

INSTRUCTIONS
and
PARTS MANUAL

1300-series LATHE

CLAUSING

CORPORATION

2019 N. PITCHER ST. KALAMAZOO, MICH. 49007

1300

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NAME OF PURCHASER _____

STREET _____

CITY, ZONE, STATE _____

PURCHASED FROM _____

DATE PURCHASED _____

**CLAUSING CORPORATION
Service Center**

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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.

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CLAUSING CORPORATION
KALAMAZOO, MICHIGAN 49007

THIS MANUAL APPLIES TO CLAUSING 1300 SERIES LATHES
FROM SERIAL No. 131523 TO

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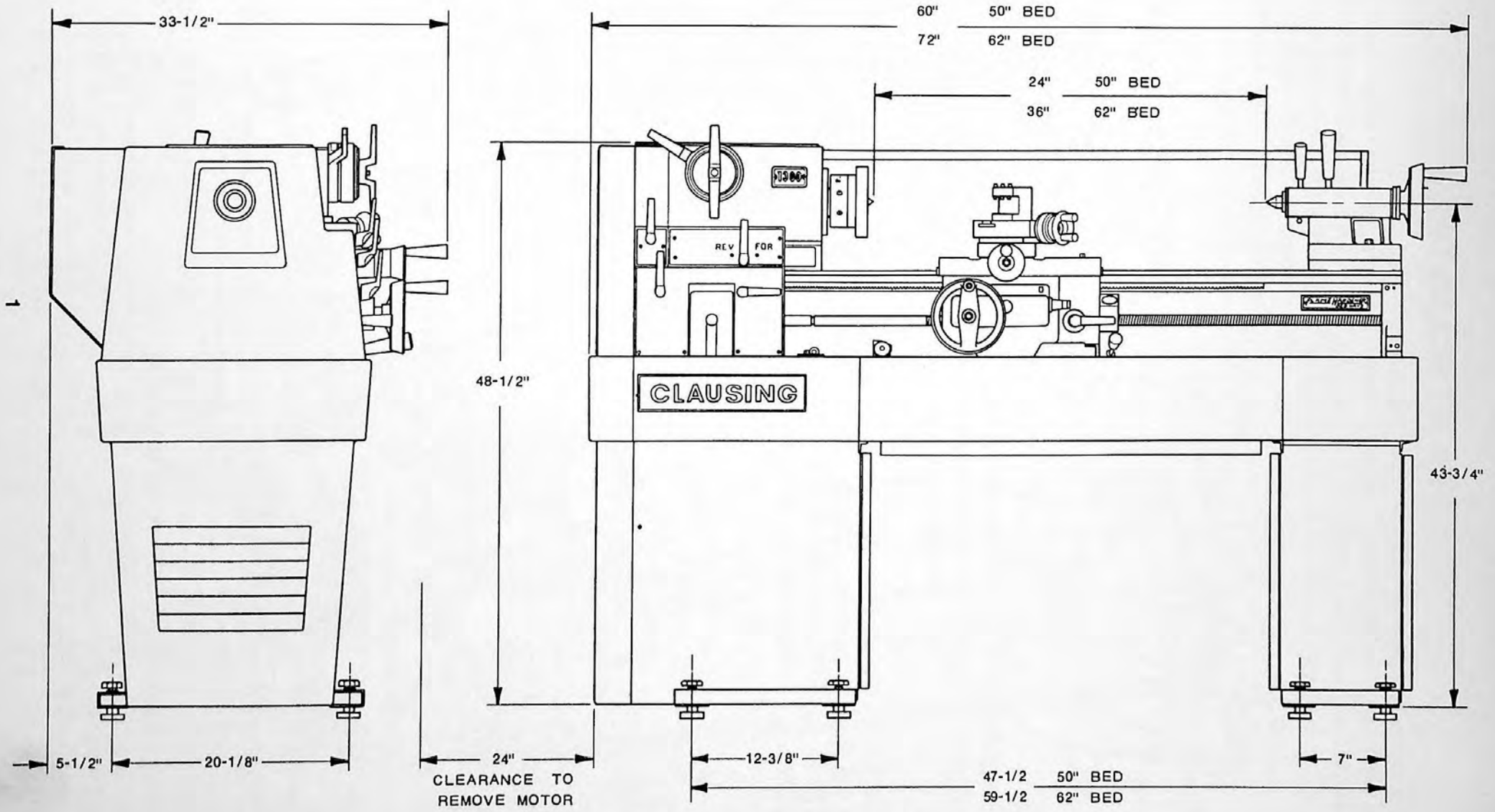
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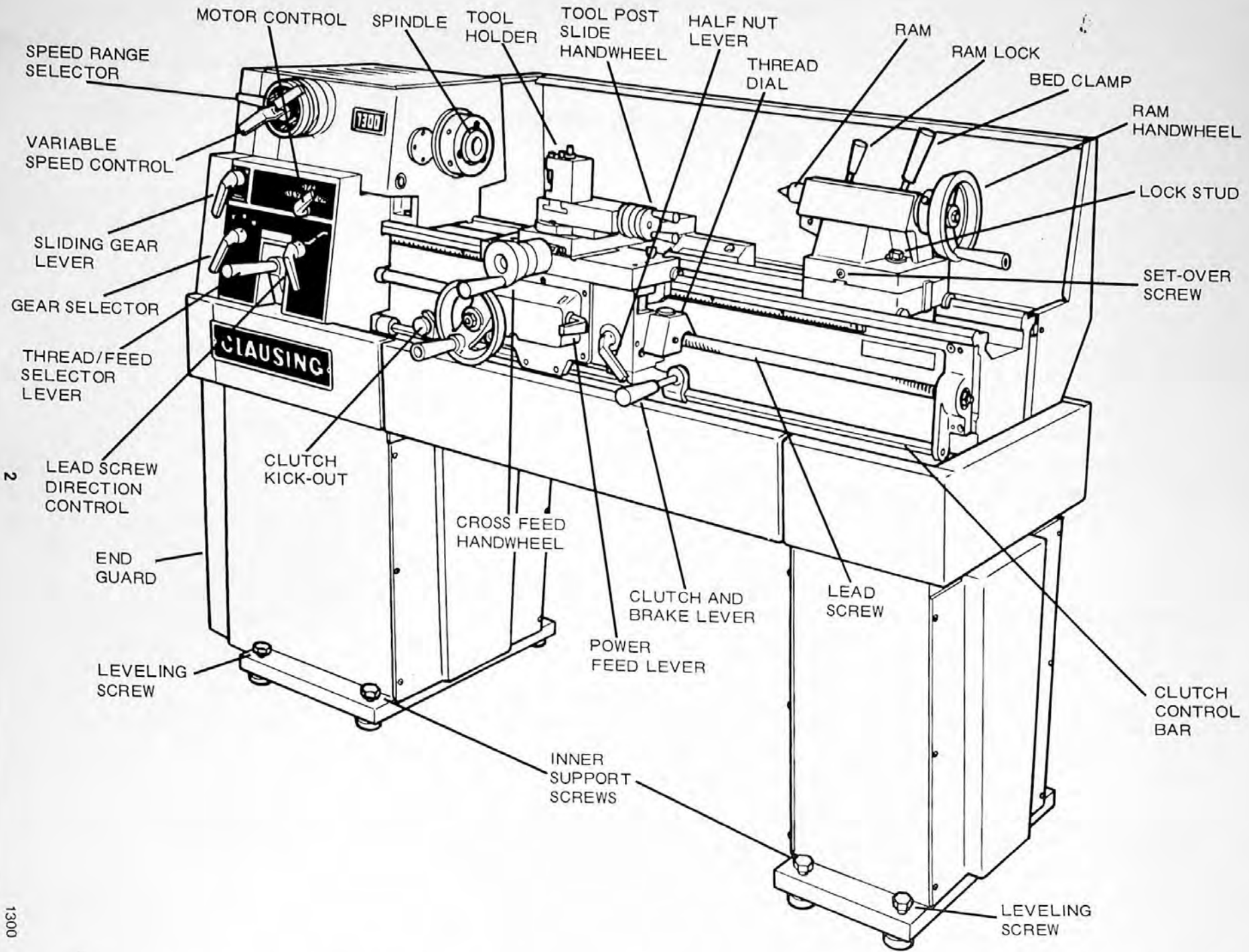
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GENERAL DIMENSIONS - 1300 SERIES CLAUSING LATHE



NOTE: DIMENSIONS ARE APPROXIMATE



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 TAIL-STOCK 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).

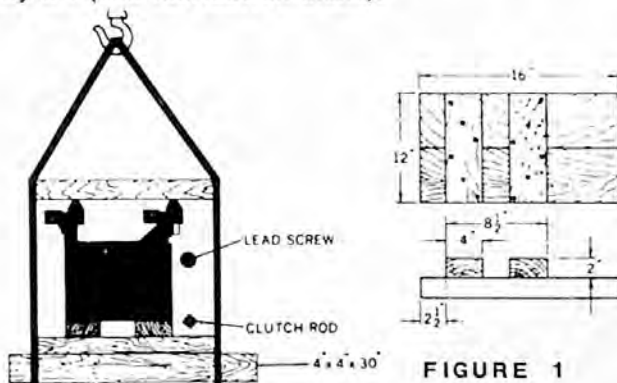


FIGURE 1

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.

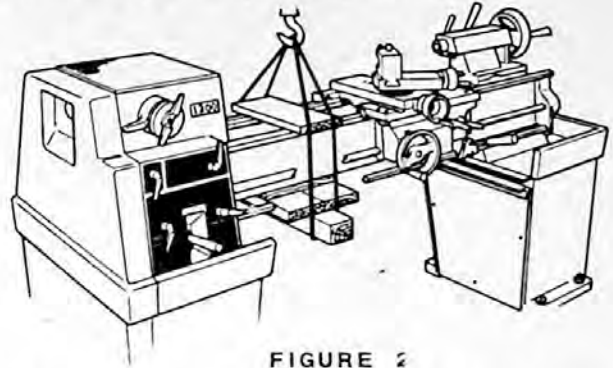


FIGURE 2

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, proceed 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.

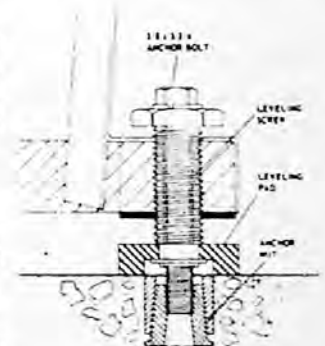


FIGURE 3

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.

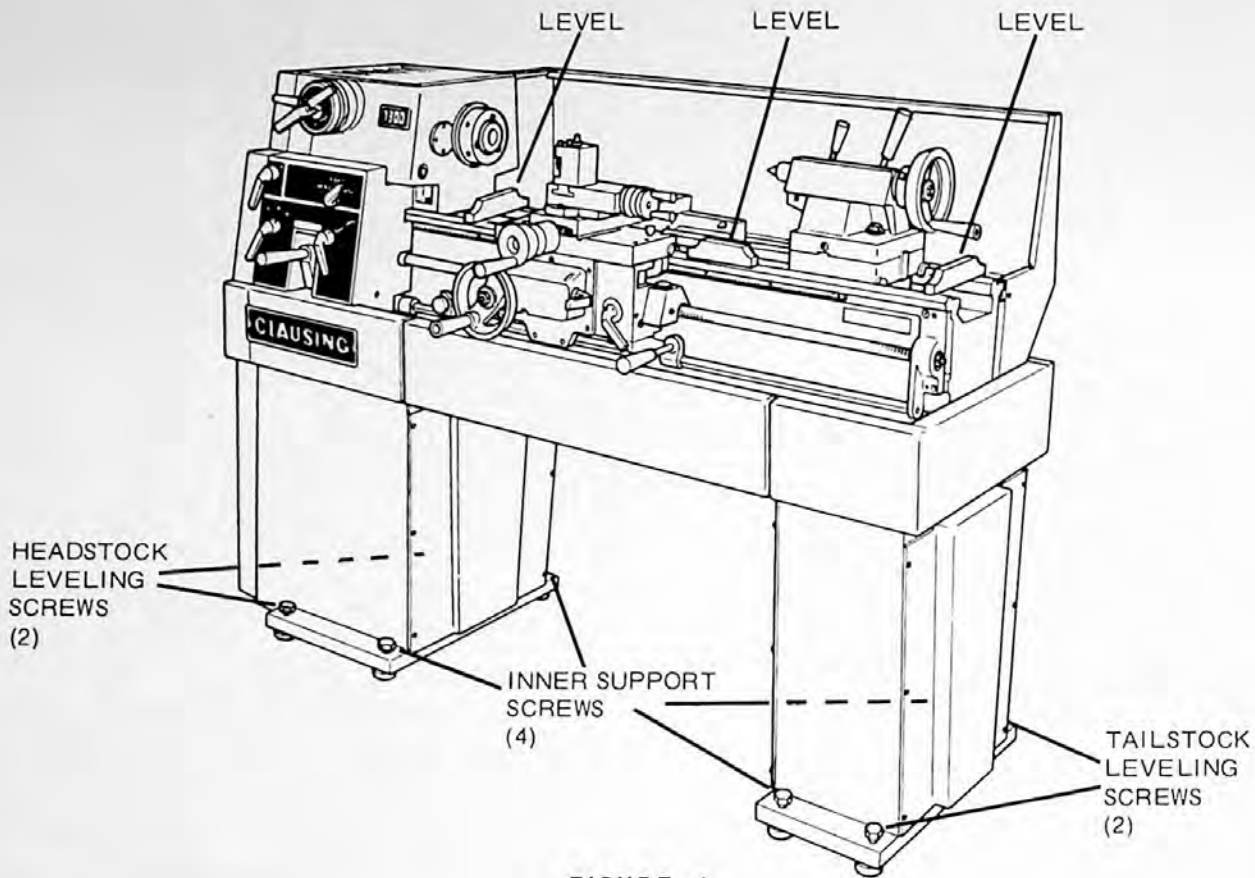


FIGURE 4

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.

