

## OPERATORS HANDBOOK

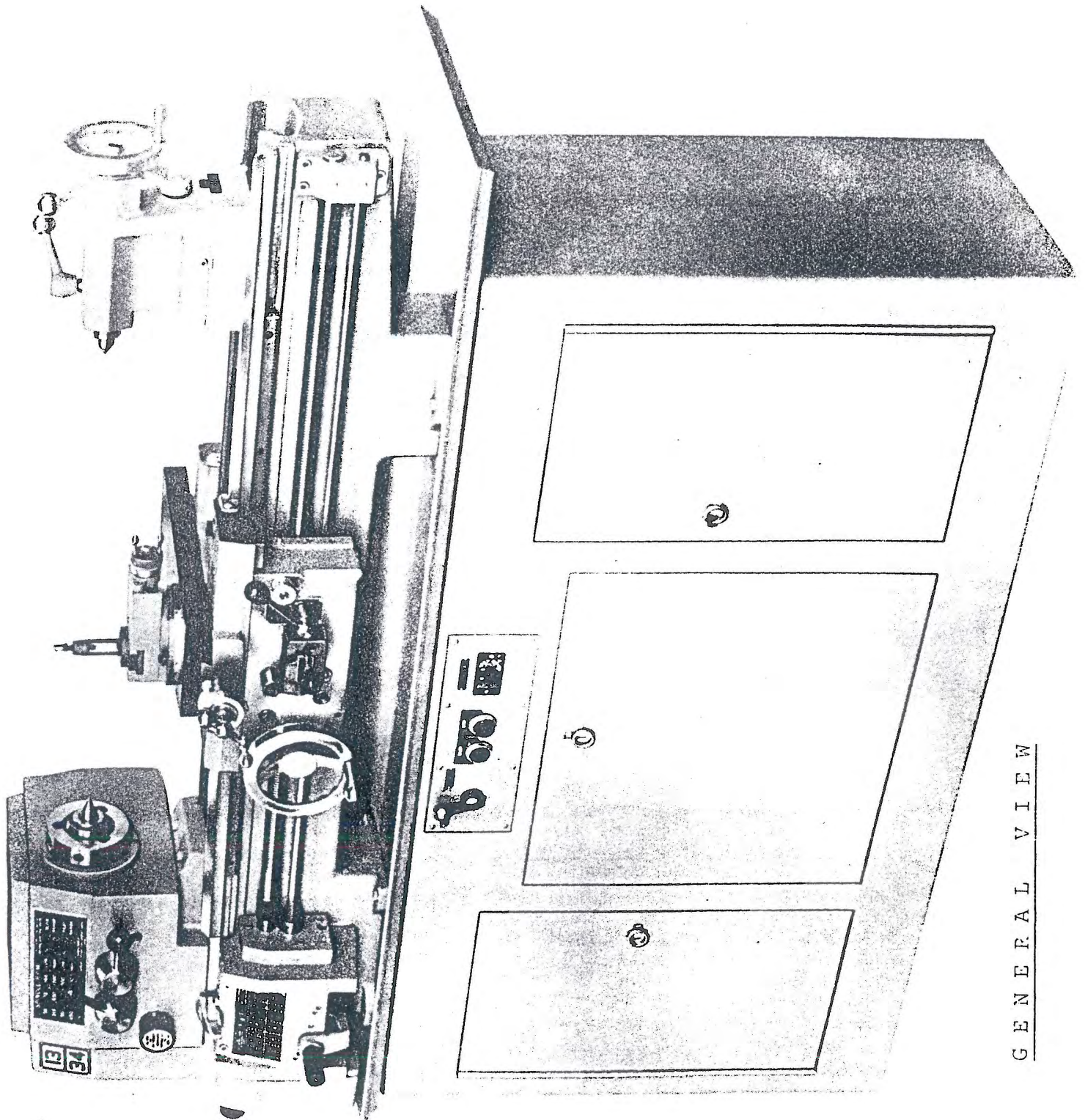
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MODELS 1120 & 1334  
INCH/METRIC LATHES  
  
D1-4" SPINDLE NOSE



GENERAL VIEW

## 1. LIFTING AND INSTALLATION INSTRUCTIONS.

### 1.1 Lifting the machine.

To lift the machine by the use of chain slings, run the carriage down to the tailstock and place the slings around the centre bed cross rib. (See Fig. 1.) Protect painted surfaces with thick pads.

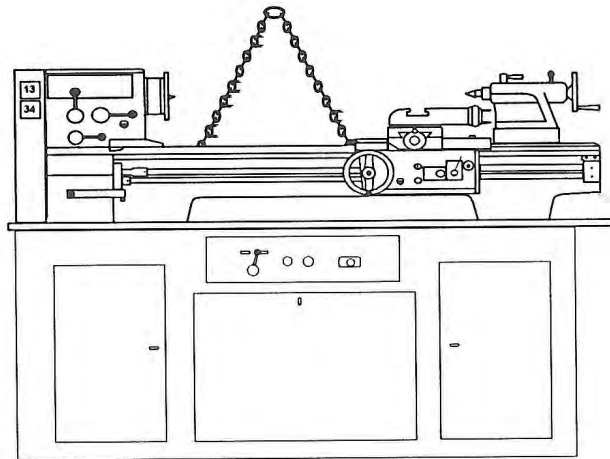


Figure 1.

Do not attempt to lift this machine with a hoist having less than one ton capacity. The shipping weight of the machine including electrics is 1450 lbs.

Do not remove skids from the machine until it is brought to its final position especially if the machine is to be moved on rollers.

### 1.2 Cleaning

All unpainted parts of the machine have been coated with an anti-rust compound. This should be thoroughly removed after the machine is installed and before moving the carriage, compound rest or tailstock on their respective slides.

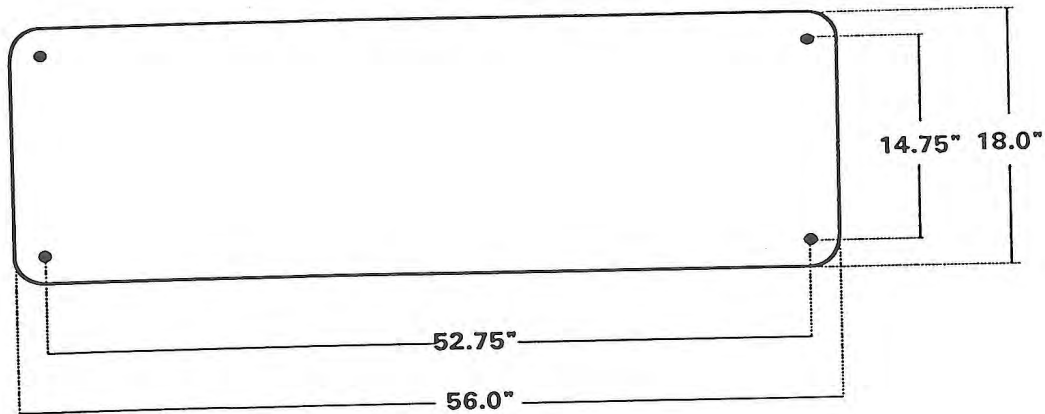
To remove the anti-rust compound, use a wiper dipped in Varsol or kerosene.

All unpainted surfaces should immediately be coated with a film of light machine oil to prevent rust. If the finished surfaces are kept clean and well coated with oil, the lathe will retain its new appearance indefinitely.

### 1.3 Inspection

Check your delivery slip against the accessories that were ordered with the machine. If there is a shortage or error, report it to **STANDARD-MODERN LATHES INC.** immediately, giving the Serial number of the machine which is stamped into the recessed face on top of the bed at the tailstock end.

1. LIFTING AND INSTALLATION INSTRUCTIONS cont'd



**FLOOR PLAN**

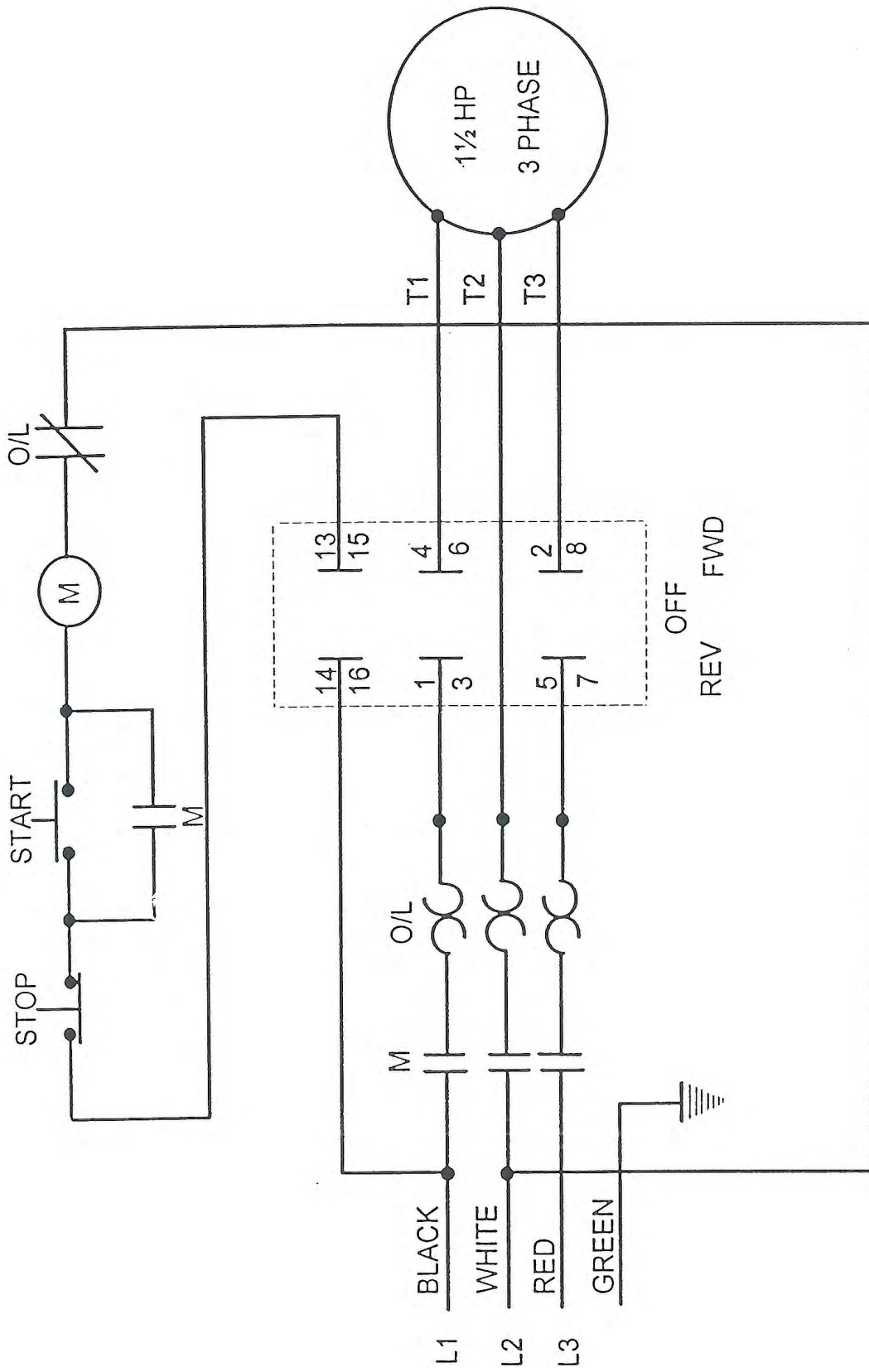
**1.4 Installation**

For proper operation, the machine should be set on a substantial floor capable of supporting a uniform pressure of 30 P.S.I. To secure the machine on its foundation use anchor bolts or lag screws as shown on Floor Plan.

After the machine is in position, it must be leveled by use of the four leveling bushings provided, before tightening the lag screws. It will be necessary to use 4-inch square steel plates, about 3/4" thick, under the leveling bushings to prevent the ends of the bushings from sinking into the floor.

Use a precision level placed lengthwise and crosswise on the bed. To take a reading of the level for the crosswise leveling of the bed, use parallel bars placed on the flats of the bed.

After leveling within 0.0005 in/ft, the cabinet should be lagged to the floor and the leveling rechecked. Re-check the level of the machine at regular intervals.



DWG. A-116307  
1120 AND 1334 WITHOUT COOLANT

## 2. LUBRICATION

All machines are shipped with the lubricating oil drained from the oil sumps in the headstock, feedbox and apron and must be serviced before being put into use.  
For proper lubrication, follow the instructions listed in this manual.

### 2.1 Headstock

An automatic splash type of lubrication provides an even distribution of oil to all gears and bearings in the headstock.

To service the headstock, fill the reservoir to the centre of the oil sight gauge through the oil filler accessed by opening the belt guard.

A high grade S.A.E. No 30 oil should be used.

The reservoir capacity of the headstock is 1 Imperial or 1.2 U.S. gallons.

Depending on operating conditions, usually about every six months, the headstock should be drained and thoroughly flushed out, before adding new oil.

A light blending oil to which a small percentage of kerosene has been added may be used to flush out any dirt or sediment.

Run the machine for several minutes without load so that the flushing oil can circulate through the reservoir and remove the dirt. The flushing oil must then be drained and new oil added.

**DO NOT FLUSH WITH SOLVENTS** which will soften and remove the paint.

### 2.2 Totally Enclosed Quick-change Feedbox

An automatic splash type of lubrication provides an even distribution of oil to all gears and bearings in the Quick-change Gear Box. The reservoir capacity is 1 ½ quarts. Use an S.A.E. No 30 oil. The oil filler is accessed by opening the belt guard and is located below the headstock filler.

### 2.3 Carriage

Two oilers located on the right hand side of the carriage lubricate the bearing surfaces of the carriage on the bed ways.

The oil flows down through the oilers to the ways, then along the length of the carriage through oil grooves. The oil is retained at the bearing surfaces by felt seals located at either end of the carriage, which also provide even distribution of the lubricant over the ways.

### 2.4 Apron

The box construction of the apron completely encloses all moving parts and prevents the entry of dust or dirt.

The lower half of the apron forms a large oil reservoir in which all the gears run to provide an even distribution of lubricant.

Service the apron reservoir through the ¼" pipe plug in the saddle casting.

Fill with oil to the centre of the oil sight gauge using a S.A.E. No. 30 oil. The reservoir capacity of the apron is ½ pint Imperial or U.S. measure.

The apron oil reservoir should be drained, flushed with kerosene and refilled with fresh clean oil at least once every 6 months.

Two grease points service the half nut and the feed dial.

## LUBRICATION (CONTINUED)

### 2.5 Tailstock

The spindle and screw are lubricated by an oiler located on top of the spindle housing.

The bed ways on which the tailstock slides should be cleaned and oiled frequently.

Dry red lead mixed with machine oil to a creamy consistency is an excellent lubricant for the tailstock centre when machining work between centres.

### 2.6 Compound Slide and Cross Slide.

On the compound slide, one flush-type oiler lubricates both ways and screw, while another lubricates the screw bearing.

On the cross feed, the screw bearing is lubricated by an oiler behind the cross-feed dial. An oiler behind the compound swivel base lubricates the cross-feed nut.

Two oilers on the cross slide lubricate the saddle ways individually.

### 2.7 Bed End Bracket

Two grease points located on the front face of the bed end bracket, lubricate the ends of the leadscrew and feed shaft.

### 2.8 Taper Attachment

One oiler on the cross guide bar lubricates the cross feed screw thrust bearing and should be filled with oil at least once each week. Before using the taper attachment, apply a few drops of oil to the two oilers on the slide casting and all moving parts.

### 2.9 Miscellaneous Lubrication

For all oilers on the machine, use a medium S.A.E. No. 30 machine oil. Before filling reservoirs or oil cups, always wipe off with a clean rag, any accumulation of old oil, grease or dirt that might get into a part being lubricated.

### 2.10 Caution.

Do not mix detergent type automotive oil or multi-purpose oils with the regular grade of S.A.E. No. 30 lubricating oil.

