Three follower rest mounting holes **"G"**, Figure 13 are plugged with a screw to keep clean until used.

Tapped hole **"H"**, Figure 13, is for mounting carriage indicator stop. The hole is plugged with a screw to keep it clean until used. The micrometer portion of the stop is clamped to the dovetail bed. See Page 58. Power Feed Clutch for carriage (longitudinal feed) **"A"**, Figure 14, controls feed of the carriage along the bed. To release clutch, press lever down to position shown.

Power Feed Clutch for cross slide **"B"**, Figure 14, controls power cross feed. Raise ball handled lever to engage and push down to release.

Lead screw nut handle **"C"**, Figure 14, is to engage lead screw nut for threading only. Handle is shown in released position. To engage move to right to horizontal position. See Page 30 for complete instructions on threading.

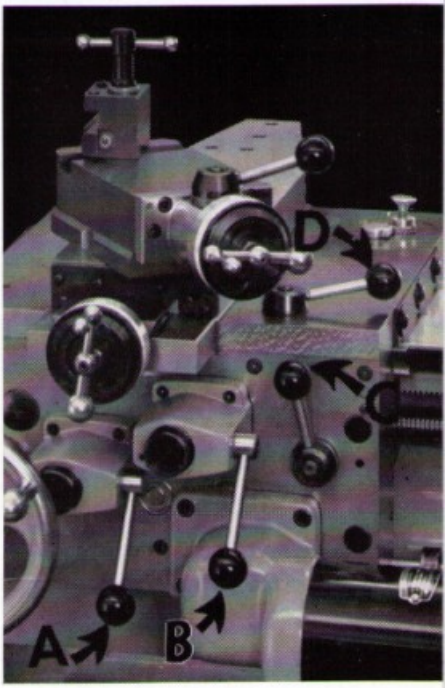


Figure 14

Carriage lock **"D"**, Figure 14, is used to lock carriage in a fixed position on the bed when doing heavy facing operations. Handle is shown in released position — to lock pull forward.

Apron and Clutch Lubrication

Lubricate carriage clutch and apron once a week at **"J"**, Figure 13, Page 24. Maintain oil level in sight gage **"K"**, Figure 13. Use Mobilfluid 200, a Mobil product, automatic transmission fluid type A or equal. Change oil every 60 days using drain plug located at bottom of apron.

Figure 15

POWER FEED CLUTCH ADJUSTMENT FOR CARRIAGE AND CROSS SLIDE

Figure 15

The power feed clutches are of the friction type designed to slip when overloaded, which protects the tool as well as the machine.

The clutches are a spring loaded arrangement and cannot be adjusted for more pulling power. If the clutch slips under cut it is a sign of improper or dull tool or excessive feed.

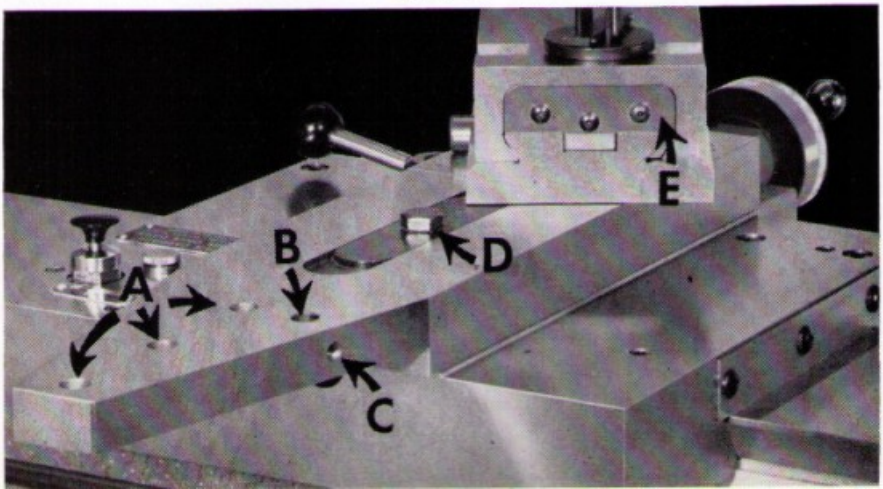
The clutch adjustment is necessary for assembly purposes and is set at the factory and should not be changed. If for some reason the clutch is taken apart it is necessary to readjust. To reach nut for adjustment remove metal cover as shown at **"A"** and **"B"**, Figure 15. Cover is threaded and has two spanner holes. Use 1/2" end wrench and adjust as shown at **"B"**, Figure 15. When properly adjusted clutch will "release" when ball lever is about 15° below horizontal.

Three holes **"A"**, Figure 16, in cross slide are for positioning and locking taper attachment. Hole **"B"**, Figure 16, is for mounting coolant hose and nozzle supporting bracket and **"C"**, Figure 16, is tapped hole for locking screw for bracket.

Bolt **"D"**, Figure 16, is to release cross slide nut when using taper attachment. See Page 56 for complete instructions on taper attachment.

Cover **"E"**, Figure 16, encloses tool post slide screw. It is necessary to remove cover before removing slide. It is good practice to occasionally remove slide for cleaning and lubrication of screw and nut.

Figure 16



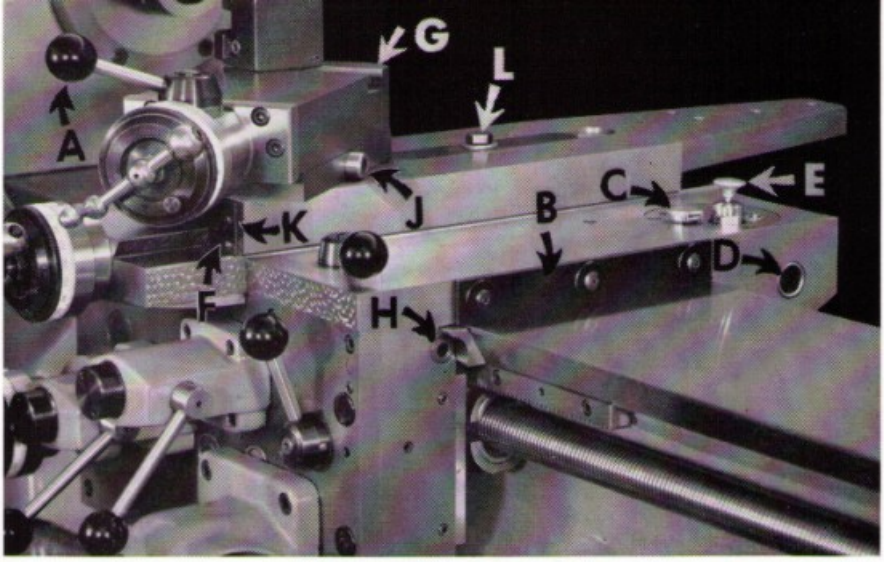


Figure 17

The quick acting handle **"A"**, for compound slide, Figure 17, is used when threading or turning to withdraw tool on return of carriage.

Carriage bed wipers **"B"**, Figure 17, are of hardened and ground steel mounted at both ends of carriage. Wipers are spring backed to hold wiper to carriage.

CARRIAGE AND BEDWAY LUBRICATION

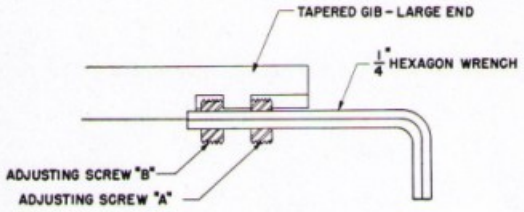
Fill pressure lubricator reservoir at **"C"**, Figure 17. Use MOBIL VACTRA Oil No. 2 a Mobil product or equivalent. Sight gage **"D"**, Figure 17, will indicate oil level. To lubricate bedways and carriage, pull plunger **"E"**, Figure 17, up as far as it will go, then release and allow to return of its own accord. Operate as often as necessary to keep bedways wet with oil or a minimum of once a day.

COMPOUND SLIDE LOCK

The compound slide swivels for the turning of angles or to set at 59° for threading. To turn slide for an angle setting, loosen eccentric draw bolt, **"J"**, Figure 17, with 5/16" hexagon wrench. When tightening draw bolt, turn clockwise as if it were a right hand thread.

