OPERATOR'S MANUAL

JET 1024P (Y) and 1236P (Y)
Belt Drive Bench Lathe

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Introduction

The JET 1024P (Y) or 1236P (Y) Belt Drive Bench Lathe you have purchased is a high-quality machine tool that will give you years of superior service. Naturally, you will get maximum performance from your new JET bench lathe if you follow the instructions in this manual.

Before attempting to install or operate your new bench lathe, we recommend you read this manual and familiarize yourself with the details of operation. Understanding the contents of the manual will help you obtain the best possible results and achieve highest standards of accuracy. It will also resolve many of the problems you could encounter otherwise.

Your JET bench lathe is backed by a nationwide network of distributors and service centers. If you should have any problems, do not hesitate to call on our nearest representative. Our goal is to ensure maximum satisfaction with your new lathe.

A serial number is stamped on the nameplate. Please refer to this serial number in any communications regarding your machine, and refer to the parts list accompanying this manual to order specific part numbered items.

Specifications

	1024P (Y)	1236P (Y)
Stock number	321328	321337
Tool post type	4 way	4 way
Swing over bed	10"	12"
Swing over saddle	5½"	5½"
Swing over cross slide	6"	6"
Distance between centers	24"	36"
Spindle nose mounting	0 52 mm — 8 TPI	0 60M — 8 TPI
Main spindle bore	1-1/16"	1⅜"
Taper of spindle bore	MT #4	MT #5
Taper of center	MT #2	MT #3
Number of spindle speeds	12	12
Range of spindle speeds (RPM)	60 — 1240	60 — 1240
Carriage travel	18"	31¼"
Cross slide travel	5-7/16"	5-7/16"
Compound rest travel	2-11/16"	2-11/16"
Maximum size cutting tools	½" x ½"	½" x ½"

Specifications (Continued)

	1024P (Y)	1236P (Y)
Diameter of tailstock spindle	1¼"	1¼"
Tailstock spindle travel with center	4⅛" 3⅞"	4⅛" 3⅞"
Taper of tailstock center	MT #2	MT #2
Bed width	7⅜"	7⅜"
Bed length	46"	60⅜"
Bed height to top of V	11-13/16"	11-13/16"
Leadscrew (thread)	¾" dia. x 8 TPI (Acme thread)	¾" dia. x 8 TPI (Acme thread)
Feed shaft diameter	⅝"	⅝"
Inch thread cutting range A-E, 1-8	4-112 TPI (40 kinds)	4-112 TPI (40 kinds)
Metric thread cutting range	0.25 — 6 (34 kinds)	0.25 — 6
Range of longitudinal feed	.1005" to .0036" (in./rev.)	.1005" to .0036" (in./rev.)
Range of cross feed	.0345 to .0012 (in./rev.)	.0345 to .0012 (in./rev.)
Number of feed ranges	40 x 40 (long. & cross)	40 x 40 (long. & cross)
Main drive motor	1½ HP, sgl. ph., 115/230V (pre-wired 115V), capacitor start	2 HP, sgl. ph., 115/230V (pre-wired 115V), capacitor start
Overall dimensions	25⅜" W 21½" H 55" L (see Figure 1)	27½"W 21½"H 69" L (see Figure 1)
Net weight (approx.)	550 lbs.	600 lbs.
Ship weight (approx.)	705 lbs.	790 lbs.

Standard Accessories:

Reversing switch
Spindle adapter sleeve
  1024P (Y): #4-2 MT
  1236P (Y): #5-3 MT
Toolpost wrench
Metric change gear
Faceplate (8")
Tool box with tools
Three-jaw chuck
Chip tray
Steady rest
Four-way tool post

Dimensions	A	B	C	D	E	F
1024P (Y)	24"	53"	55"	21½"	18"	25¾"
1236P (Y)	36"	67"	69"	21½"	18"	27½"

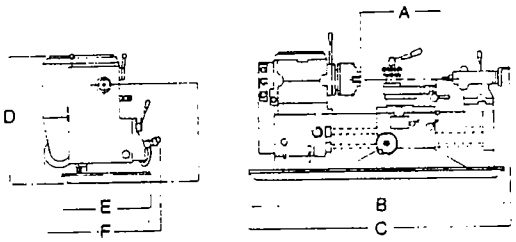


FIGURE 1

Features

The JET 1024P (Y) and 1236P (Y) bench lathes are top-quality production lathes that will add flexibility and versatility to your shop. These precision machines offer extras unavailable on other makes of bench lathes in the same price category.

On each model, a powerful capacitor start motor has an external junction box. The jack shaft is supported by bearings. The main spindle is supported by precision-tapered roller bearings. The speed reduction gear is helical cut for long wear and quiet operation. View glass allows easy check of oil levels. The headstock lid includes a convenient, built-in tool tray.

The back gear is extra heavy duty and easy to engage. The quick-change gearbox provides a wide range of gear changes for thread cutting and feeds in both inch and metric dimensions. Carriage ways are extra wide. Top surface of carriage and compound are ground and finished. Cross feed, compound carriage, and tailstock dials are equipped with direct reading micrometer collars. The tailstock can be offset for turning tapers.

The apron is designed for maximum convenience and safety. Automatic feeding and threading are fully interlocked. Leadscrew and feedrod are independent. Adjustable gibs are incorporated in saddle and slides.

Instead of flatways usually found on lathes of this size, the 1026P (Y) and 1236P (Y) feature two V-ways and two flatways for precision accuracy. The ways are made of hardened and ground cast iron for sturdy support.

The JET 1026P (Y)/1236P (Y) belt drive bench lathe is shown in Figure 2.

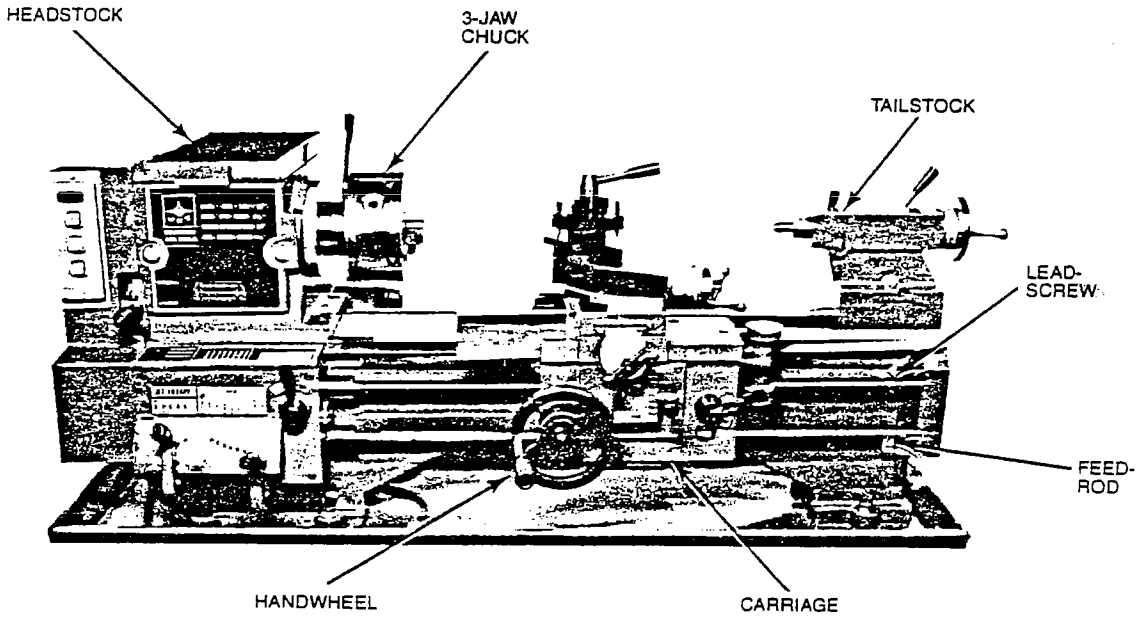


FIGURE 2

Unpacking and Cleanup

To ensure maximum performance from your JET bench lathe, clean it properly, and install it accurately before use.

As soon as you receive the lathe, we recommend you follow these procedures:

1. Inspect the packing crate for external damage in transit. Record any damage, and report it immediately to the shipper.
2. Open the crate, and check that the machine arrived in good condition with all components included. If not, let your industrial distributor know immediately.
3. Machine surfaces of the lathe are protected by a heavy coating that must be removed before the lathe is used. Remove the protective coating with kerosene or diesel oil. DO NOT use cellulose-based solvents; they damage paint. Lubricate all slideways and bedways with S.A.E. No. 10 lubricant and the gears with S.A.E. No. 30 lubricant. Lubricate compound and leadscrew with light lubricating oil.

Installation

The mounting base for the lathe must be rigid and able to support the weight of both lathe and

work. The base may be a stand, a strong metal table, or a wood cabinet.

To mount the machine on its base, proceed as follows:

1. Place mounting base on a solid, level foundation. If the floor is not solid, reinforce it.

   NOTE: Provide two feet or more of working space around the lathe to provide access for removing components.

2. Remove bolts locking maching to its shipping crate.
3. Clean the beds.
4. Move carriage and tailstock to extreme right of bed, and clamp to bed.
5. Lift machine onto stand, using overhead crane or fork lift.

   When lifting with crane, proceed as follows:

   a. Place block of wood between leadscrew and feedrod (Figure 3). The block of wood should be 3" x 2" x 18" and should protrude between the rods.

   b. Place strong sling around the bed four inches to right of quick-change gearbox.

   c. Use strong hook; and guide machine manually when lifting.

CAUTION

DO NOT touch leadscrew, spindle, or handwheels when moving machine.

DO NOT lift on the headstock, tailstock, or carriage.

Raise and lower machine carefully to avoid bumping.

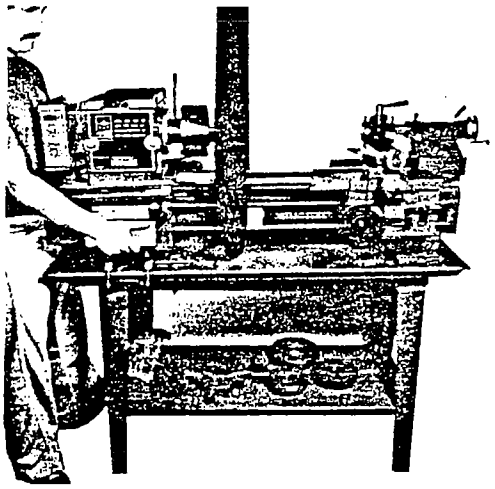


FIGURE 3

6. Position lathe on clean chip tray.
7. From underside of mounting base, install mounting bolts with washers.
8. To lock lathe in place, add locknuts. DO NOT tighten until machine has been leveled.

Leveling

The lathe bed must be perfectly level to avoid twisting the bed; the slightest twist moves the centers out of alignment.

Level the bed as follows:

1. Clean the bedways.

CAUTION

DO NOT move carriage or tailstock until bed has been cleaned.

2. Using machinist level six-inches long, check lengthwise and crosswise level of each bedway near both the headstock and tailstock ends. To level, place metal shims under low corner(s) near bolt between bed legs and chip tray.
3. Tighten six mounting bolts securely.
4. Recheck with level and adjust until lathe bed is perfectly level.
5. Periodically check level of machine following installation.

Preoperation Servicing and Checks

Before operating lathe, service all lubrication points, and fill the headstock and gearbox with oil as follows:

BEDWAYS

Oil both top and side surfaces of bedways when using lathe. Cover bedways during grinding operation. Cover all unpainted surfaces with a film of oil, and protect lathe from dust when machine is not in use.

HEADSTOCK

Use S.A.E. 30-weight, non-detergent oil for headstock. Keep oil level at top mark on view glass. Fill oil inlets, located under headstock cover, as shown in Figure 4.

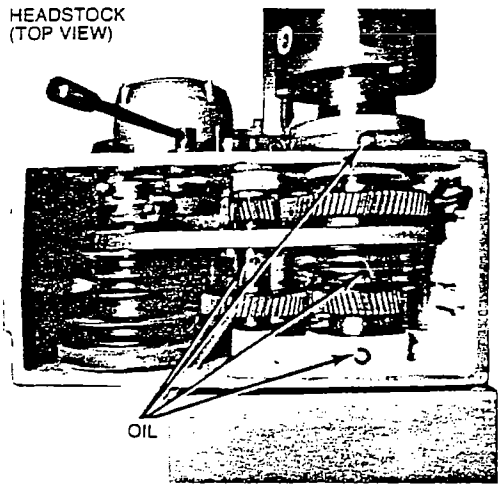


FIGURE 4

BACK GEAR TRAIN

Lubricate gears and tension pulley cam in headstock once a month with thick machine oil or grease. Oil intermediate gear shafts weekly.

HEADSTOCK SPINDLE (Figure 5)

Oil front and rear bearings over the bearing housing. Check oil in view glass daily.

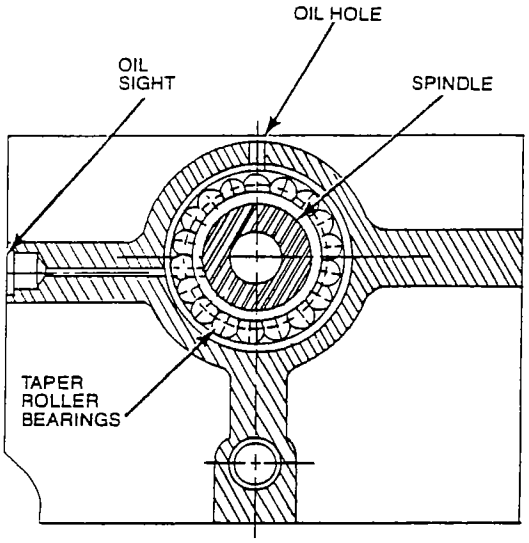


FIGURE 5

QUICK-CHANGE GEARBOX (Figure 6)

Oil is sent to each bearing part but does not circulate. Daily hand oiling is therefore necessary. To insert oil, lift cover from quick-change gearbox.

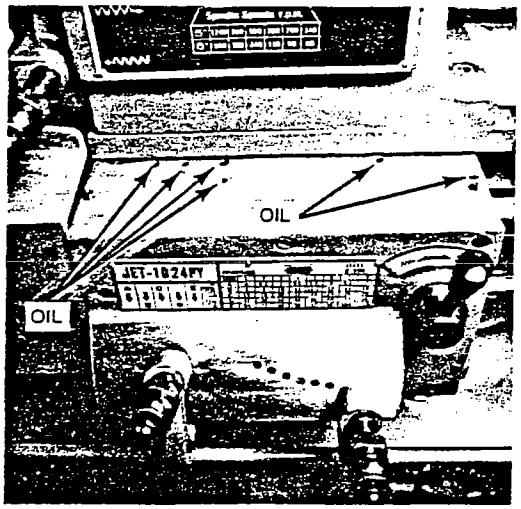


FIGURE 6

END GEAR TRAIN (Figure 7)

Manually apply all-purpose grease to gears.

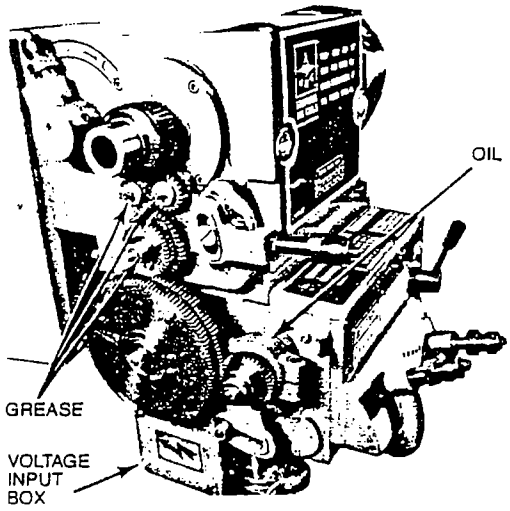


FIGURE 7

CARRIAGE AND APRON (Figure 8)

The lower part of the apron is an oil reservoir. Fill apron with S.A.E. 30-weight, non-detergent oil through side of apron. To do so, remove oil inlet cap. Always keep oil level at center horizontal line of view glass.

