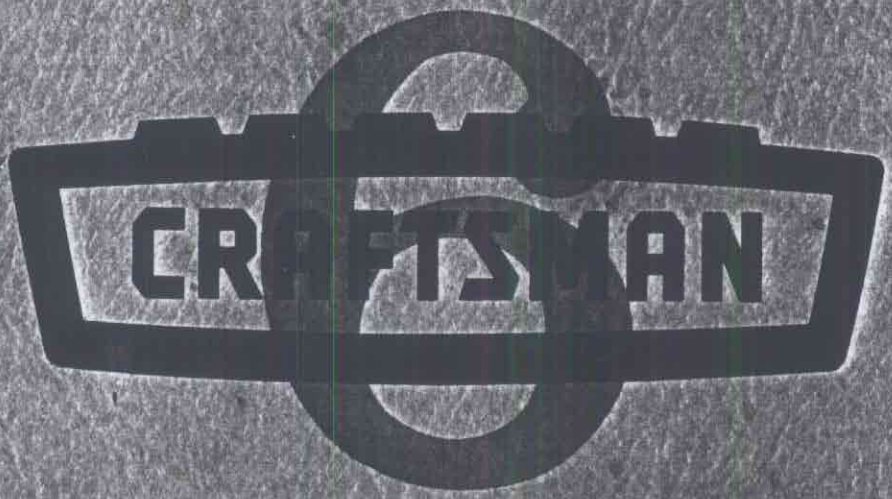
OPERATING INSTRUCTIONS
and
PARTS LIST



6-inch METAL TURNING LATHES

MODEL NUMBER

101.21400

SEARS, ROEBUCK AND CO. — U.S.A.
SIMPSONS - SEARS LIMITED — CANADA

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.

6S

PRINTED IN U.S.A.

ASSEMBLY AND OPERATING INSTRUCTIONS FOR
CRAFTSMAN SIX-INCH METAL TURNING LATHE

DESCRIPTION

This lathe is designed to be run by a ⅓ 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 bench, use one 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 rest. 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 this lever is moved into the downward 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 head cap screw on the right top side of the carriage is loose (item 39, 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. Move 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 play 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 screw on the thrust nut 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.

Bearing plates on the carriage, which bear on the under side of both the front and the back of the bed ways, anchor the carriage firmly to the bed in a vertical direction. The bearing plates have laminated shims for adjustment of possible wear.

(3) The gibs 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 and 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, and play in the handles 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 $\frac{9}{16}$" for turning tapers. This is done by simply adjusting the two headless screws after loosening the tailstock clamp nut.

PROPER CUTTING SPEEDS

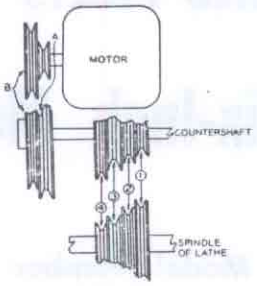


Fig. 1

Spindle Speed in Revolutions per Min.				
DIRECT CONE DRIVE				
Motor Belt Position	Spindle Belt Position			
	1	2	3	4
A	380	540	835	1185
B	975	1380	2150	3050
BACK GEAR DRIVE				
Motor Belt Position	Spindle Belt Position			
	1	2	3	4
A	55	82	125	185
B	145	210	315	465

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 Threading Chart as positions A, B, and C.

"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)

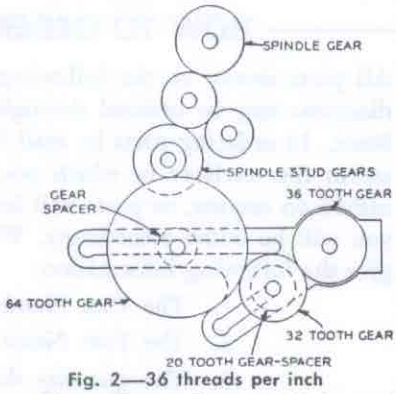


Fig. 2—36 threads per inch

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

(2) Place 20 tooth gear and 32 tooth gear on sleeve and mount in Position C on gear bracket with 32 tooth gear in front position. Tighten so that 32 tooth gear meshes with gear in screw position. The 20 tooth gear is a spacer.

(3) Place 64 tooth gear and a steel spacer on sleeve and mount in Position A on gear bracket with 64 tooth in front position. Tighten so that 64 tooth gear meshes with 32 tooth gear in Position C.

(4) Swing entire gear bracket upward and tighten so that the 64 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 back lash 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 caliper or the center head attachment for a steel square. On the centering of square, hexagon and other regular-sided stock, lines are scribed across the ends from corner to corner. The work is then center punched at the point of intersection. A little chalk rubbed over the end of the work before scribing makes the marks easily seen.

After the ends have been countersunk, the work is mounted between centers. Be sure that the "tail" 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 countersunk 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