CARRIAGE, CROSS SLIDE AND COMPOUND SLIDE GIB ADJUSTMENT

CARRIAGE GIB ADJUSTMENT: After considerable use it may be necessary to adjust the carriage gib. The gib is the tapered type and adjustment is made at **"H"**, Figure 17, Page 27, as described below.



1. Insert ¼" hexagon wrench in adjusting screw **"A"**.
2. Loosen one full turn.
3. Push wrench on through into adjusting screw **"B"**.
4. Advance adjusting screw **"B"** a fraction of a turn.
5. Pull wrench out of **"B"** and tighten **"A"**.
6. Test carriage for "feel" — the carriage should have a slight drag, but should not bind.

Cross slide gib is adjusted in same manner at **"F"**, Figure 17, Page 27. Compound slide gib is adjusted at rear of slide at **"G"**.

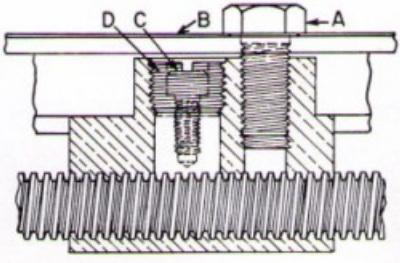
NOTE: Excessive gib pressure or drag does not improve machine performance.

TO REMOVE CROSS SLIDE

It is good practice to occasionally remove the cross slide. To do this first remove cover **"K"**, Figure 17, Page 27. Turn the cross slide feed screw ball handle clockwise until the slide comes off the back side of the carriage. With slide removed it is easy to lubricate cross feed screw and nut and to clean the slide ways. Use care when re-engaging the cross feed nut and screw. Bumping will bend the first thread of the nut causing it to bind on the screw. Loosen nut **"L"**, Figure 17, Page 27, a few turns then push slide on until cross feed nut touches end of cross feed screw. Engage screw and nut by turning ball crank handle counterclockwise. Tighten nut **"L"** and reposition slide. Replace cover **"K"**.

TO ADJUST BACKLASH

To adjust backlash in cross feed screw, remove bolt **"A"** and cover **"B"**. Loosen cap screw **"C"**. Turn adjusting screw **"D"** clockwise to reduce backlash. As adjusting screw **"D"** is tightened, check cross feed screw by turning crank to prevent over tightening. Tighten cap screw **"C"** and replace cover **"B"** and bolt **"A"**, then test for backlash.



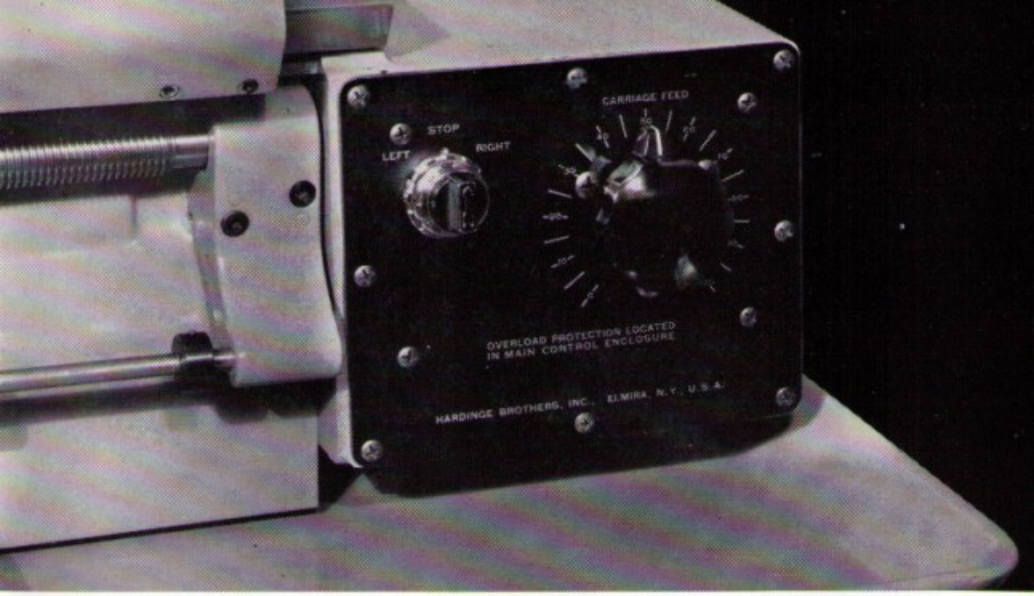


Figure 18

POWER FEED FOR CARRIAGE

The carriage feed is powered by a direct current, totally enclosed, ball bearing motor mounted on the carriage. The motor is connected to the clutch assembly by a worm gear.

110 volt alternating current is fed from the main electric control panel at the left-hand end of the pedestal base to the power feed control panel at the right-hand end of the machine. Here it is converted by selenium rectifiers to direct current for the power feed motor. The electric cable from control panel to power feed motor is of oil resistant neoprene.

To start the power feed, position the **"SELECTOR"** switch to the **"LEFT"** position. Machine must be running before power feed will operate.

The **"LEFT-RIGHT"** switch is used to reverse the power feed motor. Select the direction of feed required by positioning the **"LEFT-RIGHT"** selector switch accordingly. When placed in **"LEFT"** position carriage will feed toward left or toward headstock. When in **"RIGHT"** position carriage will feed toward right. When placed in **"STOP"** position power feed motor is off.

In operation, the carriage is advanced with the handwheel until the turning or boring tool is next to the work. Then, the carriage clutch is engaged. The rate of carriage feed can then be increased or decreased by turning the feed control knob on the electric control panel. The rate of feed is determined by material being cut and the finish required. The rate of feed may be changed while the tool is under cut. Experience has shown that it is best to make a few sample pieces to determine the spindle speed and rate of feed that is best suited to give desired surface finish and production rate. When making the test run, record the number at which the power feed control knob was set when best results were obtained. Then, on the production run the operator can set the control knob to the reference numbers on the face of the control panel and obtain the same results as the test run. They do not represent either thousandths per revolution or inches per minute.

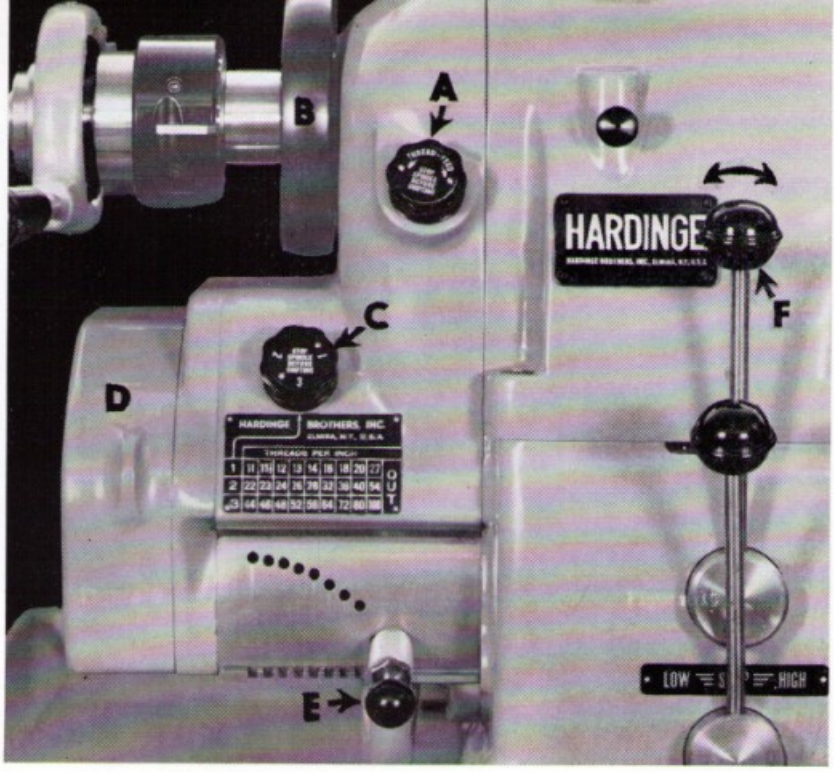


Figure 19

GEAR BOX FOR THREADING ONLY — Figure 19

Precision threading is an outstanding feature on the Hardinge HLV-H lathe. The logical separation of the power feed and lead screw gear box reserves the precision gear box for threading only, assuring maximum precision for the lead screw drive.