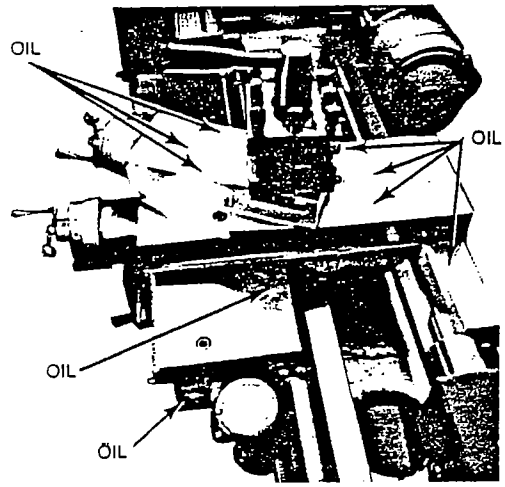


FIGURE 8

Oil longitudinal handwheel, cross feed, and feed block with S.A.E. 30-weight, non-detergent oil at points shown in Figure 9.

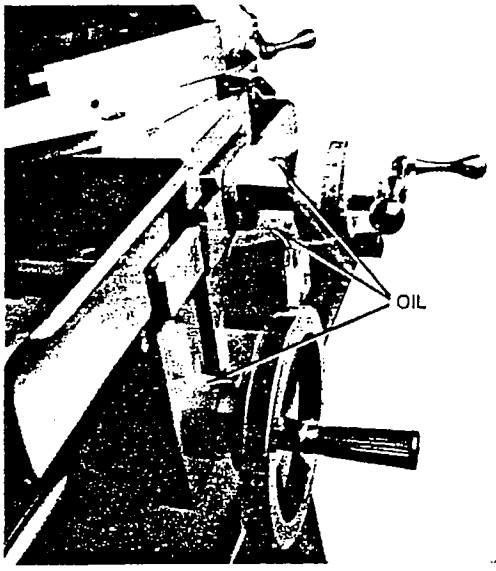


FIGURE 9

Lubricate other parts of carriage at oil inlets in cross slide, multiple tool rest, feed screw shaft bearings, bracket which holds feedrod, lead-screw, and tailstock. Hand oil occasionally.

Slideways should be thoroughly cleaned and lubricated.

TAILSTOCK AND SUPPORT BLOCK
(Figure 10)

Oil tailstock and support block, using S.A.E. 30-weight, non-detergent oil.

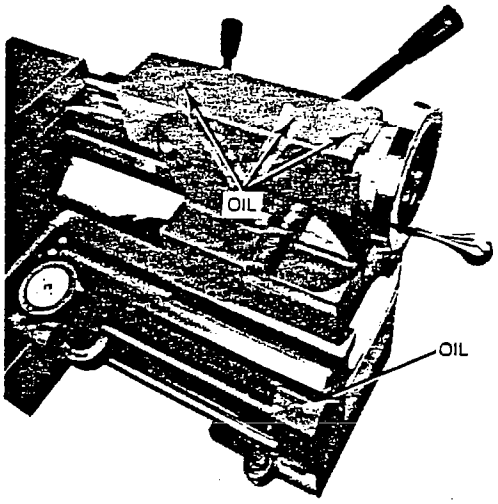


FIGURE 10

Connecting to Power Supply

The main spindle is run by a casing-type induction motor. Output capacity is 1½ HP on the 1024P (Y) and 2 HP on the 1236P (Y) lathe, each having four poles and single phase.

We recommend a qualified electrician connect this machine to power.

Before connecting machine to power supply:

1. Turn main switch off.
2. Check that electric power source matches motor's voltage specifications.

   NOTE: This machine is prewired for 110 volts (see Figure 11). If machine is to be used on 220 volts, see Figure 12.
3. Check that all line connections make good contact; running at low voltage damages motors.
4. Properly ground machine.

Power should be supplied through a separate isolator. Input wires connect below end gear train (Figure 7).

To run machine, use a three-wire conductor, number 10, gauge wire.

WIRING DIAGRAM — 1024/1236P (Y)

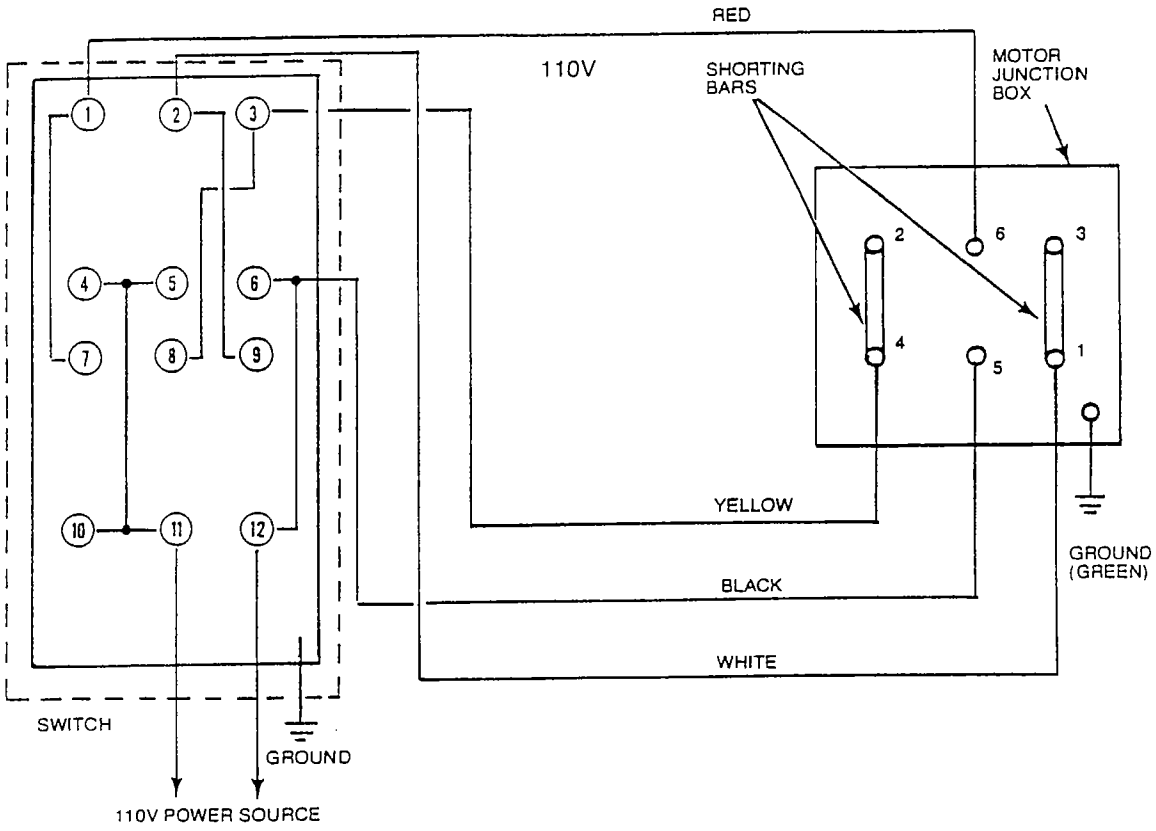


FIGURE 11

WIRING DIAGRAM — 1024/1236P (Y)

To change to 220 volt:

1. Remove button cover from switch.
2. Remove cover from motor junction box.
3. Disconnect red wire from upper left-hand screw (terminal 1), and tape.
4. Disconnect red wire from terminal 6 at motor, and tape.
5. Loosen nuts on motor terminals, and move shorting bars to terminals 2, 6, and 3.
6. Change plug to 220V type with ground lug.

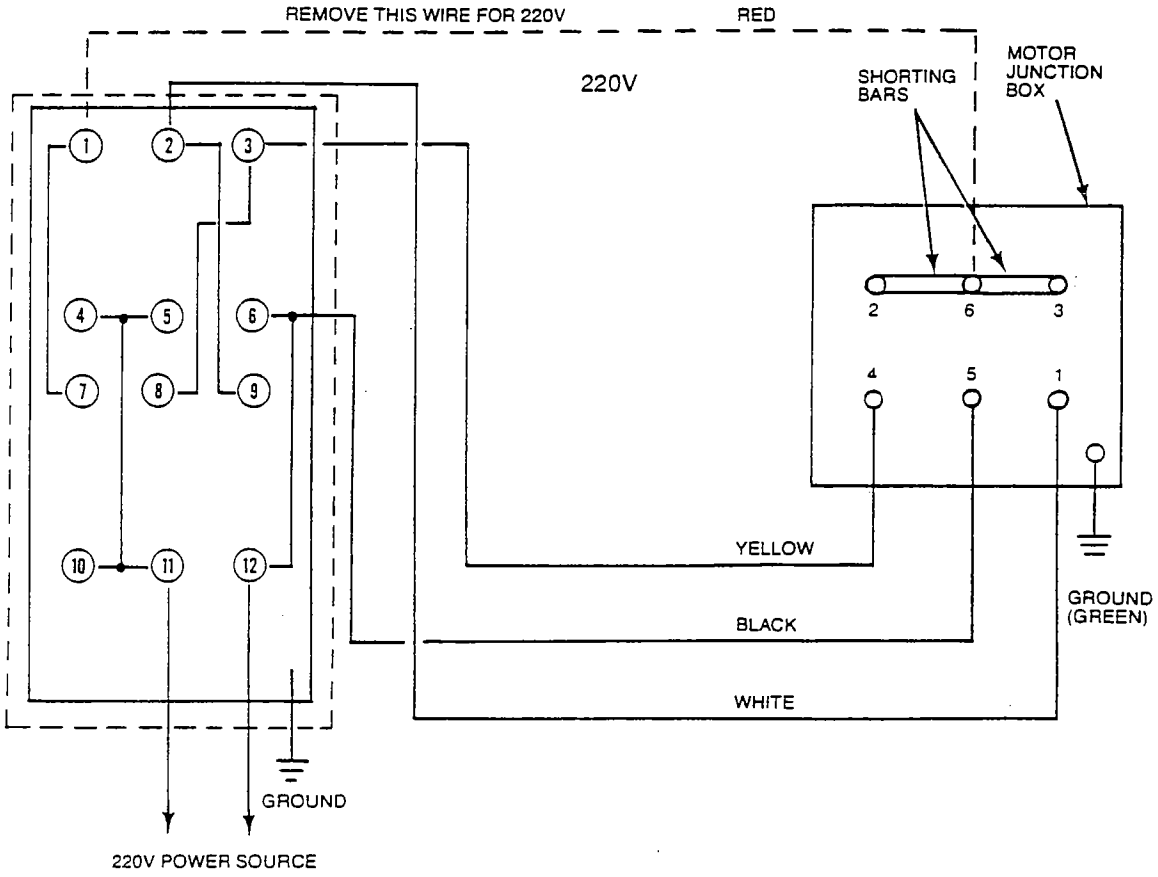


FIGURE 12

Breaking-In Period

After lathe is completely lubricated:

1. Select the lowest spindle speed, as shown in "Selecting Spindle Speeds" of this manual.
2. Press forward switch on headstock, and verify that spindle turns counterclockwise. If spindle turns backward, reverse the yellow and white wires to the lathe motor; and recheck.
3. Run lathe 15 minutes.
4. Operate all controls shown on headstock, clearing away remaining preservatives and checking that controls function.
5. Shut off motor.
6. Relubricate lubrication points. (Refer to "Preoperation Servicing and Checks" in this manual.)
7. Run machine in low speed two to three hours, periodically checking lubrication.

The lathe is now ready for use.

Operation Checklist

As with any precision machine, lasting accuracy and long wear can be assured through proper maintenance. We recommend that you break in your lathe with light work only and for short periods of time, as you would a new car. For maximum performance, we recommend, in addition, that you follow the operation checklist below:

1. Keep lathe clean and properly lubricated.
2. Check the level of the bed frequently.
3. Lock the tailstock to the bedways before turning between centers.
4. Keep leadscrew threads clean and lightly lubricated.
5. Securely lock cutting tools in position before taking a cut.
6. Don't change gears while spindle is turning.
7. Don't change feed in high speed range.
8. Don't change lead in high speed range.
9. Don't over-ride carriage past bedway wipers.
10. Don't operate without adequate lubrication.
11. Don't over load with too heavy cuts.
12. Don't move tailstock along dirty bed.
13. Don't change chucks or perform maintenance on lathe unless main switch box is off.

Controls

Thoroughly familiarize yourself with all lathe controls before operating lathe. Failure to do so can cause errors in work and damage to lathe.

HEADSTOCK CONTROLS (Figure 13)

1. Gearbox shift lever — Selects lead or feed gearing to drive leadscrew or feedrod.
2. Quick change levers (A-E positions, 1-8 positions) — Set feedrod rate or set TPI for leadscrew.
3. Forward/reverse lever — Reverses or stops rotation of leadscrew and feedrod. Lever has three positions:
   - Center (neutral)
   - Upper (moves carriage toward tailstock or the cross slide outward)
   - Down (moves carriage toward headstock or the cross slide inward)
4. Forward/reverse switch — Rotates headstock spindle clockwise or counterclockwise.
5. Back gear shift lever (located inside end gear train box) — Engages back gear for slow spindle speeds or disengages back gear for high spindle speeds.
6. Pulley engagement lever — Releases tension on V-belt between countershaft and headstock to permit pulley ratio changes.

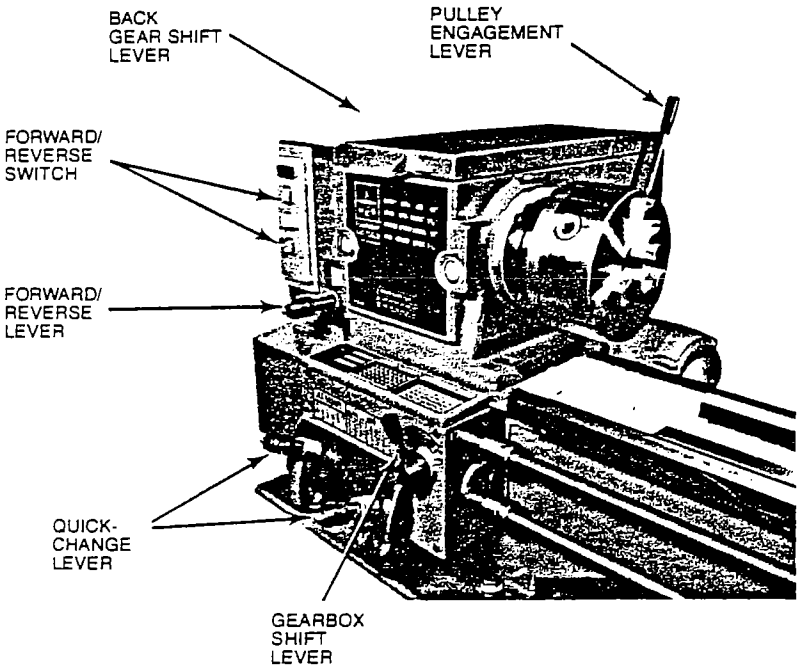


FIGURE 13

CARRIAGE CONTROLS (Figure 14)

Carriage moves along bed manually or by power and supports the cross slide, compound rest, tool posts and cutting tools. The apron (at front of carriage) contains the power cross and longitudinal feed controls.