INSTRUCTIONS

NO. 6L-1
SIX INCH LATHE MOUNTING

JAN. 1969 FILE NO. 6L-1

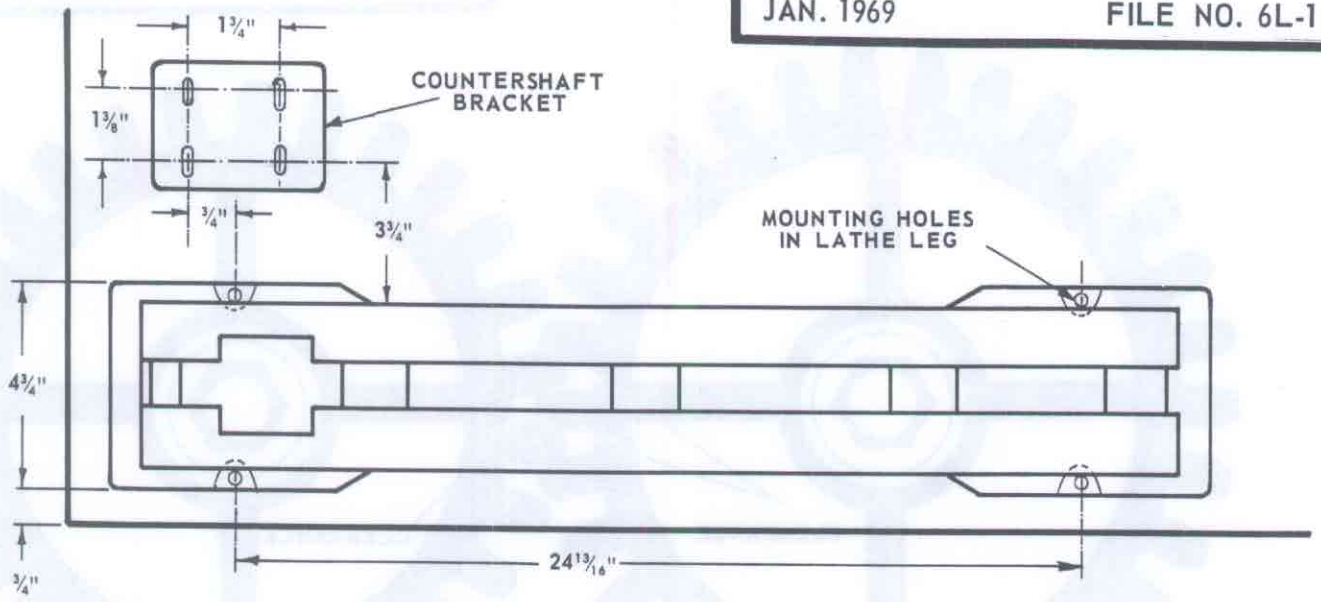


Figure 1

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 ¾" 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.

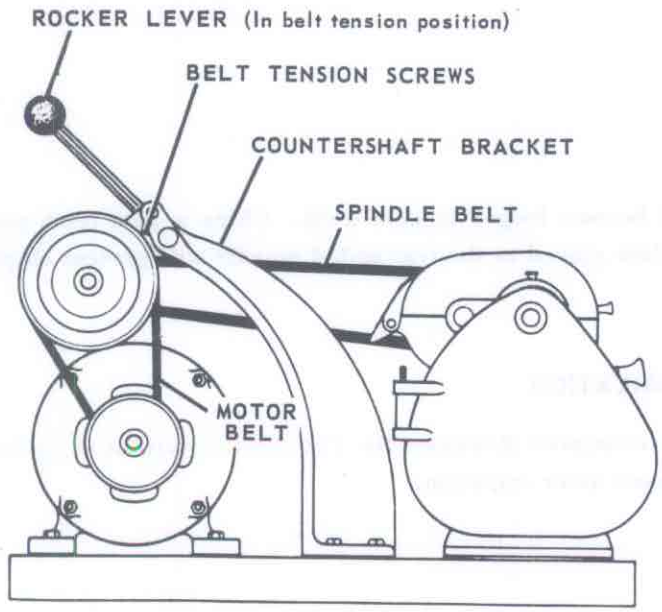


Figure 2

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

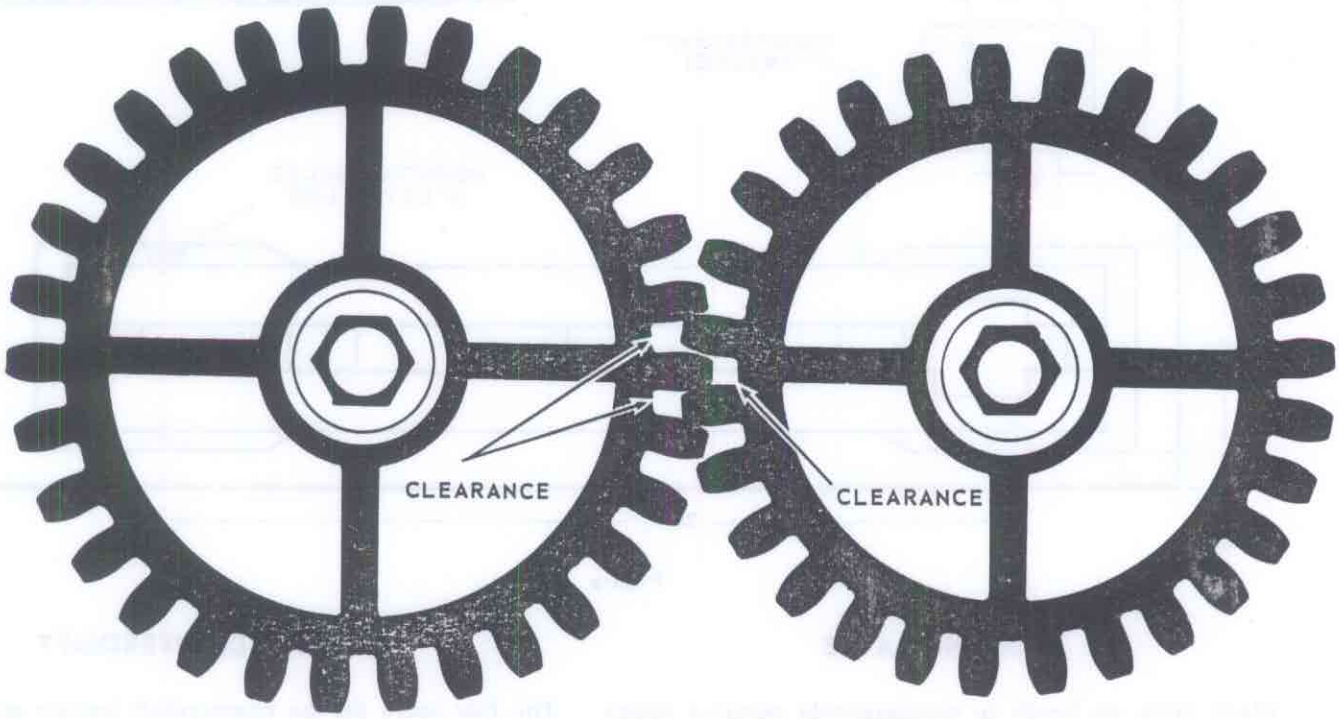
Before mounting motor, make all electrical connections.

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.

INSTRUCTIONS

NO. 6L-2
GEAR CLEARANCE

JAN. 1969 FILE NO. 6L-2



View of two meshing gears showing gear clearance.

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.

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Bulletin T-106L-5
January, 1959

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 <u>RIGHT</u> and keep it <u>RIGHT</u> —
Carefully follow instructions on reverse side of sheet.

