INSTRUCTIONS
and
PARTS MANUAL

1300-series LATHE

1300

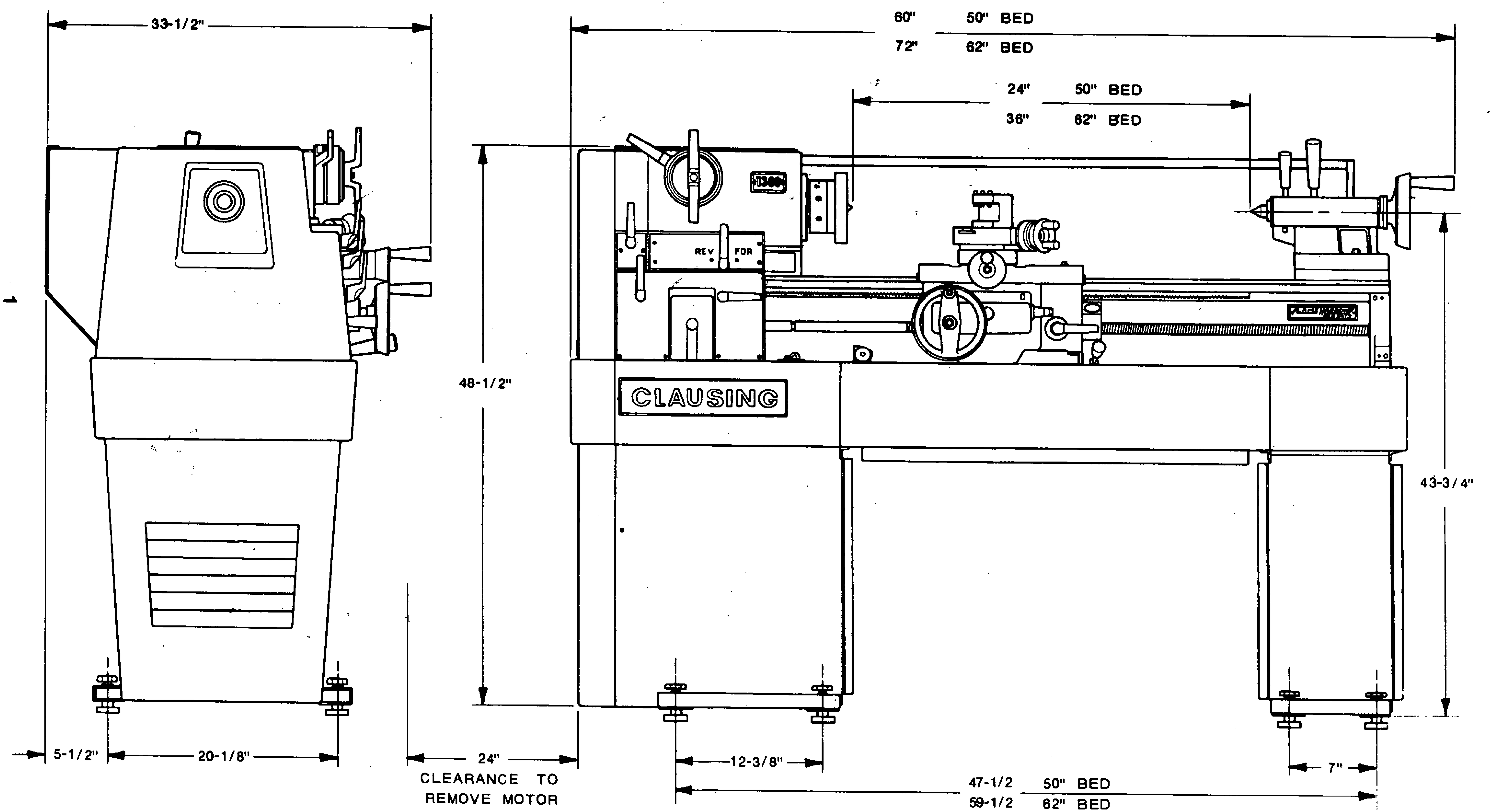
CLAUSING
CORPORATION
2019 N. PITCHER ST. KALAMAZOO, MICH. 49007

AUGUST, 1978 **5**

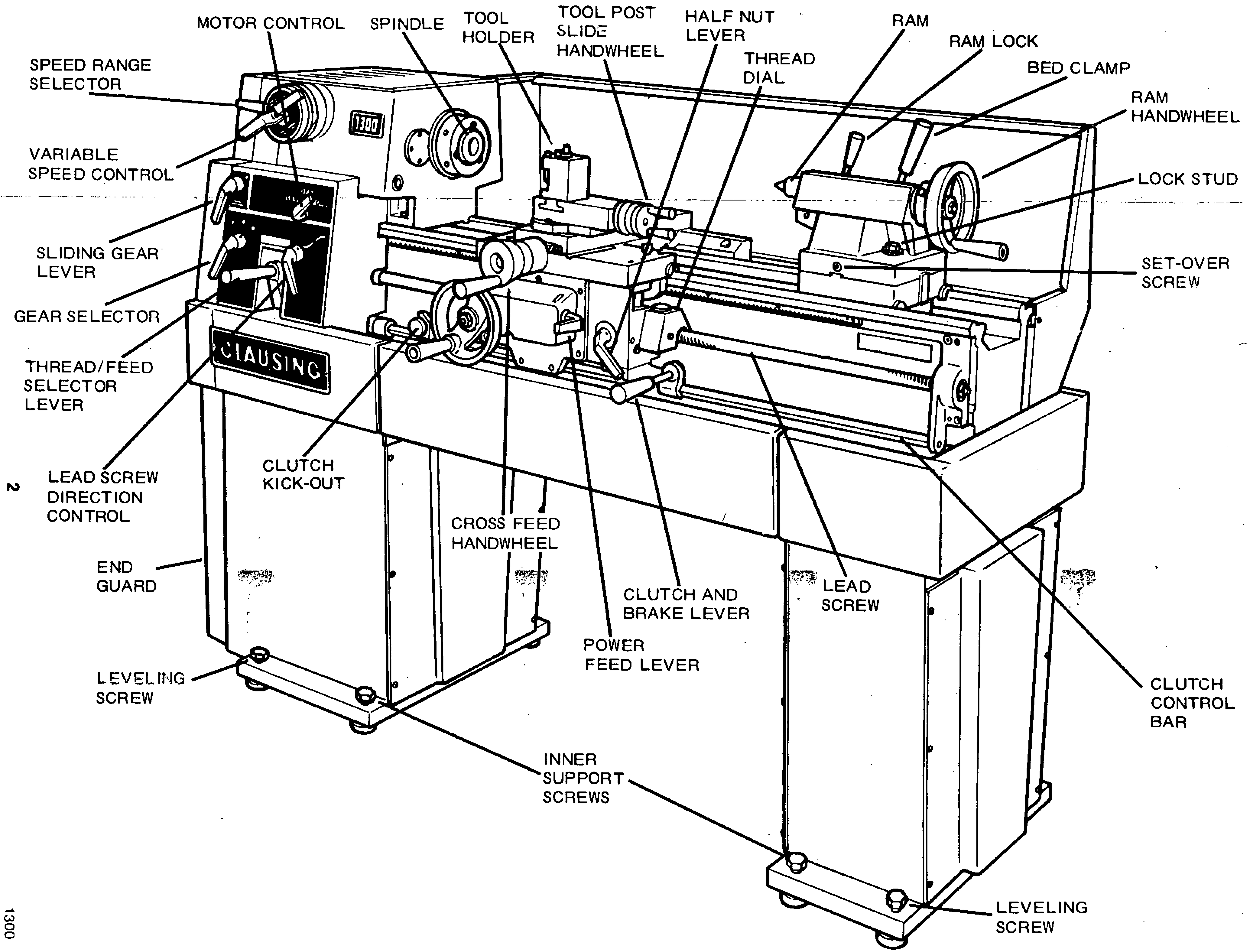
THIS MANUAL APPLIES TO CLAUSING 1300 SERIES LATHES FROM SERIAL No. 131940 TO 132029

1300 SERIES LATHE TABLE OF CONTENTS

GENERAL DIMENSIONS - 1300 SERIES CLAUSING LATHE



NOTE: DIMENSIONS ARE APPROXIMATE


MOTOR CONTROL
SPINDLE
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LEVELING SCREW
CLAUSING
1300

INSTALLATION

FOUNDATION

The Clausing lathe is a precision machine tool requiring a firm foundation. The floor must be level and solid enough to support the weight of the machine without noticeable deflection. Reinforced concrete is recommended; it provides a rigid base, minimizes vibration from adjacent machines and resists deflection.

Wood floors should be carefully checked for strength. Place a precision level on floor where lathe is to be located, and move a hand truck with average load past it. If bubble in level shows noticeable movement, the floor should be reinforced, or cut away and a concrete foundation installed.

UNCRATING

Remove crating carefully. For ease in handling do not remove lathe from skid until the lathe has been moved to its approximate location.

CLEANING

CAUTION: DO NOT MOVE CARRIAGE OR TAILSTOCK UNTIL BED WAYS HAVE BEEN THOROUGHLY CLEANED AND OILED

Use a clean solvent to remove rust proof coating applied to unpainted surfaces. Exposed bearing surfaces should be cleaned using a soft cloth. Use a stiff bristle brush to clean the lead screw and rack. Do not use air hose. It can force dirt and grit into bearings and slides. When thoroughly cleaned, cover unpainted surfaces with a light coating of medium way oil (see lubrication chart).

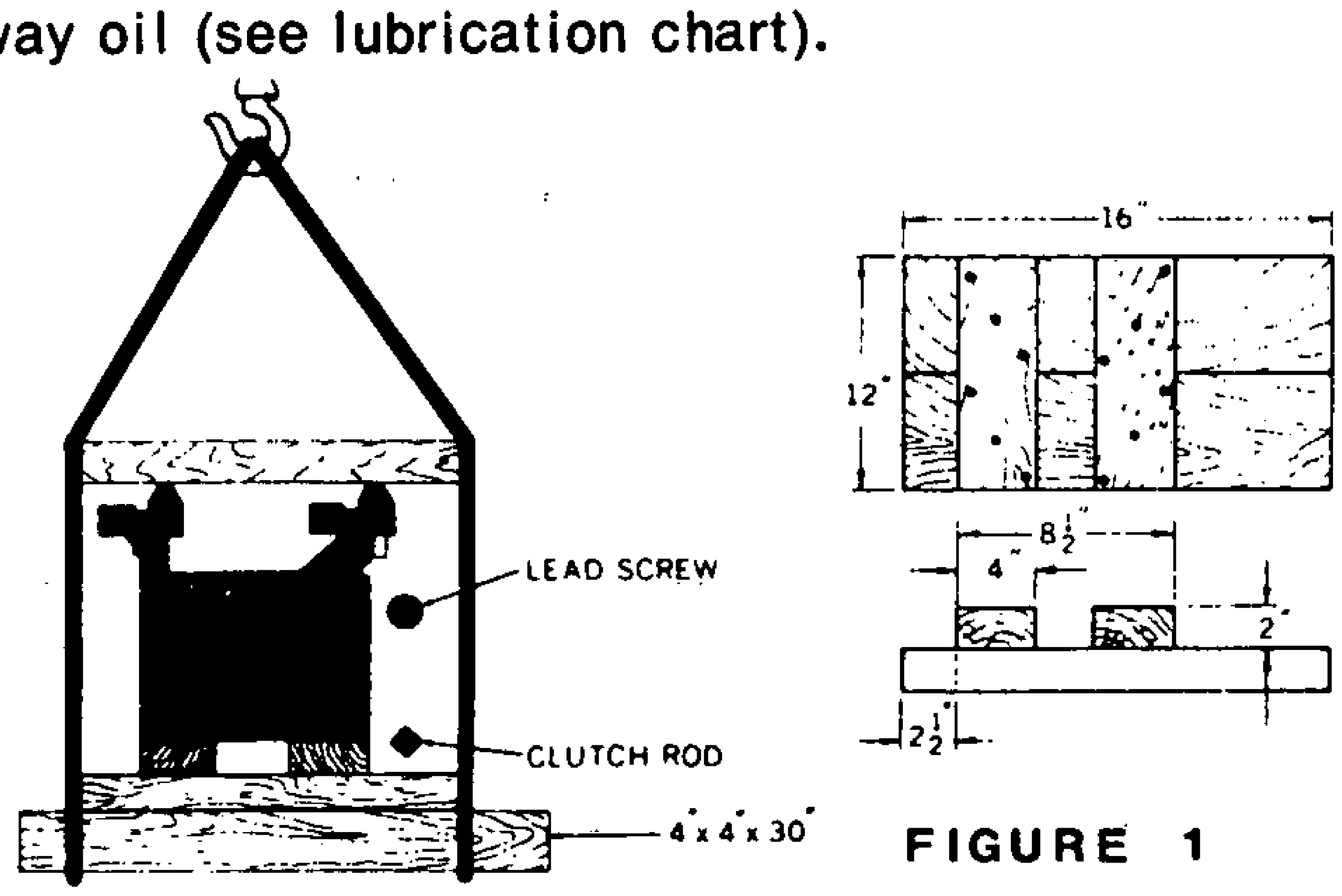


FIGURE 1

LIFTING

CAUTION: DO NOT SLIDE LATHE ALONG FLOOR.

When using a sling, move tailstock and carriage to right hand end of the bed – lock tailstock in place, remove chip pan and back splash guard. To protect lead screw and clutch rod use wood blocking under bed, see figure 1. Place blocking under approximate center of load, rig sling as shown. Raise lathe about one inch off floor, make any necessary adjustment for balance by moving carriage along bed.

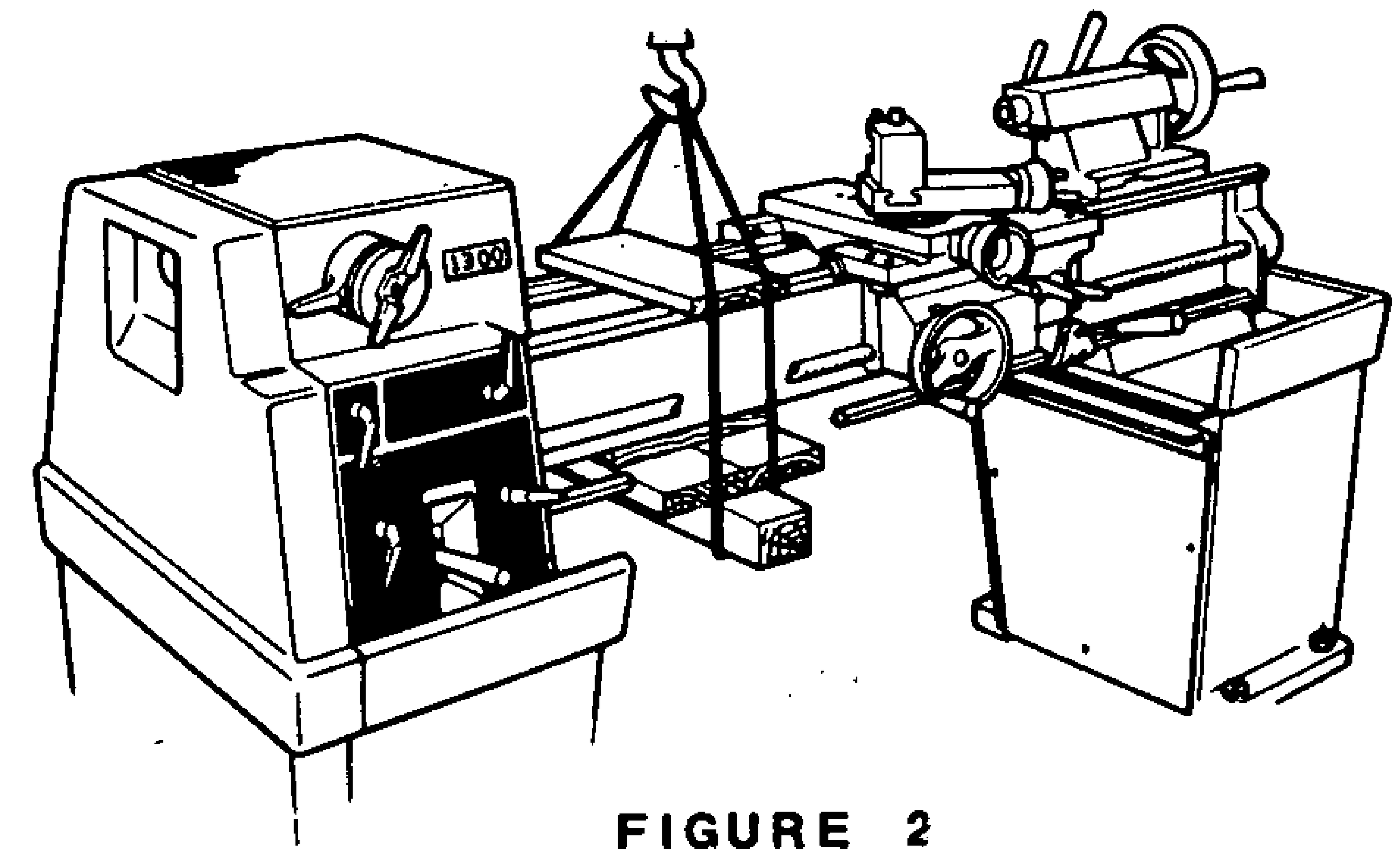


FIGURE 2

If a fork lift is used, remove chip pan, place 2" thick wood blocking under bed so clutch rod will not be bent when lathe is raised.

ANCHORING

The Clausing lathe is equipped with eight mounting pads which eliminate the need for anchoring the lathe to floor. If anchoring is desired, procede as follows: Use anchor bolts to secure lathe to concrete floor– use lag screws to secure lathe to wood floor–refer to figure 3.

With a hoist or lift, lower the lathe into position and mark the eight mounting pad locations.

Lift lathe out of the way, drill holes for anchor nuts and install anchor nuts – for lag screws drill pilot holes.

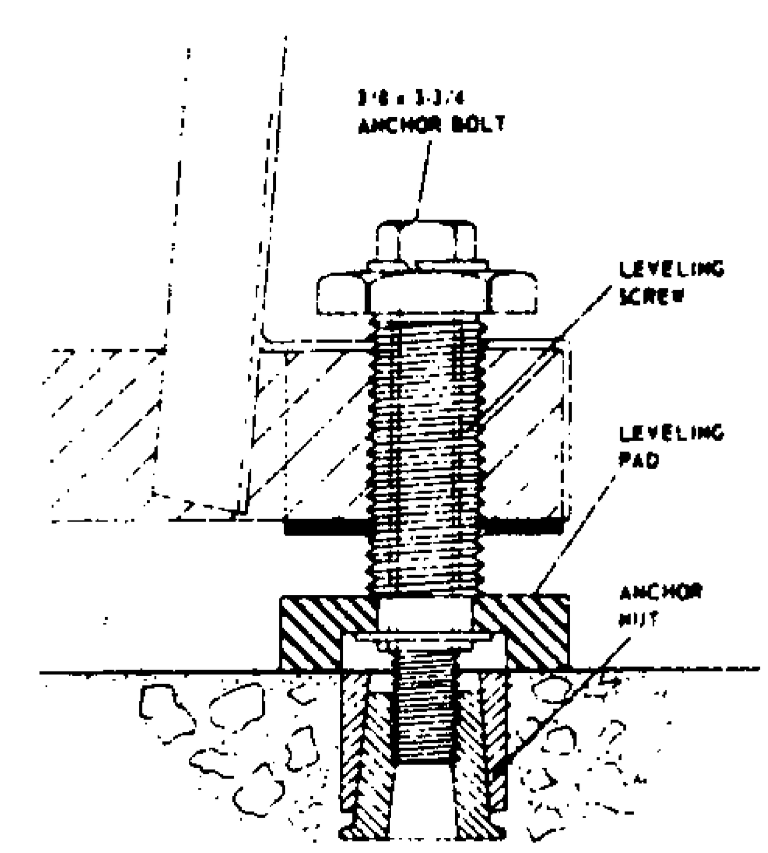


FIGURE 3

Position and lower lathe. Turn leveling screws until no portion of the lathe cabinet touches the floor – shim under pads, if necessary.

Start anchor bolts or lag screws – DO NOT tighten until lathe is leveled – see Leveling instructions.

LEVELING

The lathe should be kept perfectly level at all times. When carelessly leveled, the bed may become twisted. Even a slight amount of twist will move centers out of alignment and result in inaccurate work and excessive wear. Make it a habit to check the level of the bed regularly.

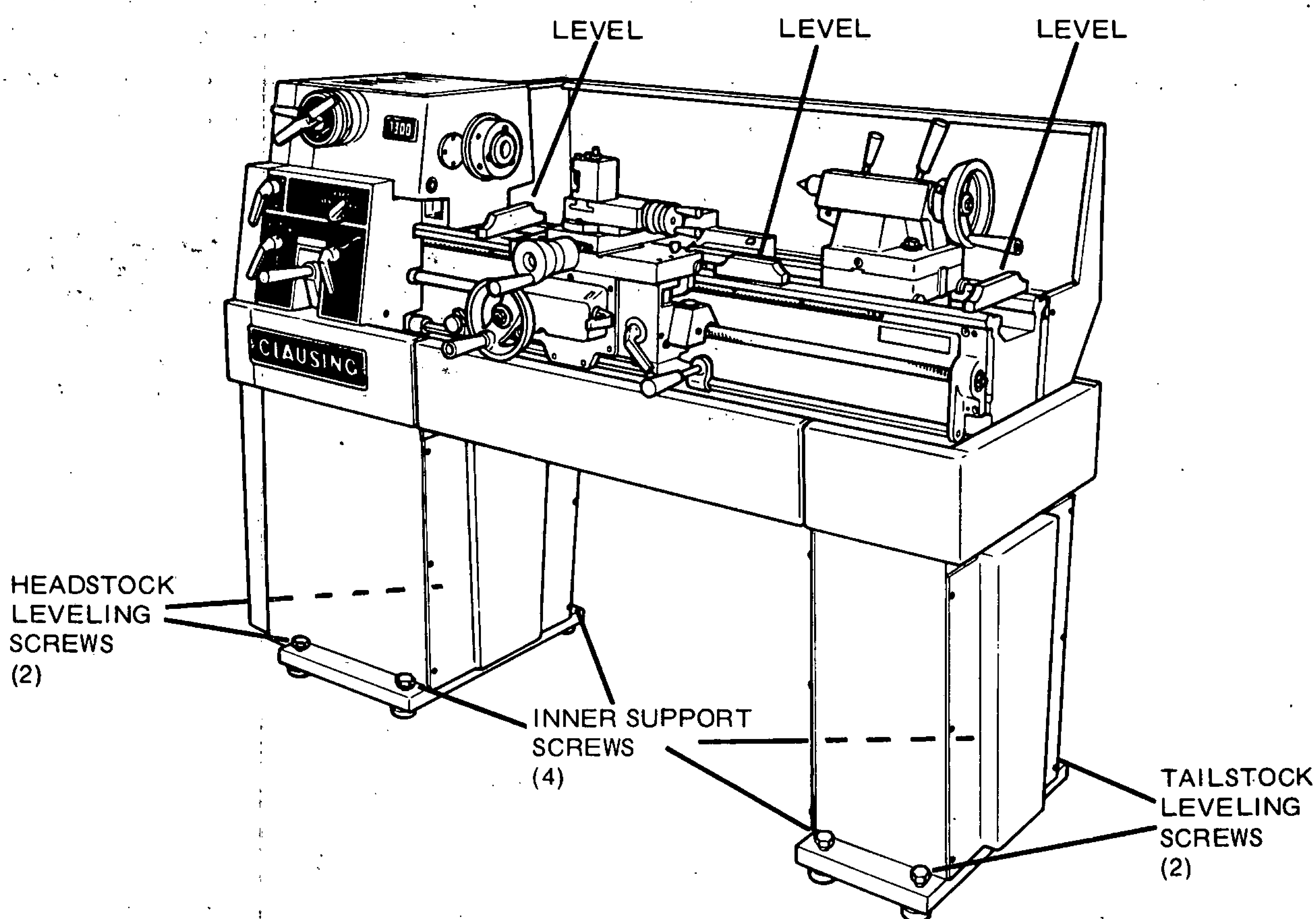


FIGURE 4

THIS IS IMPORTANT:
Use one precision level at least 10" long – level should show a distinct bubble movement when a .003" shim is placed under one end.

1. First level bed longitudinally by turning the leveling screws on the cabinet base – refer to figure 4 for level positions.

2. Next level both ends of the bed. The headstock and the tailstock ends must be checked with the level placed at right angles to the bed. Refer to figure 4. Use a square to align the level. Do not turn level end for end. Compensate for variations of bubble readings by turning the leveling screws until readings are the same at both headstock and tailstock.

NOTE: Avoid excessive adjustment of leveling screws by inserting shims between pads and floor.

