

# **Standard-Modern Lathes Inc.**

**LATHE, ENGINE, 13 INCH SWING OVER BED  
MOUNTED ON A CABINET BASE.**

**CAGE: 3AA35**

**NSN: 3416-01-030-8195**

**MODEL: 1334 I/M PN: 1334-MIL**

**CATALOG NO: 52319**

**CONTRACT NO: DAAA08-02-M-0925**

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## OPERATORS HANDBOOK

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## INTRODUCTION

The lathe is a machine designed and built to provide a means of turning and/or boring by the action of a tool on a workpiece rotating about a horizontal axis.

Specifications for this lathe may be found on page 1 of this manual.

For information regarding the capabilities of this machine, refer to the Inspection and Test Record which was shipped from the factory with this manual. The serial No. relates the lathe to its particular Inspection and Test Record.

The lathe may be fitted with a Size 1, light duty milling, drilling, slotting and grinding attachment to Federal Specification OO-M-340 using bracketry supplied with the lathe and the attachment.

The dimensions and center of gravity of the lathe may be found on page 3 and the General Assembly drawing of this manual.

The approximate weight of the machine is 2000 lbs.

This lathe is arranged for operation on 120-240v/1ph./50-60Hz.

The lathe is equipped with a cabinet base for tool storage. Refer to page ii of this introduction for a list of items furnished with the lathe.

Please refer to page iii for Warranty/Guarantee information.

# Introduction (continued) LIST OF LOOSE EQUIPMENT AND TOOLING

|    | DESCRIPTION                           | QUANTITY | PART NUMBER   |
|----|---------------------------------------|----------|---------------|
| 1  | Dog Plate, Steel                      | 1        | 114477        |
| 2  | Center Sleeve                         | 1        | 32332         |
| 3  | Quick change tool post                | 1        | SD30BXA       |
| 4  | Face Plate, Steel                     | 1        | 114478        |
| 5  | Micrometer Carriage Stop ( inch )     | 1        | 83713         |
| 6  | Collets, 5C, Set of 17                | 1        | 113954        |
| 7  | Chuck, 4-jaw, independent             | 1        | 114283        |
| 8  | Chuck, 3-jaw, universal               | 1        | 114282        |
| 9  | Drawbar Collet Attachment             | 1        | 115274        |
| 10 | Steady Rest                           | 1        | 30667         |
| 11 | Follow Rest                           | 1        | 108972        |
| 12 | Adaptor, VERSAMIL, cross slide mtg    | 1        | 109087        |
| 13 | Adaptor, VERSAMIL, compound mtg       | 1        | 109743        |
| 14 | Drill Chuck, 0-1/2" Cap.c/w arbor #34 | 1        | AO-302        |
| 15 | Center, Live                          | 1        | HK30-8811-3   |
| 16 | Center, Live, Pipe                    | 1        | 1-5181-300    |
| 17 | Dog, Set, Lathe                       | 1        |               |
|    | Comprising :                          |          |               |
|    | 1/2" single screw bent tail           | 1        | 1-397-013     |
|    | 3/4" single screw bent tail           | 1        | 1-397-014     |
|    | 1" single screw bent tail             | 1        | 1-397-015     |
|    | 1-1/4" single screw bent tail         | 1        | B637          |
|    | 1-1/2" single screw bent tail         | 1        | 1-397-016     |
|    | 2" single screw bent tail.            | 1        | 3281A4        |
| 18 | Lathe Toolholder Set                  | 1        | 114169        |
|    | Comprising :                          |          |               |
|    | Turning, Facing, Boring Holder        | 2        | D30BXA-2      |
|    | Cut-off Holder                        | 1        | D30BXA-7      |
|    | Knurling Holder c/w medium knurls     | 1        | D30BXA-10     |
|    | Knurls, Coarse, pair                  | 1        | SDR&SDL-16-HS |
|    | Knurls, Fine, pair                    | 1        | SDR&SDL-40-HS |
|    | Boring Bar Holder                     | 1        | D30BXA-4      |
|    | Boring Bar 1/2" Dia.                  | 1        | 1-454x060     |
|    | Boring Bar 3/4" Dia.                  | 1        | 1-454x066     |
|    | Boring Bar 1" Dia.                    | 1        | 1-454x70      |
|    | Toolbit 5/16" square.                 | 20       | 420-020       |
|    | Toolbit 1/4" square.                  | 12       | 420-016       |
|    | Toolbit 3/16" square.                 | 6        | 420-012       |
|    | Cut-off blade. 5/8"                   | 6        | P3            |
|    | Toolbit 5/16" square. 60°             | 1        | 86-005        |
|    | Sleeve, reducing 1" - 3/4"            | 1        | 115474        |
| 19 | Wrench set                            | 1        |               |
|    | Comprising :                          |          |               |
|    | Allen key 1/8"                        | 1        | 906-57014     |
|    | Allen key 5/32"                       | 1        | 906-57020     |
|    | Allen key 3/16                        | 1        | 906-57022     |
|    | Allen key 1/4"                        | 1        | 906-57026     |
|    | Allen key 5/16"                       | 1        | 906-57028     |
|    | Tool Post wrench 1/2" square.         | 1        | 5401A26       |
|    | Open end 1" - 15/16"                  | 1        | 5401A45       |
|    | Open end 3/4" - 11/16"                | 1        | 5452A26       |
|    | Camlock wrench                        | 1        | 32168         |
|    | Chuck wrench, 4-jaw Chuck             | 1        | 71365         |
|    | Chuck wrench, 3-jaw Chuck             | 1        | 71389         |
|    | Chuck wrench, drill                   | 1        | K3            |
| 20 | Shear pin, spare, feed gear train     | 4        | 30398         |
| 21 | Shear pin, spare, leadscrew           | 4        | 33628         |
| 22 | Reducing sleeve, Tailstock            | 1        | 1-5142-015    |
| 23 | Round toolpost.                       | 1        |               |
|    | Comprising:                           |          |               |
|    | Toolpost #1                           | 1        | 21198         |
|    | Ring                                  | 1        | 21199         |
|    | Wedge                                 | 1        | 21200         |
|    | Block                                 | 1        | 21201         |
|    | Screw, Mac-It 1-1/2-13 x 2            | 1        |               |

Introduction (continued)

WARRANTY/GUARANTEE INFORMATION

The Engine Lathe covered by this technical manual is Warranted against defective workmanship and material for a period of twenty-four months on one shift, or equivalent, from receipt of lathe, provided the Company shall not be responsible for any loss or damage which is caused by defective workmanship performed, or defective material supplied, by others. The above warranty does not include defective items resulting from inadequate maintenance or improper usage.

On all items incorporated into the lathe but not manufactured by the Company and notwithstanding the guarantee above, The Company's warranty with respect thereto shall be limited to the lesser of (a) the guarantee of the other manufacturer, or (b) the warranty of the Company set forth above.

In no event will the Company be responsible for payment of any claim for labour or other expenditures on products supplied by the Company without the signed authorization of an official of the Company.

**SPECIFICATIONS**

|                         |                                |                             |
|-------------------------|--------------------------------|-----------------------------|
| MACHINE                 | Swing over Bed and Saddle      | 13 in.                      |
|                         | Swing over Cross Slide         | 7.75 in.                    |
|                         | Distance between Centers       | 34 in.                      |
|                         | Main Drive Motor               | 2 H.P.                      |
|                         | Bar Capacity                   | 1.375 in.                   |
| HEADSTOCK               | Spindle Speeds                 | 12                          |
|                         | Speed Range                    | 38 - 1860 RPM               |
|                         | Spindle Nose - Camlock         | D1-4 in                     |
|                         | Spindle Hole                   | 1.44 in                     |
|                         | Spindle Center                 | #3 MT                       |
| FEEDBOX                 | Number of Feed Changes         | 108 (54 inch & 54 metric)   |
|                         | Number of Thread Changes       | 108 (54 inch & 54 metric)   |
|                         | Inch Feed Range Longitudinal   | .001 - .062 in/rev          |
|                         | Cross                          | .0005 - .031 in/rev.        |
|                         | Inch Thread Range              | 4 - 224 T.P.I.              |
|                         | Metric Feed Range Longitudinal | .031 - 1.74mm/rev           |
|                         | Cross                          | .015 - .87mm/rev            |
| APRON                   | Metric Thread Range            | .125 - 7 mm lead            |
|                         | Double Wall Construction       |                             |
| APRON                   | Half-nuts                      | Double                      |
| CARRIAGE<br>CROSS SLIDE | Carriage length on bed         | Front 13 in.<br>Rear 15 in. |
|                         | Carriage bridge width          | 6 in.                       |
|                         | Cross slide length             | 15 in.                      |
|                         | Cross slide travel             | 7 in.                       |
|                         | Compound Travel                | 3.25 in.                    |
|                         | Dial graduations               | .001 in. and .02 mm         |
| TAILSTOCK               | Spindle diameter               | 1.56 in.                    |
|                         | Spindle travel                 | 4 in.                       |
|                         | Morse Taper with tang drive    | #3 MT                       |
|                         | Offset                         | ± .75 in.                   |

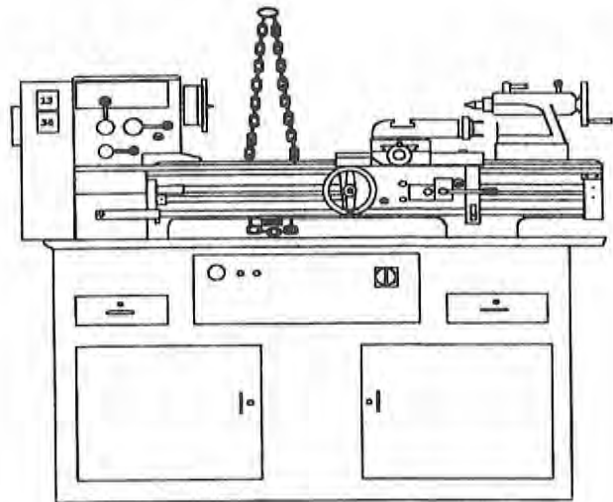
## 1. LIFTING AND INSTALLATION INSTRUCTIONS

### 1.1 Lifting the Machine

To lift the machine using chain slings, run the carriage to the tailstock end and place the slings around the cross rib located at the center of the bed. Protect painted surfaces with thick pads and wood blocks.

Do not attempt to lift this machine with a hoist having less than one ton capacity. The shipping weight of the machine is 2000 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 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 in the recessed face on top of the bed at the tailstock end of the machine.

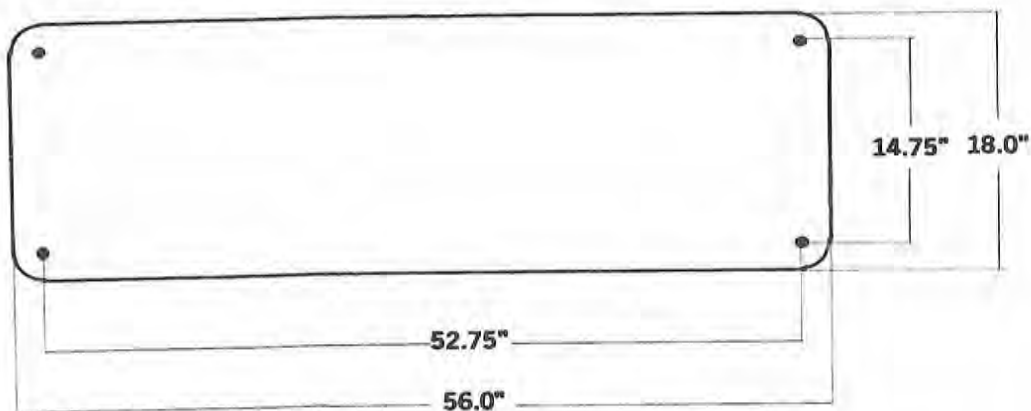
### 1.3 Cleaning

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.

To remove anti-rust compound, wipe with a clean cloth.

All unpainted surfaces should be coated immediately with a film of light machine oil to prevent rust

## 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.

### 1.5 Power Supply Frequency

This machine is equipped with a dual frequency motor, allowing operation with either a 50hz or 60hz power supply.