1. Carriage handwheel	Moves carriage along bedways by hand.
2. Crossfeed handle	Moves cross slide front and back. Micrometer collar graduated in 0.001 inch increments.
3. Tool holder locking screw	Locks tool post in position on compound.
4. Tool post clamping lever	Releases and tightens four-way tool post rotation.
5. Compound feed handle	Moves compound in and out. Micrometer collar graduated in 0.001 inch increments.
6. Carriage lockscrew	Locks carriage to bed for facing or cutoff operations. Carriage lock is anchored by turning clamping lever to right.
7. Threading dial	Indicates proper time to engage half-nut lever so that tool enters same groove of thread on successive cuts.
8. Thread cutting half-nut lever	Engages half-nut with leadscrew for threading.
9. Automatic feed lever	Engages longitudinal or cross feed. Move right and up for power longitudinal feed. Move left and down for power cross feed.

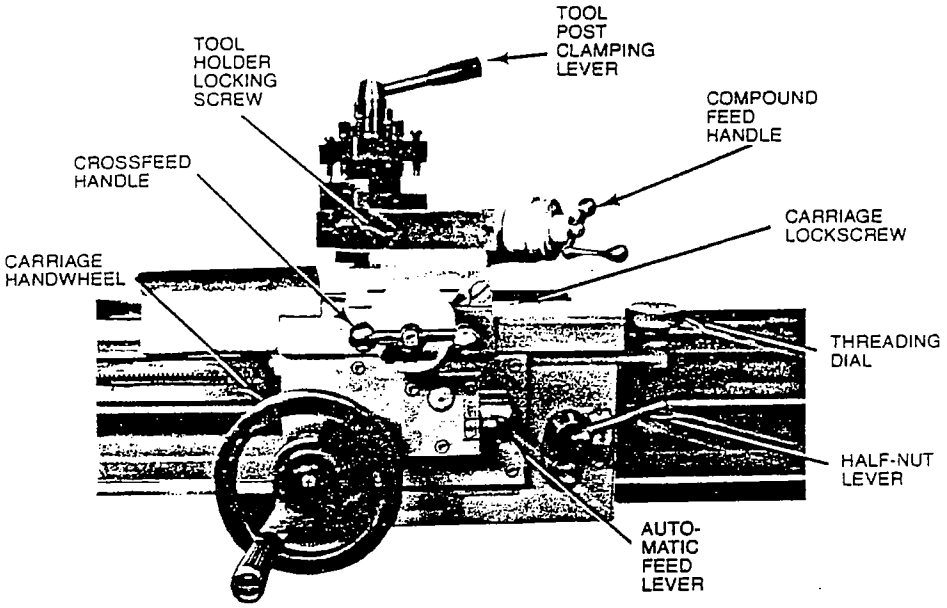


FIGURE 14

TAILSTOCK CONTROLS (Figure 15)

1. Spindle clamping lever (quill locking lever)	Locks quill in position after adjustment.
2. Alignment adjusting screws (2 setover screws)	Allows tailstock to be set off lathe centerline for turning tapers.
3. Locking lever	Locks tailstock to lathe bed.
4. Feed handwheel (quill handwheel)	Extends or retracts tailstock quill. Micrometer collar graduated in 0.001 inch increments.

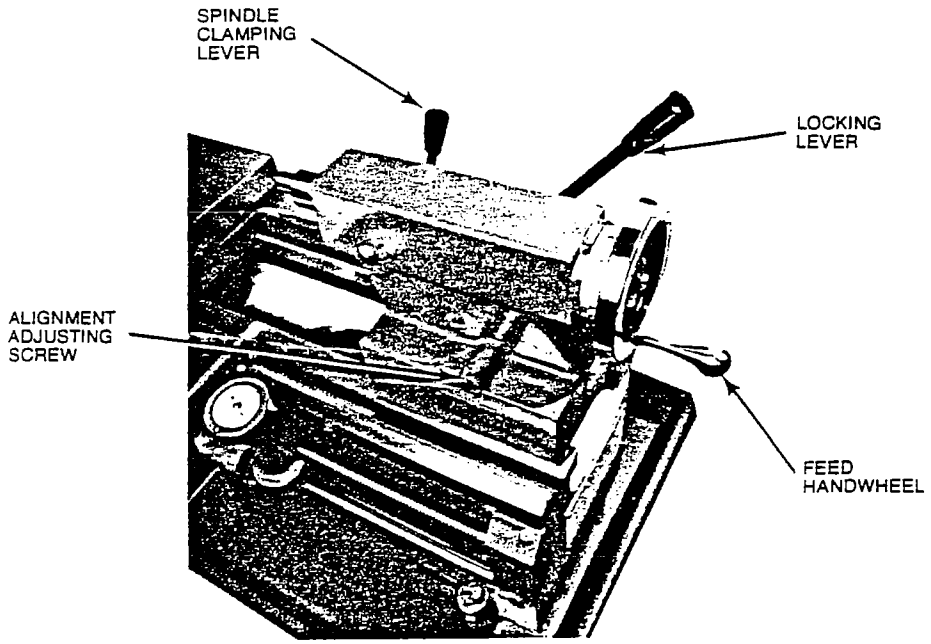


FIGURE 15

Installing and Removing Chuck and Faceplate on Headstock

To install chuck and faceplate:

1. Wipe spindle face and threads clean of dirt and chips; the slightest amount of dirt may affect the accuracy of your work.
2. Coat spindle threads with light film of oil.
3. Lock spindle by means of back gear shift, and carefully screw chuck or faceplate onto spindle. DO NOT force. Unit should thread on easily. Spin it on rapidly as it nears shoulder, so it seats firmly against spindle.

To remove chuck:

1. Place board under chuck to protect bedways.
2. Rotate chuck until wrench hole is on top. Then engage back gears by means of back gear shift to lock spindle.
3. Insert chuck key into square hole on chuck.
4. Use chuck wrench to loosen chuck. If it does not loosen readily, tap base of wrench gently with soft-headed mallet until chuck breaks free.
5. Spin chuck off spindle, taking care not to drop it.

To remove faceplate:

Remove in same way as chuck, except it may be necessary to tap the slot in the faceplate with a lead hammer. Tap in a counterclockwise direction to loosen faceplate.

Rotating the Main Spindle

To rotate main spindle:

1. Select forward or reverse direction by means of switch button(s) location on headstock.
2. To end operation, press OFF button.

CAUTION

Before operating machine, oil all necessary areas. Refer to "Preparation and Servicing Checks" in this manual.

Selecting Spindle Speeds

Selecting the right spindle speed for your work is important. Spindle speeds from 60 to 1240 rpm are available in 12 steps. Speeds are selected from combinations of pulleys and gears. Figure 16 gives spindle rpm's for belt pulleys and gear combinations. Illustrations for changing the back gear and pulley ratios are also provided.

CAUTION

NEVER change spindle speed until spindle rotation has completely stopped.

Headstock Spindle Speeds

Pulley Size	Direct — High (RPM)			Back Gear — Low (RPM)		
	1	2	3	1	2	3
5"	1240	850	580	300	200	140
6"	500	350	240	130	99	60

HEADSTOCK SPINDLE DRIVER

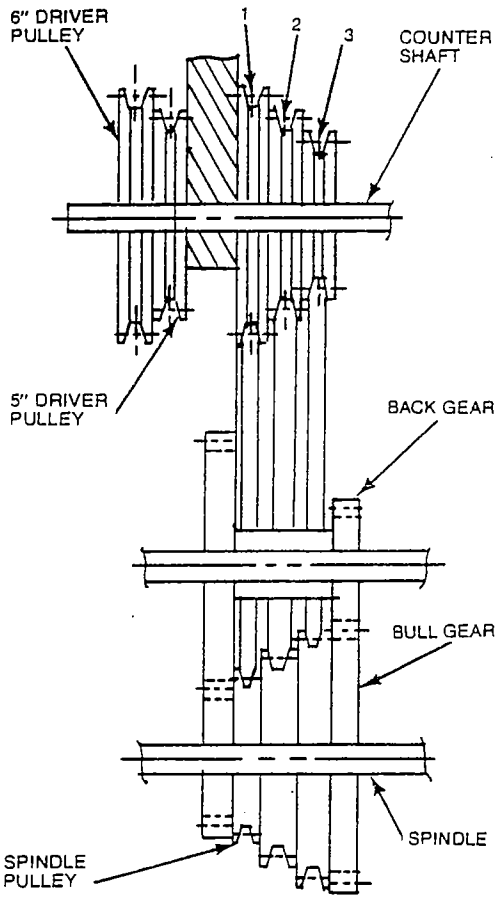


FIGURE 16

ENGAGING THE BACK GEAR (for spindle speeds from 60 to 300 rpm):

CAUTION

DO NOT change the position of the back gear lever unless motor is off and spindle has stopped turning.

1. Turn off motor, and allow spindle to stop.
2. Raise headstock cover to gain access to back gears.
3. Pull out lockpin and turn it 90 degrees. This disengages bull gear from spindle pulley (Figure 17).

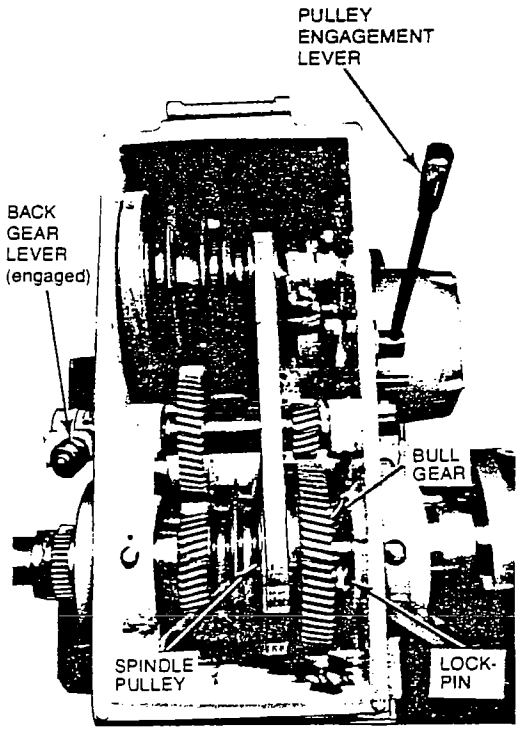


FIGURE 17

4. Engage gears by pulling the back gear lever up and forward (Figures 13 and 17) until pin on lever drops into locking hole.

   NOTE: It may be necessary to rotate spindle by hand slightly for gears to mesh.

DISENGAGING BACK GEAR (for spindle speeds from 240 to 1240 rpm):

1. Turn off motor and allow spindle to stop.
2. Raise headstock cover to gain access to back gears.
3. Disengage back gear by pulling up and back until pin on lever drops into back locking hole.
4. Turn lockpin 90 degrees, and turn chuck by hand until pin snaps in. This locks bull gear and spindle pulley together.

CHANGING PULLEY RATIOS:

1. Turn off motor, and allow spindle to stop.
2. Pull headstock pulley engagement lever (Figures 13 and 17) forward to loosen belt tension.
3. Open headstock cover and/or remove pulley guard to provide access to motor pulleys.
4. Shift V-belts to desired pulley ratios.

   NOTE: It may be necessary to rotate pulleys by hand to get V-belt to ride up into new pulley groove.

Operating Automatic Feed and Changing Feed Rate

For proper feed rate setup, position two quick-change levers into index holes, shown in Figure 13. Refer to feed and thread data above levers (Figures 18 and 23). The top diagonal of the data plate is for the longitudinal feed; the lower diagonal is for cross feed. Engage feedrod by pulling gearbox shift lever to left.

(23T)

40T/127T x 120T/40T ← → 30T/127T x 120T/40T — 8 TPI

LEVER	1	2	3	4	5	6	7	8
A	4.5 / 6					3 / 4		
B	2.25 / 3	2				1.5 / 2		1.3 / 1.7
C	1.5	1.0 / 1.3	0.9 / 1.2	0.8 / 1.1		0.75 / 1.0	0.7 / 0.9	0.65 / 0.85
D	0.55 / 0.75	0.5	0.45 / 0.6	0.4		0.5	0.35 / 0.45	
E	0.3	0.25 / 0.3	0.2			0.25		0.2

(23T)

40T x 127T x 40T

Feedrod = 8 TPI

unit = in.

LEVER	1	2	3	4	5	6	7	8
A	.1005 / .0345	.0893 / .0318	.0804 / .0276	.0731 / .0251	.0699 / .0240	.0670 / .0230	.0618 / .0213	.0574 / .0197
B	.0502 / .0172	.0447 / .0154	.0402 / .0138	.0365 / .0126	.0349 / .0120	.0335 / .0115	.0309 / .0106	.0287 / .0098
C	.0251 / .0086	.0223 / .0077	.0201 / .0069	.0183 / .0063	.0175 / .0060	.0167 / .0058	.0155 / .0053	.0143 / .0049
D	.0126 / .0043	.0112 / .0038	.0100 / .0035	.0091 / .0031	.0088 / .0030	.0084 / .0029	.0077 / .0027	.0072 / .0025
E	.0063 / .0022	.0056 / .0019	.0050 / .0017	.0046 / .0016	.0044 / .0015	.0042 / 0014	.0039 / .0013	.0036 / .0012

FIGURE 18

To get longitudinal feed, pull auto feed handle (Figure 19) to right; and lift up.

To get cross feed, pull handle to left; and push down.

To stop feed, put handle in neutral position.

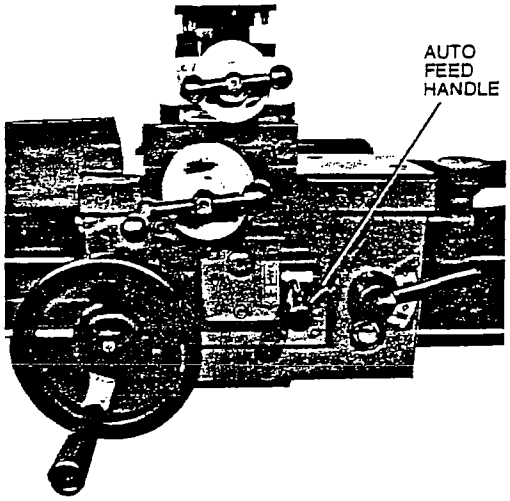


FIGURE 19

Installing Tools

The square tool post (Figure 20) holds cutting tools in position for cutting operations. Place tool's cutting edge on horizontal center line of lathe. Then clamp tool securely in turret, with cutting end as close to holder as work permits. This minimizes overhang and improves quality of cut.

Shims may be needed to raise cutting tool to tailstock center height.

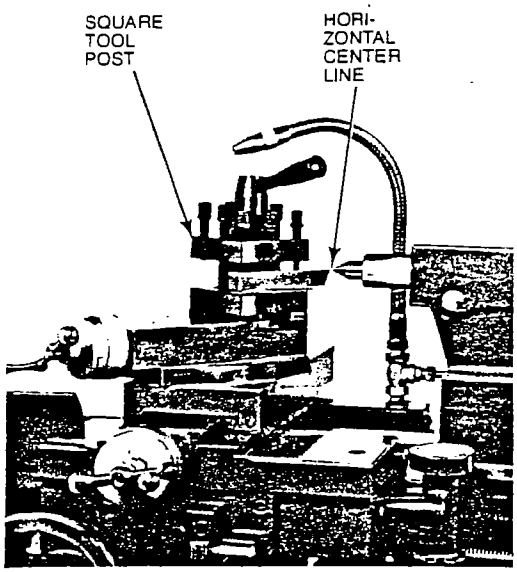


FIGURE 20

Positioning the Tool Post

The compound is used for infeeding, threading, and cutting operations.