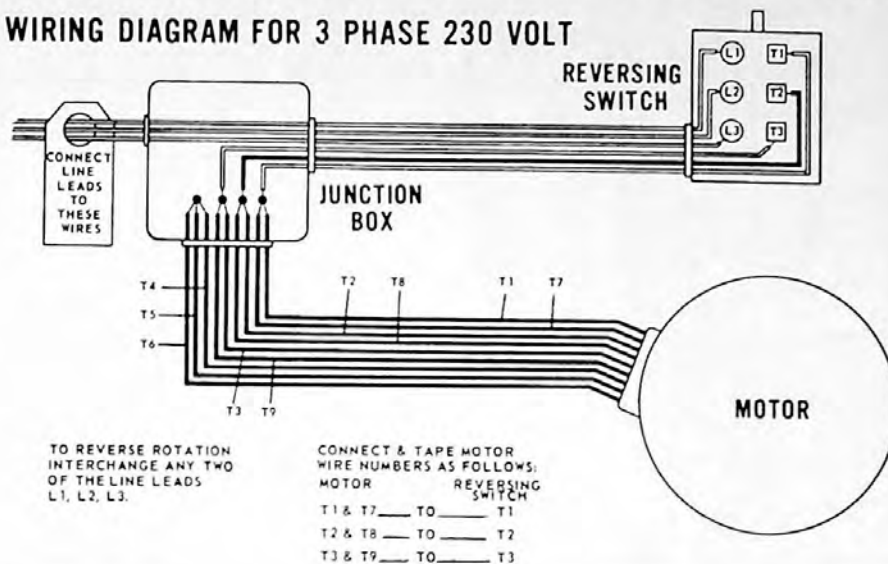
4. If lathe is anchored to floor, anchor bolts should be finger tight, or until the lock washers start to compress. Lag screws should be tightened, then backed off about one-quarter turn.
5. Recheck the level of the lathe – unequal tightening of anchoring bolts may have pulled the bed out of level. Recheck 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

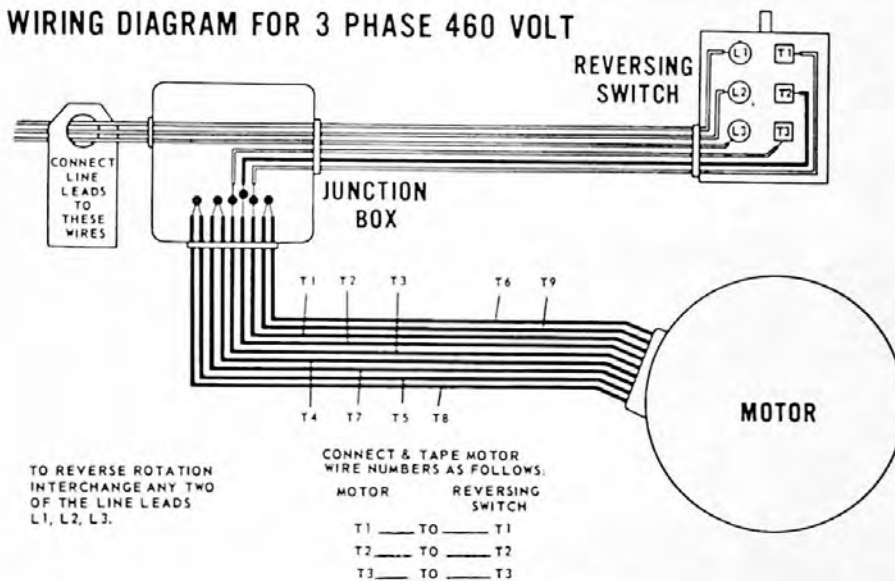
The lathe is completely wired, ready to be connected to power supply. Be sure electrical characteristics of motor and switch correspond with electrical power supply. If any questions consult local power company.

WIRING INSTRUCTIONS FOR 1300 SERIES CLAUSING LATHE

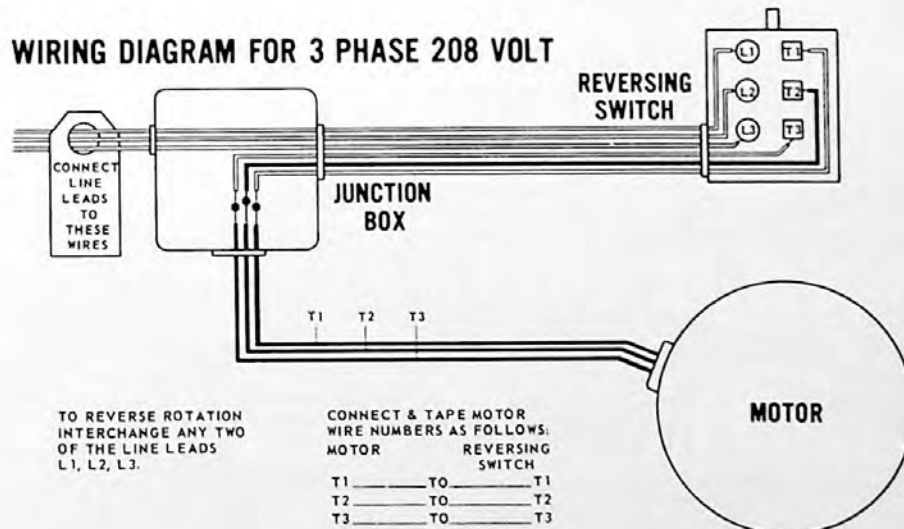
WIRING DIAGRAM FOR 3 PHASE 230 VOLT



WIRING DIAGRAM FOR 3 PHASE 460 VOLT



WIRING DIAGRAM FOR 3 PHASE 208 VOLT



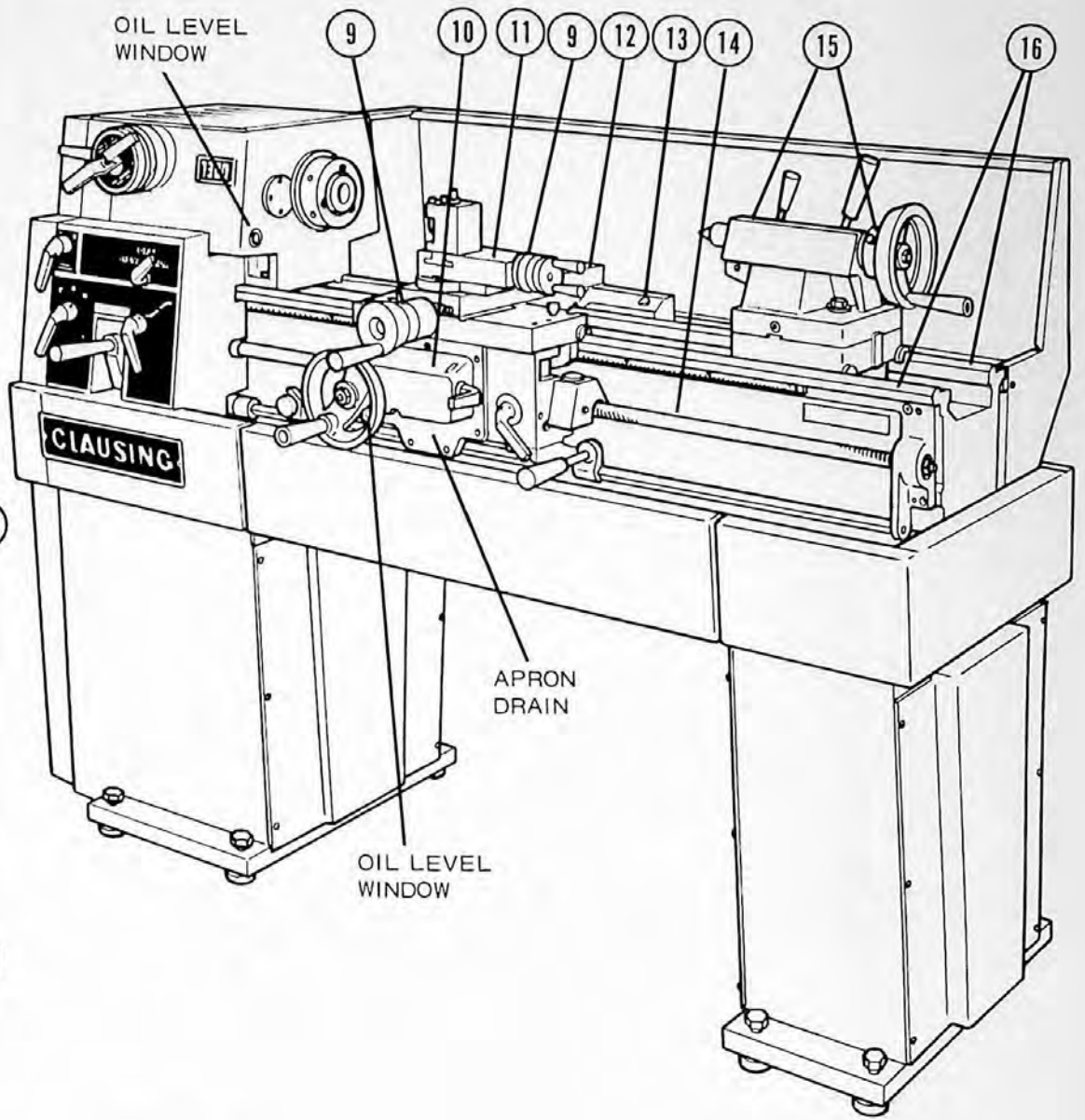
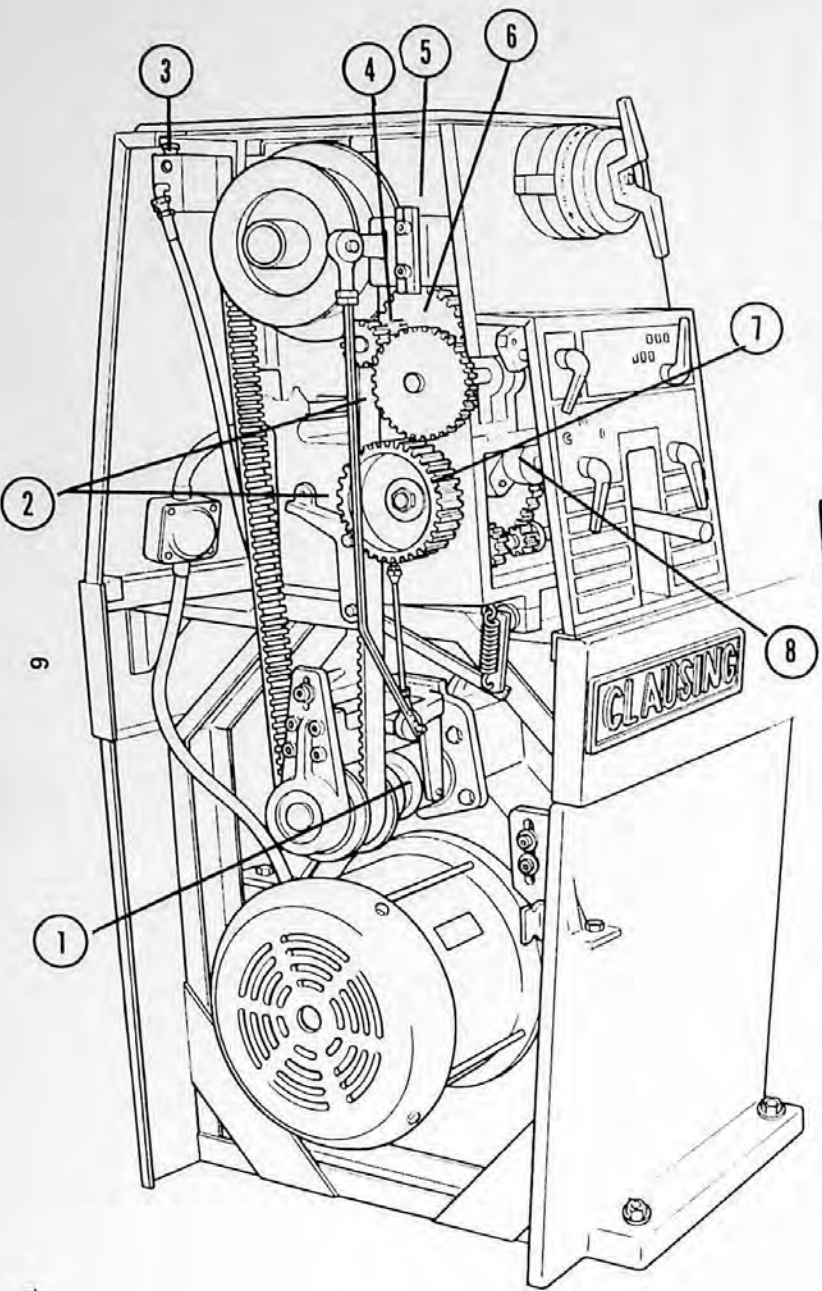


FIGURE 5

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.

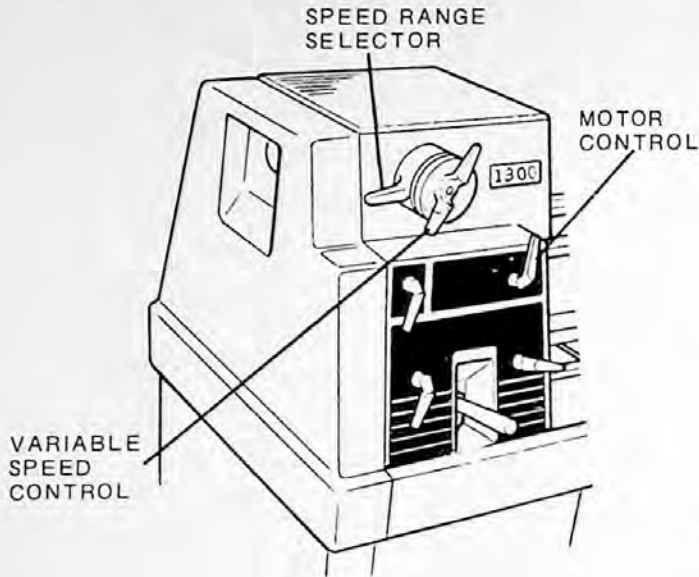


FIGURE 6
HEADSTOCK

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 Clousing 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.

