OPERATING INSTRUCTIONS
AND PARTS LIST FOR

Craftsman Six-Inch Metal Turning Lathe

Model Number 101.21400

This is the Model Number of your lathe. It will be found on a plate attached to the right end of the bed. Always mention this Model Number when communicating with us regarding your lathe or when ordering parts.

HOW TO ORDER REPAIR PARTS

All parts shown on the following list and illustrated on the parts diagrams may be ordered through any Sears Retail or Mail Order Store. In ordering parts by mail from the Mail Order Store which serves the territory in which you live, selling prices will be furnished on request, or parts will be shipped at prevailing prices and you will be billed accordingly. When ordering repair parts always give the following information:

1. The Part Number in this list.
2. The Part Name in this list.
3. The quantity desired.
4. The Model Number — 101.21400

This list is valuable. It will assure your being able to obtain proper parts service at all times. We suggest that you keep it with other valuable papers.

SEARS, ROEBUCK AND CO.
ASSEMBLY AND OPERATING INSTRUCTIONS FOR CRAFTSMAN SIX-INCH METAL TURNING LATHES

DESCRIPTION

This lathe is designed to be run by a 1/2 H.P. 1740 R.P.M. motor. We recommend motors of the type shown in our catalog.

After removing the lathe from the crate, clean it thoroughly. Remove the rust-proof coating from the bed ways with a cloth soaked in kerosene.

Floor legs and table boards make an ideal stand for the lathe. If the lathe is to be mounted on a floor that is solidly built, well braced and with a good dry lumber top at least two inches thick, the precision of any lathe, regardless of size depends a great deal upon the rigidity of the base under the lathe.

LEVELING THE LATHE — Important — See mimeographed sheets. Mount the countershaft on the bench, making sure the countershaft is parallel with the spindle and the pulleys are in line. Have the rockershaft handle in off-tension position when mounting the countershaft.

OPERATION AND CONTROLS

The following controls should be tested until the operator is thoroughly familiar with their use.

(1) The large handwheel on the front of the carriage propels the carriage along the bed.

(2) The ball-crank is used for cross-feeding and the two-handle crank operates the compound feed. Both are graduated in thousands of an inch. The compound feed can be turned in a complete circle, by simply loosening the two Allen set screws, and is graduated in degrees from 0° to 180° so that any angle can be cut.

(3) The lever on the right front side of the carriage operates the half-nut mechanism. When the lever is moved into the forward position, it engages the half-nut with the lead screw causing the carriage to travel along the bed. CAUTION: Before engaging the half-nut with the lead screw, be sure that the square on the head of the screw is facing the left side of the slide (item 30, page 5), otherwise the carriage is locked and serious damage may result to the half-nut mechanism.

(4) The lever (item 111, page 6) with the small knob, located at the headstock end of the lathe, is the reverse gear tumbler lever. This lever is used to reverse or stop the rotation of the lead screw. Three holes are drilled in the headstock providing three positions for the lever. The center hole is neutral and the upper and lower holes are either forward or reverse positions, depending upon the gear set up.

(5) The belt tension lever located on the countershaft regulates the tension of the spindle belt. To tighten the belt move the lever backward and more forward to loosen the tension, thereby allowing the belt to be easily changed to the different pulley steps.

(6) The handwheel on the tailstock operates the tailstock ram. To advance the ram, turn the handwheel in a clockwise direction.

(7) The small lever at the top of the tailstock is the tailstock ram clamp handle. It locks the ram in place when tightened. NOTE: Before attempting to move the ram, loosen the ram clamp.

ADJUSTMENTS

(1) SPINDLE BEARING ADJUSTMENT: Adjustment of the Timken Bearing is not often necessary, but if the spindle spins too freely or ploy is noticeable when the spindle is pushed back and forth, the following simple procedure will adjust the headstock bearings:

Run the lathe between thirty minutes and an hour to warm up the spindle. Then loosen the set screws on the thrust end at the extreme left end of the spindle, and turn it up to a point where no play can be detected in the spindle. Advance this thrust nut 1/16 turn past that point (equal to two teeth on the spindle gear) in order to provide the correct pre-load. Tighten the set screw.

(2) ADJUSTMENTS OF THE CARRIAGE: If any horizontal play develops between the carriage and the bed it can be taken up by screwing the four gib screws up tighter against the gib. These screws should be tightened just enough to give a firm sliding fit between the carriage and bed.