1. Before starting a cut, position four-way tool post on compound by means of clamp screw (Figure 21).

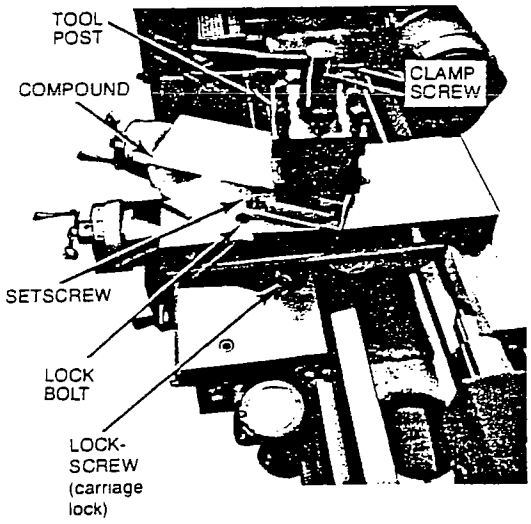


FIGURE 21

2. Set compound at desired angle.
3. Tighten lockbolt on each side of compound base.
4. For facecuts, lock setscrew on right side of compound block. Also tighten carriage lockscrew.
5. To infeed, turn cross feed handwheel, moving feed and tool post perpendicular to lathe center line.
6. To move entire carriage along bed manually, turn carriage handwheel left or right.

Making Cutoffs and Facing the Work

To make a cutoff by means of a parting tool or to face the work:

1. Position the tool post.
2. Lock setscrew located at left side of compound block.
3. Lock the carriage by means of carriage lockscrew (Figure 20).
4. Advance the tool, using cross feed handwheel or power cross feed.
5. When engaging power cross feed:
   a. Select feed rate desired (see "Operating Automatic Feed and Changing Feed Rate" in this manual).
   b. Push down on auto feed control lever (Figure 22).

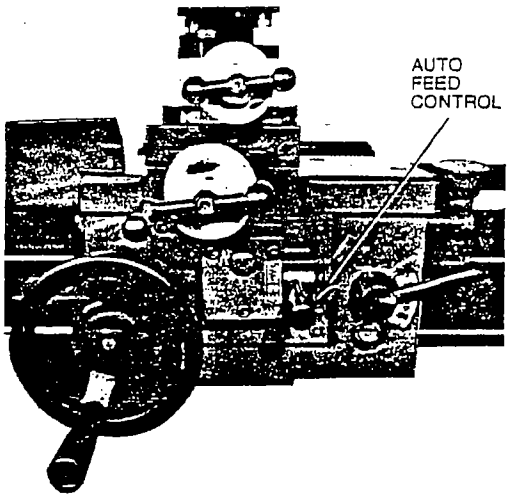


FIGURE 22

Cutting Longitudinally

CAUTION

Before moving carriage longitudinally, be sure the carriage lockscrew is loose (Figure 20).

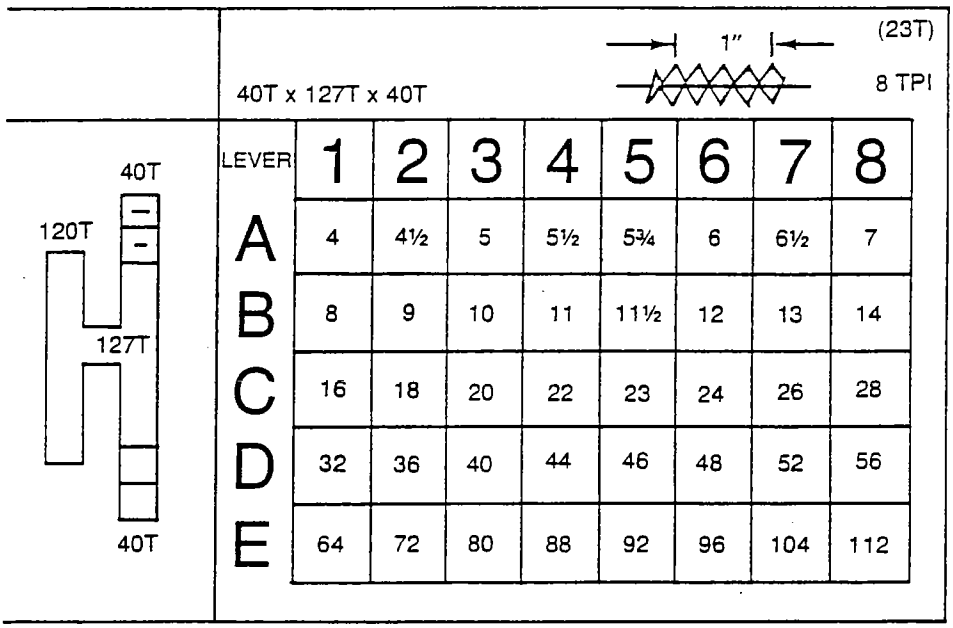
To cut longitudinally;

1. Use either manual or power feed.
2. Position tool to desired cut depth.
3. To advance carriage along bed, either:
   a. Turn carriage handwheel; or
   b. Select feed rate and engage longitudinal feed by pulling up on longitudinal auto feed control lever (Figure 22).

Cutting Threads

Threads can be cut from 4 to 112 teeth per inch in 40 steps (with metric gears installed, from 0.02 to 6.0 per millimeter in 27 steps).

1. Before cutting threads, check that end gears are in proper position, agreeing with threading chart (Figure 23).
2. Select thread pitch by means of gearbox shift lever and quick-change levers (Figure 13).



LEVER	1	2	3	4	5	6	7	8
A	4	4½	5	5½	5¾	6	6½	7
B	8	9	10	11	11½	12	13	14
C	16	18	20	22	23	24	26	28
D	32	36	40	44	46	48	52	56
E	64	72	80	88	92	96	104	112

FIGURE 23

3. Select direction of thread cutting by means of forward/reverse lever.
4. Set tool compound at 29½ degree angle.
5. Set threading tool in tool post at position determined by fishtail gauge (Figure 24).

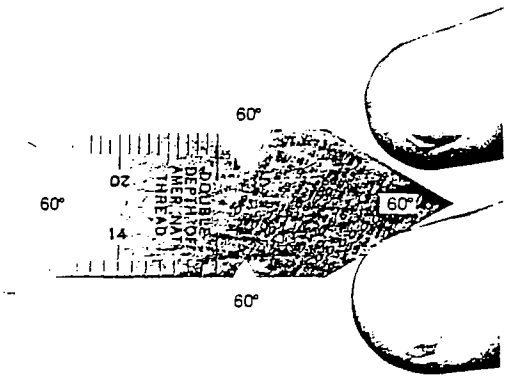


FIGURE 24

6. Set spindle rpm at desired rate by means of V-belt (Figure 16).
7. When threading dial reaches proper position, engage half-nut lever (Figure 14) by pushing down on it.
8. When making successive thread cuts, use threading dial and table indicator (located at right side of apron). See Figure 25 for close-up of table indicator. The dial numbers tell when to engage half-nut lever (on the leadscrew) so that tool enters same groove on successive cuts.

CAUTION

Be sure that dial line coincides exactly with fixed point on each pass.

INDICATOR TABLE					
TPI	SCALE	TPI	SCALE	TPI	SCALE
4	1 - 4	12	1 - 4	38	1 3 / 2 4
4½		13	1	40	1 - 8
4¾		14	1 3 / 2 4	44	1 - 4
5	1	16	1 - 8	48	1 - 8
5½		18	1 3 / 2 4	52	1 - 4
6	1 3 / 2 4	19	1	56	1 - 8
6½		20	1 - 4	64	1 - 8
7	1 - 4	22	1 3 / 2 4	72	1 - 8
8	1 - 8	24	1 - 8	76	1 - 4
9	1	26	1 3 / 2 4	80	1 - 8
9½		28	1 - 4	96	1 - 8
10	1 3 / 2 4	32	1 - 8	104	1 - 8
11	1	36	1 3 / 2 4	112	1 - 8

FIGURE 25

9. To avoid unnecessary wear on gear, loosen clamp (Figure 26); and swing threading dial away from leadscrew when not in use.

NOTE: When cutting metric thread, the indicator table cannot be used, because machine is equipped with "inch" leadscrew.

Once half-nuts are engaged, they must stay engaged. Motor must be reversed to return to starting position.

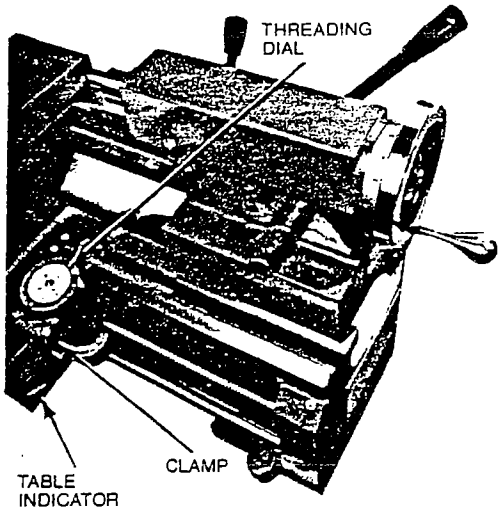


FIGURE 26

Cutting Metric Threads

To cut metric threads:

1. Pick desired threads (see data plate charts). End gear setting (Figure 27) must correspond to black diagonal of data plate.

   NOTE: Sometimes the large double gear and 40-tooth gear on input shaft of quick-change gearbox must be reversed for proper gear setting.

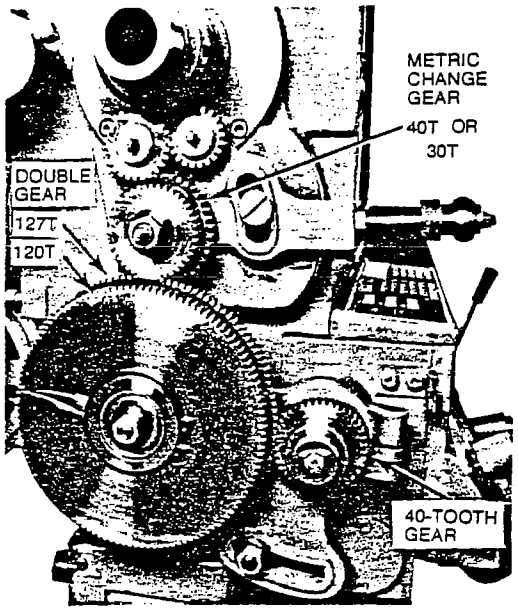


FIGURE 27

2. Set quick-change levers (A-E and 1-8) to desired position.
3. Set machine for desired rpm.
4. Start motor.
5. Set tool at desired depth.
6. Engage half-nut.

CAUTION

Machine is equipped with "inch" leadscrew. Once half-nuts are engaged, they must stay engaged. Thread dial is for teeth per inch only.

7. At end of pass, back tool out, and reverse motor. Bring tool back to starting position.

Cross Slide and Four-Way Tool Post

A tool post (Figure 28) is fitted to the cross slide and carried on a rotating base marked 0° to 45° left and right for indexing.

Handle dials are graduated in inches.

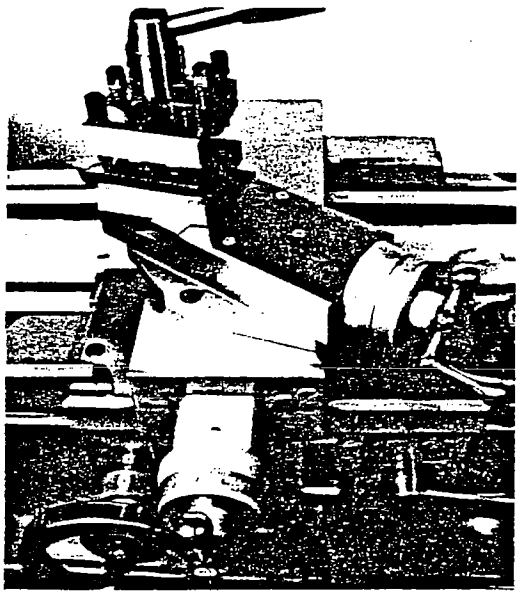


FIGURE 28

Moving the Tailstock

The tailstock supports long workpieces and holds tools for drilling and reaming operations. To move tailstock along lathe bed:

1. Ensure that bed is clean and free of chips.
2. Release tailstock clamp lever (Figure 29), unlocking the tailstock.

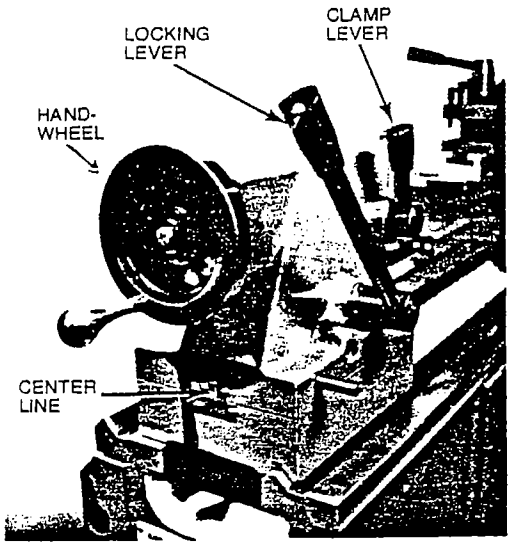


FIGURE 29

3. When extending or retracting quill, use quill handwheel.
4. Lock tailstock quill by means of quill locking lever.

When turning tapers, set tailstock off lathe center line as follows:

1. Loosen tailstock clamp lever.
2. Loosen and adjust the two setover screws (Figure 30).

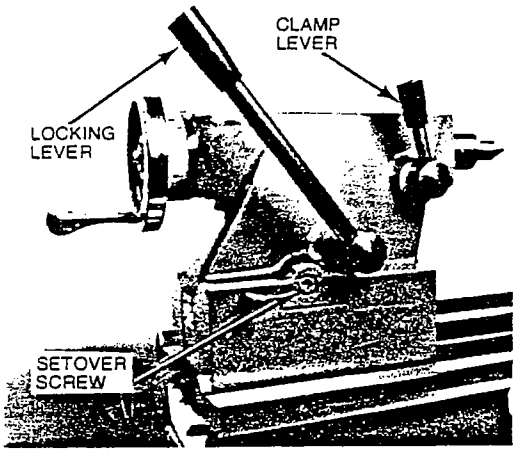


FIGURE 30

Adjusting V-Belt Tension

To tighten V-belt:

1. Adjust main spindle pulley by means of pulley engagement lever (Figure 31).
2. Adjust motor-to-counter shaft V-belt by loosening two hex nuts on motor mounting plate.
3. Loosen location nuts in order to pivot motor mounting plate away from lathe bed.

To loosen V-belt, reverse the above procedure.

To test V-belts, depress belt one-half inch with light finger pressure. Too much tension causes excessive wear on V-belt; too little tension allows belt to slip.

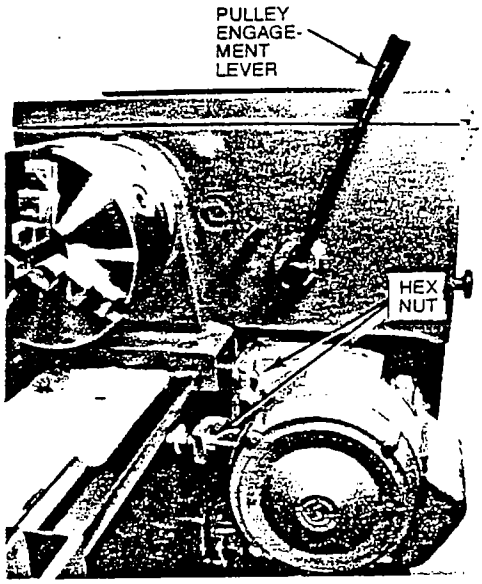


FIGURE 31

Adjusting Alignment of Headstock

With lathe installed and running, check machine alignment before beginning work on it and again at regular intervals for continued accuracy.

