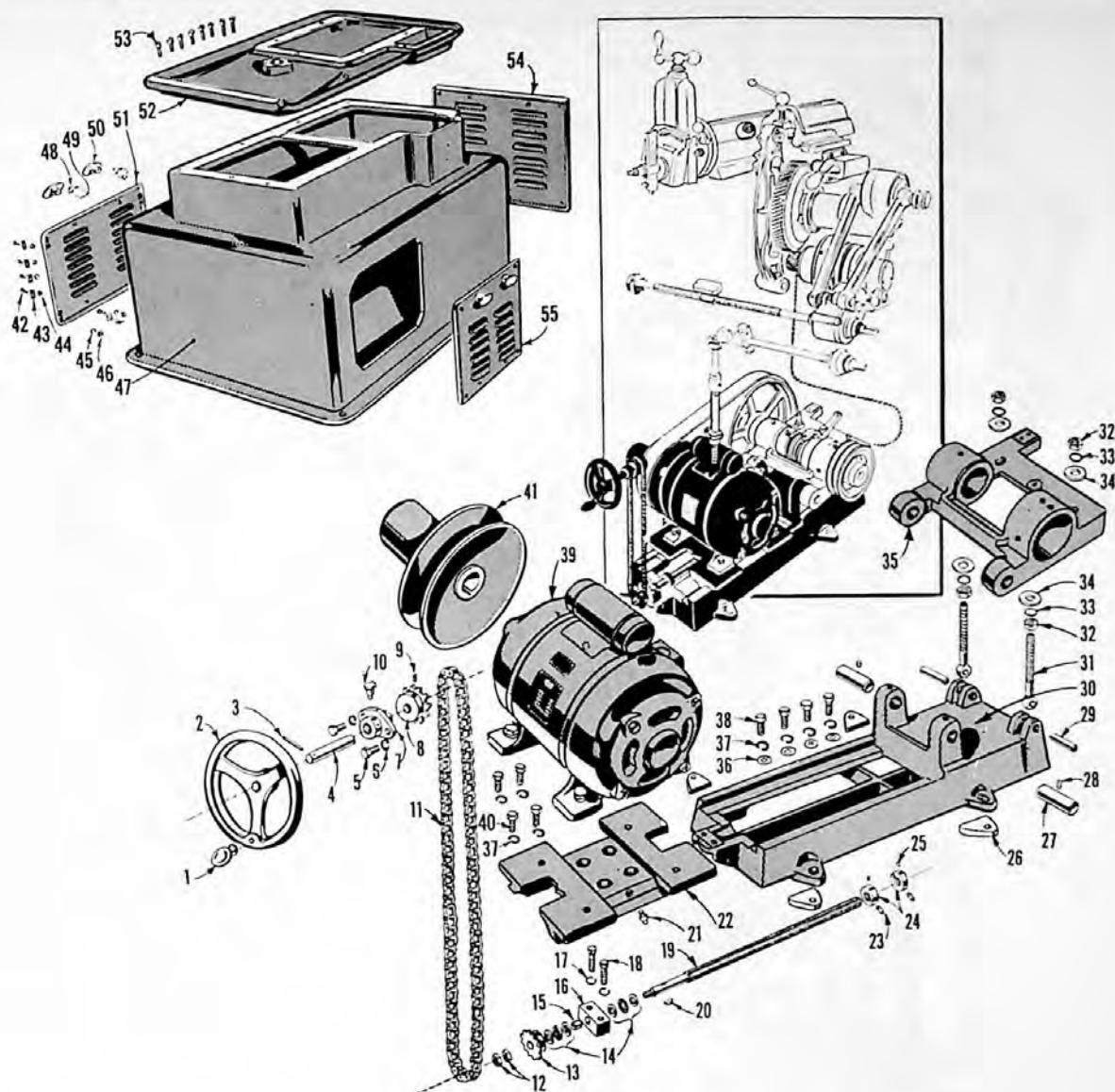


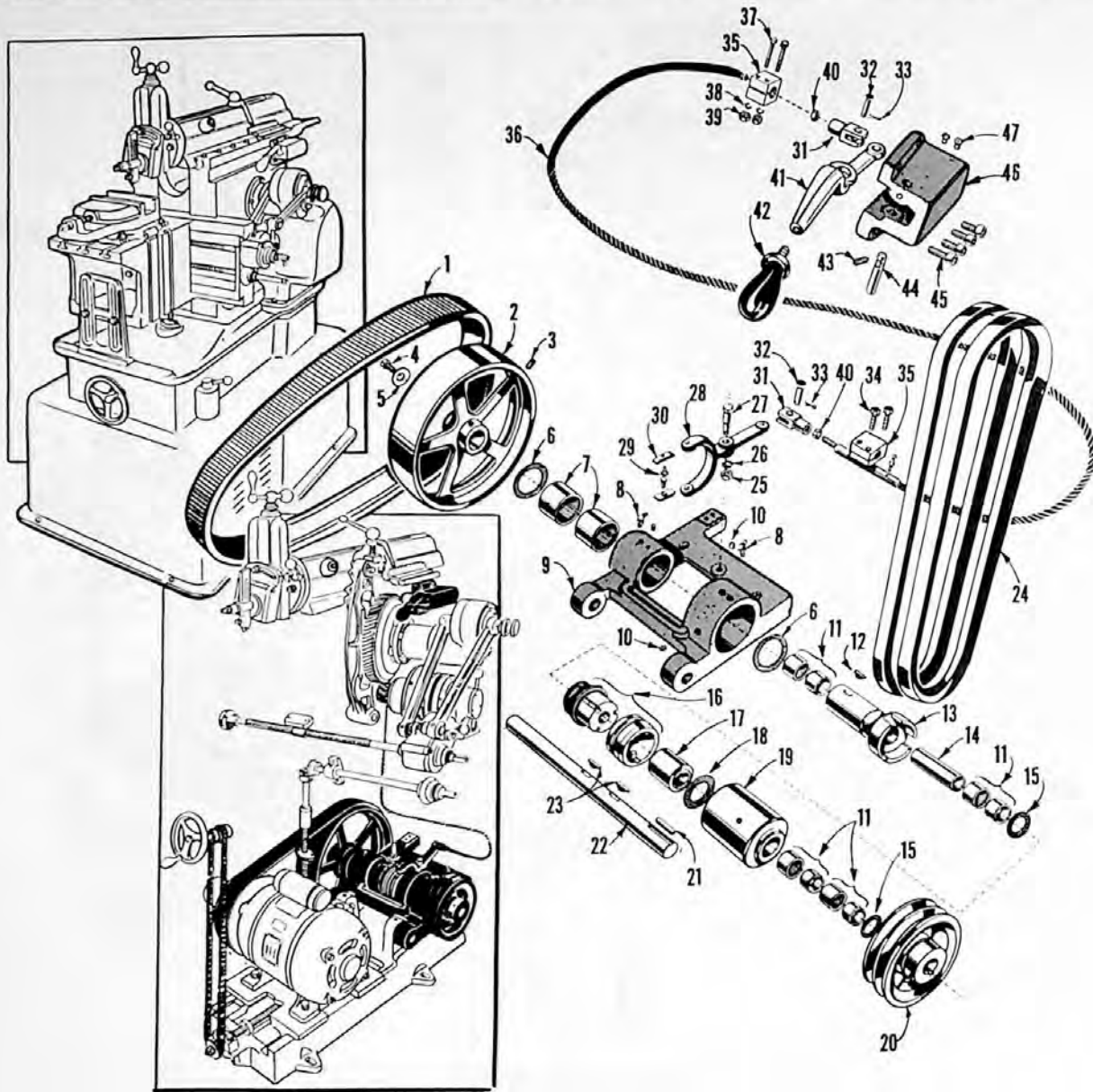
TABLE FEED HOUSING

| Ref. # | Part # | Description | Quan. | Ref. # | Part # | Description | Quan. |
|--------|---------|---------------------------|-------|--------|---------|-----------------------------|-------|
| 1 | A-413 | Cap Screw 10-32 x 3/4" | 3 | 21 | 8012-29 | Feed Gear 36 T. | 1 |
| 2 | A-693 | Set Screw 5/16-24 x 1" | 2 | 22 | 8012-9 | Ratchet Housing Cover, Left | 1 |
| 3 | 1016 | Longitudinal Screw Quill | 1 | 23 | A-413 | Cap Screw 10-32 x 3/4" | 1 |
| 4 | A-1402 | Steel Ball 7/16" | 1 | 24 | 8005-15 | Elevating Shaft Quill | 1 |