3. When the lathe is level, turn down the four inner support screws until pads contact the floor.

4. If lathe is anchored to floor, anchor bolts should be finger tight, or until the lock washers start to compress. Lag screws should be tightened, then backed off about one-quarter turn.

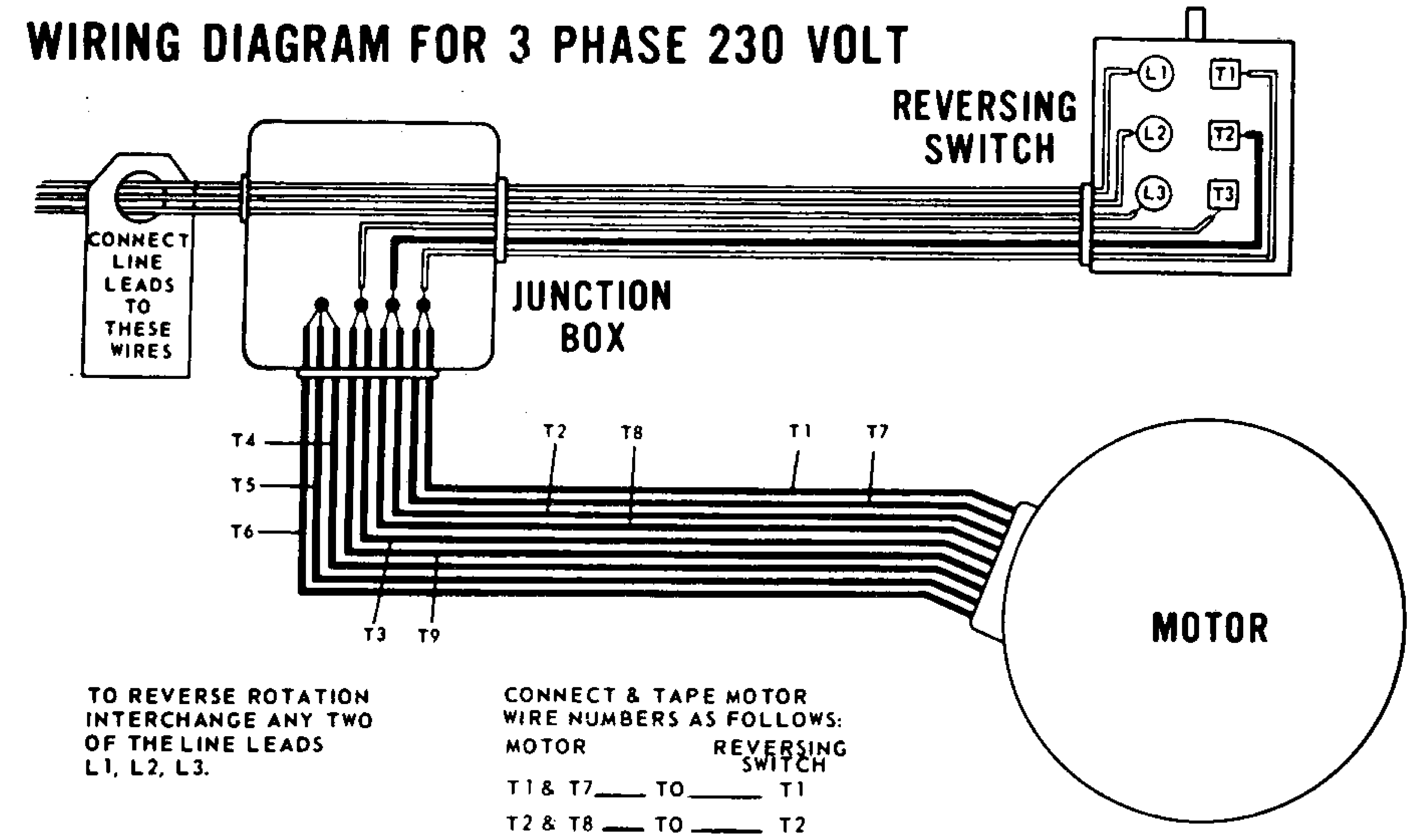
5. Recheck the level of the lathe – unequal tightening of anchoring bolts may have pulled the bed out of level. Recheck leveling in 5 days. Check level of bed at frequent intervals. Chatter – turning taper – boring taper – facing convex or concave is usually the result of an improperly leveled lathe.

ELECTRICAL CONNECTIONS

The lathe is completely wired, ready to be connected to power supply. Be sure electrical characteristics of motor and switch correspond with electrical power supply. If any questions consult local power company.

WIRING INSTRUCTIONS FOR 1300 SERIES CLAUSING LATHE

WIRING DIAGRAM FOR 3 PHASE 230 VOLT

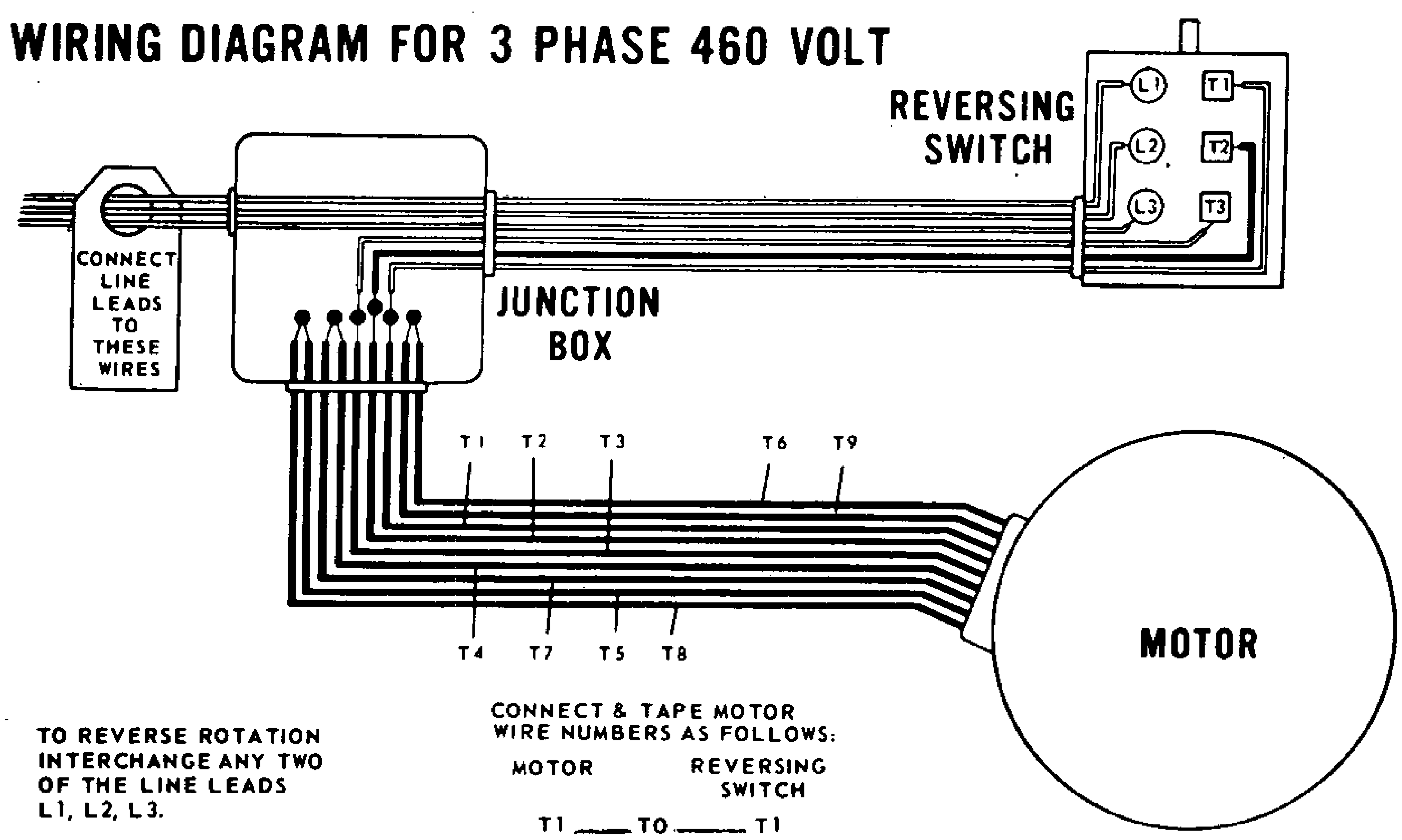


TO REVERSE ROTATION INTERCHANGE ANY TWO OF THE LINE LEADS L1, L2, L3.

CONNECT & TAPE MOTOR WIRE NUMBERS AS FOLLOWS:

MOTOR		REVERSING SWITCH
T1 & T7	TO	T1
T2 & T8	TO	T2
T3 & T9	TO	T3

WIRING DIAGRAM FOR 3 PHASE 460 VOLT

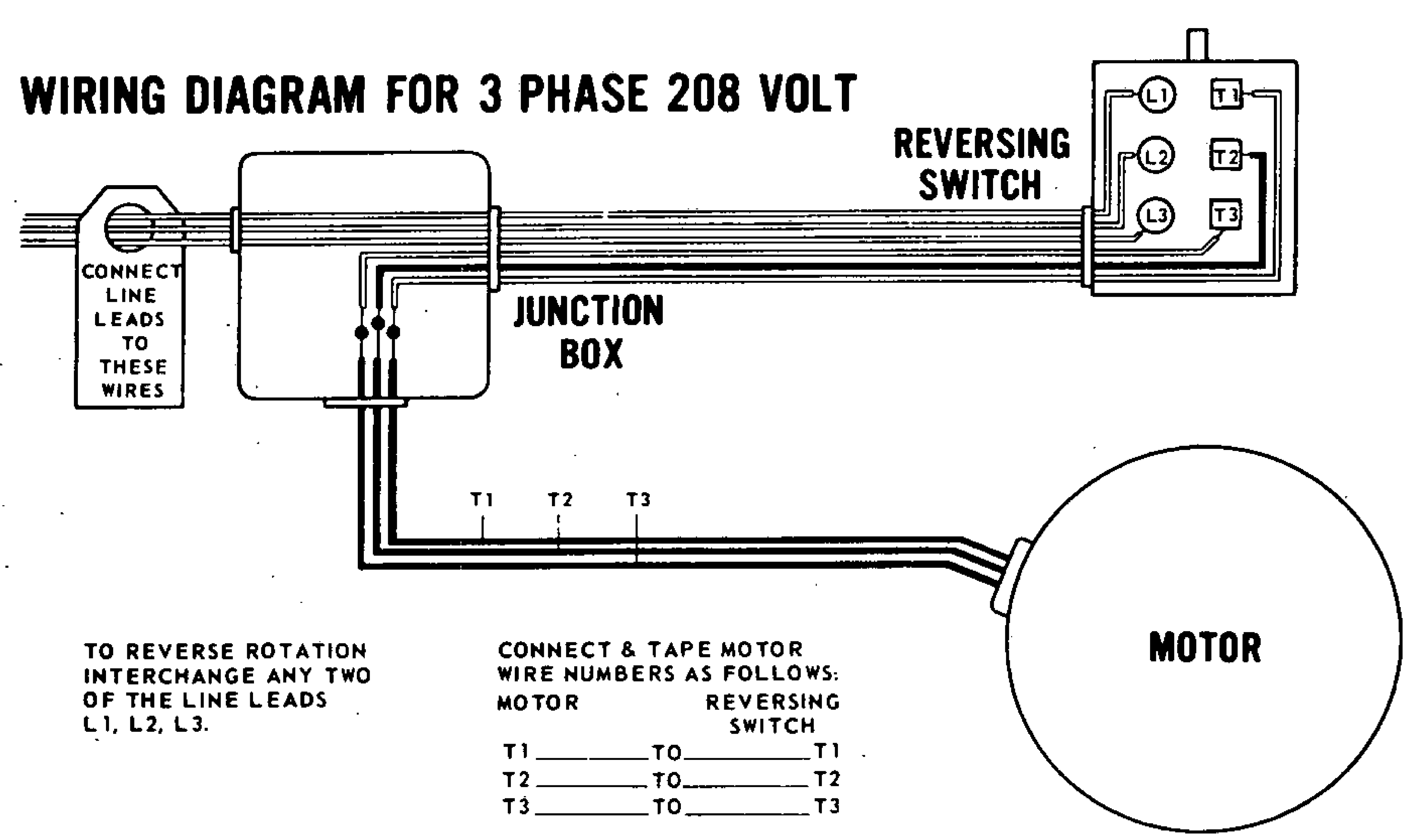


TO REVERSE ROTATION INTERCHANGE ANY TWO OF THE LINE LEADS L1, L2, L3.

CONNECT & TAPE MOTOR WIRE NUMBERS AS FOLLOWS:

MOTOR		REVERSING SWITCH
T1	TO	T1
T2	TO	T2
T3	TO	T3

WIRING DIAGRAM FOR 3 PHASE 208 VOLT



TO REVERSE ROTATION INTERCHANGE ANY TWO OF THE LINE LEADS L1, L2, L3.

CONNECT & TAPE MOTOR WIRE NUMBERS AS FOLLOWS:

MOTOR		REVERSING SWITCH
T1	TO	T1
T2	TO	T2
T3	TO	T3

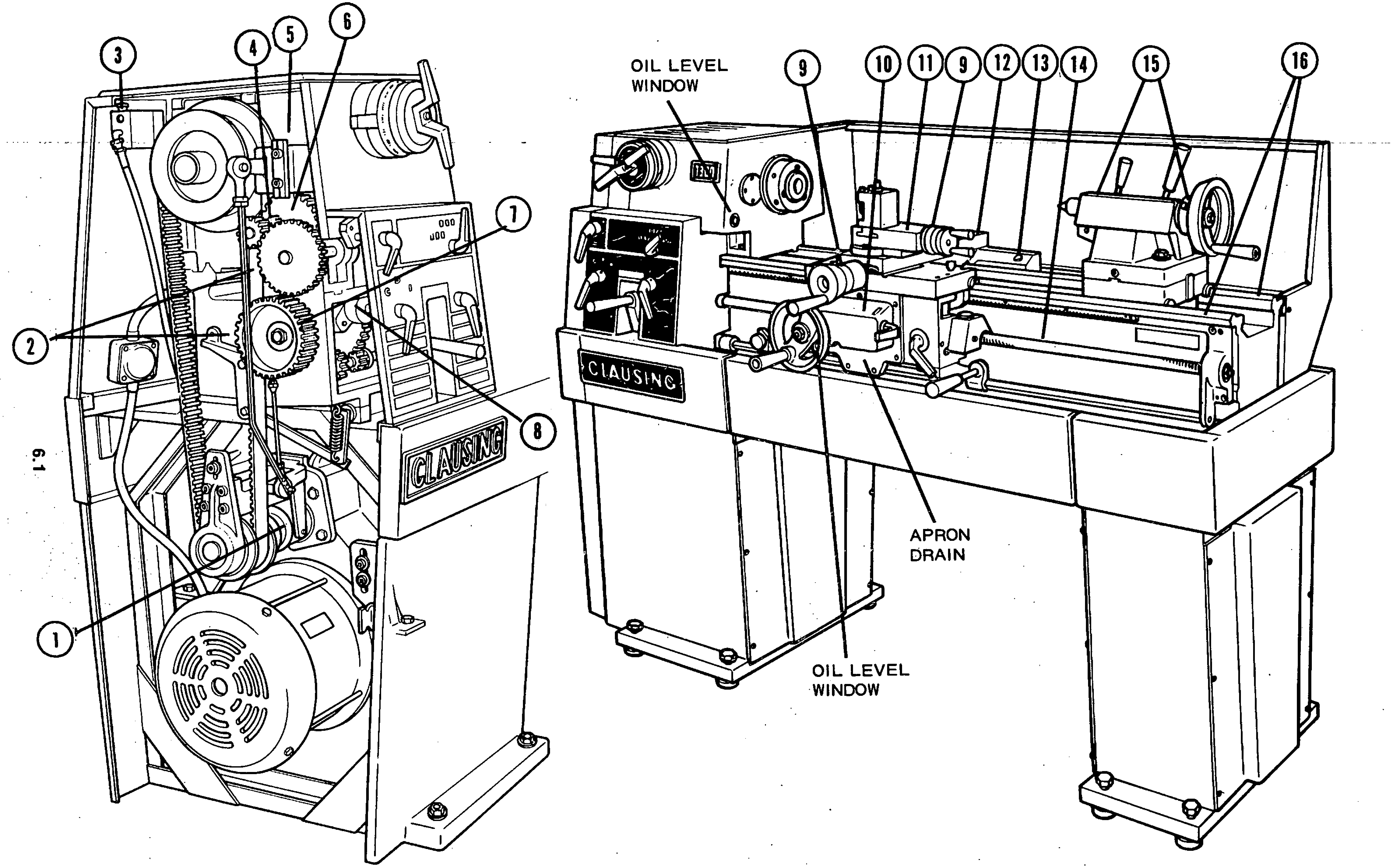

3
4
5
6
7
8
2
1
CLAUSING
OIL LEVEL
WINDOW
9
10
11
9
12
13
14
15
16
CLAUSING
APRON
DRAIN
OIL LEVEL
WINDOW

FIGURE 5

LUBRICATION CHART

LUBE POINT	DESCRIPTION	FREQUENCY	LUBRICANT	INSTRUCTIONS
1	Clutch shifter (2 fittings)	Weekly	Type 2	Use hand grease gun
2	Gear teeth and shift collars	6 months	Type 2	Clean thoroughly before lubricating
3	Hydraulic system	Keep full	Type 7	Maintain oil level at mark on sight window. Capacity 1 pint
4	Gear train bracket (4 cup oilers)	Weekly	Type 7	Use oil can
5	Headstock	Keep full	Type 7	Maintain oil level at mark on sight window. Drain and refill every 6 months. Capacity 5 pints.
6	Gearbox (ball oiler)	Daily	Type 8	Use oil can, oil generously
7	Drive gear (Ball oiler)	Daily	Type 7	Located between gear and gearbox
8	Selector gears and shaft	Daily	Type 7	Use oil can. Located behind gearbox–oil gears and spline shaft
9	Handwheel hubs (2 ball oilers)	Daily	Type 7	Use oil can
10	Apron	Keep full	Type 8	Maintain oil level at mark on sight window. Drain and refill every 6 months. Capacity 1 pint.
11	Tool post slide	Daily	Type 7	Use oil can
12	Cross slide (4 ball oilers)	Daily	Type 4	Use oil can
13	Saddle ways (4 ball oilers)	Daily	Type 4	Use oil can
14	Lead Screw	Monthly	Type 4	Clean threads before oiling
15	Tailstock (2 ball oilers)	Weekly	Type 4	Use oil can
16	Bed ways	Weekly	Type 4	Clean before oiling

APPROVED LUBRICANTS

	CLAUSING TYPE 2 GENERAL PURPOSE GREASE. VISCOSITY RANGE NLGI-2	CLAUSING TYPE 4 MEDIUM WAY OIL VISCOSITY RANGE 284-346	CLAUSING TYPE 7 LIGHT ANTI-WEAR HYDRAULIC OIL. VISCOSITY RANGE 135-165	CLAUSING TYPE 8 HEAVY/MEDIUM ANTI-WEAR HYDRAULIC OIL. VISCOSITY RANGE 284-346
AMERICAN OIL CO.	Amolith 2	Waytac 31	Rykon 21	Rykon 31
CITGO	Citgo H-2	Slide Rite 2	Pacemaker XD15	Pacemaker XD30
GULF OIL CORP.	Gulfcrown 2	Gulfway 52	Harmony 43AW	Harmony 54AW
HUMBLE OIL CO.	Lidok 2	Febis K53	Terresso EP44	Terresso EP53
MOBIL OIL CORP.	Mobilux 2	Vactra 2	DTE 24	DTE 26
SHELL OIL CO.	Alvania 2	Tonna 33	Tellus 27	Tellus 33
SUN OIL CO.	Prestige 42	Way Lubricant 80	Sunvis 816WR	Sunvis 831WR
TEXACO, INC.	Multifak 2	Way Lubricant D	Rando HD-A	Rando HD-C

CONTROLS AND OPERATION

Do not operate lathe until you are thoroughly familiar with all controls and their functions. The lathe is shipped from factory with speed range selector set for "Intermediate" gear drive, and carriage locked to bed. Read the instructions carefully.

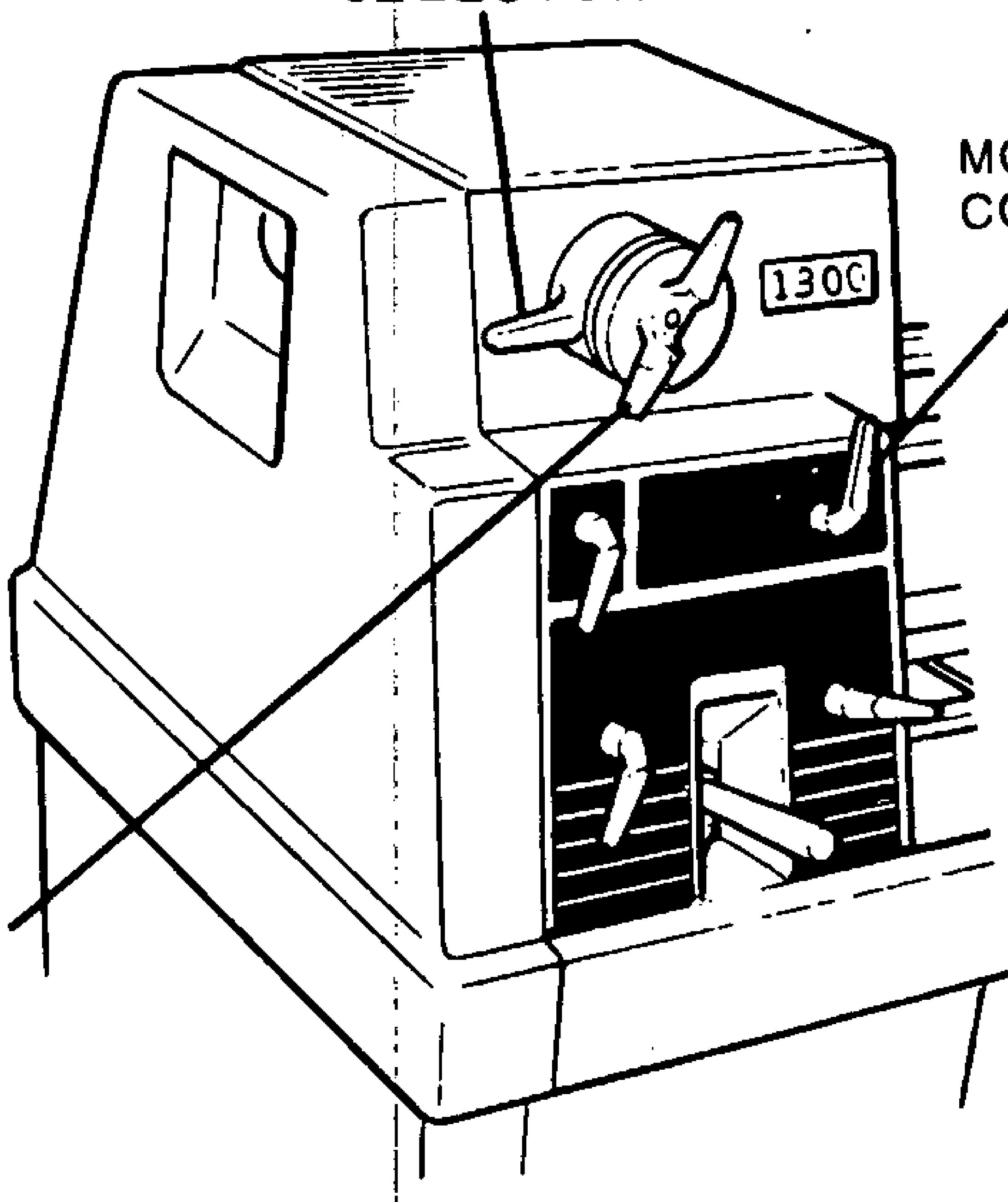


FIGURE 6
HEADSTOCK

MOTOR CONTROL

The motor control on front of headstock, stops, starts and reverses the motor. Forward spindle rotation is obtained by turning control to "FOR". Spindle will rotate counterclockwise as viewed from tailstock.

To reverse rotation of spindle move control to "REV".

CAUTION: DO NOT REVERSE UNTIL MOTOR HAS STOPPED TURNING.

SPEED RANGE SELECTOR

The Clausing has three infinitely variable speed ranges:

"Low" gear drive – 45 to 255 rpm.

"Intermediate" gear drive – 180 to 1000 rpm.

"High" direct drive – 360 to 2000 rpm.