(3) The gib on the cross feed slide and the compound feed slide should be adjusted at regular intervals. The cross feed gib should always fit snugly, because the cross slide is in almost continual use.

(4) The ball end crank handles on the cross feed screw and the compound feed screw can be adjusted for play with the two nuts on the hubs of the handles. To adjust, tighten the inner nut and lock the outer nut. An extremely tight fit is likely to result in a Jerky feed——the turning force keeps these slides firm against the screw. The play in the slides does not affect the accuracy of the work. A nice working, snug fit is ideal.

(5) On the tailstock, two gib screws are provided, one on each end of the gib which regulates the tightness of the tailstock between the bed ways. These two screws should be adjusted evenly so that both ends of the gib will bear against the way with the same amount of pressure.

The tailstock can be set over 7/8" for turning tapers. This is done by simply adjusting the two headless screws after loosening the tailstock clamp nut.

PROPER CUTTING SPEEDS

<table>
<thead>
<tr>
<th>Motor Belt Position</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>A</td>
<td>380</td>
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<tr>
<td>B</td>
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Much of the success in metal cutting depends upon the choice of the cutting speeds. Too slow a speed not only wastes time, but leaves a rough finish——too high a speed burns the tool. The chart above shows the different speeds available and the set-up for each.

READING THE GEAR CHART

To simplify gear set-ups the three different gear bracket positions have been assigned letters. These designations will be found in Figure 1 on the Through hole labels as positions A, B, and C. The "Back position" means the position TOWARD the headstock. "Front position" is the position AWAY FROM the headstock.

One representative set-up is given in detail below.

GEAR SET-UP FOR 36 THREADS PER INCH (See Figure 2)

(1) Place 36 tooth gear on front position of screw stub.

(2) Place 20 tooth gear and 32 tooth gear on slant and mount in Position B on gear bracket with 32 tooth gear in front position. Tighten so that 32 tooth mesh gears with gear in screw position. The 20 tooth gear is a spacer.

(3) Place 44 tooth gear and a steel spacer on sleeve and mount in Position A on gear bracket with 44 tooth in front position. Tighten so that 44 tooth gear meshes with 32 tooth gear in Position C.

(4) Swing entire gear bracket upward and tighten so that the 44 tooth gear meshes with the 16 tooth spindle gear.

When setting up the gear train be sure to allow sufficient clearance between two meshing gears. Gear clearance does not reduce the accuracy of a thread cutting operation because all the backlash in the gears is taken up in one direction.

MOUNTING THE WORK

Whenever practicable, the work is held between centers. There are two steps in mounting work between centers: Locating the center points at each end of the work, and countersinking and drilling the ends to accommodate the lathe centers.

On round work, centers are usually located with either the hermaphrodite calipper or the center head attachment for a steel square. On the centering of square, hexagon and other regular polygonal stock, lines are scribed across the ends from corner to corner. The work is then centered punctured at the point of intersection. A little chalk rubbed over the end of the work before scribbling makes the marks easily seen.

After the ends have been countersunk, the work is mounted between centers. Be sure that the "Fail" or bent portion of the lathe dog fits into the face plate slot without resting on the bottom of the face plate slot. Bring the tailstock up close to the end of the stock and lock in place. Turn the tailstock center into the countersink hole and lock in such a position that the play is taken up between centers but not so tight that the work will not freely rotate. PLACE PLenty OF WHITE LEAD AT POINT OF BEARING ON TAILSTOCK CENTER.

Much of the work to be turned or threaded on the lathe is not of a size or shape which permits mounting between centers. In such cases it is customary to mount the work on a face plate or hold it in a chuck, a device with jaws which grips the work rigidly while it is being machined.

--2--
INSTRUCTIONS

NO. 6L-1
SIX INCH LATHE MOUNTING
JAN. 1969  FILE NO. 6L-1

MOUNTING LATHE

Place lathe on bench in approximately position shown in figure 1. Bench top should be at least 20 by 34 inches. Front edges of legs should be about $\frac{3}{4}$" from front of bench top. Mark positions of four holes in lathe legs and drill holes to accommodate either lag screws or bolts as desired.

Next, bolt lathe to bench top and level bed by carefully following instructions contained in bulletin "PROPERLY LEVEL THE LATHE BED". This is a most important step and should not be slighted.