| 5 | 8005-4 | Longitudinal Screw | 1 | 25 | 1012-3 | Dial Snap Ring | 1 |
| 6 | A-804 | Taper Pin # 2 x 1-1/4" | 1 | 26 | 1012-2 | Dial Retainer Washer | 1 |
| 7 | 8006-2 | Longitudinal Nut | 1 | 27 | A-1112 | Spring | 2 |
| 8 | A-378 | Cap Screw | 2 | 28 | 1012-1 | Dial | 1 |
| 9 | A-1942 | Mitre Gear | 2 | 29 | 1012-6 | Dial Sleeve | 2 |
| 10 | A-821 | Taper Pin # 1 x 1-1/4" | 2 | 30 | A-646 | Set Screw 10-32 x 1/4" | 2 |
| 11 | A-1008 | Oil Cup | 1 | 31 | AA-307 | Cap Screw 5/16-18 x 2-3/4 | 2 |
| 12 | A-407 | Cap Screw 5/16-18 x 7/8 | 2 | 32 | AA-303 | Cap Screw 5/16-18 x 5/8 | 1 |
| 13 | 8005-16 | Elevating Shaft Bearing | 1 | 33 | 8005-5 | Vertical Screw | 1 |
| 14 | A-1943 | Collar (With Set Screw) | 1 | 34 | 8010-2 | Vertical Nut | 1 |
| 15 | A-1108 | Thrust Bearing | 1 | 35 | A-200 | Lock Washer | 2 |
| 16 | 8005-6 | Elevating Shaft | 1 | 36 | A-441 | Cap Screw 5/16-18 x 7/8 | 2 |
| 17 | A-1112 | Spring | 1 | 37 | 8005-20 | Vertical Screw Stop | 1 |
| 18 | A-881 | Dowel Pin 3/16 Diameter | 1 | 38 | A-601 | Set Screw 1/4-20 x 1/4" | 1 |
| 19 | 8012-34 | Fibre Washer | 1 | 39 | A-1108 | Ball Thrust Bearing | 1 |
| 20 | A-804 | Taper Pin # 2 x 1-1/4" | 1 | | | | |