To select speed range:

1. Stop the spindle.

2. Turn selector to desired range, rotate spindle by hand if gears do not mesh.

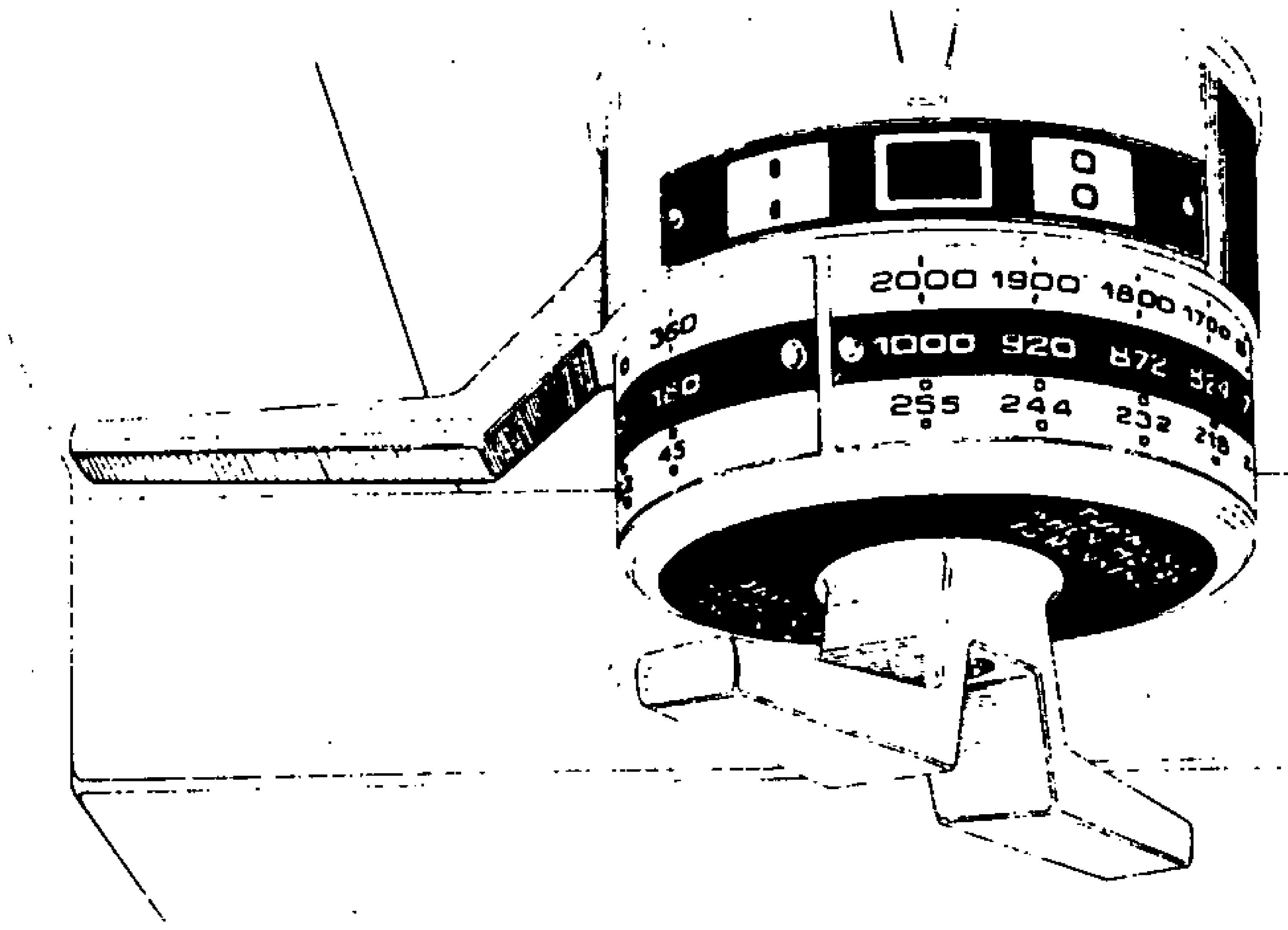


FIGURE 7 2013

CAUTION: HEADSTOCK GEARING CAN BE DAMAGED IF SPEED RANGE SELECTOR IS MOVED WHILE SPINDLE IS TURNING.

VARIABLE SPEED CONTROL

Speeds are infinitely variable and are changed hydraulically by turning variable speed control. To obtain the desired spindle speed, just turn this control to the rpm on the chart for the speed range selected.

CAUTION: DO NOT TURN VARIABLE SPEED CONTROL UNLESS MOTOR IS RUNNING.

If variable speed control is accidentally turned with motor control OFF, the spindle speed chart can be re-sychronized with actual spindle speeds as follows:

1. Start motor.
2. Turn variable speed control counterclockwise to the lowest spindle speed.
3. Hold control against low speed stop, exerting slight pressure, for 30 seconds.

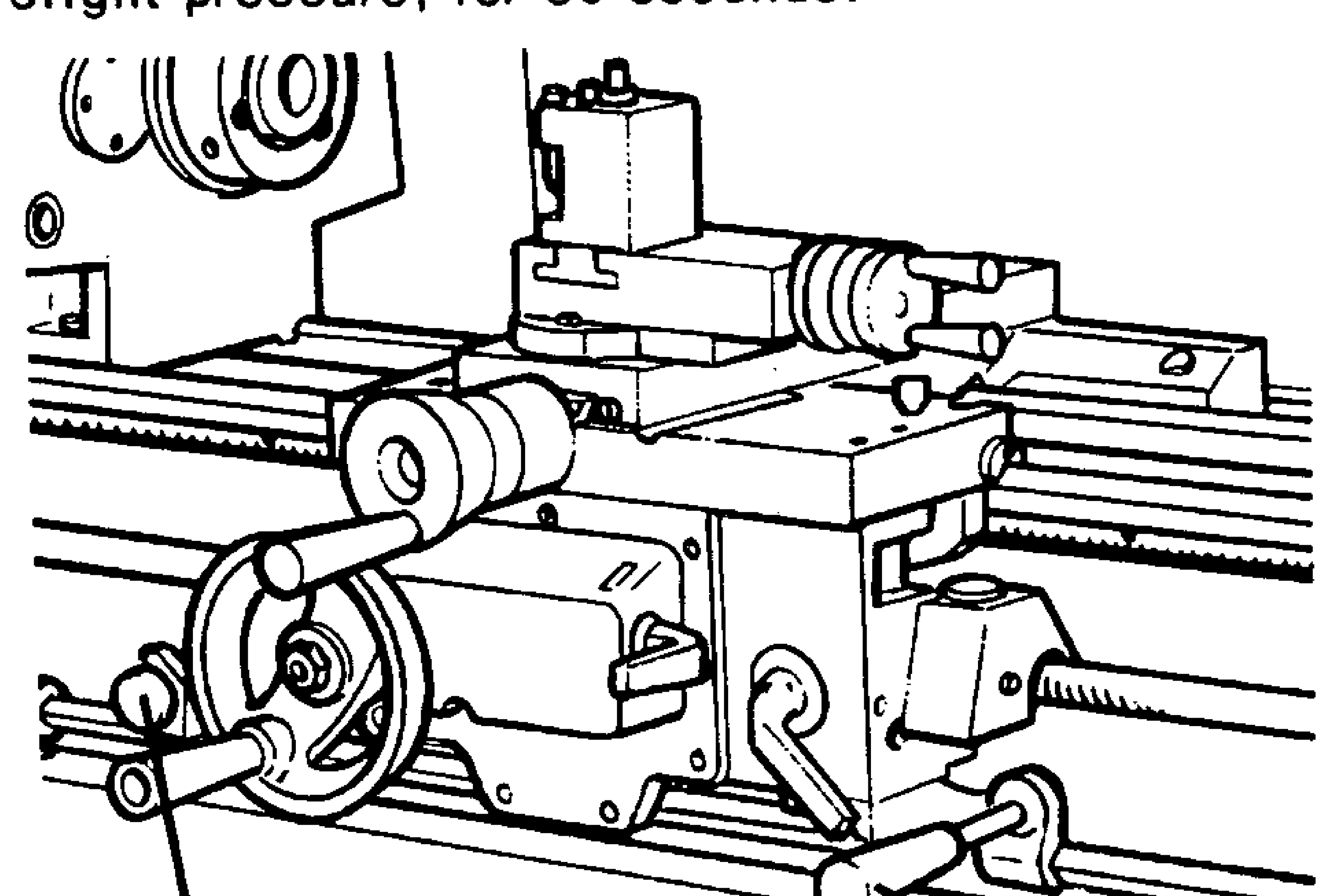


FIGURE 8 1300

CLUTCH AND BRAKE CONTROL

This control, located at right of apron, operates a friction clutch and brake to start, stop and jog the spindle without stopping motor. Moving clutch lever up engages spindle drive – down disengages it and actuates brake to stop spindle.

CLUTCH KICKOUT

Clutch kickout, mounted on clutch control bar, can be positioned to disengage clutch automatically stopping spindle and feed as apron travels toward headstock. To set clutch kickout, determine stopping point then clamp to clutch control bar so clutch will be completely disengaged at stopping point.

QUICK CHANGE GEAR BOX

The quick change gear box provides a selection of

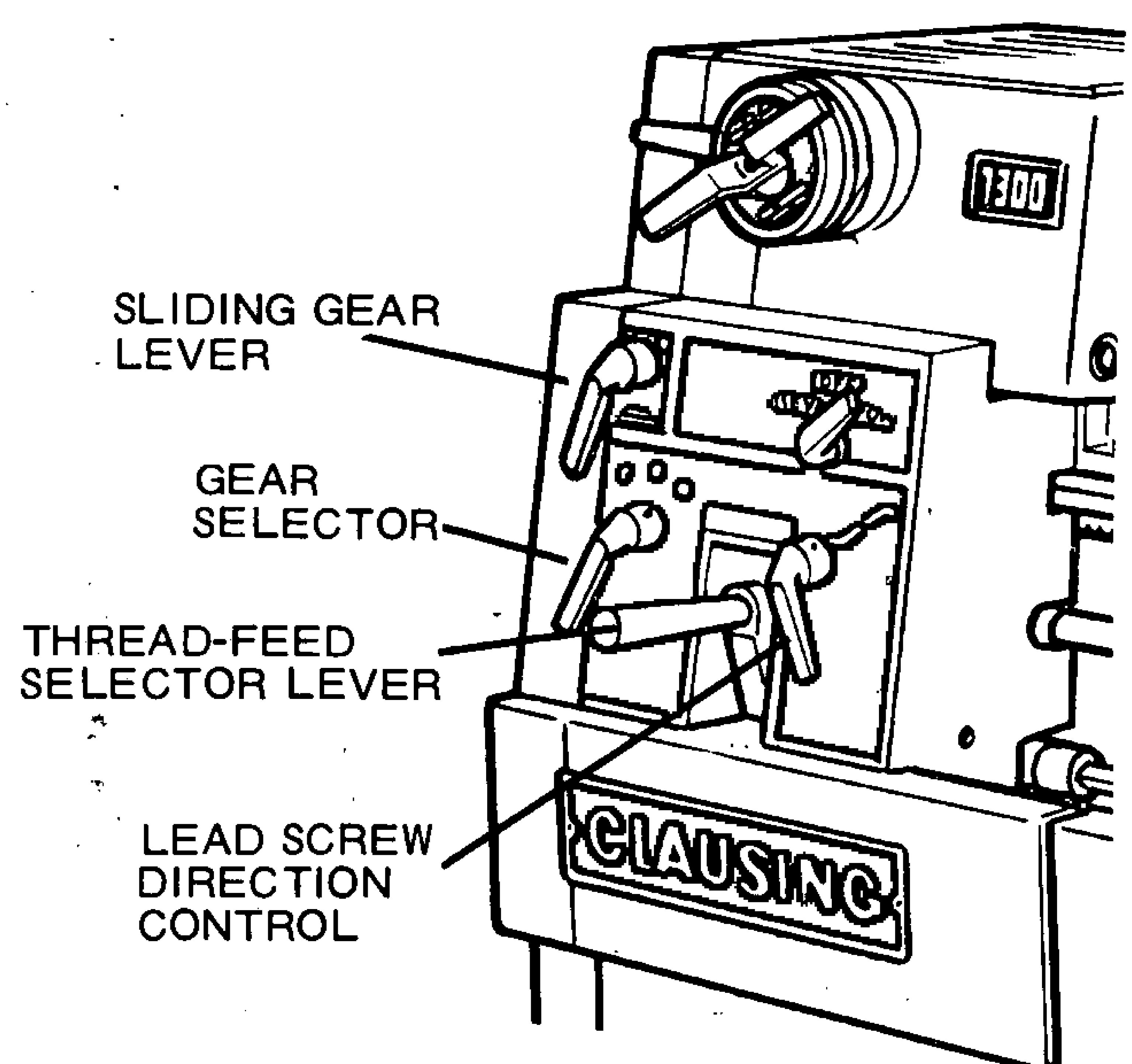


FIGURE 9

54 thread and feed changes through positioning of the sliding gear lever, gear selector and thread-feed selector lever.

NOTE: Cross feed is 1/2 of longitudinal feed.

SLIDING GEAR LEVER

Sliding gear lever has two positions: A and B.

GEAR SELECTOR

Gear selector has three positions: C, D, and E.

THREAD-FEED SELECTOR LEVER

To shift, pull out on handle, drop lever, slide to position desired, raise lever and push in the handle to engage lock pin. If selector handle does not slide easily, turn spindle by hand while shifting.

LEAD SCREW DIRECTION CONTROL

Selects right or left movement of the carriage, in feed or out feed of cross slide – arrows show direction of movement. Central position is neutral, lead screw does not turn.

CAUTION: DO NOT SHIFT CONTROLS WHILE SPINDLE IS TURNING.

To obtain the desired thread or feed;

1. Stop the spindle.
2. Shift thread feed selector lever to position indicated on chart.
3. Set sliding gear lever and gear selector as indicated on chart. Jog spindle, if necessary, to engage gears.
4. Shift lead screw direction control for direction desired.

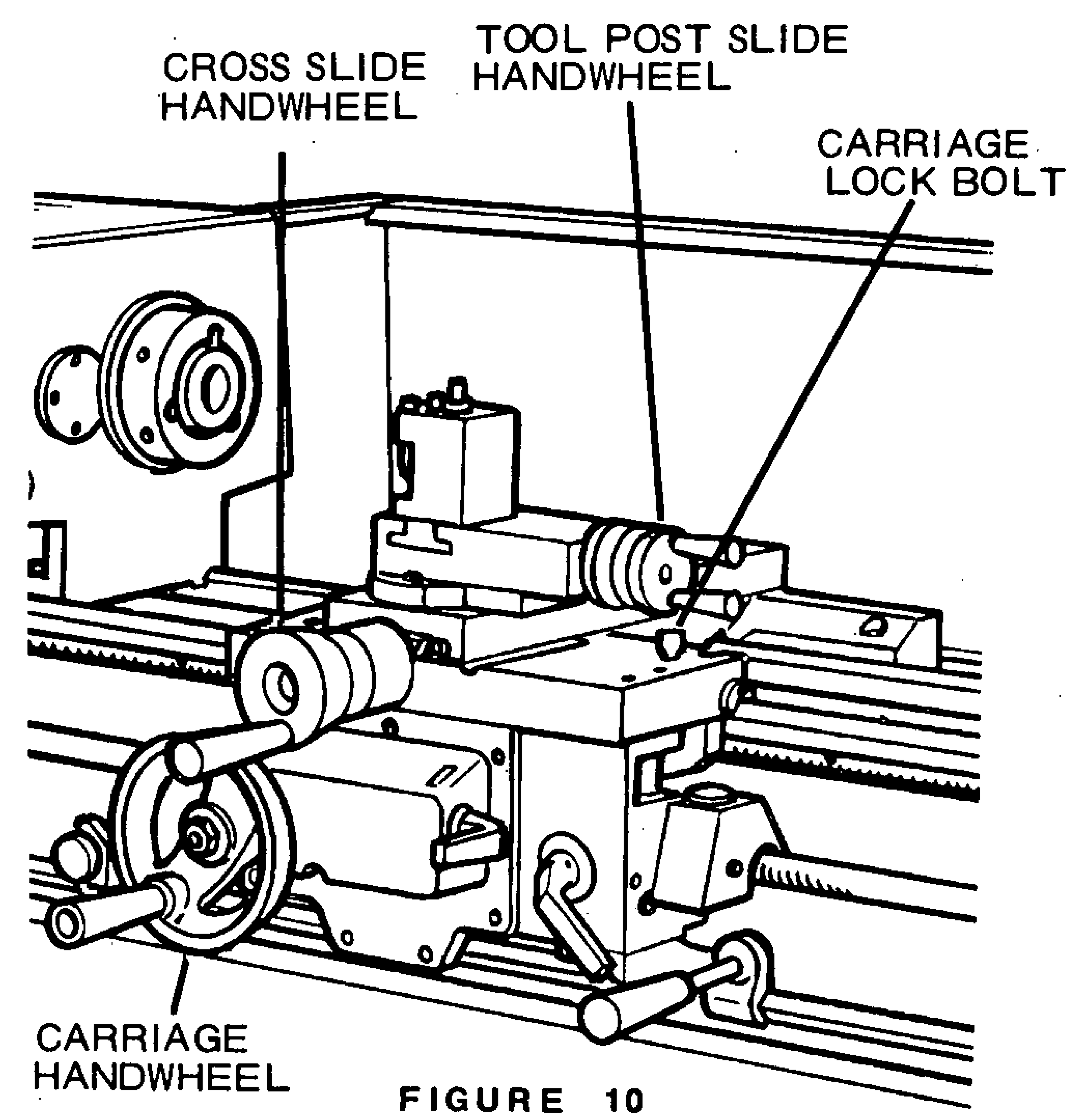


FIGURE 10

CARRIAGE CONTROLS

CROSS SLIDE HANDWHEEL

Handwheel is equipped with direct reading dial.

TOOL POST SLIDE

Handwheel has dial reading in actual slide travel.

CARRIAGE LOCK BOLT

Bolt locks carriage to bed for facing or cut-off operations.

CAUTION: BE SURE TO RELEASE LOCK BEFORE MOVING CARRIAGE.

POWER FEED LEVER

This lever controls the operation of both power longitudinal feed and power cross feed. Lever has three positions: center, (neutral) for hand feeding, to the right and down (C) engages power cross feeds, to the left and up (L) engages power longitudinal feeds

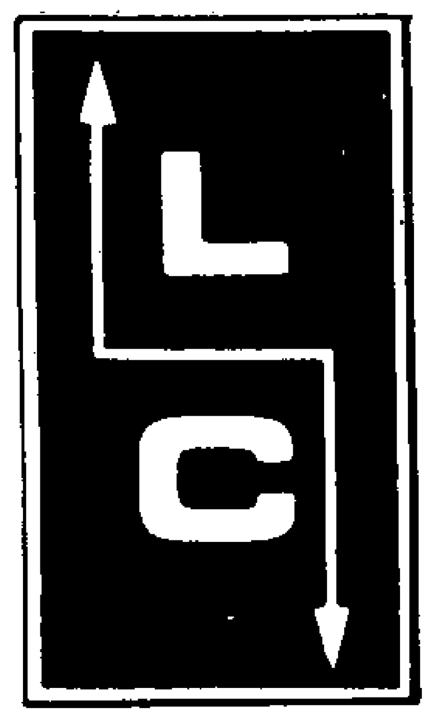


FIGURE 11

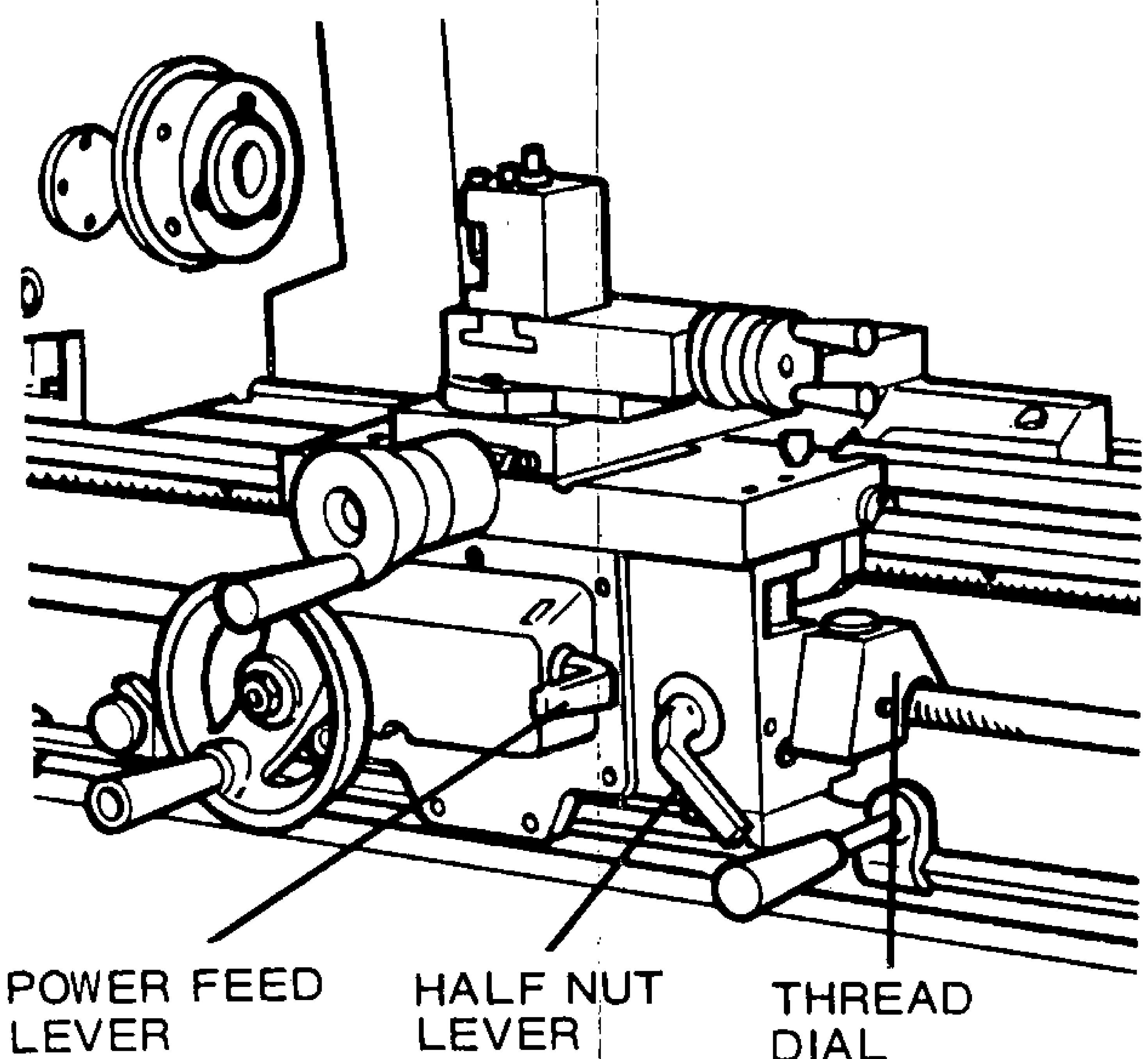


FIGURE 12

NOTE: The power feed lever and the half nut lever are interlocked; half nuts must be disengaged (half-nut lever in down position) before power feeds can be engaged.

HALF NUT LEVER

Half nut lever engages half nuts with lead screw for threading. Lift lever to engage half nuts, lower lever to disengage. NOTE: Interlock prevents engaging half nuts and power feed at the same time. IMPORTANT: Never use half nuts for power feeds. Using half nuts for threading only will maintain the accuracy of the lead screw.

THREAD DIAL

The thread dial, located on the right side of apron, indicates when to engage the half nuts so the threading tool will follow the same groove of the thread on each successive cut.

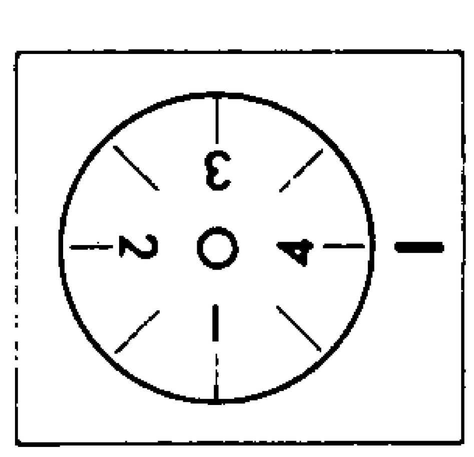


FIGURE 13

To maintain the accuracy of the thread dial, loosen clamp screw and swing thread dial away from lead screw when not threading.

When cutting even numbered threads (such as 12, 14, 16, 32, etc., per inch), engage the half nut lever for the first cut and all successive cuts when the stationary mark on the outside of the threading dial is in line with any of the marks on rotating portion of the dial. Any dial marking may be used for successive cuts.

When cutting odd numbered threads (such as 7, 9, 11, 23, 27, etc., per inch), engage the half nut lever for the first cut and all successive cuts when the stationary mark on the thread dial is in line with any of the numbered marks on the dial.