The all steel gears within the gear box run on shafts mounted on ball bearings. These bearings are grease packed and sealed, requiring no further attention.

TO ENGAGE GEAR BOX

To engage the gear box turn knob **"A"**, Figure 19, counterclockwise in the direction of arrow marked "THREAD". When turning knob **"A"** the teeth of the sliding gear within the gear box may not mesh with the headstock spindle gear teeth. If so, turn the headstock spindle by means of spindle handwheel **"B"**, Figure 19.

IMPORTANT: Before turning spindle, release spindle brake to obtain free spindle — see instructions on Page 13. While turning spindle also turn knob **"A"**, Figure 19, to left until a definite click is heard.

IMPORTANT: Knob **"A"**, Figure 19, should always be set in the **"Feed"** position except when threading, thus disconnecting gear box from headstock spindle.

The Hardinge HLV-H Lathe quick change gear box permits instant selection of 27 different threads by shifting a lever and turning a knob.

Knob **"C"**, or three change knob, Figure 19, has three numbered positions — 1, 2 and 3. These numbers correspond with the 1, 2 and 3 given at the extreme left side of the gear box thread chart plate. To select the proper thread, numbers 1, 2 or 3 on knob **"C"** must be set at the bottom position to line up with the pointing arrow. The knob is shown in the number 3 position in Figure 19. The tumbler or nine change handle **"E"** has nine positions — each lining up with gear box thread chart plate. Combining the three positions of the three change knob and nine positions of the tumbler handle, 27 changes are obtained.

THREE CHANGE KNOB — Figure 19

When number one of knob **"C"**, Figure 19, is in line with the arrow, any thread in row one of thread chart can be selected by changing the tumbler handle or nine change handle **"E"**, Figure 19, to the desired thread in that row.

The three change knob **"C"**, Figure 19, controls a sliding gear cluster. Number three on the knob, when lined up with the arrow on gear box chart, is in the center position. To place knob **"C"** in the number one position, turn to **"RIGHT"**. Turn to **"LEFT"** to place number two position in line with arrow.

In the event the sliding gear cluster does not engage the other gears in the gear box properly to bring the desired number on three change knob **"C"** in line with arrow, open the change gear cover **"D"**, Figure 19, and turn shaft **"A"**, Figure 20, Page 33, by hand until the gears mesh properly.

TUMBLER HANDLE OR NINE CHANGE HANDLE

To make a selection on the gear box thread chart, pull the spring pressured black knob **"E"**, Figure 19, out as far as it will go and lower until it will move sideways to the desired notch directly under the thread required. Raise the handle and let plunger drop into hole. If the tumbler handle will not raise far enough to drop plunger into hole, open change gear cover and rotate shaft **"A"**, Figure 20, see opposite page, until gears mesh and handle raises permitting plunger to seat.

At the extreme right on the gear chart is an **"OUT"** position which is used when change gears are set up outside the gear box for cutting threads not obtained within quick change gear box.

Fastened to the tumbler handle bracket within the gear box is a 5/16" round safety bar **"C"**, Figure 20, that extends out through a hole in the left side of the gear box. This bar is to prevent applying change gears outside the gear box until the tumbler handle is placed in the **"OUT"** position.

IMPORTANT

Do not shift gears when machine is running. The Hardinge HLV-H Lathe is a smooth running high speed machine and shifting of gears in the gear box when the machine is running will result in damage to the unit.

Figure 20

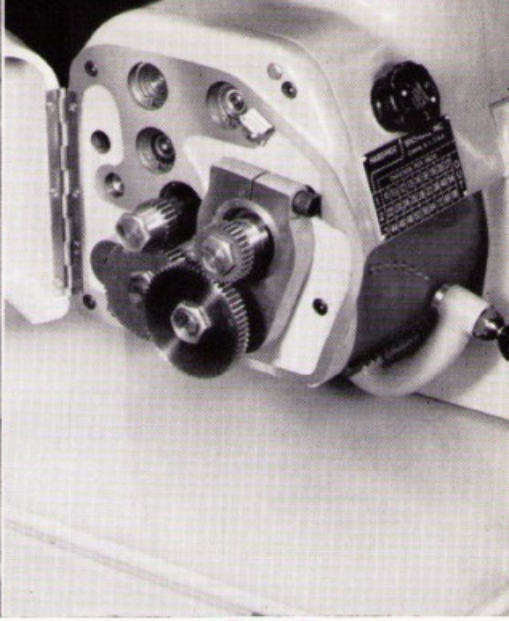


Figure 21

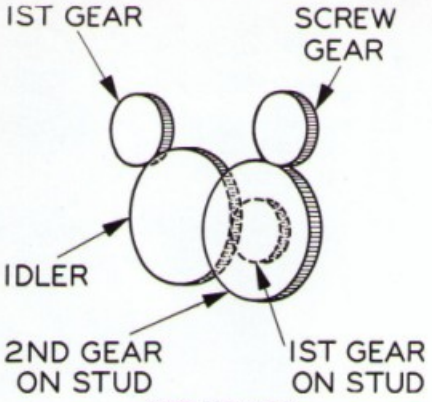
OUTSIDE CHANGE GEARS — Figures 20 and 21

The outside change gears are used to cut threads not provided in the quick change gear box. A set of five gears and a bracket are standard equipment with each machine. These gears, when set up to the gear chart — see Page 34, will cut 10 threads per inch. Three of the gears are shipped on the bracket and the other two are in place on the shafts as shown in Figure 20, one on the end of the lead screw shaft **"A"**, and the other on the end of the sliding cluster gear shaft **"B"**.

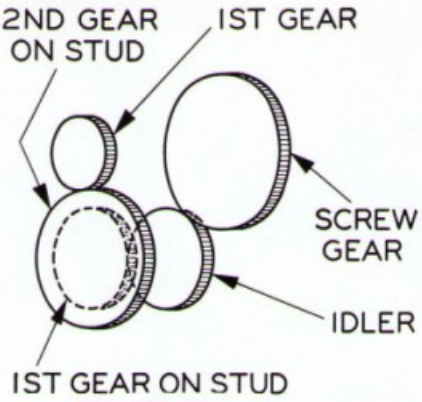
Before setting up change gears, place tumbler in the **"OUT"** position.

To cut other threads which are not in the gear box, additional gears must be purchased — see Pages 34, 35, 36 and 37 where gearing charts are given for threads from 10 to 250 threads per inch.

IMPORTANT: — Lubricate bushings and shafts on change gear bracket with spindle oil each time a set up is made. If long run threading is involved, lubricate daily.



SET UP "A"



SET UP "B"

THREADS PER INCH	SET UP	KNOB	FIRST GEAR	FIRST GEAR ON STUD	SECOND GEAR ON STUD	SCREW GEAR	IDLER
10	A	2	22*	22*	60*	30*	55*
11				GEARBOX			
11½				GEARBOX			
12				GEARBOX			
13				GEARBOX			
14				GEARBOX			
15	A	1	40	None	30	60	44
16				GEARBOX			
17	A	1	40	34	30	60	44
18				GEARBOX			
19	A	1	40	38	30	60	44
20				GEARBOX			
21	A	1	40	42	30	60	44
22				GEARBOX			
23				GEARBOX			
24				GEARBOX			
25	A	1	40	50	30	60	30
26				GEARBOX			
27				GEARBOX			
28				GEARBOX			
29	A	1	40	58	30	60	30
30	A	2	40	None	30	60	44
31	A	1	30	31	22	66	44

*** Five gears supplied as standard equipment with machine.**

THREADS PER INCH	SET UP	KNOB	FIRST GEAR	FIRST GEAR ON STUD	SECOND GEAR ON STUD	SCREW GEAR	IDLER
32				GEARBOX			
33	A	1	30	33	22	66	44
34	A	1	30	34	22	66	44
35	A	1	30	35	22	66	44
36				GEARBOX			
37	A	1	30	37	22	66	44
38	A	2	40	38	30	60	44
39	A	1	30	39	22	66	44
40				GEARBOX			
41	A	1	30	41	22	66	44
42	A	2	40	42	30	60	44
43	A	1	30	43	22	66	44
44				GEARBOX			
45	A	1	30	45	22	66	44
46				GEARBOX			
47	A	1	30	47	22	66	44
48				GEARBOX			
49	A	1	30	49	22	66	44
50	A	2	40	50	30	60	30
51	A	1	30	51	22	66	44
52				GEARBOX			
53	A	1	30	53	22	66	44
54				GEARBOX			
55	A	1	30	55	22	66	44
56				GEARBOX			
57	A	1	30	57	22	66	40
58	A	2	40	58	30	60	30
59	A	1	30	59	22	66	40
60	A	3	40	30	30	60	44
61	A	2	40	61	30	60	40
62	A	2	30	31	22	66	44
63	A	2	40	42	22	66	44
64				GEARBOX			
65	A	2	48	52	22	66	30
66	A	2	30	33	22	66	44
67	B	2	30	40	60	67	40
68	A	2	30	34	22	66	44