MOTOR DRIVE ASSEMBLY

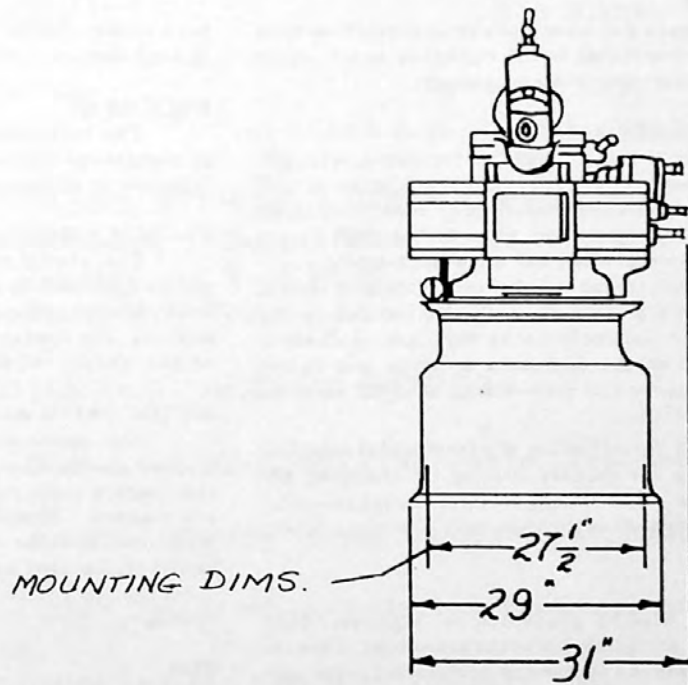
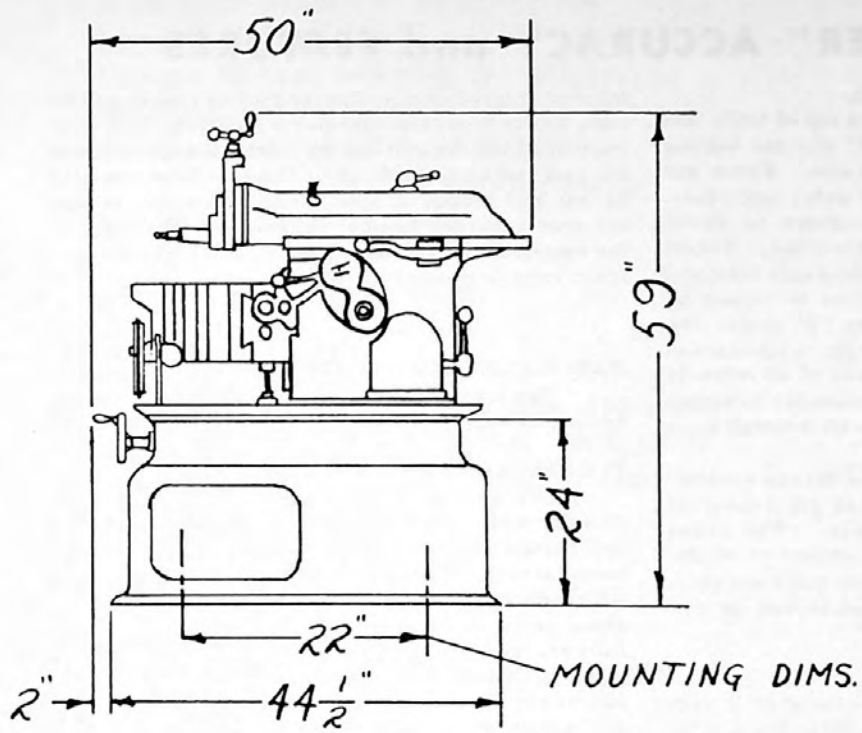
| Ref. No. | Part No. | Description | Quan. | Ref. No. | Part No. | Description | Quan. |
|----------|----------|--------------------------|-------|----------|----------|---------------------------|-------|
| 1 | K-24 | Machine Handle | 1 | 29 | A-883 | Pin | 2 |
| 2 | E-197-1 | Handwheel | 1 | 30 | 8014-48 | Main Base | 1 |
| 3 | A-812 | Taper Pin # 00 x 1-1/4" | 1 | 31 | 8014-41 | Eyebolt | 2 |
| 4 | 8015-6X | Handwheel Shaft | 1 | 32 | A-106 | Nut 1/2-13 | 4 |
| 5 | A-302 | Cap Screw 1/4-20 x 3/4" | 2 | 33 | A-207 | Lockwasher | 4 |
| 6 | A-214 | Lockwasher 1/4 | 2 | 34 | A-208 | Washer | 4 |
| 7 | 8015-5 | Handwheel Flange | 1 | 35 | 8014-33 | Swivel Base Upper | 1 |
| 8 | A-2004 | Sprocket | 1 | 36 | A-225 | Washer 7/16 | 4 |
| 9 | A-601 | Set Screw 1/4-20 x 1/4 | 1 | 37 | A-232 | Lock Washer 7/16 | 8 |
| 10 | A-1008 | Oil Cup | 1 | 38 | A-305 | Cap Screw 7/16-14 x 1-1/2 | 4 |
| 11 | A-2014 | Chain | 1 | 39 | | Motor | 1 |
| 12 | A-100 | Nut 3/8-16 | 2 | 40 | A-336 | Cap Screw 7/16-14 x 1 | 4 |