For all fractional threads (such as 4.5, 5.5, 5.75, etc., per inch) engage half nut lever for the first cut on either odd number mark (1 or 3), use the same number for all successive cuts.

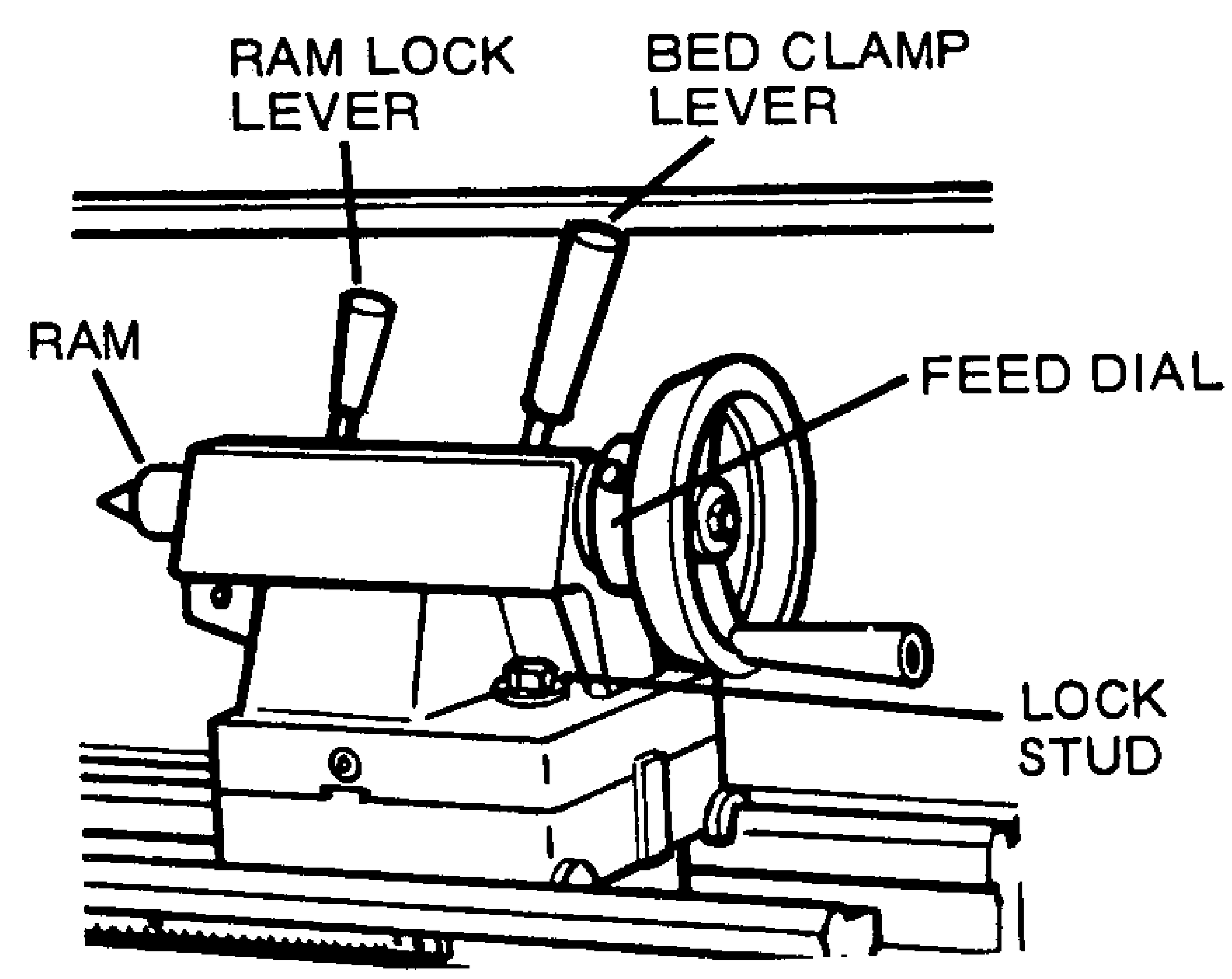


FIGURE 14

TAILSTOCK

Tailstock is quickly locked in position by bed clamp lever. An auxilliary lock stud is provided for heavy duty drilling.

Handwheel is equipped with graduated feed dial for accurate drilling. Ram taper has tang slot.

The tailstock may be set-over for taper turning by loosening the bed clamp and adjusting set-over screws on front and rear of base.

CAUTION: BEFORE INSERTING CENTER OR TOOLS, CLEAN BOTH TAPERS THOROUGHLY WITH A CLEAN DRY CLOTH.

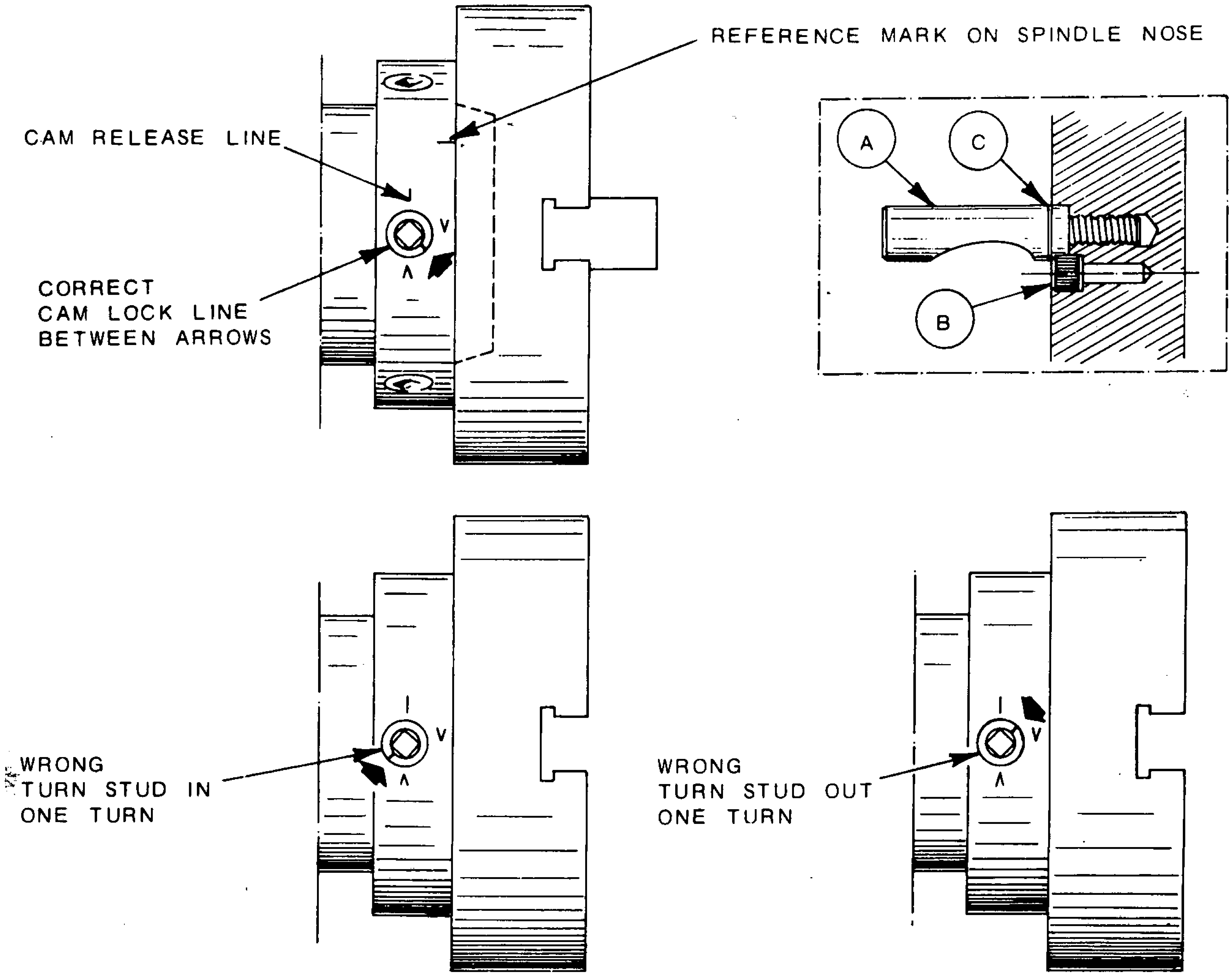


FIGURE 16

MOUNTING CHUCKS AND FACE PLATES

When mounting chucks or faceplates, thoroughly clean spindle and chuck tapers. Make sure that all cams lock in the correct position – see figure 16.

It may be necessary when mounting a new chuck or face plate to re-set the camlock studs as follows:

1. Remove cap head lock screws (B).

2. Set each stud (A) so that scribed ring (C) is level with rear face of chuck – with the slot lining up with the lock screw hole (see inset, figure 16).

3. Mount on spindle nose and tighten the three cams. When fully tight, the cam lock line stamped on each cam should be between the two V marks on the spindle nose.

4. If any cam does not tighten fully within the V marks, remove the chuck or face plate and re-adjust the stud as indicated.

5. Install and tighten the lock screw (B) on each stud before remounting on spindle.

NOTE: Make a reference mark on each correctly fitted chuck or faceplate to coincide with the mark scribed on the spindle nose. This will assist subsequent re-mounting.

IMPORTANT: DO NOT INTERCHANGE CHUCKS OR FACE PLATES BETWEEN LATHES WITHOUT CHECKING FOR CORRECT CAM LOCKING.

MAINTENANCE AND ADJUSTMENTS

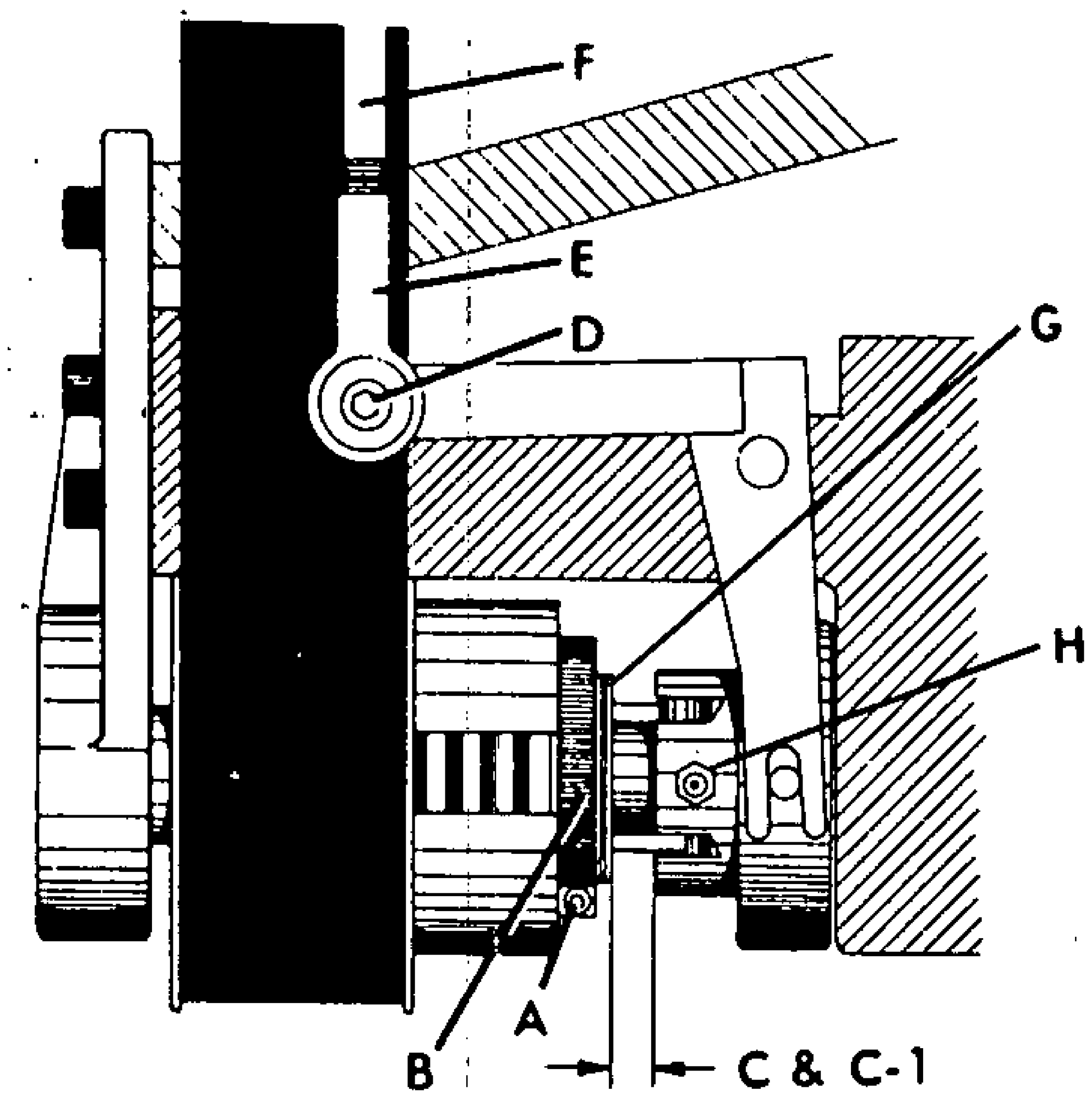


FIGURE 16

CLUTCH ADJUSTMENT

CAUTION: DO NOT OVER ADJUST CLUTCH — TIGHTEN JUST ENOUGH TO PREVENT SLIPPING.

If the clutch slips when spindle drive is engaged, adjust as follows:

1. Remove end guard assembly from lathe.
2. Lower clutch control lever to disengage clutch.
3. Loosen socket head capscrew (A, figure 16) on adjusting nut (B). (NOTE: Use 9/64" wrench furnished.)
4. Turn the adjusting nut 1/8 turn counterclockwise (as viewed from small pulley end of countershaft). If further adjustment is required, tighten nut 1/8 turn at a time to avoid overtightening.

CAUTION: IF CLUTCH IS ADJUSTED TOO TIGHTLY, THE CLUTCH AND BRAKE LEVER CANNOT BE MOVED INTO THE ENGAGED POSITION.

5. Retighten the scoket head capscrew and replace end guard assembly.

CLUTCH LINKAGE ADJUSTMENT

Linkage is properly adjusted when the distance between clutch shifter (H figure 16) and face of threaded shoulder (G) is between 9/16" and 5/8" (dimension C) with clutch disengaged. With clutch engaged dimension C1 should be 1/16" plus.

DISC BRAKE ADJUSTMENT

To adjust:

1. Turn off main drive motor and remove end guard.
2. Push down on arm (J, Figure 16).
3. Loosen lock nut (A, Figure 17).
4. Remove lock nut (A, Figure 17).
5. Remove cap screw (B, Figure 17).
6. Adjust alinabal link until dimension (C, Figure 16) is 1/2" with clutch disengaged and brake engaged.
7. If alinabal link has no more adjustment move rod (D, Figure 17) to next hole. Should rod already be in top hole the brake pads must be replaced.
8. If brake does not hold properly continue to adjust alinabal link until brake will hold.
9. Should the clutch & brake lever hit the chip pan when braking, loosen clamp screw (A, Figure 18) and reposition the lever to provide adequate stroke.
10. Replace end guard.

If clutch lever hits chip pan with brake applied, see Clutch and Brake Lever Adjustment.

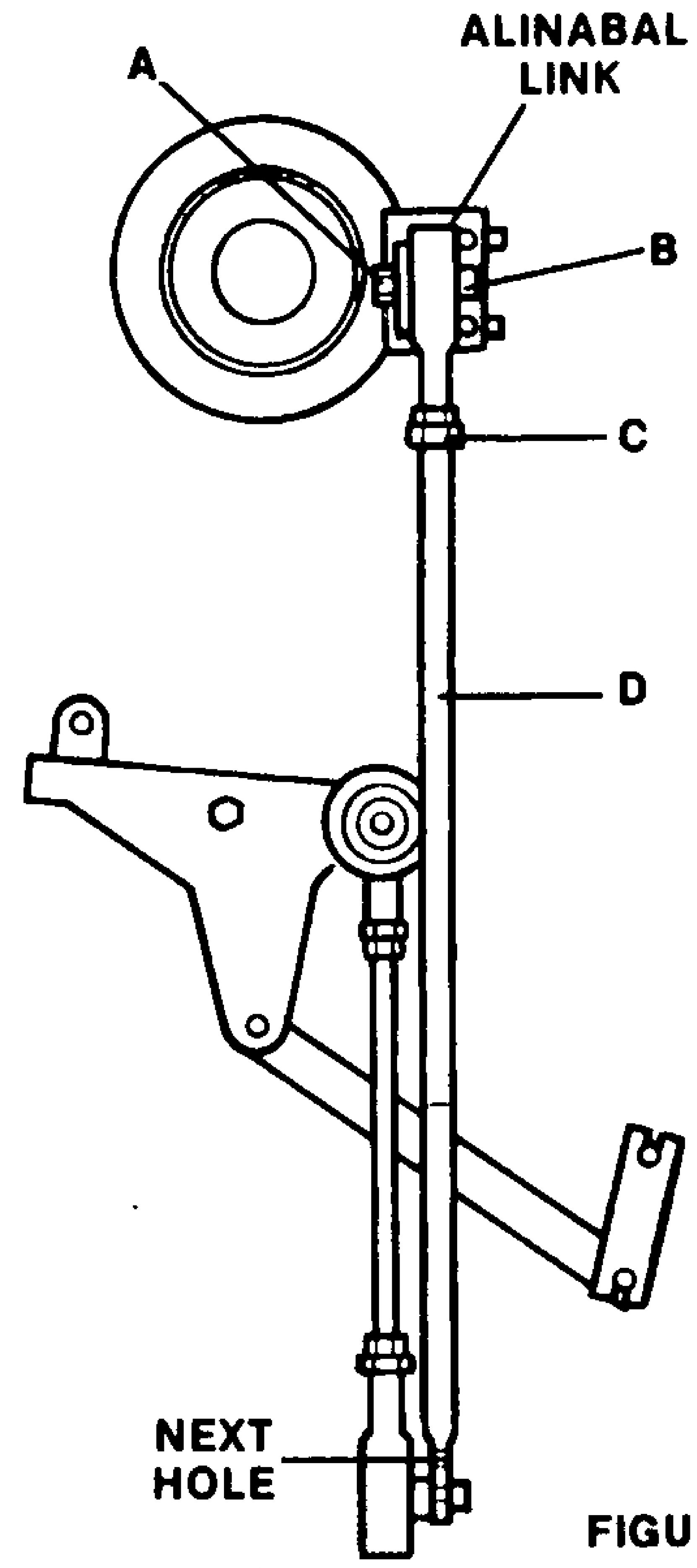


FIGURE 17

CLUTCH LEVER ADJUSTMENT

Position of the clutch and brake lever can be adjusted as follows:

1. Remove end guard.
2. Loosen capscrew in shift link arm (A, figure 18).
3. Position clutch and brake lever as desired.
4. Retighten capscrew.
5. Replace end guard.

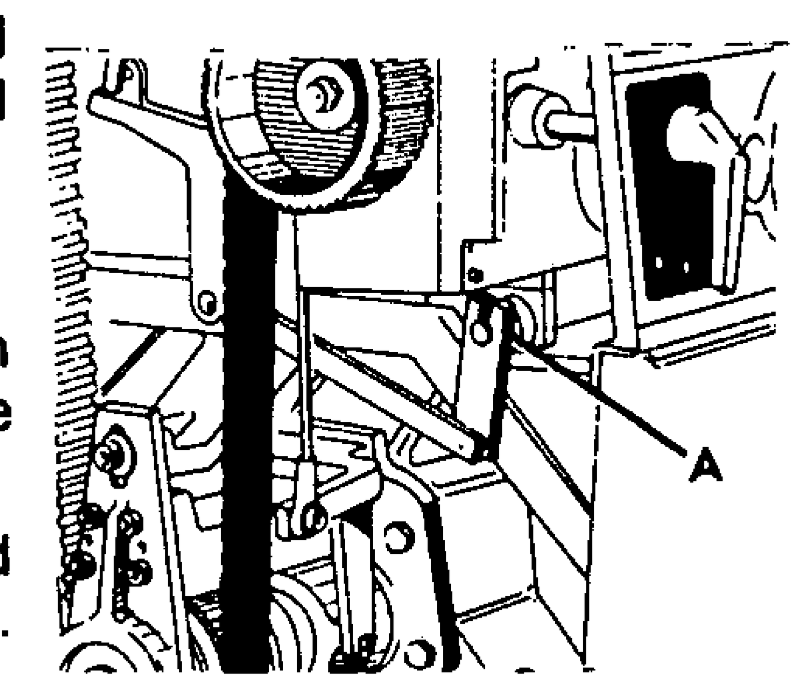


FIGURE 18

SHEAR PIN REPLACEMENT

A shear pin is provided in the lead screw to prevent damage due to accidental overload. To replace broken shear pin:

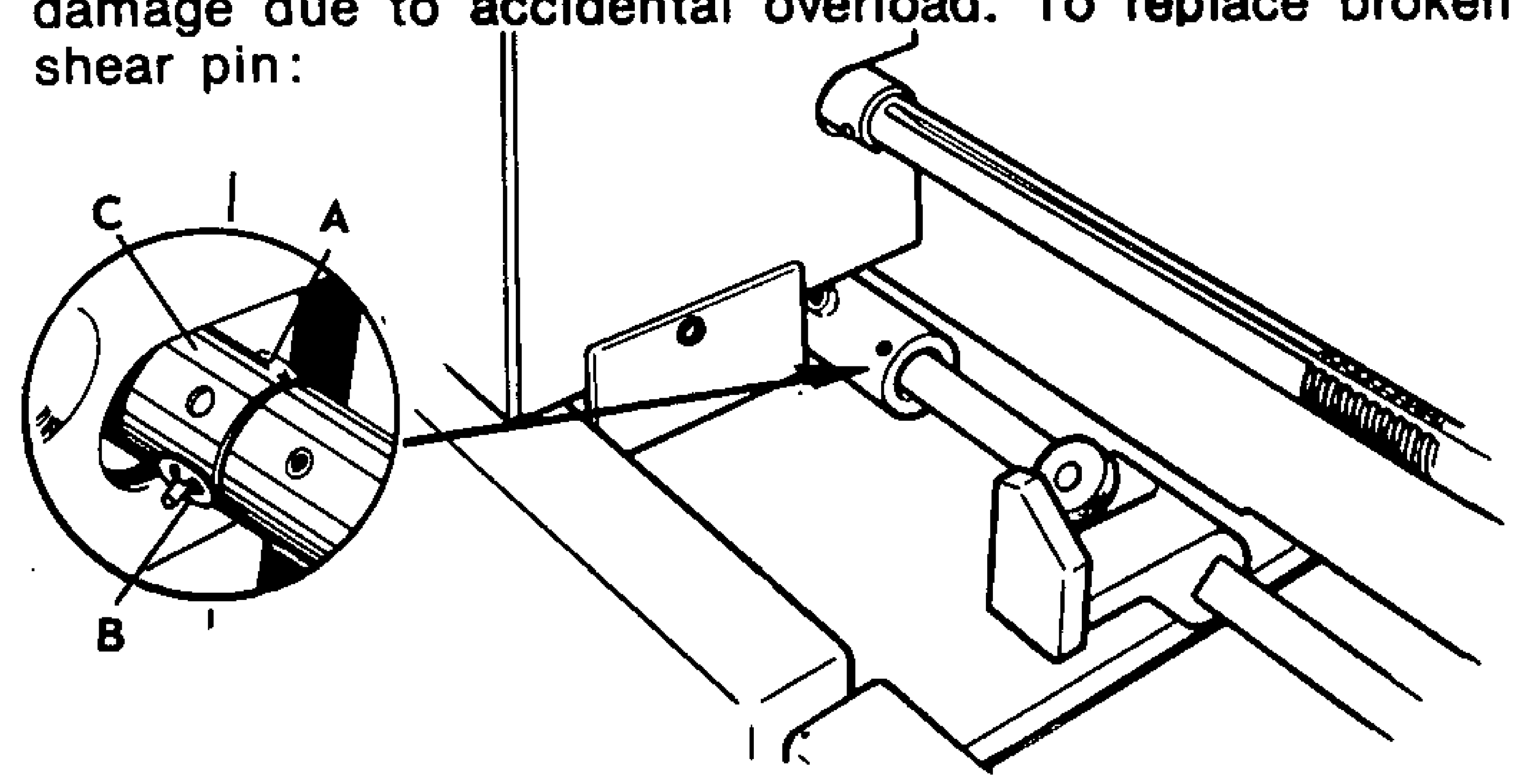


FIGURE 19

1. Remove head end (A, figure 19) and retainer end (B) of broken shear pin from coupling (C).
2. Rotate lead screw by hand and align holes in coupling with hole in lead screw. Use a 3/32" diameter punch and tap broken shear pin very lightly. If shear pin does not move easily, withdraw punch and rotate lead screw 180° – tap out shear pin.
3. Align holes in coupling and lead screw – install new shear pin and retainer.