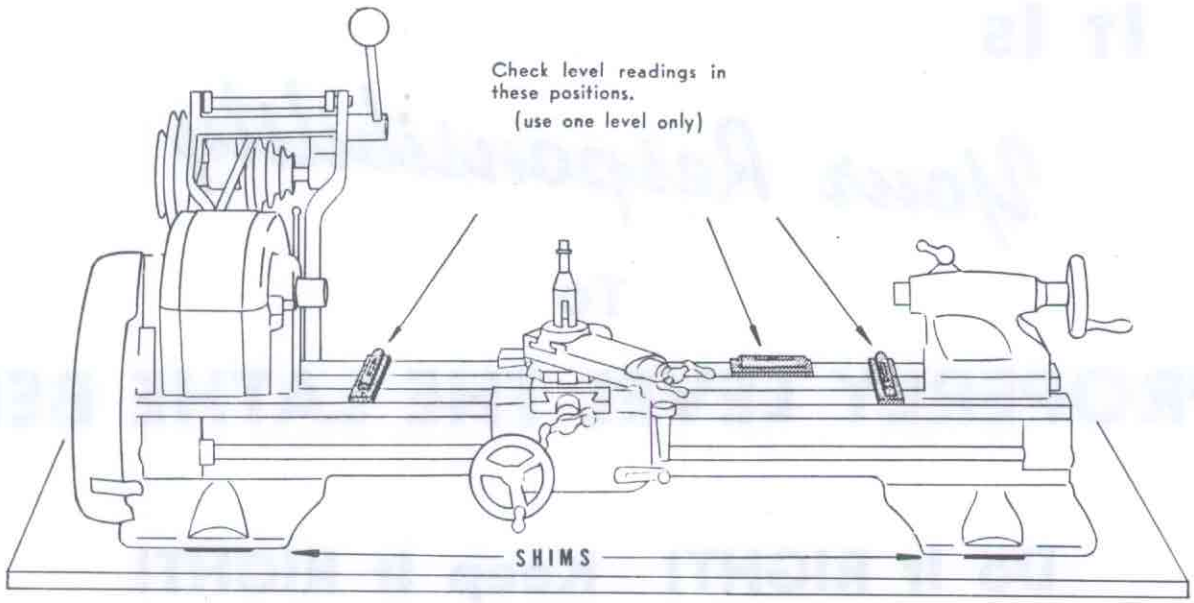


FIGURE 1. Positions for checking level readings

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

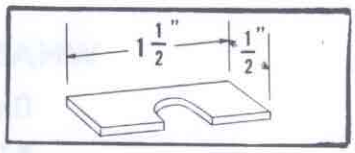


FIG. 2. Approximate shim dimension.

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 closely centered as possible, using as a guide the concentric rings on the face of the chuck. Test for trueness, marking the high spots with chalk rested against the tool post or a tool bit mounted in the tool post. The chuck jaws should be adjusted until the chalk 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. Then by putting the cutting edge on exact center line, the correct amount of back rake is provided. The general rules for the use of the external tools 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

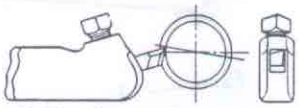
It is wise for the unskilled worker to purchase already formed tools for the particular operations he wishes to perform. Tool bits are not expensive and the purchase of a set of these will probably prove the cheapest and most satisfactory way out in the long run.

ANGLE OF TOOL TO WORK

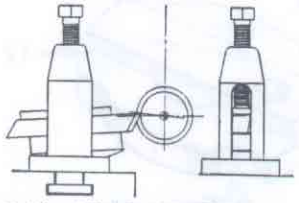
The angle of the cutting tool to the work varies according to hardness of the metal being cut. The accompanying drawings show in general the proper angles to be used for the different classes of metals. Refer to these drawings before taking a cut until you are sure you know the proper angle for each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

CUTTING SPEEDS

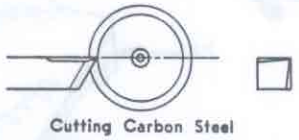
The speed a cut is taken varies according to the kind of metal being cut and the kind of cut—whether roughing or finishing. Brass may be cut faster than steel and a light cut faster than a heavy one.



Cutting Brass or Soft Metal



Cutting Mild Steel or Cast Iron



Cutting Carbon Steel

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 tailstock center and is quite likely to damage the center.

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 work out.

If the tool is ground properly, the point of the tool will not have to be set 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 rest at a 29 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 is exactly on the lathe center line—tighten the tool post screw just enough to hold the tool holder. Then use a center or thread 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 length 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. Advance the cross feed to its original position at 0, advance the compound rest for the desired depth of cut, and engage the half-nut lever for the second cut. All feeding is done with the compound rest. Follow the same routine on all succeeding cuts.

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 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. Ball bearing motors have a sealed-in type bearing—every six months the small headless screw in these bearings 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.
7. 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.
8. Change Gear Bearings—Put a few drops of oil on the change gear bearings each time lathe is used.
9. 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.
10. Carriage Traverse Gear Bracket—Every time lathe is used put a few drops of oil in oil hole on top of gear bracket on back of carriage apron.
11. Carriage Handwheel Bearing—Put a few drops of oil in oil hole every time lathe is used.
12. Half-nut Lever Bearing—Put a few drops of oil in the oil hole every time lathe is used.
13. Lead Screw — About once a month clean the lead screw threads with kerosene and small stiff brush and apply a small amount of oil.
14. 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.
15. Place a few drops of oil between the handwheel and screw bearing when ever using lathe.
16. Tailstock Ram—Keep the outside surface of the tailstock ram well oiled.
17. 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.
18. Compound Slide Screw—Every time lathe is used put a few drops of oil between the graduated collar and bearing plate and on the threads.
19. Cross Slide Screw—Put a few drops of oil in the oil hole above the front cross slide screw bearing after removing the small screw. Oil inside 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.
20. Cross Slide Ways—Clean regularly and apply a liberal quantity of oil to the ways whenever the lathe is used.
21. Compound Slide Ways—Clean regularly and apply a liberal quantity of oil to the ways whenever the lathe is used.
22. Thread Dial—Once a week put a few drops of oil around the rim of the thread dial.
23. 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.
24. Back Gear Eccentrics (right and left)—Oil occasionally.