| 13 | 8014-56 | Sprocket | 1 | 41 | A-1508 | Variable Pulley | 1 |
| 14 | A-1130 | Thrust Bearing | 2 | 42 | A-314 | Machine Screw 8-32 x 3/8 | 14 |
| 15 | A-1346 | Bushing | 1 | 43 | 1002-3 | Door Felt | 14 |
| 16 | 8014-51 | Bearing Block | 1 | 44 | A-134 | Hex. Nut | 14 |
| 17 | A-202 | Lock Washer 3/8 | 2 | 45 | A-206 | Lockwasher 3/16 | 15 |
| 18 | A-306 | Cap Screw 3/8-16 x 1-1/2 | 2 | 46 | A-128 | Hex. Nut-10-32 | 17 |
| 19 | 8014-50 | Motor Base Screw | 1 | 47 | 8015-10 | Pedestal | 1 |
| 20 | A-902 | Key | 1 | 48 | 1002-2 | Door Clip | 17 |
| 21 | A-1037 | Grease Fitting | 1 | 49 | AA-308 | Machine Screw 10-24 x 5/8 | 7 |
| 22 | 8014-47 | Motor Base | 1 | 50 | 1004 | Door Handle | 7 |
| 23 | A-850 | Pin 1/4 x 5/8 | 2 | 51 | 1002 | Side Door | 1 |
| 24 | 8014-49 | Stop Collar | 2 | 52 | 8015-4 | Base | 1 |
| 25 | A-600 | Set Screw 1/4-20 x 3/8 | 2 | 53 | AA-311 | Cap Screw 3/8-16 x 1-1/4 | 9 |
| 26 | 8014-59 | Cushion | 4 | 54 | 8015-13 | Rear Door | 1 |
| 27 | 8014-40 | Pivot Pin | 2 | 55 | 1002 | Side Door | 1 |
| 28 | A-607 | Set Screw 3/8-16 x 5/8 | 2 | | | | |