ROCKER LEVER (in belt tension position)

MOUNTING COUNTERSHAFT

The four holes for the countershaft bracket may now be located and drilled by following the dimensions in figure 1. With countershaft belt tension screws (refer to figure 2), in about the midway position, place spindle belt on smallest step of countershaft pulley and largest step of spindle pulley. Bolt countershaft bracket lightly to bench.

Put rocker lever in tension position, that is, so that the belt tension screws (refer to figure 2) rest on the smaller of the two flat spots on rocker shaft. Now move countershaft bracket on its slotted holes so that countershaft spindle is parallel with lathe spindle. Move bracket away from lathe until belt is tight and tighten the four mounting bolts. With belt tension screws, adjust belt so that with a moderate amount of pressure belt can be depressed about 1" in the center. Lock this adjustment by tightening locknuts on belt tension screws.

MOUNTING MOTOR

Before mounting motor, make all electrical connections.

Slide pulley on motor shaft so that small step is toward motor. Place motor in position shown in figure 2, with belt on small step of motor pulley and on large step of countershaft pulley. Be sure rockershaft is still in tension position and pull motor as close to countershaft bracket as belt will allow, line up belt and bolt motor to bench. Check tension and alignment of both belts, then tighten all mounting screws or bolts securely.
When setting up gear train, sufficient clearance must be allowed between two meshing gears. Gear clearance does not reduce accuracy of a thread cutting operation because all play, or back lash, is taken up in one direction.

A SUGGESTED METHOD TO OBTAIN PROPER GEAR CLEARANCE IS:

1. Place a sheet of thick wrapping paper between the teeth of two meshing gears.

2. Tighten gears in position.

3. Remove paper.

Clean gears occasionally to remove any chips which become lodged in gear teeth. Chips in gear teeth result in inaccuracies when cutting screw threads. A wad of cloth placed in the rear end of spindle will prevent chips from working into gear teeth.

LUBRICATION

A small amount of S.A.E. No. 30 oil or grease (we recommend Keystone No. 122 Gear Lubricant or equivalent applied to gear teeth, will aid in obtaining smoother, more quiet operation.

NOTE: Remove oil and dirt before applying grease.
It Is

Your Responsibility

to

PROPERLY LEVEL THE LATHE BED

Do It RIGHT! Keep It RIGHT!

Because:

★ A properly leveled lathe is the first essential for accurate work and long service life.

★ The built-in accuracy of the lathe can be permanently destroyed by improper leveling.

★ Satisfactory performance is impossible if the lathe bed is out of level as little as one thousandth of an inch.

AN IMPROPERLY LEVELED LATHE WILL

CHATTER - TURN TAPER - BORE TAPER - FACE CONVEX OR CONCAVE - SCORE BED AND CARRIAGE WAYS - SCORE SPINDLE - RUIN SPINDLE BEARINGS - MAKE CARRIAGE BIND - TWIST HEADSTOCK AND SPINDLE, BED, CARRIAGE AND TAILSTOCK OUT OF ALIGNMENT RESULTING IN EXCESSIVE UNEVEN WEAR.

WHAT IS A PROPERLY LEVELED LATHE?

On an accurately leveled lathe the bed ways are parallel or level with each other both lengthwise and crosswise.

To do it RIGHT and keep it RIGHT — Carefully follow instructions on reverse side of sheet.
FIGURE 1. Positions for checking level readings

LATHE BENCH REQUIREMENTS

1. A rigid bench or floor stand must be used for mounting the lathe. Bench top must have a clear semi-hard or hardwood top at least 1-5/8" thick, cleated or well doweled to form a rigid table. Do not use soft-woods or boards not cleated together.

2. Bench legs should be of heavy construction, preferably 4" x 4" lumber, well braced and securely anchored to bench top. Provide legs with lugs for bolting bench securely to floor. Overall height of bench should be approximately 30 or 32 inches.

3. Level the floor stand or bench before mounting lathe, this will omit excessive shimming when leveling lathe bed. Use a precision machinists level, placing shims as required between bench legs and floor to accurately level bench top. BOLT BENCH TO FLOOR.

4. Mount the lathe on the floor stand or bench. If bench is used, mark and drill four 3/8" diameter holes in bench top under corresponding holes in lathe legs. Do not bolt lathe securely in position.