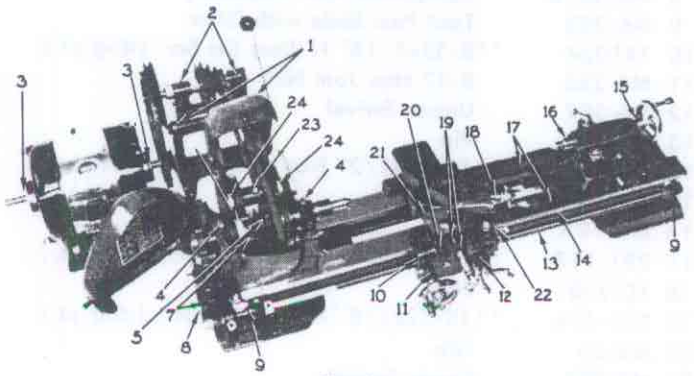


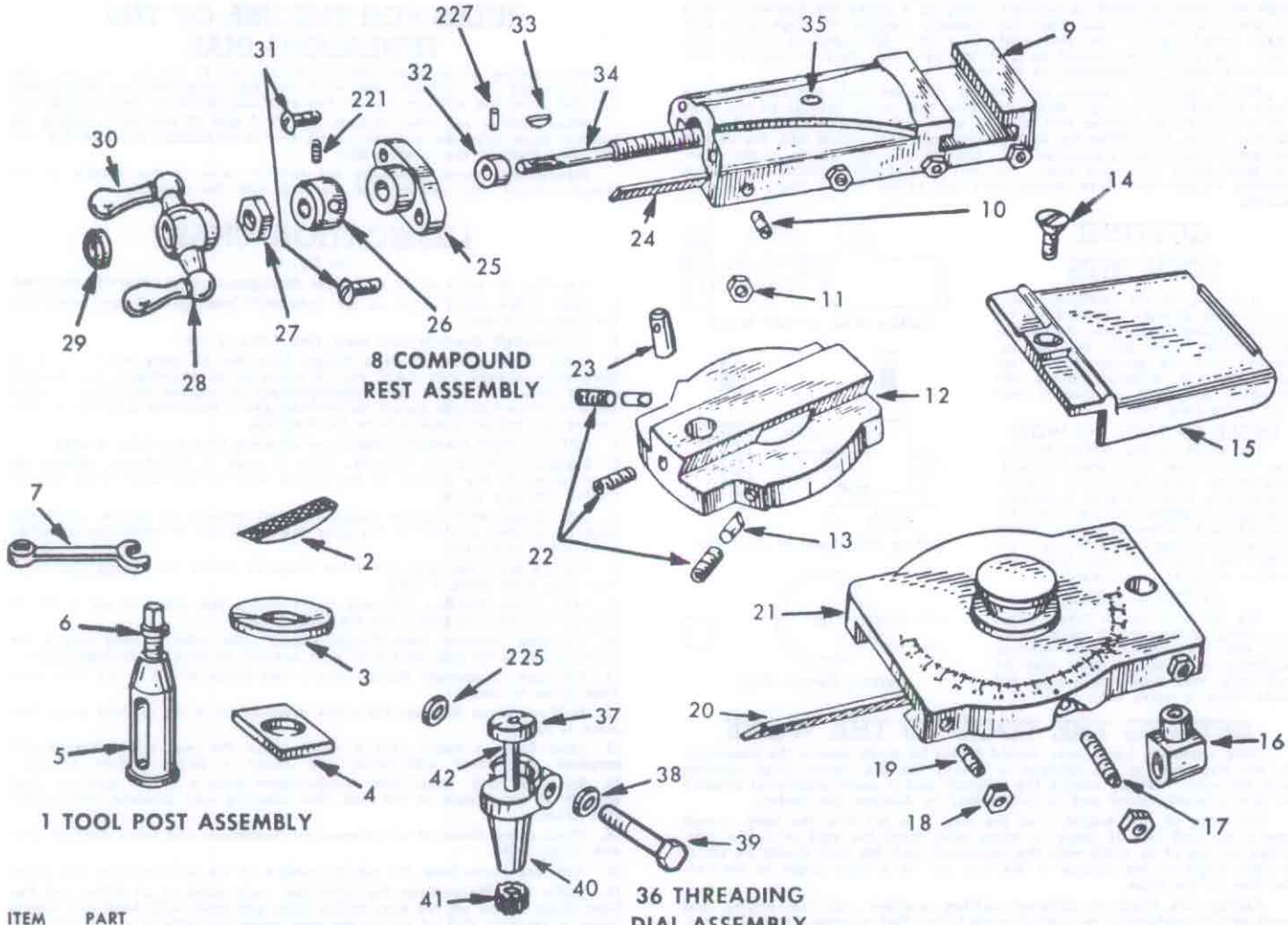
Fig. 6

NOTE: For more complete information regarding the operation of metal-cutting lathes refer to the Sears' Manual of Lathe Operation furnished with lathe.

A complete line of accessories are available for this lathe. Write for information.

* Complete information for thread cutting and coil winding operations are contained in the "Threading Information" booklet supplied with this Lathe.

CRAFTSMAN 6" METAL TURNING LATHE, MODEL #101.21400



TOOL POST ASSEMBLY

ITEM NO.	PART NO.	DESCRIPTION
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

ITEM NO.	PART NO.	DESCRIPTION
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
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	Oiler