To adjust:

1. Loosen four headstock hold-down bolts.
2. Turn two socket head capscrews located on back underside of headstock. These align the headstock.
3. Tighten four headstock hold-down bolts.

Adjusting the Cross Slide Gib

To adjust the cross slide tapered gib:

1. Loosen cross slide gib screw at rear (Figure 32).
2. Turn gib screw in front (Figure 33) evenly until cross slide moves with slight drag.
3. Tighten cross slide gib screw at rear.

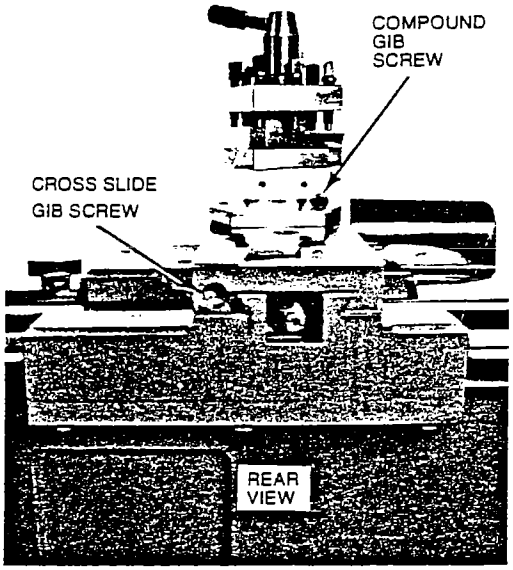


FIGURE 32

Adjusting the Compound Slide Gib

To adjust the compound slide tapered gib:

1. Loosen compound gib screw at rear (Figure 32).
2. Turn gib screw in front (Figure 33) evenly until compound slide moves with slight drag.
3. Tighten gib screw at rear.

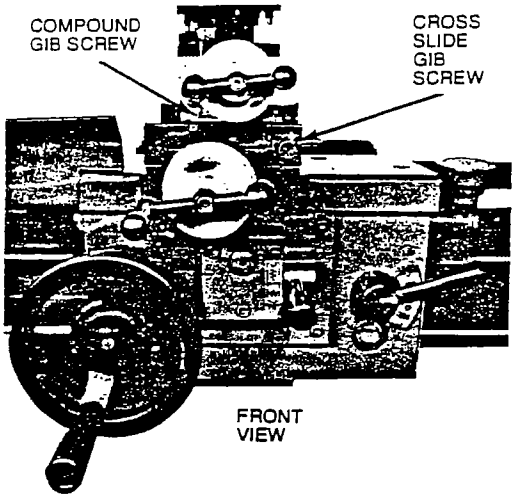


FIGURE 33

Adjusting the Tailstock

If the tailstock quill center is out of line with the lathe center line (at end of tailstock), adjust front and back setover screws until quill is aligned (Figure 30).

Adjusting the Back Gear in Headstock

1. Loosen socket head capscrew located on back gear shift lever.
2. Pull off back gear shift plunger handle unit (Figure 34).
3. Turn eccentric shaft until back gear properly meshes with bull gear.
4. Replace plunger handle unit, securing in right-most detente hole.

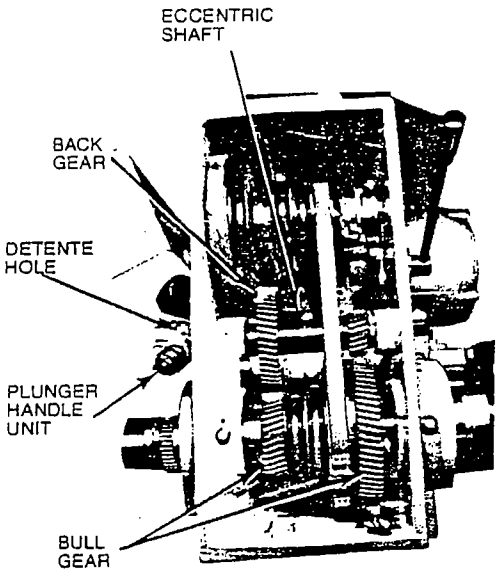


FIGURE 34

Installing the Steady-Rest

1. Carefully place steady-rest on bedways at desired position.
2. Position steady-rest clamp beneath bedways and against base of steady-rest.
3. Insert bolt from bottom, through clamp, then through steady-rest base.
4. Secure bolt, washer, and nut.

PARTS
JET 1024P(Y) and 1236P(Y)
Drive Belt Bench Lathe

Table of Contents

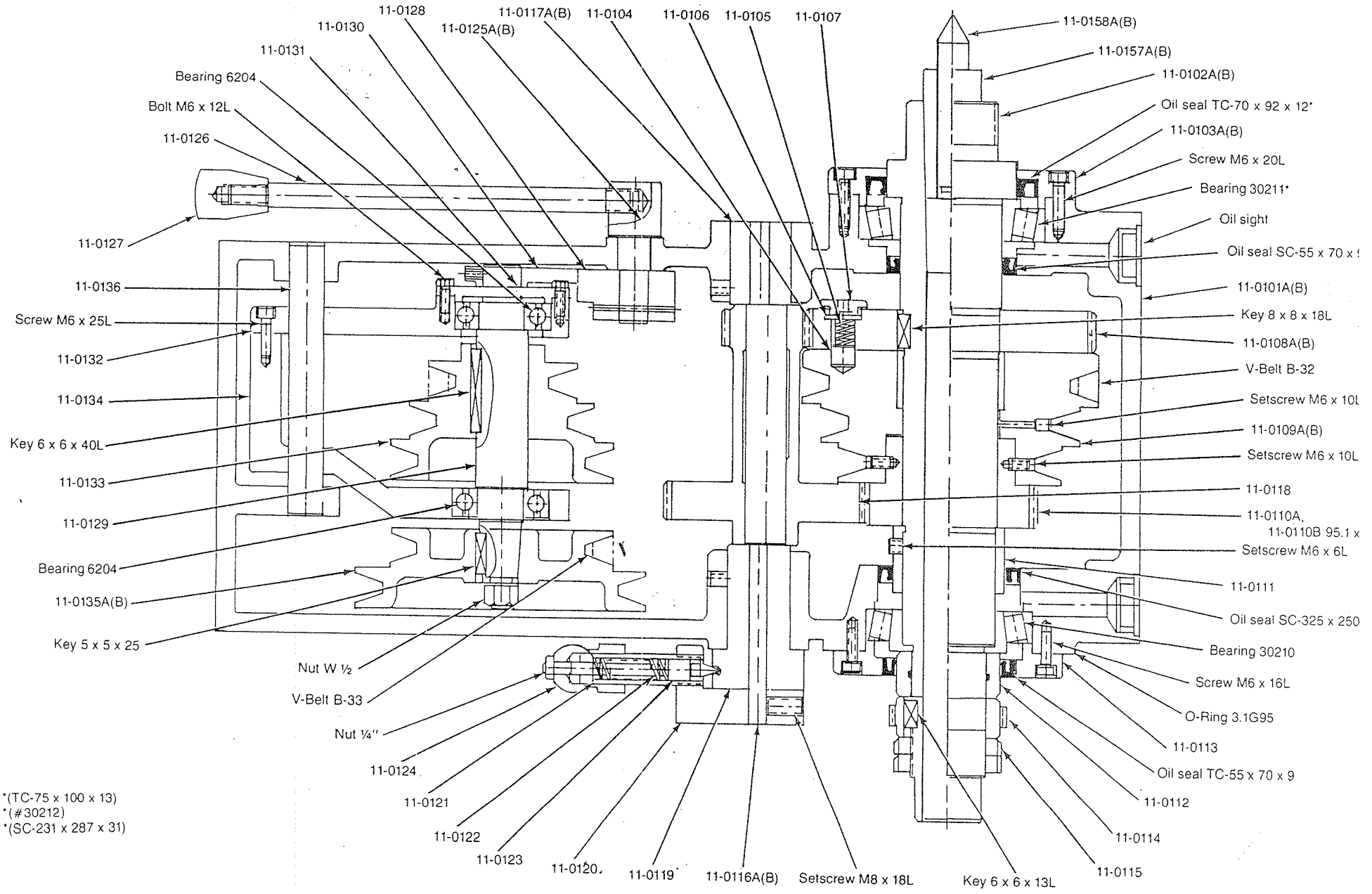
PARTS LIST - Headstock (Top View)

Part No.	Description
11-0101A(B)	Headstock (1024 or 1236PY)
11-0102A(B)	Spindle
11-0103A(B)	Spindle front cover
11-0104	Detent
11-0105	Spring
11-0106	Pin
11-0107	Knob
11-0108A(B)	Bull gear
11-0109A(B)	Pulley
11-0110A	Gear (95.1 x 46)
11-0110B	Gear (95.1 x 46)
11-0111	Spacer
11-0112	Spacer
11-0113	Spindle rear cover
11-0114	Gear
11-0115	Locknut
11-0116A(B)	Eccentric shaft
11-0117A(B)	Bush
11-0118	Compound helical gear
11-0119	Bush
11-0120	Bracket
11-0121	Sleeve
11-0122	Spring
11-0123	Plunger pin
11-0124	Knob
11-0125A(B)	Camshaft
11-0126	Lever
11-0127	Knob
11-0128	Cam
11-0129	Shaft
11-0130	Cam
11-0131	Bearing cover
11-0132	Arm
11-0133	Pulley
11-0134	Arm
11-0135A(B)	Pulley
11-0136	Shaft
11-0157A(B)	Center sleeve: 4 x 2 (1024PY) 5 x 3 (1236PY)
11-0158A(B)	Center: #2 (1024PY) #3 (1236PY)

Part No.	Description
6204	Bearing
30210	Bearing, taper roller
30211	Bearing, taper roller
	Oil seal SC-55x70x9
	Oil seal SC-325x250x37
	Oil seal TC-55x70x109
	Oil seal TC-70x92x12
	V-Belt B-31
	V-Belt B-32
	V-Belt B-33

10249 & 12864

HEADSTOCK ASSEMBLY (Top View)



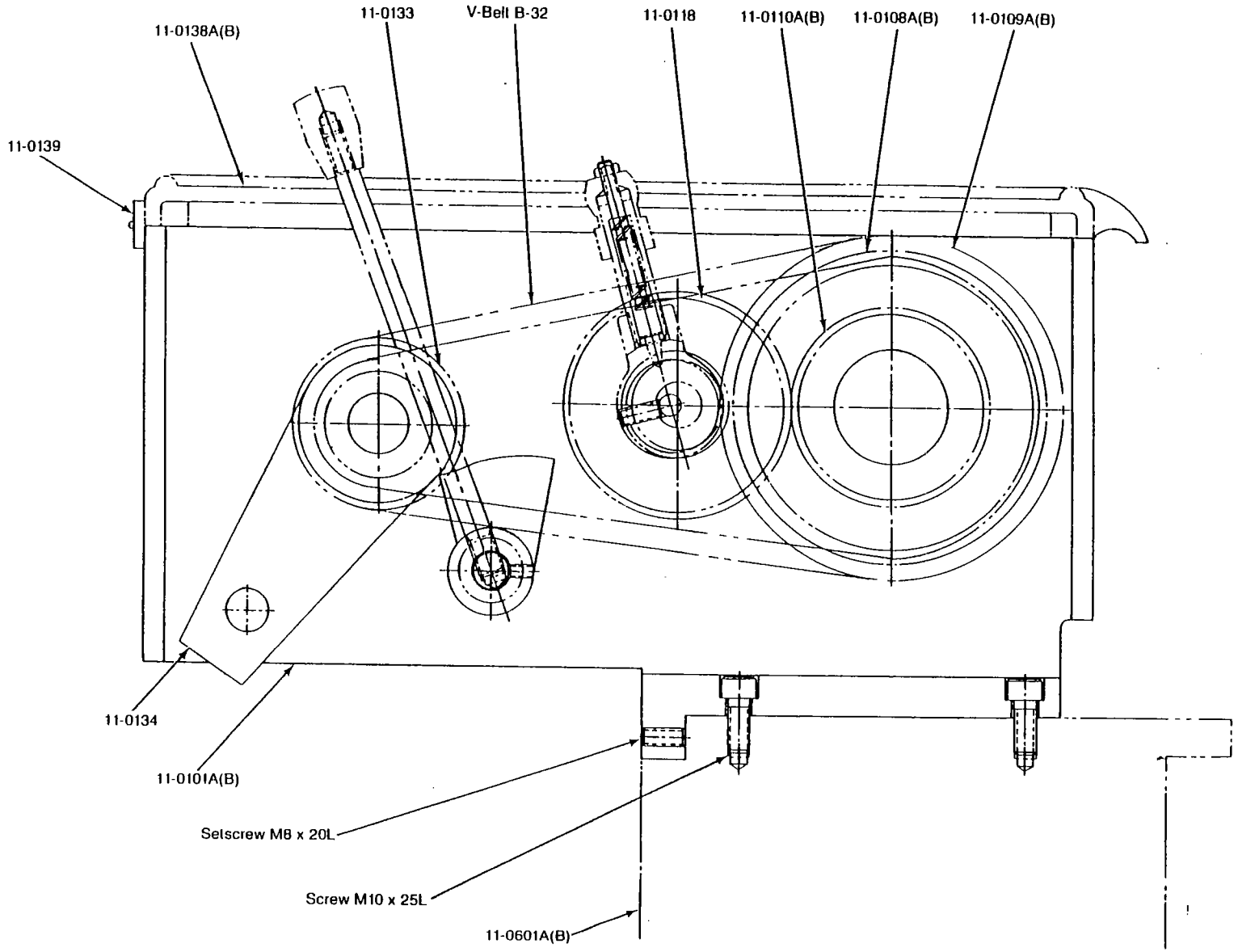
*(TC-75 x 100 x 13)
*(#30212)
*(SC-231 x 287 x 31)

PARTS LIST - Headstock (Left-End View)

Part No.	Description
11-0101A(B)	Headstock (1024 or 1236PY)
11-0108A(B)	Gear
11-0109A(B)	Spindle pulley
11-0110A(B)	Gear (95.1 x 46)
11-0118	Compound helical gear (back gear)
11-0133	Pulley
11-0134	Arm
11-0138A(B)	Upper cover
11-0139	Butt strap (hinge)
11-0601A(B)	Bed