HOW TO LEVEL THE LATHE BED

1. Using only a precision machinists spirit level, check level readings at the positions shown in Figure 1 above. A VERY SENSITIVE LEVEL MUST BE USED. A sensitive level should move the bubble approximately 1/8" when a .003" shim is placed under one end of lathe.

2. Level readings in the four positions must be identical. Compensate variations of bubble readings with thin metal shims placed around bolts between lathe legs and bench top until bubble readings are identical. See Figure 2 for approximate size of shim.

3. Shim should be the only contact point with the bench top. If outer or inner edges of bench legs bear on bench top, bed is apt to be bowed or twisted when lathe is bolted down.

4. Bolt lathe securely in position and recheck level readings. Variations in bolt pressure may twist the lathe bed out of level.

5. The levelness of the lathe should be inspected at frequent intervals, especially before and after machining heavy work.

FIG. 2. Approximate shim dimension.

IF SATISFACTORY PERFORMANCE IS NOT OBTAINED OR OPERATING INACCURACIES OCCUR—CHECK THE LATHE BED AND MAKE SURE IT IS PERFECTLY LEVEL.
If only one chuck is to be purchased, it should be the four-jaw independent chuck. The four-jaws are adjusted separately and are reversible so that work of any shape can be clamped from the inside or the outside.

Mounting work in the four-jaw chuck is largely a matter of centering. Determine the portion of the rough work that is to run true, then clamp the work as centrally centered as possible, using as a guide the concentric circle on the face of the chuck. Test for trueness, marking the high spots with chalk. Check against the chuck on a tool bit mounted in the chuck. The chuck jaws should be adjusted until the tool or tool bit contacts the entire circumference of the work.

Boring operations require only slightly different tools and methods than those for external turning. With the round tool shank parallel to the lathe center line, set the boring tool into the work with the shank below the center line, so that by placing the cutting edge on exact center line, the correct amount of back rake is provided. The general rules for the use of the external tool apply to boring tools. For maximum rigidity, choose the largest possible boring tool. Take several light cuts rather than a heavy one when boring.

**CUTTING TOOL BITS**

It is wise for the unskillled worker to purchase already formed tools for the particular operation he wishes to perform. Tool bits are not expensive and the purchase of a set of these will probably prove the cheapest and most satisfactory way out in the long run.

**ANGLE OF TOOL TO WORK**

The angle of the cutting tool to the work varies according to hardness of the metal being cut. The accompanying drawings show in general the proper angles to be used for the different classes of metals. Refer to these drawings before taking a cut until you are sure you know the proper angle for each metal.

**CUTTING SPEEDS**

The speed of a cut taken varies according to the kind of metal being cut and the kind of cutting. A clean, cool, roughing or finishing. Brass may be cut faster than steel and a light cut faster than a hard one.

**SETTING THE TOOL TO THE WORK**

Cuts, especially heavy ones, should always be made toward the headstock. In this way most of the pressure is toward the live center which revolves with the work. Cutting toward the tailstock puts a heavy additional pressure on the center rod of the lathe and may cause the center to break.

The type of tool holder, and the way it is set into the work, should always be such that it tends to swing away from the work on heavy cuts. When cutting at an angle with the compound rest, the tool should be set at a right angle to the surface of the cut, not at a right angle to the center line of the lathe.

Facing cuts represent different cutting relations and tool angles, and tools should preferably be special ground, for that purpose. Smoother cutting and a finer finish can be obtained generally by cutting toward the outside—that is, feeding from the center of the work outwards.

If the tool is ground properly, the point of the tool will not have to be cut above or below the center line of the work, but should be set on the center line.

**INDEXING**

The spindle pulley is provided with 60 indexing holes which may be engaged by means of the knurled pin on the upper right end of the headstock. These indexing holes are useful for such operations as spacing, fluting, reeding, serrating, sprocket, and spoke-spacing, etc.

**INDEXING TABLE**

| Divisions Desired | 1 | 2 | 3 | 4 | 5 | 6 | 10 | 12 | 15 | 20 | 30 | 60 |
| No. of Spaces | 60 | 30 | 20 | 15 | 12 | 10 | 6 | 5 | 4 | 3 | 2 | 1 |
| Degrees of Arc | 360 | 180 | 120 | 90 | 72 | 60 | 36 | 30 | 24 | 18 | 12 | 6 |

**THREADING**

Only the operation connected with the cutting of the 60 degree thread will be described.