## 2. LUBRICATION

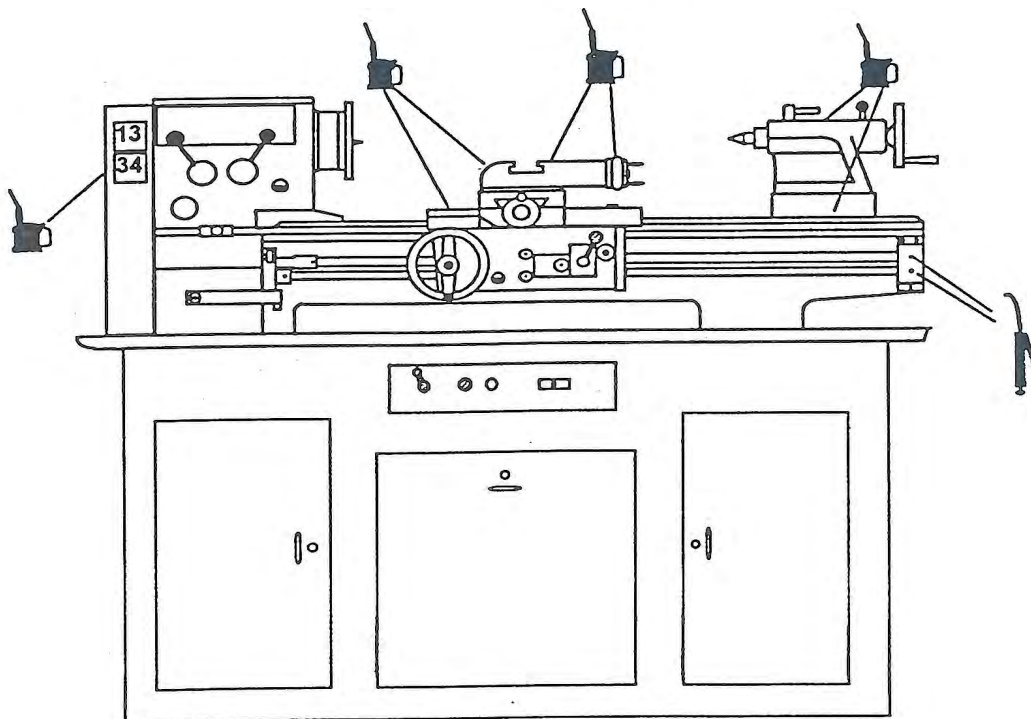


**OIL:** SAE 30 Non-detergent mineral oil.  
Viscosity 500-550 SUS at 100° F.  
MIL-L-6082D GRADE 1100.  
NSN: 9150-21-888-7172



**GREASE:** Lithium base with or without E.P. additives.  
MIL-G-1092C MIL-G-46006

THE FOLLOWING POINTS SHOULD BE LUBRICATED EVERY 8 WORKING HOURS



NOTE: Telescopic taper attachment not shown.

### EVERY SIX MONTHS CHANGE OIL

|           |              |
|-----------|--------------|
| Headstock | 5 quarts     |
| Feedbox   | 1-1/2 quarts |
| Apron     | 1/4 quart    |

### EVERY 2 TO 6 WORKING DAYS

Carriage ways

### 3. OPERATING INSTRUCTIONS

#### 3.1 Motor Drive

The electric motor is located on the back face of the Bed Casting and immediately below the headstock. Power drive to the headstock input shaft is by means of a single V-belt running over double vee groove pulleys.

When changing V-belt position from "slow" range to "fast" range or vice-versa, always run the belt off the headstock pulley first as it is made with shallow grooves for this purpose. The same principle should be used when replacing the belt. Some adjustment may be required to the motor position in order to achieve correct belt tension. If the belt slips in use TIGHTEN it but bear in mind that excessive tightness shortens belt life. Keep the pulleys and belt clean and free of any foreign material to ensure long life and better traction. The belt drive is accessible from the hinged belt guard at the left hand end of the headstock.

#### 3.2 Motor and Spindle Rotation Control

The control station located just below chip tray at center of cabinet base governs the operation of the motor. Both single and three phase motors are available, the operating procedure to start both types of motor is the same:-

Move control lever to "Forward" or "Reverse" position and press "Start" button, energizing starter, to turn motor and spindle. The spindle may be stopped by pressing "Stop" button or by moving control lever to the vertical position. After either of these methods, the spindle can only be restarted by selecting "Forward" or "Reverse" positions and re-pressing "Start" button.

#### 3.3 Spindle Speed Selection

The direct reading Spindle Speed Chart is located on the upper front face of the headstock.

Immediately below are two Speed Selectors - The three position shifter and the high-low shifter. The desired spindle speed is obtained by placing the two speed selectors in positions corresponding to the selected spindle RPM number noted directly on the spindle speed chart and by running the vee belt on the corresponding "Slow" speed or "Fast" speed pulley. For freehand rotation of the spindle, move the High-Low Shifter to its neutral position.

**DO NOT OPERATE THE SPEED SELECTORS  
WHILE THE SPINDLE IS RUNNING.**

OPERATING INSTRUCTIONS (Continued)

3.4 Power Feeds

To select the power longitudinal feed or the power cross feed, arrange the shift handles on the headstock and feed box to correspond to the desired feed rate indicated on the T.P.I. and Feed Chart located on the front face of the feed box. Set R.H. - L.H. knob to give feed direction required. For coarse feed range, pull out plunger protruding through belt guard; for fine feeds, push plunger in, as indicated on T.P.I. and Feed Chart. The "A-B-C" Shifter, located on top of the feed box and the Tumbler Handle at bottom of feed box, are used to obtain the required thread or feed rate. The push-pull knob located to the right of the feed box selects either inch or metric pitches.

**AVOID THE COARSE RANGE OF FEEDS WHEN  
SPINDLE SPEEDS ARE ABOVE 100 R.P.M.**

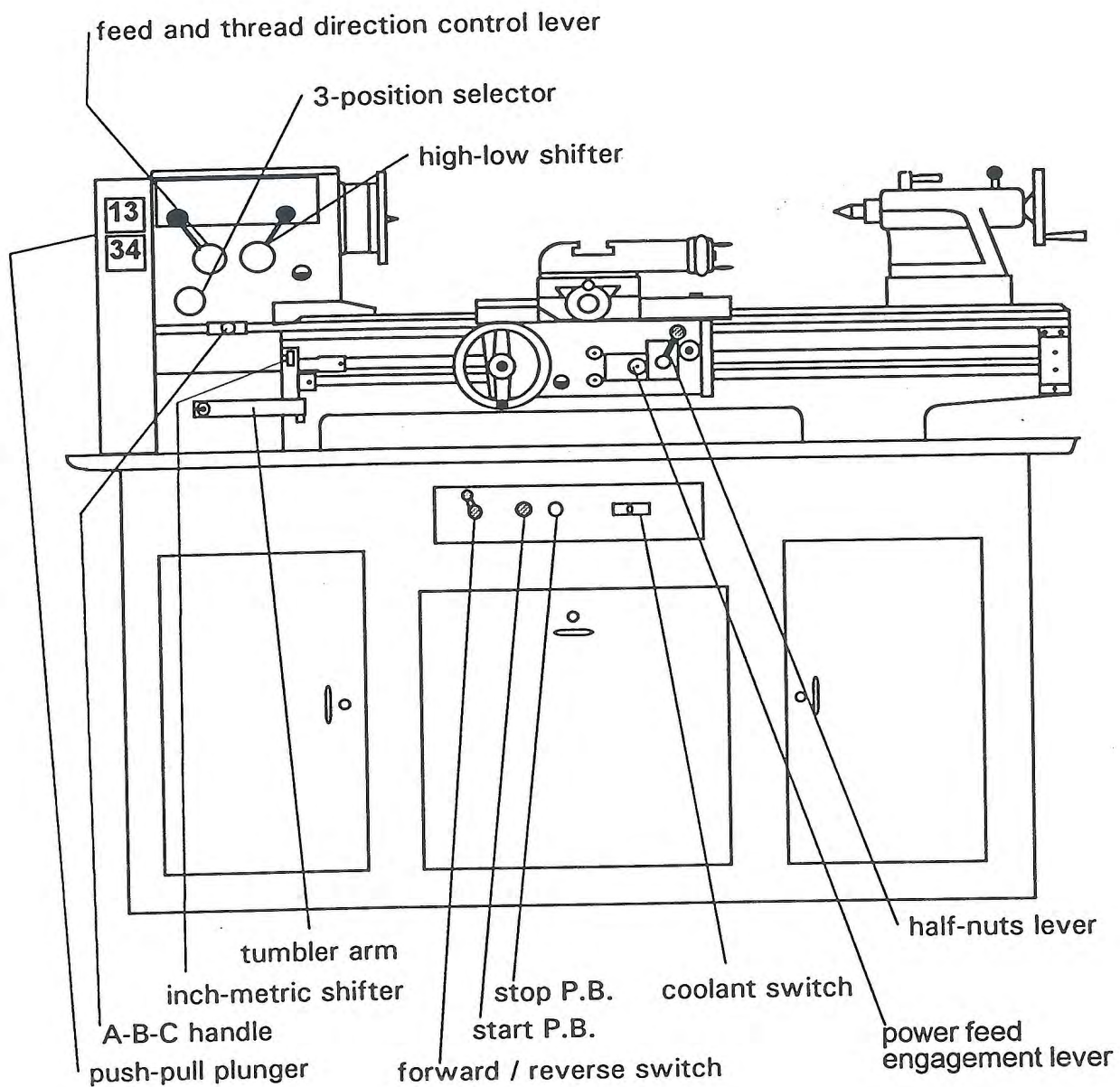
The feed control lever is located centrally on the Apron controls. For longitudinal power feed, move the feed control lever up to the "Long Feed" position and the tool will move along the bed parallel to the spindle. For cross power feed, move the control lever down to the "Cross Feed" position and the tool will move across the bed at right angles to the spindle.

NOTE: A short side shift is required before shifting from long feed to cross feed or vice versa. This prevents accidental through shifting.

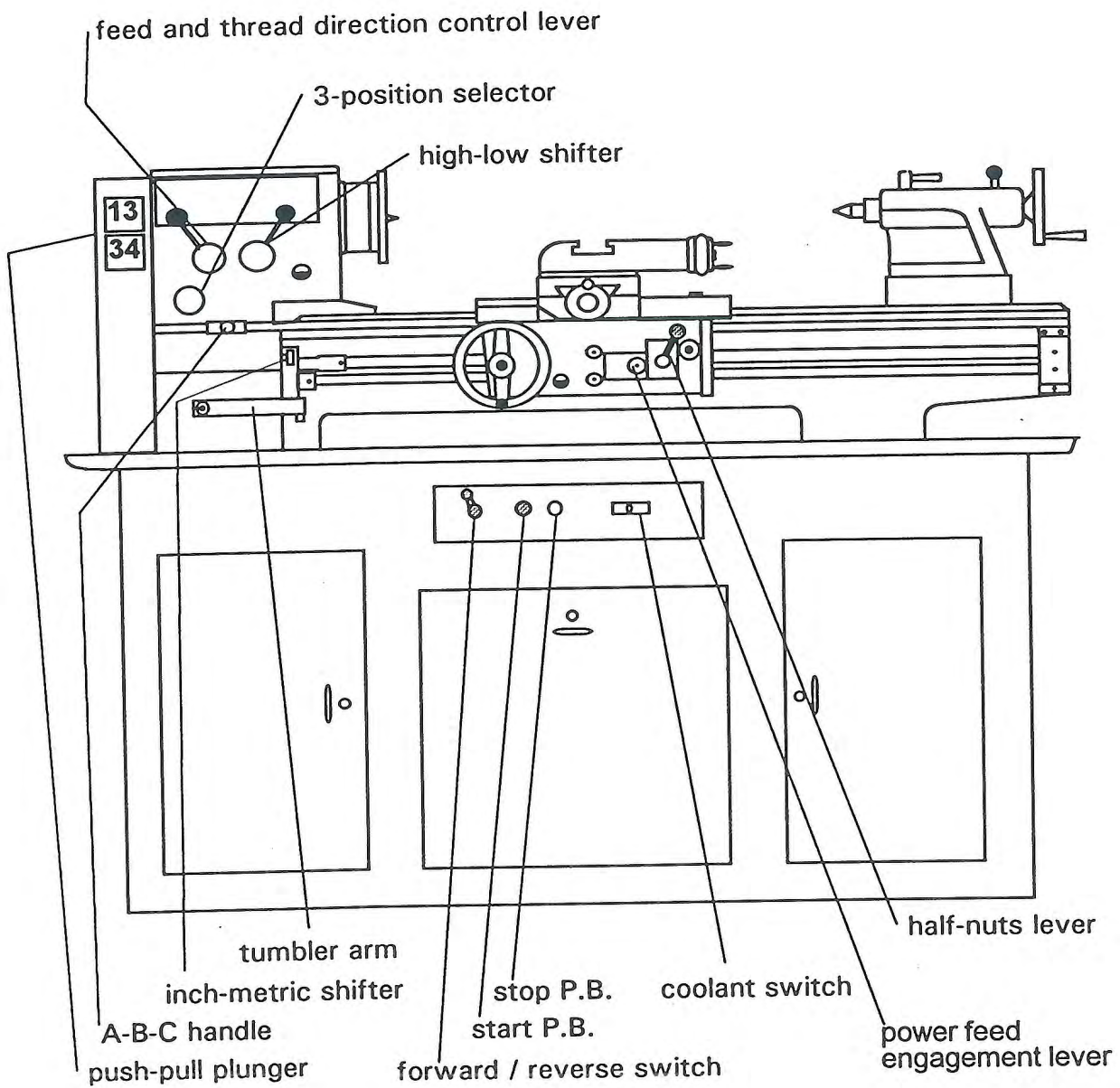
A safety interlock is also fitted so that it is impossible to engage the feed control lever and the half-nuts at the same time.

3.5 Thread Cutting

When cutting screw threads, set shifters as described in paragraph 3.4 to correspond with required T.P.I. as indicated on T.P.I. and Feed Chart. To engage apron for threading, the half nuts are brought into mesh with the leadscrew by pushing down the half-nut lever, located at the right hand end of the apron. To disengage, lift up half-nut lever.