V-Belt B-32

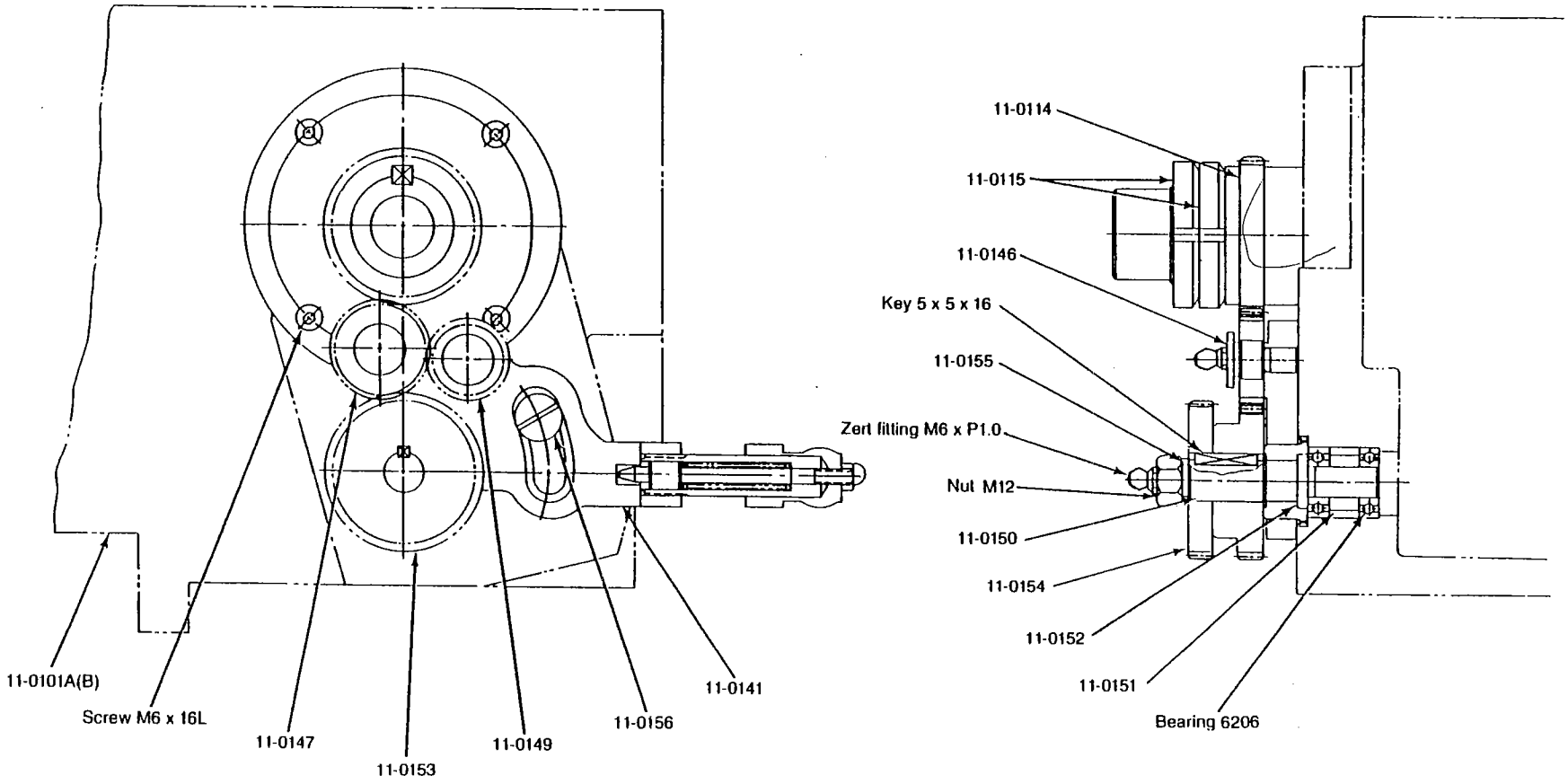
HEADSTOCK ASSEMBLY (Left-end View)



PARTS LIST - Back Gear Train

Part No.	Description
11-0101A(B)	Headstock casting (1024 or 1236PY)
11-0114	Gear
11-0115	Locknut
11-0141	Reverse gear bracket
11-0146	Stub shaft
11-0147	Gear
11-0149	Gear
11-0150	Shaft
11-0151	Spacer
11-0152	Bush
11-0153	Gear
11-0154	Gear
11-0155	Spring washer
11-0156	Special screw
6206	Bearing

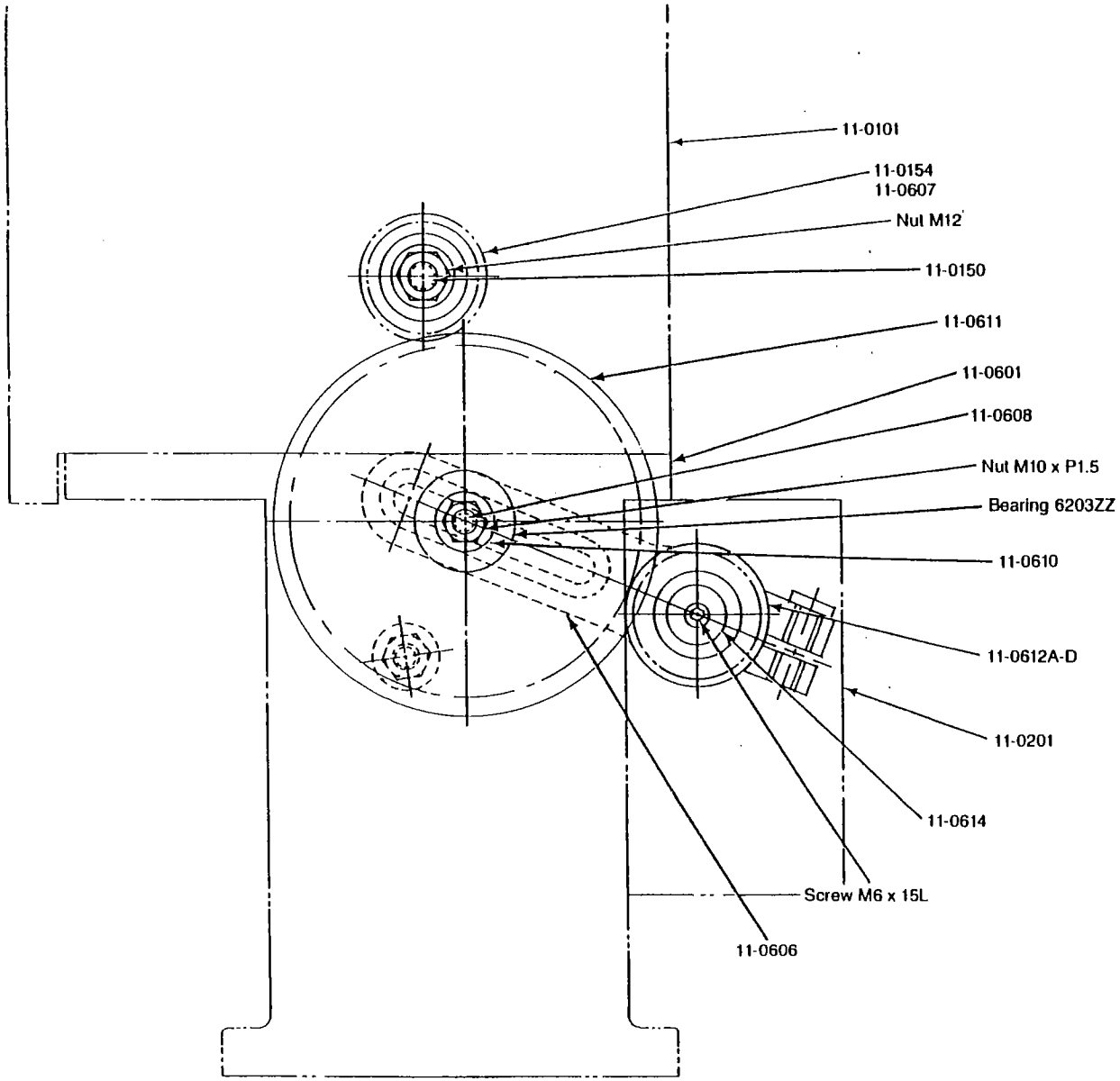
BACK GEAR TRAIN ASSEMBLY

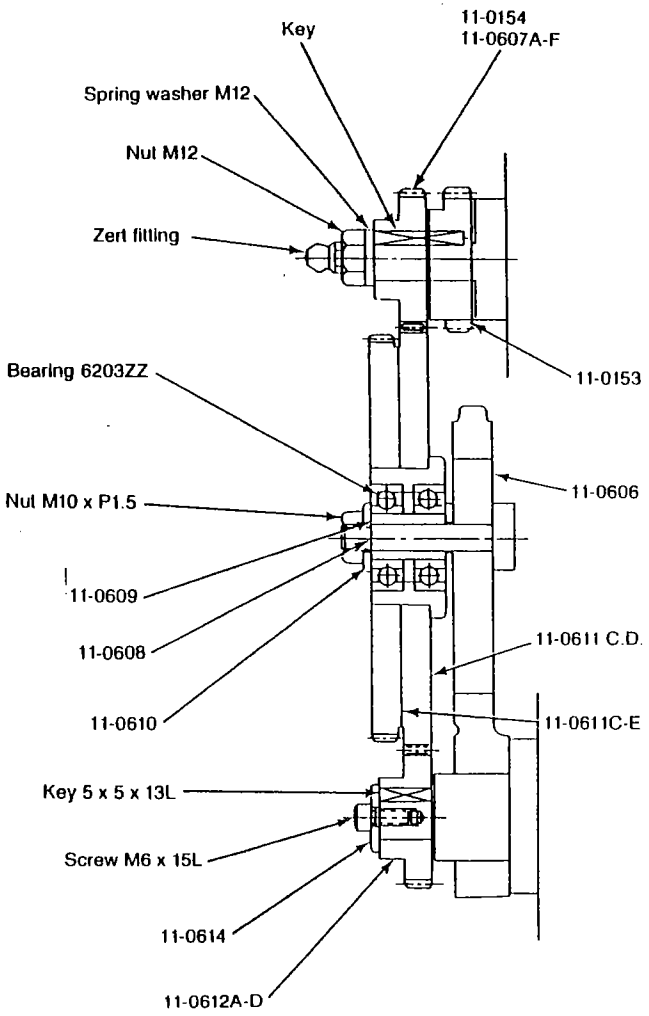


PARTS LIST - Change Gear

Part No.	Description
11-0101	Headstock casting
11-0150	Shaft
11-0153	Gear
11-0154	Change gear
11-0154	Gear
11-0201	Gearbox
11-0601	Bed
11-0606	Frame
11-0607	Gear
11-0608	Stub shaft
11-0609	Bush
11-0610	Washer
11-0611	Compound change gear
11-0611C-D	Gear
11-0611C-E	Gear
11-0612A-D	Gear
11-0614	Washer
62032	Bearing

CHANGE GEAR ASSEMBLY

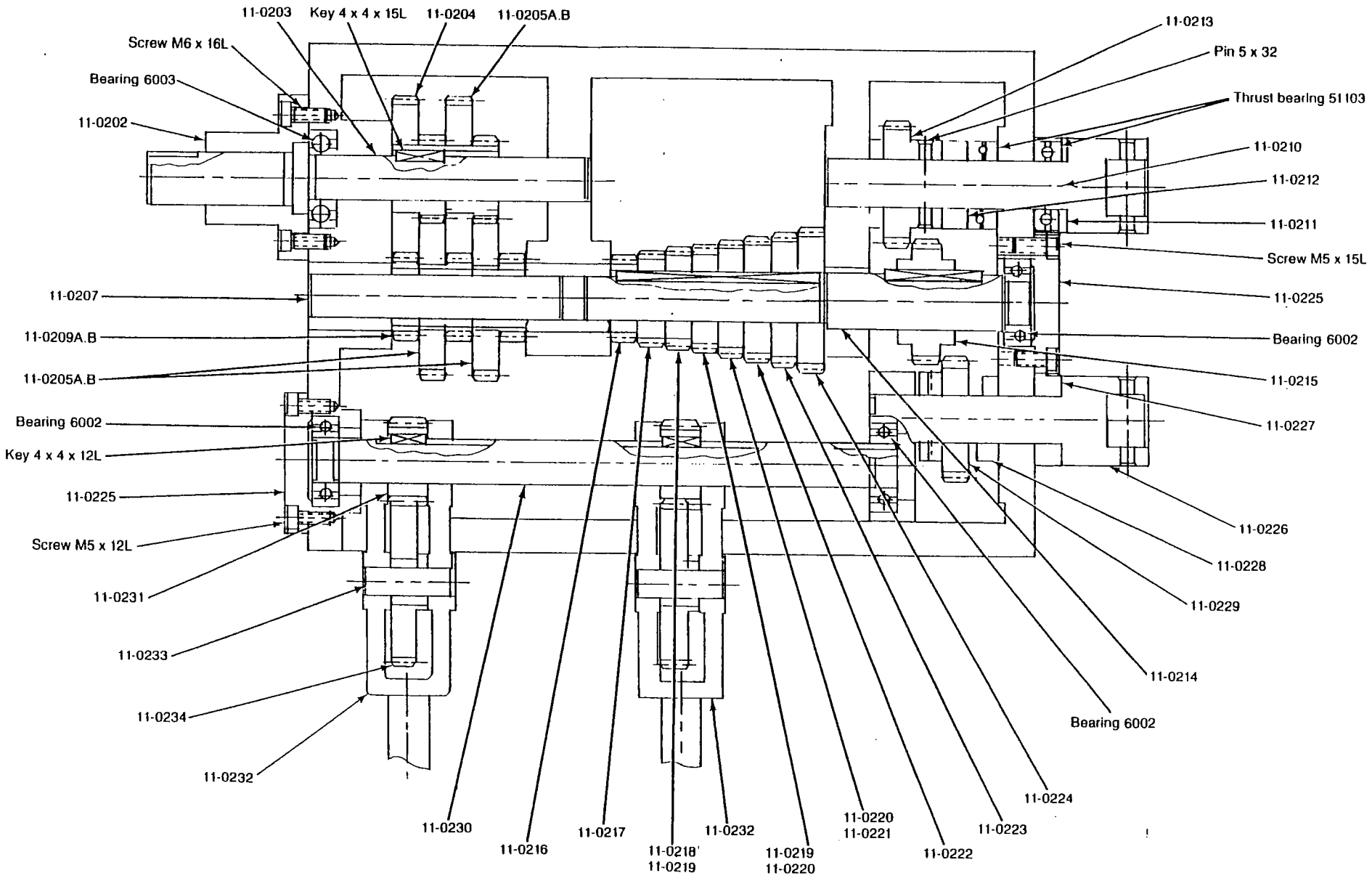




PARTS LIST - Quick-Change Gearbox

Part No.	Description
11-0202	Bracket (shaft sleeve)
11-0203	Input shaft
11-0204	Gear
11-0205A.B	Gear
11-0207	Shaft
11-0209A.B	Gear
11-0210	Output feed screw
11-0211	Collar
11-0212	Spacer
11-0213	Gear (24T)
11-0214	Shaft
11-0215	Gear (24T)
11-0216	Gear (16T)
11-0217	Gear (18T)
11-0218	Gear (19T) or 11-0219 (20T)
11-0219	Gear (20T) or 11-0220 (22T)
11-0220	Gear (22T) or 11-0221 (23T)
11-0222	Gear (24T)
11-0223	Gear (26T)
11-0224	Gear (28T)
11-0225	Bearing cover
11-0226	Output feed rod
11-0227	Bush (spacer)
11-0228	Bush (spacer)
11-0229	Gear (24T)
11-0230	Shaft
11-0231	Gear (16T)
11-0232	Selector arm
11-0233	Shaft
11-0234	Gear (32T)
6002	Bearing
6003	Bearing
51103	Thrust bearing