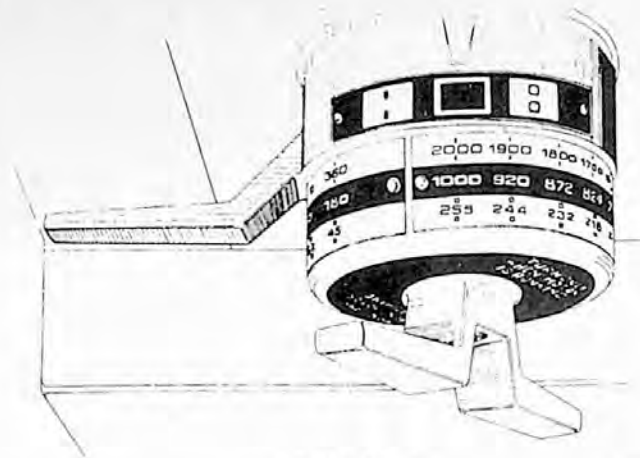


FIGURE 7

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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-synchronized 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.

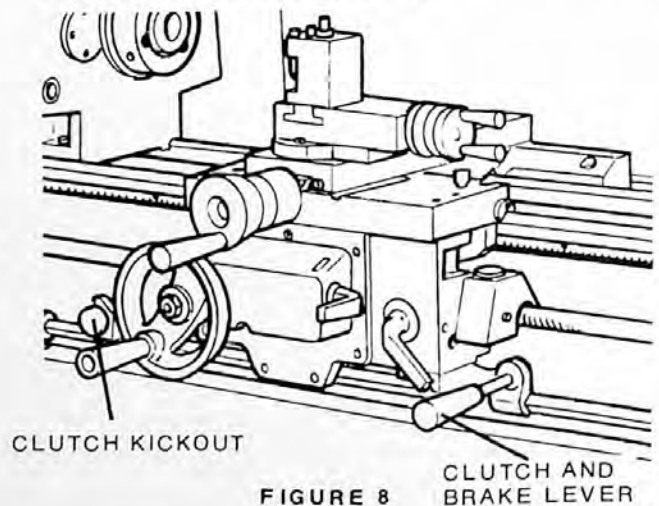


FIGURE 8

CLUTCH AND
BRAKE LEVER

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

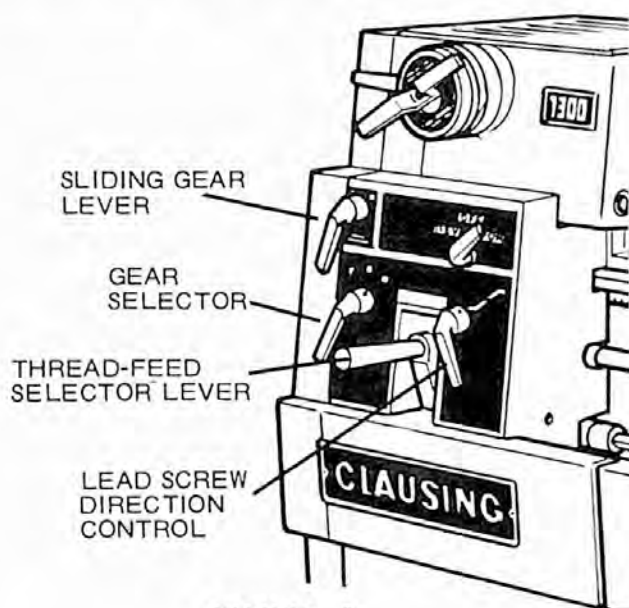


FIGURE 9

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.

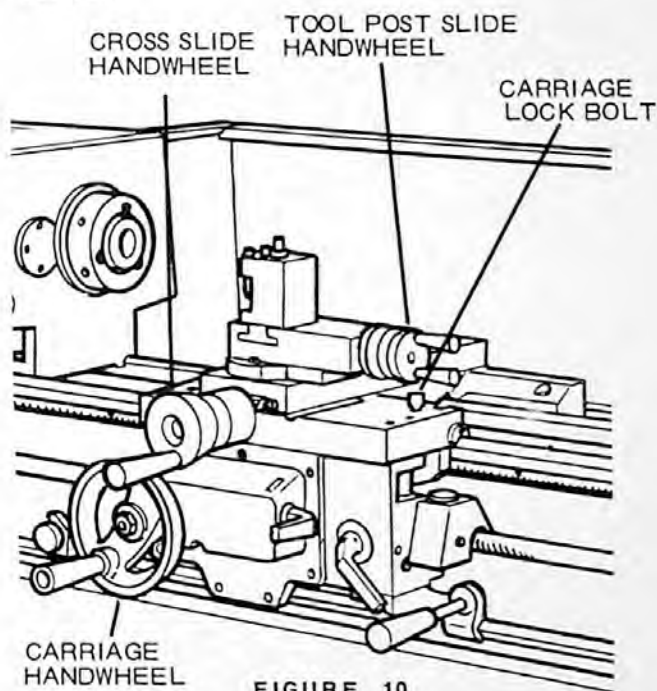


FIGURE 10

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

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.

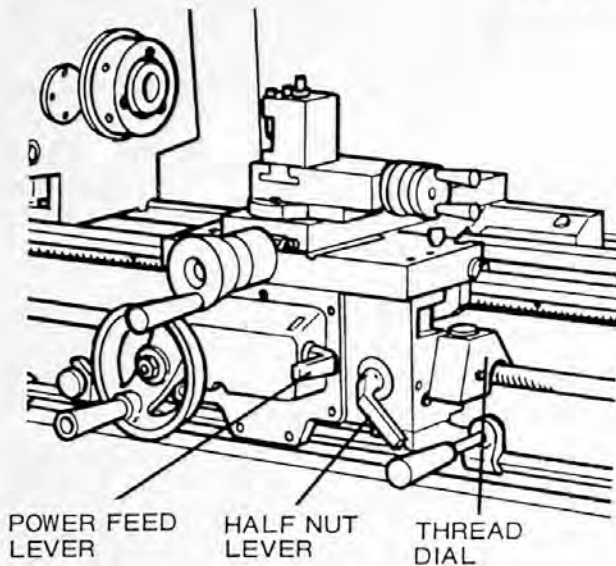


FIGURE 12

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.

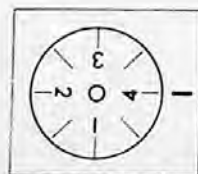


FIGURE 13

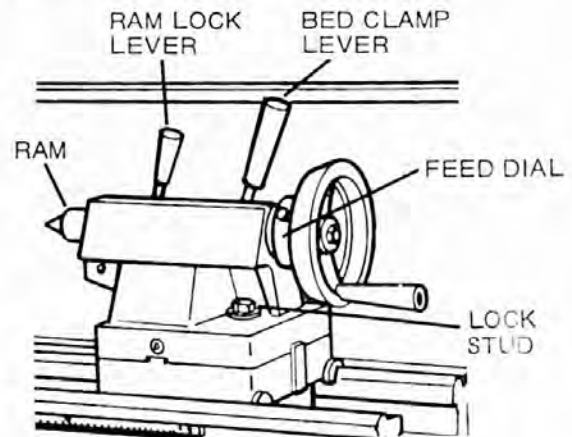


FIGURE 14

TAILSTOCK

Tailstock is quickly locked in position by bed clamp lever. An auxiliary 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.

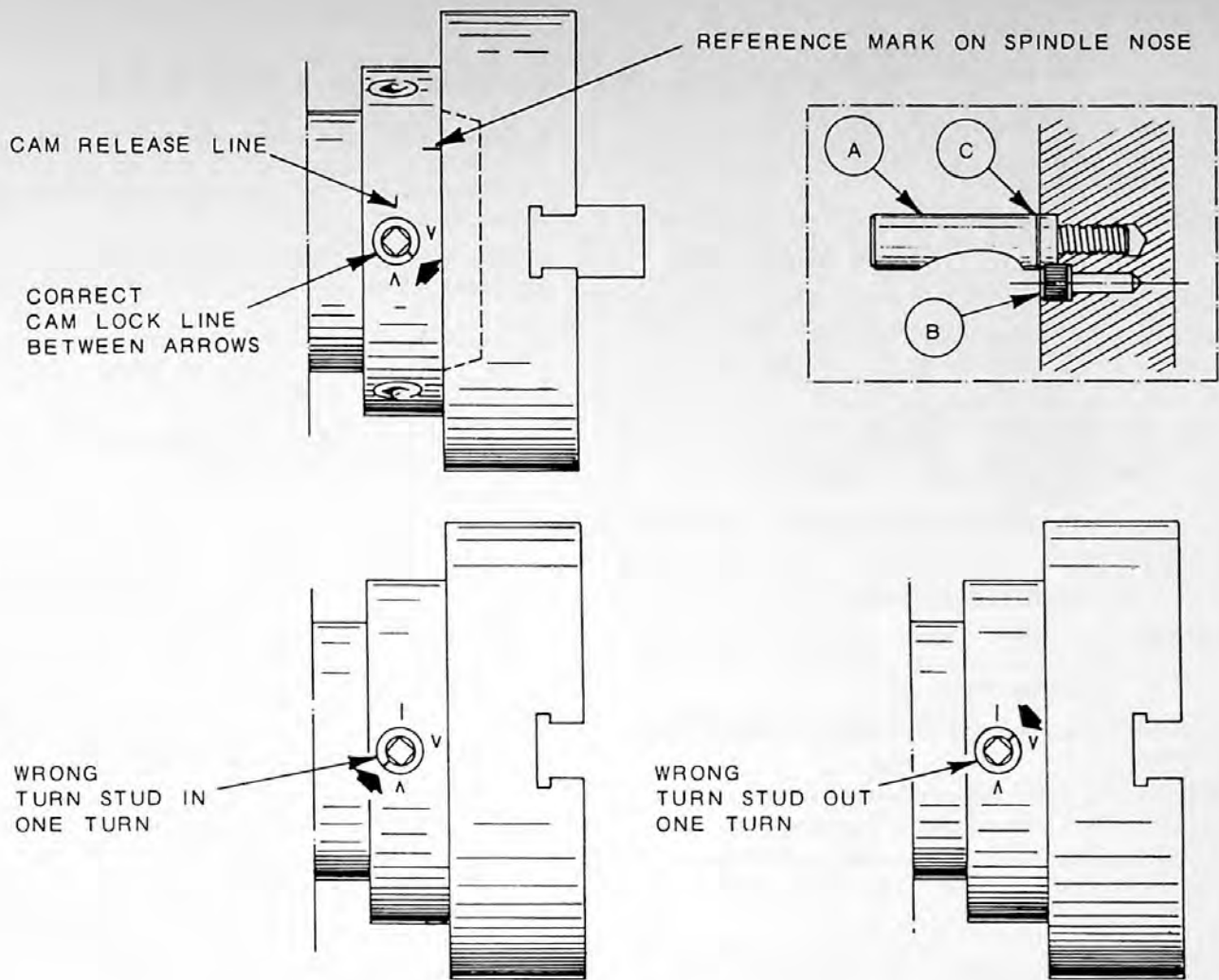


FIGURE 16

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

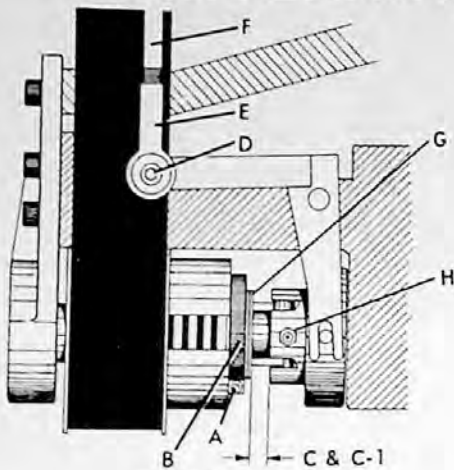


FIGURE 16

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 socket 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.

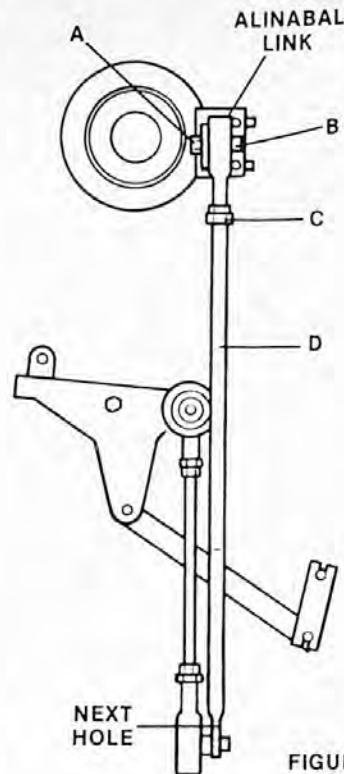


FIGURE 17

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.

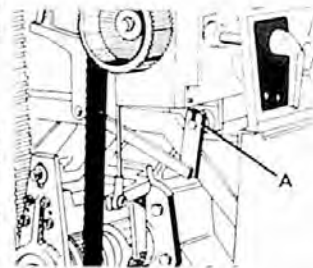


FIGURE 18

SHEAR PIN REPLACEMENT

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

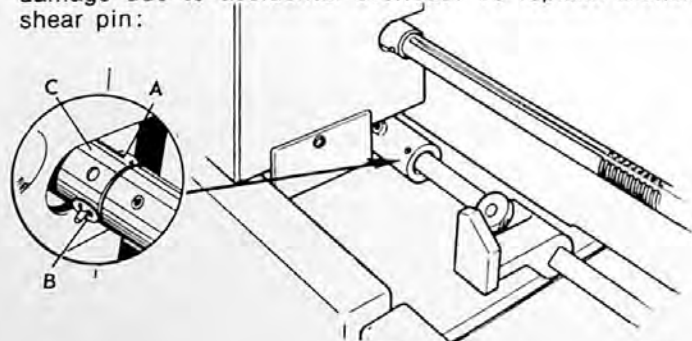


FIGURE 19

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.