## **BASIC OPERATING CONTROLS**



## BASIC OPERATING CONTROLS

**FEED RATES****INCH**

(Inches per revolution)

**METRIC**

(Millimeters per revolution)

**FINE****COARSE****FINE****COARSE**

|          |          |         |         |
|----------|----------|---------|---------|
| .001 C9  | .009 C9  | .031 A1 | .249 A1 |
| .0011 C8 | .0092 C8 | .035 A2 | .28 A2  |
| .0012 C7 | .0096 C7 | .039 A3 | .312 A3 |
| .0013 C4 | .0104 C4 | .042 A5 | .344 A5 |
| .0013 C6 | .0108 C6 | .044 A6 | .358 A6 |
| .0014 C5 | .011 C5  | .046 A4 | .374 A4 |
| .0016 C3 | .0124 C3 | .05 A7  | .405 A7 |
| .0017 C2 | .0138 C2 | .052 A8 | .42 A8  |
| .0019 C1 | .0156 C1 | .054 A9 | .44 A9  |
| .0021 B9 | .0178 B9 | .062 B1 | .5 B1   |
| .0023 B8 | .018 B8  | .07 B2  | .56 B2  |
| .0024 B7 | .019 B7  | .078 B3 | .62 B3  |
| .0026 B4 | .021 B4  | .085 B5 | .69 B5  |
| .0027 B6 | .022 B6  | .089 B6 | .72 B6  |
| .0028 B5 | .023 B5  | .093 B4 | .75 B4  |
| .0031 B3 | .025 B3  | .101 B7 | .81 B7  |
| .0035 B2 | .028 B2  | .105 B8 | .84 B8  |
| .0039 B1 | .031 B1  | .109 B9 | .87 B9  |
| .0044 A9 | .036 A9  | .124 C1 | 1.0 C1  |
| .0046 A8 | .037 A8  | .14 C2  | 1.12 C2 |
| .0048 A7 | .038 A7  | .156 C3 | 1.25 C3 |
| .0052 A4 | .042 A4  | .171 C5 | 1.37 C5 |
| .0054 A6 | .043 A6  | .179 C6 | 1.43 C6 |
| .0057 A5 | .045 A5  | .187 C4 | 1.5 C4  |
| .0062 A3 | .05 A3   | .202 C7 | 1.62 C7 |
| .007 A2  | .055 A2  | .21 C8  | 1.68 C8 |
| .008 A1  | .062 A1  | .218 C9 | 1.74 C9 |

# THREADS

## THREADS PER INCH

## MM PITCH

FINE

COARSE

FINE

COARSE

|     |    |        |    |      |    |       |    |
|-----|----|--------|----|------|----|-------|----|
| 224 | C9 | 28     | C9 | .125 | A1 | 1.000 | A1 |
| 216 | C8 | 27     | C8 | .141 | A2 | 1.125 | A2 |
| 208 | C7 | 26     | C7 | .156 | A3 | 1.250 | A3 |
| 192 | C4 | 24     | C4 | .172 | A5 | 1.375 | A5 |
| 184 | C6 | 23     | C6 | .180 | A6 | 1.438 | A6 |
| 172 | C5 | 22     | C5 | .188 | A4 | 1.500 | A4 |
| 160 | C3 | 20     | C3 | .203 | A7 | 1.625 | A7 |
| 144 | C2 | 18     | C2 | .211 | A8 | 1.688 | A8 |
| 128 | C1 | 16     | C1 | .220 | A9 | 1.750 | A9 |
| 112 | B9 | 14     | B9 | .250 | B1 | 2.000 | B1 |
| 108 | B8 | 13-1/2 | B8 | .281 | B2 | 2.250 | B2 |
| 104 | B7 | 13     | B7 | .313 | B3 | 2.500 | B3 |
| 96  | B4 | 12     | B4 | .344 | B5 | 2.750 | B5 |
| 92  | B6 | 11-1/2 | B6 | .359 | B6 | 2.875 | B6 |
| 88  | B5 | 11     | B5 | .375 | B4 | 3.000 | B4 |
| 80  | B3 | 10     | B3 | .406 | B7 | 3.250 | B7 |
| 72  | B2 | 9      | B2 | .422 | B8 | 3.375 | B8 |
| 64  | B1 | 8      | B1 | .430 | B9 | 3.500 | B9 |
| 56  | A9 | 7      | A9 | .500 | C1 | 4.000 | C1 |
| 54  | A8 | 6-3/4  | A8 | .563 | C2 | 4.500 | C2 |
| 52  | A7 | 6-1/2  | A7 | .625 | C3 | 5.000 | C3 |
| 48  | A4 | 6      | A4 | .688 | C5 | 5.500 | C5 |
| 46  | A6 | 5-3/4  | A6 | .719 | C6 | 5.750 | C6 |
| 44  | A5 | 5-1/2  | A5 | .750 | C4 | 6.000 | C4 |
| 40  | A3 | 5      | A3 | .813 | C7 | 6.500 | C7 |
| 36  | A2 | 4-1/2  | A2 | .844 | C8 | 6.750 | C8 |
| 32  | A1 | 4      | A1 | .875 | C9 | 7.000 | C9 |

## OPERATING INSTRUCTIONS (CONTINUED)

### 3.6 Thread Chasing Dial

The thread chasing dial is conveniently located adjacent to the half-nut lever and is marked with 4 numbered divisions and four un-numbered half divisions. A four inch traverse of the carriage gives one complete turn of the dial.

To engage half-nuts at the correct position when thread cutting, use the following rules:-

- (i) When the number of T.P.I. is divisible by 6, disregard the dial.
- (ii) When the number of T.P.I. is even (i.e. 10, 14, TPI) engage the half-nuts at any graduation.
- (iii) When the number of T.P.I. is odd (i.e. 9, 15, TPI) engage the half-nuts at numbered graduations only.
- (iv) For half T.P.I. (i.e.  $3\frac{1}{2}$ ,  $4\frac{1}{2}$ , TPI) engage the half-nuts on opposite numbered graduations only e.g. 1 and 3; or 2 and 4.
- (v) For quarter T.P.I. (i.e.  $3\frac{3}{4}$ ,  $5\frac{3}{4}$ , TPI) engage the half-nuts at the same numbered graduation each time.

When cutting metric, module or diametral pitches, the thread chasing dial cannot be used. In these cases it is necessary to keep the half-nuts engaged during the entire thread cutting operation and to use the spindle reverse to return the carriage to its starting location after each cut.

### 3.7 Camlock Stud Adjustment.

Camlock studs, required for all faceplates, chuck adaptors etc., must be properly adjusted in order to be held securely by the cams in the spindle nose.

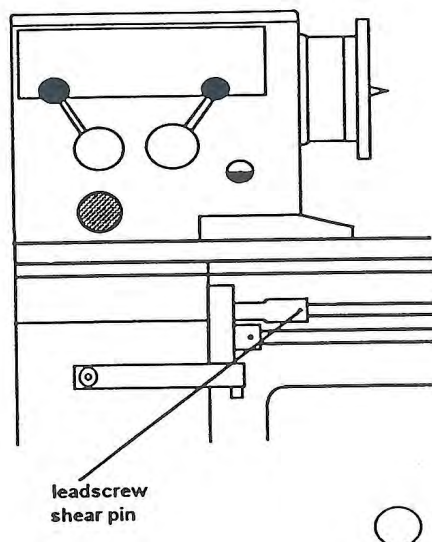
- (i) Turn studs in until reference line is flush with finished face of plate or adaptor.
- (ii) Continue turning stud in until groove lines up with lock screw hole. (Ref. line must be flush or below)
- (iii) Insert lock screw and tighten.

## OPERATING INSTRUCTIONS (CONTINUED)

### 3.8 Leadscrew Shear Pin

This brass shear pin (P/N 83628) is provided to prevent damage to the leadscrew should the carriage be allowed to come in contact with the headstock or some other obstruction which acts as a positive stop. When the stoppage takes place, the leadscrew continues to turn in the half nuts and will begin to move endwise thus shearing the pin.

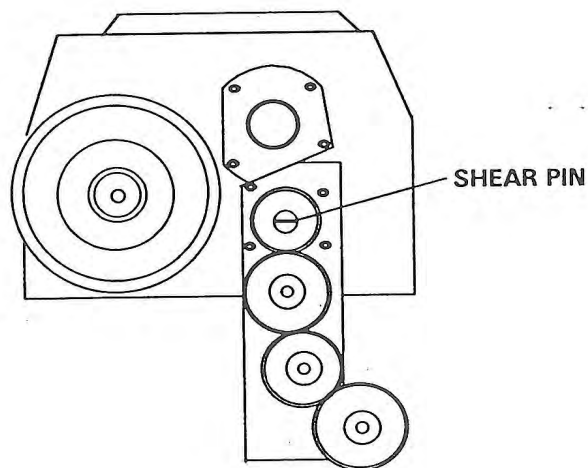
The shear pin can be readily replaced by first withdrawing the leadscrew from the coupling to remove the three pieces of broken pin. It is then returned to the coupling and rotated by hand until the zero line on the Leadscrew coincides with that on the coupling. A new shear pin (4 spare pins are provided with the machine) is then driven into place.



### 3.9 End Gear Train Shear Pin

This brass shear pin (P/N 30398 drives the top gear of the end gear train (see below). It is provided to prevent damage to the feed gears if abnormally excessive loads are encountered.

Spare shear pins provided with the machine, are readily fitted. First remove the snap ring and 36T gear, then remove the broken portions of the pin. Assemble the 36T gear, pin and snap ring. It is important, of course, to locate and remedy the cause of the excessive load.



## OPERATING INSTRUCTIONS (CONTINUED)

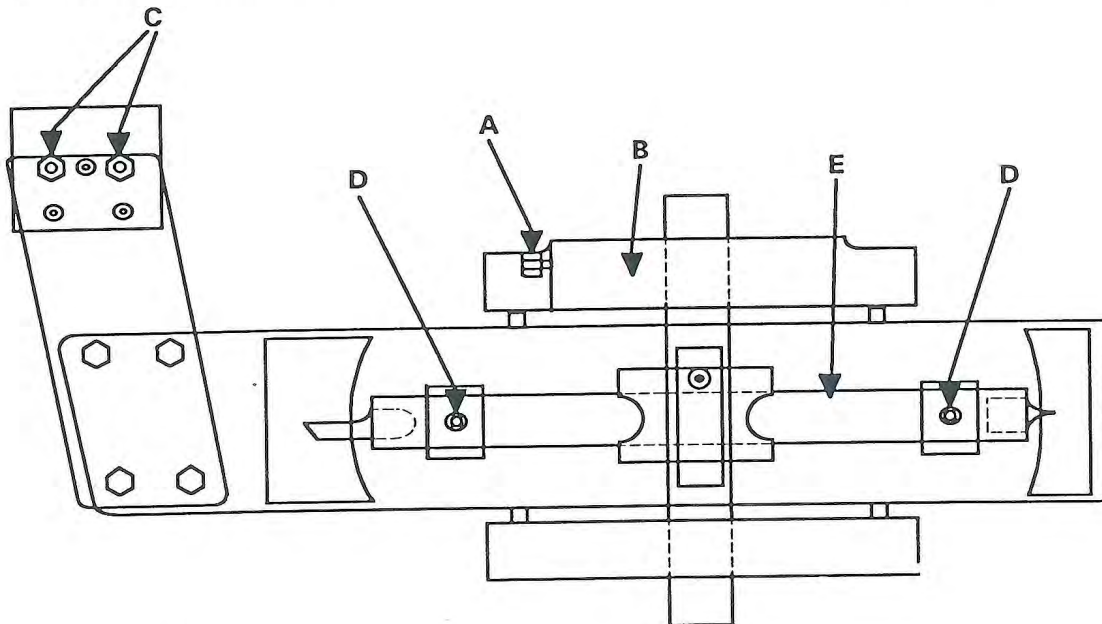
### 3.10 Telescopic Taper Turning Attachment

#### For Taper Turning:

- (i) Slacken hex clamp screw 'A'
- (ii) Locate saddle and slide casting 'B' in position required relative to workpiece and tighten 2 bed clamp nuts 'C'.
- (iii) Slacken 2 socket head cap screws 'D', set pivoted slide bar 'E' to desired taper and tighten screws 'D'
- (iv) Locate cross slide to suit diameter of workpiece.

#### For Straight Turning

- (i) Slacken 2 bed clamp nuts 'C'
- (ii) Tighten Hex Clamp Screw 'A'
- (iii) Leave pivoted slide bar 'E' locked in it's angular setting so that the taper attachment will move with the saddle.



### 3.11 Faceplate attachment

The faceplate as shipped from the factory is rough turned on the part mounting surface and should be machined using a skim cut prior to first usage.

**NOTE:** Maximum safe operating speed for large face plates is 480 RPM.

4. MAINTENANCE INSTRUCTIONS4.1 Trouble Shooting Chart

| TROUBLE   | PROBABLE CAUSE                                                 | CORRECTION                                                                                                                           |
|-----------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Vibration | Loose leveling screws                                          | Set all screws so that they bear evenly on leveling plates.                                                                          |
|           | Torn or mismatched V-belts.                                    | Replace V-belts with matched set.                                                                                                    |
|           | Work or chuck out of balance operating at high spindle speeds. | Balance chuck or reduce spindle speed.                                                                                               |
|           | Motor out of balance.                                          | Contact local representative of motor manufacturer.                                                                                  |
| Chatter   | Tool bit improperly ground or not on center                    | Reground tool bit or adjust tool holder so that area of contact between tool bit and work is decreased. Avoid extreme negative rake. |
|           | Tool overhang too great                                        | Keep point of tool bit as close as possible to tool holder.                                                                          |
|           | Using improper cutting speed.                                  | Reduce or increase spindle speed.                                                                                                    |
|           | Feed rate too high or too low.                                 | Reduce or increase feed.                                                                                                             |
|           | Gibs of cross slide or compound rest loose.                    | Adjust gibs.                                                                                                                         |
|           | Spindle bearings worn or loose.                                | Adjust spindle bearings. (See page 17)                                                                                               |
|           | Work improperly supported                                      | Adjust tailstock center. Use steady rest or follow rest for long slender shafts. Minimize tailstock barrel extension.                |
|           | Vibration                                                      | See "Vibration" trouble above.                                                                                                       |

MAINTENANCE INSTRUCTIONS (CONTINUED)4.1 Trouble Shooting Chart (Continued)

| TROUBLE                                                            | PROBABLE CAUSE                                          | CORRECTION                                                  |
|--------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------|
| Work not turned straight                                           | Headstock and tailstock not aligned.                    | Align tailstock center.                                     |
|                                                                    | Work improperly supported.                              | Use steady rest or follow rest. Reduce overhang from chuck. |
|                                                                    | Bed not level.                                          | Re-level bed using precision level.                         |
| Work out of round.                                                 | Work loose between centers.                             | Adjust tailstock center.                                    |
|                                                                    | Centers excessively worn.<br>Work centers out of round. | Regrind centers. Lap work centers.                          |
|                                                                    | Loose headstock spindle bearings.                       | Adjust headstock spindle bearings. (see page 17)            |
| Cross slide or compound rest movement does not coincide with dial. | Gib setting too tight or too loose.                     | Adjust gibs.                                                |
|                                                                    | Work is too long and slender.                           | Use steady rest or follow rest for long slender shafts.     |

PARTS ORDERING PROCEDURE

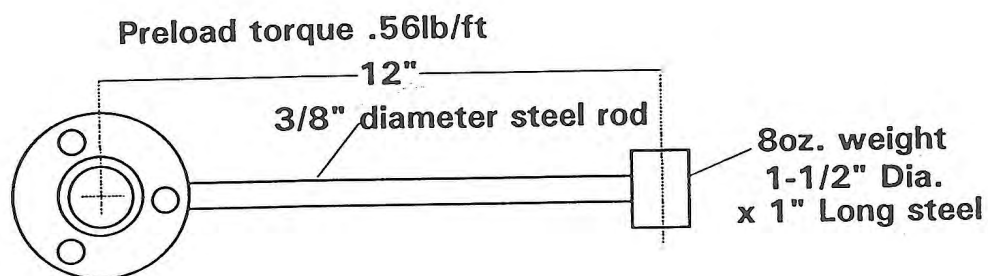
(1) Always quote the machine serial number which will be found stamped in the recessed face on top of the bed at the tailstock end.

(2) Refer to the appropriate assembly and individual part numbers taken directly from the illustrations.

**NOTE:** Quantity required (when other than one) is given following the Part Number itself.

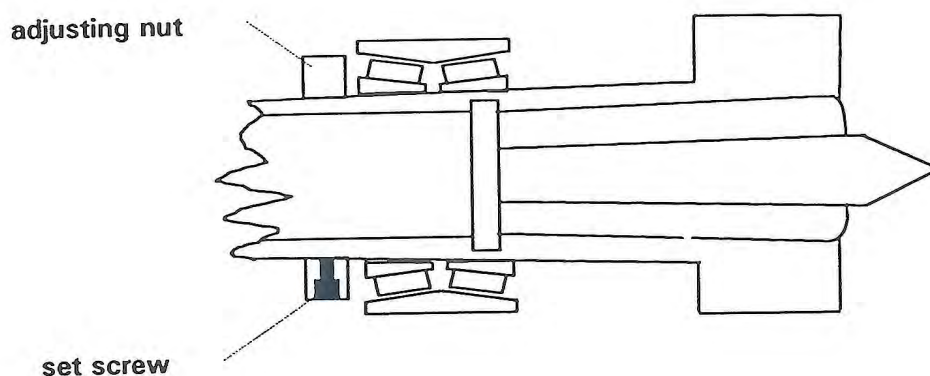
## HEADSTOCK BEARING PRELOAD ADJUSTMENT

The correct preload is determined by the actual force required to turn the spindle in its bearings when the spindle is in its neutral position, i.e. with the HIGH-LOW shifter and LEADSCREW REVERSE in their respective neutral positions.