COUNTERSHAFT ASSEMBLY

| Ref. No. | Part No. | Description | Quantity | Ref. No. | Part No. | Description | Quantity |
|----------|----------|--------------------------|----------|----------|----------|-------------------------------------|----------|
| 1 | A-1589 | Rubber Belt, 56-3/4" | 1 | 25 | A-102 | Nut, 3/8-16 | 1 |
| 2 | 8014-34 | Flat Pulley | 1 | 26 | A-202 | Washer, 3/8 | 1 |
| 3 | A-618 | Set Screw, 3/8-16 x 3/8" | 1 | 27 | 8014-42X | Shifter Fork Shoulder Screw | 1 |
| 4 | A-466 | Cap Screw, 3/8-16 x 5/8" | 1 | 28 | 8014-35 | Shifter Fork | 1 |
| 5 | 8014-43 | Washer | 1 | 29 | H1525-46 | Clutch Shifter Fork Pin | 2 |
| 6 | 8014-55 | Fibre Washer | 2 | 30 | H1525-45 | Clutch Shifter Fork Shoe | 2 |
| 7 | A-1157 | Needle Bearing | 2 | 31 | 8014-13 | Link | 2 |
| 8 | A-1032 | Grease Fitting | 2 | 32 | 8014-12 | Pin | 2 |
| 9 | 8014-33 | Swivel Base, Upper | 1 | 33 | A-708 | Cotter Pin | 2 |
| 10 | A-607 | Set Screw, 3/8-16 x 5/8" | 3 | 34 | AA-314 | Socket Head Cap Screw, 1/4-20 x 1/2 | 2 |
| 11 | A-1158 | Needle Bearing | 4 | 35 | 8014-14 | Clamp | 2 |
| 12 | A-920 | Key | 2 | 36 | 8006-13 | Clutch Control Cable | 1 |
| 13 | 8014-38 | Driving Sleeve | 1 | 37 | A-391 | Cap Screw, 1/4-20 x 1-3/4 | 2 |
| 14 | 8014-44 | Spacer Tubing | 1 | 38 | A-214 | Lock Washer, 1/4" | 2 |
| 15 | 8014-60 | Fibre Washer | 2 | 39 | A-105 | Hex. Nut 1/4-20 | 2 |
| 16 | A-2017 | Clutch Assembly | 1 | 40 | A-118 | Hex. Nut 1/4-28 | 2 |
| 17 | 8014-39 | Spacer | 1 | 41 | 8014-2 | Clutch Lever | 1 |
| 18 | U-120 | Fibre Washer | 1 | 42 | U-128 | Clutch Lever Handle | 1 |
| 19 | 8014-36 | Clutch Bushing | 1 | 43 | A-600 | Set Screw 1/4-20 x 3/8 | 1 |
| 20 | A-1525 | 2-Groove Sheave | 1 | 44 | 8014-11 | Clutch Lever Pin | 1 |
| 21 | 8014-52 | Key | 1 | 45 | A-437 | Socket Head Cap Screw 3/8-16 x 3/4 | 4 |
| 22 | 8014-37 | Shaft | 1 | 46 | 8014-1 | Clutch Lever Housing | 1 |
| 23 | A-918 | Key | 2 | 47 | A-1003 | Oil Hole Cover | 2 |
| 24 | A-1591 | V-Belt ("B"--69") | 2 | | | | |

BASE DIMENSION PRINTS



"BIG SHAPER" ACCURACY and FEATURES

SHAPER TABLE AND CROSS RAIL

There are three "T" slots on top of table and two "T" slots on each side. A "V" slot for holding bars is also provided on side of table. Front end is supported for maximum rigidity under heavy cuts. The swivel table is standard equipment on 8000S model only. 8000P model has plain table. Swivel table moves on horizontal axis at any angle indicated by a protractor scale. Swivel table is locked by means of three "T" bolts in circular "T" slots. The table cross feed screw has a large, well-marked micrometer dial. Crank swings wide of all controls and makes it easy to move table manually in either direction. Felt wipers are used on all dovetail ways on shaper.

The substantial cross rail is stress-ribbed with broadly spaced ways. A tapered gib to the slide provides compensation for any wear. The cross rail lock is added protection to insure accurate results by locking the cross rail and table assembly into position after table has been moved up or down for work.

FEED HOUSING

Automatic cross feeds are available in both directions. Control lever for feed direction can be set in three positions--up, neutral (for manual feed), or down-- to control the direction of table travel.

BACK GEARS

Back gears for added power are quick-setting type and are controlled by the backgear lever which is located safely near rear of shaper.

RAM AND ROCKER ARM

The ram is heavily ribbed for extra strength. It has sufficient length to provide a minimum of 60% bearing surface on ways at all times. Ram positioner is located on the operating side of the ram (right side as you face machine) for ease in changing position of ram with crank handle in relation to work.

The ram clamp is conveniently located on top of the ram and securely locks the ram in desired position. The stroke indicator is large and easily seen and is marked in increments of 1/2" to show the length of stroke.

The shaft for adjusting the length of stroke has a crank handle for quickly setting or changing the length of stroke. The sliding block of the rocker arm is made of manganese bronze and operates in the rocker arm.