THREADS PER INCH	SET UP	KNOB	FIRST GEAR	FIRST GEAR ON STUD	SECOND GEAR ON STUD	SCREW GEAR	IDLER
69	A	2	40	46	22	66	44
70	A	2	30	35	22	66	44
71	A	3	60	33	22	71	30
72				GEARBOX			
73	A	3	60	33	22	73	30
74	A	2	30	37	22	66	44
75	A	2	40	50	22	66	44
76	A	3	40	38	30	60	44
77	A	3	60	33	22	77	30
78	A	2	30	39	22	66	44
79	A	3	60	33	22	79	30
80				GEARBOX			
81	A	3	40	27	22	66	44
82	A	2	30	41	22	66	44
83	B	3	22	60	83	33	55
84	A	3	40	42	30	60	44
85	A	2	24	34	22	66	44
86	A	2	30	43	22	66	44
87	A	3	40	29	22	66	44
88	A	2	30	44	22	66	44
89	B	3	22	60	89	33	55
90	A	2	30	45	22	66	44
91	B	3	22	60	91	33	30
92	A	2	30	46	22	66	44
93	A	3	40	31	22	66	44
94	A	2	30	47	22	66	44
95	A	2	24	38	22	66	44
96	A	2	30	48	22	66	44
97	B	3	22	60	97	33	55
98	A	2	30	49	22	66	44
99	A	3	40	33	22	66	44
100	A	3	40	50	30	60	30
102	A	2	30	51	22	66	44
104	A	2	30	52	22	66	44
105	A	2	24	42	22	66	44
106	A	2	30	53	22	66	44
108				GEARBOX			

THREADS PER INCH	SET UP	KNOB	FIRST GEAR	FIRST GEAR ON STUD	SECOND GEAR ON STUD	SCREW GEAR	IDLER
110	A	2	30	55	22	66	44
112	A	2	30	56	22	66	40
114	A	2	30	57	22	66	40
115	A	2	24	46	22	66	44
116	A	3	40	58	30	60	30
118	A	2	30	59	22	66	40
120	A	2	30	60	22	66	40
122	A	3	40	61	30	60	40
124	A	3	30	31	22	66	44
125	A	2	24	50	22	66	44
126	A	3	40	42	22	66	44
128	A	3	30	32	22	66	44
130	A	3	48	52	22	66	30
132	A	3	30	33	22	66	44
134	B	3	30	40	60	67	40
135	A	3	40	45	22	66	44
136	A	3	30	34	22	66	44
138	A	3	40	46	22	66	44
140	A	3	30	35	22	66	44
142	B	3	22	60	71	66	30
144	A	3	40	48	22	66	44
145	A	3	48	58	22	66	30
146	B	3	22	60	73	66	30
148	A	3	30	37	22	66	44
150	A	3	40	50	22	66	44
160	A	3	24	32	22	66	44
170	A	3	24	34	22	66	44
180	A	3	30	45	22	66	44
190	A	3	24	38	22	66	44
200	A	3	24	40	22	66	44
210	A	3	24	42	22	66	44
220	A	3	30	55	22	66	44
230	A	3	24	46	22	66	44
240	A	3	30	60	22	66	40
250	A	3	24	50	22	66	44

INSTRUCTIONS FOR THREAD CUTTING

The Hardinge HLV-H Lathe is designed for rapid and accurate thread cutting. Threads can be cut to a shoulder without fear of running into the shoulder since the automatic stops will stop the carriage at a predetermined point in either direction.

Before starting to cut a thread, select the proper cutting speed for the size of thread to be cut and to give the best finish for the particular material being used. Maximum recommended threading speed is 1000 r.p.m.

Set the quick change gear box for desired pitch by engaging the tumbler handle as outlined on Page 32 and engaging the gear box by turning knob **"A"**, Figure 19, Page 30 counterclockwise.

Set compound slide at 59° angle and position cutting tool in compound slide tool post. Position carriage so cutting tool is in the center of the part to be threaded.

Carriage control lever **"F"**, Figure 19, Page 30, when moved to the left will cause carriage to move to the left. When the carriage control lever is moved to the right the carriage will move to the right. Carriage can be stopped manually at any time by placing carriage control lever in the center position as shown in Figure 19, Page 30.

Engage lead screw nut **"C"**, Figure 23, by moving ball handled lever **"D"**, Figure 23, to the right as shown. Making certain that lever **"F"**, Figure 19, Page 30 is in the vertical position; set left carriage stop **"A"**, Figure 22 and right carriage stop **"B"**, Figure 23 approximately 1/2" from end of carriage. With threading tool away from work toward operator, make a trial run with the carriage. Pick up the exact relation between the tool and the shoulder or end of the thread by using top compound slide. Run carriage to right, checking stop **"B"**, Figure 23, moving it to proper location so tool will clear end of work by 1/4".

CAUTION: Lock carriage stops securely before starting to cut threads. Do not release carriage nut **"C"**, Figure 23, until threading operation is completed. **Do not use carriage stop when headstock spindle is running in reverse.**

LEFT HAND THREADS — can be cut the same as right hand with the spindle running forward except cutting pass is made from the headstock toward the tailstock. Carriage control stops are used for left hand threads as well as right hand threads.

(continued on page 40)