If an adjustment is required:

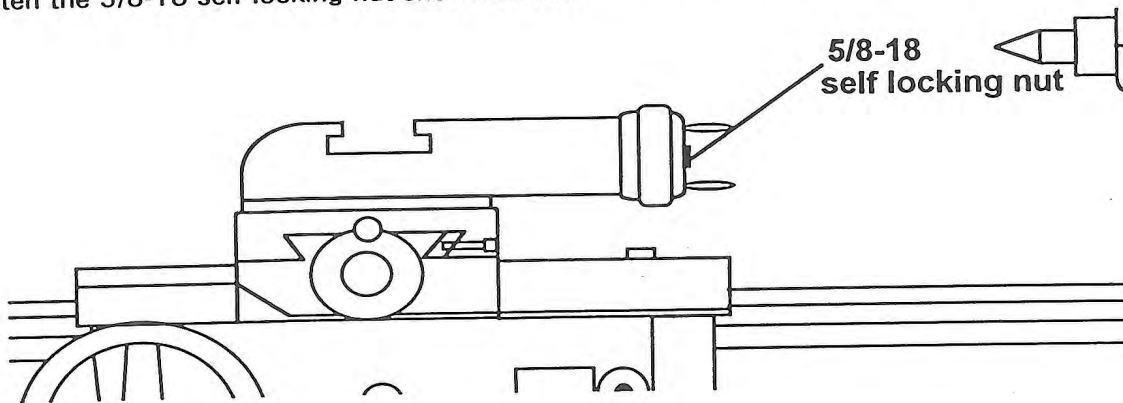
1. Turn the disconnect switch off.
2. Remove the headstock cover.
3. Back off two (2) 1/4-28 socket set screws in adjusting nut.
4. Turn adjusting nut clockwise to increase preload or vice-versa to decrease preload.
5. Re-tighten the set screws securely.
6. Replace the headstock cover.



## MAINTENANCE INSTRUCTIONS (CONTINUED)

### 4.2 Cross Slide Screw

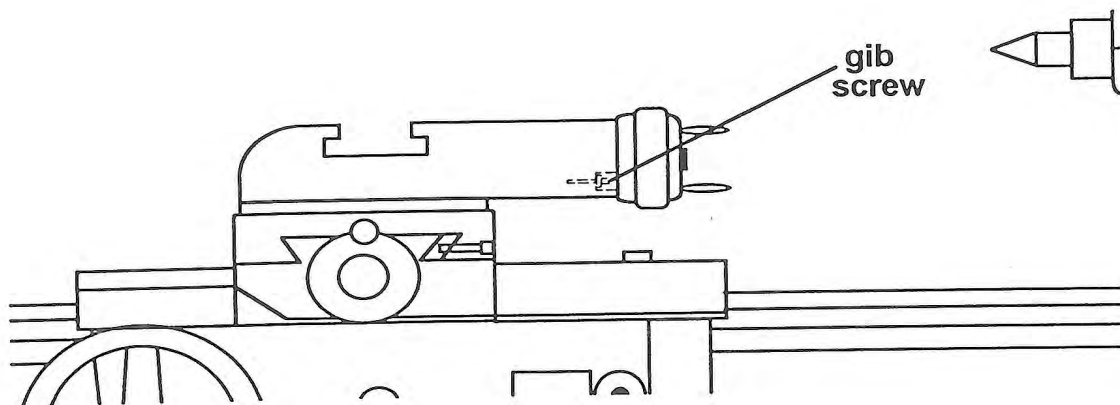
Provision is made for the elimination of backlash in the Cross Slide Screw thrust bearing. Just tighten the 5/8-18 self locking nut shown below.



### 4.3 Compound Slide Ways

Wear in the Compound Slide Ways may be adjusted by means of the Tapered Gib as follows:-

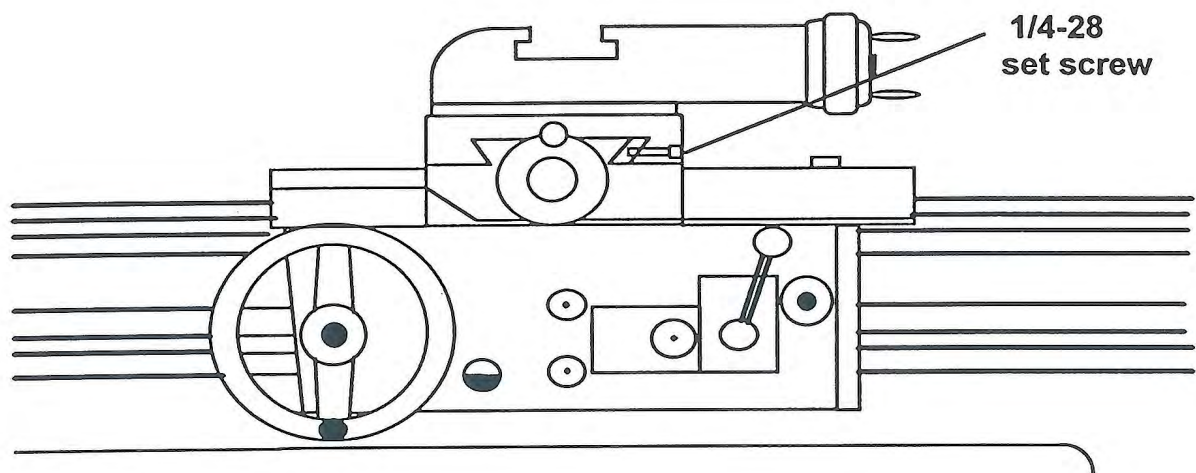
Turn the slotted head Gib Screw at the handle end in a clockwise direction to tighten.



#### 4.4 Cross slide ways

Wear in the Cross Slide Ways may be adjusted as follows:

Turn 1/4-28 socket set screws located on the right hand side of the Cross Slide in a clockwise direction to tighten the Gib.



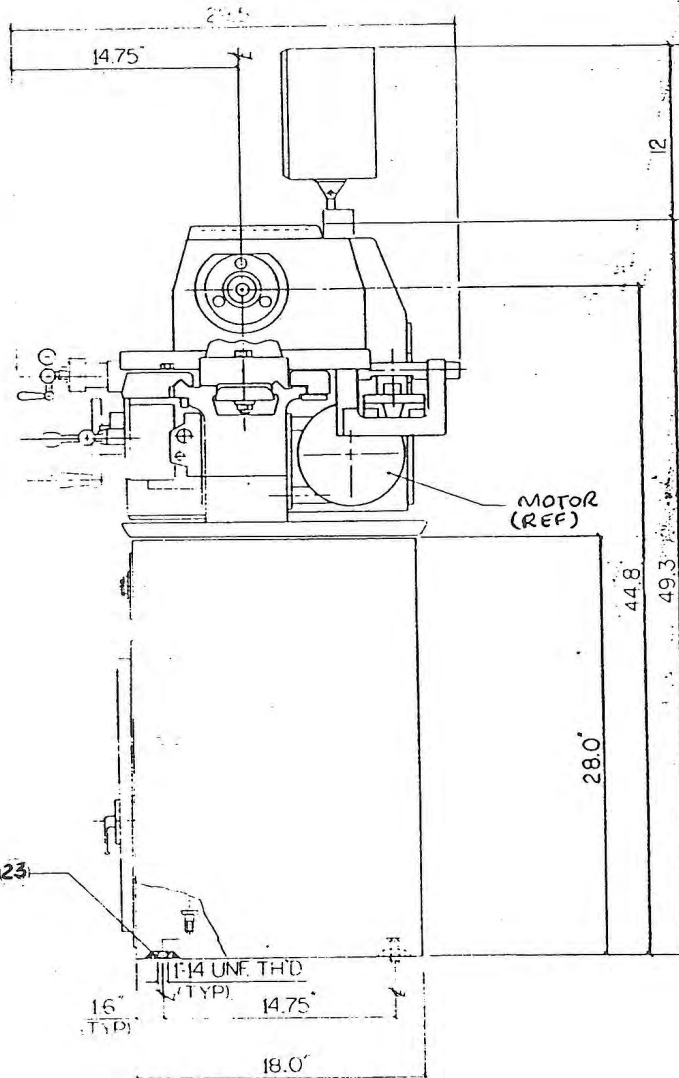
## LIST OF ITEMS SHOWN ON GENERAL ASSEMBLY

Sheet 1 of 1

| I.D. NUMBER | DESCRIPTION                          | PART NO. | QTY |
|-------------|--------------------------------------|----------|-----|
| 1           |                                      |          |     |
| 2           | TOOL MAT                             | 32300    | 1   |
| 3           | DIGITAL READOUT (OPTIONAL)           |          | 1   |
| 4           | NAMEPLATE                            | 83655    | 1   |
| 5           | BELT GUARD                           | 114436   | 1   |
| 6           | FEEDBOX ASSEMBLY                     | 114899   | 1   |
| 7           | BED                                  | 83518    | 1   |
| 8           | CABINET BASE                         | 32430    | 1   |
| 9           | CONTROL PLATE                        | 114794   | 1   |
| 10          | FEED SHAFT                           | 114276   | 1   |
| 11          | CHIP TRAY                            | 83645    | 1   |
| 12          | 5/16-18 X 1-1/2 SOC. HD. CAP SCREW   |          | 3   |
| 13          | BED END BRACKET                      | 83516    | 1   |
| 14          | GREASE FITTING                       | 1738     | 2   |
| 15          | TAILSTOCK ASSEMBLY                   | (REF)    | 1   |
| 16          | LEADSCREW                            | 117024   | 1   |
| 17          | SADDLE / CROSS SLIDE ASSEMBLY        | 83540    | 1   |
| 18          | COMPOUND ASSEMBLY                    | 114902   | 1   |
| 19          |                                      |          |     |
| 20          | APRON ASSEMBLY                       | 83539    | 1   |
| 21          | RACK                                 | 83635    | 1   |
| 22          | HEADSTOCK ASSEMBLY                   | 83533    | 1   |
| 23          |                                      |          |     |
| 24          |                                      |          |     |
| 25          | MOTOR PULLEY                         | 107407   | 1   |
| 26          |                                      |          |     |
| 27          |                                      |          |     |
| 28          |                                      |          |     |
| 29          | 10-24 X 3/8 LG. BUTTON HD. CAP SCREW |          | 8   |
| 30          | VEE BELT                             | 3VX355   | 1   |

W. LATHE, CHUCK GUARD AND CHUCK GUARD  
NOT SHOWN.

28.2"



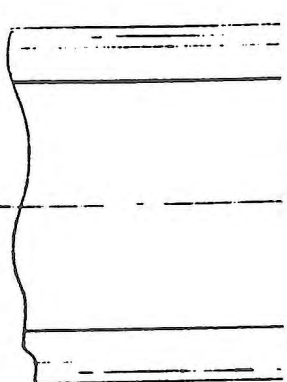
| REV. | DATE     | BY       | CHKD.    |
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| 3    | 01/15/80 | J. J. J. | J. J. J. |
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| 10   | 01/15/80 | J. J. J. | J. J. J. |

| STANDARD-MODERN TOOL COMPANY LIMITED |                 |                 |                 | TORONTO, CANADA |                 |
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228