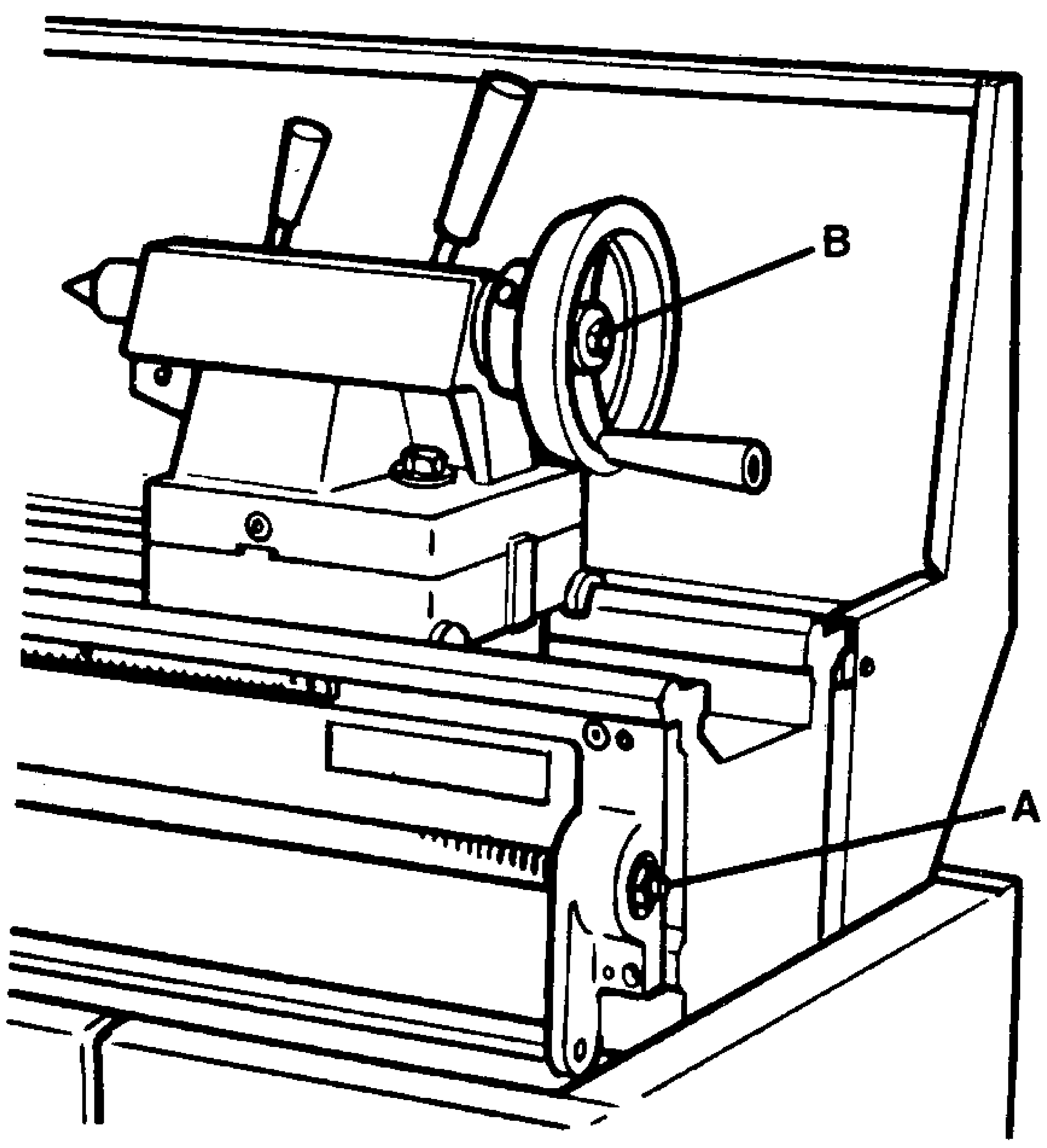


FIGURE 20

LEAD SCREW END PLAY ADJUSTMENT

If end play should develop in the lead screw, tighten nut (A, figure 20) on end of lead screw.

CAUTION: TIGHTEN ONLY ENOUGH TO ELIMINATE END PLAY – OVERTIGHTENING WILL DAMAGE THE THRUST BEARINGS.

TAILSTOCK HANDWHEEL BEARING ADJUSTMENT

If backlash should develop in tailstock handwheel, tighten nut (B, figure 20). Tighten only enough to eliminate backlash – do not overload bearing.

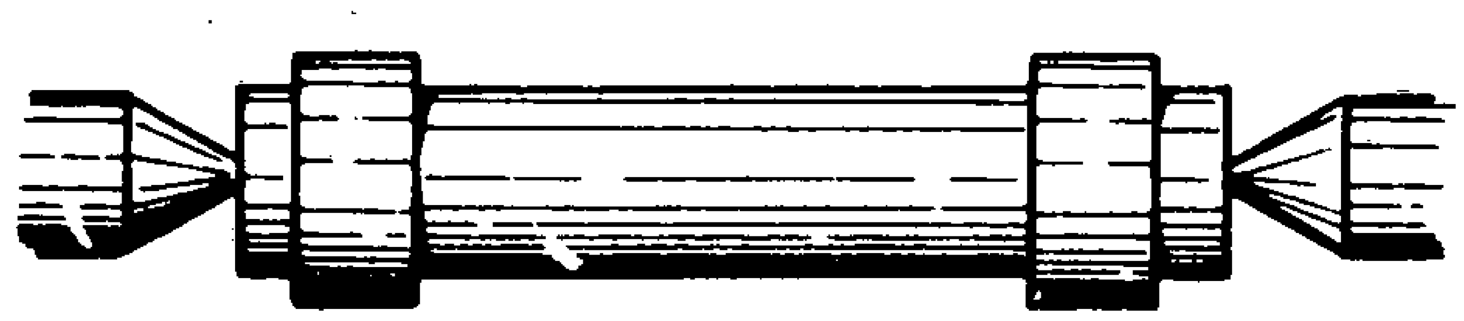


FIGURE 21

CHECKING CENTER ALIGNMENT

Lathe center alignment is tested as follows:

1. Machine two shoulders on a 2 inch diameter center drilled bar approximately 12 inches long, see figure 21.
2. Take a fine finishing cut on both shoulders without changing the tool setting.
3. Measure diameters of the shoulders. If diameters are not the same, tailstock needs adjusting. See adjusting tailstock alignment:

ADJUSTING TAILSTOCK ALIGNMENT

The tailstock can be set over for taper turning or re-aligned by adjusting set-over screws (C and D, figure 22), as follows:

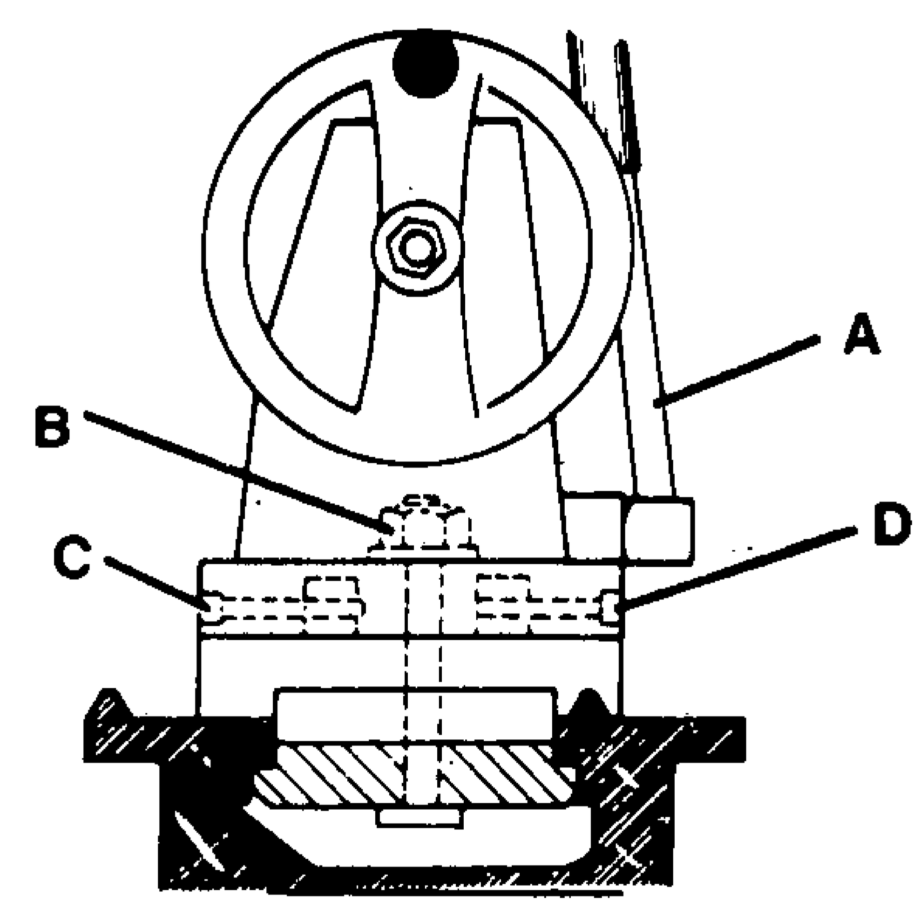


FIGURE 22

1. Release bed clamp lever (A) and nut on lock stud (B).
2. Determine direction tailstock is to be moved.

CAUTION: NEVER ADJUST SET-OVER SCREW WITHOUT FIRST BACKING OUT OPPOSING SCREW.

3. Back out set-over screw on side toward which tailstock will be moved.
4. Tighten opposite set-over screw until tailstock has been moved required amount.
5. Retighten first set-over screw.

CAUTION: MAKE SURE BOTH SET-OVER SCREWS ARE TIGHTENED TO PREVENT TAILSTOCK SHIFTING UNDER TOOL PRESSURE.

6. Check headstock and tailstock center alignment. See Checking Center Alignment.

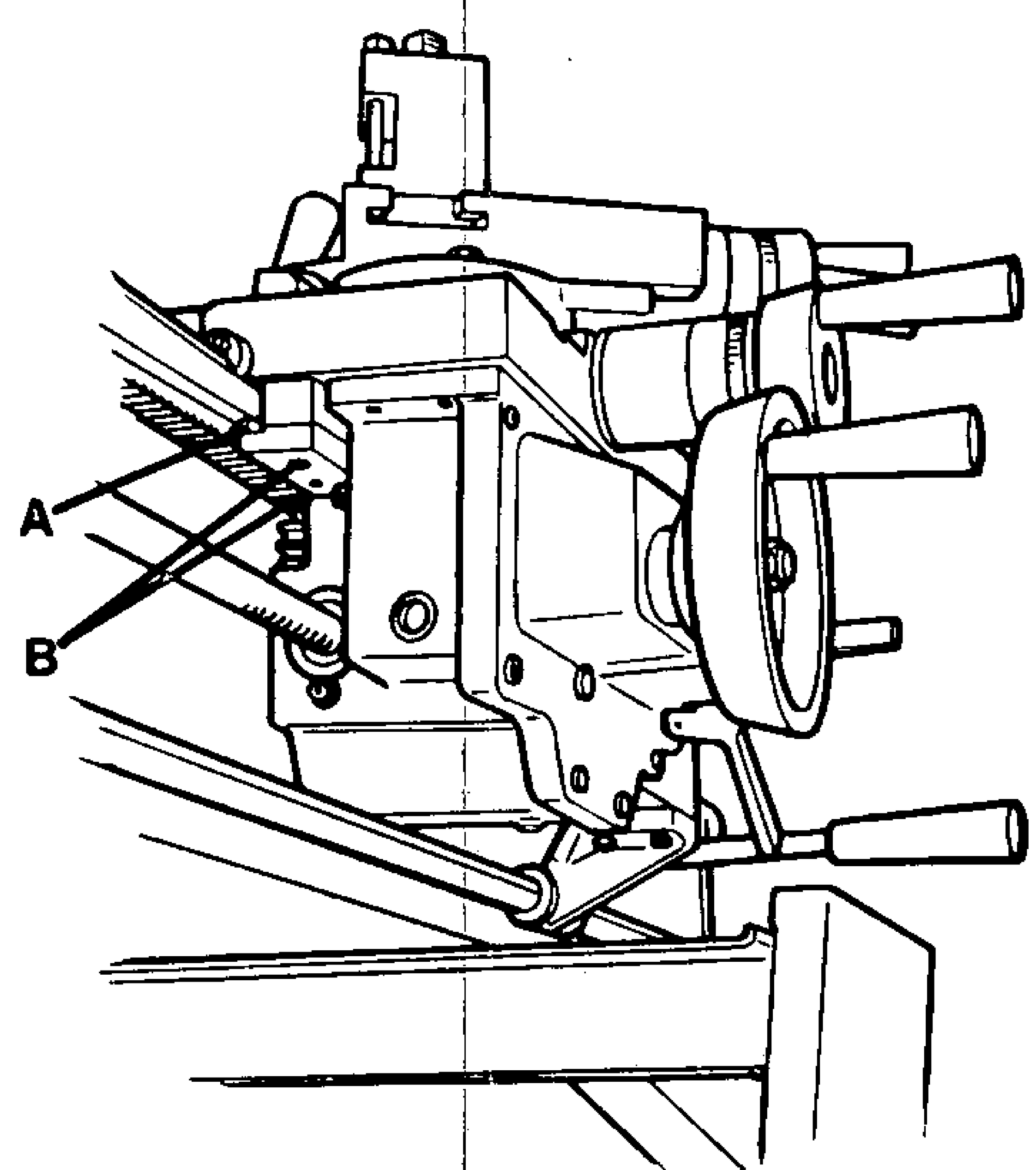


FIGURE 23

CARRIAGE SADDLE GIB ADJUSTMENT

Four gibs, located directly under the saddle wipers, are provided to compensate for wear. The gibs (A, **figure 23**) are adjusted by set screws (B) located in the gib brackets. The two rear brackets and the left front bracket have three set screws each; the right front has two.

Adjust as follows:

1. Place power feed lever in neutral and disengage half nuts.
2. Clean under bed ways and apply a light coat of oil.
3. Remove thread dial for access to right front gib.
4. Adjust the set screws in each gib bracket evenly until a slight drag is felt as carriage is moved along the ways.
5. Replace thread dial.

CROSS SLIDE AND TOOL POST SLIDE GIB ADJUSTMENT

Gibs are properly adjusted when tool post slide and cross slide move with a slight drag.

A single screw is used to adjust each tapered gib as follows:

1. Shift power feed lever to neutral position.
2. Loosen gib nut (A, **figure 24**).
3. Turn adjusting screw (B) until slide moves with a slight drag.
4. Retighten gib nut.

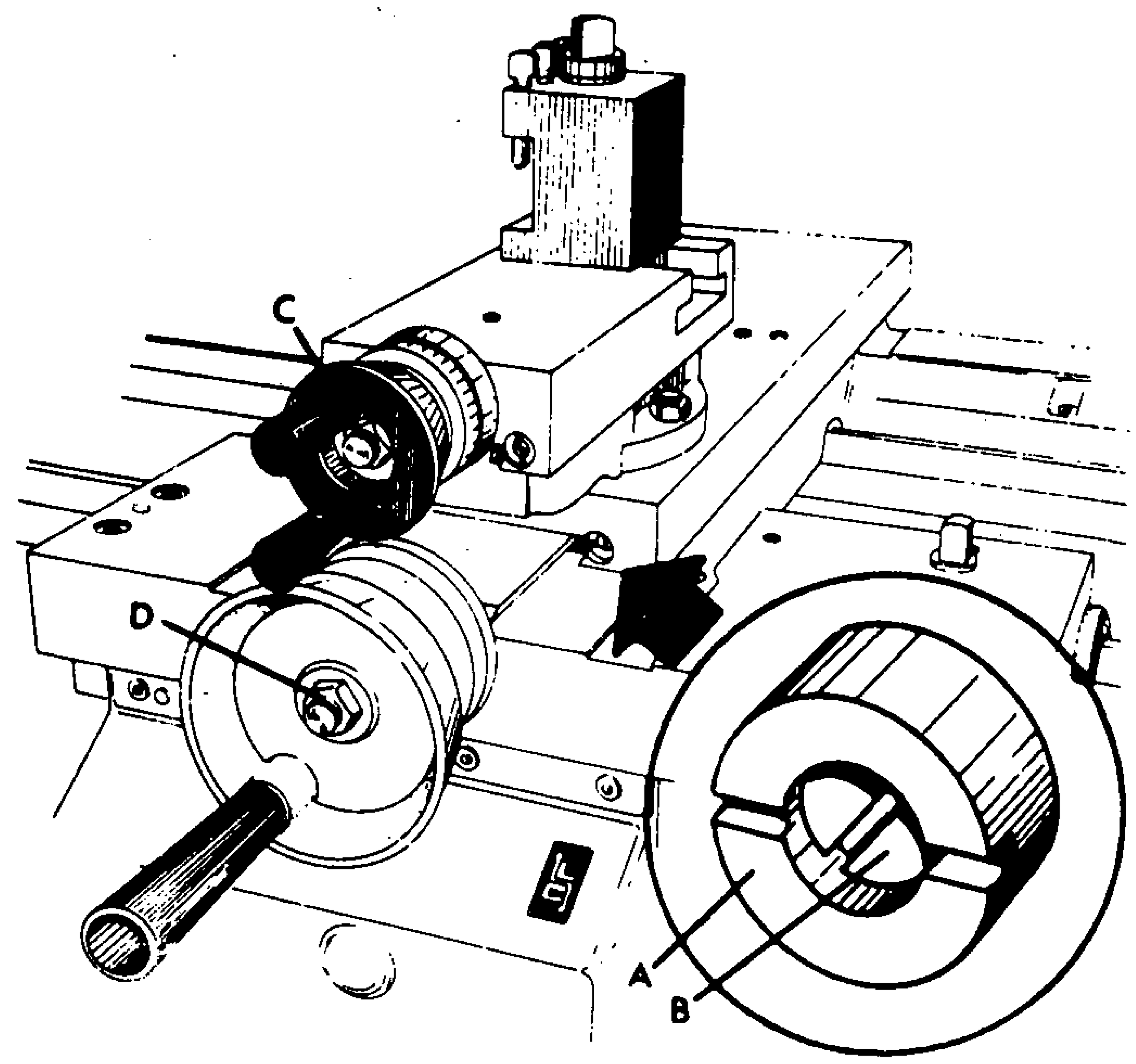


FIGURE 24

HANDWHEEL THRUST BEARING ADJUSTMENT

Backlash in either cross slide or tool post slide handwheel can be removed by tightening nut (C or D, figure 25). Do not overtighten to prevent over loading the bearing.

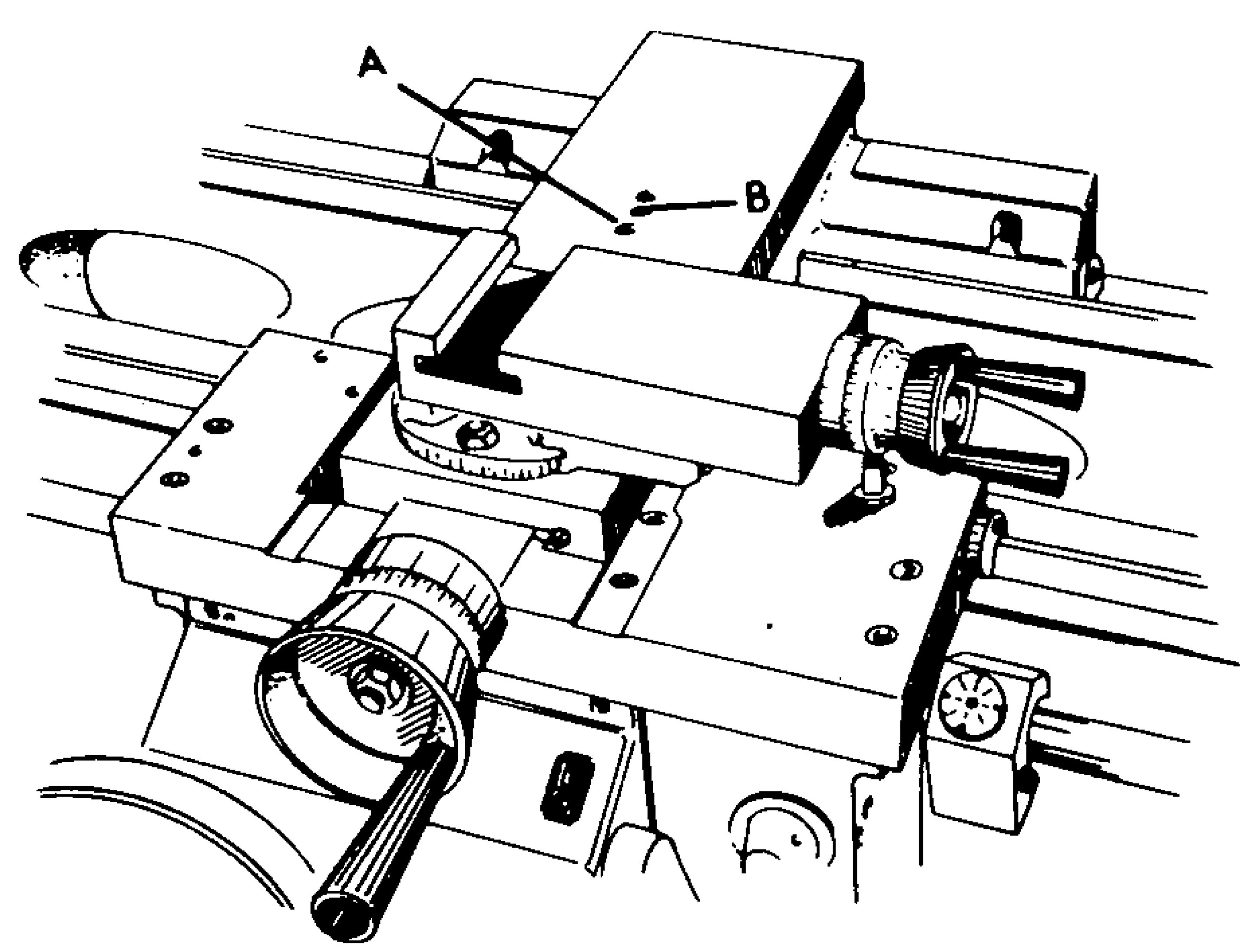


FIGURE 25

CROSS SLIDE NUT ADJUSTMENT

If backlash develops between cross feed screw and nut, adjust as follows:

1. Loosen socket capscrew (A, **figure 25**) in top of cross slide.
2. Turn cross slide handwheel right and left while slowly tightening set screw (B) until backlash is eliminated.
3. Tighten cap screw (A).