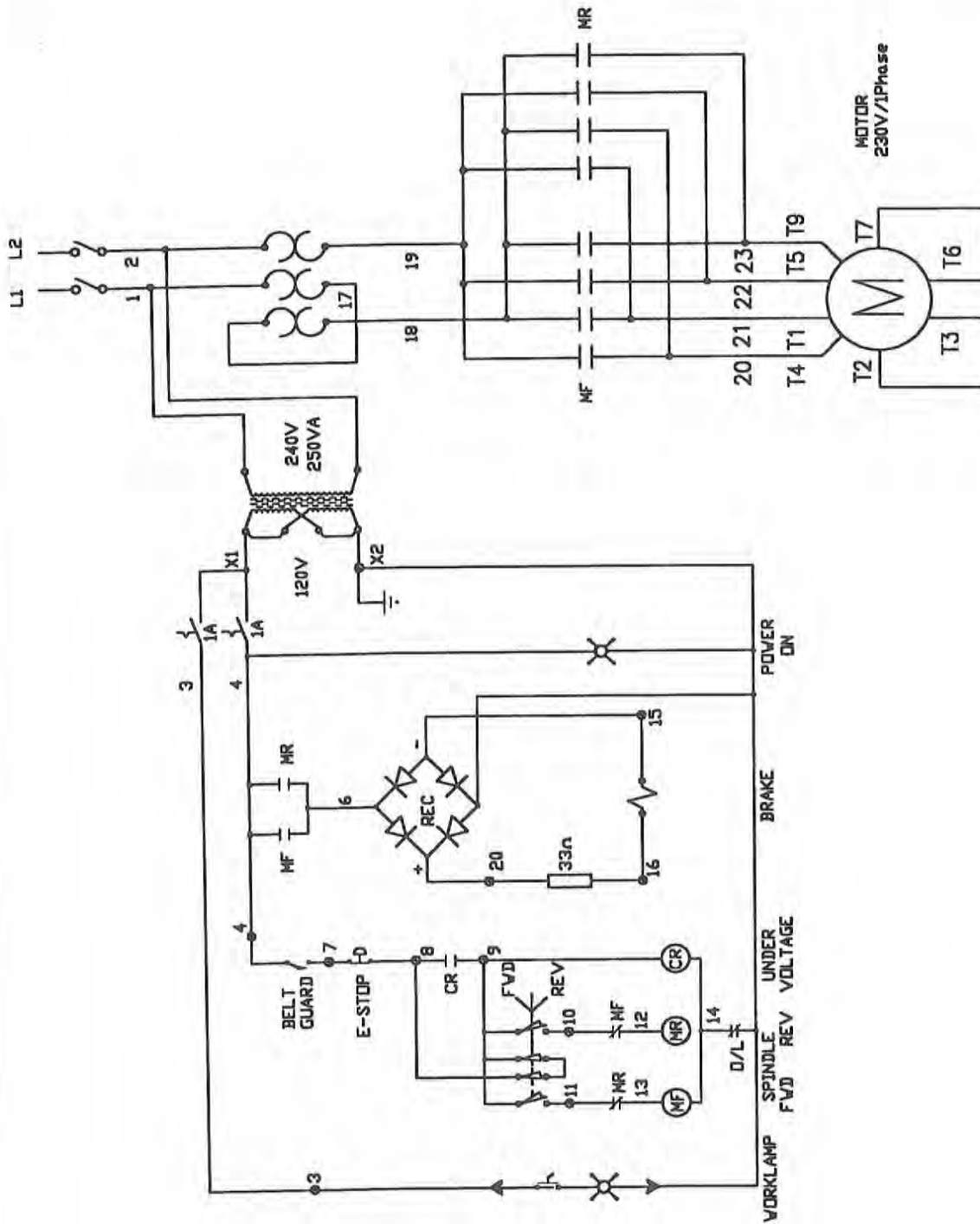
To ensure the spindle speeds are as indicated on the headstock nameplate, the motor pulley must be located in accordance with the actual supply frequency.

1. LIFTING AND INSTALLATION INSTRUCTIONS cont'd

1.5 Power Supply Frequency

Before starting the machine, the face of the motor pulley should be checked to ensure the frequency stamped on it coincides with the actual supply frequency. If not, proceed as follows.

1. Loosen motor mounting screws and remove drive belts.
2. Remount drive motor using the second set of mounting holes; holes for 50hz operation are spaced 1/2" above those for 60hz operation.
3. Loosen set screw on motor pulley and reverse motor pulley.
4. Align the rearmost pulley groove (closest to the motor) with the rearmost headstock pulley groove, and tighten set screw.
5. Mount belts in grooves aligned with headstock pulleys, and retension according to paragraph 5.1.



|                                             |                      |
|---------------------------------------------|----------------------|
| STANDARD-MODERN LATHES INC. Ontario, Canada | ELECTRICAL SCHEMATIC |
|---------------------------------------------|----------------------|

**FURST USED ON JOB NO.**

1334 ENGINE LATHE - 230 V/1Ph

## STANDARD WIRING

A-115626

DATE NOV 02



## 2. LUBRICATION

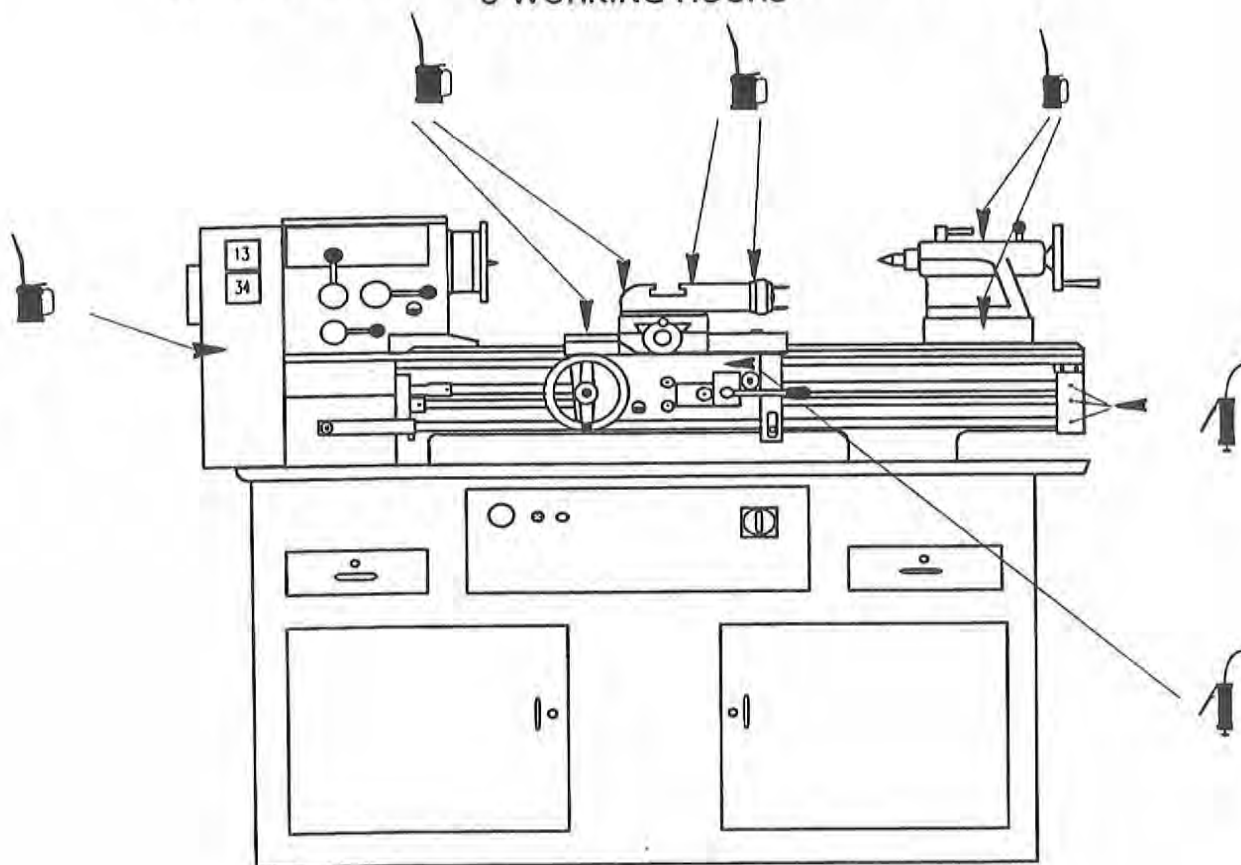


**OIL:** SAE 30 Non-detergent Mineral Oil.  
Viscosity 500-550 SUS at 100 F.  
MIL-L 6082D GRADE 1100  
NSN: 9150-21-888-7172



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

THE FOLLOWING SECTION SHOULD BE LUBRICATED EVERY  
8 WORKING HOURS



**NOTE** Telescopic taper attachment not shown.

### EVERY SIX MONTHS CHANGE OIL

|           |       |        |
|-----------|-------|--------|
| Headstock | 5     | quarts |
| Feed box  | 1-1/2 | quarts |
| Apron     | 1/4   | quarts |

### EVERY 2 TO 6 WORKING DAYS

|                                         |        |
|-----------------------------------------|--------|
| Carriage ways                           | 1 shot |
| Top up one shot reservoir when required |        |

## 2. LUBRICATION

### 2.1. General

Before filling reservoirs, always wipe off any accumulation of old oil, grease or dirt that might get into a part being lubricated.

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

Because most solvents tend to soften paints, they are not recommended as flushing media. A light mineral 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. The flushing oil should then be drained and new oil added.

### 2.2 END GEAR TRAIN

Oil idler gear teeth daily.

### 2.3 Apron

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

One grease nipple located on the right hand end of the apron lubricates the half-nuts.

### 2.4 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 are lubricated by two oilers; one each side of the base.

Dry red lead mixed with machine oil to a creamy consistency is an excellent lubricant for the tailstock center when a revolving center is not available.

### 2.5 Compound

On the compound rest, one oiler lubricates the screw, a second oiler lubricates the screw bearing.

## 2. LUBRICATION cont'd.

### 2.6 Cross Slide

The cross slide dovetails and bearing surfaces are lubricated by means of the two oilers located each side of the cross slide. One oiler, at the center on top of the cross slide lubricates the Cross Feed Nut and the threaded portion of the Cross Feed Screw. The cross feed screw bearing is lubricated through an oiler behind the cross feed dial.

### 2.7 Saddle

The saddle ways are lubricated by means of the one-shot lubrication system through oil passages and oil grooves.

The oil is retained at the bearing surfaces by felt seals located at either end of the saddle wings which also provide an even distribution of the lubricant over the ways.

### 2.8 Bed End Bracket and Leadscrew

Three grease fittings, located on the front face of the Bed End Bracket, lubricate the ends of the Leadscrew, Feed Shaft, and Control Shaft; apply grease to these fittings.

Before cutting a thread, clean and oil the Leadscrew thoroughly.

### 2.9 Taper Attachment

Clean and oil the pivoted slide bar before using.

Three oilers lubricate the slide plate and the thrust bearing.

### 3. LATHE SAFETY

Every effort has been made in the design and production of the lathe to comply with statutory safety requirements and to provide a fundamentally safe machine tool. In the further interests of safety, attention should be given to the following notes:

#### 3.1 Machine Use

Responsibility for the following points with respect to machining a component must inevitably rest with the user.

- (1) Ensure that the operator has had suitable training and possesses the required degree of skill and experience to undertake the work.
- (2) Provide suitable work holding and/or supporting equipment : chucks, steadies, revolving centers, etc.
- (3) Ensure that suitable tooling is provided and correctly mounted.
- (4) Ensure that suitable feeds and speeds are selected.  
(If in doubt select low).
- (5) Provide and use suitable workpiece guards.