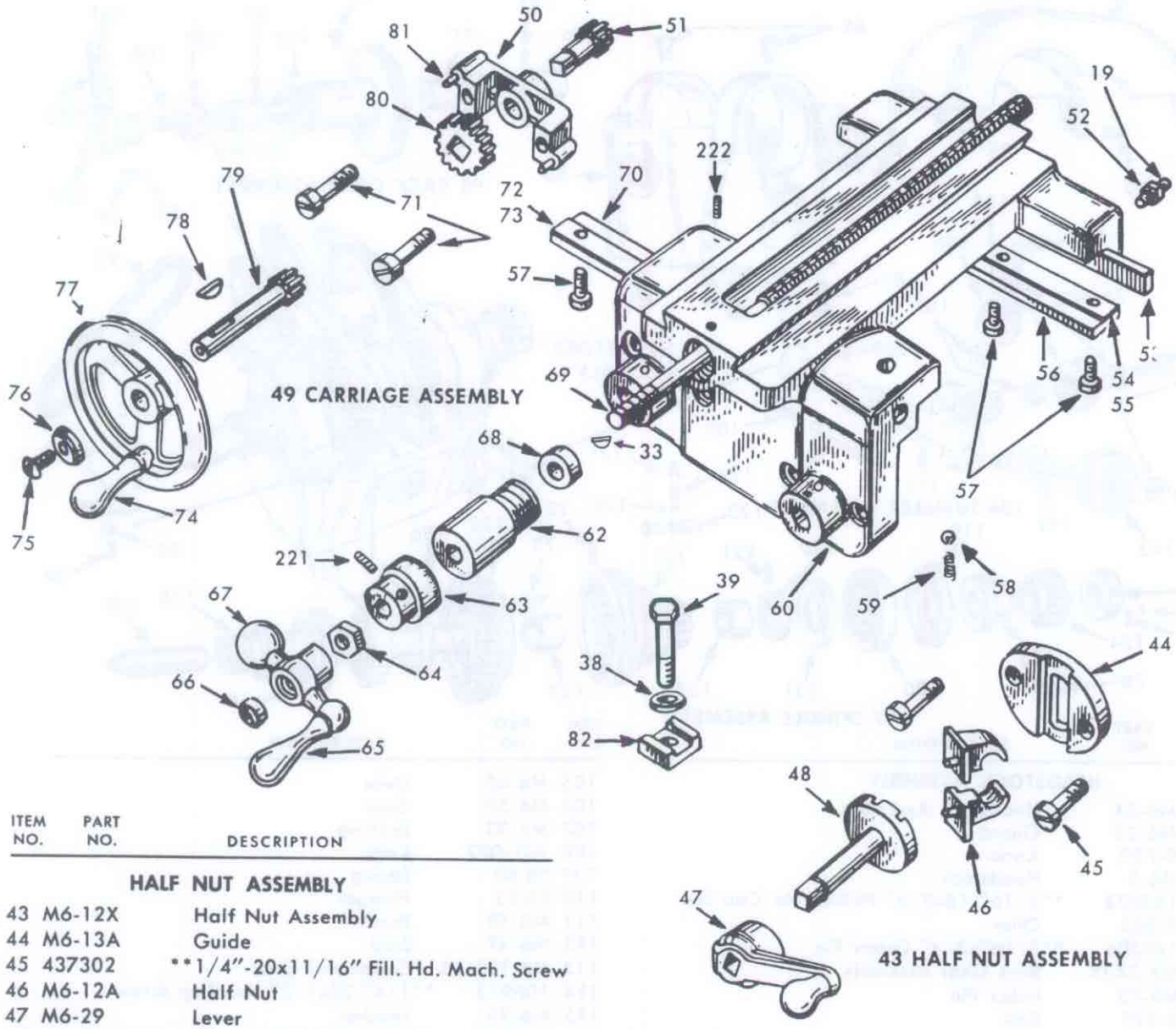
THREADING DIAL ASSEMBLY

ITEM NO.	PART NO.	DESCRIPTION
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.

65

CRAFTSMAN 6" METAL TURNING LATHE, MODEL #101.21400

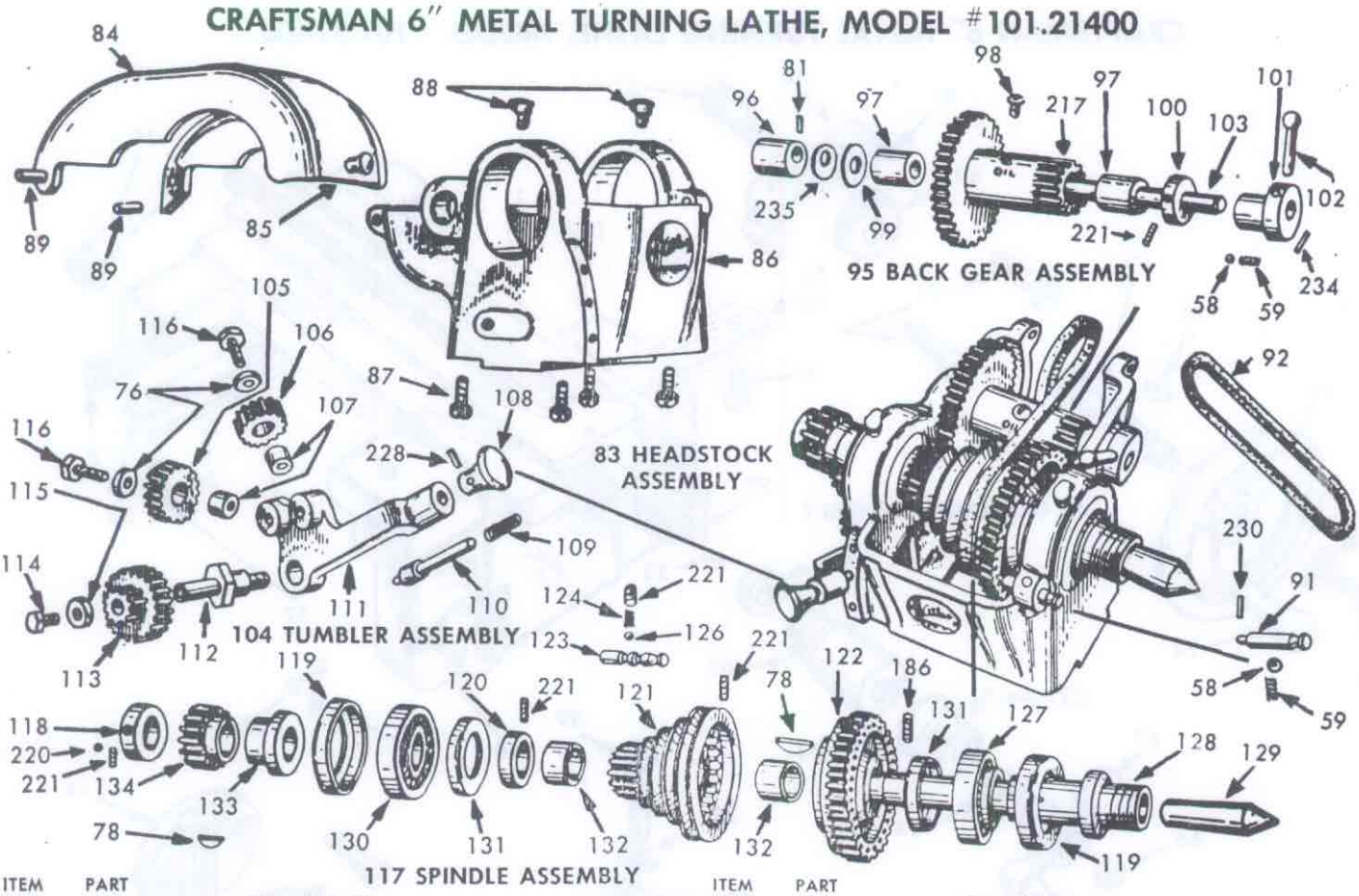


ITEM NO.	PART NO.	DESCRIPTION
		HALF NUT ASSEMBLY
43	M6-12X	Half Nut Assembly
44	M6-13A	Guide
45	437302	**1/4"-20x11/16" Fill. Hd. Mach. Screw
46	M6-12A	Half Nut
47	M6-29	Lever
48	M6-38	Cam
		CARRIAGE ASSEMBLY
49	M6-9X	Carriage Assembly less Compound Rest and Threading Dial
43	M6-12X	Half Nut Assembly
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	M6-57	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