After the work has been properly prepared for threading, set the compound at a degree angle so that the tool bit faces in the direction the carriage will travel. Mount the tool holder in the tool post so that the point of the tool bit is exactly on the lathe center line and height of the tool post screw just enough to hold the tool holder. Then use a center or tool gauge to set the tool point at an exact right angle to the work. Tap lightly on the back of the tool holder when bringing into position. With the tool point at an exact right angle to the work, recheck center line position and tighten tool post screw.

Check the change gear assembly and the tumbler gear lever so that the carriage will move in the proper direction. Adjust belts for a speed of 54 R.P.M.

Set the compound rest approximately in the center of its ways and advance the cross feed so that it is set at 0 with the tool close to the work. With the point of the tool about an inch to the right of the start of the thread, advance the tool with the compound rest so that the first cut will be about .003 inch.

Start the lathe and engage the half-nut lever on the carriage. Apply plenty of lubricant to the work. When the tool point has traveled the desired distance along the work, raise the half-nut lever, back out the cross feed a turn or two, and return the carriage by hand to the starting point.

**RULES FOR THE USE OF THE THREADING DIAL**

When cutting an even-numbered thread such as 8, 10, 12, 14, etc. (per inch), engage the half-nut lever when the stationary mark on the threading dial is in line with any one of two opposing marks on the rotating dial. When cutting any other threads (9, 11, 13 and 27 per inch) engage the half-nut lever when the stationary mark on the threading dial is in line with the same mark on the rotating dial.

Precautions: Never disengage the half-nut lever in the middle of the thread without first backing out the tool with the cross-feed.

**LUBRICATION CHART**

See Fig. 6

Use No. 10 motor oil or equivalent throughout unless otherwise specified.

1. Place a few drops of oil on the rockershaft bearings and cam every time the lathe is in use.

2. Countershaft Bearings—Oil every time the lathe is used.

3. Motor Bearings—Sleeve type motors have two oil cups which should be filled once a week with S.A.E. No. 10 motor oil or equivalent. Fan-bearing motors have a sealed-in type bearing—every six months the small brass cup grease bearing should be removed and a moderate quantity of automotive cup grease forced around the bearings.

4. Left and Right Headstock Bearings—Oil every time the lathe is used.

5. Spindle Pulley—Every time the lathe is used in back gear, remove the small screw in the bottom of the second step of the idler pulley and oil freely. Replace screw.

6. Back Gears and Change Gears—A small amount of grease, preferably graphite grease, applied to the gear teeth will aid in obtaining smoother, more quiet operation.

7. Change Gear Bearings—Put a few drops of oil on the change gear bearings every time the lathe is used.

8. Lead Screw Bearings (left and right)—Put a few drops of oil in the oil hole of the bearing every time the lathe is used.

9. Lead lever—Tran the stationary mark—Every time the lathe is used put a few drops of oil in oil hole on top of gear bracket on back of carriage arm.

10. Carriage Handwheel Bearing—Put a few drops of oil in oil hole every time the lathe is used.

11. Half-nut Lever Bearing—Put a few drops of oil in oil hole every time the lathe is used.

12. Lead Screw—About once a month clean the lead screw threads with kerosene and small stiff brush and apply a small amount of oil.

13. Rack (on bed, under front way)—About once a month apply a small amount of cup grease to the rack after cleaning with kerosene and a small stiff brush.

14. Place a few drops of oil between the handwheel and screw bearing when ever using lathe.

15. Tailstock Ram—Keep the outside surface of the tailstock ram well oiled.

16. Lathe Bed Ways—Keep the lathe bed ways oiled at all times and free from chips. Wipe off the ways before using and cover with fresh oil. Always leave a generous film of oil on the ways when the lathe is not in use. The lathe should be completely covered when not in use.

17. Compound Slide Screw—Every time the lathe is used put a few drops of oil in the oil hole between the graduated collar and bearing plate on the thread dial.

18. Cross Slide Screw—Put a few drops of oil in the oil hole where the cross slide screw bearing after removing the small screw in the hole of the screw. This should be done every time the lathe is used. Clean the cross slide screw regularly with a small stiff brush. Oil the screw threads by running compound rest back and forth.