#### 3.2 Lathe Safety Rules

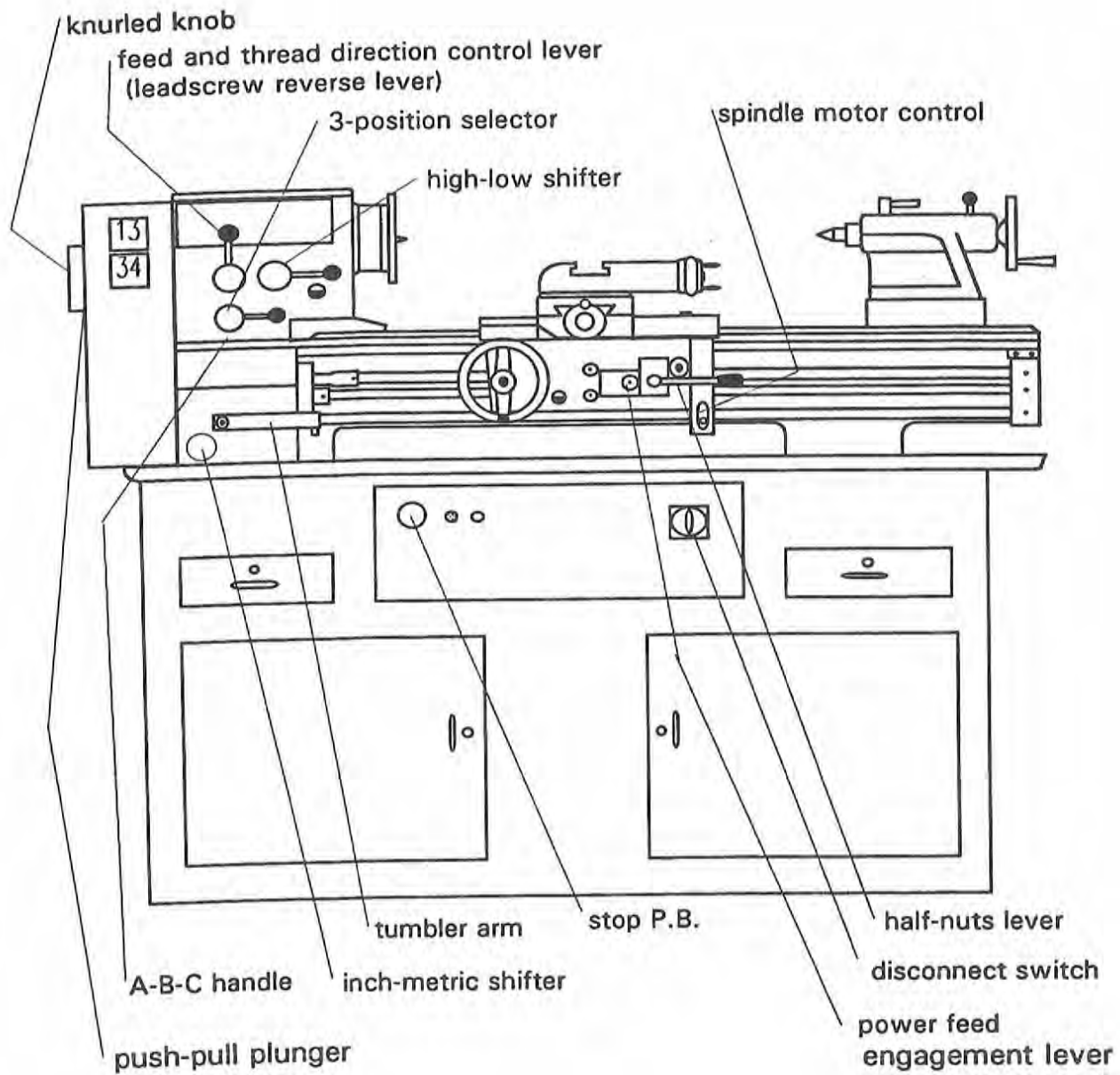
- (1) Read and understand operation notes before attempting to use the machine.
- (2) Keep lathe work areas clean.
- (3) Keep area surrounding machine tidy.
- (4) **KNOW HOW TO STOP THE MACHINE BEFORE STARTING IT.**
- (5) **DO NOT** interchange chucks or other spindle mounted items between lathes without checking for correct locking.
- (6) We recommend only high speed chucks.
- (7) Before operating the lathe, note the maximum rated speed for chucks and face plates as supplied by the manufacturer.
- (8) Remove chuck key immediately after use.
- (9) Check load capacity of revolving centers.
- (10) Ensure guards are in position before starting machine.
- (11) **DO NOT** use cracked or chipped tools.
- (12) **CHECK** before starting motor:
  - Spindle speed and feed rate selected.
  - Feed and thread cutting levers are disengaged.
- (13) **STOP MACHINE IMMEDIATELY IF ANY THING UNEXPECTED HAPPENS.**
- (14) **DO NOT** use coarse feed range on high spindle speeds.
- (15) **DO NOT** change spindle speeds when spindle is rotating.
- (16) **DO NOT** touch revolving chuck, spindle or workpiece.

### 3. LATHE SAFETY cont'd.

- (17) DO NOT remove work from the machine without retracting the tool to a safe position.
- (18) Stop motors and push in red safety stop switch when leaving machine unattended.
- (19) Use safety stop switch when changing workpiece, tightening or loosening chuck etc.

#### 3.3 Personal Safety Rules

- (1) Report any accident as soon as it happens.
- (2) Wear safety glasses.
- (3) Wear safety shoes.
- (4) Use barrier creams provided.
- (5) Wear your overalls buttoned up.
- (6) Roll sleeves up or button the cuffs.
- (7) Keep hair short or wear a cap.
- (8) Use the correct size wrench at all times.
- (9) Be careful of, and remove, all burrs and sharp edges.
- (10) When lifting a heavy workpiece, use the correct type of sling, ensuring that it is not worn or damaged and that its safe working load is not exceeded.
- (11) Stand clear when lifting workpieces or equipment by crane.
- (12) Obtain assistance when mounting heavy or awkwardly shaped workpieces.
- (13) DO NOT wear rings, watches, ties, etc.
- (14) DO NOT keep tools (scribers, etc.) in overall pockets.
- (15) DO NOT remove guards unless machine is stationary.
- (16) DO NOT wash hands in coolant.
- (17) DO NOT remove chips with bare hands; use a rake or brush.
- (18) DO NOT manually lift heavy equipment.
- (19) DO NOT use files, scrapers, etc., on machine tools.
- (20) DO NOT lean on the machine.
- (21) DO NOT tamper with electrical equipment.



### BASIC OPERATING CONTROLS

## 4. OPERATING INSTRUCTIONS

### 4.1 Motor and Spindle Control

The spindle motor is controlled by means of a control lever mounted on the apron. Lift up for FORWARD rotation, centralize for STOP and push down for REVERSE rotation.

### 4.2 Spindle Speed Selection

|             |    |     |     |     |     |      |
|-------------|----|-----|-----|-----|-----|------|
| SLOW RANGE: | 38 | 75  | 150 | 320 | 630 | 1270 |
| FAST RANGE: | 54 | 110 | 220 | 470 | 925 | 1860 |

The desired spindle speed range is obtained by moving the KNURLED KNOB located in a recess near the top of the belt guard.

To select Slow Range, push and twist.

To select High Range, pull and twist.

Any spindle speed within that range can be obtained by moving the 3-POSITION SELECTOR KNOB and the HIGH-LOW shifter.

For free hand rotation of the spindle, move the HIGH-LOW shifter lever to its mid-position.

**WARNING** - STOP the motor before operating any speed selectors.

- DO NOT exceed spindle speed recommended by chuck manufacturer.
- DO NOT operate the machine with the large face plate above 500 rpm.

### 4.3 Power Feeds

The trip clutch pre-load is factory set and should not require adjustment.

A safety interlock is fitted so that it is impossible to engage the POWER FEED ENGAGEMENT LEVER and the HALF-NUTS LEVER at the same time.

#### 4. OPERATING INSTRUCTIONS cont'd

##### 4.3 cont'd

To select power longitudinal feed or power cross feed, select COARSE or FINE range by means of the PUSH-PULL PLUNGER which protrudes through the belt guard and arrange the A-B-C handle, INCH-METRIC shifter knob and TUMBLER ARM to obtain the desired feed rate according to the feeds and threads chart.

**WARNING: STOP the motor before moving the PUSH-PULL PLUNGER.**

**CAUTION: DO NOT USE THE COARSE RANGE OF FEEDS WHEN SPINDLE SPEEDS ARE ABOVE 140 RPM.**

(REFER TO PAGE 14 FOR LIST OF FEEDS)

The FEED AND THREAD DIRECTION CONTROL LEVER (leadscrew reverse lever) is located on the headstock . Select appropriate direction as shown on spindle speed chart.

Do not change the feed direction above 900 RPM or whilst in the coarse feed range. (Shear pin damage could result).

The POWER FEED ENGAGEMENT LEVER is located centrally on the apron. Move up for longitudinal feed and down for crossfeed. A short side shift is required before shifting from long feed to cross feed or vice versa to prevent accidental through-shifting.

**NOTE:** The power cross feed rate is half the longitudinal feed rate.

**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

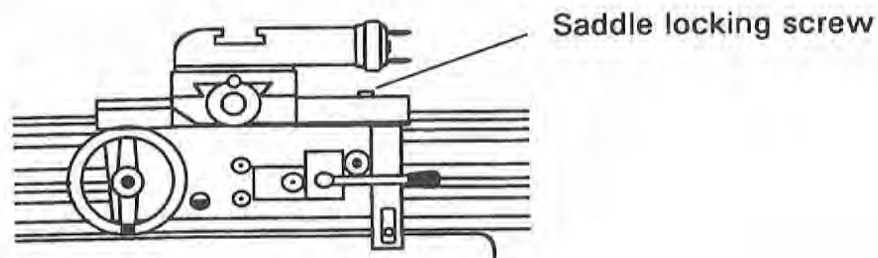
COARSE

|     |    |        |    |      |    |       |    |
|-----|----|--------|----|------|----|-------|----|
| 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 |

#### 4. OPERATING INSTRUCTIONS

##### 4.3 cont'd

Provision is made for locking the saddle when facing by tightening the 1/2" hex head cap screw shown below.



#### 4.4 Thread Cutting.

##### 4.4.1

When cutting screw threads, begin by selecting the desired mm pitch or T.P.I., in a manner similar to feed selection (4.3)

##### 4.4.2.

The FEED AND THREAD DIRECTION CONTROL LEVER mounted on the top left hand side of the headstock must be positioned to the left or right as indicated on the chart below, depending on the hand of the thread to be cut.

| THREAD     | SPINDLE FORWARD | SPINDLE REVERSE |
|------------|-----------------|-----------------|
| RIGHT HAND | LEFT            | RIGHT           |
| LEFT HAND  | RIGHT           | LEFT            |

This lathe is equipped with a leadscrew reversing mechanism which allows half-nuts to remain engaged during the entire operation.

#### 4. OPERATING INSTRUCTIONS cont'd

4.4.3 **CAUTION:** THREADING SPINDLE SPEED LIMIT IS 900 RPM.  
THE FEED AND THREAD DIRECTION CONTROL  
LEVER MUST NOT BE ENGAGED ABOVE THIS  
SPEED.

Approximate safe thread cutting speeds can be determined by using the following formulae:

$$1) \quad \text{T.P.I.} \times 25 = \text{SAFE R.P.M.}$$

$$\text{e.g. } 20 \text{ T.P.I.} \times 25 = 500 \text{ R.P.M.}$$

$$2) \quad \frac{625}{\text{mm pitch}} = \text{SAFE R.P.M.}$$

$$\text{e.g. } \frac{625}{.9 \text{ mm pitch}} = 695 \text{ R.P.M.}$$

**CAUTION:** DO NOT USE ANY SPINDLE SPEED ABOVE 900 R.P.M.  
FOR CUTTING THREADS.

#### 4. OPERATING INSTRUCTIONS cont'd

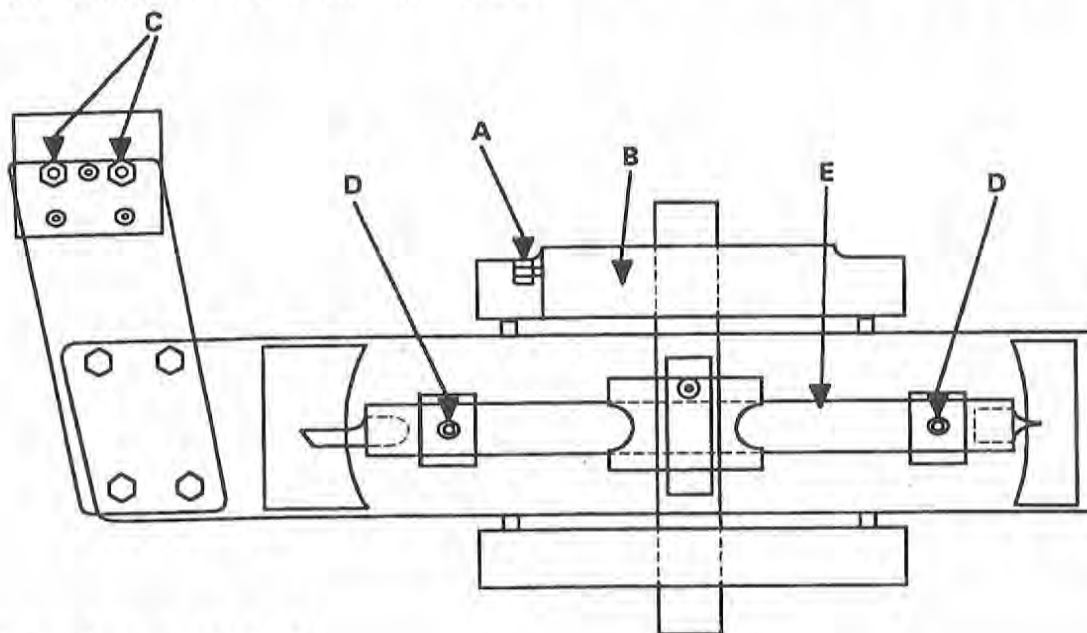
##### 4.5 Telescopic Taper Turning Attachment

###### 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.



##### 4.6 Face plate attachment

The face plate 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.