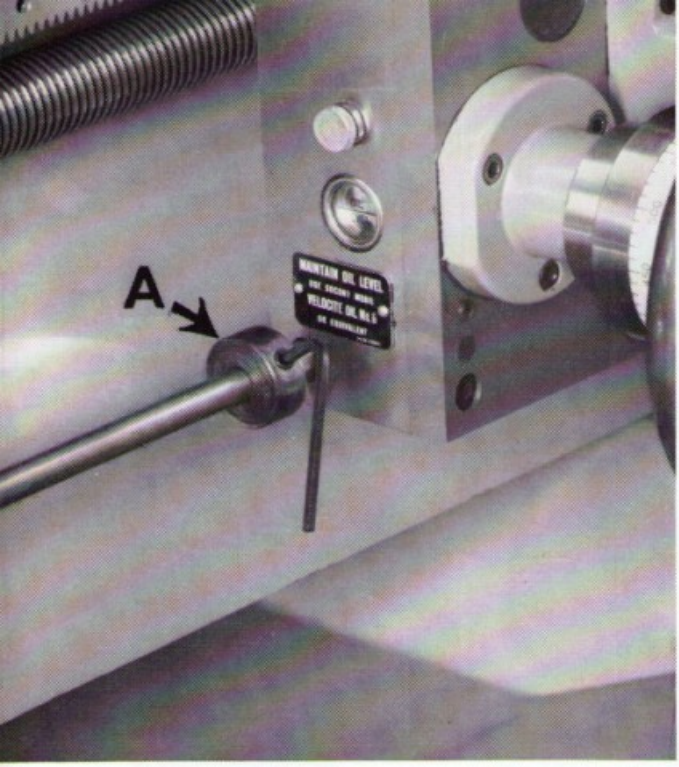


Figure 22

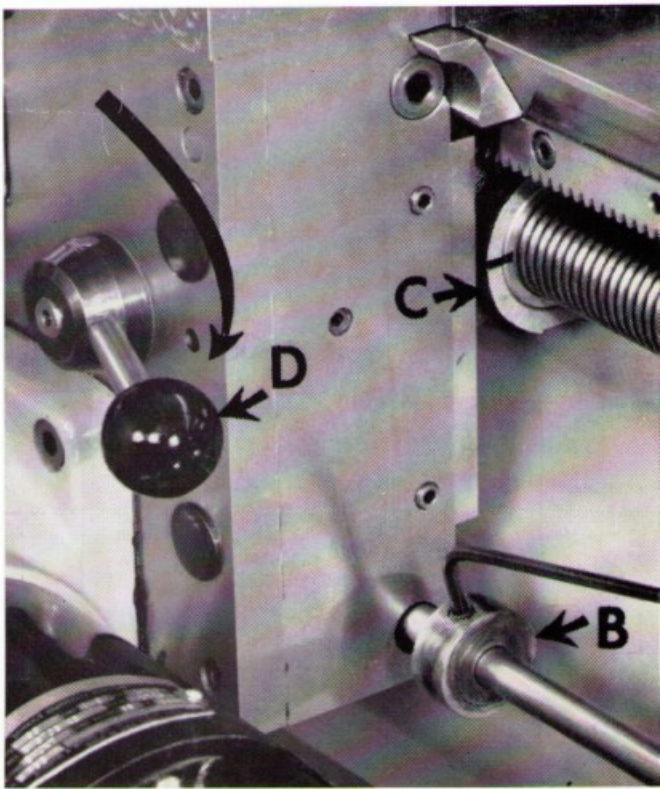


Figure 23

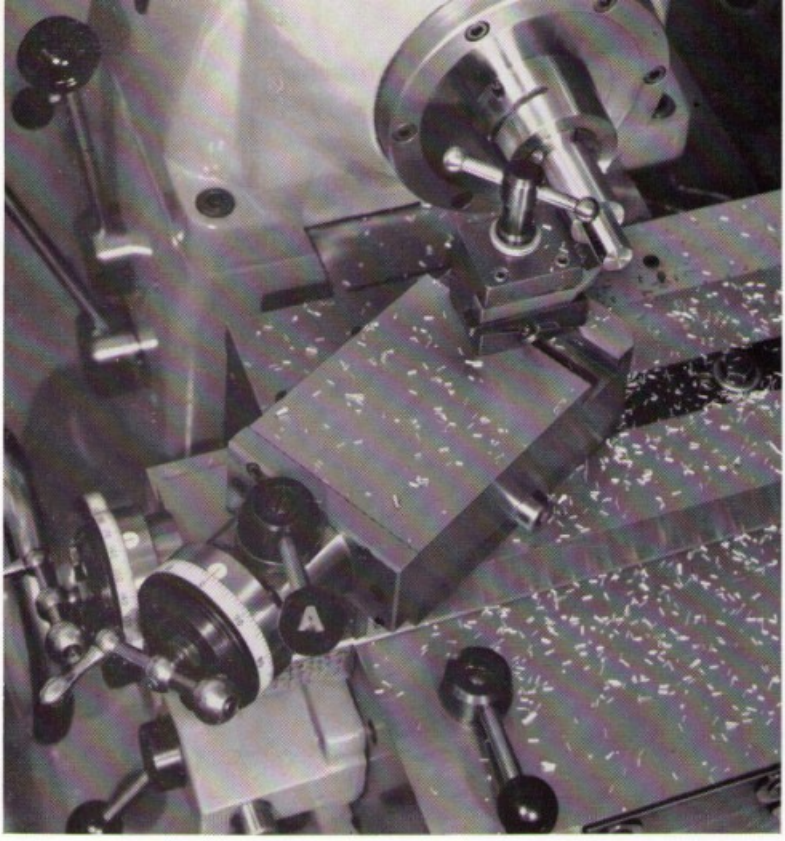


Figure 24

THREAD CUTTING — continued

The illustration above shows the threading tool in position to start a threading pass. The carriage stop controlling the travel of the carriage to the right or toward the tailstock end of the machine when properly set places the tool about 1/4" from end of work.

When carriage is at rest and quick acting handle **"A"** is to the right in the cutting position, feed the cutting tool in the desired number of thousandths for the next threading pass.

Move lever **"F"**, Figure 19, Page 30, to the left and carriage will start and move until it contacts stop at headstock end of machine stopping carriage as shown in Figure 25, Page 41.

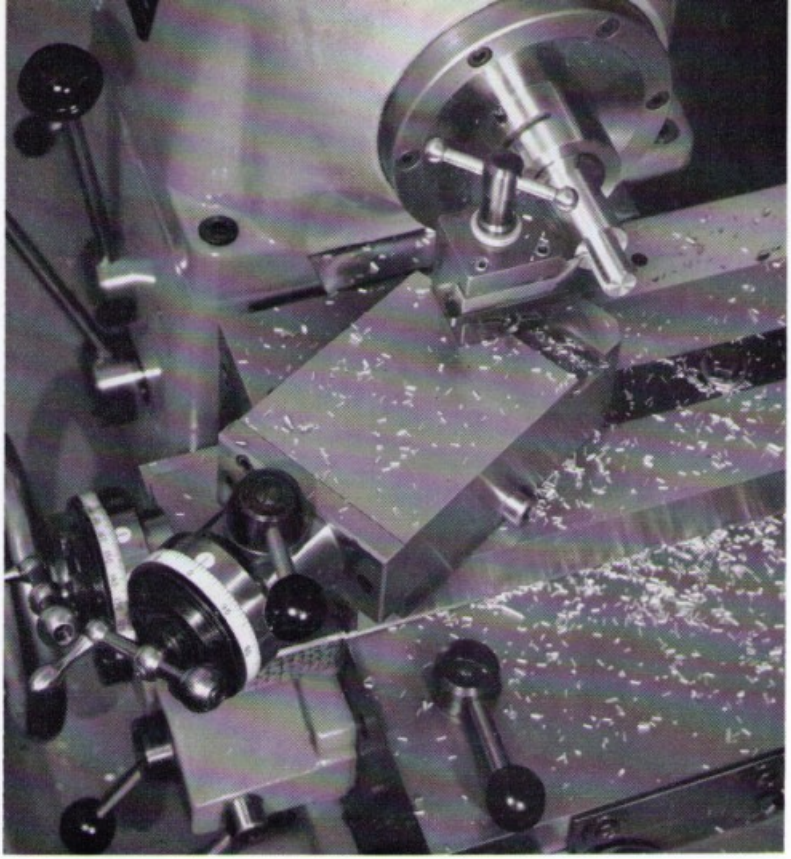


Figure 25

THREAD CUTTING — continued

This illustration shows the cutter and carriage at the end of the threading pass. Notice that the threading tool is close to the shoulder — the carriage was stopped in this position by the carriage stop which controls the lead screw. Headstock spindle continues to run in the forward direction. Carriage stops cause only the gear box, lead screw and carriage to stop running.

When cutting left-hand threads, start the threading pass next to the shoulder and with the spindle running forward, make the threading pass toward the tailstock.

(Continued on Page 42)

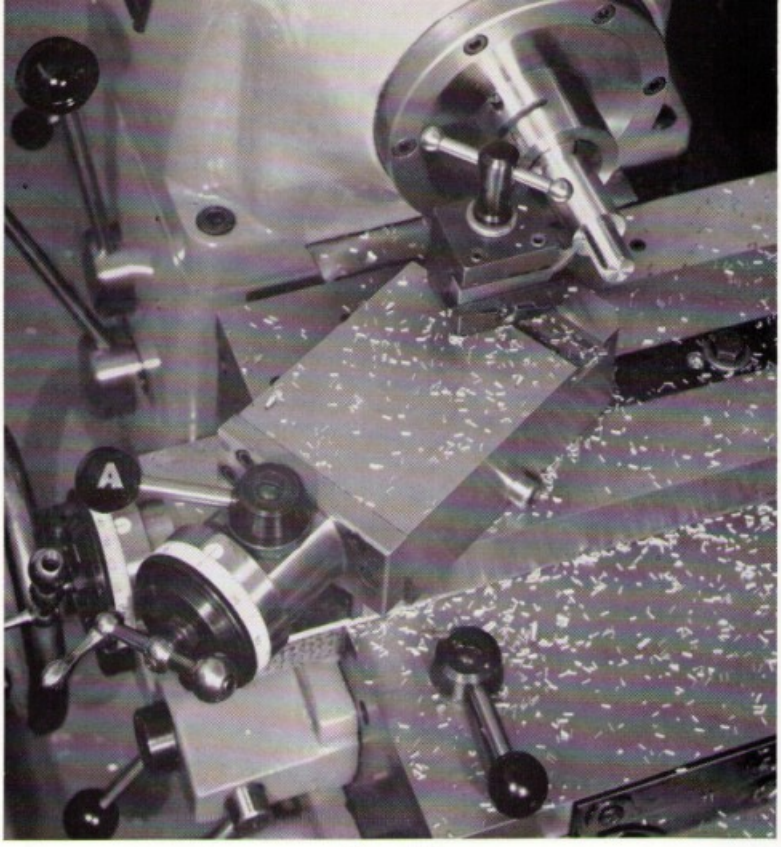


Figure 26

THREAD CUTTING — continued

Illustrated above is the carriage in the same position on the bed as in Figure 25 only that quick acting handle **"A"** on the compound slide has been moved to the left withdrawing tool from work. After withdrawing tool with quick acting handle, the carriage is reversed or moved to the right to the starting position by moving carriage control lever **"F"**, Figure 19, Page 30, to the right.