19. Cross Slide Ways—Clean regularly and apply a liberal quantity of oil to the ways whenever the lathe is used.

20. Compound Slide Screw—Clean regularly and apply a liberal quantity of oil to the ways whenever the lathe is used.

21. Thread Dial—Once a week put a few drops of oil around the rim of the thread dial.

22. Back Gear Spindle—Every time the back gears are used, remove the small screw in the center of the back-gear spindle and oil freely. Replace screw.

23. Gear Eccentrics (right and left)—Oil occasionally.
CRAFTSMAN 6" METAL TURNING LATHE, MODEL #101.21400

8 COMPOUND REST ASSEMBLY

1 TOOL POST ASSEMBLY

36 THREADING DIAL ASSEMBLY

ITEM NO. PART NO. DESCRIPTION

TOOL POST ASSEMBLY

1 M6-39X Tool Post Assy. less Wrench
2 9-41 Rocker
3 M6-40 Washer
4 M6-136 Anchor
5 M6-39 Tool Post
6 M6-148 Screw
7 M6-115 Wrench

COMPOUND REST ASSEMBLY

8 M6-301X Compound Rest Assembly
9 M6-303 Tool Post Slide with Oiler
10 141024 **8-32x7/16" H'dless Set Scr. (dog pt.)
11 M6-223 8-32 Hex Jam Nut
12 M6-302 Upper Swivel
13 M6-309 Pin
14 110531 **10-24x1/2" Flat Head Mach. Screw
15 M6-37 Guard
16 M6-19A Nut
17 981-117 **10-32x3/4" H'dless Set Scr. (dog pt.)
18 10-226 Nut
19 981-116 **10-32x5/8" H'dless Set Scr. (dog pt.)
20 M6-56 Gib
21 M6-301 Lower Swivel
22 120680 **1/4"-20x1/2" Socket Set Scr. (cup pt.)
23 M6-306 Nut
24 M6-304 Gib

ITEM NO. PART NO. DESCRIPTION

25 M6-307 Plate
26 M6-48 Dial
27 114501 **1/4"-20 Hex Jam Nut
28 M6-308 Ball Crank with Handles
29 M6-263 Nut
30 M6-104 Handle
227 142943 **1/16"x3/8" Groov Pin
221 127555 **8-32x3/16" H'dless Set Scr. (cup pt.)
31 110500 **10-24x1/2" Rd. Hd. Mach. Screw
32 M6-311 Collar
33 106958 **#1 Woodruff Key
34 M6-305 Screw w/Collar
35 W30-16 Oil

THREADING DIAL ASSEMBLY

36 M6-62X Threading Dial Assembly
37 M6-62 Dial
38 M6-155 Washer
39 106-321 1/4-20 x 1-1/8 Hex. Cap Screw
40 M6-63 Body
41 M6-64A Gear
42 M6-65 Shaft
225 981-089 **3/16" Washer

*Standard hardware item — may be purchased locally.*
CRAFTSMAN 6" METAL TURNING LATHE, MODEL #101.21400

HALF NUT ASSEMBLY

43 M6-12X Half Nut Assembly
44 M6-13A Guide
45 437302 **1/4"-20x11/16" Fill. Hd. Mach. Screw
46 M6-12A Half Nut
47 M6-29 Lever
48 M6-38 Cam

CARRIAGE ASSEMBLY

49 M6-9X Carriage Assembly less Compound Rest and Threading Dial
43 M6-12X Half Nut Assembly
50 M6-11 Gearcase
51 M6-68 Shaft and Pinion
19 981-116 **10-32x5/8" H'dless Set Scr. (dog pt.)
52 M6-222 10-32 Hex Jam
53 M6-37 Gib
54 711-015 Shim (.002"
55 711-016 Shim (.003"
56 M6-55 Bearing Plate
57 110486 **10-24x3/8" Fill, Head Mach. Screw
58 9-210 Ball
59 697-031 Spring
60 M6-9 Carriage
33 106958 **#1 Woodruff Key
62 M6-46 Bearing
63 M6-17 Dial
64 114493 **5/16"-24 Hex Jam Nut
65 M6-103 Handle

43 HALF NUT ASSEMBLY

ITEM PART NO.
66 M6-262 Nut
67 M6-61 Ball Crank with Handle
68 M6-74 Thrust Washer
69 M6-36A Screw
70 M6-54 Bearing Plate
72 711-017 Shim (.002"
73 711-018 Shim (.003"
74 9-104 Handle
75 113955 **1/4"-20x1/2" Rd. Hd. Mach. Screw
76 M6-93 Washer
77 M6-23 Handwheel with Handle
78 106749 **#3 Woodruff Key
79 M6-67 Shaft and Pinion
80 M6-102 Gear
81 142845 **1/8"x5/8" Groov Pin
38 M6-155 Washer
39 M6-177 Screw
82 M6-14 Clamp
221 127555 **8-32x3/16" H'dless Set Scr. (cup pt.)
222 127554 **8-32x1/8" H'dless Set Scr. (cup pt.)