## 5. MAINTENANCE INSTRUCTIONS

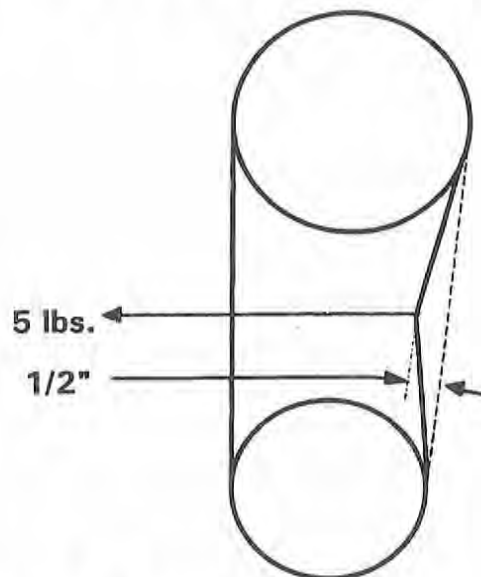
### 5.1 Drive Belts Tension Control

When changing pulleys and/or belts, loosen the motor plate. With the new pulleys and/or belts in position, adjust for correct belt tension (see below) and tighten the motor plate.

For correct belt tension, use the following method:

At the center of the span, apply a force of 5 lbs. with a spring scale to deflect the belt  $\frac{1}{2}$ ".

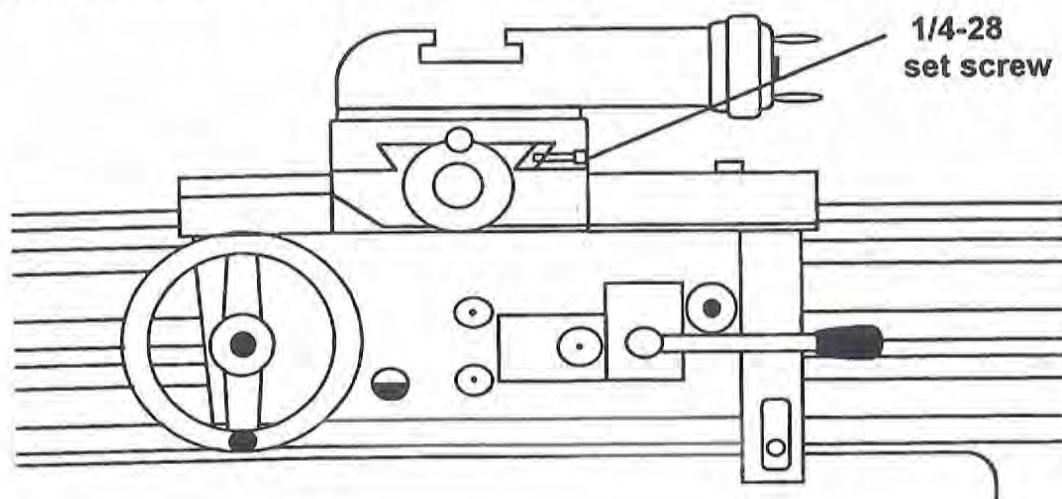
Check the tension frequently during the first day of operation and periodically thereafter. Keep pulleys and belts clean and free of any foreign material to ensure long life and better traction.



### 5.2 Cross slide ways

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

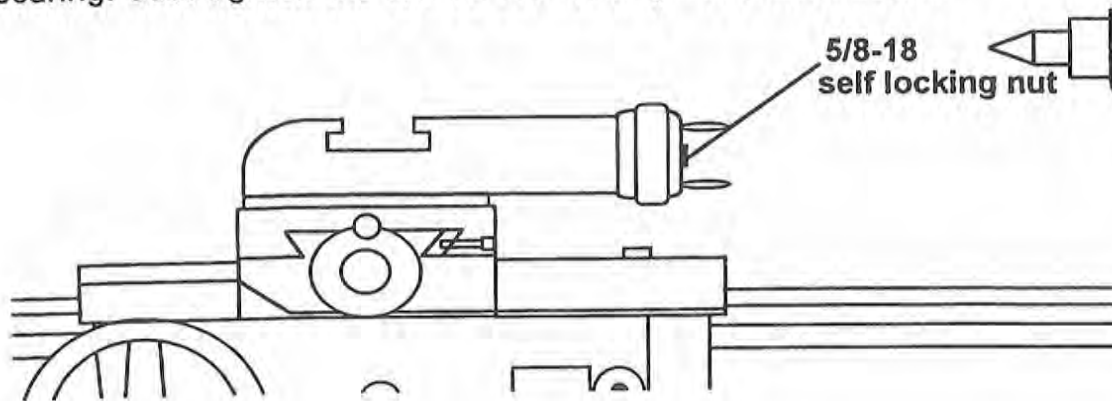
Turn 1/4-28 socket set screws located on the right hand side of the Cross Slide in a clockwise direction to tighten the Gib.



## 5. MAINTENANCE INSTRUCTIONS cont'd

### 5.3 Cross Slide Screw

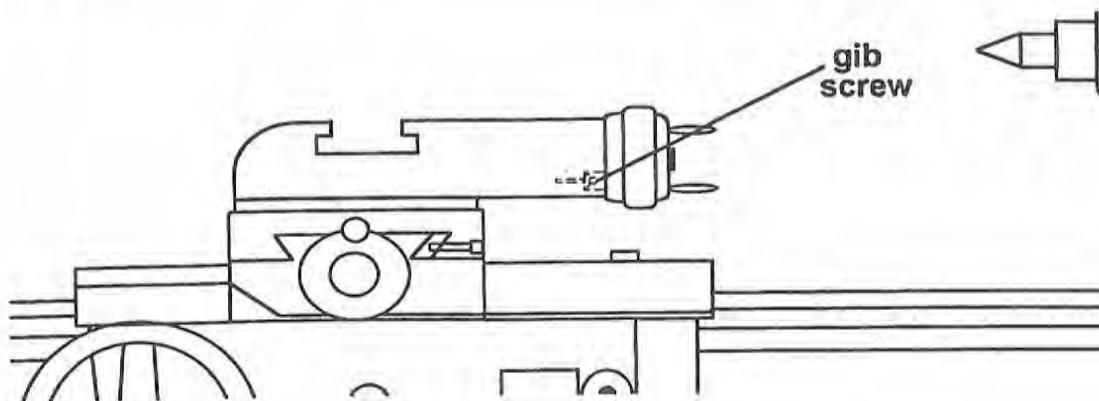
Provision is made for the elimination of backlash in the Cross Slide Screw thrust bearing. Just tighten the 5/8-18 self locking nut shown below.



### 5.4 Compound Slide Ways

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

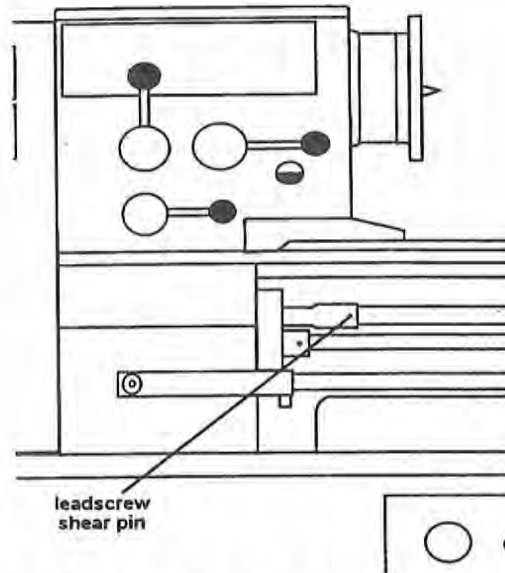
Turn the slotted head Gib Screw at the handle end in a clockwise direction to tighten.



## 5. MAINTENANCE INSTRUCTIONS cont'd

### 5.5 Leadscrew Shear Pin

This brass shear pin (PN/ 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.

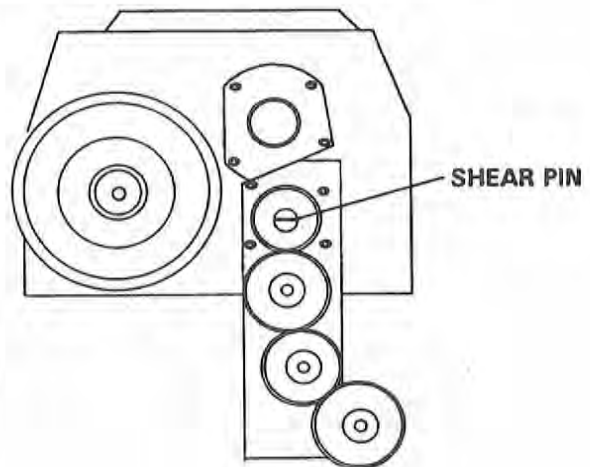


The shear pin can be readily replaced by first withdrawing the leadscrew from the coupling to remove the three pieces of broken pin. It is then returned to the coupling and rotated by hand until the zero line on the screw Leadscrew Shear Pin coincides with that on the coupling. A new shear pin (4 spare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

### 5.6 End Gear Train Shear Pin

This brass shear pin (PN/ 30398) drives the top gear of the end gear train (see below). It is provided to prevent damage to the feed gears if 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.



5. MAINTENANCE INSTRUCTIONS cont'd.5.7 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                    | Regrind 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 25)                                                                                              |
|           | 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.                                                                                                      |

5. MAINTENANCE INSTRUCTIONS cont'd.5.7 Trouble Shooting Chart

| 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. Work centers out of round. | Regrind centers. Lap work centers.                          |
|                                                                    | Loose headstock spindle bearings.                    | Adjust headstock spindle bearings. (see page 25)            |
| 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.     |

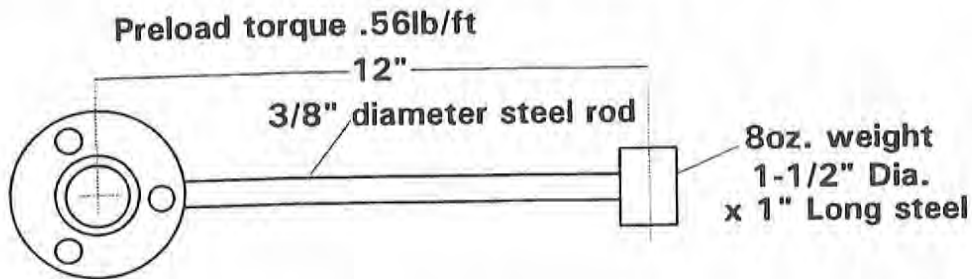
### PARTS ORDERING PROCEDURE

- (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

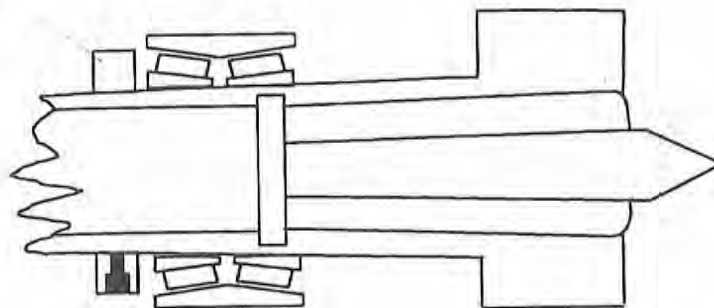
The correct preload is determined by the actual force required to turn the spindle in its bearings when the spindle is in its neutral position, i.e. with the HIGH-LOW shifter and LEADSCREW REVERSE in their respective neutral positions.