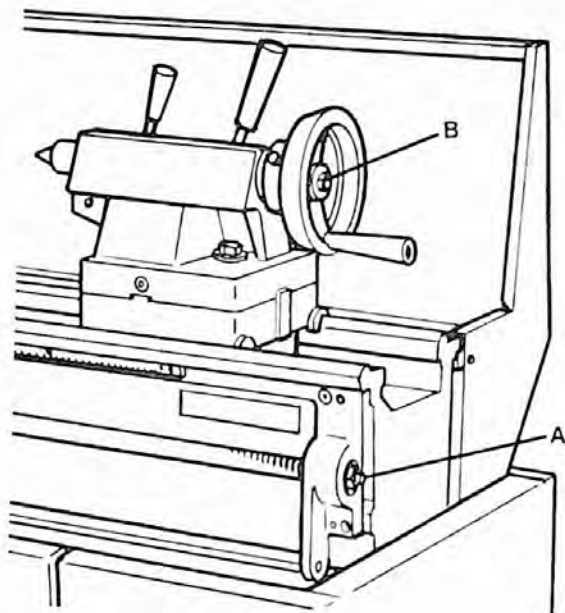


FIGURE 20

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:

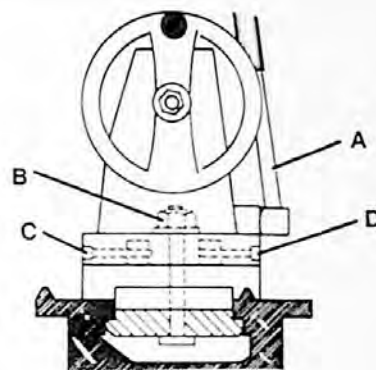


FIGURE 22

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.

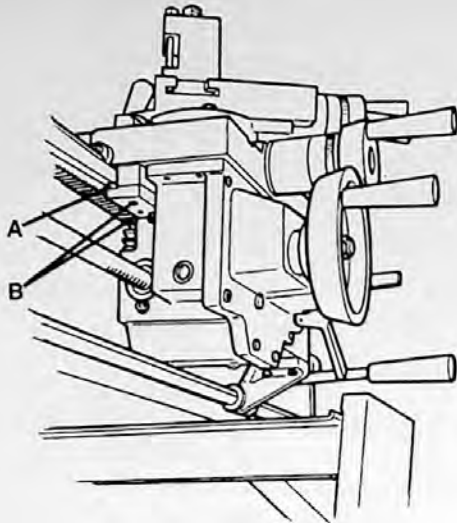


FIGURE 23

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.

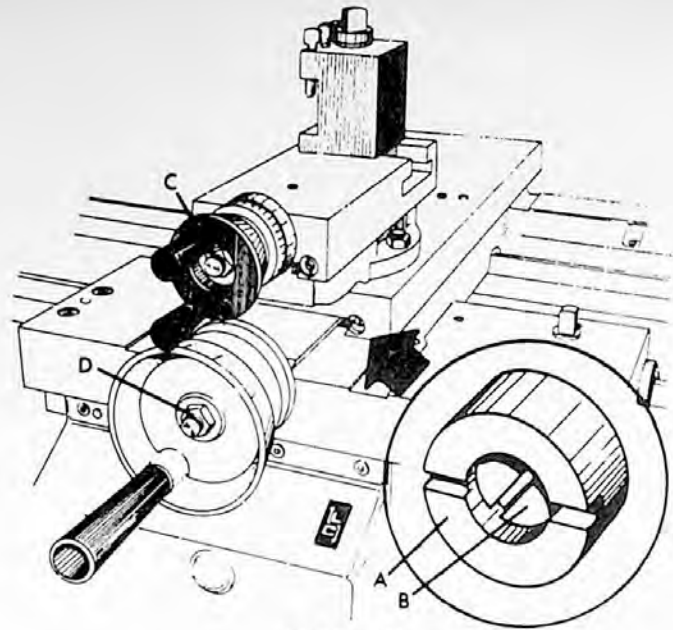


FIGURE 24

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.

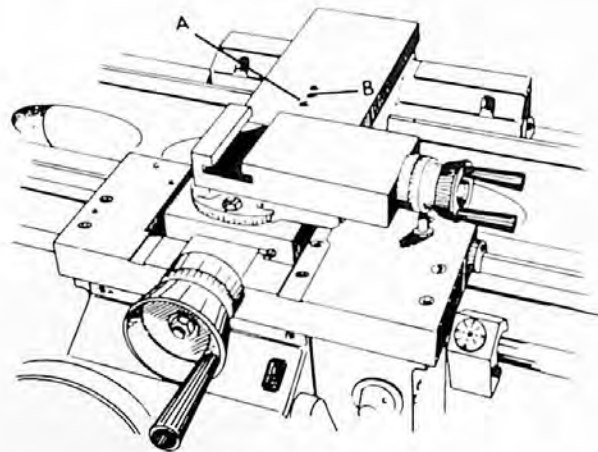


FIGURE 25

CROSS SLIDE NUT ADJUSTMENT

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

1. Loosen socket cap screw (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).

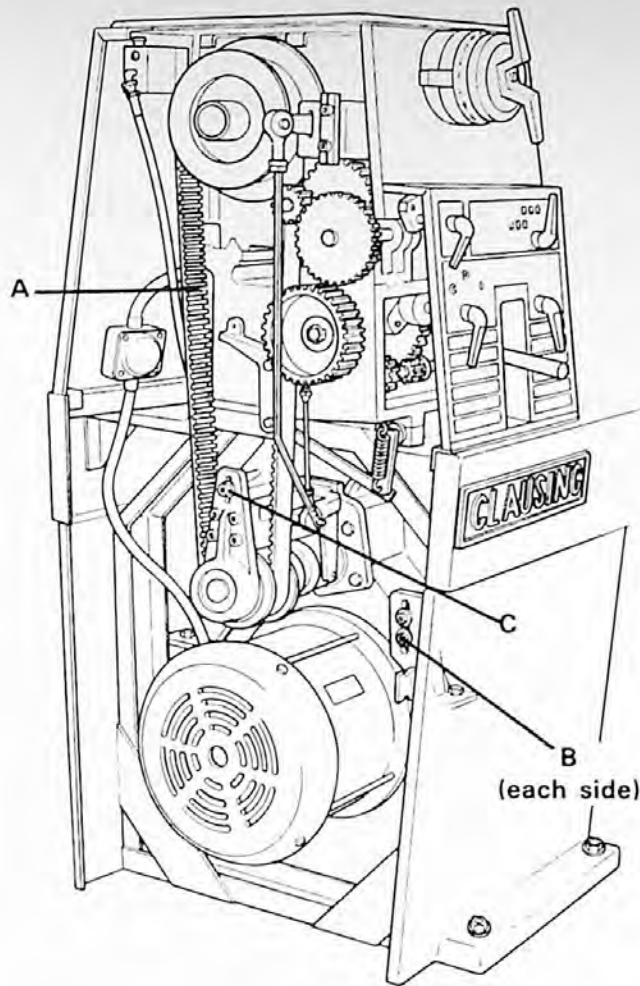


FIGURE 26

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

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.

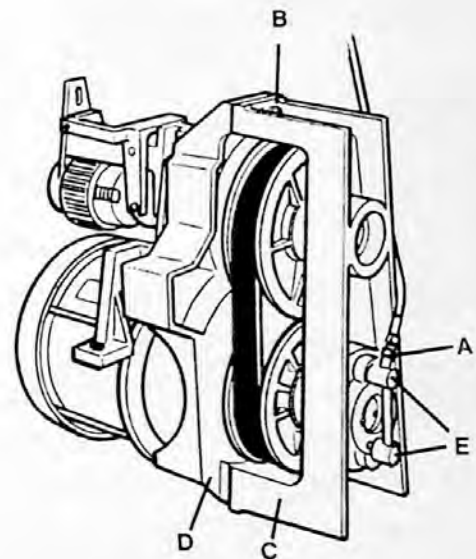


FIGURE 28

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.

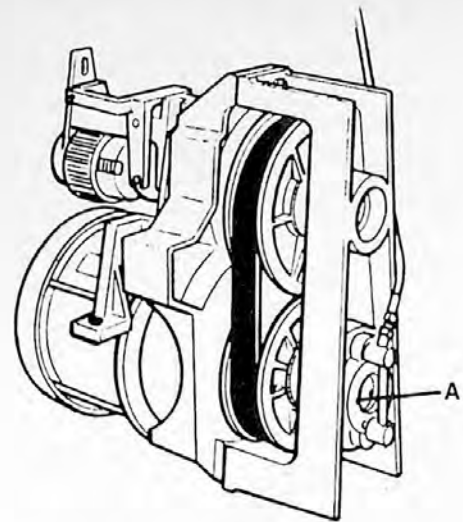


FIGURE 30

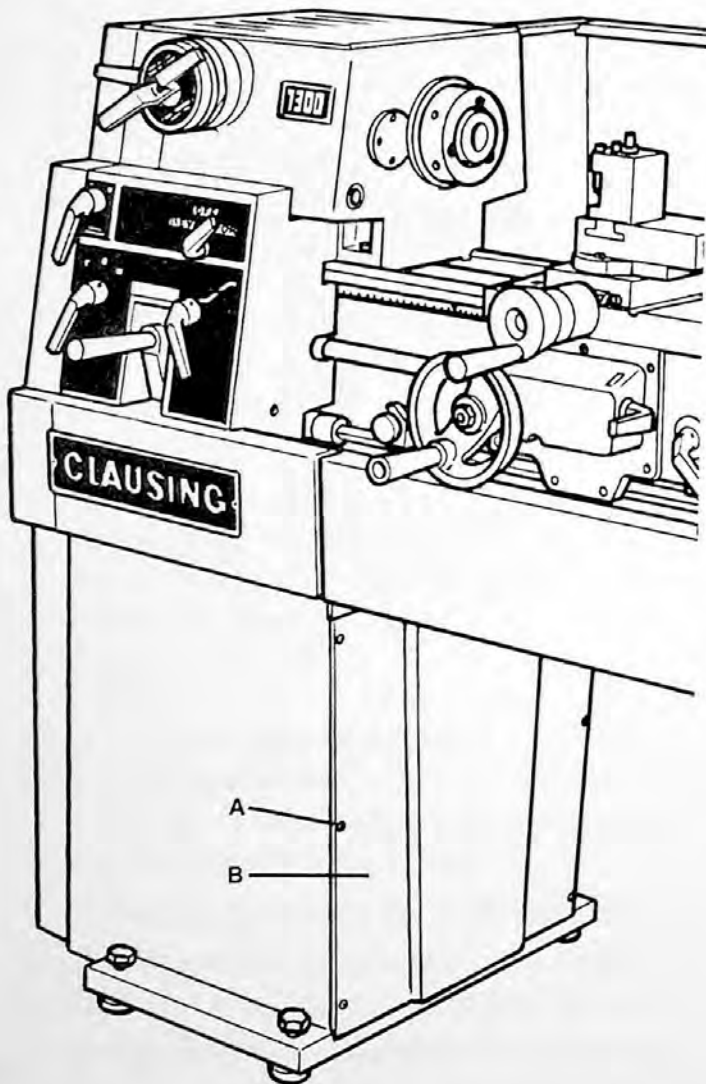


FIGURE 29

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

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 at-
tached to front of the bed at tailstock end of
lathe

PARTS SECTION TABLE OF CONTENTS

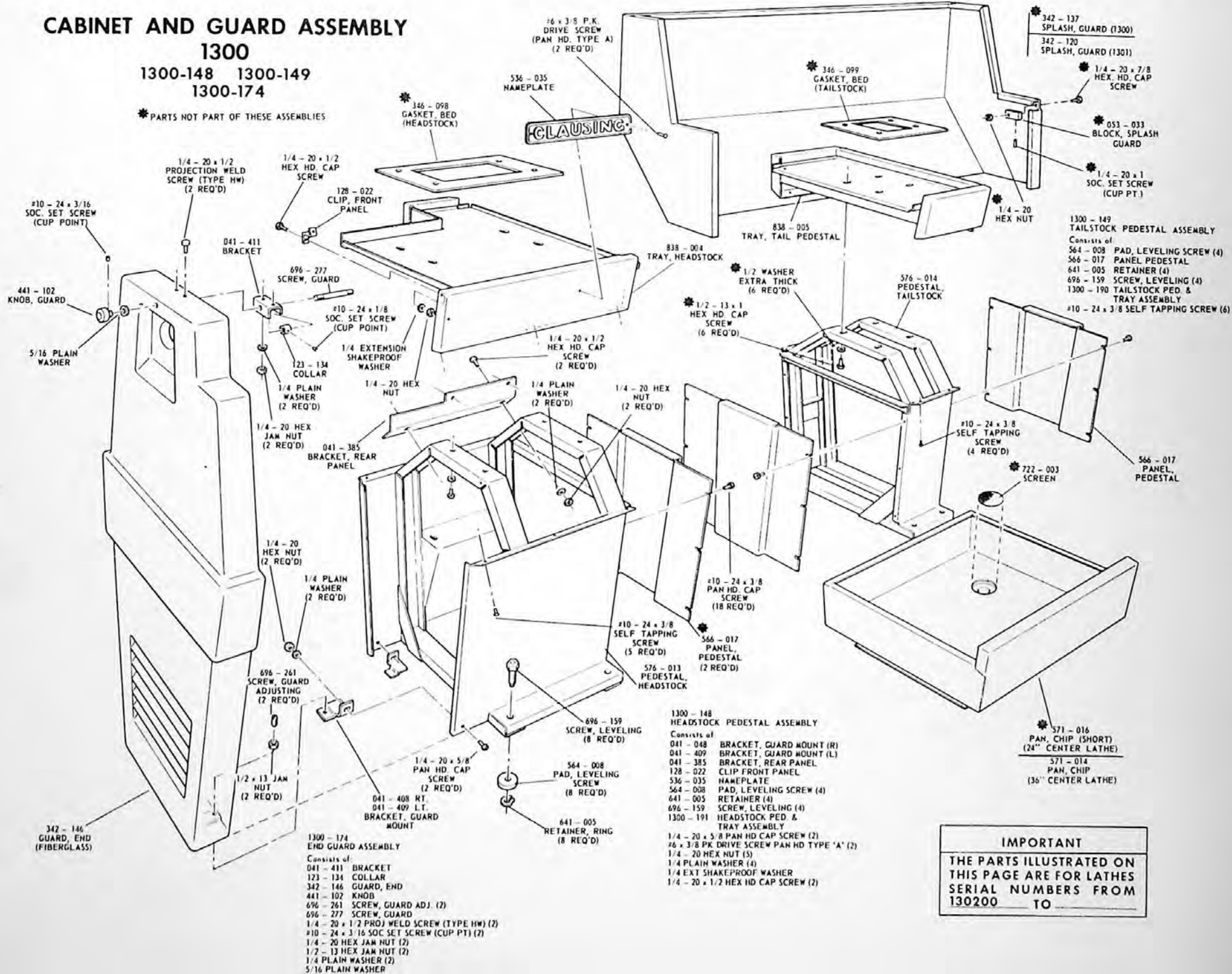
Cabinet and Guard Assembly	1
Bed – Lead Screw – Clutch Control	2
Front and Rear Panel Assemblies.	3
Gear Train Assembly	4
Disc. Brake Assembly	5.1
Headstock Assembly (Part I).	6
Headstock Assembly (Part II)	7.1
Drive Assembly	8.1
Quick Change Gear Box Assembly	9
Cross and Tool Slide Assemblies.	10.1
Carriage Saddle Assembly.	11
Apron Assembly	12
Tailstock Assembly	13
Double Tool Cross Slide	14

**ORDER REPAIR PARTS FROM
CLAUSING SERVICE CENTER
2306 Eisenhower Drive
Goshen, Indiana 46526**

CABINET AND GUARD ASSEMBLY 1300

1300-148 1300-149
1300-174

*PARTS NOT PART OF THESE ASSEMBLIES



342 - 137
SPLASH, GUARD (1300)
342 - 120
SPLASH, GUARD (1301)

1/4 - 20 x 7/8
HEX. HD. CAP
SCREW

053 - 033
BLOCK, SPLASH
GUARD

1/4 - 20 x 1
SOC. SET SCREW
(CUP PT.)