S'Y. B-84242

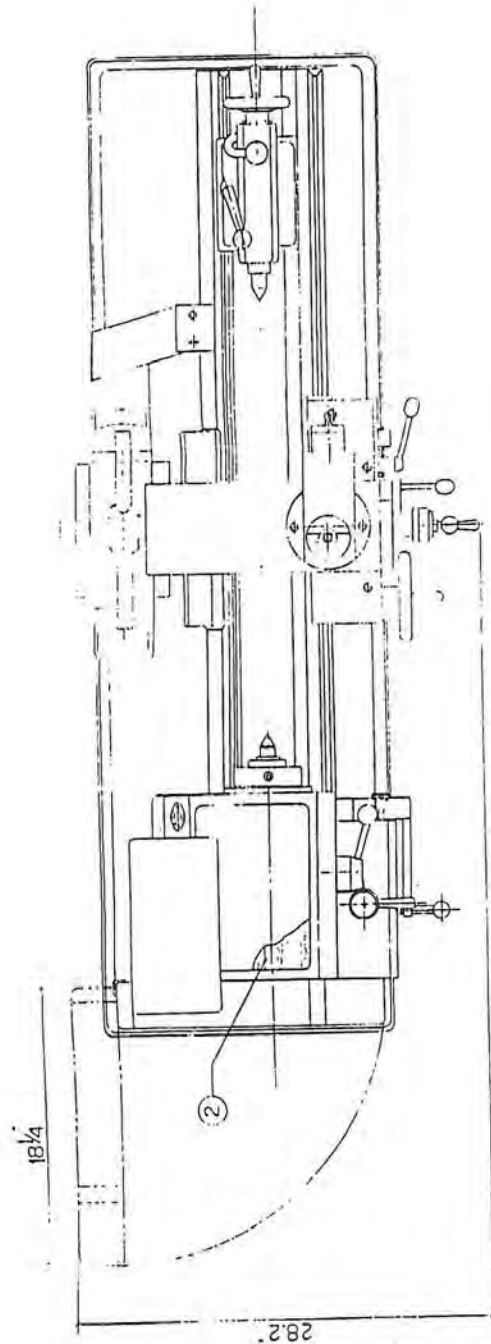


BEARING PRELOAD  
.56 FT. LBS. OF TORQUE

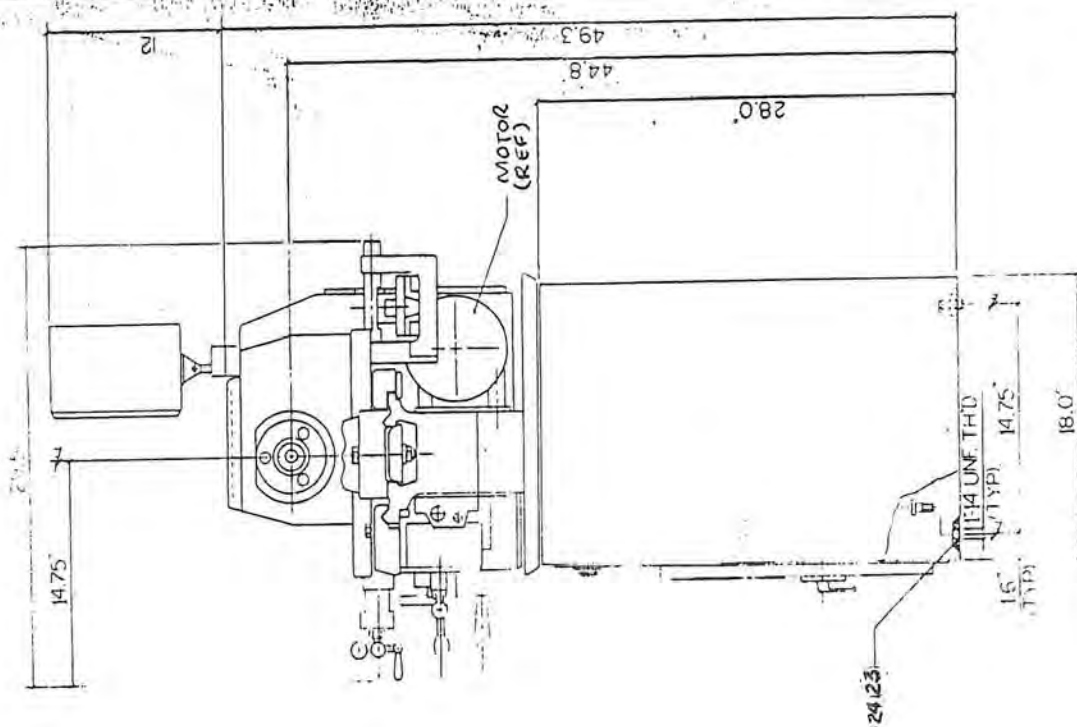
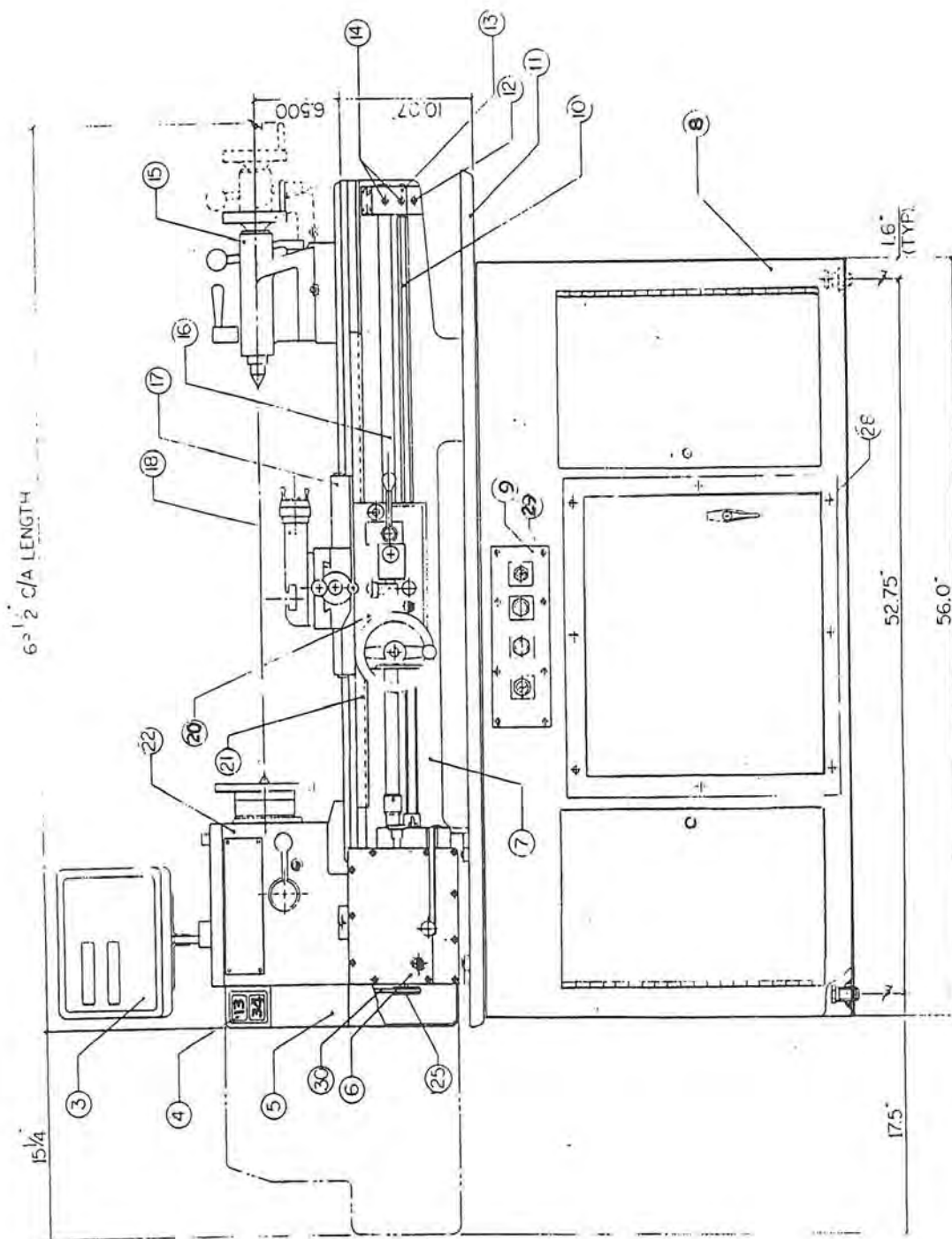
REFER TO PAGE 14B  
IN OPERATORS HANDBOOK  
FOR PRELOADING INSTRUCTIONS

TORRINGTON THNo. TR.CREW (2)

| ANY LIMITED                                                         |           | TORONTO, CANADA |    |
|---------------------------------------------------------------------|-----------|-----------------|----|
| OF DISC SPRING:<br>OR PRELOADING<br>TIMKEN BEARING<br>& 1340 LATHES | No. REQ'D | G.A. No.        |    |
|                                                                     |           | S'ASSY No.      |    |
|                                                                     |           | SHEET           | OF |
|                                                                     |           | B-84241         |    |

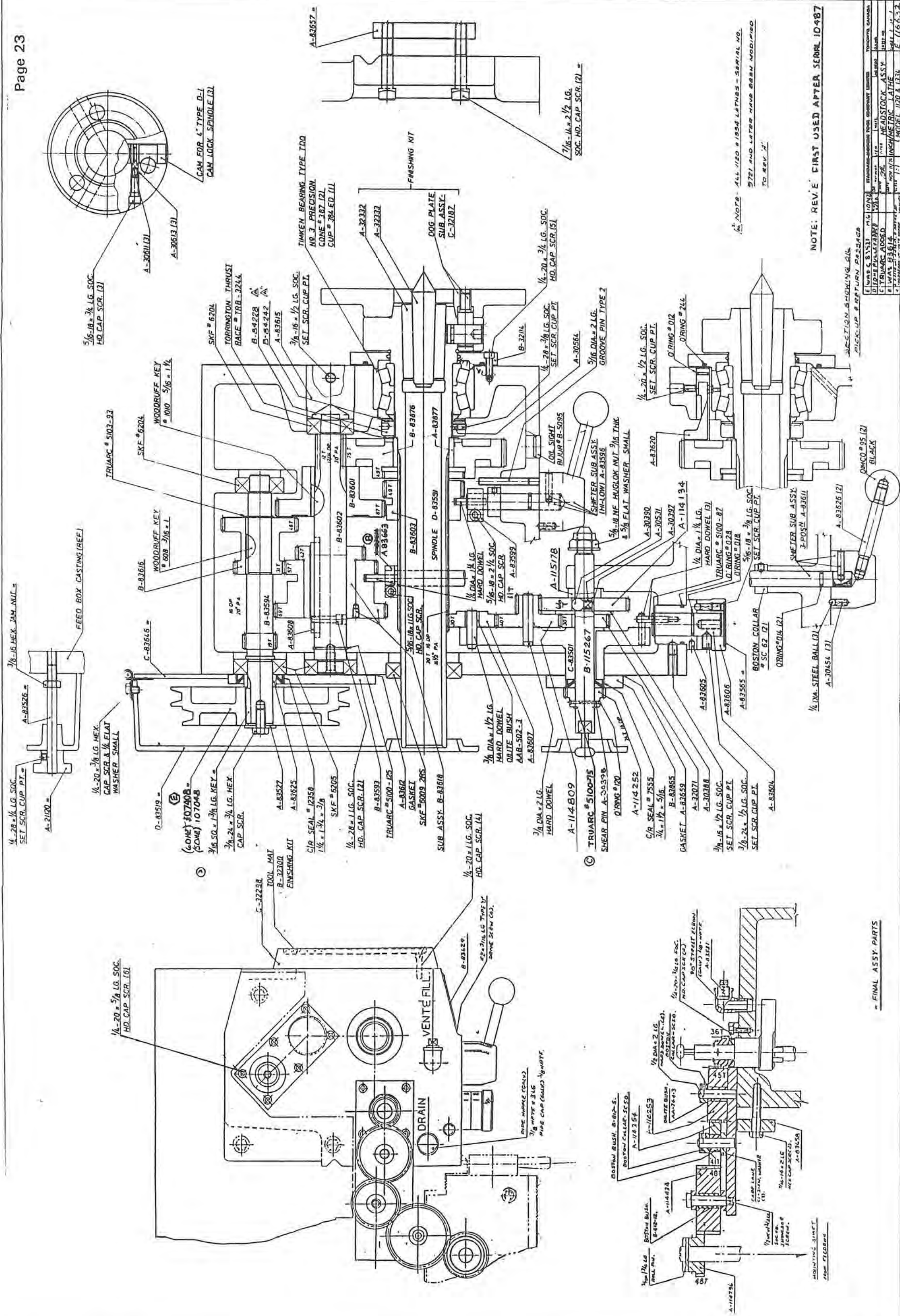


NOTES:  
1. WHEN USED, CHUCK MUST BE CHUCK GRIND  
SEE N - SH W.



| REV. | DATE    | BY       | CHKD.    |
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| 20   | 10/1/78 | J. J. J. | J. J. J. |
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| 23   | 10/1/78 | J. J. J. | J. J. J. |
| 24   | 10/1/78 | J. J. J. | J. J. J. |
| 25   | 10/1/78 | J. J. J. | J. J. J. |

| STANDARD-HOSTEN TOOL COMPANY LIMITED |         |          |          |
|--------------------------------------|---------|----------|----------|
| REV.                                 | DATE    | BY       | CHKD.    |
| 1                                    | 10/1/78 | J. J. J. | J. J. J. |
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| 23                                   | 10/1/78 | J. J. J. | J. J. J. |
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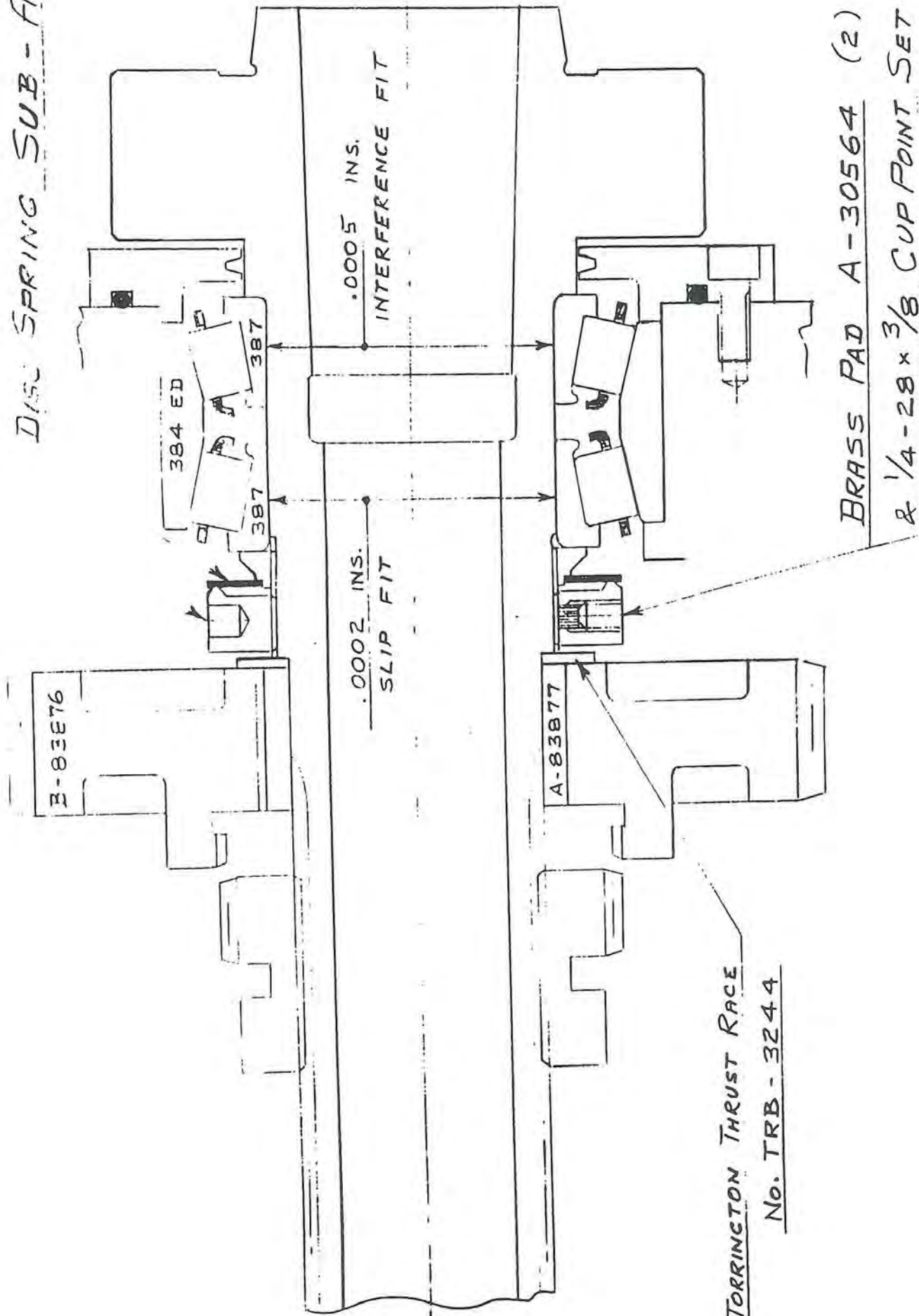
NOTE: REV'E FIRST USED AFTER SERIAL 10487

[illegible]

FINAL ASSY. PARTS

ADJUSTING NUT B-84228

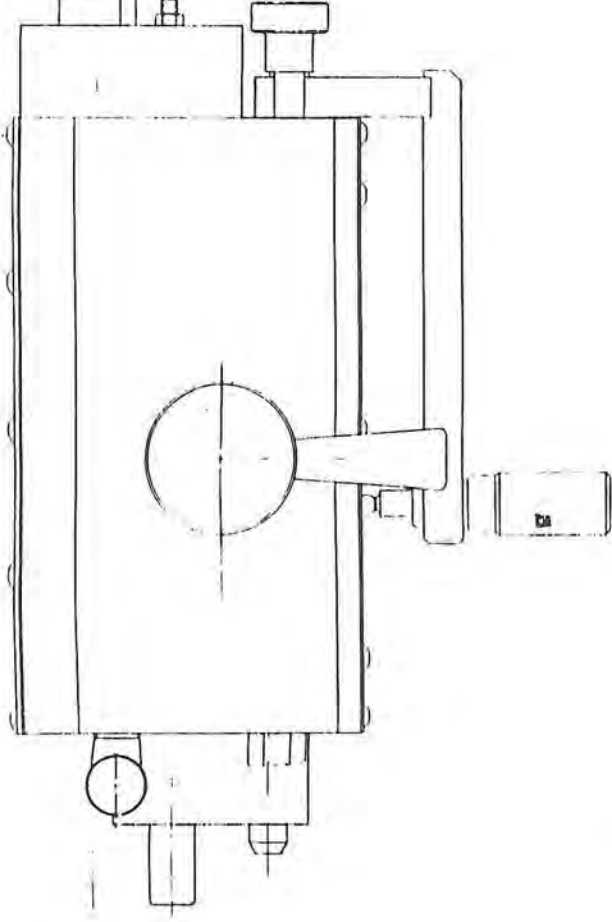
DISC SPRING SUB-ASSY. B-84242



| STANDARD-MODERN TOOL COMPANY LIMITED |                 |                                                                 |       | TORONTO, CANADA |            |
|--------------------------------------|-----------------|-----------------------------------------------------------------|-------|-----------------|------------|
| E                                    | DR. L. DREBERT  | ITEM NO.                                                        | MAT'L | NO. REQ'D       | G.A. NO.   |
| D                                    | CHK'D           | TITLE ARRANGEMENT OF DISC SPRING & ADJUSTING NUT FOR PRELOADING |       |                 | STASST NO. |
| C                                    |                 | THE DOUBLE ROW TIMKEN BEARING                                   |       |                 | SHEET OF   |
| B                                    | DATE JUNE 12-81 | MODEL 1120 1334 & 1340 LATHES                                   |       |                 | B-84241    |
| A                                    | SCALE FULL      |                                                                 |       |                 |            |