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.

adjusting nut



set screw

## ELECTRICAL PARTS LIST

| PART NR.         | MANUFACTURER  | NOMENCLATURE              | QTY |
|------------------|---------------|---------------------------|-----|
| OT45ET3S         | ABB           | MAIN DISCONNECT           | 1   |
| A26-30-10-84     | ABB           | 4 POLE CONTACTOR          | 2   |
| TA25DU19         | ABB           | THERMAL O/L RELAY         | 1   |
| VE5-1            | ABB           | INTERLOCK                 | 1   |
| DB25/25A         | ABB           | OVERLOAD STAND            | 1   |
| CA5-10           | ABB           | AUXILIARY CONTACT         | 2   |
| CBK-KLF1G        | ABB           | PILOT LIGHT               | 1   |
| CBK-NPE35        | ABB           | NAMEPLATE 'POWER ON'      | 1   |
| CBK-PMP40R-O1    | ABB           | MUSHROOM PUSHBUTTON       | 1   |
| CBK-NPE30        | ABB           | E-STOP NAMEPLATE          | 1   |
| USM11            | GOULD         | FUSE HOLDER               | 2   |
| ATDR1            | GOULD         | FUSE, 1A                  | 2   |
| PH250MJ          | HAMMOND       | TRANSFORMER, 250VA        | 1   |
| HBL7596          | HUBBELL       | LOCKING RECEPTACLE        | 1   |
| HBL7594NP        | HUBBELL       | LOCKING PLUG              | 1   |
| G2R-1-S          | OMRON         | RELAY                     | 1   |
| P2RF-O5-E        | OMRON         | RELAY SOCKET              | 1   |
| D2C-1602         | OMRON         | DOOR INTERLOCK SWITCH     | 1   |
| ZCKJ404H7        | TELEMECANIQUE | FWD-REV SWITCH            | 1   |
| ZCK Y11          | TELEMECANIQUE | LEVER                     | 1   |
| SS184D4S3T1C6028 | LINCOLN       | MOTOR, 230V, 1PH, 3HP     | 1   |
| 05-31-230        | KEBCO         | DC BRAKE                  | 1   |
| WK4/U/VO         | WIELAND       | THROUGH TERMINAL          | 13  |
| 9708/2S35        | WIELAND       | END BRACKET               | 4   |
| CI-S1-13-04      | IB            | CORD CONNECTOR ½"         | 5   |
| CI-S1-21-06      | IB            | CORD CONNECTOR ¾"         | 1   |
| CI 6106          | IB            | ¾" LIQUIDTIGHT CONN, STR  | 1   |
| CI 6306          | IB            | ¾" LIQUIDTIGHT CONN, 90°  | 1   |
| TS35/F6          | ENTRELEC      | 15" DIN RAIL              | 1   |
| SOOW 10/3        | CAROL         | 15' CABLE, 600V           | 1   |
|                  | COMMERCIAL    | 600V 25A RECTIFIER BRIDGE | 1   |
|                  | COMMERCIAL    | ¾"x4' LIQUID SEAL         | 1   |
|                  | COMMERCIAL    | #14 MTW RED               |     |
|                  | COMMERCIAL    | #14 MTW WHITE             |     |
|                  | COMMERCIAL    | #14 MTW GREEN             |     |
|                  | COMMERCIAL    | #14 MTW BLUE              |     |

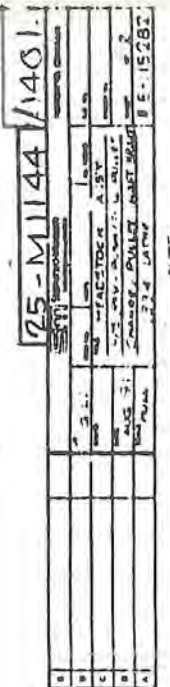
## LIST OF ITEMS SHOWN ON GENERAL ASSEMBLY

Sheet 1 of 1

| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                       |
|-------------|--------------|-------|-------------|------------------------------------|
| 30653       | OMT          | 3AA35 | 30653       | LEVELLING BUSHING                  |
| 32300       | OMT          | 3AA35 | 32300       | TOOL MAT                           |
| 83635       | OMT          | 3AA35 | 83635       | RACK                               |
| 83655       | OMT          | 3AA35 | 83655       | NAMEPLATE                          |
| 83695       | OMT          | 3AA35 | 83695       | BED END BRACKET                    |
| 114102      | OMT          | 3AA35 | 114102      | BASE                               |
| 114145      | OMT          | 3AA35 | 114145      | BED CASTING                        |
| 114275      | OMT          | 3AA35 | 114275      | LEADSCREW                          |
| 114276      | OMT          | 3AA35 | 114276      | FEEDSHAFT                          |
| 114324      | OMT          | 3AA35 | 114324      | CONTROL SHAFT                      |
| 115277      | OMT          | 3AA35 | 115277      | HINGE PLATE                        |
| 115278      | OMT          | 3AA35 | 115278      | FERROUS BELT GUARD                 |
| 115461      | OMT          | 3AA35 | 115461      | WOODEN INSERT LH. CABINET          |
| 115462      | OMT          | 3AA35 | 115462      | WOODEN INSERT RH. CABINET          |
| 115463      | OMT          | 3AA35 | 115463      | WOODEN INSERT LH. DRAWER           |
| 115464      | OMT          | 3AA35 | 115464      | WOODEN INSERT RH. DRAWER           |
| 115559      | OMT          | 3AA35 | 115559      | MOTOR PULLEY (60HZ)                |
| 115560      | OMT          | 3AA35 | 115560      | MOTOR PULLEY (50/60HZ)             |
| 115561      | OMT          | 3AA35 | 115561      | MOTOR PULLEY (50HZ)                |
| 115564      | OMT          | 3AA35 | 115564      | CHIP TRAY                          |
| 115566      | OMT          | 3AA35 | 115566      | PANEL                              |
| 115567      | OMT          | 3AA35 | 115567      | ENCLOSURE                          |
| 115584      | OMT          | 3AA35 | 115584      | SPACER                             |
| 115585      | OMT          | 3AA35 | 115585      | SWITCH                             |
| 115591      | OMT          | 3AA35 | 115591      | ARM                                |
| 115592      | OMT          | 3AA35 | 115592      | LINK                               |
| 1738        | ALEMITE      | 95879 | 1738        | GREASE FITTING                     |
| 3VX 355     | GATES        | 14003 | 3VX 355     | "V" BELT                           |
|             | COMMERCIAL   |       |             | HEX.JAM NUT - 13 U.N.C.            |
|             | COMMERCIAL   |       |             | HEX.HD.CAP SCREW 3/8 - 16 X 1 1/4  |
|             | COMMERCIAL   |       |             | HEX.HD.CAP SCREW 3/8 - 16 X 1 1/2  |
|             | COMMERCIAL   |       |             | HEX.HD.CAP SCREW 1/2 - 13 X 1 1/2  |
|             | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 5/16 - 18 X 1 1/2 |



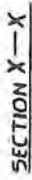
| I.D NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                           |
|------------|--------------|-------|-------------|----------------------------------------|
| 21120      | OMT          | 3AA35 | 21120       | KNOB                                   |
| 32298      | OMT          | 3AA35 | 32298       | COVER                                  |
| 83531      | OMT          | 3AA35 | 83531       | BREATHER PLUG                          |
| 83593      | OMT          | 3AA35 | 83593       | BEARING RETAINER PLATE                 |
| 83612      | OMT          | 3AA35 | 83612       | GASKET                                 |
| 83657      | OMT          | 3AA35 | 83657       | FRONT HEADSTOCK CLAMP                  |
| 109454     | OMT          | 3AA35 | 109454      | SHANK. LEVER                           |
| 109459     | OMT          | 3AA35 | 109459      | ROD                                    |
| 109477     | OMT          | 3AA35 | 109477      | GASKET                                 |
| 109770     | OMT          | 3AA35 | 109770      | CLAMP, HEADSTOCK (REAR)                |
| 114108     | OMT          | 3AA35 | 114108      | RETAINER PLATE                         |
| 114109     | OMT          | 3AA35 | 114109      | SHIFT BOBBIN                           |
| 114110     | OMT          | 3AA35 | 114110      | SLIDE SHAFT                            |
| 114111     | OMT          | 3AA35 | 114111      | 3-POSITION SHIFTER                     |
| 114113     | OMT          | 3AA35 | 114113      | SHAFT 'G'                              |
| 114116     | OMT          | 3AA35 | 114116      | HEADSTOCK                              |
| 114252     | OMT          | 3AA35 | 114252      | 36T GEAR. FEED TRAIN                   |
| 114253     | OMT          | 3AA35 | 114253      | 45T IDLER GEAR                         |
| 114254     | OMT          | 3AA35 | 114254      | 41T IDLER GEAR                         |
| 114262     | OMT          | 3AA35 | 114262      | IDLER PLATE                            |
| 114317     | OMT          | 3AA35 | 114317      | HUB                                    |
| 114795     | OMT          | 3AA35 | 114795      | 36T/48T GEAR                           |
| 115272     | OMT          | 3AA35 | 115272      | BASE PLATE                             |
| 115273     | OMT          | 3AA35 | 115273      | MOUNTING PLATE                         |
| 115277     | OMT          | 3AA35 | 115277      | HINGE PLATE                            |
| 115278     | OMT          | 3AA35 | 115278      | BELT GUARD                             |
| 115280     | OMT          | 3AA35 | 115280      | BEARING RETAINER                       |
| 115281     | OMT          | 3AA35 | 115281      | STUD                                   |
| 115580     | OMT          | 3AA35 | 115580      | NAMEPLATE                              |
| 05-31-230  | KEBCO        |       | 05-31-230   | BRAKE                                  |
| B812-10    | BOSTON GEAR  | OACA6 | B812-10     | BEARING                                |
| SC50       | BOSTON GEAR  | OACA6 | SC50        | COLLAR                                 |
| B812-8     | BOSTON GEAR  | OACA6 | B812-8      | BEARING                                |
| B812-5     | BOSTON GEAR  | OACA6 | B812-5      | BEARING                                |
| B15        | REID         | 01599 | B-15        | BALL KNOB                              |
| OA-5       | REID         | 01599 | OA-5        | KNOB                                   |
| CL-2-FW    | CARR LANE    | 99862 | CL-2-FW     | WASHER                                 |
|            | COMMERCIAL   |       |             | DOWEL 1/4 DIA X 1                      |
|            | COMMERCIAL   |       |             | DOWEL 1/2 DIA X 1 3/4                  |
|            | COMMERCIAL   |       |             | DOWEL 1/2 DIA X 2                      |
|            | COMMERCIAL   |       |             | 90° STREET ELBOW. 3/8 NPTF             |
|            | COMMERCIAL   |       |             | PIPE NIPPLE. 1/4 X 2                   |
|            | COMMERCIAL   |       |             | CAP 1/4 GALV.                          |
|            | COMMERCIAL   |       |             | REDUCING BUSHING. 3/8 X 1/4            |
|            | COMMERCIAL   |       |             | HEX JAM NUT. 1/4 - 20                  |
|            | COMMERCIAL   |       |             | HUGLOCK NUT 3/8 - 16                   |
|            | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 1/4 - 20 X 1/2        |
|            | COMMERCIAL   |       |             | SOC.HD.CAP.SCREW 1/4 - 20 X 5/8        |
|            | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 1/4 - 20 X 3/4        |
|            | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 1/4 - 20 X 1          |
|            | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 1/4 - 20 X 2 3/4      |
|            | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 5/16 - 18 X 1/2       |
|            | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 3/8 - 16 X 1          |
|            | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 7/16 - 14 X 2 1/2     |
|            | COMMERCIAL   |       |             | HEX.HD.CAP SCREW 1/4 - 20 X 1/2        |
|            | COMMERCIAL   |       |             | HEX.HD.CAP SCREW 3/8 - 16 X 1          |
|            | COMMERCIAL   |       |             | HEX.HD.CAP SCREW 7/16 - 14 X 2         |
|            | COMMERCIAL   |       |             | SOC.SHOULDER SCREW 1/2 DIA X 1 1/2     |
|            | COMMERCIAL   |       |             | DRIVE SCREW TYPE U. #2 X 3/16          |
|            | COMMERCIAL   |       |             | O-RING #014                            |
|            | COMMERCIAL   |       |             | SOC.SET.SCREW 1/4 - 28 X 1/4 CUP POINT |
|            | COMMERCIAL   |       |             | WASHER 3/8 I.D. X 13/16 O.D. X 1/16    |