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)

#10 - 24 x 3/16
SOC. SET SCREW
(CUP POINT)

1/4 - 20 x 1/2
PROJECTION WELD
SCREW (TYPE HW)
(2 REQ'D)

1/4 - 20 x 1/2
HEX HD. CAP
SCREW

346 - 098
GASKET, BED
(HEADSTOCK)

536 - 035
NAMEPLATE

#6 x 3/8 P.K.
DRIVE SCREW
(PAN HD. TYPE A)
(2 REQ'D)

346 - 099
GASKET, BED
(TAILSTOCK)

838 - 005
TRAY, TAIL PEDESTAL

838 - 004
TRAY, HEADSTOCK

1/2 WASHER
EXTRA THICK
(6 REQ'D)

1/2 - 13 x 1
HEX HD. CAP
SCREW
(6 REQ'D)

576 - 014
PEDESTAL,
TAILSTOCK

441 - 102
KNOB, GUARD

5/16 PLAIN
WASHER

041 - 411
BRACKET

696 - 277
SCREW, GUARD

#10 - 24 x 1/8
SOC. SET SCREW
(CUP POINT)

1/4 EXTENSION
SHAKEPROOF
WASHER

123 - 134
COLLAR

1/4 PLAIN
WASHER
(2 REQ'D)

1/4 - 20 HEX
NUT

1/4 - 20 HEX
JAM NUT
(2 REQ'D)

1/4 PLAIN
WASHER
(2 REQ'D)

1/4 - 20 HEX
NUT
(2 REQ'D)

041 - 385
BRACKET, REAR
PANEL

1/4 - 20
HEX NUT
(2 REQ'D)

1/4 PLAIN
WASHER
(2 REQ'D)

696 - 261
SCREW, GUARD
ADJUSTING
(7 REQ'D)

1/2 x 13 JAM
NUT
(2 REQ'D)

1/4 - 20 x 5/8
PAN HD. CAP
SCREW
(2 REQ'D)

041 - 408 RT.
041 - 409 LT.
BRACKET, GUARD
MOUNT

564 - 008
PAD, LEVELING
SCREW
(8 REQ'D)

641 - 005
RETAINER, RING
(8 REQ'D)

1300 - 148
HEADSTOCK PEDESTAL ASSEMBLY
Consists of:

- 041 - 048 BRACKET, GUARD MOUNT (R)
- 041 - 409 BRACKET, GUARD MOUNT (L)
- 041 - 385 BRACKET, REAR PANEL
- 128 - 022 CLIP, FRONT PANEL
- 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 P.K. 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 (2)

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

342 - 146
GUARD, END
(FIBERGLASS)

1300 - 174
END GUARD ASSEMBLY
Consists of:

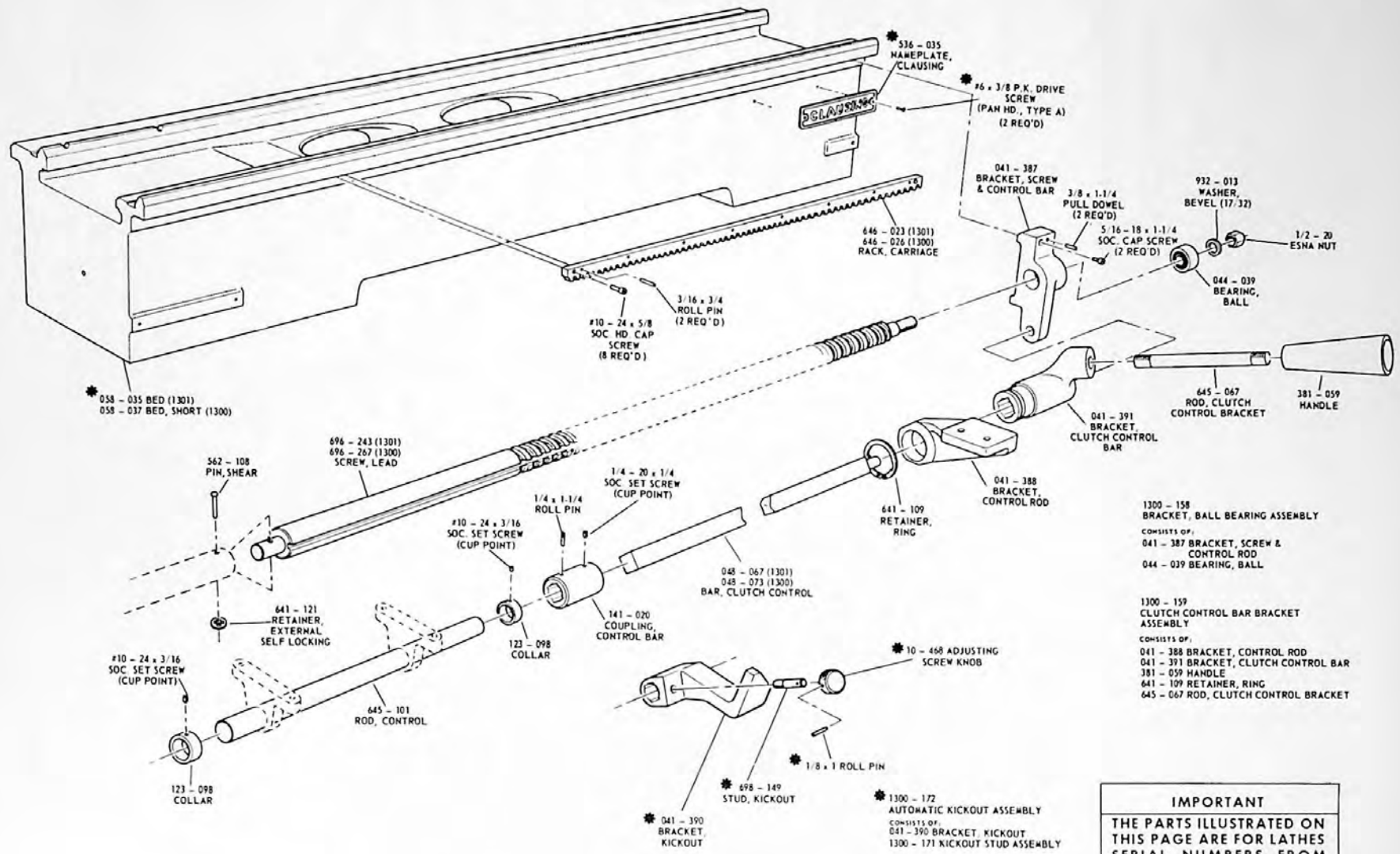
- 041 - 411 BRACKET
- 123 - 134 COLLAR
- 342 - 146 GUARD, END
- 441 - 102 KNOB
- 696 - 261 SCREW, GUARD ADJ. (2)
- 696 - 277 SCREW, GUARD
- 1/4 - 20 x 1/2 PROJ. WELD SCREW (TYPE HW) (2)
- #10 - 24 x 3/16 SOC SET SCREW (CUP PT.) (2)
- 1/4 - 20 HEX JAM NUT (2)
- 1/2 - 13 HEX JAM NUT (2)
- 1/4 PLAIN WASHER (2)
- 5/16 PLAIN WASHER

BED - LEAD SCREW - CLUTCH CONTROL

1300-161

(1300-160)