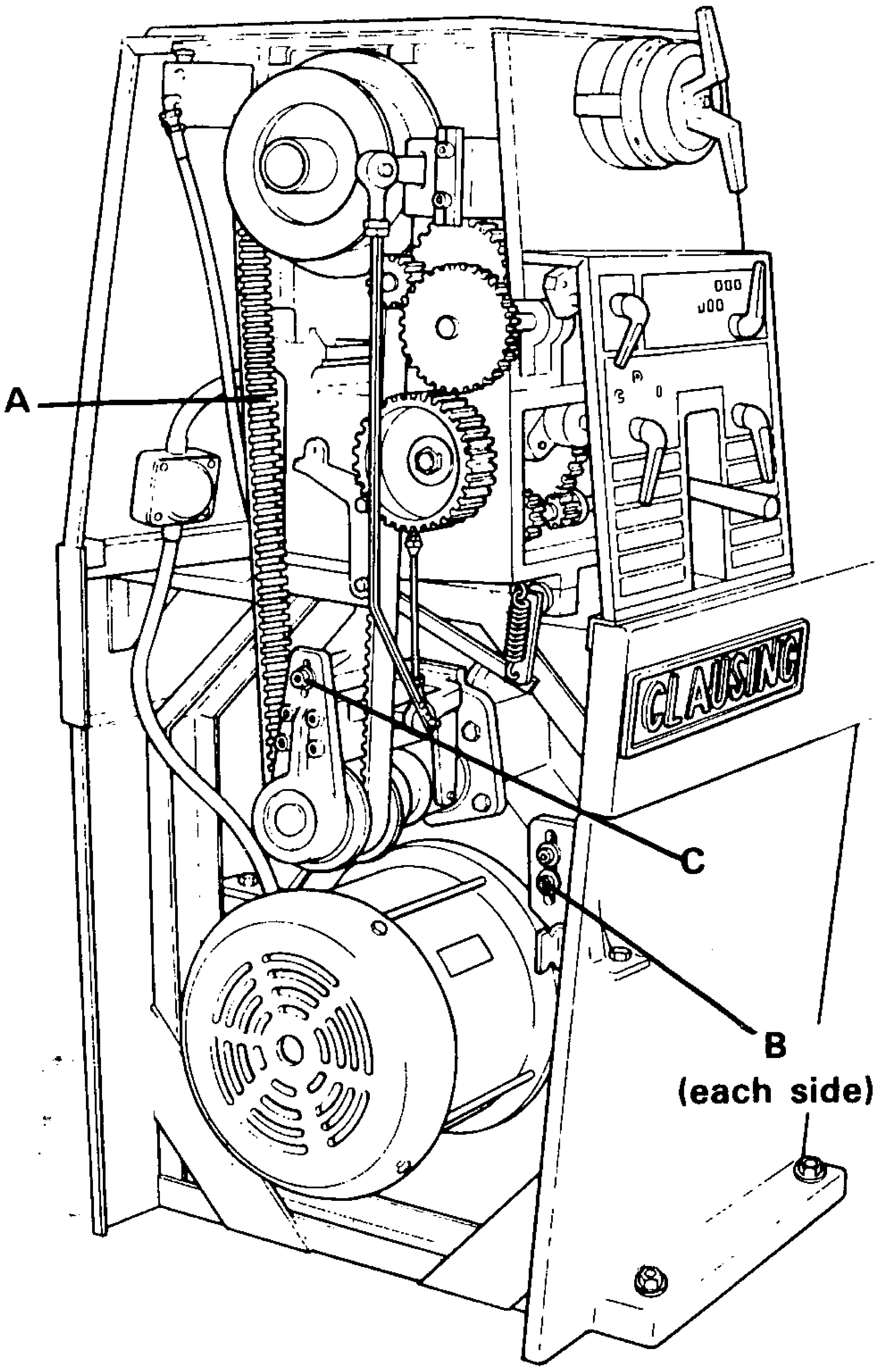


FIGURE 26

VARIABLE DRIVE BELT REPLACEMENT

1. With motor on, turn variable control to top speed. Turn motor off.
2. Remove end guard.
3. Place wooden blocking under motor for support as shown in figure 26.
4. Disconnect clutch linkage (A) from clutch shifter.
5. Remove capscrews (B), nuts and washers from motor mounts. Remove capscrew (C) from countershaft bracket.
6. Lift motor slightly, remove timing belt from countershaft pulley.
7. Slide complete motor and drive assembly out of headstock pedestal.

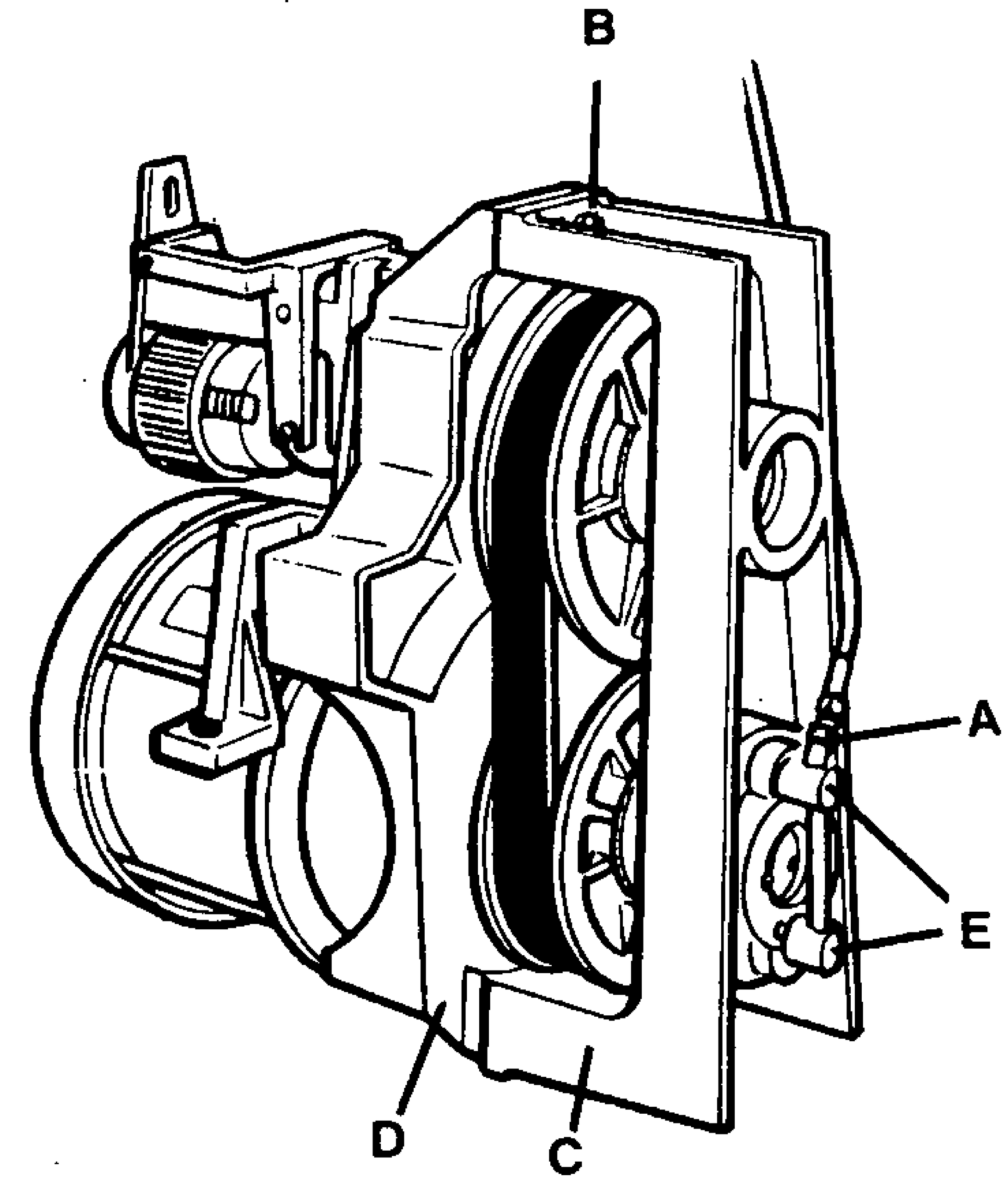


FIGURE 28

TIMING BELT REPLACEMENT

1. Remove end guard.
2. Loosen capscrew (C, figure 26) in countershaft bracket.
3. Lift countershaft – roll belt off pulley.
4. Place new belt on spindle pulley, lift countershaft – roll belt onto countershaft pulley.
5. Adjust belt tension.

TIMING BELT TENSION ADJUSTMENT

1. Loosen capscrew (C, figure 26) in countershaft bracket.
2. Tap bracket up or down to obtain 1 inch belt deflection, see figure 27.
3. Tighten capscrew (C, figure 26).
4. Install end guard

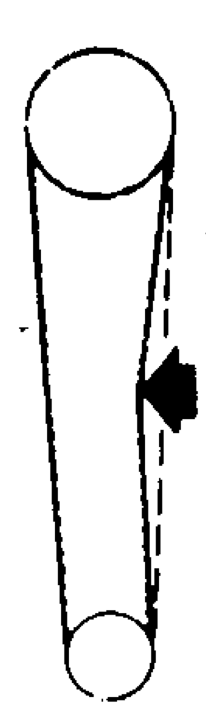


FIGURE 27

8. Disconnect hydraulic hose (A, figure 28).
9. Remove four capscrews (B). Separate right housing (C) from left housing (D).
10. Remove belt from pulleys, install new belt.
11. Reassemble housing (C and D).

NOTE: Make sure the two holes in bearing cap on lower pulley are aligned with cylinders (E).

12. Connect hydraulic hose.
13. Slide drive assembly into place in headstock pedestal.
14. Lift motor slightly, place timing belt on pulley.
15. Bolt drive assembly in place.
16. Adjust timing belt – see TIMING BELT TENSION ADJUSTMENT.
17. Refill hydraulic system – see LUBRICATION INSTRUCTIONS.
18. Install end guard.
19. Start motor, turn variable speed control through entire speed range.
20. Adjust variable speed belt as described below.

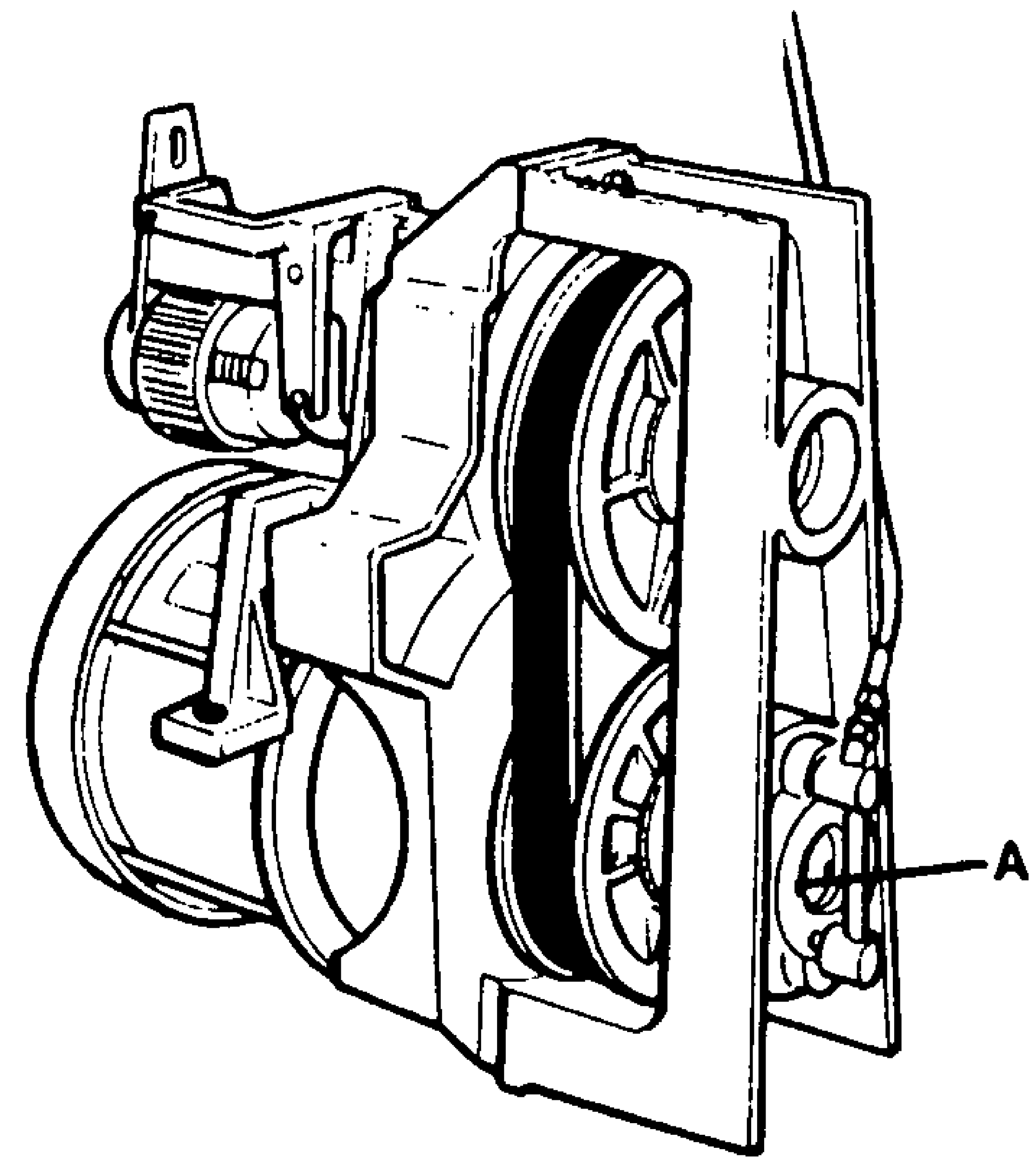


FIGURE 30

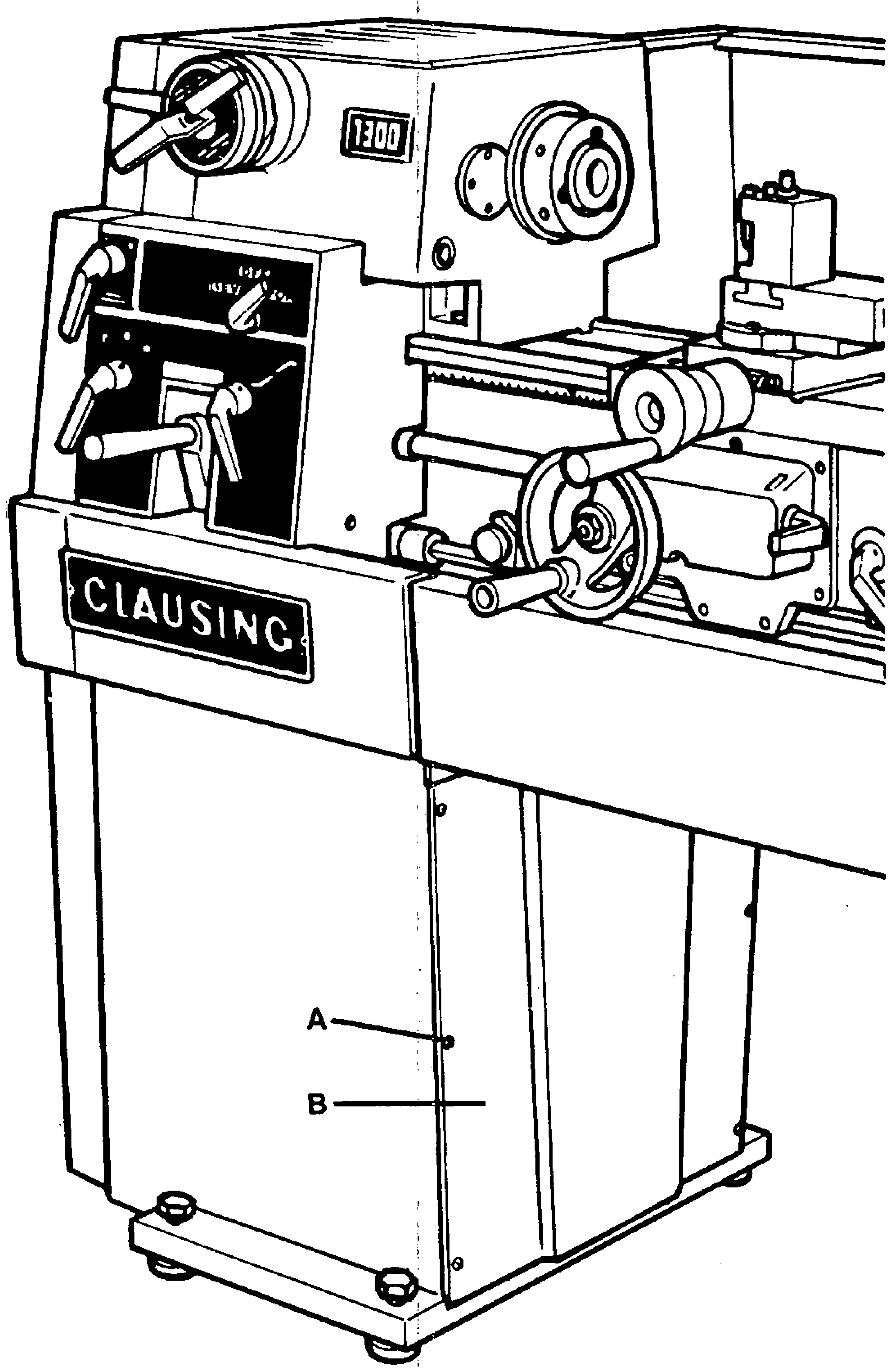


FIGURE 29

VARIABLE SPEED BELT ADJUSTMENT

1. Remove 6 screws (A, figure 29), remove panel (B) from headstock pedestal.
2. Move speed range selector to "low", start motor, turn variable speed control against low speed stop.
3. Loosen locknut (A, figure 30) and turn set screw until spindle rotates at 45 rpm – clockwise rotation increases speed. If a tachometer is not available, adjust until belt is flush with outside of countershaft pulley at low speed.
4. Tighten locknut (A).
5. Replace panel (B, figure 30).

PARTS SECTION

ORDER REPAIR PARTS FROM
CLAUSING SERVICE CENTER
811 EISENHOWER DRIVE, SOUTH
GOSHEN, INDIANA 46526

INSTRUCTIONS FOR ORDERING REPAIR PARTS

WHEN ORDERING REPAIR PARTS, ALWAYS FURNISH THE FOLLOWING INFORMATION:

1. The PART NUMBER.

2. The PART NAME.

3. The MODEL NUMBER of lathe.

4. The SERIAL NUMBER of lathe.

Note: The model and serial number plate is attached to front of the bed at tailstock end of lathe . . . .

AUGUST, 1978

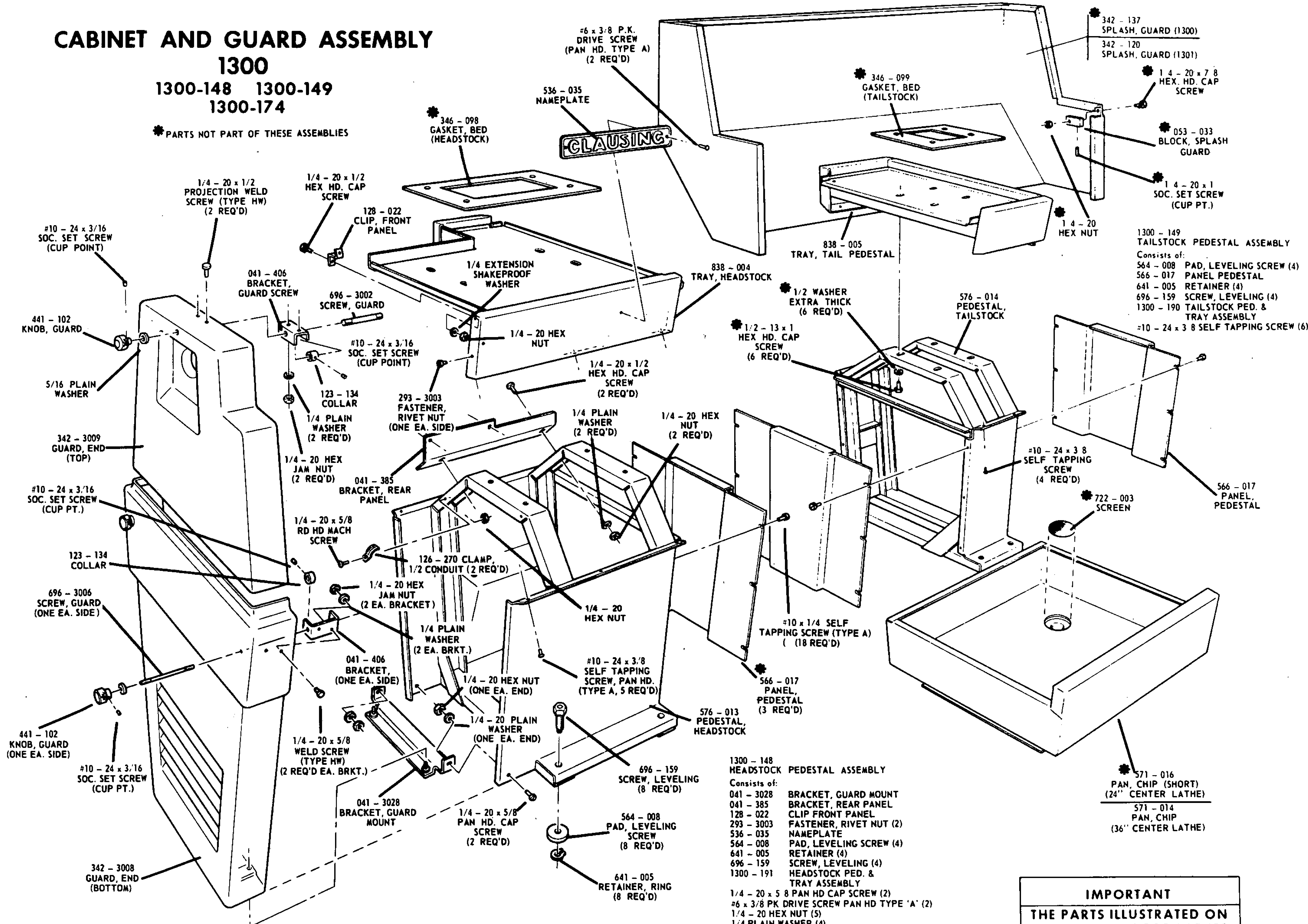
5

SERIAL NUMBER 131940 TO ______

PARTS SECTION TABLE OF CONTENTS

CABINET AND GUARD ASSEMBLY
1300
1300-148 1300-149
1300-174

✱PARTS NOT PART OF THESE ASSEMBLIES



1300 - 149
TAILSTOCK PEDESTAL ASSEMBLY
Consists of:

564 - 008	PAD, LEVELING SCREW (4)
566 - 017	PANEL PEDESTAL
641 - 005	RETAINER (4)
696 - 159	SCREW, LEVELING (4)
1300 - 190	TAILSTOCK PED. & TRAY ASSEMBLY

#10 - 24 x 3/8 SELF TAPPING SCREW (6)

1300 - 148
HEADSTOCK PEDESTAL ASSEMBLY
Consists of:

041 - 3028	BRACKET, GUARD MOUNT
041 - 385	BRACKET, REAR PANEL
128 - 022	CLIP FRONT PANEL
293 - 3003	FASTENER, RIVET NUT (2)
536 - 035	NAMEPLATE
564 - 008	PAD, LEVELING SCREW (4)
641 - 005	RETAINER (4)
696 - 159	SCREW, LEVELING (4)
1300 - 191	HEADSTOCK PED. & TRAY ASSEMBLY

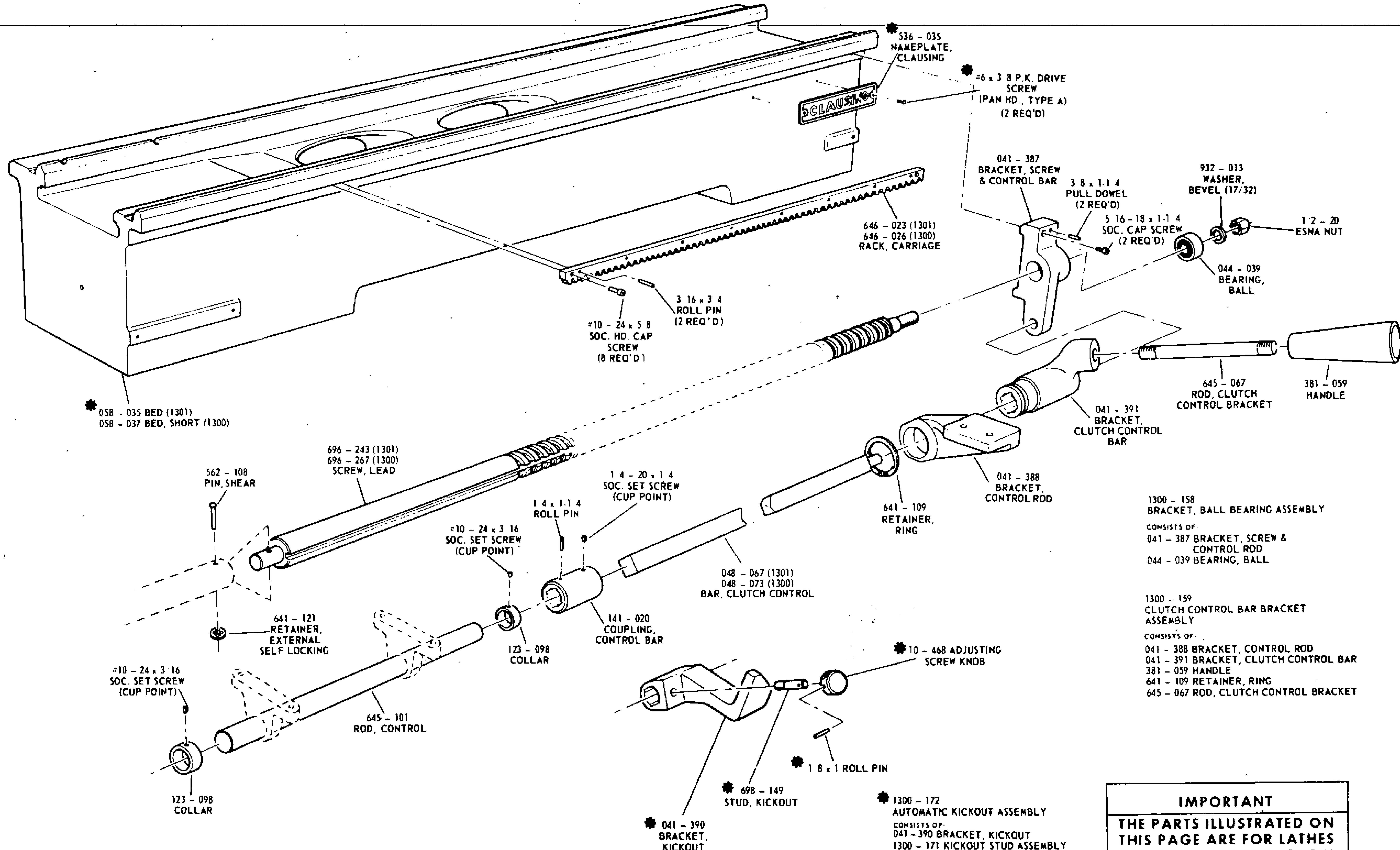
1/4 - 20 x 5/8 PAN HD CAP SCREW (2)
#6 x 3/8 PK DRIVE SCREW PAN HD TYPE 'A' (2)
1/4 - 20 HEX NUT (5)
1/4 PLAIN WASHER (4)
1/4 EXT SHAKEPROOF WASHER
1/4 - 20 x 1/2 HEX HD CAP SCREW (3)