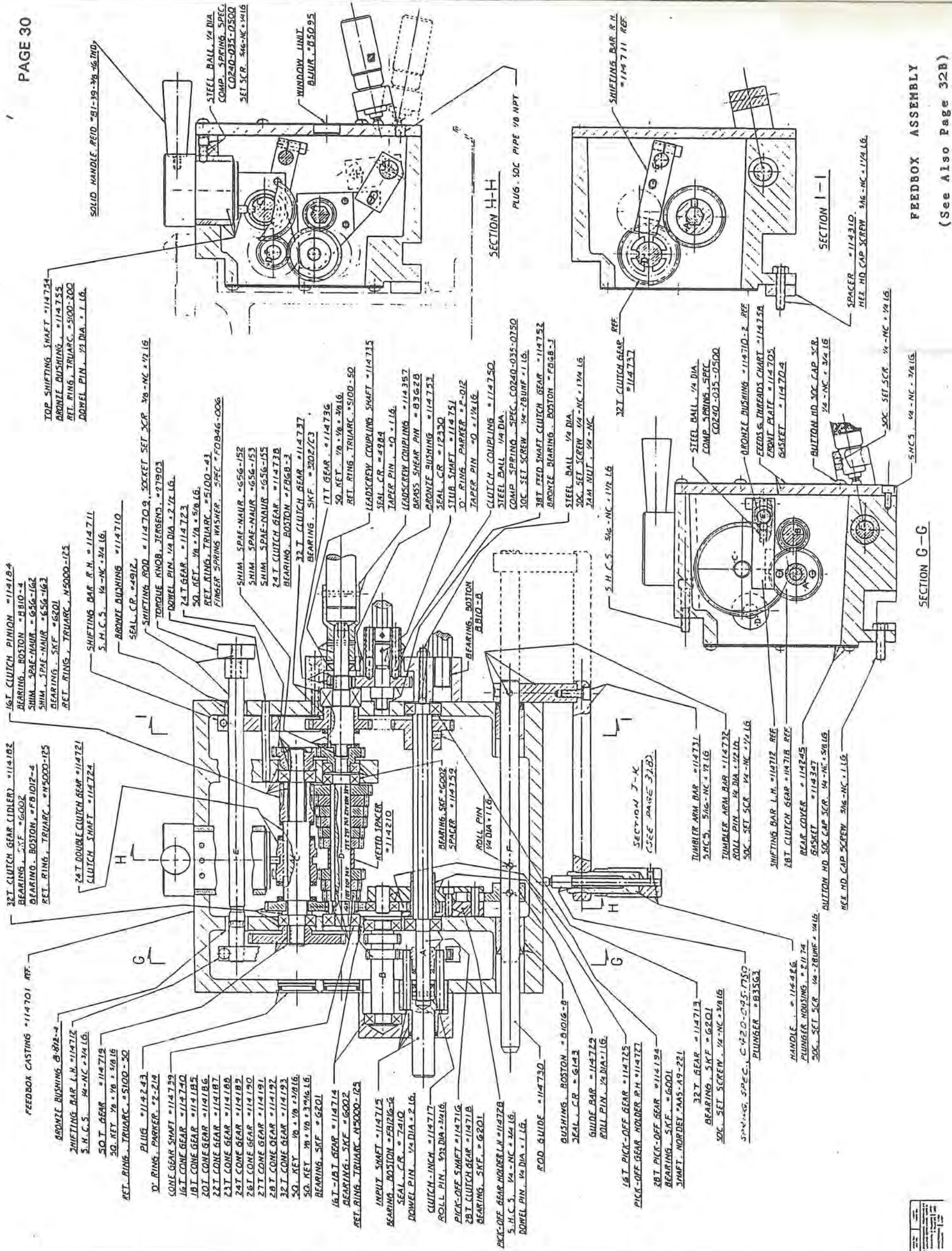
25-M1144 1481

| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE          |
|-------------|--------------|-------|-------------|-----------------------|
| 30388       | OMT          | 3AA35 | 30388       | WASHER, FEED GEAR     |
| 30390       | OMT          | 3AA35 | 30390       | CIRCULAR KEY          |
| 30397       | OMT          | 3AA35 | 30397       | SPRING HOLDER         |
| 30398       | OMT          | 3AA35 | 30398       | SHEAR PIN             |
| 30454       | OMT          | 3AA35 | 30454       | SPRING                |
| 30531       | OMT          | 3AA35 | 30531       | SPRING                |
| 30564       | OMT          | 3AA35 | 30564       | NYLON PAD             |
| 30611       | OMT          | 3AA35 | 30611       | SPRING                |
| 30613       | OMT          | 3AA35 | 30613       | DETENT PLUNGER        |
| 32114       | OMT          | 3AA35 | 32114       | SPINDLE COVER (FRONT) |
| 32332       | OMT          | 3AA35 | 32332       | SLEEVE                |
| 32333       | OMT          | 3AA35 | 32333       | CENTER                |
| 83595       | OMT          | 3AA35 | 83595       | PULLEY SHAFT          |
| 83596       | OMT          | 3AA35 | 83596       | SHIFTER SUB/ASSY      |
| 83597       | OMT          | 3AA35 | 83597       | HUB                   |
| 83598       | OMT          | 3AA35 | 83598       | SHIFTER SHAFT         |
| 83608       | OMT          | 3AA35 | 83608       | KEY                   |
| 83615       | OMT          | 3AA35 | 83615       | RETAINER BRG.         |
| 83620       | OMT          | 3AA35 | 83624       | OIL PICK-UP           |
| 83624       | OMT          | 3AA35 | 83624       | SLEEVE, PULLEY        |
| 83625       | OMT          | 3AA35 | 83625       | OIL SEAL RING         |
| 83626       | OMT          | 3AA35 | 83626       | SHANK, LEVER          |
| 83660       | OMT          | 3AA35 | 83660       | SHIFT KNOB SUB/ASSY.  |
| 83662       | OMT          | 3AA35 | 83662       | SHIFT KNOB            |
| 83740       | OMT          | 3AA35 | 83740       | 31/46T CLUSTER GEAR   |
| 83741       | OMT          | 3AA35 | 83741       | 42T GEAR              |
| 83742       | OMT          | 3AA35 | 83742       | 69/57T GEAR           |
| 83743       | OMT          | 3AA35 | 83743       | 67T GEAR              |
| 83744       | OMT          | 3AA35 | 83744       | 49T GEAR, SHIFTING    |
| 83877       | OMT          | 3AA35 | 83877       | SPINDLE SLEEVE        |
| 84228       | OMT          | 3AA35 | 84228       | SPECIAL NUT           |
| 84242       | OMT          | 3AA35 | 84242       | DISC SPRING SUB/ASSY  |
| 114264      | OMT          | 3AA35 | 114264      | PULLEY (SLOW RANGE)   |
| 114265      | OMT          | 3AA35 | 114265      | PULLEY (FAST RANGE)   |
| 109369      | OMT          | 3AA35 | 109369      | BULL GEAR             |
| 109370      | OMT          | 3AA35 | 109370      | INTERMEDIATE SHAFT    |
| 109410      | OMT          | 3AA35 | 109410      | CLUTCH BOBBIN         |
| 109431      | OMT          | 3AA35 | 109431      | SHAFT 'J'             |
| 109432      | OMT          | 3AA35 | 109432      | SPACER                |
| 109441      | OMT          | 3AA35 | 109441      | CLUTCH PIN            |
| 109442      | OMT          | 3AA35 | 109442      | SPACER                |
| 109446      | OMT          | 3AA35 | 109446      | SPACER                |
| 109459      | OMT          | 3AA35 | 109459      | SHAFT, SHIFTER        |
| 109771      | OMT          | 3AA35 | 109771      | ARM SHIFTER           |
| 114129      | OMT          | 3AA35 | 114129      | 40T DOUBLE GEAR       |
| 114130      | OMT          | 3AA35 | 114130      | DOUBLE GEAR           |
| 114131      | OMT          | 3AA35 | 114131      | 40T CLUTCH GEAR       |
| 114132      | OMT          | 3AA35 | 114132      | 40T FEED GEAR         |
| 114133      | OMT          | 3AA35 | 114133      | 30T FEED GEAR         |
| 114134      | OMT          | 3AA35 | 114134      | 66T FEED GEAR         |
| 114135      | OMT          | 3AA35 | 114135      | 11T PINION            |
| 114266      | OMT          | 3AA35 | 114266      | DOG PLATE, 8" STEEL   |
| 114403      | OMT          | 3AA35 | 114403      | DRIVER PLATE          |
| 114317      | OMT          | 3AA35 | 114317      | HUB                   |
| 114923      | OMT          | 3AA35 | 114923      | "G" SHAFT             |
| 114924      | OMT          | 3AA35 | 114924      | EXT. SHAFT            |
| 115276      | OMT          | 3AA35 | 115276      | SPINDLE, D1-4         |
| 115283      | OMT          | 3AA35 | 115283      | SHAFT, FEED GEAR      |
| B-15        | REID         | 01599 | B-15        | KNOB, BLACK.          |
| SC-62       | BOSTON GEAR  | OACA6 | SC-62       | COLLAR                |
| TRB-1625    | TORRINGTON   | 60380 | TRB-1625    | THRUST RACE           |
| TRB-3244    | TORRINGTON   | 60380 | TRB-3244    | THRUST RACE           |
| 3205-C3     | SKF          | 36121 | 3205-C3     | BEARING               |
| 6000-2RS    | SKF          | 36121 | 6000-2RS    | BEARING               |
| 6009-2RS    | SKF          | 36121 | 6009-2RS    | BEARING               |
| 6204        | SKF          | 36121 | 6204        | BEARING               |

| I.D. NUMBER | MANUFACTURER    | FSCM  | PART NUMBER | NOMENCLATURE                                  |
|-------------|-----------------|-------|-------------|-----------------------------------------------|
| 6205        | SKF             | 36121 | 6205        | BEARING                                       |
| 6007-2RS    | SKF             | 36121 | 6007-2RS    | BEARING                                       |
| 6003-2RS    | SKF             | 36121 | 6003-2RS    | BEARING                                       |
| 384ED       | TIMKEN          | 60038 | 384ED       | BEARING CUP. #3 PRECISION                     |
| 387         | TIMKEN          | 60038 | 387         | BEARING CONE. #3 PRECISION                    |
| 101638      | MAC-IT          | 76068 | 101638      | CAM, D1-4 CAMLOCK                             |
| 101639      | MAC-IT          | 76068 | 101639      | STUD, D1-4 CAMLOCK                            |
| R-32        | REID            | 01599 | R-32        | BALL KNOB                                     |
| N-05        | FAG             | 36069 | N-05        | LOCKNUT                                       |
| W-05        | FAG             | 36069 | W-05        | LOCKWASHER                                    |
| 5100-50     | WALDES TRUARC   | 79136 | 5100-50     | RETAINING RING                                |
| 5100-66     | WALDES TRUARC   | 79136 | 5100-66     | RETAINING RING                                |
| 5100-75     | WALDES TRUARC   | 79136 | 5100-75     | RETAINING RING                                |
| 5100-125    | WALDES TRUARC   | 79136 | 5100-125    | RETAINING RING                                |
| 5103-93     | WALDES TRUARC   | 79136 | 5103-93     | RETAINING RING                                |
| N5000-13    | WALDES TRUARC   | 79136 | N5000-137   | RETAINING RING                                |
| B-5095      | BIJUR           | 70924 | B-5095      | OIL SIGHT                                     |
| 7555        | CHICAGO RAWHIDE | 11678 | 7555        | SEAL                                          |
| 12358       | CHICAGO RAWHIDE | 11678 | 12358       | SEAL                                          |
| TRA-916     | TORRINGTON      | 60380 | TRA-916     | THRUST RACE                                   |
| TRB-916     | TORRINGTON      | 60380 | TRB-916     | THRUST RACE                                   |
| 025         | PARKER          |       | 025         | O-RING                                        |
|             | COMMERCIAL      |       |             | SOC.SET.SCREW 1/4 - 20 X 3/8 NYLOK. CUP POINT |
|             | COMMERCIAL      |       |             | SOC. SET. SCREW 5/16 - 24 X 1/2               |
|             | COMMERCIAL      |       |             | SOC. SET. SCREW 3/8 - 16 X 1/4                |
|             | COMMERCIAL      |       |             | SOC. CAP. SCREW 1/4 - 20 X 1                  |
|             | COMMERCIAL      |       |             | ROLL PIN. 1/4 X 2                             |
|             | COMMERCIAL      |       |             | STEEL BALL 3/16 DIA.                          |
|             | COMMERCIAL      |       |             | STEEL BALL 1/4 DIA.                           |
|             | COMMERCIAL      |       |             | O-RING, 012                                   |
|             | COMMERCIAL      |       |             | O-RING, 014                                   |
|             | COMMERCIAL      |       |             | O-RING, 144                                   |
|             | COMMERCIAL      |       |             | SOC.SET SCREW 1/4 - 20 X 1/2                  |
|             | COMMERCIAL      |       |             | SOC.SET SCREW 1/4 - 28 X 1/4 CUP POINT        |
|             | COMMERCIAL      |       |             | SOC.SET SCREW 1/4 - 28 X 3/8 CUP POINT        |
|             | COMMERCIAL      |       |             | SOC.SET SCREW 3/8 - 16 X 1/2 CUP POINT        |
|             | COMMERCIAL      |       |             | WASHER 5/8"                                   |
|             | COMMERCIAL      |       |             | DOWEL 1/4 DIA X 3/4                           |
|             | COMMERCIAL      |       |             | DOWEL 1/4 DIA X 1 1/4                         |
|             | COMMERCIAL      |       |             | WOODRUFF KEY #608 3/16 X 1                    |
|             | COMMERCIAL      |       |             | WOODRUFF KEY #1010 5/16 X 1 1/4               |
|             | COMMERCIAL      |       |             | NUT 'SELF-LOCK' 5/8 - 18                      |
|             | COMMERCIAL      |       |             | GROOVE PIN 5/16 DIA X 2                       |
|             | COMMERCIAL      |       |             | ROLL PIN. 3/16 DIA X 3/4                      |
|             | COMMERCIAL      |       |             | ROLL PIN. 3/16D X 2 1/2                       |
|             | COMMERCIAL      |       |             | ROLL PIN. 1/4 DIA X 1                         |
|             | COMMERCIAL      |       |             | ROLL PIN. 1/4 DIA X 1 1/4                     |
|             | COMMERCIAL      |       |             | SOC.HD.CAP SCREW 1/4 - 28 X 1                 |
|             | COMMERCIAL      |       |             | SOC.HD.CAP SCREW 1/4 - 20 X 1/2               |
|             | COMMERCIAL      |       |             | SOC.HD.CAP SCREW 1/4 - 20 X 3/4               |
|             | COMMERCIAL      |       |             | SOC.HD.CAP SCREW 5/16 - 18 X 3/4              |
|             | COMMERCIAL      |       |             | SOC.HD.CAP SCREW 5/16 - 18 X 1 1/2            |