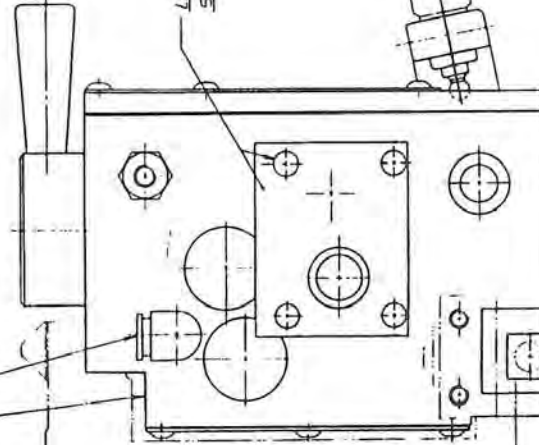
LEADSCREW COUPLING \*114357 REF

LEADSCREW  
REF



FEEDBOX CASTING \*114701

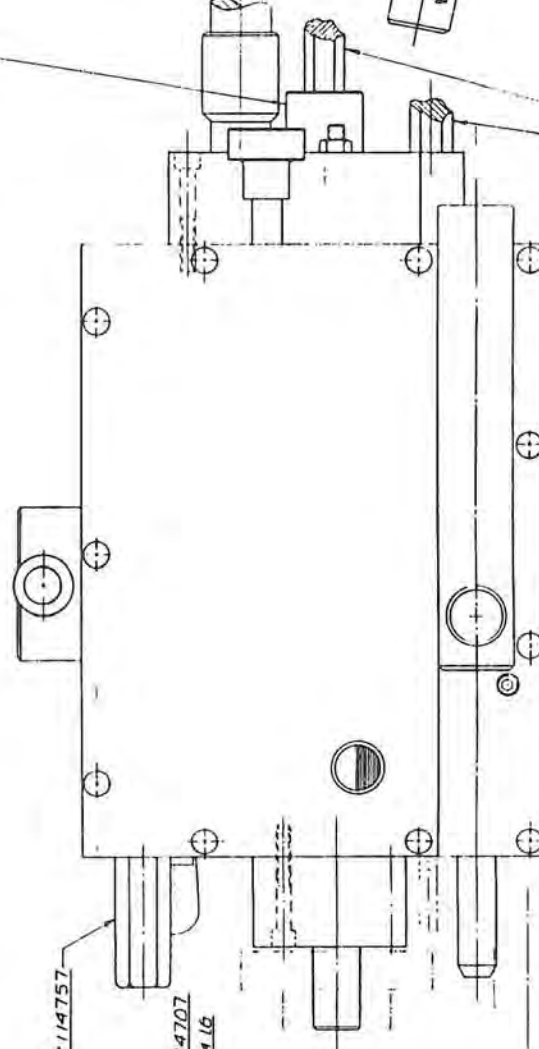
DIL CLIP, 6175 \*01402



STUD ADAPTER \*114757

LEFT BEARING BLOCK \*114707  
S.H.C.S. 1/4 - NC \*13416

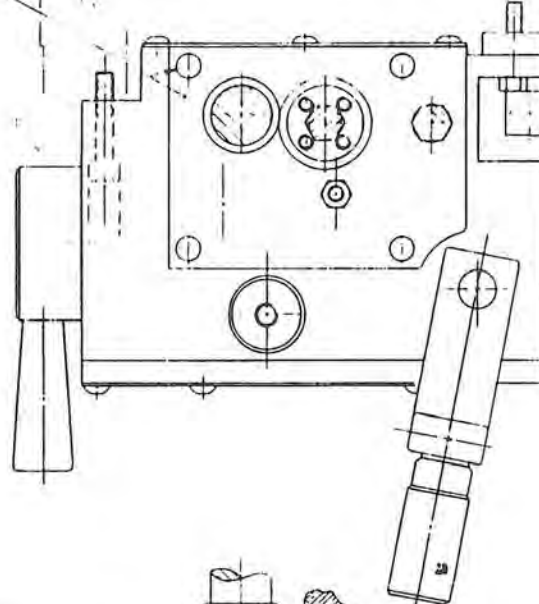
CLUTCH COUPLING \*114750 REF



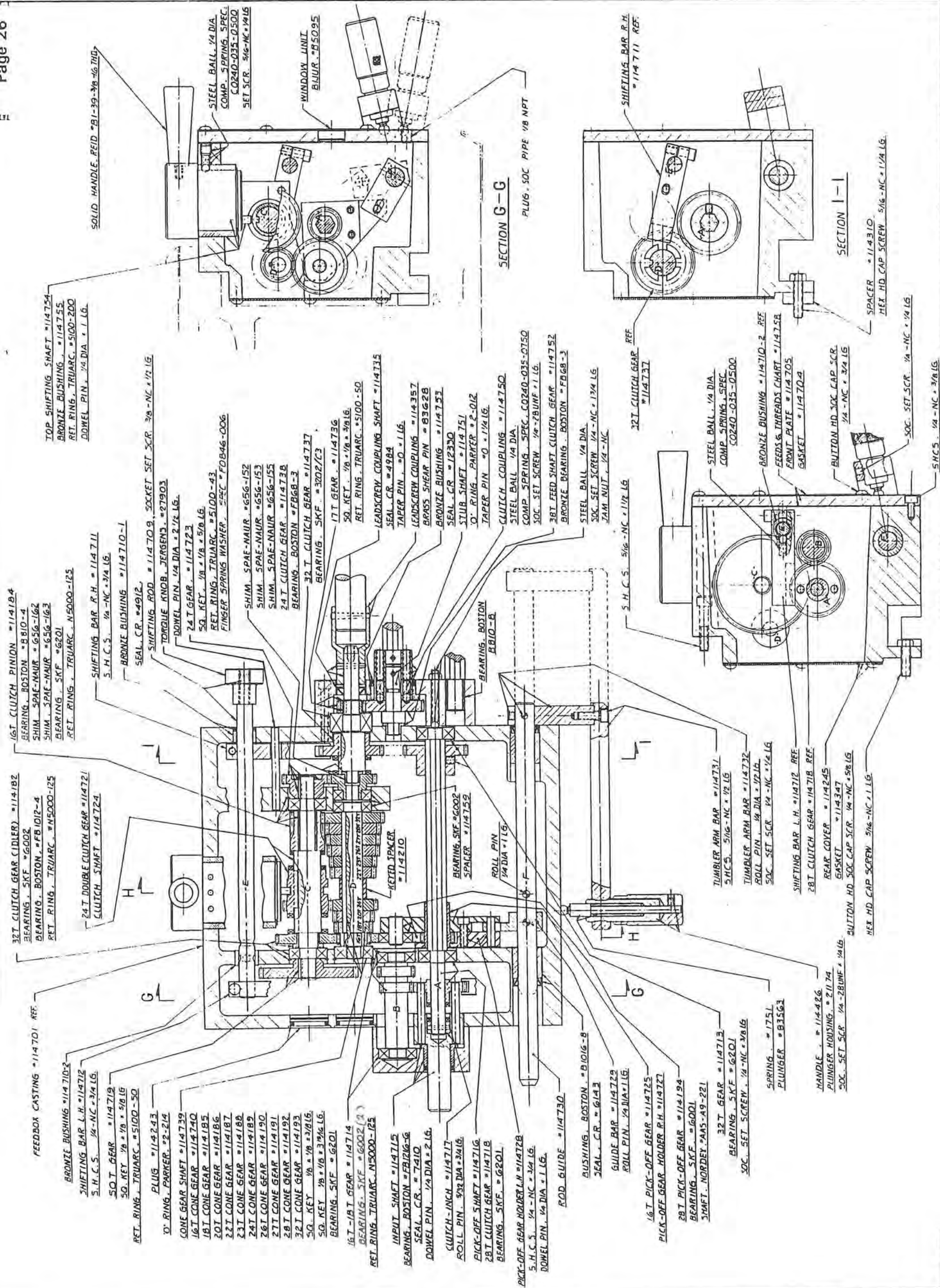
FEED SHAFT  
REF

CONTROL SHAFT  
REF

RIGHT COVER \*114706  
S.H.C.S. 1/4 - NC \*13416



STANDARD-MACHINE TOOL COMPANY LIMITED  
TORONTO, CANADA  
SHEET NO. 114700  
REV. 1  
DATE 1/1/70  
E-114700



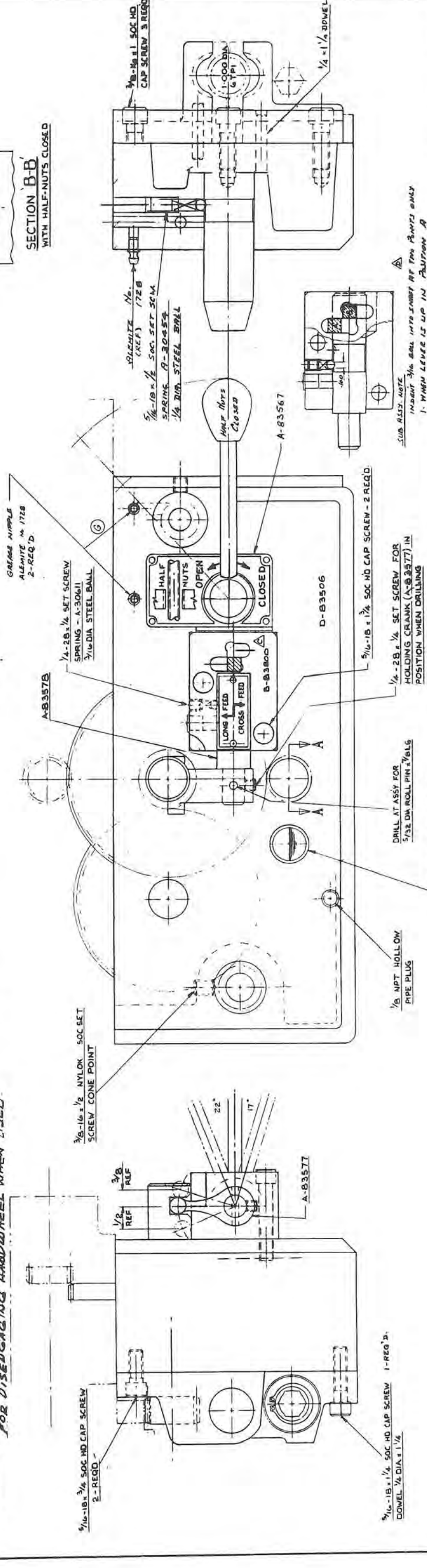
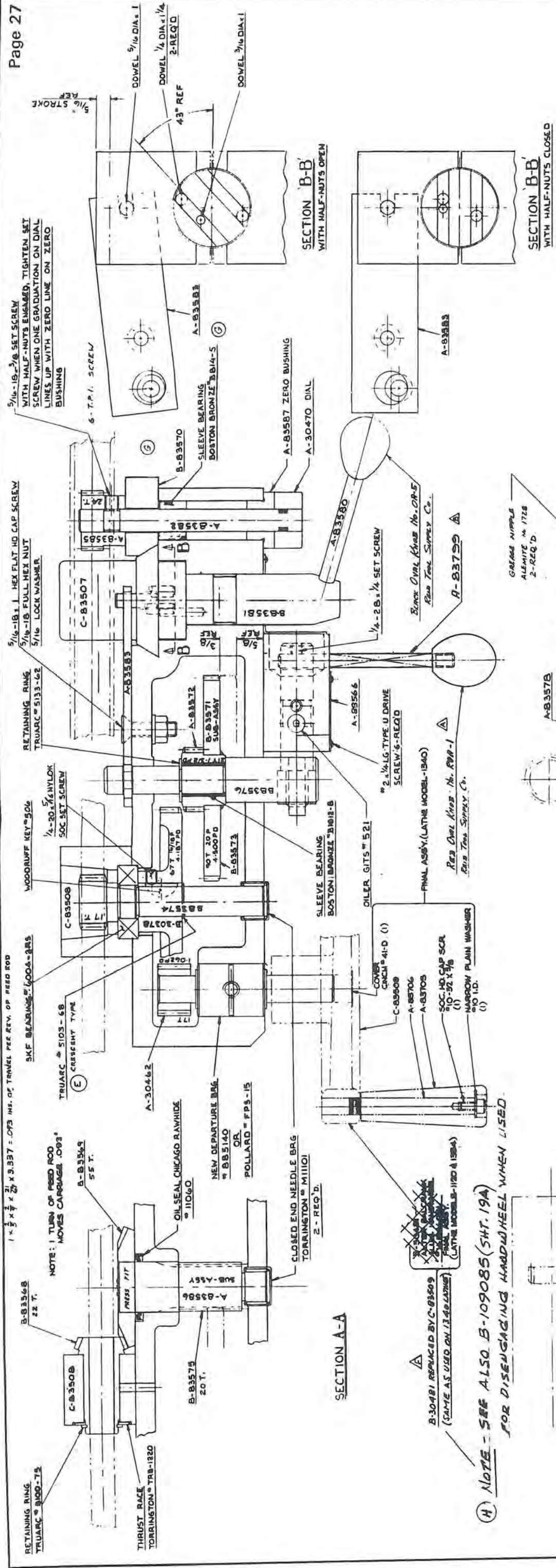
## SECTION G-G