*PARTS NOT PART OF THIS ASSEMBLY

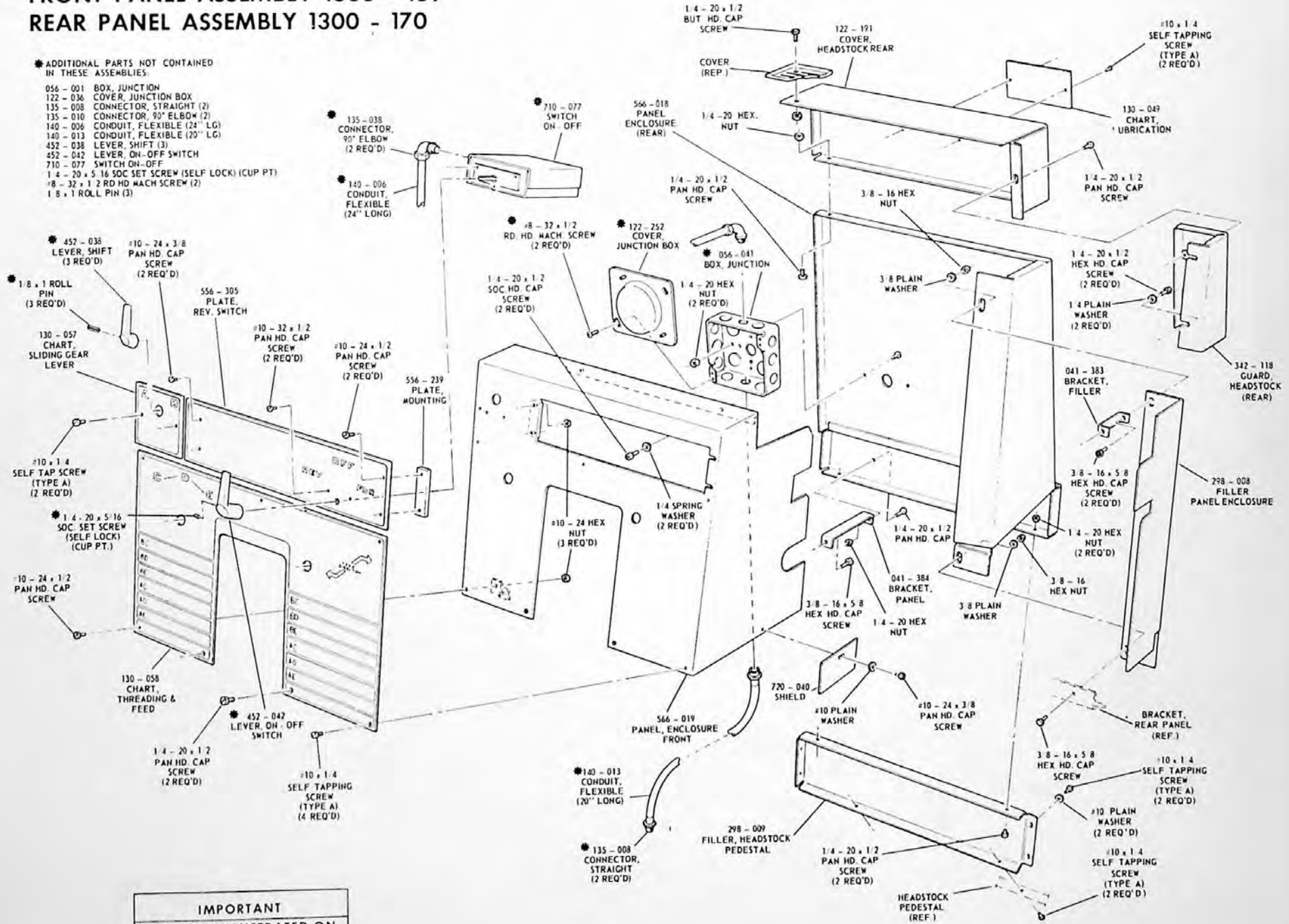


IMPORTANT

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

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

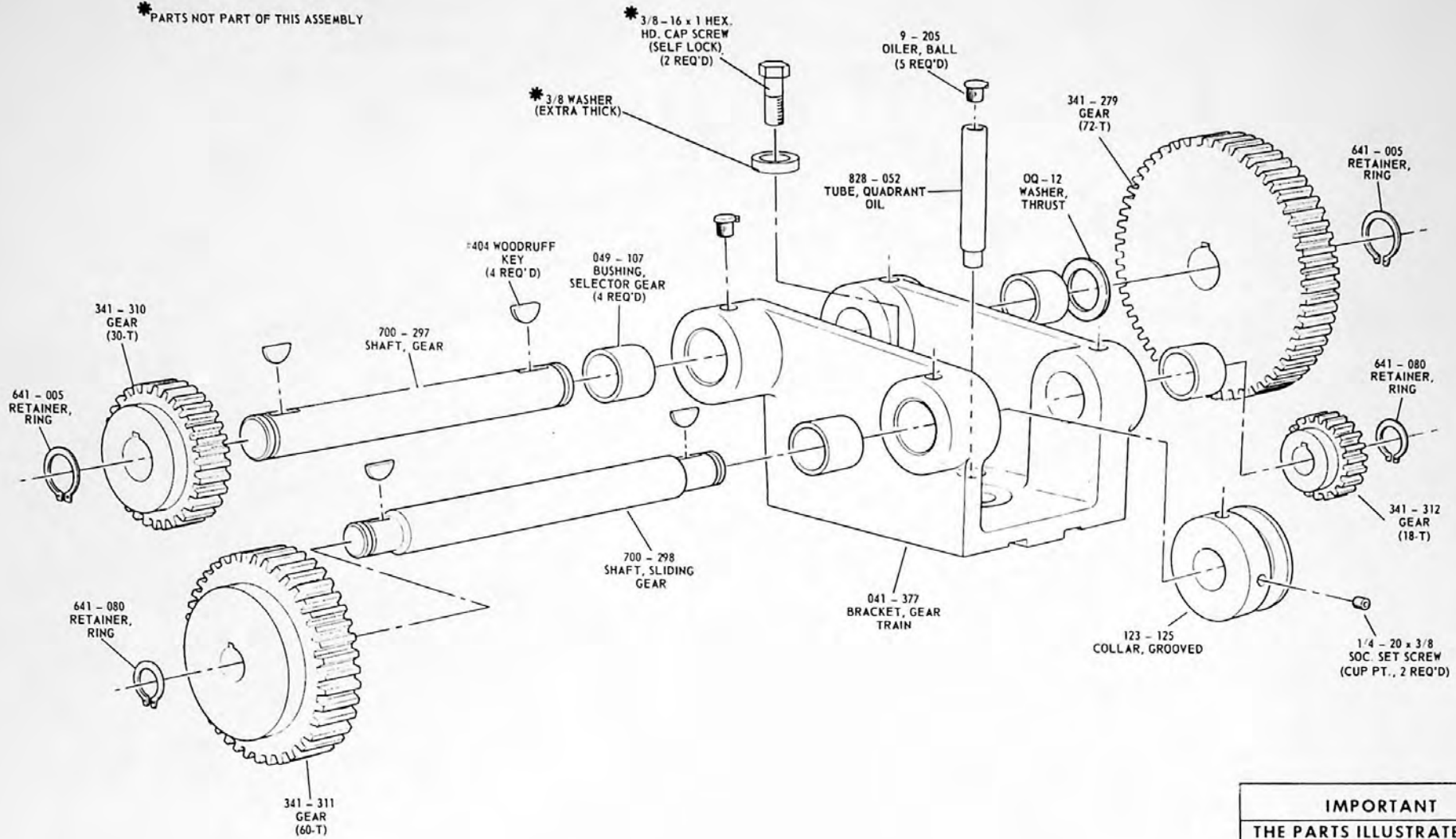
- *ADDITIONAL PARTS NOT CONTAINED IN THESE ASSEMBLIES:**
- 056 - 001 BOX, JUNCTION
 - 122 - 036 COVER, JUNCTION BOX
 - 135 - 008 CONNECTOR, STRAIGHT (2)
 - 135 - 010 CONNECTOR, 90° ELBOW (2)
 - 140 - 006 CONDUIT, FLEXIBLE (24" LG)
 - 140 - 013 CONDUIT, FLEXIBLE (20" LG)
 - 452 - 038 LEVER, SHIFT (3)
 - 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

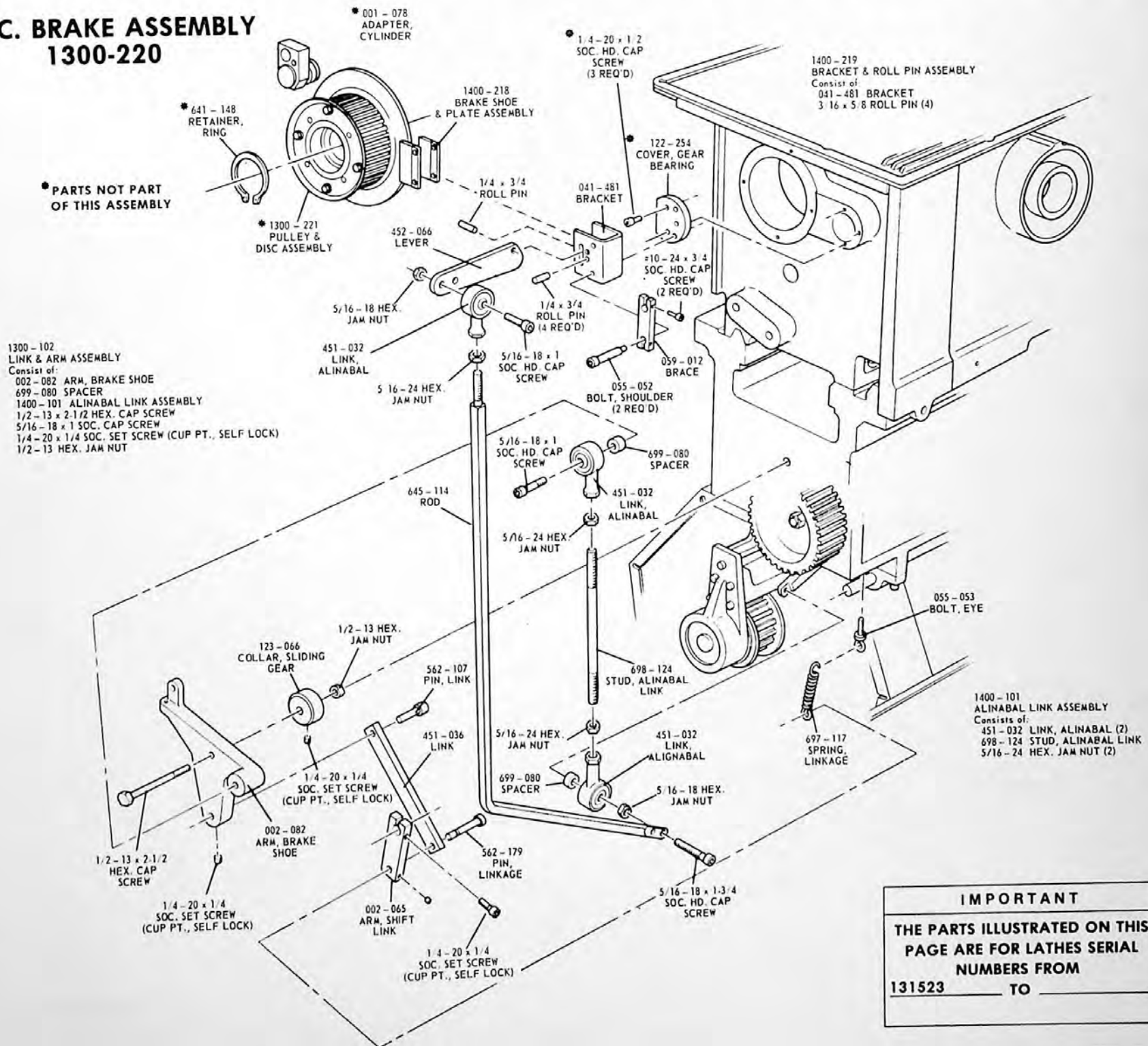
GEAR TRAIN ASSEMBLY 1300-50

*PARTS NOT PART OF THIS ASSEMBLY



<p>IMPORTANT</p> <p>THE PARTS ILLUSTRATED ON THIS PAGE ARE FOR LATHES SERIAL NUMBERS FROM 130200 TO _____</p>
--

DISC. BRAKE ASSEMBLY 1300-220



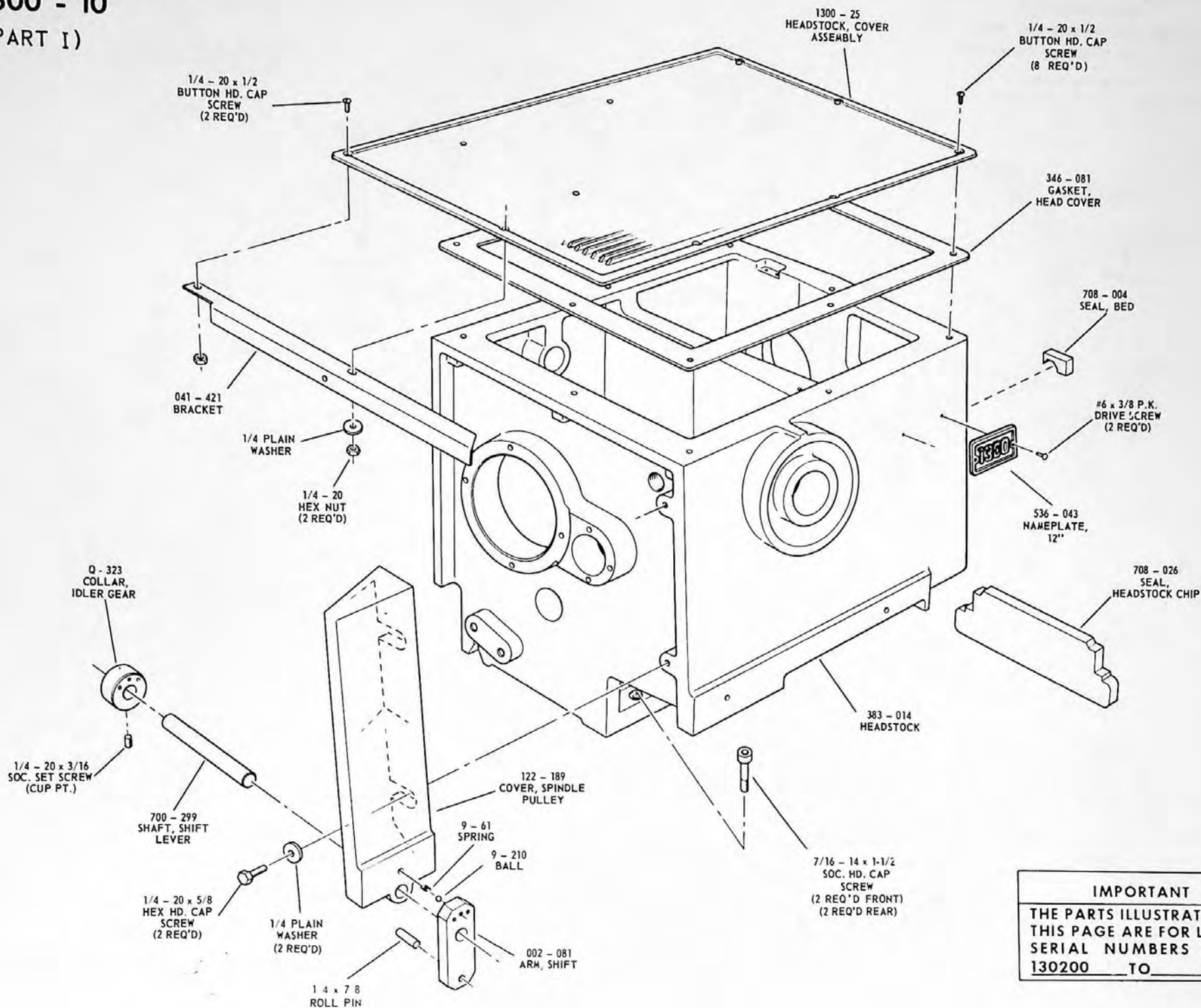
IMPORTANT

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

HEADSTOCK ASSEMBLY

1300 - 10

(PART I)