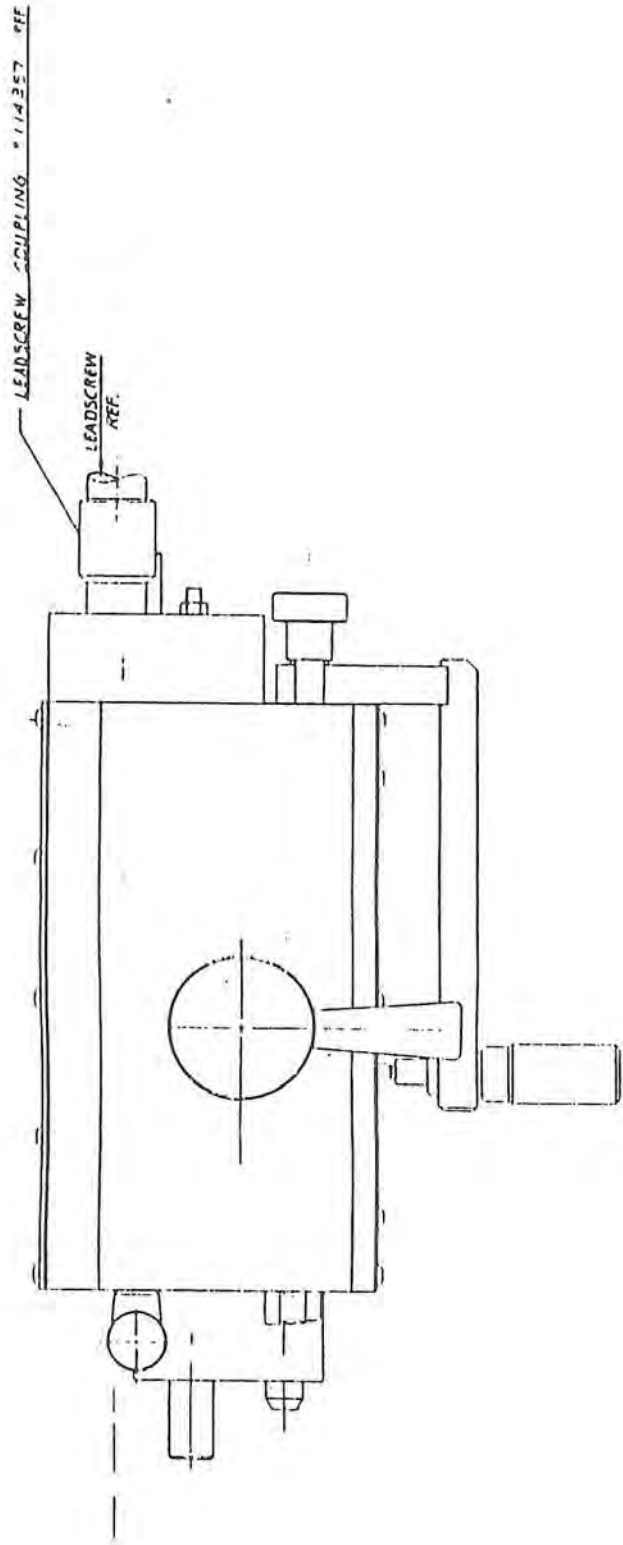
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| I.D. NUMBER | MANUFACTURER   | FSCM  | PART NUMBER    | NOMENCLATURE                |
|-------------|----------------|-------|----------------|-----------------------------|
| 21174       | OMT            | 3AA35 | 21174          | PLUNGER HOUSING             |
| 83563       | OMT            | 3AA35 | 83563          | PLUNGER                     |
| 83628       | OMT            | 3AA35 | 83628          | BRASS SHEAR PIN             |
| 114182      | OMT            | 3AA35 | 114182         | 32T CLUTCH GEAR (IDLER)     |
| 114184      | OMT            | 3AA35 | 114184         | 16T CLUTCH PINION           |
| 114185      | OMT            | 3AA35 | 114185         | 18T CONE GEAR               |
| 114186      | OMT            | 3AA35 | 114186         | 20T CONE GEAR               |
| 114187      | OMT            | 3AA35 | 114187         | 22T CONE GEAR               |
| 114188      | OMT            | 3AA35 | 114188         | 23T CONE GEAR               |
| 114189      | OMT            | 3AA35 | 114189         | 24T CONE GEAR               |
| 114190      | OMT            | 3AA35 | 114190         | 26T CONE GEAR               |
| 114191      | OMT            | 3AA35 | 114191         | 27T CONE GEAR               |
| 114192      | OMT            | 3AA35 | 114192         | 28T CONE GEAR               |
| 114193      | OMT            | 3AA35 | 114193         | 32T CONE GEAR               |
| 114194      | OMT            | 3AA35 | 114194         | 28T PICK-OFF GEAR           |
| 114210      | OMT            | 3AA35 | 114210         | KEYED SPACER                |
| 114243      | OMT            | 3AA35 | 114243         | PLUG                        |
| 114245      | OMT            | 3AA35 | 114245         | REAR COVER                  |
| 114310      | OMT            | 3AA35 | 114310         | SPACER                      |
| 114347      | OMT            | 3AA35 | 114347         | GASKET                      |
| 114357      | OMT            | 3AA35 | 114357         | LEADSCREW COUPLING          |
| 114426      | OMT            | 3AA35 | 114426         | HANDLE                      |
| 114701      | OMT            | 3AA35 | 114701         | FEEDBOX CASTING             |
| 114704      | OMT            | 3AA35 | 114704         | GASKET                      |
| 114705      | OMT            | 3AA35 | 114705         | FRONT PLATE                 |
| 114709      | OMT            | 3AA35 | 114709         | SHIFTING ROD                |
| 114710      | OMT            | 3AA35 | 114710         | BRONZE BUSHING              |
| 114711      | OMT            | 3AA35 | 114711         | SHIFTING BAR R.H.           |
| 114712      | OMT            | 3AA35 | 114712         | SHIFTING BAR                |
| 114713      | OMT            | 3AA35 | 114713         | 32T GEAR                    |
| 114714      | OMT            | 3AA35 | 114714         | 16T/18T GEAR                |
| 114715      | OMT            | 3AA35 | 114715         | INPUT SHAFT                 |
| 114716      | OMT            | 3AA35 | 114716         | PICK-OFF SHAFT              |
| 114717      | OMT            | 3AA35 | 114717         | CLUTCH - INCH               |
| 114718      | OMT            | 3AA35 | 114718         | 28T CLUTCH GEAR             |
| 114719      | OMT            | 3AA35 | 114719         | 50T GEAR                    |
| 114721      | OMT            | 3AA35 | 114721         | 24T DOUBLE CLUTCH GEAR      |
| 114723      | OMT            | 3AA35 | 114723         | 24T GEAR                    |
| 114724      | OMT            | 3AA35 | 114724         | CLUTCH SHAFT                |
| 114725      | OMT            | 3AA35 | 114725         | 16T PICK-OFF GEAR           |
| 114727      | OMT            | 3AA35 | 114727         | PICK-OFF GEAR HOLDER R.H.   |
| 114728      | OMT            | 3AA35 | 114728         | PICK-OFF GEAR HOLDER L.H.   |
| 114729      | OMT            | 3AA35 | 114729         | GUIDE BAR                   |
| 114730      | OMT            | 3AA35 | 114730         | ROD GUIDE                   |
| 114731      | OMT            | 3AA35 | 114731         | TUMBLER ARM BAR             |
| 114732      | OMT            | 3AA35 | 114732         | TUMBLER ARM BAR             |
| 114735      | OMT            | 3AA35 | 114735         | LEADSCREW COUPLING SHAFT    |
| 114736      | OMT            | 3AA35 | 114736         | 17T GEAR                    |
| 114737      | OMT            | 3AA35 | 114737         | 32T CLUTCH GEAR             |
| 114738      | OMT            | 3AA35 | 114738         | 24T CLUTCH GEAR             |
| 114739      | OMT            | 3AA35 | 114739         | CONE GEAR SHAFT             |
| 114740      | OMT            | 3AA35 | 114740         | 16T CONE GEAR               |
| 114750      | OMT            | 3AA35 | 114750         | CLUTCH COUPLING             |
| 114751      | OMT            | 3AA35 | 114751         | STUB SHAFT                  |
| 114752      | OMT            | 3AA35 | 114752         | 38T FEED SHAFT CLUTCH GEAR  |
| 114753      | OMT            | 3AA35 | 114753         | BRONZE BUSHING              |
| 114754      | OMT            | 3AA35 | 114754         | TOP SHIFTING SHAFT          |
| 114755      | OMT            | 3AA35 | 114755         | BRONZE BUSHING              |
| 114758      | OMT            | 3AA35 | 114758         | CHART, FEEDS AND THREADS    |
| 114759      | OMT            | 3AA35 | 114759         | SPACER                      |
|             | WALLACE BARNES | 08337 | F0846-006      | FINGER SPRING WASHER        |
|             | WALLACE BARNES | 08337 | C0420-045-1750 | COMPRESSION SPRING          |
|             | WALLACE BARNES | 08337 | C0240-035-0750 | COMPRESSION SPRING          |
|             | WALLACE BARNES | 08337 | C0240-035-0500 | COMPRESSION SPRING          |
| AASA9221    | NORDEX         | 56262 | AAS-A9-921     | SHAFT                       |
| B1-39       | REID           | 01599 | B1-39          | SOLID HANDLE, 3/8-16 THREAD |
| 101976      | BIJUR          | 70925 | B5095          | WINDOW UNIT                 |
| 2-012       | PARKER         | 17506 | 2-012          | "O" RING                    |
| 2-214       | PARKER         | 17506 | 2-214          | "O" RING                    |



|     |      |    |      |      |
|-----|------|----|------|------|
| REV | DATE | BY | CHKD | APPD |
| 1   |      |    |      |      |

| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                        |
|-------------|--------------|-------|-------------|-------------------------------------|
| 01402       | GITS         | OBT82 | 01402       | OIL CUP                             |
| 114357      | OMT          | 3AA35 | 114357      | LEADSCREW COUPLING                  |
| 114701      | OMT          | 3AA35 | 114701      | FEEDBOX CASTING                     |
| 114706      | OMT          | 3AA35 | 114706      | RIGHT COVER                         |
| 114707      | OMT          | 3AA35 | 114707      | LEFT BEARING BLOCK                  |
| 114750      | OMT          | 3AA35 | 114750      | CLUTCH COUPLING                     |
| 114757      | OMT          | 3AA35 | 114757      | STUD ADAPTER                        |
| 114796      | OMT          | 3AA35 | 114796      | 48T GEAR.                           |
|             | COMMERCIAL   |       |             | SOC. HD. CAP SCREW 1/4 - NC X 1-3/4 |
|             | COMMERCIAL   |       |             | ROLL PIN 1/4 DIA X 1-1/2 LG.        |



FEEDBOX CASTING #114701

DIL. SUP. SITS #01402

STUD ADAPTER #114757

LEFT BEARING BLOCK #114702

S.H.T.S. 1/4 - NC x 1 3/4 LG.