## SECTION 1-1

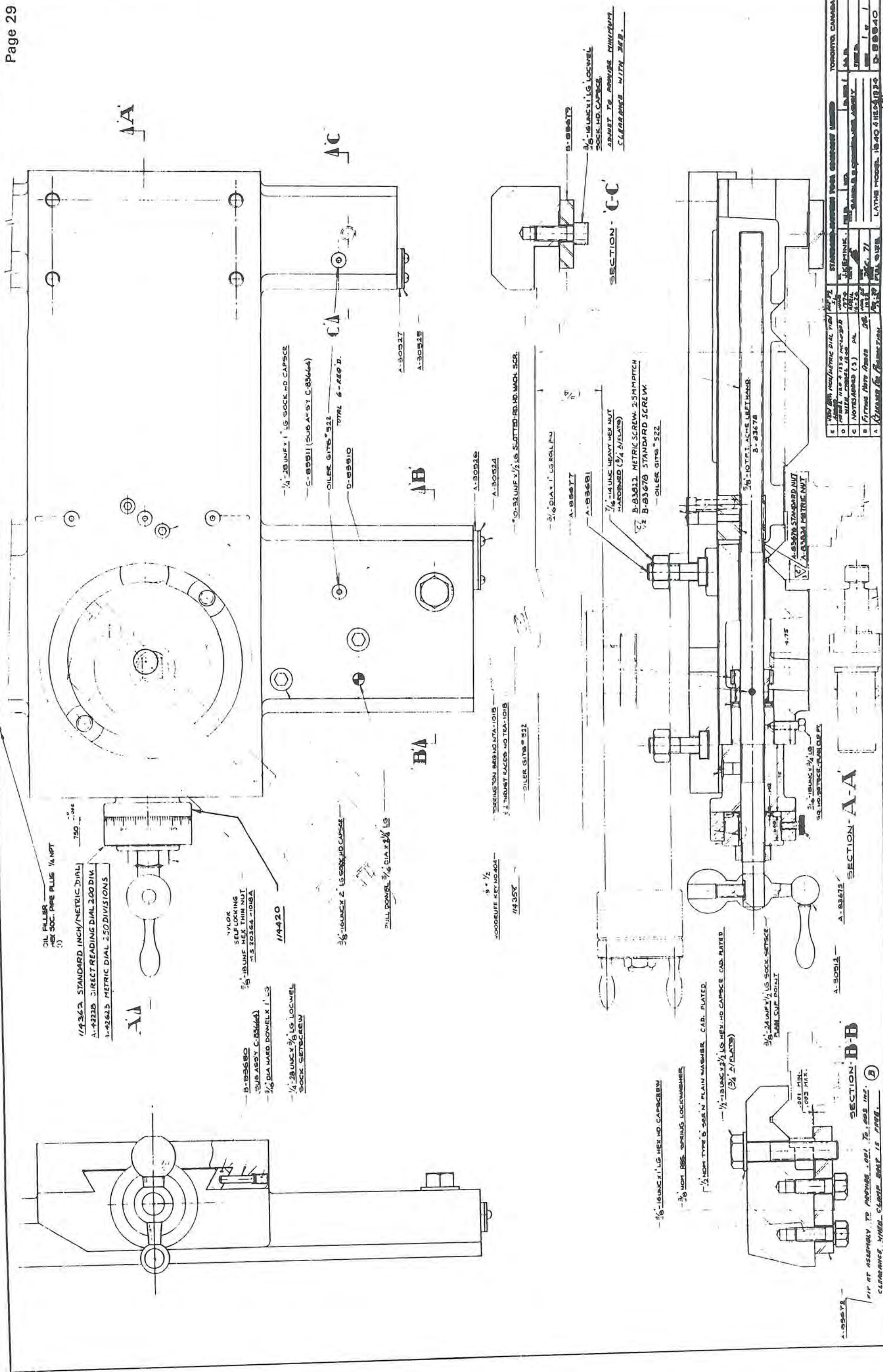
SECTION G-G

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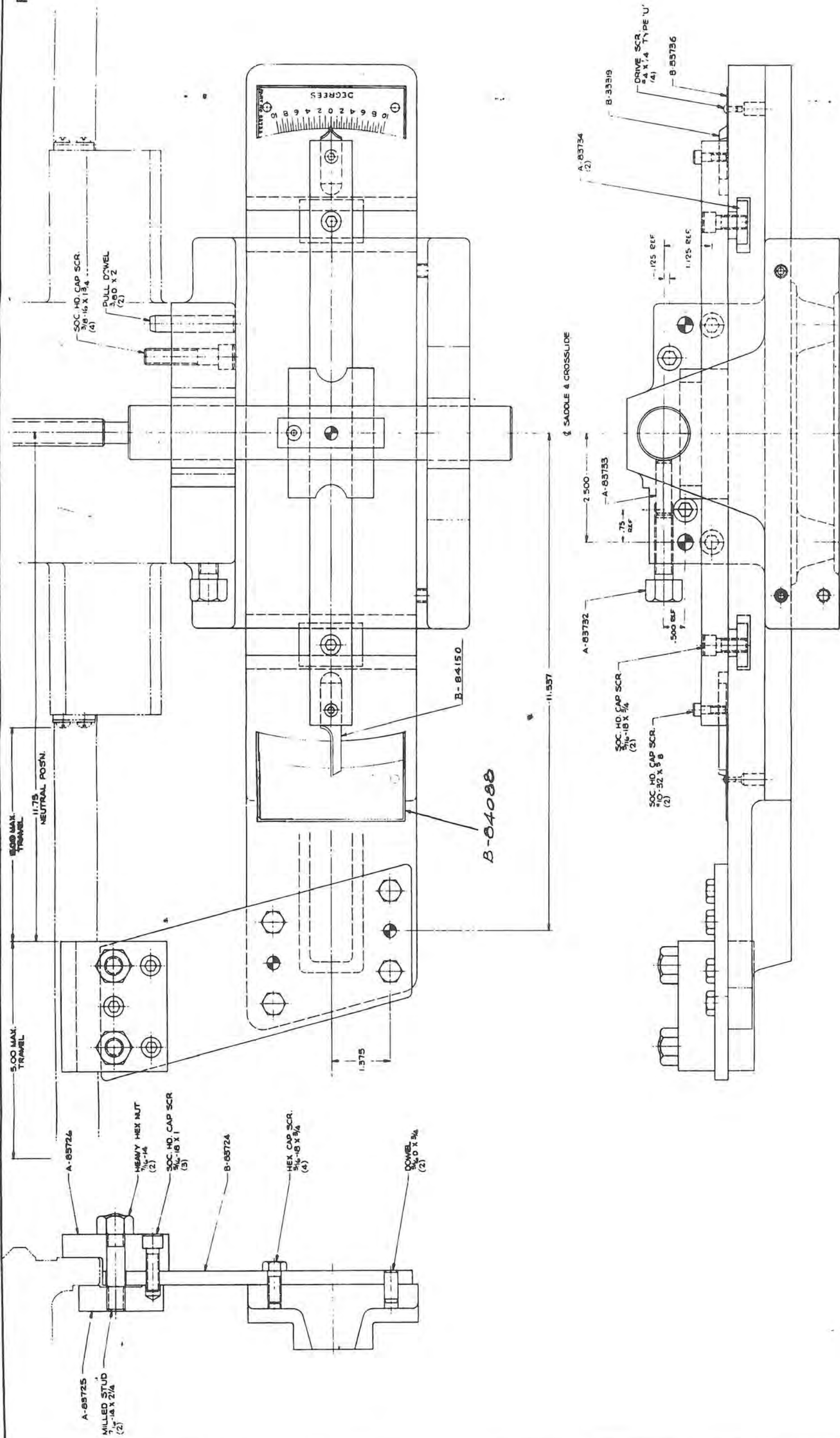
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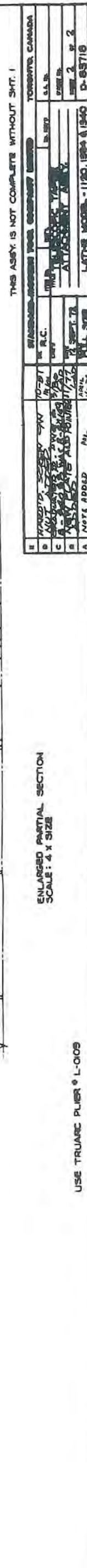
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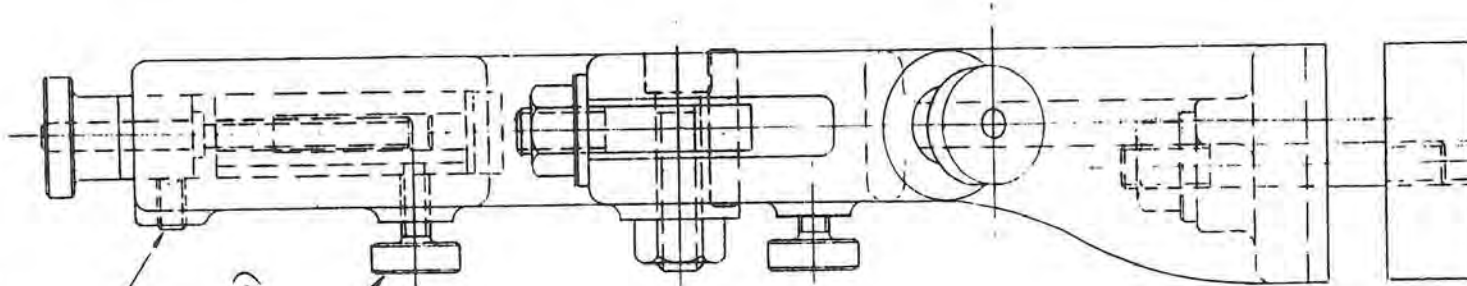
THIS ASSY IS NOT COMPLETE WITHOUT SHT. 2

| STANDARDIZATION FEED COMPANY LIMITED |          | TORONTO, CANADA |          |
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| REVISION                             | DATE     | BY              | CHKD     |
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| 91                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 92                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 93                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 94                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 95                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 96                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 97                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 98                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 99                                   | 11/15/57 | 11/15/57        | 11/15/57 |
| 100                                  | 11/15/57 | 11/15/57        | 11/15/57 |

[illegible]

$\frac{1}{4}$ -20 x  $\frac{3}{8}$  HOLLOW SET  
SCREW (CUP POINT)  
(3-REQD)

A-30586 (3-REQD)



C-30581

$\frac{3}{8}$ -16 HEAVY HEX NUT  
(3-REQD)  
(PERLITON  
HARD)

A-30566  
(2-REQD)

A-30588

1-ONLY BLANK-PIN TYPE 2  
 $\frac{1}{4}$ DIA. x  $1\frac{1}{4}$  LONG

Nº 10-32 x  $\frac{1}{4}$   
HOLLOW SET SCREW  
(CUP POINT)  
3-REQD

A-30587  
3-REQD

C-30648

A-30582 (3-REQD)

A-30583 (3-REQD)

A-30584 (3-REQD)

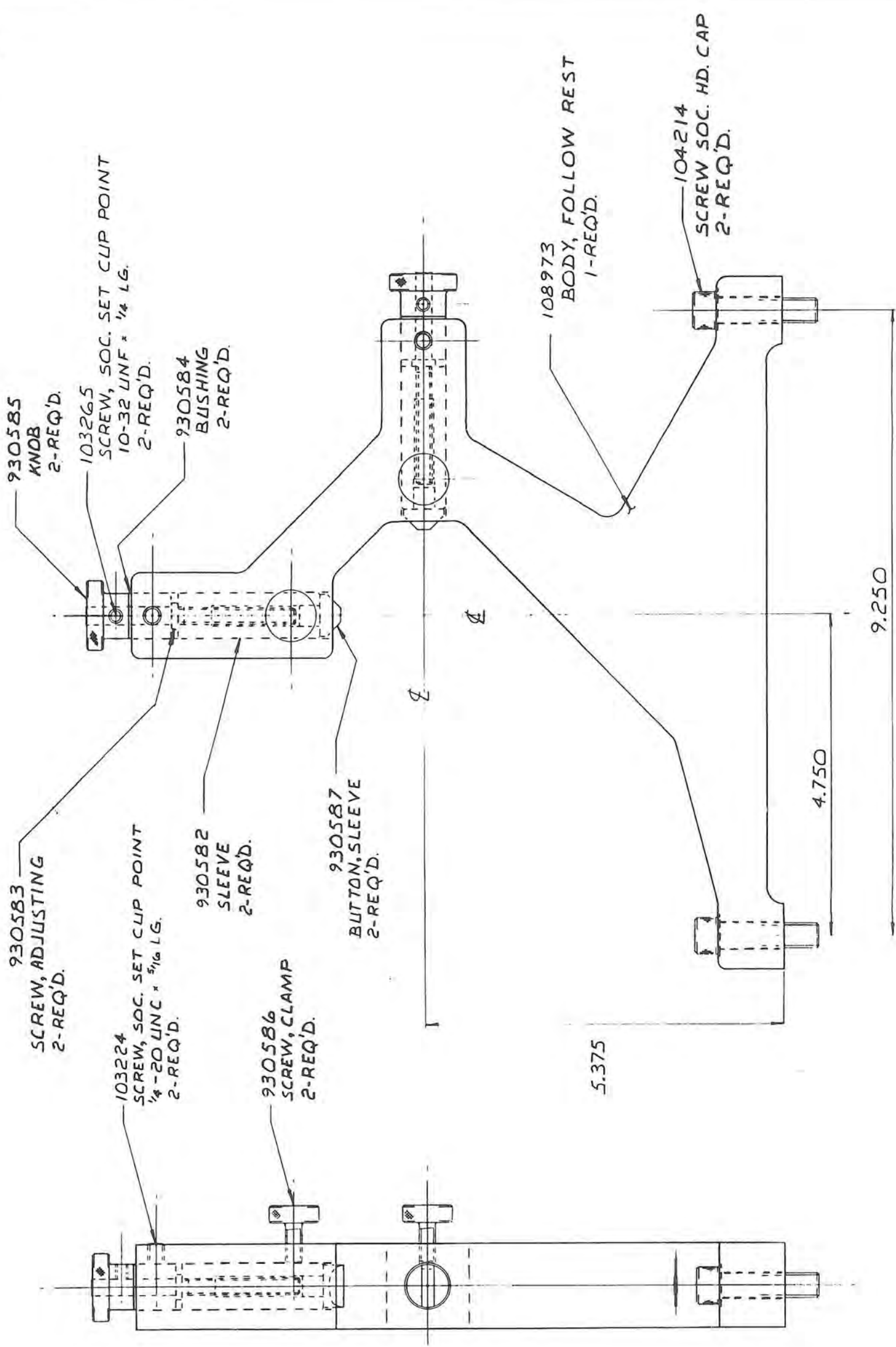
A-30585 (3-REQD)

$\frac{3}{8}$ -16 x  $2\frac{3}{4}$  MILLED STUD

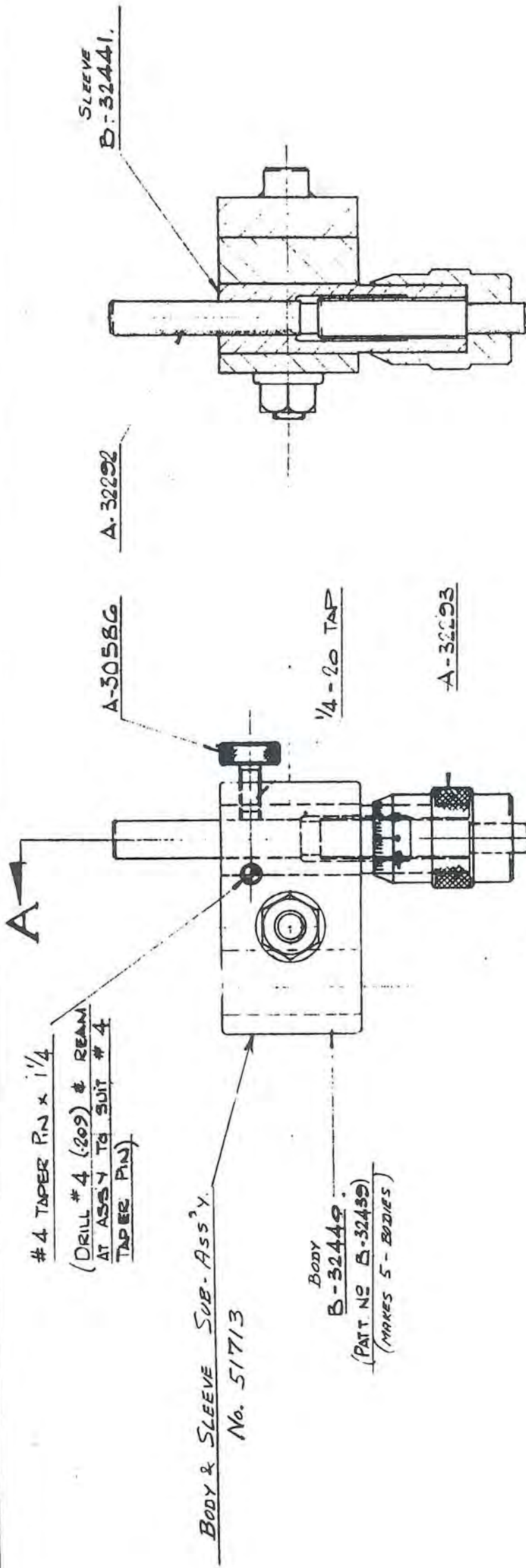
A-30590

ALSO USED ON LATHE MODELS -1120, 1334 & 1340

|      |  |          |  |                           |  |                  |  |
|------|--|----------|--|---------------------------|--|------------------|--|
| H    |  | D        |  | MODERN TOOL WORKS LIMITED |  | TORONTO, CANADA  |  |
| G    |  | C        |  | BATH                      |  | SCALE FULL       |  |
| F    |  | B        |  | TITLE                     |  | STEADY REST ASSY |  |
| E    |  | A        |  | NOTE ADDED                |  | C-30667          |  |
| DATE |  | APPROVED |  | DATE                      |  | MAY 14/51        |  |



|   |  |                                                                                                                                                                                        |                                              |       |           |                 |  |
|---|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------|-----------|-----------------|--|
| E |  |  <b>Standard-Modern Technologies</b><br><small>A Division of Smith Technologies Corporation</small> |                                              |       |           | TORONTO, CANADA |  |
| D |  | DR.<br>A.B. HOWLETT                                                                                                                                                                    | ITEM No.                                     | MATL. | No. REQ'D | Q.A. No.        |  |
| C |  | CHK'D                                                                                                                                                                                  | TITLE<br>ASSY, FOLLOW REST.                  |       |           |                 |  |
| B |  | DATE<br>NOV 2 1982                                                                                                                                                                     | $\frac{1}{4}$ " - 2 $\frac{1}{2}$ " CAPACITY |       |           |                 |  |
| A |  | SCALE<br>FULL                                                                                                                                                                          | CROSS FITTING                                |       |           |                 |  |
|   |  |                                                                                                                                                                                        | 1120, 1334, 1340 LATHES                      |       |           |                 |  |
|   |  |                                                                                                                                                                                        | SHEET 1 OF 1                                 |       |           |                 |  |
|   |  |                                                                                                                                                                                        | C-108972                                     |       |           |                 |  |



B-32441 TO BE ASSEMBLED  
WITH GRADUATIONS IN THIS POS'N.