ITEM NO.	PART NO.	DESCRIPTION
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	142485	**1/8"x5/8" Groov Pin
38	M6-155	Washer
39	M6-177	Screw
82	M6-14	Clamp
71	114355	**1/4"-20x3/4" Fill. Hd. Mach. Scr.
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



ITEM NO.	PART NO.	DESCRIPTION
		HEADSTOCK ASSEMBLY
83	M6-2X	Headstock Assembly
84	M6-22	Guard
85	9-729	Knob
86	M6-2	Headstock
87	153978	**5/16"-18x7/8" Phillips Hd. Cap Scr.
88	9-205	Oiler
89	142506	**3/16"x3/4" Groov Pin
95	M6-243X	Back Gear Assembly
91	M6-75	Index Pin
58	9-210	Ball
59	9-61	Spring
92	M6-127A	Belt
230	189110	**1/8"x3/8" Groov Pin
117	M6-31X	Spindle Assembly
104	M6-58X	Tumbler Assembly
		BACK GEAR ASSEMBLY
95	M6-243X	Back Gear Assembly Including Spindle Back Gears
96	M6-252	Left Eccentric
97	M6-249	Bushing
98	110498	**10-24x1/4" Rd. Hd. Mach. Screw
100	M6-253	Collar
101	M6-251	Right Eccentric
102	M6-254	Handle
59	9-61	Spring
58	9-210	Ball
103	M6-250	Shaft
99	M6-255	Fiber Washer
235	932-004	Steel Washer
217	M6-243	Back Gear with Bushings
221	127555	**8-32x3/16" H'dless Set Scr. (cup pt.)
81	142485	**1/8"x5/8" Groov Pin
234	453676	**1/8"x1" Roll Pin
		TUMBLER ASSEMBLY
104	M6-58X	Tumbler Assembly

ITEM NO.	PART NO.	DESCRIPTION
105	M6-60	Gear
106	M6-59	Gear
107	M6-33	Bushing
108	441-072	Knob
109	S8-63	Spring
110	L3-23	Plunger
111	M6-58	Bracket
112	M6-47	Stud
113	M6-101-16	Compound Gear
114	106972	**1/4"-20x1/2" Hex Cap Screw
115	M6-94	Washer
116	106320	**1/4"-20x7/8" Hex Cap Screw
228	426311	**3/32"x7/16" Groov Pin
76	M6-93	Washer
		SPINDLE ASSEMBLY
117	M6-31X	Spindle Assembly
118	M6-32	Collar
78	442-012	Key
119	M6-71	Dust Cover
120	M6-89	Spacer
121	2140-10	Pulley and Gear with Bushings
122	M6-241	Back Gear
123	M6-256	Pin
124	M6-257	Spring
126	M6-214	Ball
127	M6-81B	Bearing
128	M6-31	Spindle
129	9-88	Center
131	M6-72	Dust Cover
221	127555	**8-32x3/16" H'dless Set Scr. (cup pt.)
132	M6-258	Bushing
130	M6-82B	Bearing
133	M6-78	Spacer
134	M6-100-32	Gear
220	M6-226	#4 Lead Shot
186	140856	**8-32x3/8" Socket Set Scr. (cup pt.)

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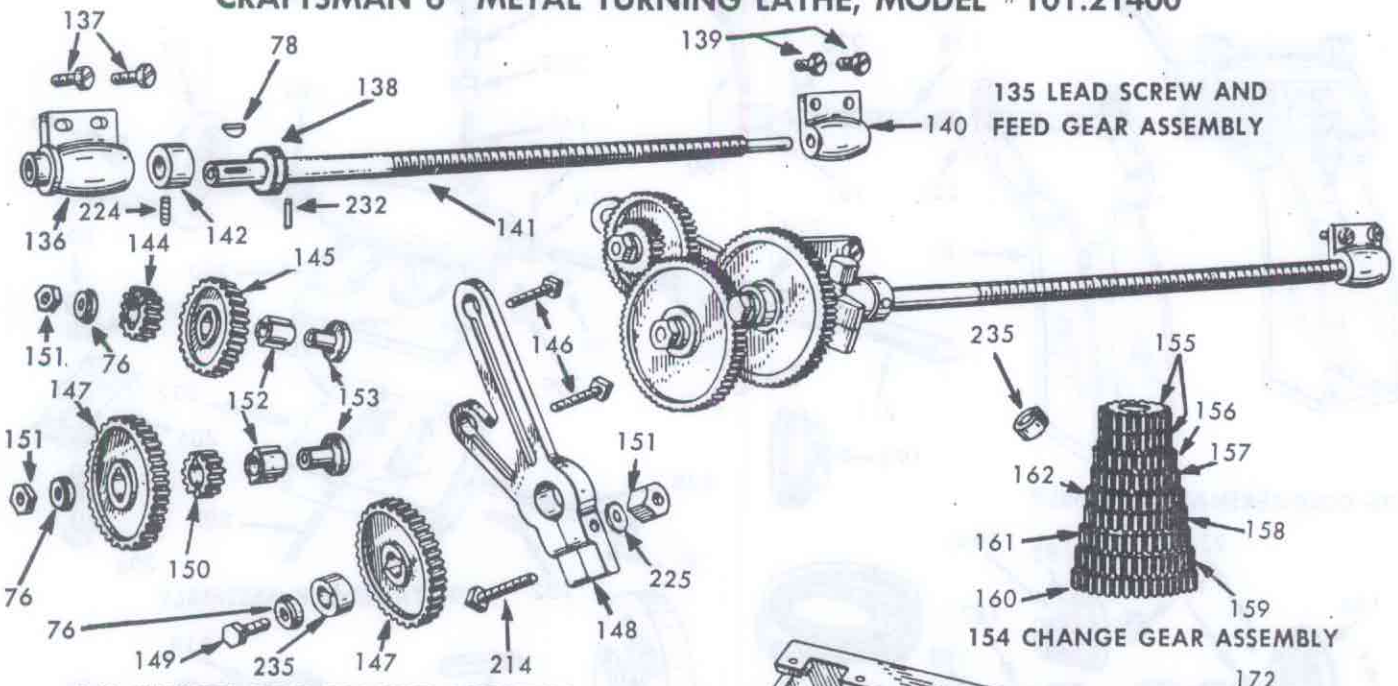
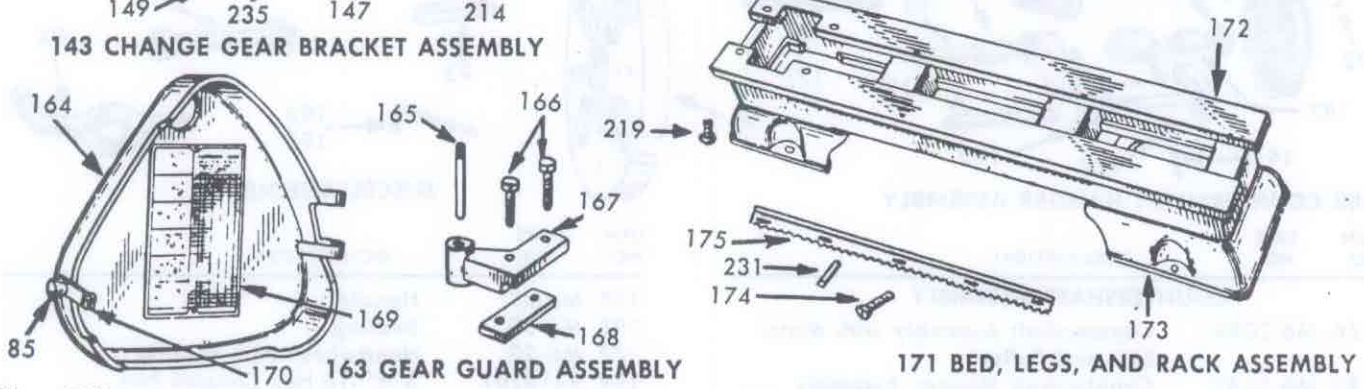
CRAFTSMAN 6" METAL TURNING LATHE, MODEL #101.21400