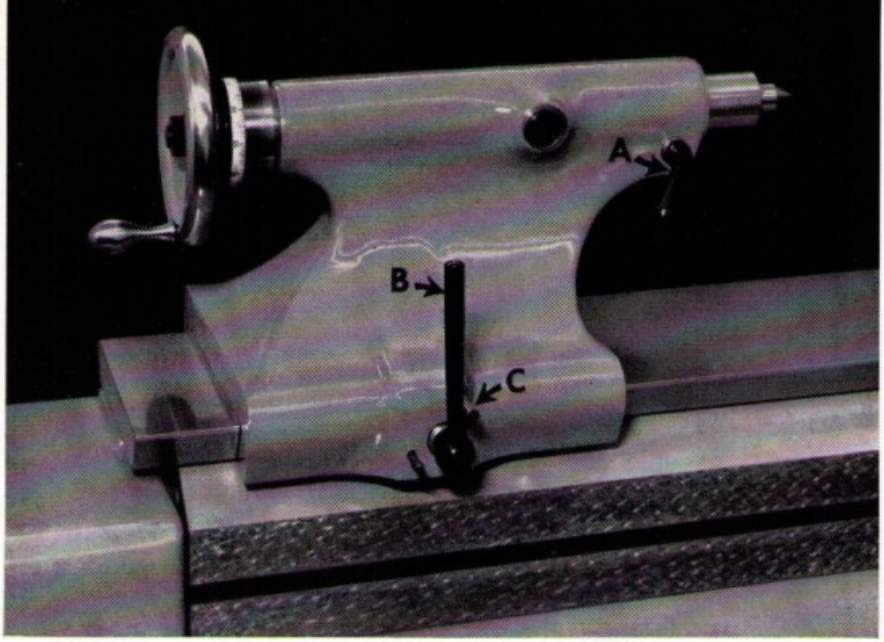


Figure 27

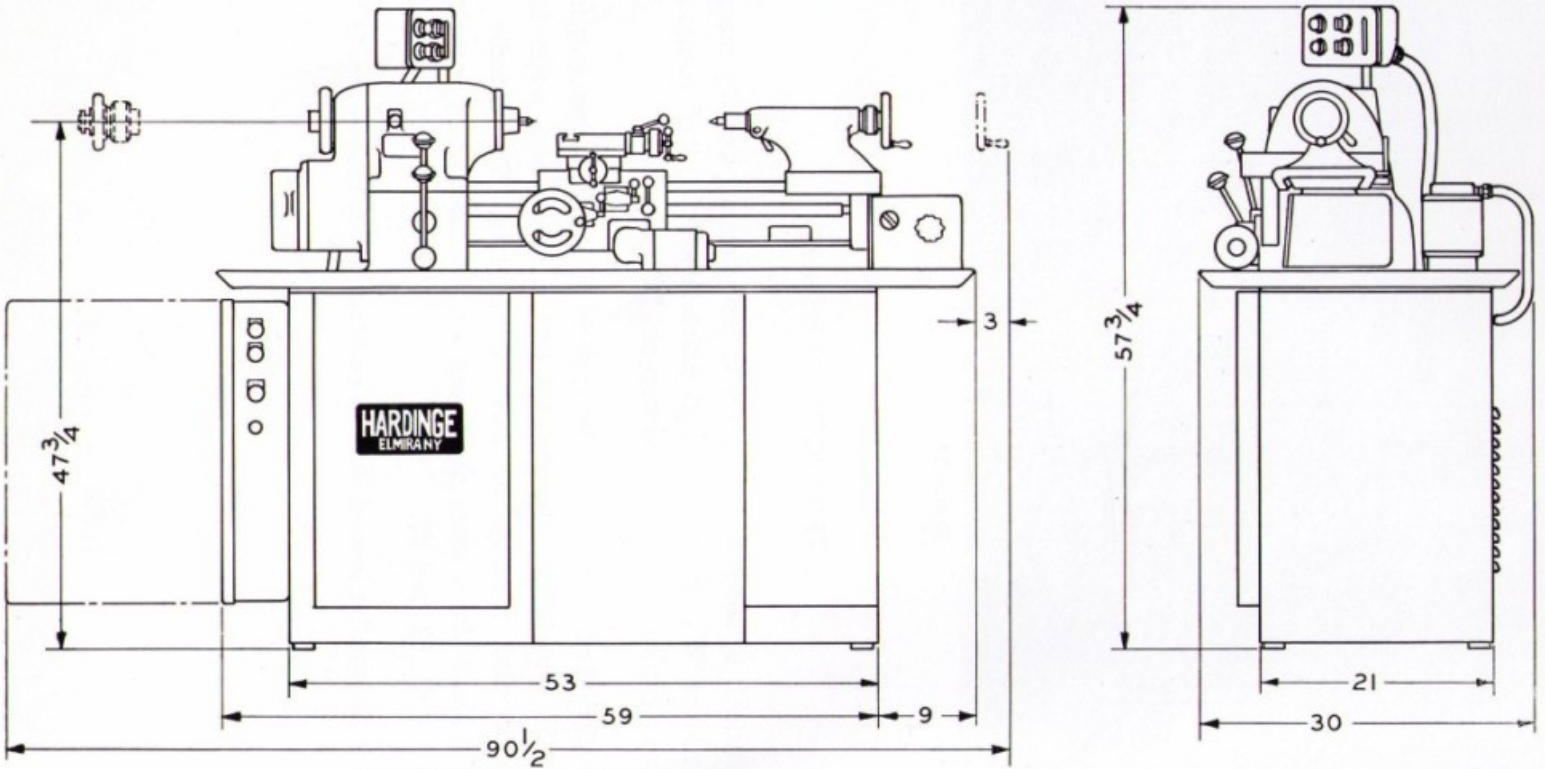
TAILSTOCK — Figure 27

The tailstock is securely anchored to the dovetail bed by means of locking lever **"B".** To properly lock tailstock to bring it on center make sure lever is all the way against stop pin **"C".**

The hardened and ground spindle is divided in 1/8" increments for the full 3-3/4" travel. The handwheel has a black and white friction adjustable dial reading in .001" increments. The spindle takes standard No. 2 Morse taper shank centers and other tailstock tooling — see Pages 61, 62 and 63.

The spindle can be locked in any position by locking lever **"A".**

FLOOR PLAN



WITH SWITCH DOOR OPEN

MACHINE SPECIFICATIONS

Spindle Construction		Hardinge Preloaded Ball Bearing
SPINDLE CAPACITY	With Step Chucks	1" to 6"
	With Jaw Chucks	5"
	With Jaw Chucks (Through Spindle)	1-5/32"
	With Round 5C HARDINGE Collets	1-1/16"
	With Hexagon 5C HARDINGE Collets	7/8"
	With Square 5C HARDINGE Collets	3/4"
Spindle Nose		Hardinge Tapered
Variable Spindle Speeds		125 to 3000 r.p.m.
Swing Over Bed		11"
Swing Over Carriage		9"
Swing Over Cross Slide		5-3/4"
Distance Between Centers		18"
Range of Threads in Gear Box		11 to 108
Number of Thread Changes in Gear Box		27

Actual threads cut through gear box — 11, 11½, 12, 13, 14, 16, 18, 20, 22, 23, 24, 26, 27, 28, 32, 36, 40, 44, 46, 48, 52, 54, 56, 64, 72, 80, 108

NOTE: Standard threads in all standard English systems are included in the foregoing gear box selections.