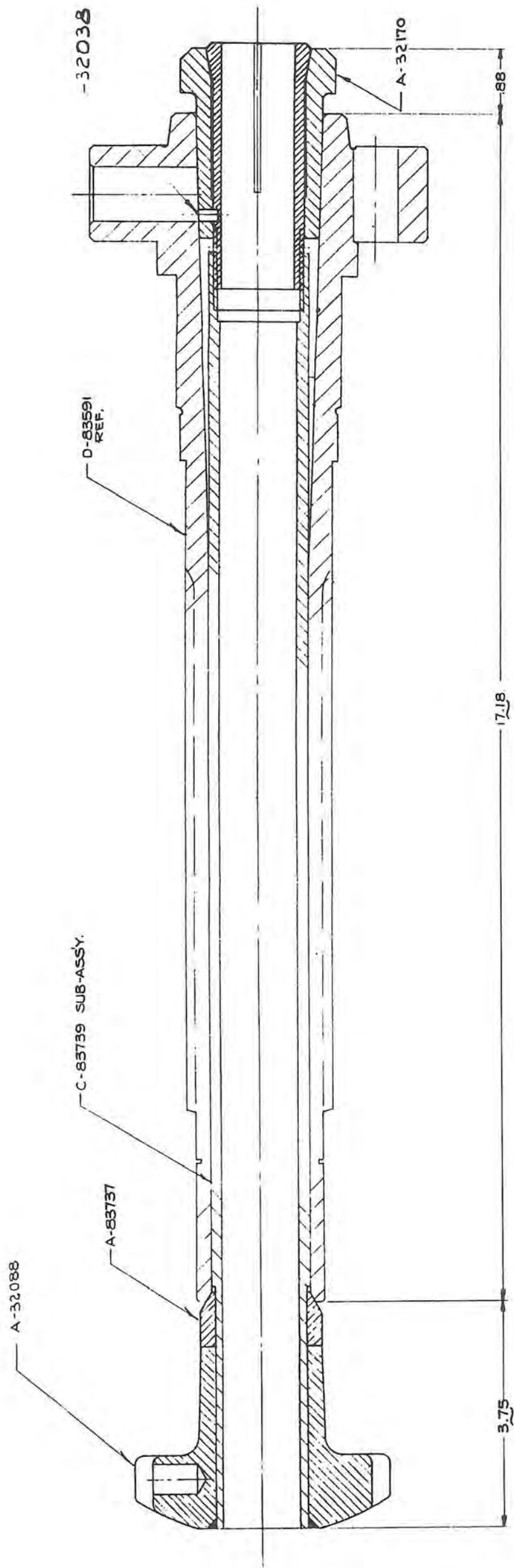
$\frac{3}{16}$  DIA  $\times \frac{3}{4}$   
ROLL PIN

A 83715 SUB-ASSY

A-83714 (PLATE)

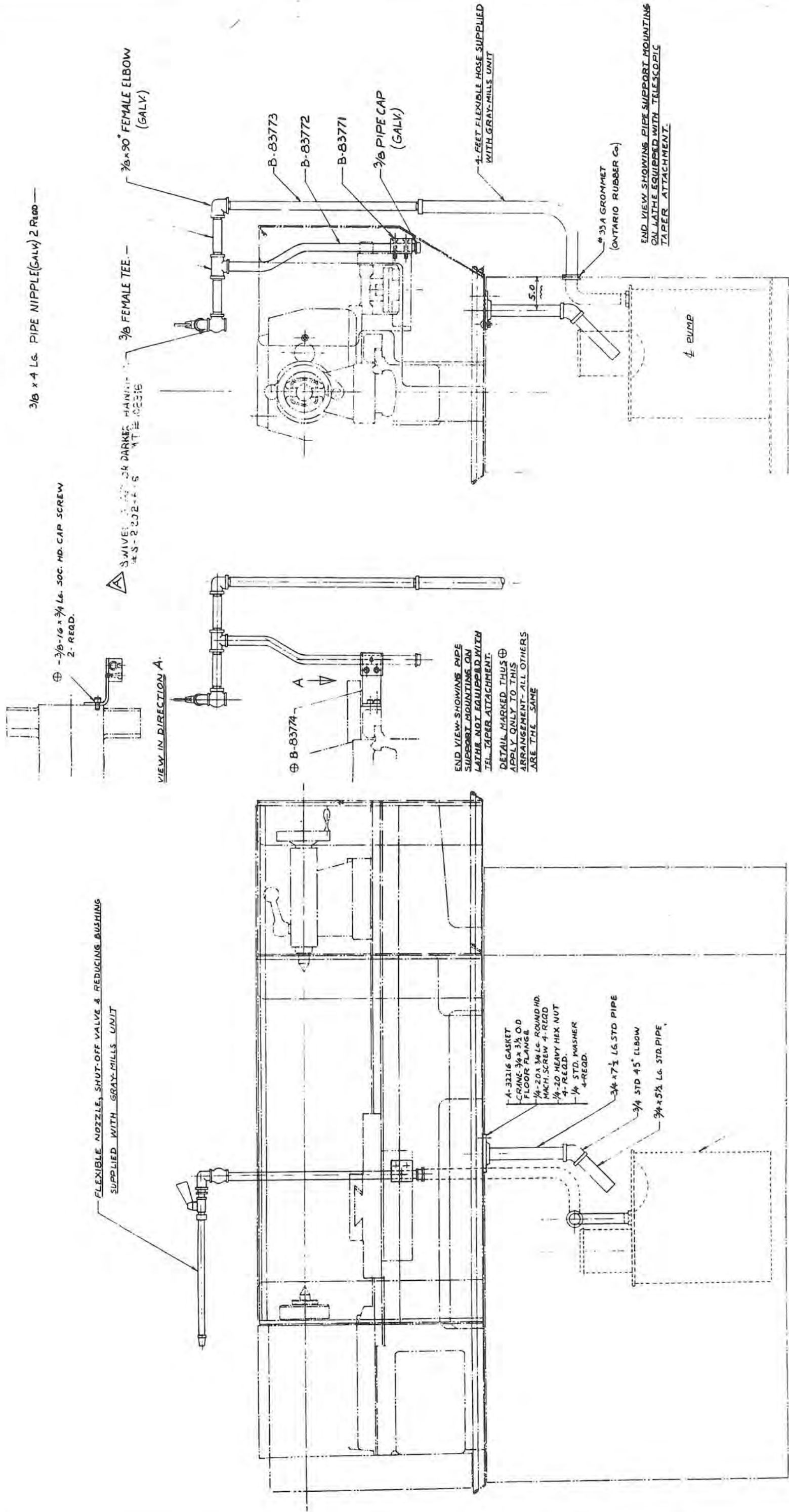
$\frac{7}{16}$ -14  $\times 2\frac{3}{4}$  SOC HD CAP SCE

| STANDARD-MODERN TOOL COMPANY LIMITED |     |             |         | TORONTO, CANADA |    |
|--------------------------------------|-----|-------------|---------|-----------------|----|
| ITEM NO.                             | QTY | DATE        | BY      | DATE            | BY |
| 1                                    | 1   | MICRO-METER | 10-1-50 |                 |    |
| 2                                    | 1   | STOP        | 10-1-50 |                 |    |
| 3                                    | 1   | STOP        | 10-1-50 |                 |    |
| 4                                    | 1   | STOP        | 10-1-50 |                 |    |
| 5                                    | 1   | STOP        | 10-1-50 |                 |    |
| 6                                    | 1   | STOP        | 10-1-50 |                 |    |
| 7                                    | 1   | STOP        | 10-1-50 |                 |    |
| 8                                    | 1   | STOP        | 10-1-50 |                 |    |
| 9                                    | 1   | STOP        | 10-1-50 |                 |    |
| 10                                   | 1   | STOP        | 10-1-50 |                 |    |
| 11                                   | 1   | STOP        | 10-1-50 |                 |    |
| 12                                   | 1   | STOP        | 10-1-50 |                 |    |
| 13                                   | 1   | STOP        | 10-1-50 |                 |    |
| 14                                   | 1   | STOP        | 10-1-50 |                 |    |
| 15                                   | 1   | STOP        | 10-1-50 |                 |    |
| 16                                   | 1   | STOP        | 10-1-50 |                 |    |
| 17                                   | 1   | STOP        | 10-1-50 |                 |    |
| 18                                   | 1   | STOP        | 10-1-50 |                 |    |
| 19                                   | 1   | STOP        | 10-1-50 |                 |    |
| 20                                   | 1   | STOP        | 10-1-50 |                 |    |
| 21                                   | 1   | STOP        | 10-1-50 |                 |    |
| 22                                   | 1   | STOP        | 10-1-50 |                 |    |
| 23                                   | 1   | STOP        | 10-1-50 |                 |    |
| 24                                   | 1   | STOP        | 10-1-50 |                 |    |
| 25                                   | 1   | STOP        | 10-1-50 |                 |    |
| 26                                   | 1   | STOP        | 10-1-50 |                 |    |
| 27                                   | 1   | STOP        | 10-1-50 |                 |    |
| 28                                   | 1   | STOP        | 10-1-50 |                 |    |
| 29                                   | 1   | STOP        | 10-1-50 |                 |    |
| 30                                   | 1   | STOP        | 10-1-50 |                 |    |
| 31                                   | 1   | STOP        | 10-1-50 |                 |    |
| 32                                   | 1   | STOP        | 10-1-50 |                 |    |
| 33                                   | 1   | STOP        | 10-1-50 |                 |    |
| 34                                   | 1   | STOP        | 10-1-50 |                 |    |
| 35                                   | 1   | STOP        | 10-1-50 |                 |    |
| 36                                   | 1   | STOP        | 10-1-50 |                 |    |
| 37                                   | 1   | STOP        | 10-1-50 |                 |    |
| 38                                   | 1   | STOP        | 10-1-50 |                 |    |
| 39                                   | 1   | STOP        | 10-1-50 |                 |    |
| 40                                   | 1   | STOP        | 10-1-50 |                 |    |
| 41                                   | 1   | STOP        | 10-1-50 |                 |    |
| 42                                   | 1   | STOP        | 10-1-50 |                 |    |
| 43                                   | 1   | STOP        | 10-1-50 |                 |    |
| 44                                   | 1   | STOP        | 10-1-50 |                 |    |
| 45                                   | 1   | STOP        | 10-1-50 |                 |    |
| 46                                   | 1   | STOP        | 10-1-50 |                 |    |
| 47                                   | 1   | STOP        | 10-1-50 |                 |    |
| 48                                   | 1   | STOP        | 10-1-50 |                 |    |
| 49                                   | 1   | STOP        | 10-1-50 |                 |    |
| 50                                   | 1   | STOP        | 10-1-50 |                 |    |
| 51                                   | 1   | STOP        | 10-1-50 |                 |    |
| 52                                   | 1   | STOP        | 10-1-50 |                 |    |
| 53                                   | 1   | STOP        | 10-1-50 |                 |    |
| 54                                   | 1   | STOP        | 10-1-50 |                 |    |
| 55                                   | 1   | STOP        | 10-1-50 |                 |    |
| 56                                   | 1   | STOP        | 10-1-50 |                 |    |
| 57                                   | 1   | STOP        | 10-1-50 |                 |    |
| 58                                   | 1   | STOP        | 10-1-50 |                 |    |
| 59                                   | 1   | STOP        | 10-1-50 |                 |    |
| 60                                   | 1   | STOP        | 10-1-50 |                 |    |
| 61                                   | 1   | STOP        | 10-1-50 |                 |    |
| 62                                   | 1   | STOP        | 10-1-50 |                 |    |
| 63                                   | 1   | STOP        | 10-1-50 |                 |    |
| 64                                   | 1   | STOP        | 10-1-50 |                 |    |
| 65                                   | 1   | STOP        | 10-1-50 |                 |    |
| 66                                   | 1   | STOP        | 10-1-50 |                 |    |
| 67                                   | 1   | STOP        | 10-1-50 |                 |    |
| 68                                   | 1   | STOP        | 10-1-50 |                 |    |
| 69                                   | 1   | STOP        | 10-1-50 |                 |    |
| 70                                   | 1   | STOP        | 10-1-50 |                 |    |
| 71                                   | 1   | STOP        | 10-1-50 |                 |    |
| 72                                   | 1   | STOP        | 10-1-50 |                 |    |
| 73                                   | 1   | STOP        | 10-1-50 |                 |    |
| 74                                   | 1   | STOP        | 10-1-50 |                 |    |
| 75                                   | 1   | STOP        | 10-1-50 |                 |    |
| 76                                   | 1   | STOP        | 10-1-50 |                 |    |
| 77                                   | 1   | STOP        | 10-1-50 |                 |    |
| 78                                   | 1   | STOP        | 10-1-50 |                 |    |
| 79                                   | 1   | STOP        | 10-1-50 |                 |    |
| 80                                   | 1   | STOP        | 10-1-50 |                 |    |
| 81                                   | 1   | STOP        | 10-1-50 |                 |    |
| 82                                   | 1   | STOP        | 10-1-50 |                 |    |
| 83                                   | 1   | STOP        | 10-1-50 |                 |    |
| 84                                   | 1   | STOP        | 10-1-50 |                 |    |
| 85                                   | 1   | STOP        | 10-1-50 |                 |    |
| 86                                   | 1   | STOP        | 10-1-50 |                 |    |
| 87                                   | 1   | STOP        | 10-1-50 |                 |    |
| 88                                   | 1   | STOP        | 10-1-50 |                 |    |
| 89                                   | 1   | STOP        | 10-1-50 |                 |    |
| 90                                   | 1   | STOP        | 10-1-50 |                 |    |
| 91                                   | 1   | STOP        | 10-1-50 |                 |    |
| 92                                   | 1   | STOP        | 10-1-50 |                 |    |
| 93                                   | 1   | STOP        | 10-1-50 |                 |    |
| 94                                   | 1   | STOP        | 10-1-50 |                 |    |
| 95                                   | 1   | STOP        | 10-1-50 |                 |    |
| 96                                   | 1   | STOP        | 10-1-50 |                 |    |
| 97                                   | 1   | STOP        | 10-1-50 |                 |    |
| 98                                   | 1   | STOP        | 10-1-50 |                 |    |
| 99                                   | 1   | STOP        | 10-1-50 |                 |    |
| 100                                  | 1   | STOP        | 10-1-50 |                 |    |



USE HARDINGE 5% COLLETS  
 MAXIMUM SIZES AVAILABLE -  
 1 1/8 ROUND  
 7/8 HEXAGON  
 3/4 SQUARE

| STANDARD-MODERN TOOL COMPANY LIMITED |  |  |  | TORONTO, CANADA    |      |          |                           |
|--------------------------------------|--|--|--|--------------------|------|----------|---------------------------|
| E                                    |  |  |  | DR.                | 1-12 | ITEM NO. | NO. REQ'D                 |
| D                                    |  |  |  | CHK'D              |      | TITLE    | ASSY OF COLLET ATTACHMENT |
| C                                    |  |  |  |                    |      | DATE     | NOV. 7/72                 |
| B                                    |  |  |  |                    |      | SHEET    | 1                         |
| A                                    |  |  |  |                    |      | OF       | 1                         |
|                                      |  |  |  | LATHE MODEL - 1340 |      |          |                           |
|                                      |  |  |  | C-83710            |      |          |                           |



| STANDARD-BROOKER TOGA COMPANY LIMITED TORONTO, CANADA      |      |      |          |
|------------------------------------------------------------|------|------|----------|
| ITEM NO.                                                   | QTY. | UNIT | U.S. IN. |
| 1                                                          | 1    | PAI  |          |
| 2                                                          | 1    | UNIT |          |
| 3                                                          | 1    | UNIT |          |
| 4                                                          | 1    | UNIT |          |
| COOLANT ASSY. WITH 3 INTRANT T.T.A. AND WITH SPACER GUMBER |      |      |          |
| MODEL 1120 AND 1334 LATHES                                 |      |      |          |
| D-83781                                                    |      |      |          |