IMPORTANT

THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 131940 TO ______

BED - LEAD SCREW - CLUTCH CONTROL
1300-161
(1300-160)

*PARTS NOT PART OF THIS ASSEMBLY



1300 - 158
BRACKET, BALL BEARING ASSEMBLY
CONSISTS OF:
041 - 387 BRACKET, SCREW & CONTROL ROD
044 - 039 BEARING, BALL

1300 - 159
CLUTCH CONTROL BAR BRACKET ASSEMBLY
CONSISTS OF:
041 - 388 BRACKET, CONTROL ROD
041 - 391 BRACKET, CLUTCH CONTROL BAR
381 - 059 HANDLE
641 - 109 RETAINER, RING
645 - 067 ROD, CLUTCH CONTROL BRACKET

*1300 - 172
AUTOMATIC KICKOUT ASSEMBLY
CONSISTS OF:
041 - 390 BRACKET, KICKOUT
1300 - 171 KICKOUT STUD ASSEMBLY

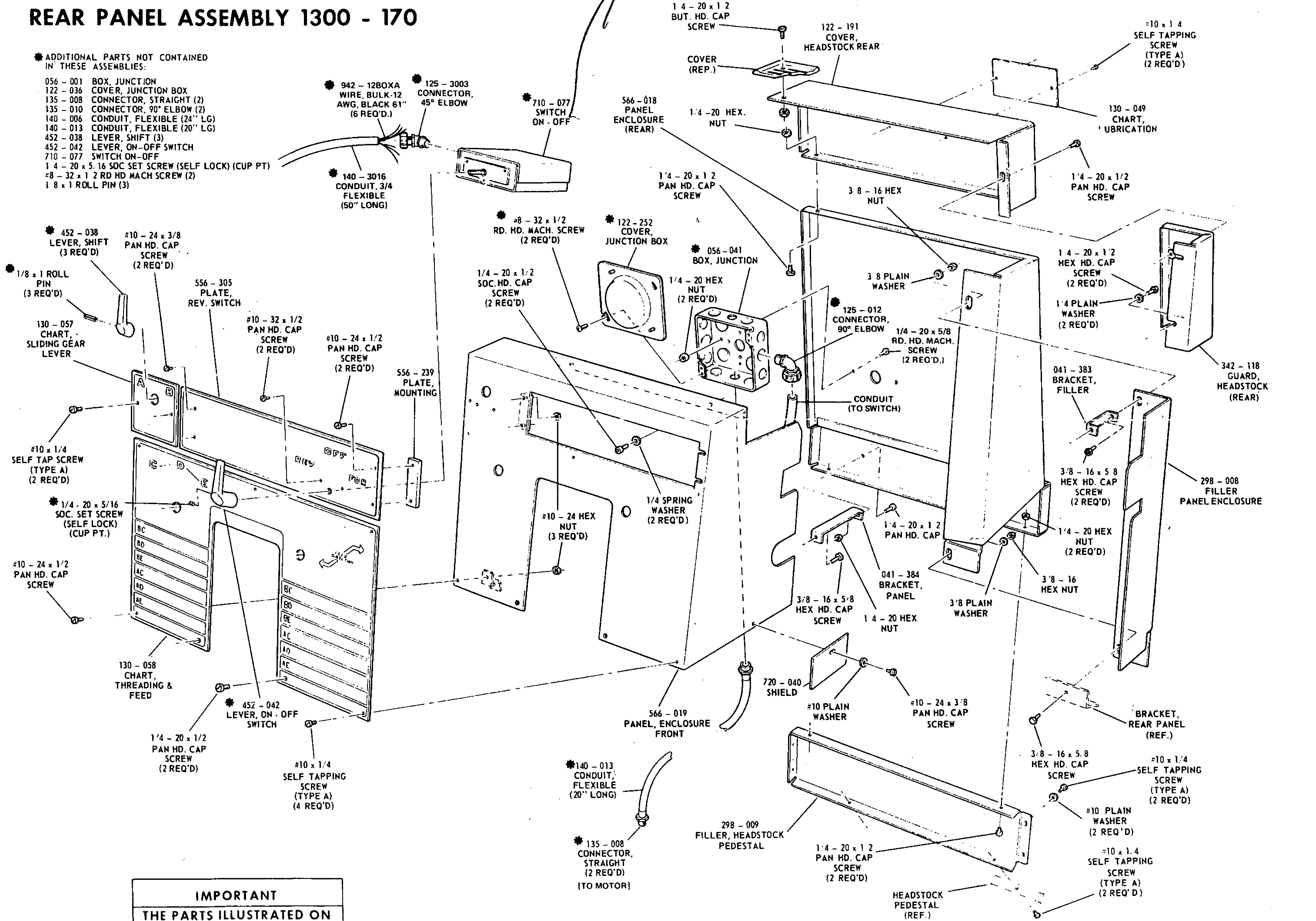
IMPORTANT
THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130200 TO ......

FRONT PANEL ASSEMBLY 1300 - 169
REAR PANEL ASSEMBLY 1300 - 170

TN25W151B

✱ ADDITIONAL PARTS NOT CONTAINED IN THESE ASSEMBLIES:

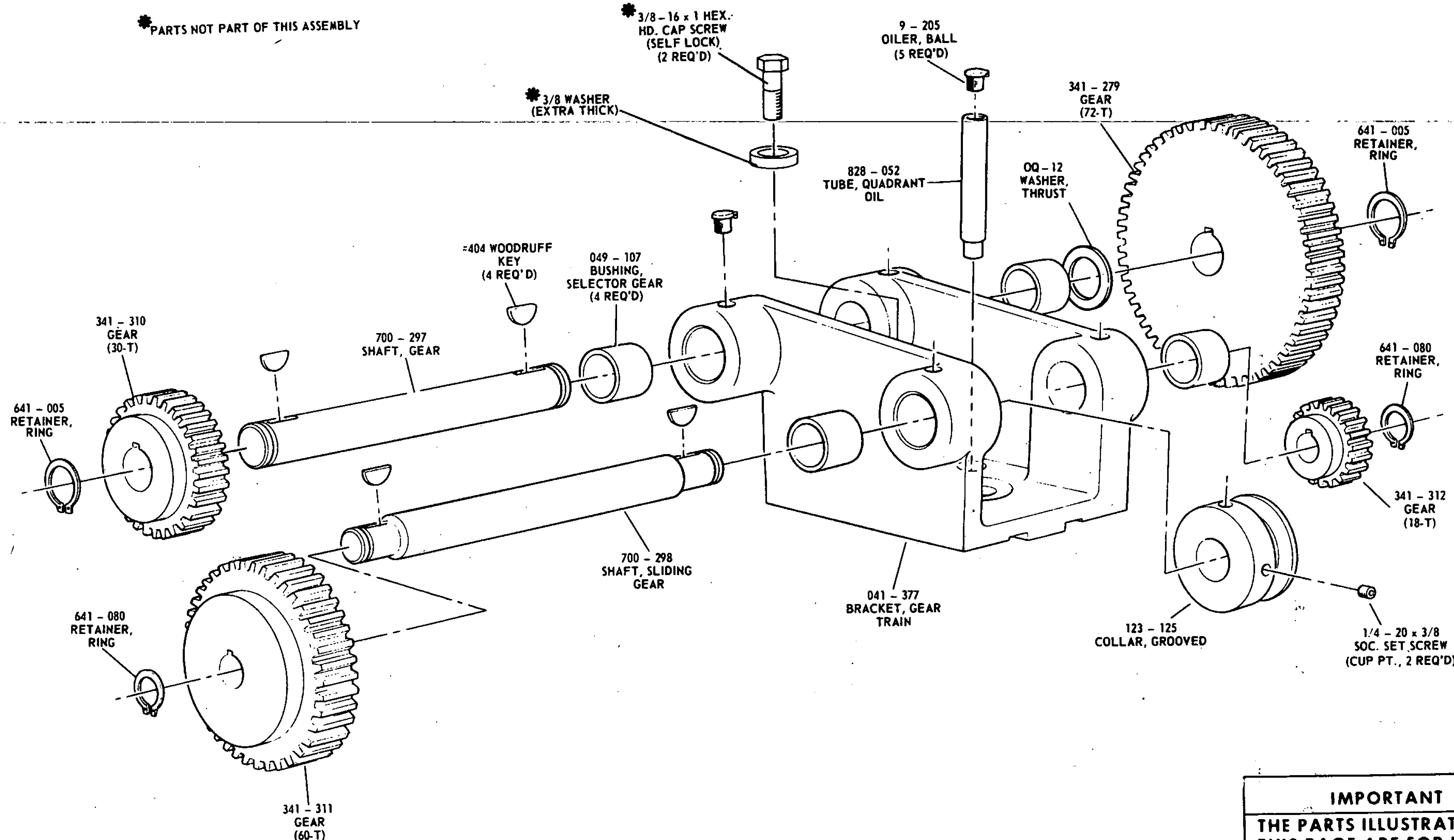
056 - 001 BOX, JUNCTION
122 - 036 COVER, JUNCTION BOX
135 - 008 CONNECTOR, STRAIGHT (2)
135 - 010 CONNECTOR, 90° ELBOW (2)
140 - 006 CONDUIT, FLEXIBLE (24" LG)
140 - 013 CONDUIT, FLEXIBLE (20" LG)
452 - 038 LEVER, SHIFT (3)
452 - 042 LEVER, ON-OFF SWITCH
710 - 077 SWITCH ON-OFF
1/4 - 20 x 5/16 SOC SET SCREW (SELF LOCK) (CUP PT)
#8 - 32 x 1/2 RD HD MACH SCREW (2)
1/8 x 1 ROLL PIN (3)



IMPORTANT
THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130200 ___ TO ______

GEAR TRAIN ASSEMBLY
1300-50

*PARTS NOT PART OF THIS ASSEMBLY



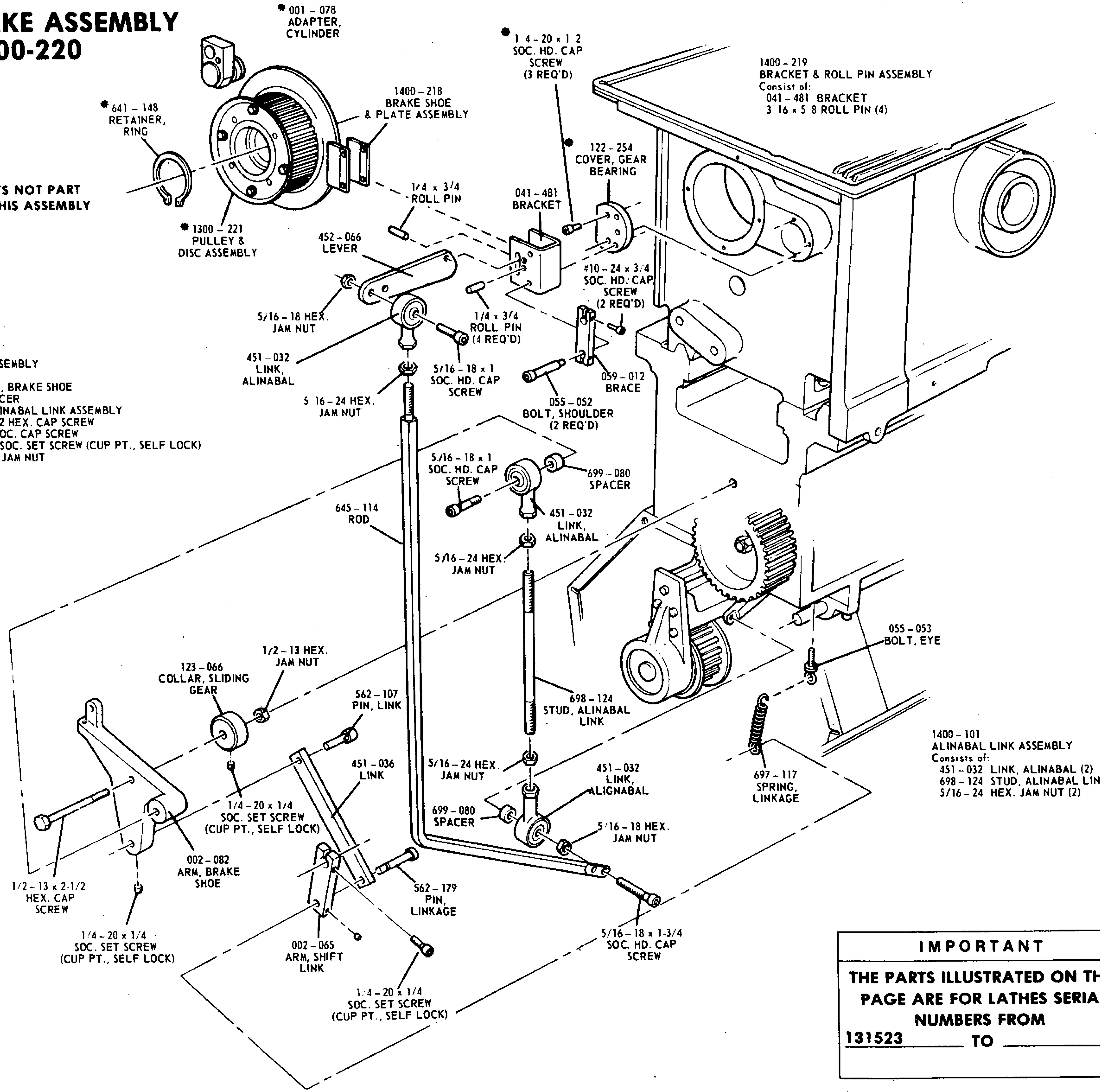
4

IMPORTANT

THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130200 ____ TO ________

DISC. BRAKE ASSEMBLY
1300-220

*PARTS NOT PART OF THIS ASSEMBLY

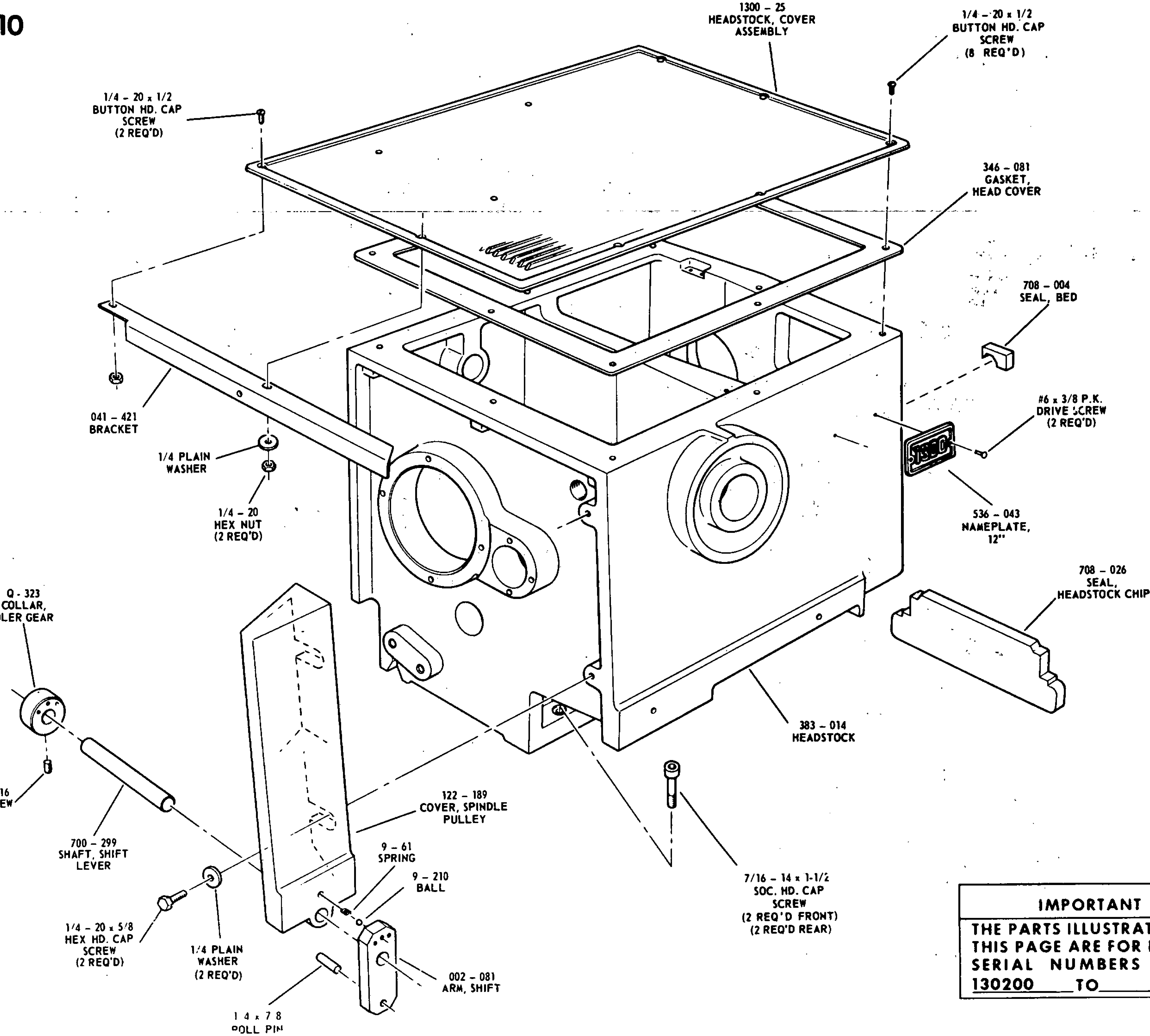


1300 – 102
LINK & ARM ASSEMBLY
Consist of:
- 002 – 082 ARM, BRAKE SHOE
- 699 – 080 SPACER
- 1400 – 101 ALINABAL LINK ASSEMBLY
- 1/2 – 13 x 2-1/2 HEX. CAP SCREW
- 5/16 – 18 x 1 SOC. CAP SCREW
- 1/4 – 20 x 1/4 SOC. SET SCREW (CUP PT., SELF LOCK)
- 1/2 – 13 HEX. JAM NUT

1400 – 101
ALINABAL LINK ASSEMBLY
Consists of:
- 451 – 032 LINK, ALINABAL (2)
- 698 – 124 STUD, ALINABAL LINK
- 5/16 – 24 HEX. JAM NUT (2)

IMPORTANT
THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM
131523 ______ TO ______

HEADSTOCK ASSEMBLY
1300 - 10
(PART I)



IMPORTANT
THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130200 ____ TO ________

HEADSTOCK ASSEMBLY
1300 - 10
(PART TWO)

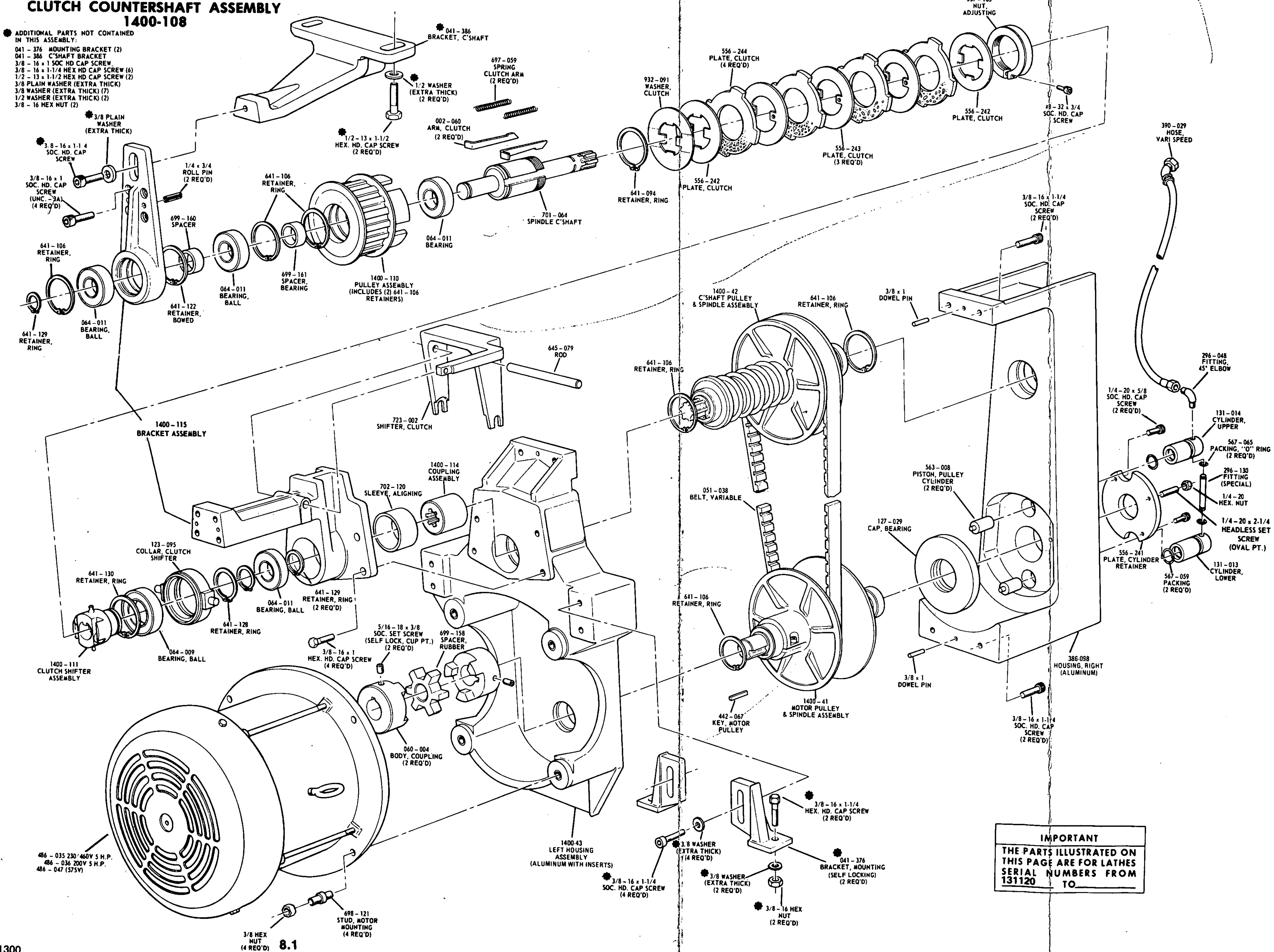
*ADDITIONAL PARTS IN THIS ILLUSTRATION NOT CARRIED UNDER ASSEMBLY 1300-10:
051 - 047 TIMING BELT
556 - 303 FACE PLATE, DOG
698 - 129 CAM LOCK STUD (3)
937 - 012 WRENCH
1/4 - 20 x 1/2 SOC HD CAP SCREW (3)

IMPORTANT
THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 131523 TO_______

DRIVE ASSEMBLY
1300-40
&
CLUTCH COUNTERSHAFT ASSEMBLY
1400-108

● ADDITIONAL PARTS NOT CONTAINED IN THIS ASSEMBLY:

041 – 376 MOUNTING BRACKET (2)
041 – 386 C'SHAFT BRACKET
3/8 – 16 x 1 SOC HD CAP SCREW
3/8 – 16 x 1-1/4 HEX HD CAP SCREW (6)
1/2 – 13 x 1-1/2 HEX HD CAP SCREW (2)
3/8 PLAIN WASHER (EXTRA THICK)
3/8 WASHER (EXTRA THICK) (7)
1/2 WASHER (EXTRA THICK) (2)
3/8 – 16 HEX NUT (2)



IMPORTANT

THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 131120 TO________

8.1

QUICK CHANGE GEAR BOX ASSEMBLY
1300-120

1300—126 SHIFTER SHAFT ASSEMBLY

Consists of:

002 – 083 ARM, SHIFTER
641 – 079 RETAINER
700 – 311 SHAFT, SHIFT
712 – 006 SHOE, SHIFTER
1/8 x 7/8 ROLL PIN

1300—127 SHIFTER SHAFT ASSEMBLY

Consists of:

002 – 083 ARM, SHIFTER
641 – 079 RETAINER
700 – 311 SHAFT, SHIFT
712 – 005 SHOE, SHIFTER
1/8 x 7/8 ROLL PIN

1300—124 TUMBLER BRACKET ASSEMBLY

Consists of:

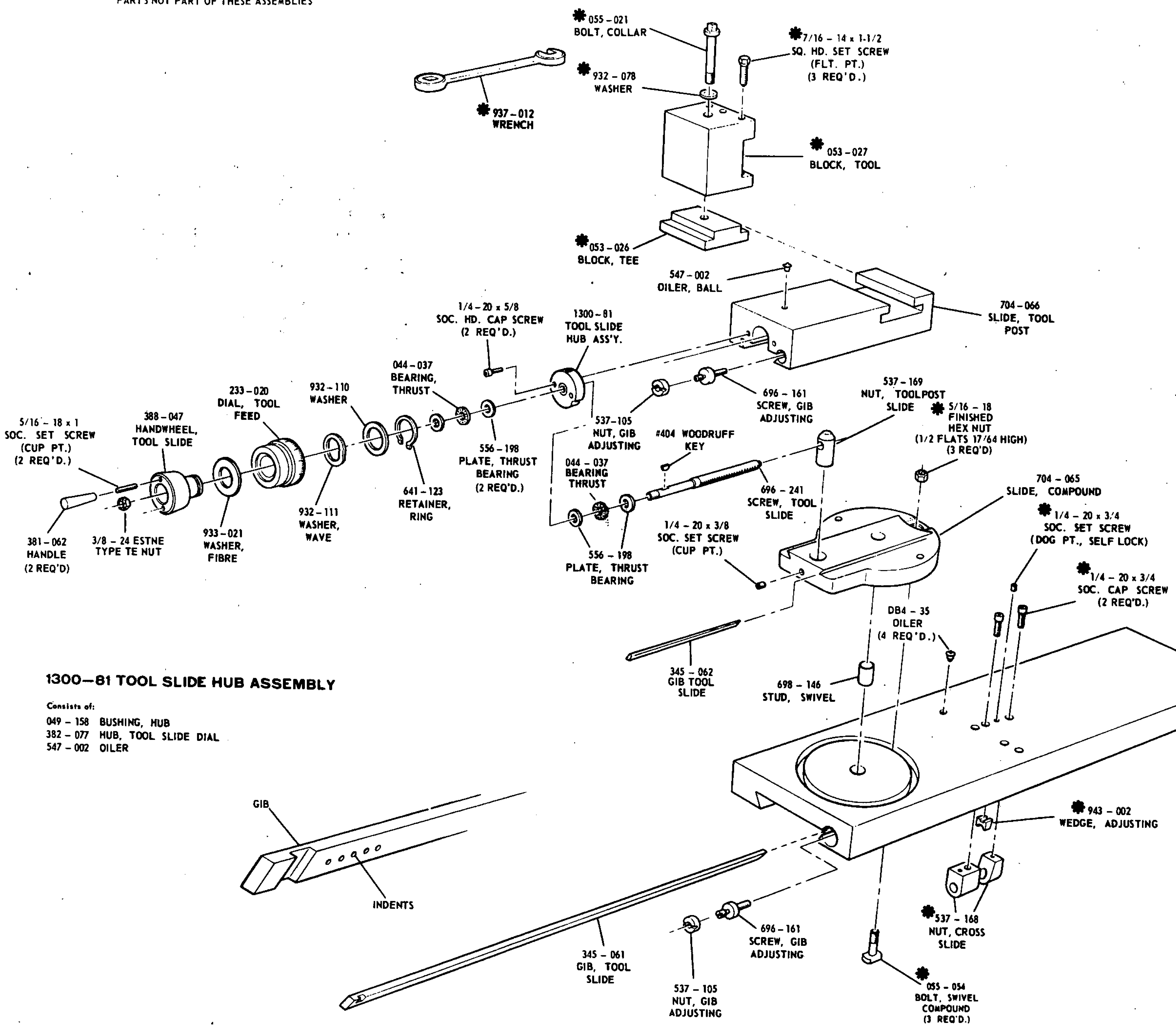
041 – 381 BRACKET, TUMBLER
442 – 082 KEY, TUMBLER
700 – 310 SHAFT, TUMBLER GEAR
1300 – 122 GEAR, BUSHING ASS'Y.
1/8 x 1 ROLL PIN

IMPORTANT

THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130200 TO ________

CROSS SLIDE ASSEMBLY 1300 - 76
TOOL SLIDE ASSEMBLY 1300 - 77

✱ PARTS NOT PART OF THESE ASSEMBLIES



1300–81 TOOL SLIDE HUB ASSEMBLY

Consists of:

049 - 158 BUSHING, HUB
382 - 077 HUB, TOOL SLIDE DIAL
547 - 002 OILER

1300–76 CROSS SLIDE ASSEMBLY

Consists of:

055 - 041 BOLT, SWIVEL COMPOUND (3 REQ'D)
698 - 146 STUD, SWIVEL
704 - 064 SLIDE, CROSS
1300 - 77 TOOL SLIDE ASS'Y.
5/16 - 18 FINISHED HEX. NUT (3 REQ'D)

1300–77 TOOL SLIDE ASSEMBLY

Consists of:

044 - 037 BEARING, THRUST (2 REQ'D.)
345 - 062 GIB, TOOL SLIDE
537 - 105 NUT, GIB ADJUSTING
537 - 169 NUT, TOOL POST SLIDE
547 - 002 OILER, BALL
556 - 198 PLATE, THRUST BEARING (4 REQ'D)
696 - 161 SCREW, GIB ADJUSTING
696 - 241 SCREW, TOOL SLIDE
704 - 065 SLIDE, COMPOUND
704 - 066 SLIDE, TOOL POST
1300-80 HANDWHEEL ASS'Y.
1300-81 TOOL SLIDE HUB ASS'Y.
1/4-20x5/8 SOC. HD. CAP SCREW (2 REQ'D.)
1/4-20x3/8 SOC. SET SCREW (CUP PT.)
3/8 - 24 ESTNE TYPE TE NUT
#404 WOODRUFF KEY

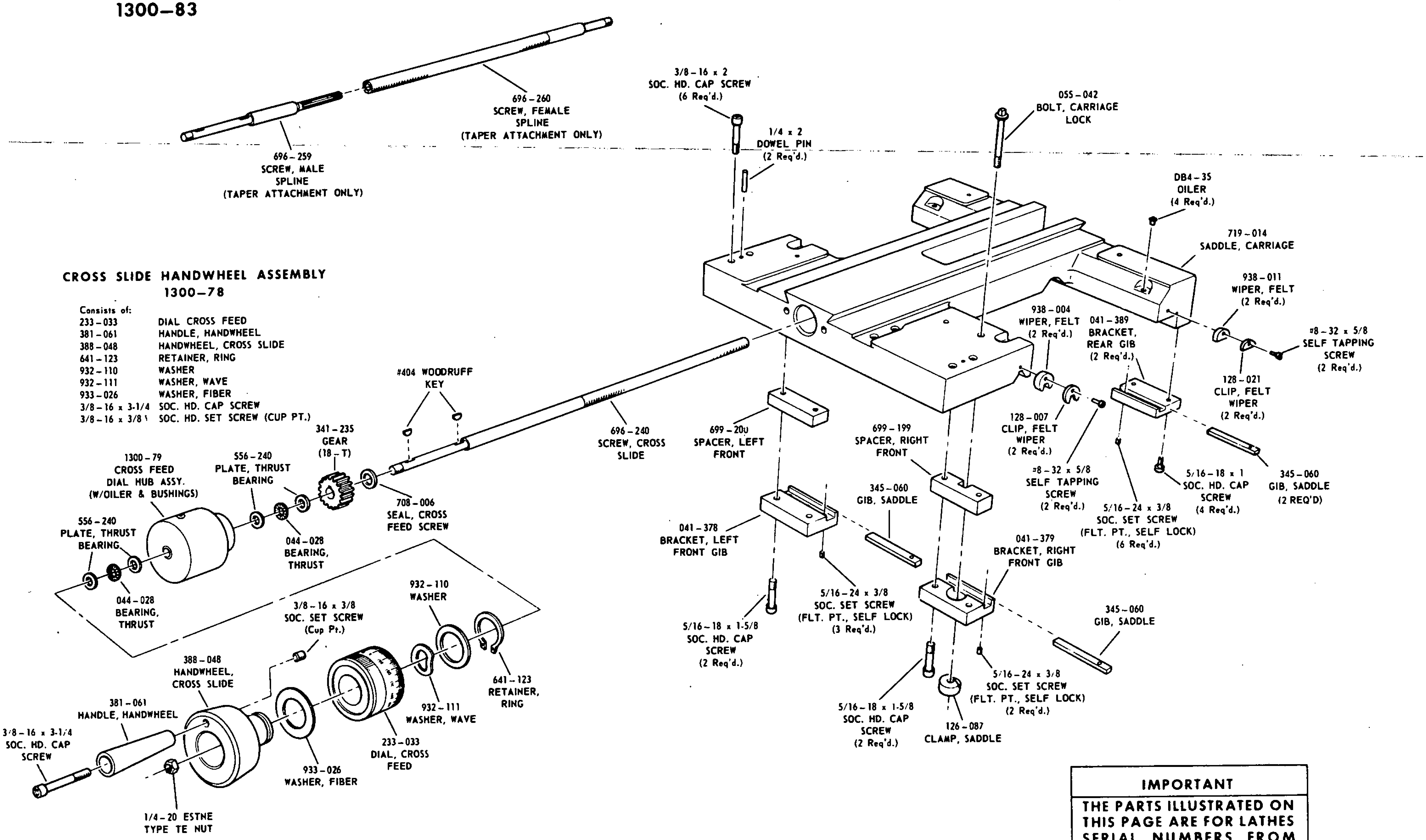
IMPORTANT
THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130915 TO

CARRIAGE SADDLE ASSEMBLY
1300–83

CROSS SLIDE HANDWHEEL ASSEMBLY
1300–78

Consists of:

233–033	DIAL CROSS FEED
381–061	HANDLE, HANDWHEEL
388–048	HANDWHEEL, CROSS SLIDE
641–123	RETAINER, RING
932–110	WASHER
932–111	WASHER, WAVE
933–026	WASHER, FIBER
3/8–16 x 3-1/4	SOC. HD. CAP SCREW
3/8–16 x 3/8	SOC. HD. SET SCREW (CUP PT.)

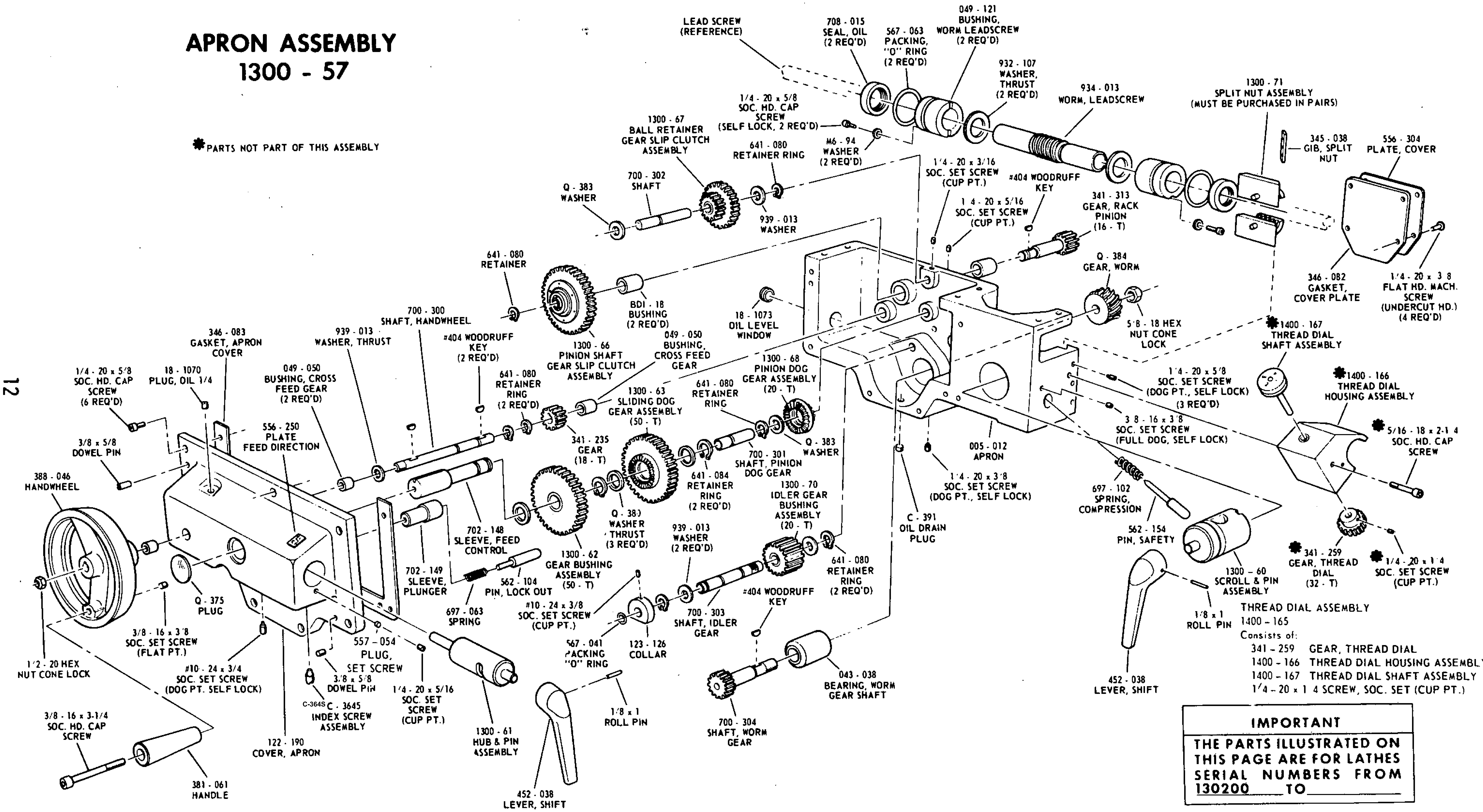


IMPORTANT

THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130200 ____ TO ________

APRON ASSEMBLY
1300 - 57

*PARTS NOT PART OF THIS ASSEMBLY



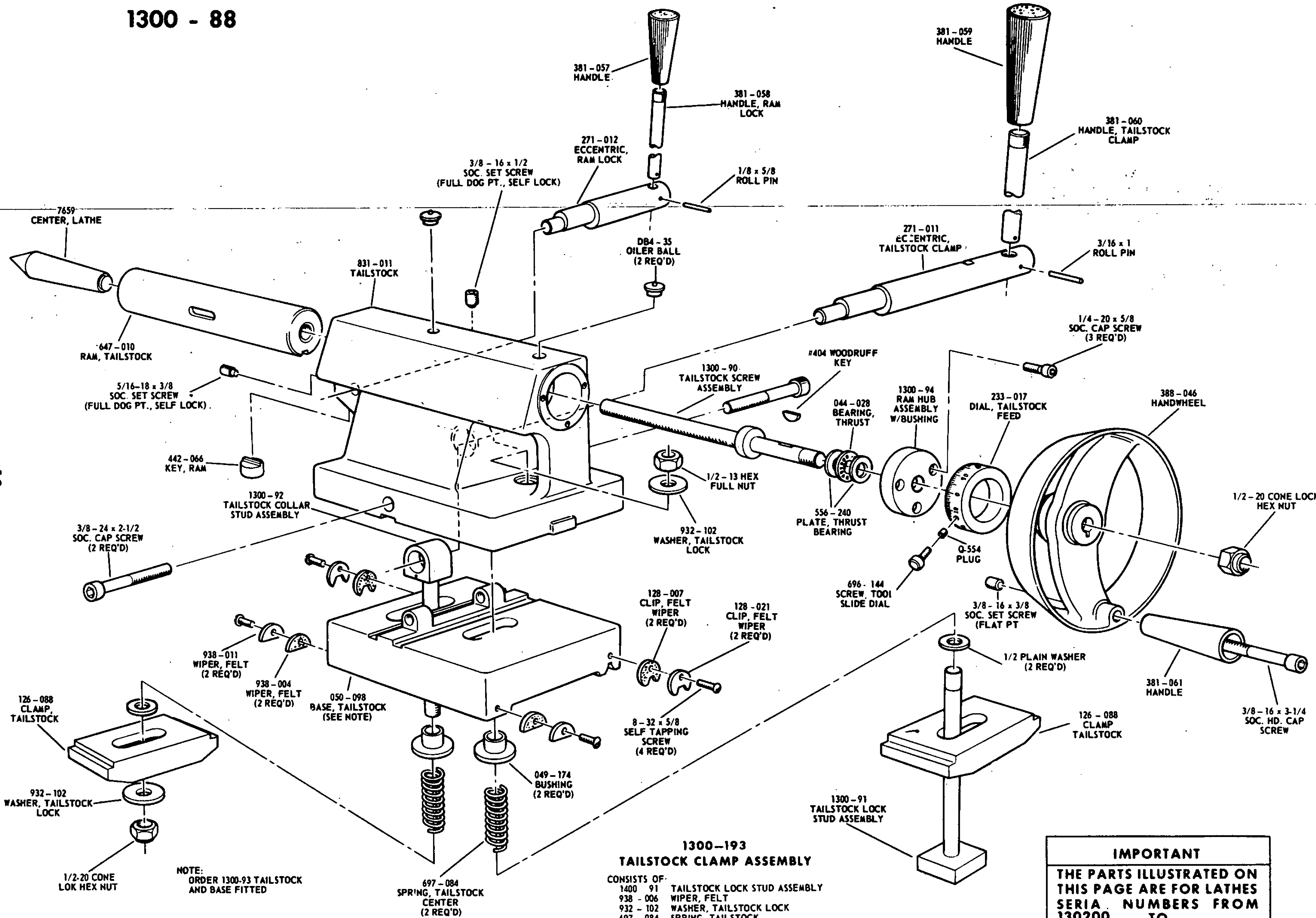
THREAD DIAL ASSEMBLY
1400 - 165
Consists of:

341 - 259	GEAR, THREAD DIAL
1400 - 166	THREAD DIAL HOUSING ASSEMBLY
1400 - 167	THREAD DIAL SHAFT ASSEMBLY
1/4 - 20 x 1/4	SCREW, SOC. SET (CUP PT.)

IMPORTANT

THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130200 TO ________

TAILSTOCK ASSEMBLY
1300 - 88



NOTE:
ORDER 1300-93 TAILSTOCK AND BASE FITTED

1300–193
TAILSTOCK CLAMP ASSEMBLY

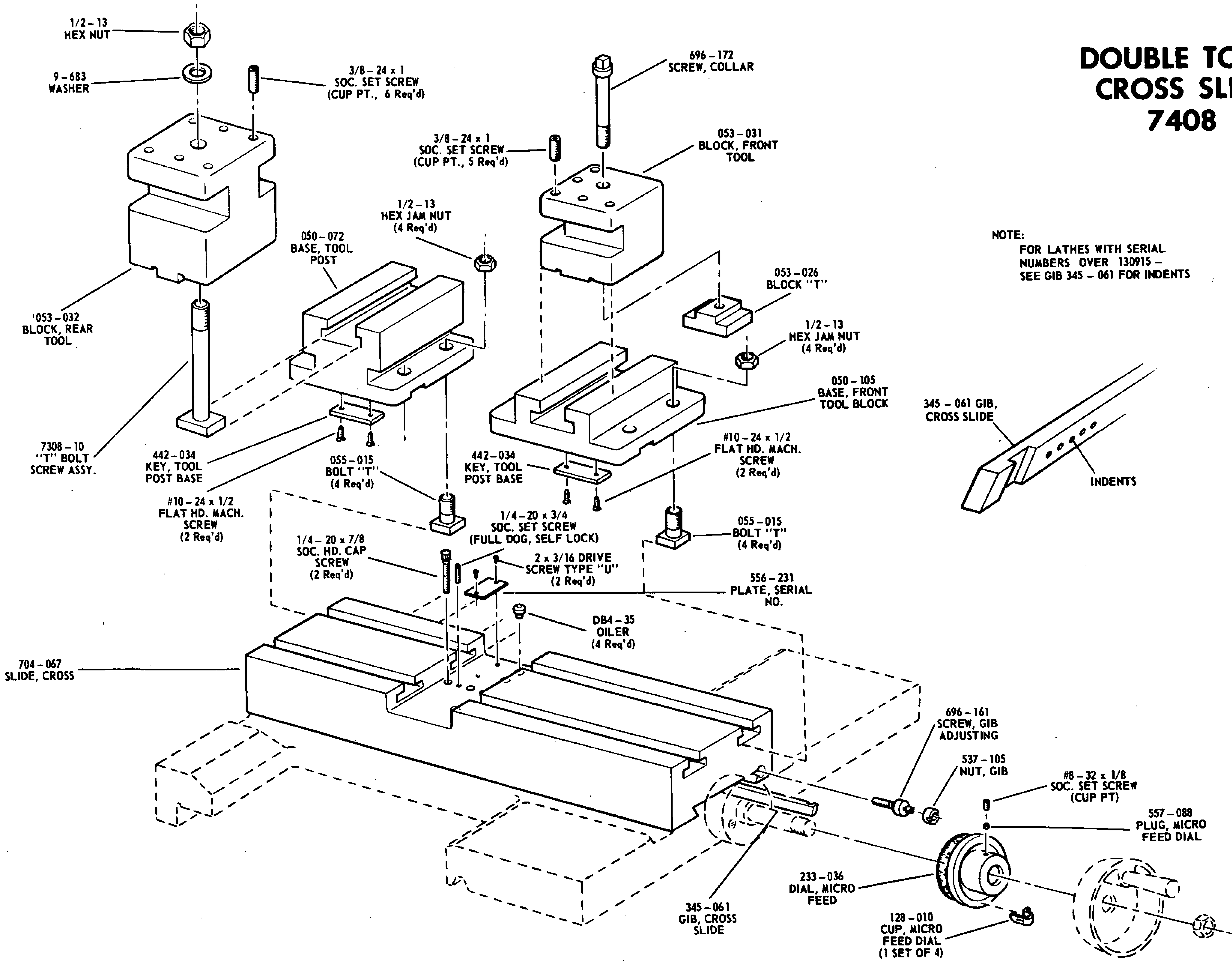
CONSISTS OF:

1400 91	TAILSTOCK LOCK STUD ASSEMBLY
938 - 006	WIPER, FELT
932 - 102	WASHER, TAILSTOCK LOCK
697 - 084	SPRING, TAILSTOCK
126 - 068	CLAMP, TAILSTOCK
1/2	PLAIN WASHER
1/2 - 13	HEX NUT

IMPORTANT

THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIA NUMBERS FROM 130200 TO ____

DOUBLE TOOL CROSS SLIDE 7408



NOTE:
FOR LATHES WITH SERIAL NUMBERS OVER 130915 - SEE GIB 345-061 FOR INDENTS

WARRANTY

The Clausing Corporation, Kalamazoo, Michigan, warrants that each Product will be free from defects in material and workmanship for one year from the date of delivery to the User.

Clausing will correct any defects without charge. Parts will be repaired or replaced at Clausing's option. Warranty work will normally be performed at the User's plant, but at the option and expense of Clausing, the Product, or any part thereof, may be returned to Clausing for the service. User shall provide access to the Product during regular business hours and shall provide such other assistance as determined necessary by Clausing.

Clausing shall not be responsible for expenditures made or incurred by the User for repairs of the Product. The warranty is void for any Product that has been subjected to neglect, misuse, accident, or improper operation, or that has been tampered with or altered in any way.

The foregoing warranty is exclusive and in lieu of all other warranties, express or implied, except as to title, including any implied warranty of MERCHANTABILITY or of FITNESS FOR A PARTICULAR PURPOSE.

The liability of Clausing under this warranty, or for any loss or damage to the equipment, whether the claim is based on contract or negligence, shall not in any case exceed the cost of correcting defects in the equipment as herein provided and upon the expiration of the warranty period all such liability shall terminate. The foregoing shall constitute the exclusive remedy of the User and the exclusive liability of Clausing.

In no event, whether as a result of breach of contract or warranty, or alleged negligence, shall Clausing be liable for special or consequential damages including, but not limited to, loss of profits or revenue, loss of use of the equipment or any associated equipment, cost of capital, cost of substitute equipment, facilities or services, down-time costs, or claims of customers of the User for such damages.

No one other than an officer of Clausing acting in writing is authorized to assume any liability on behalf of Clausing or impose any obligation upon it in connection with the sale of any product other than as stated above.

CLAUSING CORPORATION
KALAMAZOO, MICHIGAN 49007