TOOL HEAD

The tool head is graduated by degrees, 120° included angle, for quick and accurate setup. Tapered gibs provide take-up to assure permanent accuracy. The tool head may be swiveled and locked at any desired angle for access to places ordinarily hard to reach. The tool head screw has a large, well-

marked micrometer collar angled so that it can be seen easily from the operator's position. The correct depth of the cut can be calculated quickly and the tool moved accordingly. The tool head can also be set and locked in any vertical position so that extreme accuracy can be maintained. The dials on the machine are friction type for quick adjustment, accurately graduated to .001".

TABLE ELEVATING SCREW

The sturdy elevating screw moves table assembly into proper position by means of a crank.

COLUMN AND PEDESTAL

The column is rigidly designed with exceptionally wide dovetails and is substantially ribbed and reinforced to withstand extreme thrust and torsional strain. The pedestal is of braced-box design with sufficient extra width and length to support machine properly for all operations. The pedestal also fully encloses the variable speed motor drive, completely eliminating the dangers of exposed pulleys and belts. Motor and drive located in the pedestal are easily accessible by removing large doors on any of three sides of machine.

FEED ADJUSTMENT

Feed is controlled by a large feed adjustment knob which can be quickly set for varying amounts of feed between .001" and .0175" per stroke.

BULL GEAR

The bull gear is a large helical type gear made of manganese bronze mounted in tapered roller bearings and is adjustable for wear.

CLUTCH ASSEMBLY

The clutch mechanism is of the latest design and is operated by a convenient clutch lever. It assures instantaneous action for mechanical power and enables the operator to stop all mechanical motion of the shaper without turning off electric current.

MOTOR DRIVE ASSEMBLY

The motor switch is conveniently and safely located on the front of the pedestal. The variable speed drive operates the ram from 12 to 180 strokes per minute. Speed changes can be made instantly while the machine is in operation by turning a conveniently located handwheel. Indicator shows which direction to rotate handwheel for faster or slower speed.

WISE

Single screw swivel base vise has 7" wide jaws which open to 6". Graduations on base of vise are machine cut for accuracy.

SPECIFICATIONS FOR SHELDON SHAPERS

| | |
|---|------------------------|
| Maximum length of ram stroke | 13-1/2" |
| Length of ram | 30-1/2" |
| Length of ram bearing in column. | 22-1/4" |
| Width of ram bearing | 7-1/4" |
| Strokes per minute--minimum. | 12 |
| maximum. | 180 |
| Vertical travel of head | 4" |
| Diameter of head | 6-1/2" |
| Vertical travel of table | 7" |
| Dimensions of table top | 10" x 12" |
| Height of table | 10" |
| Cross feed of table (with not less than 6 automatic feeds in either direction) | 12" |
| Range of feeds (infinite within range) | .0025" to .0175" |
| Width of vise jaws | 7" |
| Depth of vise jaws | 1-1/2" |
| Opening of vise jaws | 6" |
| Floor space | 27" x 44-1/4" |
| Maximum width | 31" |
| Maximum length | 51" |
| Net weight--domestic. | 1600 lbs. |
| export | 730 Kilos. |
| Shipping weight--domestic | 1800 lbs. |
| export | 820 Kilos. |
| Size of export box | 85 cu. ft. |
| Dimensions of export box | 62" x 62" x 38" |
| Motor recommended | 1-1/2 h.p.-1725 r.p.m. |