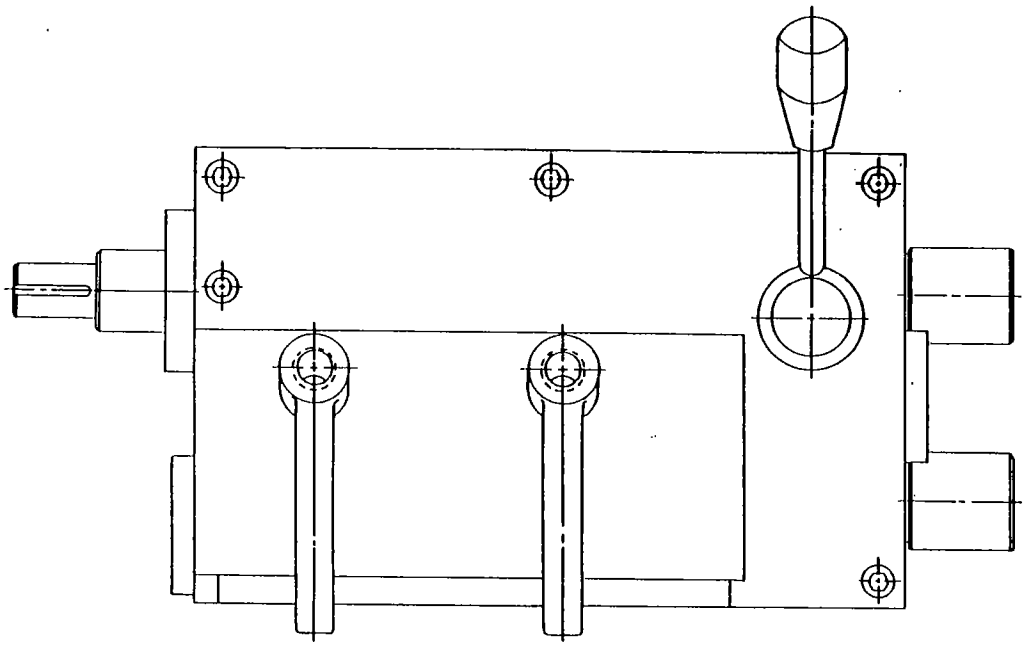
QUICK-CHANGE GEARBOX ASSEMBLY

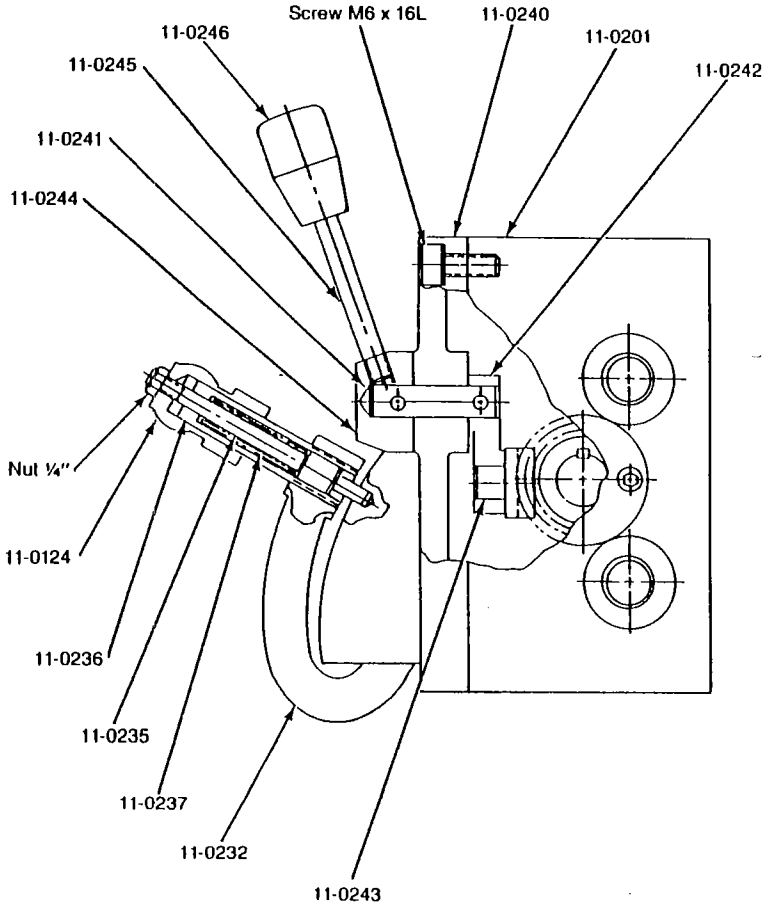


PARTS LIST - Quick-Change Gearbox (Exterior View)

Part No.	Description
11-0124	Handle
11-0201	Gearbox casting
11-0232	Selector arm
11-0235	Plunger pin
11-0236	Sleeve
11-0237	Spring
11-0240	Front cover
11-0241	Shaft
11-0242	Shifter arm
11-0243	Shifter fork
11-0244	Hub
11-0245	Lever
11-0246	Knob

QUICK-CHANGE GEARBOX ASSEMBLY (Exterior View)

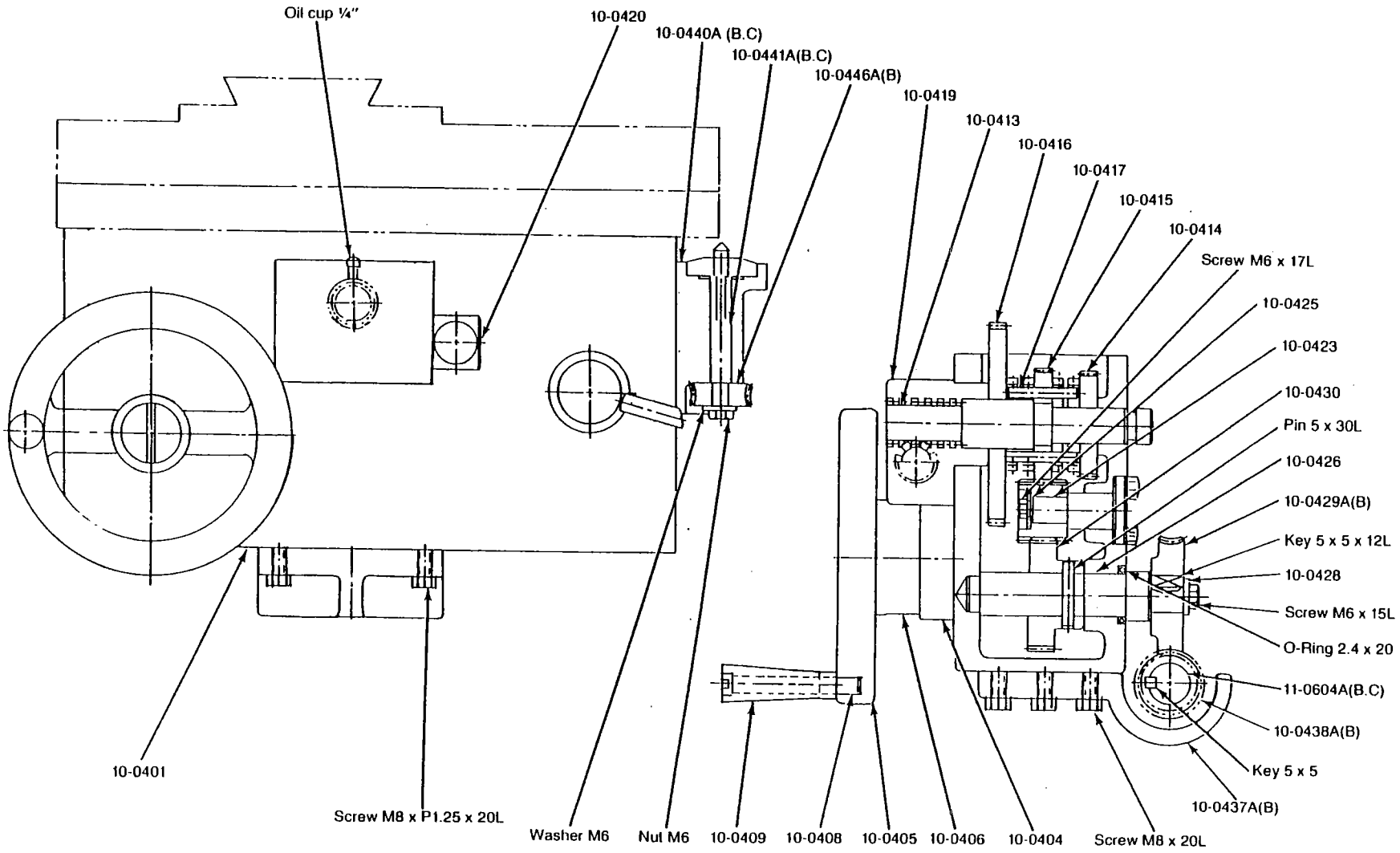




PARTS LIST - Apron (Front and Side Views)

Part No.	Description
10-0401	Apron casting
10-0404	Shaft bracket
10-0405	Handwheel
10-0406	Dial
10-0408	Screw
10-0409	Handle
10-0413	Rack shaft, clutch
10-0414	Clutch gear
10-0415	Clutch gear
10-0416	Clutch gear
10-0417	Pin
10-0419	Clutch bracket
10-0420	Cam shaft
10-0423	Shaft
10-0425	Washer M6
10-0426	Worm shaft
10-0428	Washer M6
10-0429A(B)	Worm gear
10-0430	Gear
10-0437A(B)	Bracket
10-0438A(B)	Worm
10-0440A(B.C)	Thread dial body
10-0441A(B.C)	Indicator shaft
10-0446A(B)	Worm gear
11-0604A(B.C)	Feed rod

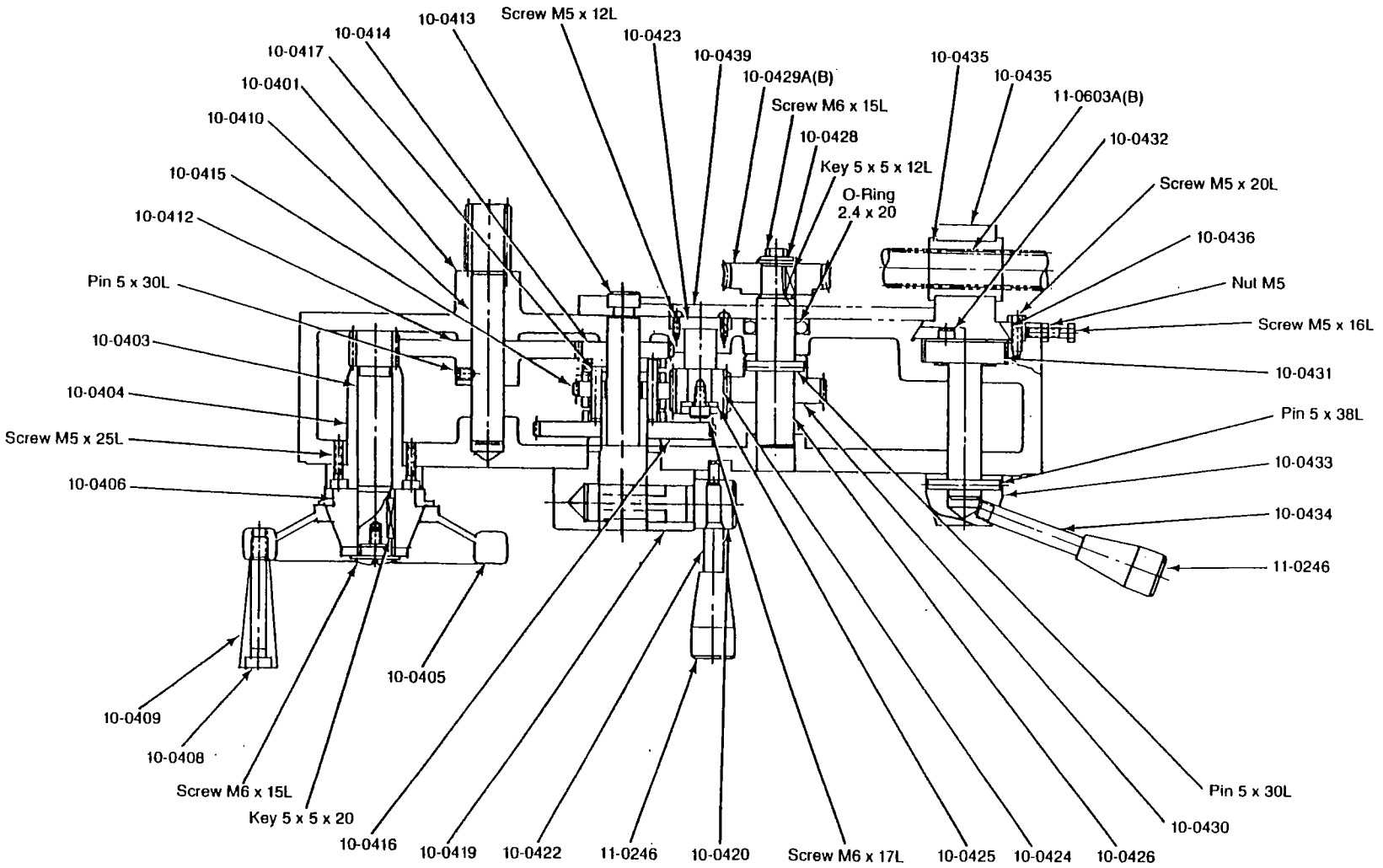
APRON ASSEMBLY (Front and Side Views)



PARTS LIST - Apron (Top View)

Part No.	Description
10-0401	Apron casting
10-0403	Handwheel pinion
10-0404	Bracket
10-0405	Handwheel
10-0406	Dial
10-0408	Screw
10-0409	Handle
10-0410	Pinion shaft (13T)
10-0412	Gear (60T)
10-0413	Rack shaft, clutch
10-0414	Clutch gear
10-0415	Clutch gear
10-0416	Clutch gear
10-0417	Pin
10-0419	Bracket
10-0420	Cam shaft
10-0422	Lever
10-0423	Short shaft
10-0424	Pinion
10-0425	Washer M5
10-0426	Shaft
10-0428	Washer M6
10-0429A(B)	Worm gear
10-0430	Gear (40T)
10-0431	Cam shaft
10-0432	Pin
10-0433	Hub
10-0434	Lever
10-0435	Bracket and half-nut
10-0436	Gib
10-0439	Control plate
10-0461L(R)	Apron casting
11-0246	Knob
11-0603A(B)	Leadscrew