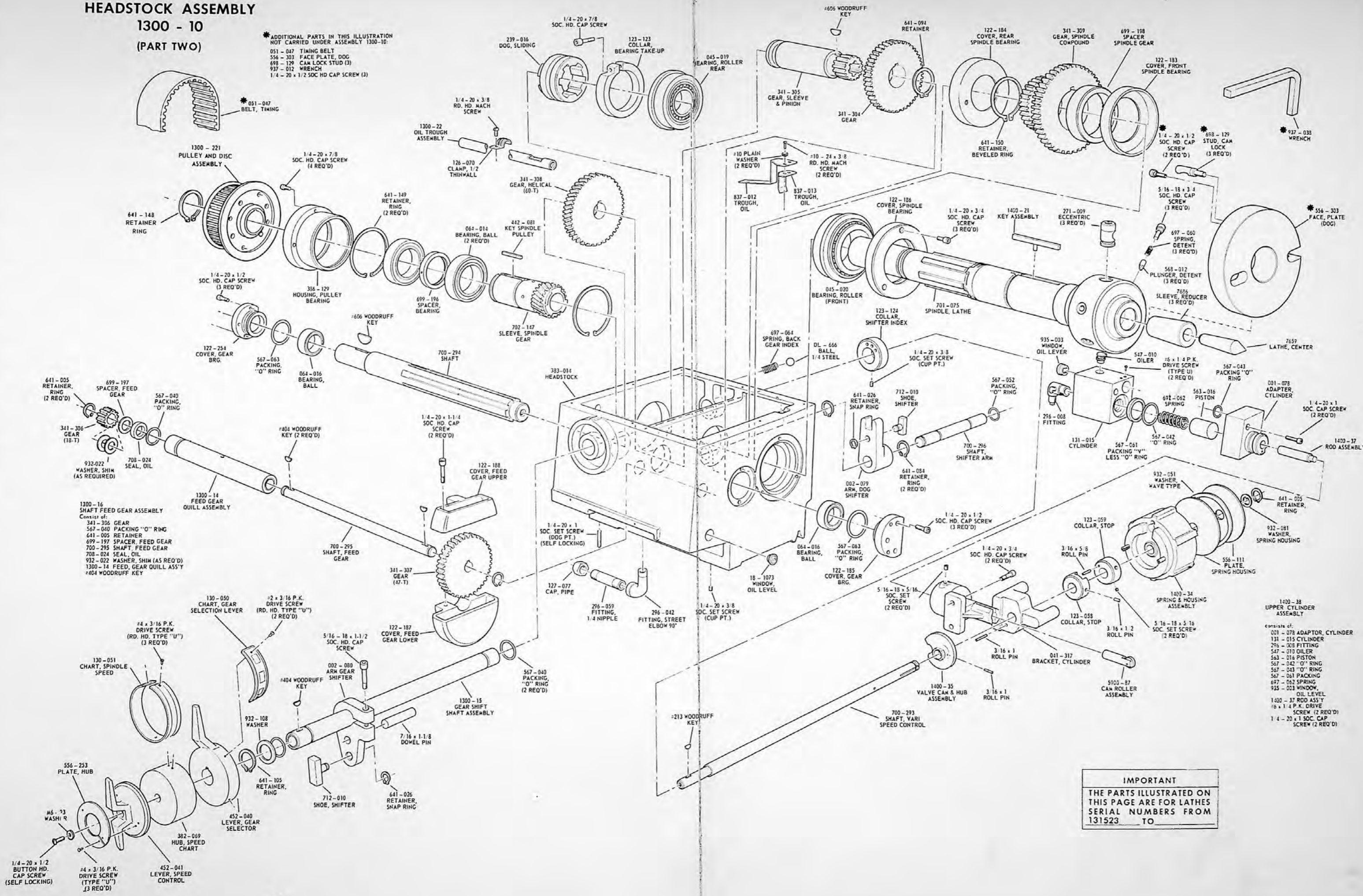


IMPORTANT

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

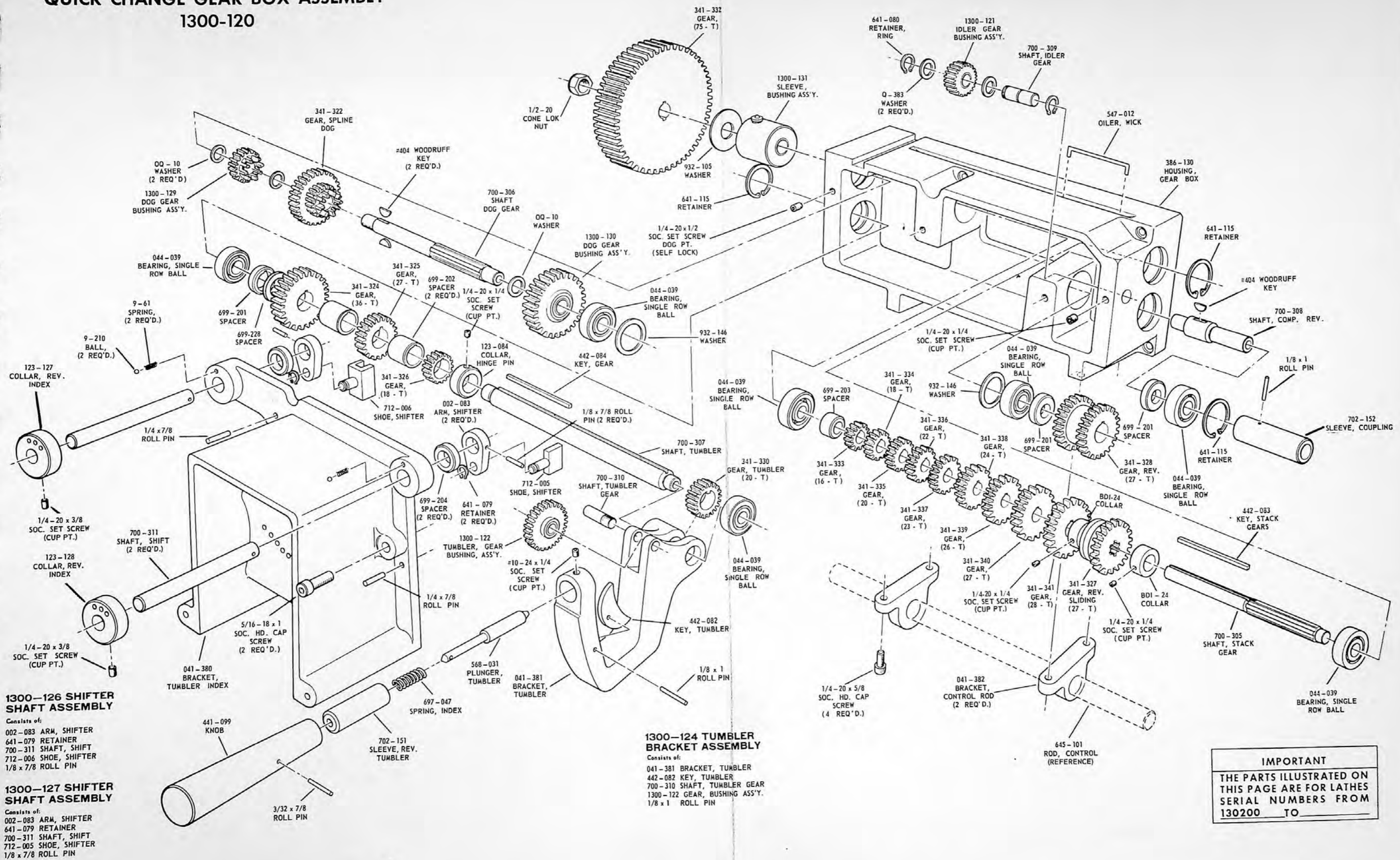
HEADSTOCK ASSEMBLY 1300 - 10 (PART TWO)

*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

QUICK CHANGE GEAR BOX ASSEMBLY 1300-120



1300-126 SHIFTER SHAFT ASSEMBLY
Consists of:
002-083 ARM, SHIFTER
641-079 RETAINER
700-311 SHAFT, SHIFTER
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, SHIFTER
712-005 SHOE, SHIFTER
1/8 x 7/8 ROLL PIN

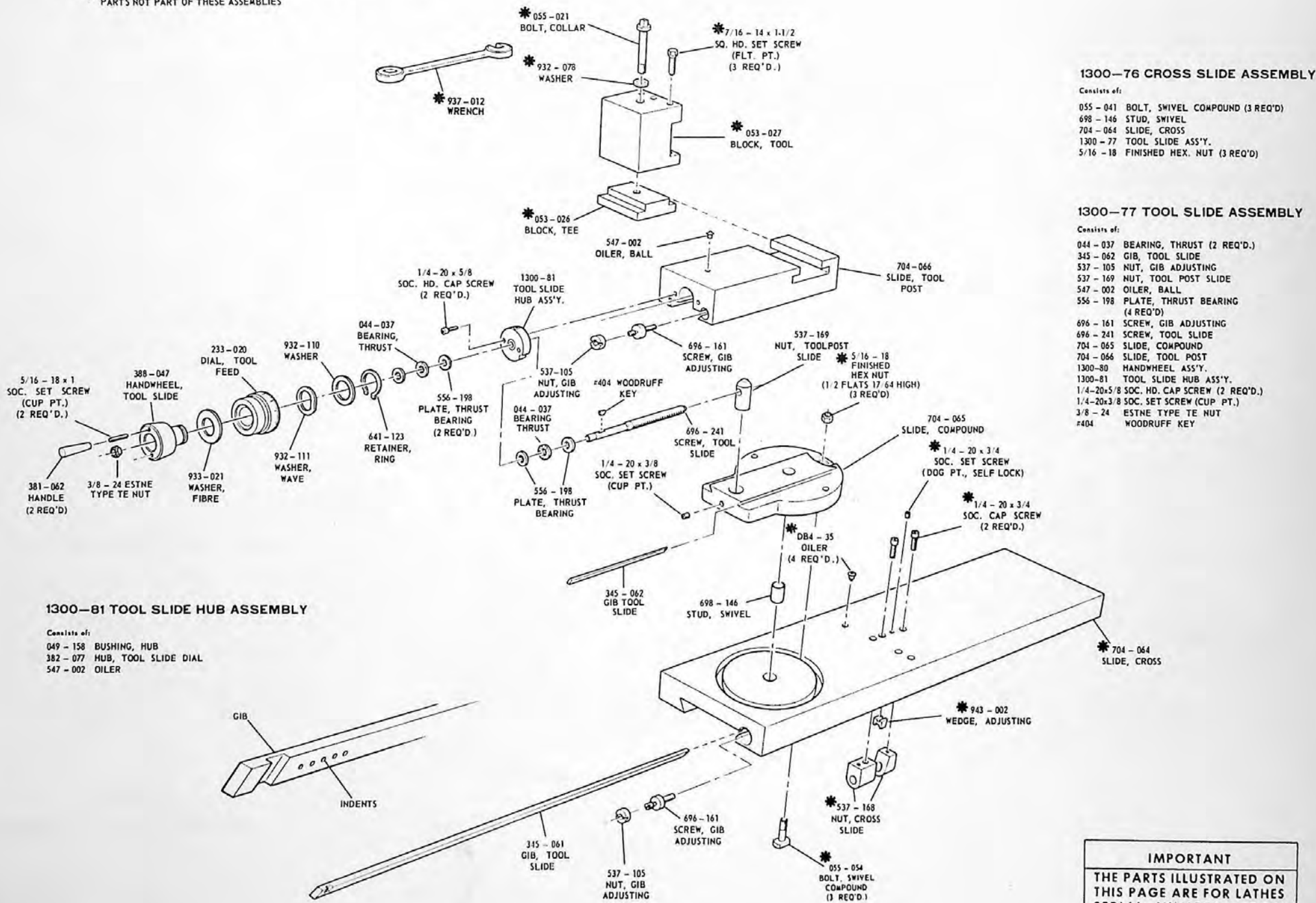
1300-124 TUMBLER BRACKET ASSEMBLY
Consists of:
041-381 BRACKET, TUMBLER
442-082 KEY, TUMBLER
700-310 SHAFT, TUMBLER GEAR
1300-122 GEAR, BUSHING ASS'Y.
1/8 x 1 ROLL PIN

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

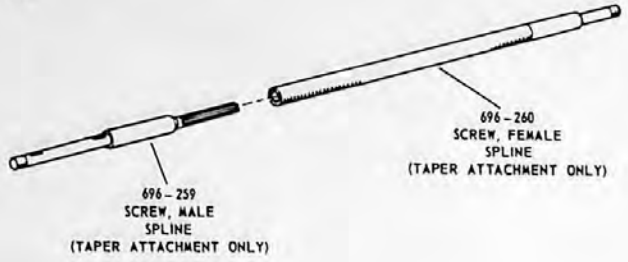
CROSS SLIDE ASSEMBLY 1300 - 76

TOOL SLIDE ASSEMBLY 1300 - 77

* PARTS NOT PART OF THESE ASSEMBLIES

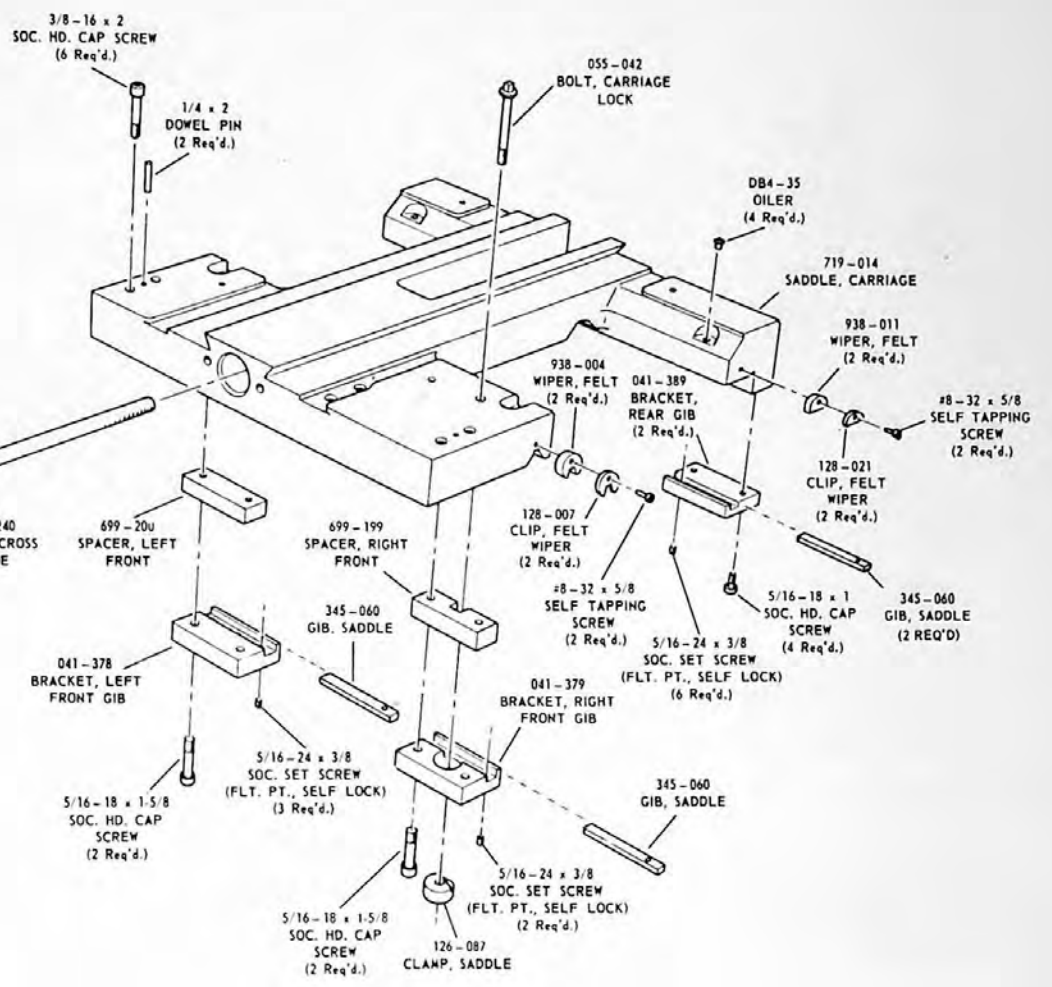
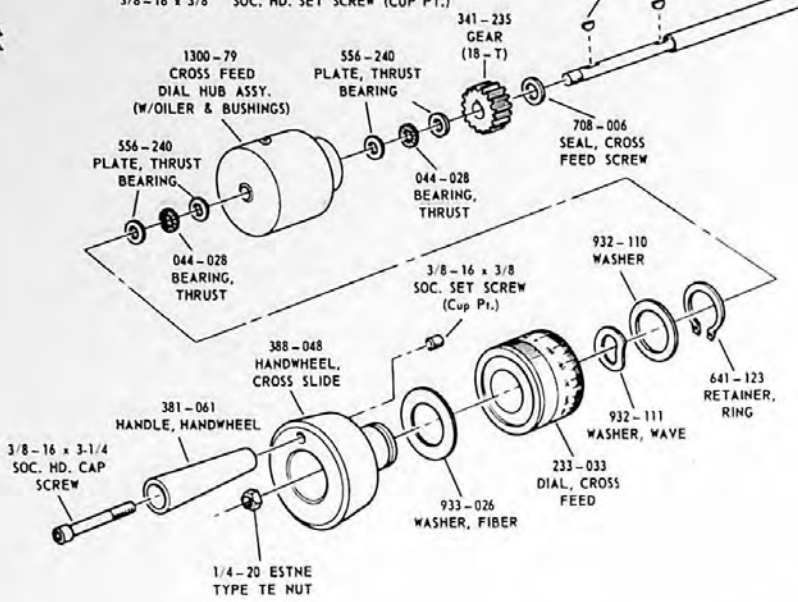