* Standard hardware item — may be purchased locally.
# Craftsman 6" Metal Turning Lathe, Model #101.21400

## Headstock Assembly

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<th>Part No.</th>
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## Back Gear Assembly

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>M6-243X</td>
<td>Back Gear Assembly Including Spindle Back Gears</td>
</tr>
<tr>
<td>96</td>
<td>M6-252</td>
<td>Left Eccentric</td>
</tr>
<tr>
<td>97</td>
<td>M6-249</td>
<td>Bushing</td>
</tr>
<tr>
<td>98</td>
<td>110498</td>
<td>&quot;10-24x1 1/4&quot; Rd. Hd, Mach. Screw</td>
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<tr>
<td>100</td>
<td>M6-253</td>
<td>Collar</td>
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<tr>
<td>101</td>
<td>M6-251</td>
<td>Right Eccentric</td>
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<tr>
<td>102</td>
<td>M6-254</td>
<td>Handle</td>
</tr>
<tr>
<td>59</td>
<td>9-61</td>
<td>Spring</td>
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<tr>
<td>58</td>
<td>9-210</td>
<td>Ball</td>
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<tr>
<td>103</td>
<td>M6-250</td>
<td>Shaft</td>
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<tr>
<td>99</td>
<td>M6-255</td>
<td>Fiber Washer</td>
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<tr>
<td>235</td>
<td>932-004</td>
<td>Steel Washer</td>
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<tr>
<td>217</td>
<td>M6-243</td>
<td>Back Gear with Bushings</td>
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<tr>
<td>221</td>
<td>127555</td>
<td>&quot;8-32x3/16&quot; H’dless Set Scr. (cup pt.)</td>
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<td>81</td>
<td>142485</td>
<td>&quot;1/8&quot;x5/8&quot; Groov Pin</td>
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<tr>
<td>234</td>
<td>453676</td>
<td>&quot;1/8&quot;x1&quot; Roll Pin</td>
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## Tumbler Assembly

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<th>Item No.</th>
<th>Part No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>104</td>
<td>M6-58X</td>
<td>Tumbler Assembly</td>
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## Spindle Assembly

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<th>Item No.</th>
<th>Part No.</th>
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<tr>
<td>105</td>
<td>M6-60</td>
<td>Gear</td>
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<tr>
<td>106</td>
<td>M6-59</td>
<td>Gear</td>
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<td>107</td>
<td>M6-33</td>
<td>Bushing</td>
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<tr>
<td>108</td>
<td>441-072</td>
<td>Knob</td>
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<td>109</td>
<td>58-63</td>
<td>Spring</td>
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<td>110</td>
<td>13-23</td>
<td>Plunger</td>
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<td>111</td>
<td>M6-58</td>
<td>Bracket</td>
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<td>112</td>
<td>M6-47</td>
<td>Stud</td>
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<td>113</td>
<td>M6-101-16</td>
<td>Compound Gear</td>
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<td>114</td>
<td>105972</td>
<td>&quot;1/4&quot;x20x1/2&quot; Hex Cap Screw</td>
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<td>115</td>
<td>M6-94</td>
<td>Washer</td>
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<td>116</td>
<td>106320</td>
<td>&quot;1/4&quot;x20x7/8&quot; Hex Cap Screw</td>
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<td>228</td>
<td>426311</td>
<td>&quot;3/32&quot;x7/16&quot; Groov Pin</td>
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<td>76</td>
<td>M6-93</td>
<td>Washer</td>
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</tbody>
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## Additional Notes

- "8-32x3/16" H’dless Set Scr. (cup pt.)
- "8-32x3/8" Socket Set Scr. (cup pt.)
- #4 Lead Shot
- Standard hardware item — may be purchased locally.