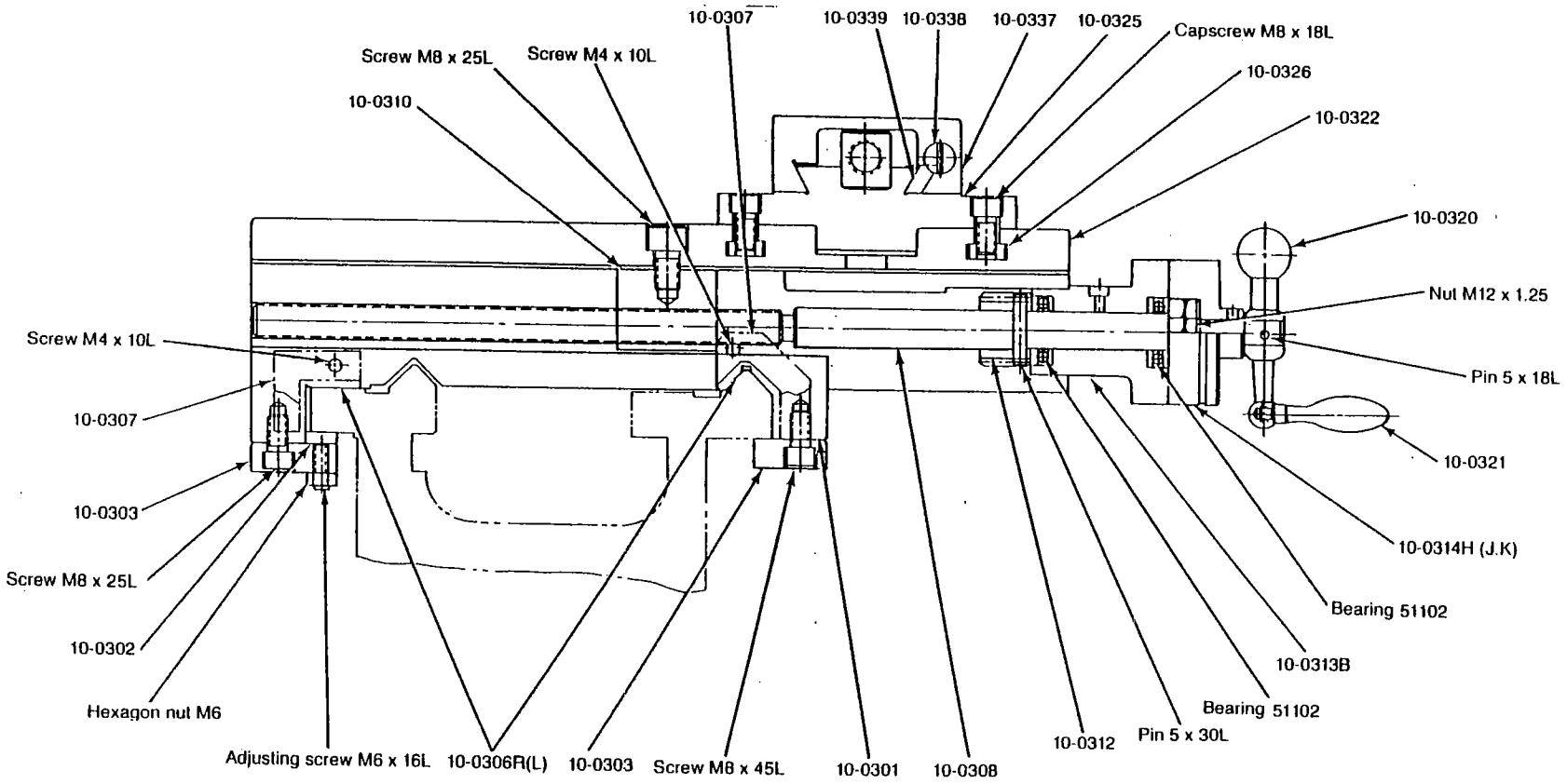
APRON ASSEMBLY (Top View)



PARTS LIST - Carriage

Part No.	Description
10-0301	Saddle
10-0302	Gib (wear strip)
10-0303	Shoe
10-0306R(L)	Wiper
10-0307	Bed wipe housing
10-0308	Cross feed screw (inch)
10-0310	Feed nut (inch)
10-0312	Gear
10-0313B	Bracket
10-0314H(J.K)	Dial
10-0320	Ball crank
10-0321	Grip
10-0322	Cross slide
10-0325	Swivel
10-0326	T-Nut
10-0337	Tool rest
10-0338	Gib screw
10-0339	Gib
51102	Thrust bearing

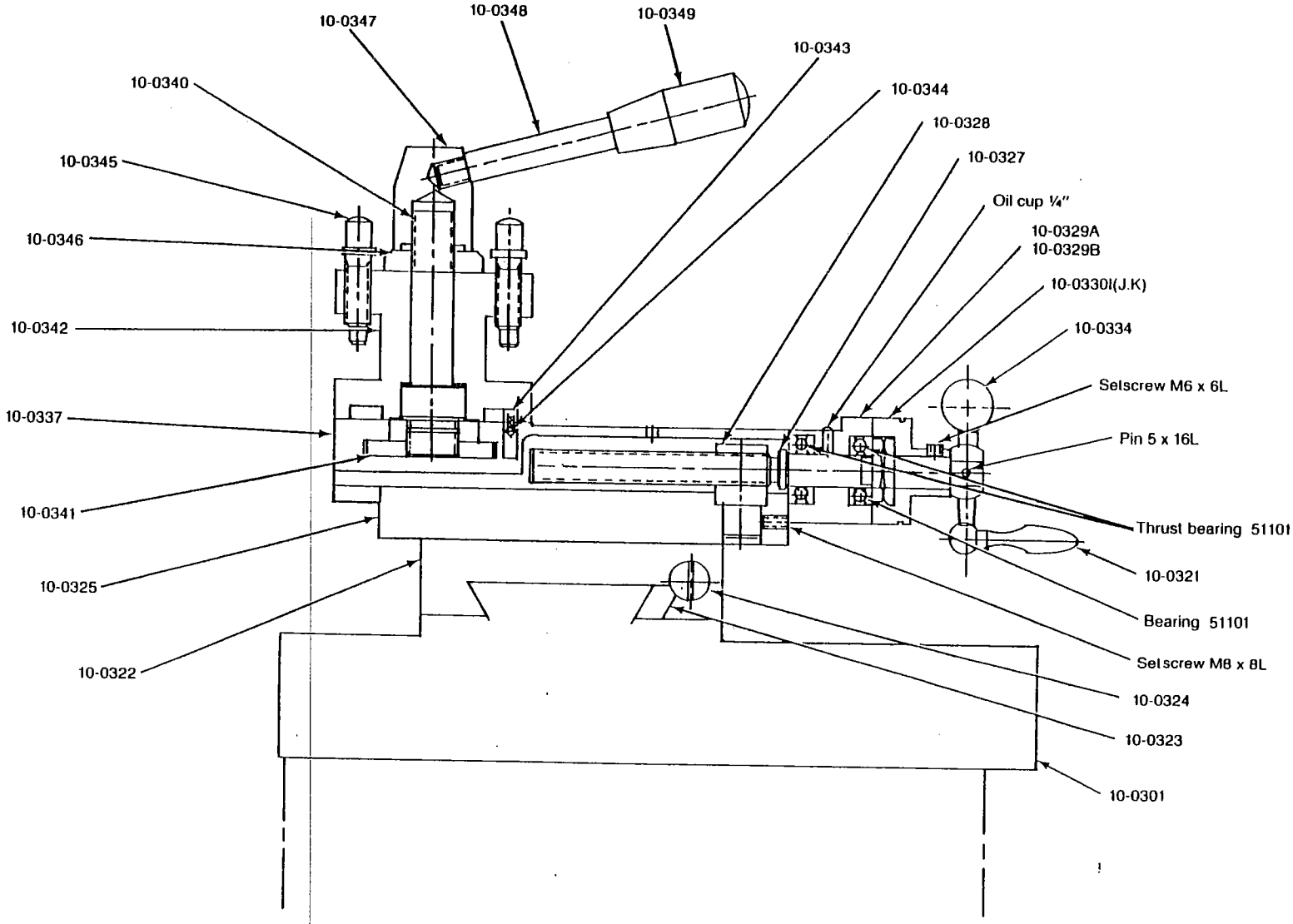
CARRIAGE ASSEMBLY



PARTS LIST - Carriage Compound

Part No.	Description
10-0301	Saddle
10-0321	Grip
10-0322	Cross slide
10-0323	Gib
10-0324	Gib screw
10-0325	Swivel
10-0327	Top slide feed screw
10-0328	Feed nut (inch)
10-0329A	Bracket (130 x 76 x 31) - 1236P(Y)
10-0329B	Bracket - 1024P(Y)
10-0330I(J.K)	Dial (inch, single or double)
10-0334	Ball crank
10-0337	Tool rest
10-0340	Bolt
10-0341	Tool post plate
10-0342	Four-way tool post
10-0343	Pin
10-0344	Spring
10-0345	Tool post screw
10-0346	Washer
10-0347	Lever seat
10-0348	Lever
10-0349	Knob
51101	Bearing

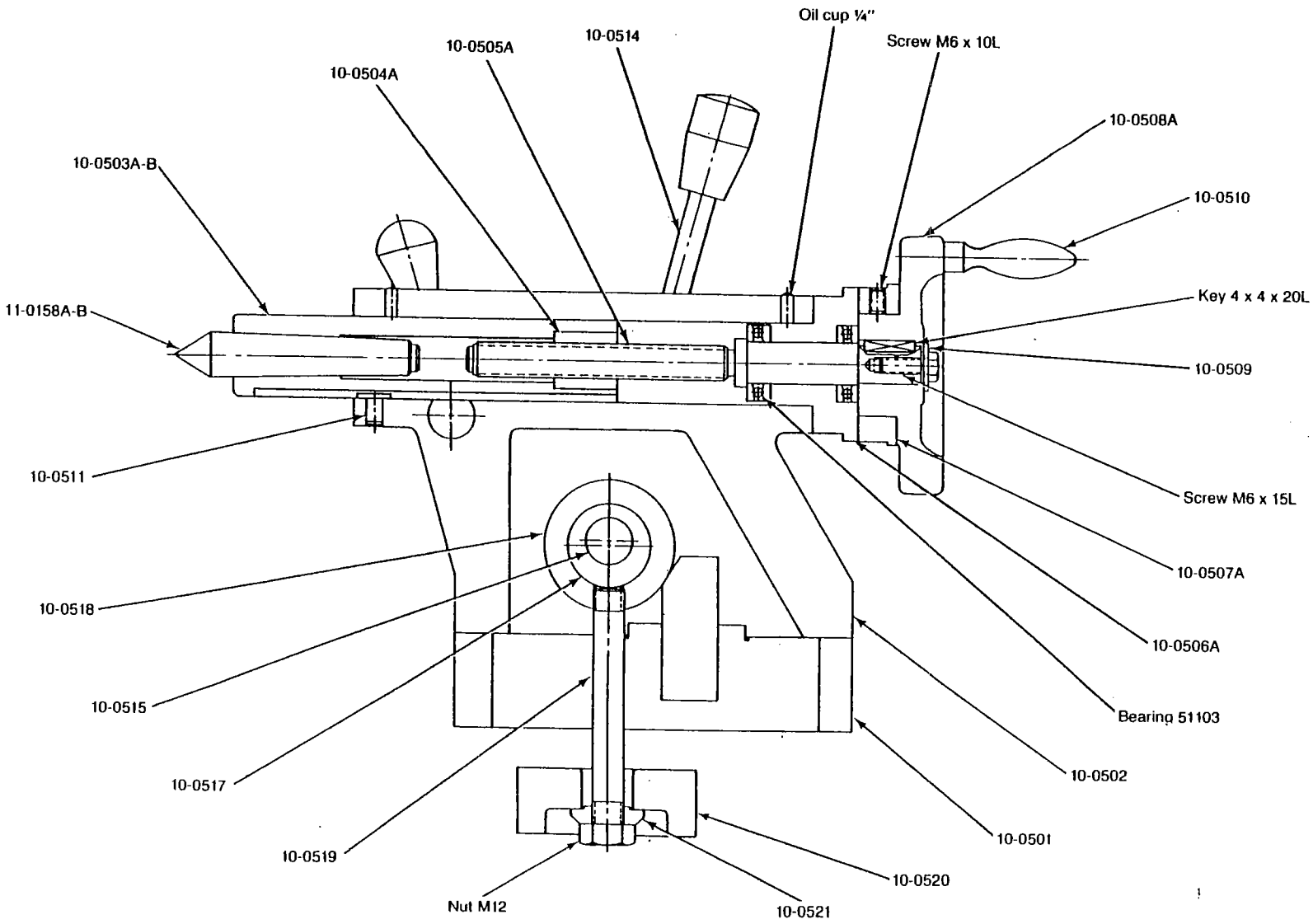
CARRIAGE COMPOUND ASSEMBLY



PARTS LIST - Tailstock (Front View)

Part No.	Description
10-0501	Base
10-0502	Tailstock casting
10-0503A-B	Tailstock spindle, MT #2 or MT #3
10-0504A	Nut
10-0505A	Leadscrew
10-0506A	Bracket
10-0507A	Dial
10-0508A	Handwheel
10-0509	Washer
10-0510	Grip
10-0511	Key, "tee"
10-0514	Lock handle
10-0515A	Cam shaft
10-0517	Cam
10-0518	Collar
10-0519	Stud
10-0520	Clamping plate
10-0521	Washer
11-0158A-B	Center - MT #2 (1024PY); MT #3 (1236/1240PY)
51103	Bearing

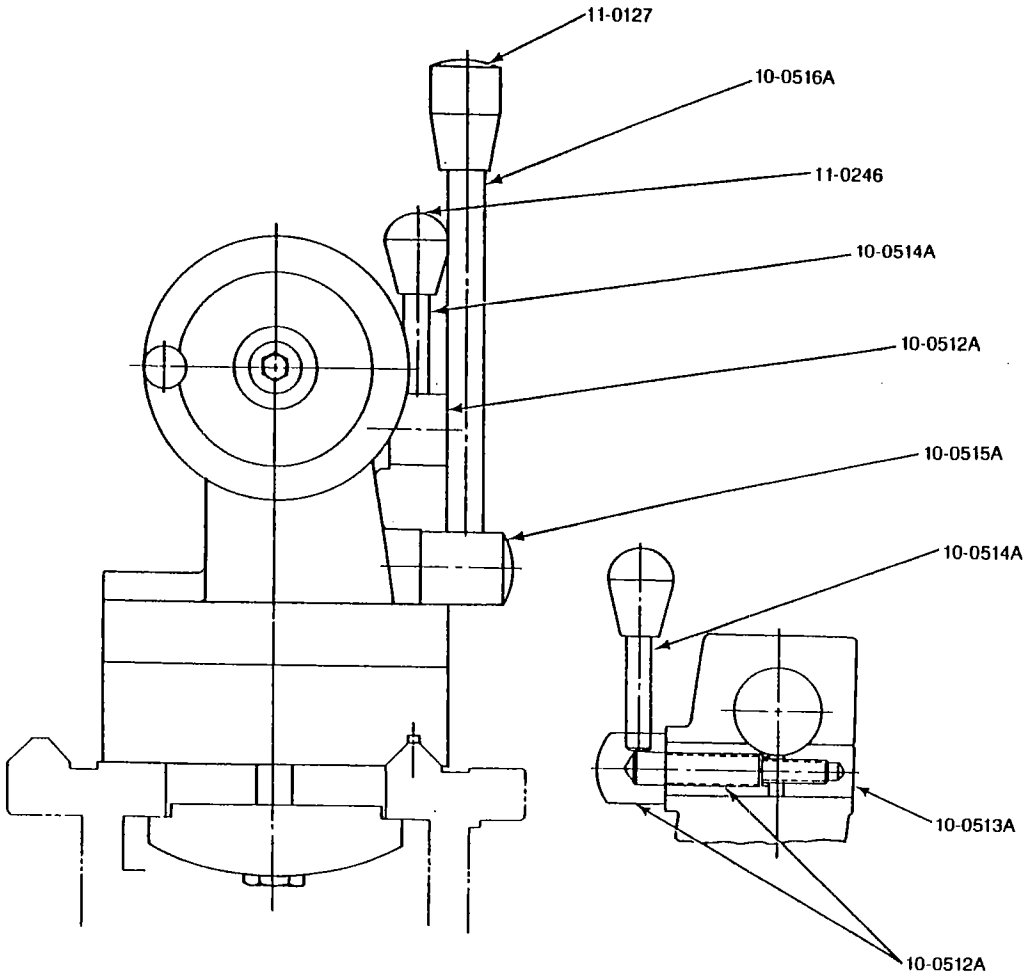
TAILSTOCK ASSEMBLY (Front View)



PARTS LIST - Tailstock (End View)

Part No.	Description
10-0512A	Clamping bolt
10-0513A	Binding nut
10-0514A	Lock lever
10-0515A	Shaft
10-0516A	Lock lever
11-0127	Knob
11-0246	Knob

TAILSTOCK ASSEMBLY (End View)



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This manual applies to the JET 1024P (Y) and 1236P (Y) Belt Drive Bench Lathe, November, 1982. JET Equipment and Tools, 1901 Jefferson Avenue, Tacoma, WA.