STANDARD EQUIPMENT WITH SHELDON SHAPERS

Two Wrenches Swivel Vise
Crank Handle Tool Post
Stationary Table

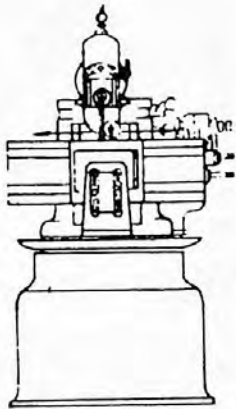
ACCESSORIES FOR SHELDON SHAPERS

| | |
|--------|---|
| 184 | 1-1/2 h.p. Motor, 110/220 volts, 60 cycle, 1-phase 1725 r.p.m. |
| 384 | 1-1/2 h.p. Motor, 220/440 volts, 60 cycle, 3-phase 1725 r.p.m. |
| A17609 | Start-stop switch, pushbutton control, with overload protection. |
| A2056 | Automatic oiling system (Must be ordered with shaper and fitted at factory.) |
| 40 | Shaper tool |
| 47 | Extension shaper tool |
| 2351 | High speed bits for No. 40, 1/4" x 3/4" x 2-1/2" |
| 2325 | High speed bits for No. 47, 5/16" sq. x 1-1/2" |

TEST SHEET

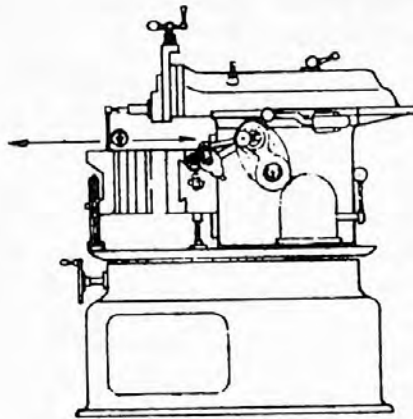
SHELDON MACHINE CO. Inc.

Manufacturers of Sheldon Precision Lathes • Milling Machines • Shapers
 4258 N. KNOX AVENUE • CHICAGO 41, ILLINOIS, U. S. A.
 TELEPHONE: MULBERRY 6-1970 • CABLE ADDRESS: SHELDONCO



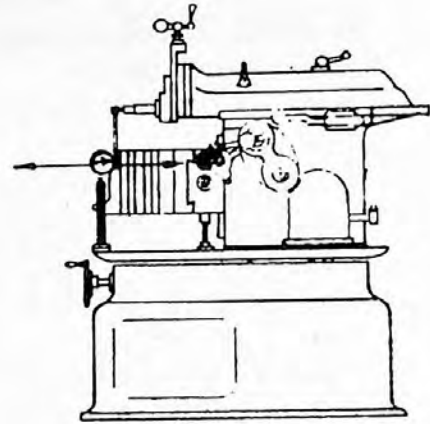
Upper surface of table parallel with its transverse movement not to exceed .001 per 9".

Actual



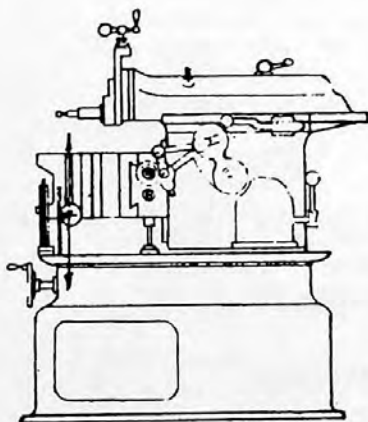
Upper surface of table parallel to movement of ram, not to exceed .001 per 12".

Actual



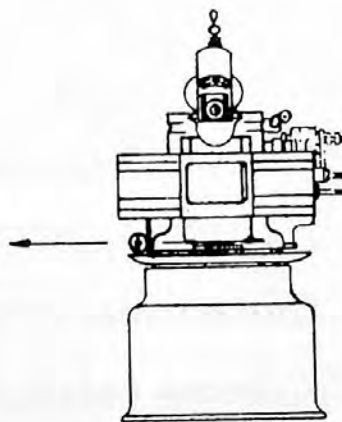
Movement of ram parallel with side clamping surface of table not to exceed .002 per 12".

Actual



Side clamping surface of table parallel with its vertical adjustment not to exceed .001 per 9".

Actual



Guide for table support parallel with transverse movement of table not to exceed .001 per 9".

Actual

Invoice No. _____

Serial No. _____

Date _____

Inspected _____

Approved _____