CARRIAGE SADDLE ASSEMBLY 1300-83



CROSS SLIDE HANDWHEEL ASSEMBLY 1300-78

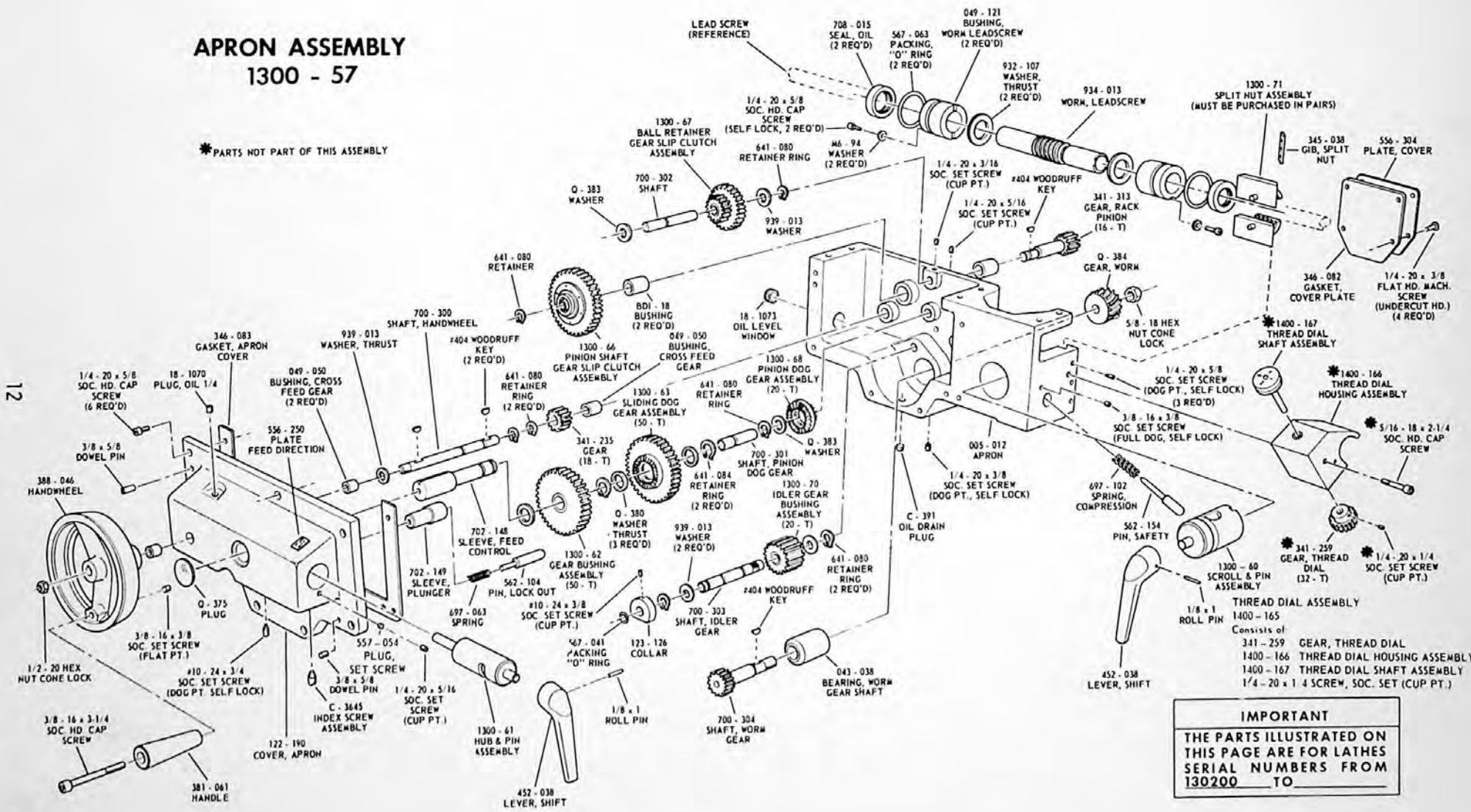
- Consists of:
- 233-033 DIAL CROSS FEED
 - 381-061 HANDLE, HANDWHEEL
 - 388-048 HANDWHEEL, CROSS SLIDE
 - 641-123 RETAINER, RING
 - 932-110 WASHER
 - 932-111 WASHER, WAVE
 - 933-026 WASHER, FIBER
 - 3/8-16 x 3-1/4 SOC. HD. CAP SCREW
 - 3/8-16 x 3/8 SOC. HD. SET SCREW (CUP PT.)



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



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

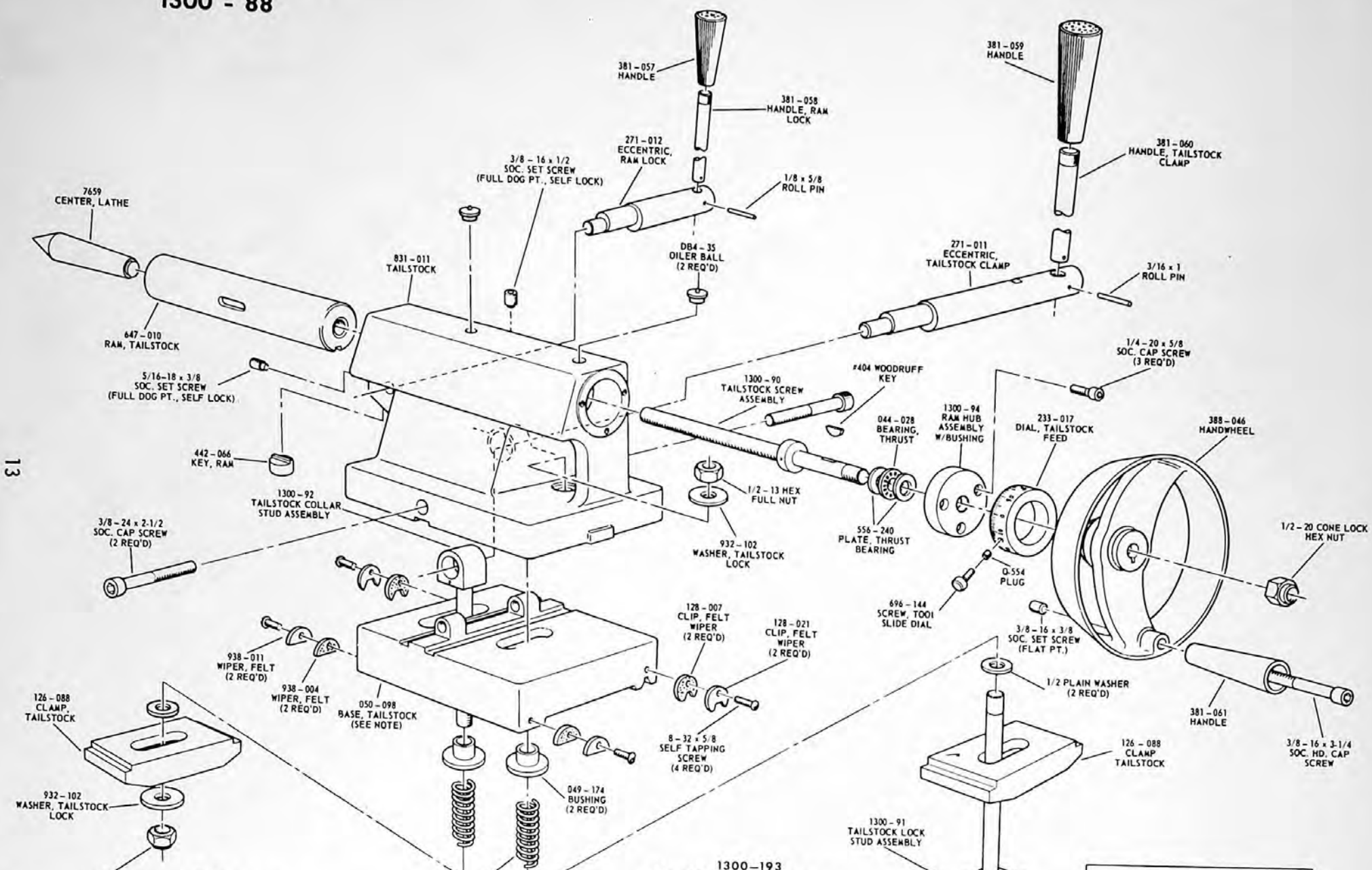
THREAD DIAL ASSEMBLY
1400-165
Consists of:
341-259 GEAR, THREAD DIAL
1400-166 THREAD DIAL HOUSING ASSEMBLY
1400-167 THREAD DIAL SHAFT ASSEMBLY
1/4-20 x 1/4 SCREW, SOC. SET (CUP PT.)

12

1300

TAILSTOCK ASSEMBLY

1300 - 88



NOTE:
ORDER 1300-93 TAILSTOCK
AND BASE FITTED

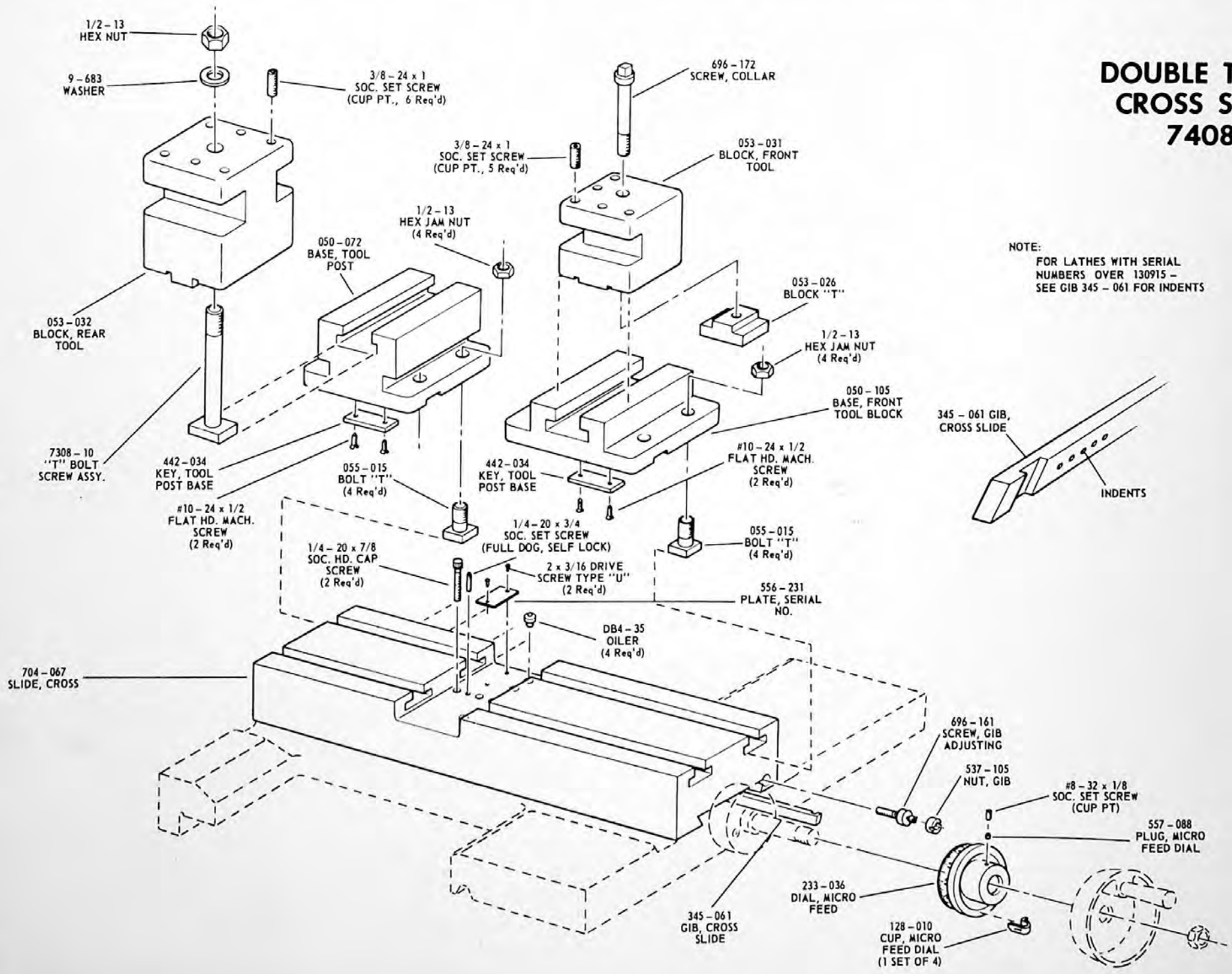
**1300-193
TAILSTOCK CLAMP ASSEMBLY**
CONSISTS OF
1400-91 TAILSTOCK LOCK STUD ASSEMBLY
938-006 WIPER, FELT
932-102 WASHER, TAILSTOCK LOCK
697-084 SPRING, TAILSTOCK
126-068 CLAMP, TAILSTOCK
1/2 PLAIN WASHER
1/2-13 HEX NUT

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

13

1300

DOUBLE TOOL CROSS SLIDE 7408



14

1300