Compound Slide Travel	3"
Power Feed Range	1/4 to 7" per minute
Size of Lathe Tool:—Wedge Type (Standard Equipment)	3/8" x 3/8"
—Rocker Type (Optional Extra Equipment)	3/8" x 1"
Tailstock Spindle Travel	3-3/4"
Tailstock Spindle Taper	No. 2 Morse

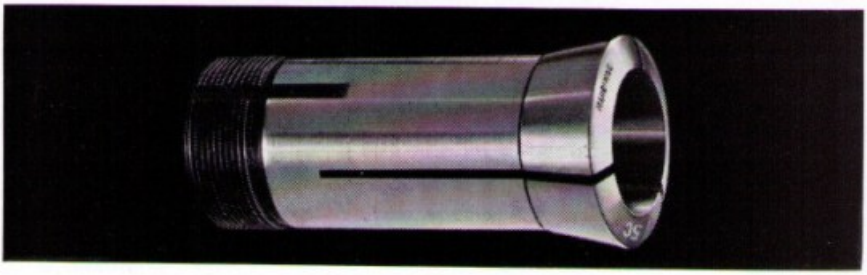
Approximate weight of machine with regular equipment listed below 1700 lbs.

REGULAR EQUIPMENT

The Hardinge HLV-H Lathe is furnished complete with:

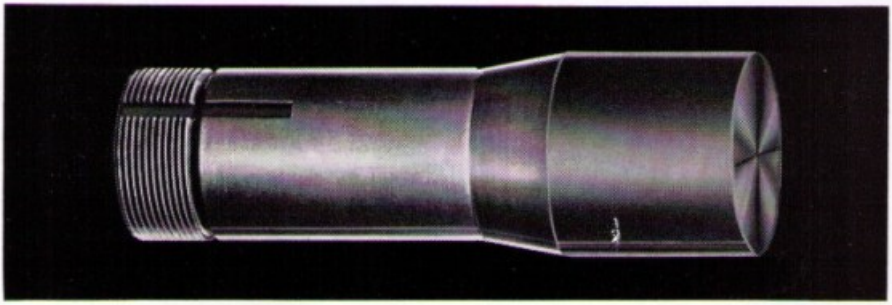
- Fully enclosed headstock with preloaded ball bearing 1-1/16" collet capacity spindle.
- Drive Plate and Headstock Center.
- Ball Bearing Lever Collet Closer.
- Quick Change Gear Box reserved for precision cutting of 27 different threads.
- Set of five change gears.
- Completely Enclosed Carriage and Apron.
- Independent Electrical Variable Power Feed Drive for carriage and cross slide.
- Finger Tip Snap-Up Clutches for longitudinal and cross feed.
- Preloaded Ball Bearing Lead Screw for threading only.
- Automatic Lead Screw Stop with adjustable stop collars.
- Quick-acting Tool Post Slide for threading.
- Easy reading HARDINGE Black and White Feed Screw Dials.
- Easy reading HARDINGE Black and White Carriage Handwheel Dial.
- Solid Full Bearing Carriage.
- Solid Hardened and Ground Steel Dovetail Bed Ways.
- Full Bearing Tailstock with No. 2 Morse Taper.
- Welded Steel Pedestal with oil type chip pan and coolant sump.
- Oil Coolant Facilities (Illustrated Page 66)
- Tool Storage Compartment with Collet Trays.
- Variable Speed Driving Unit complete with 2-speed motor.
- Magnetic Electric Control Panel with transformer providing 110 volts for push button control circuit; time lag thermal overload relays provide overload protection; low voltage protection is also provided; cam operated, quick make and quick break forward and reverse switches; pilot light, fused disconnect switch interlocked with cover of panel — entire panel is one self-contained unit.

Additional tooling items are shown on Pages 46 thru 68



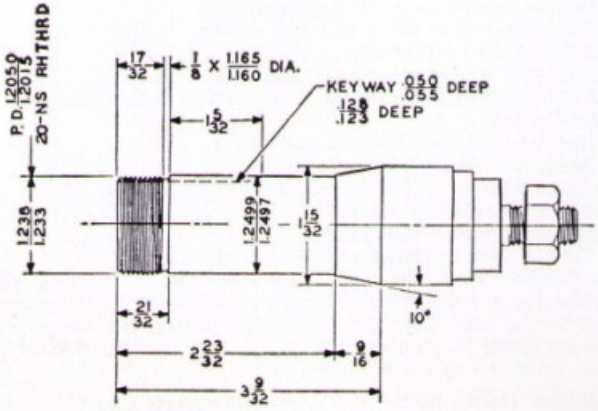
5C HARDINGE COLLETS

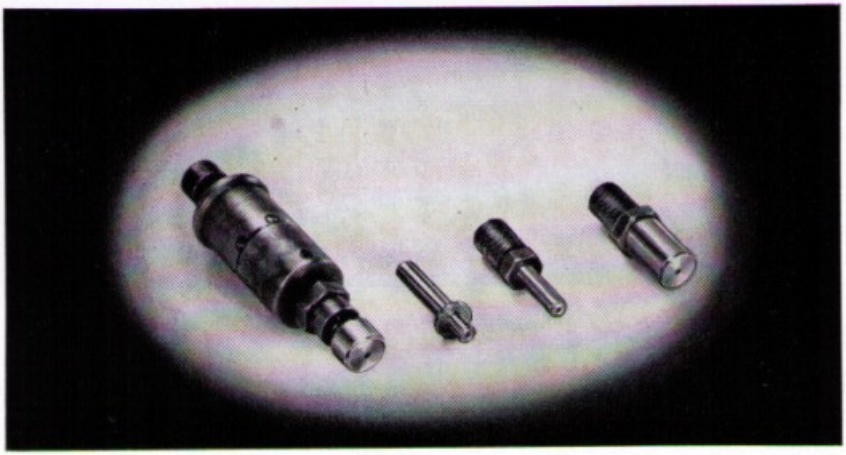
The Hardinge HLV-H Lathe takes 5C HARDINGE collets with capacity of 1-1/16" round, 7/8" hexagon and 3/4" square. Hardinge precision collets are manufactured to exact precision standards, and are available in all types and sizes for all makes of lathes and milling machines, as well as our own precision machines.



5C HARDINGE PLUG CHUCK

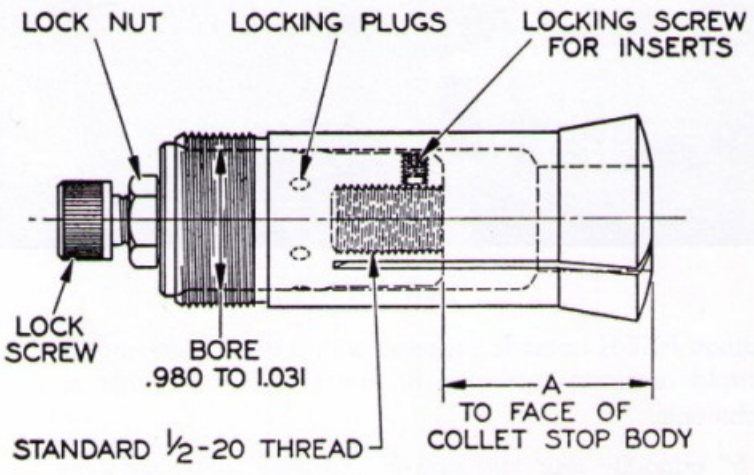
The collet shank section is finished for direct application to your machine spindle. The nose section is 1-15/32" in diameter and 1-3/4" long. It can be machined in place for the greatest degree of accuracy to suit your particular requirements for special arbors.



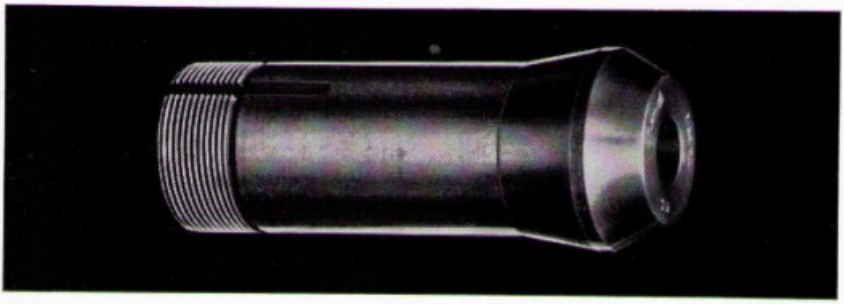


UNIVERSAL COLLET STOP

This stop converts 5C HARDINGE collets into solid stop or spring ejector stop collets, without alteration of the standard collets. The application of this stop to the collet requires no machining. In other words, all collets used with this machine can be used in the regular manner or as solid stop collets or as spring ejector stop collets.