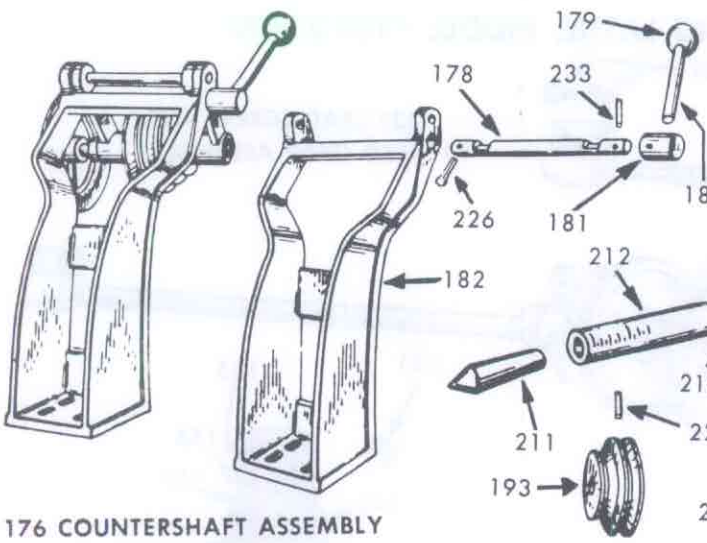


ITEM NO.	PART NO.	DESCRIPTION
		LEAD SCREW AND FEED GEAR ASSEMBLY
135	L9-35X	Lead Screw and Feed Gear Assembly
143	M6-25X	Change Gear Bracket Assembly
136	M6-27	Bearing
137	114354	**1/4"-20x5/8" Fill. Hd. Mach. Screw
78	106749	**#3 Woodruff Key
138	M6-114	Collar
139	114353	**1/4"-20x1/2" Fill. Hd. Mach. Screw
140	M6-16	Bearing
141	L9-35	Lead Screw with Collar
142	L2-682	Collar
224	221183	**1/4"-20x3/16" Socket Set Screw (cup pt.)
232	142489	**1/8"x1-1/4" Groov Pin
		CHANGE GEAR BRACKET ASSEMBLY
143	M6-25X	Change Gear Bracket Assembly
144	M6-101-24	24-Tooth Gear
145	M6-101-48	48-Tooth Gear
146	109150	**1/4"-20x1-1/2" Sq. Hd. Mach. Scr.
151	109084	**1/4"-20 Hex Nut
148	M6-25	Bracket
147	M6-101-64	64-Tooth Gear
235	M6-165	Spacer
149	106962	**1/4"-20x3/8" Hex Cap Screw
76	M6-93	Washer
150	M6-101-20	20-Tooth Gear
152	M6-70	Bushing
153	M6-73	Sleeve
225	981-089	**3/16" Washer
214	109149	**1/4"-20x1-1/4" Sq. Hd. Mach. Bolt

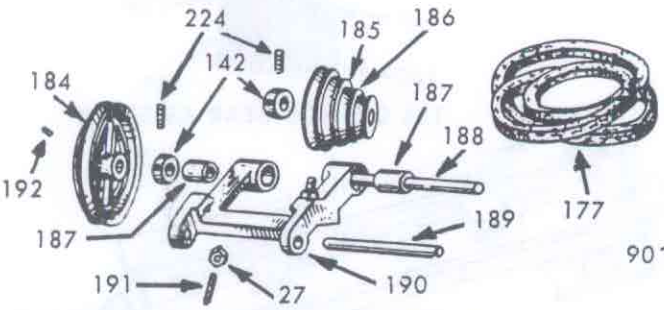
ITEM NO.	PART NO.	DESCRIPTION
		CHANGE GEAR ASSEMBLY
154	M6-101X	Change Gear Assembly less Spacer
155	M6-101-32	32-Tooth Gear
156	M6-101-36	36-Tooth Gear
157	M6-101-40	40-Tooth Gear
158	M6-101-46	46-Tooth Gear
159	M6-101-54	54-Tooth Gear
160	M6-101-56	56-Tooth Gear
161	M6-101-52	52-Tooth Gear
162	M6-101-44	44-Tooth Gear
235	M6-165	Gear Spacer
		GEAR GUARD ASSEMBLY
163	M6-28X	Gear Guard Assembly
164	M6-28	Guard
165	M6-92	Hinge Pin
166	106321	**1/4"-20x1-1/8" Hex Cap Screw
167	M6-95	Bracket
168	M6-96	Clamp
169	M6-99A	Thread Chart
170	M6-157	Latch
85	9-729	Knob
		BED, LEGS, AND RACK ASSEMBLY
171	L9-1X	Bed, Legs, and Rack Assembly
172	L9-1	Bed
173	M6-150L	Leg
174	M6-328	Screw
175	L9-86	Rack
219	114357	**1/4"-20x1" Fill. Hd. Hd. Mach. Screw
231	142484	**1/8"x1/2" Groov Pin