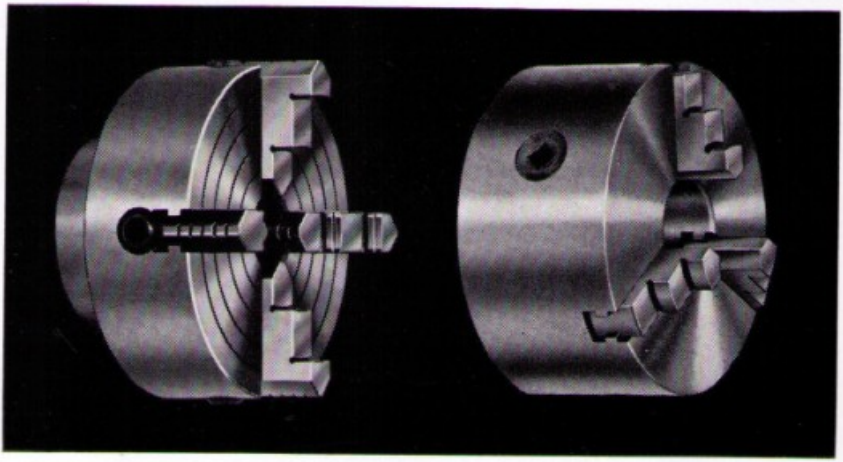
Dimension **"A"** is equal to 1-3/8" and is the maximum depth a part may be chucked using a solid stop. The maximum depth for spring ejector stop is 13/16". This is due to space required for spring ejector construction.



5C HARDINGE TAPER HOLE COLLETS

Hardinge 5C taper hole collets are hardened and precision ground for direct application to the headstock spindle. Available with No. 1 or 2 Morse Taper, 4, 5, 6 or 7 Brown & Sharpe Taper.

Taper hole collets are useful in making tools having tapered shanks and also when regrinding tailstock center.



JAW CHUCKS*

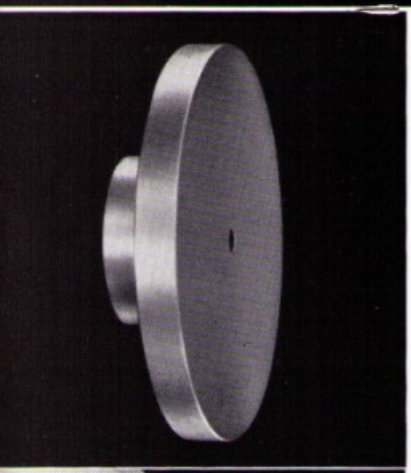
Hardinge HLV-H Lathe is supplied with a taper nose headstock spindle for rapid accurate mounting of jaw chucks and other spindle nose attachments.

The 5" capacity four jaw and 5" capacity three jaw chucks, shown above, are available for use with the HLV-H Lathe.

These chucks are integrally mounted for direct application to the taper nose spindle, thus eliminating a separate mounting plate.

* When ordering, specify for taper nose spindle and give machine serial number.

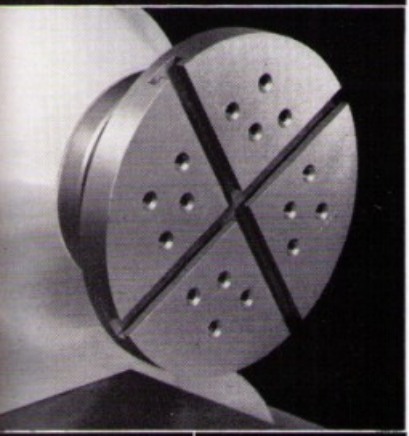
HEADSTOCK SPINDLE TOOLING



FIXTURE PLATES*

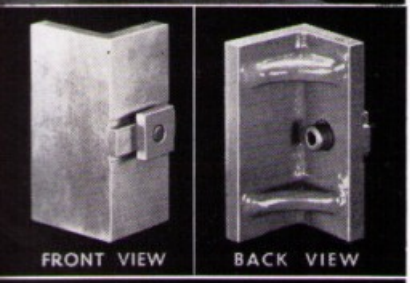
The fixture plate is machined all over for direct application to the headstock spindle. Three sizes are available; 3", 5" and 8-7/8" diameter. The flange section is 3/4" thick with a 7/16" center hole.

This plate can be machined to become a fixture or for mounting fixtures to hold work or for mounting special purpose chucks.



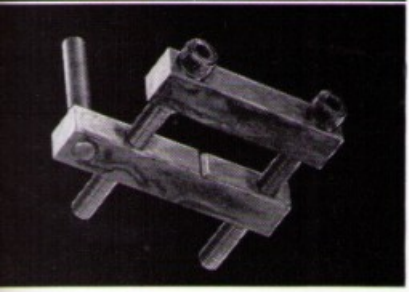
7" and 9" SLOTTED
and
TAPPED FACE PLATES*

Are used for holding irregular shaped pieces. Holes are drilled and tapped to permit the use of standard 5/16" x 18 bolts.



ANGLE PLATE FOR FACE PLATE

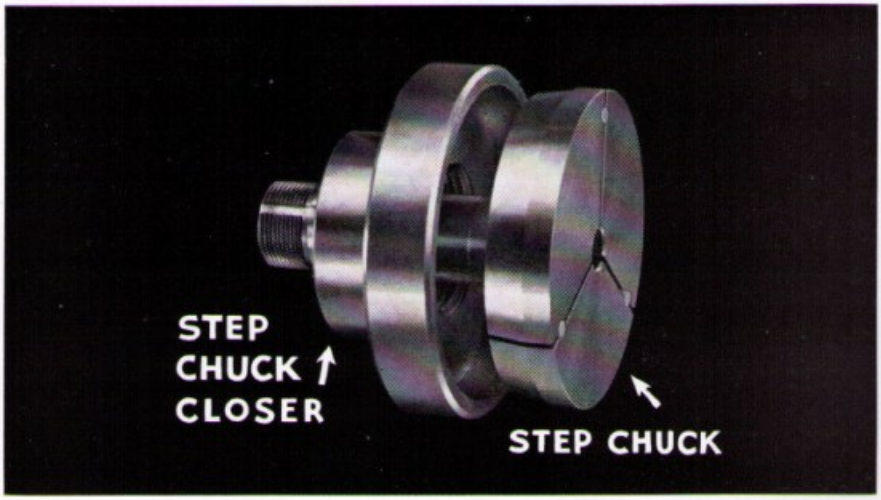
The angle plate fastens directly to the T-slot of the face plate and is used to support work at right angle to the face plate. Work clamping surface is 1-1/2" x 3".



DRIVING DOG

The driving dog is used in conjunction with the drive plate to drive work between centers.

*When ordering, specify for taper nose spindle and give machine serial number.



5C HARDINGE STEP CHUCKS

A step chuck is exceptionally useful for accurately holding work larger than 1-1/16" in diameter up to 6" in diameter. Tubing can be held without crushing or distorting. The step chuck will also hold castings, moldings, stampings and machined parts rigidly and accurately. The standard ball bearing lever operated collet closer is used to close the step chuck. The step chuck is closed by the taper on the periphery seating in the taper of the closer.

REGULAR DEPTH CAPACITY step chucks and closers are carried in stock in 2", 3", 4", 5" and 6" sizes for immediate delivery. They are 3/8" larger in diameter than the rated size, so the full capacity may be readily applied. Steps may be applied to a depth of 5/8" in these regular step chucks.

EXTRA DEPTH CAPACITY step chucks and closers are carried in stock in 2", 3", 4", 5" and 6" sizes. These step chucks are made so the full rated capacity step may be applied to the maximum depth of 1-1/4". An extra depth capacity step chuck closer is required for each size extra depth capacity step chuck.

STEP CHUCK CLOSERS*

A closer is required for each size step chuck. The closer fits directly to the machine spindle and has a taper corresponding to the taper on the periphery of the step chuck for closing the step chuck. A step chuck closer is required for each size step chuck to place the closing pressure over the stepped area of the chuck, resulting in greater gripping power and accuracy.

* When ordering, specify for taper nose spindle and give machine serial number. Regular depth capacity step chucks and closers will be supplied unless extra depth capacity is specified.