** Standard hardware item — may be purchased locally

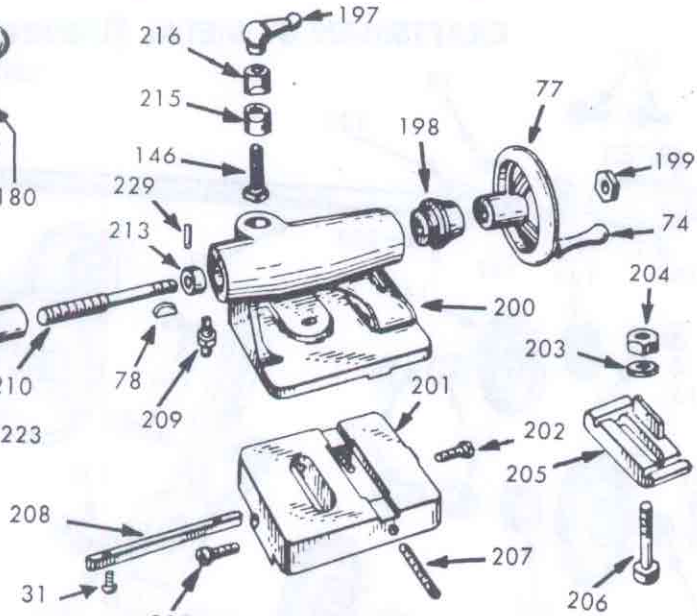
CRAFTSMAN 6" METAL TURNING LATHE, MODEL #101.21400



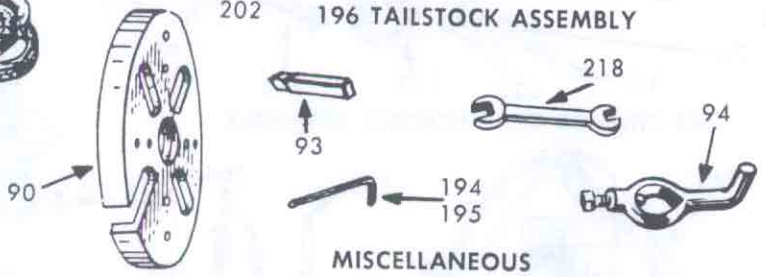
176 COUNTERSHAFT ASSEMBLY



183 COUNTERSHAFT HANGER ASSEMBLY



196 TAILSTOCK ASSEMBLY



MISCELLANEOUS

ITEM NO.	PART NO.	DESCRIPTION
		COUNTERSHAFT ASSEMBLY
176	M6-20BX	Countershaft Assembly with Motor Belt and Pulley
183	M6-21AX	Countershaft Hanger Assembly
177	L9-125	Motor Belt
178	M6-76	Rocker Shaft
179	51-56	Ball
180	51-52	Handle
181	M6-77	Hub
182	M6-20B	Bracket
193	M6-429	Motor Pulley
223	140867	**10-24x3/16" Socket Set Scr. (cup pt.)
226	103385	**1/8"x1" Cotter Pin
233	142359	**3/16"x1" Groov Pin
		COUNTERSHAFT HANGER ASSEMBLY
183	M6-21AX	Countershaft Hanger Assembly
184	M6-427	Pulley
142	L2-682	Collar
185	M6-80	Pulley
186	140856	**8-32x3/8" Socket Set Scr. (cup pt.)
187	10-264	Bearing
188	M6-107	Spindle
189	9-122	Hinge Pin
190	M6-21A	Hanger with Bearings
27	114501	**1/4"-20 Hex Jam Nut
191	102384	**1/4"-20x1-3/4" H'dless Set Screw (oval pt.)
192	102570	**1/4"-20x3/8" Socket Set Screw (cup pt.)
224	221183	**1/4"-20x3/16" Socket Set Screw (cup pt.)
		TAILSTOCK ASSEMBLY
196	M6-5X	Tailstock Assembly

ITEM NO.	PART NO.	DESCRIPTION
197	M6-42	Handle
198	M6-30	Bearing
77	M6-23	Handwheel with Handle
199	9414201	3/8"-16 Hex Conelok Nut
74	9-104	Handle
200	M6-5	Tailstock } AVAILABLE ONLY AS ASSEMBLY
201	M6-6	Base } NO. 0618-10
202	10D-60	Gib Screw
203	9414321	**5/16" Washer
204	102635	**3/8"-16 Hex Nut
205	M6-7	Clamp
206	109189	**3/8"-16x2-1/2" Sq. Hd. Mach. Bolt
207	102384	**1/4"-20x1-3/4" H'dless Set Screw (oval pt.)
208	M6-129	Gib
209	102806	**10-24x1/2" H'dless Set Screw (dog pt.) and Nut
210	M6-34	Screw
211	L2-80	Center
212	M6-8	Ram
213	M6-90	Thrust Nut
146	109150	**1/4"-20x1-1/2" Sq. Hd. Mach. Scr.
215	M6-44	Lock
216	M6-45	Sleeve
229	142952	**3/32"x1/2" Groov Pin
78	106749	**#3 Woodruff Key
31	110500	**10-24x1/2" Rd. Hd. Mach. Screw
		MISCELLANEOUS
90	M6-365	Face Plate
93	9-385A	3/8" Tool Bit
94	144	1" Lathe Dog
218	M6-312	Wrench
194	W44-2	1/4" Socket Wrench
195	W44-1	#10 Socket Wrench
	64571	Ins. Sheet & Part List (not illustrated)

** Standard hardware item — may be purchased locally. 6S