ROLL PIN 1/4 DIA

x 1 1/2 LG.

48T GEAR #114796

CLUTCH COUPLING #114750 REF.

FEED SHAFT REF.

CONTROL SHAFT REF.

RIGHT COUPLER #114706

S.H.T.S. 1/4 - NC x 1 3/4 LG.

FEED SHAFT REF.

CONTROL SHAFT REF.

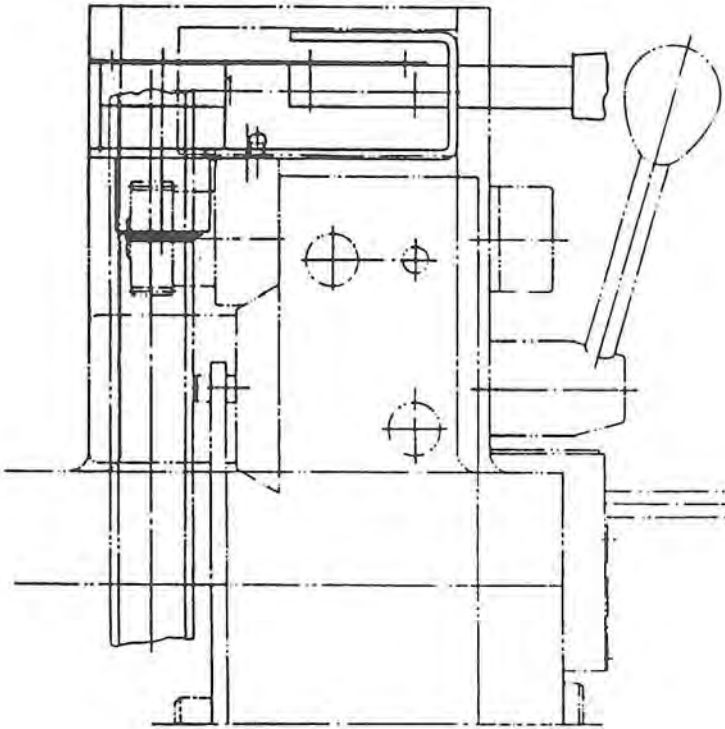
| I.D. NUMBER | MANUFACTURER   | FSCM  | PART NUMBER    | NOMENCLATURE                            |
|-------------|----------------|-------|----------------|-----------------------------------------|
| 30378       | OMT            | 3AA35 | 30378          | 67T GEAR                                |
| 30454       | OMT            | 3AA35 | 30454          | SPRING                                  |
| 30462       | OMT            | 3AA35 | 30462          | 17T PINION                              |
| 30470       | OMT            | 3AA35 | 30470          | DIAL                                    |
| 30611       | OMT            | 3AA35 | 30611          | SPRING                                  |
| 83507       | OMT            | 3AA35 | 83507          | HALF NUT (PAIR)                         |
| 83508       | OMT            | 3AA35 | 83508          | BRACKET, BEVEL GEAR                     |
| 83566       | OMT            | 3AA35 | 83566          | NAMEPLATE                               |
| 83567       | OMT            | 3AA35 | 83567          | NAMEPLATE                               |
| 83568       | OMT            | 3AA35 | 83568          | 22T BEVEL PINION                        |
| 83570       | OMT            | 3AA35 | 83570          | GIB PLATE                               |
| 83574       | OMT            | 3AA35 | 83574          | RACK PINION SHAFT                       |
| 83576       | OMT            | 3AA35 | 83576          | SHAFT SELECTOR                          |
| 83577       | OMT            | 3AA35 | 83577          | CRANK, APRON                            |
| 83578       | OMT            | 3AA35 | 83578          | SHAFT CRANK                             |
| 83580       | OMT            | 3AA35 | 83580          | HANDLE                                  |
| 83581       | OMT            | 3AA35 | 83851          | SHIFTER                                 |
| 83583       | OMT            | 3AA35 | 83583          | INTERLOCK                               |
| 83585       | OMT            | 3AA35 | 83585          | HELICAL GEAR 24T                        |
| 83705       | OMT            | 3AA35 | 83705          | HANDLE                                  |
| 83706       | OMT            | 3AA35 | 83706          | SHAFT HANDLE                            |
| 83799       | OMT            | 3AA35 | 83799          | LEVER                                   |
| 83800       | OMT            | 3AA35 | 83800          | FEED SELECTOR BLOCK                     |
| 114149      | OMT            | 3AA35 | 114149         | 20T PINION                              |
| 114150      | OMT            | 3AA35 | 114150         | 55T BEVEL GEAR                          |
| 114151      | OMT            | 3AA35 | 114151         | DIAL SHAFT APRON                        |
| 114152      | OMT            | 3AA35 | 114152         | ZERO BUSHING                            |
| 114155      | OMT            | 3AA35 | 114155         | SHAFT - APRON HANDWHEEL                 |
| 114156      | OMT            | 3AA35 | 114156         | HOUSING                                 |
| 114157      | OMT            | 3AA35 | 114157         | HANDWHEEL                               |
| 114309      | OMT            | 3AA35 | 114309         | RETAINER - HSG. APRON                   |
| 114424      | OMT            | 3AA35 | 114424         | PINION & GEAR ASSEMBLY                  |
| 1728        | ALEMITE        | 95879 | 1728           | GREASE NIPPLE                           |
| 5100-75     | WALDES TRUARC  | 79136 | 5100-75        | RETAINING RING                          |
| 5103-68     | WALDES TRUARC  | 79136 | 5103-68        | RETAINING RING                          |
| 5133-62     | WALDES TRUARC  | 79136 | 5133-62        | RETAINING RING                          |
| 521         | GITS           | 0BT82 | 521            | OILER                                   |
| 6003-2RS    | SKF            | 36121 | 6003-2RS       | BALL BEARING                            |
| 6004-2RS    | SKF            | 36121 | 6004-2RS       | BALL BEARING                            |
| B-5095      | BIJUR          | 70925 | B-5095         | OILSIGHT                                |
| B1012-8     | BOSTON GEAR    | OACA6 | B1012-8        | SLEEVE BEARING                          |
| C0360       | WALLACE BARNES | 08337 | C0360-042-0880 | SPRING                                  |
| M11101      | TORRINGTON     | 60380 | M11101         | CLOSED END NEEDLE BEARING               |
| TRB-1220    | TORRINGTON     | 60380 | TRB-1220       | THRUST RACE                             |
| OA5         | REID           | 01599 | OA5            | BLACK OVAL KNOB                         |
| ROA-1       | REID           | 01599 | ROA-1          | RED OVAL KNOB                           |
|             | COMMERCIAL     |       |                | DOWEL 1/4 DIA X 1 1/4                   |
|             | COMMERCIAL     |       |                | DOWEL 3/16 DIA X 1                      |
|             | COMMERCIAL     |       |                | DOWEL 5/16 DIA X 1                      |
|             | COMMERCIAL     |       |                | DOWEL 3/8 DIA X 1 1/2                   |
|             | COMMERCIAL     |       |                | DRIVE SCREW TYPE "U" #2 X 1/4           |
|             | COMMERCIAL     |       |                | HEX NUT 5/16 - 18                       |
|             | COMMERCIAL     |       |                | HEX.SOC.FLAT HD.CAP SCREW 5/16 - 18 X 1 |
|             | COMMERCIAL     |       |                | HOLLOW PIPE PLUG 1/8 NPT                |
|             | COMMERCIAL     |       |                | LOCKWASHER 5/16                         |
|             | COMMERCIAL     |       |                | NARROW PLAIN WASHER #10                 |
|             | COMMERCIAL     |       |                | SOC.SET SCREW 1/4 - 20 X 5/16 NYLOCK    |
|             | COMMERCIAL     |       |                | ROLL PIN 5/32 DIA X 7/8                 |
|             | COMMERCIAL     |       |                | SOC.HD.CAP SCREW 10 - 32 X 3/8          |
|             | COMMERCIAL     |       |                | SOC.HD.CAP SCREW 3/8 - 16 X 1           |
|             | COMMERCIAL     |       |                | SOC.HD.CAP SCREW 10 - 32 X 5/8          |
|             | COMMERCIAL     |       |                | SOC.HD.CAP SCREW 5/16 - 18 X 1 3/4      |
|             | COMMERCIAL     |       |                | SOC.HD.CAP SCREW 5/16 - 18 X 3/4        |
|             | COMMERCIAL     |       |                | SOC.HD.CAP SCREW 5/16 - 18 X 1 1/4      |
|             | COMMERCIAL     |       |                | SOC.SET SCREW 1/4 - 28 X 1/4            |
|             | COMMERCIAL     |       |                | SOC.SET SCREW 5/16 - 18 X 1/2           |
|             | COMMERCIAL     |       |                | SOC.SET SCREW 5/16 - 18 X 3/8           |
|             | COMMERCIAL     |       |                | STEEL BALL 1/4 DIA                      |
|             | COMMERCIAL     |       |                | STEEL BALL 3/16 DIA                     |
|             | COMMERCIAL     |       |                | WOODRUFF KEY #506 5/32 X 3/4            |



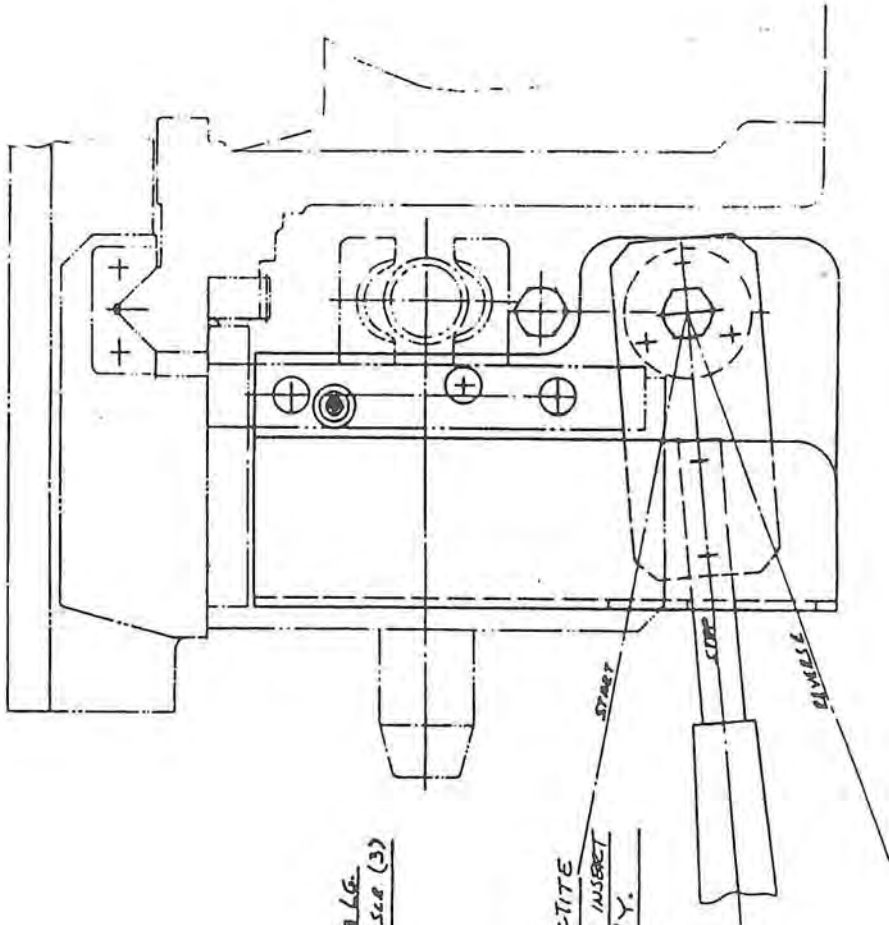
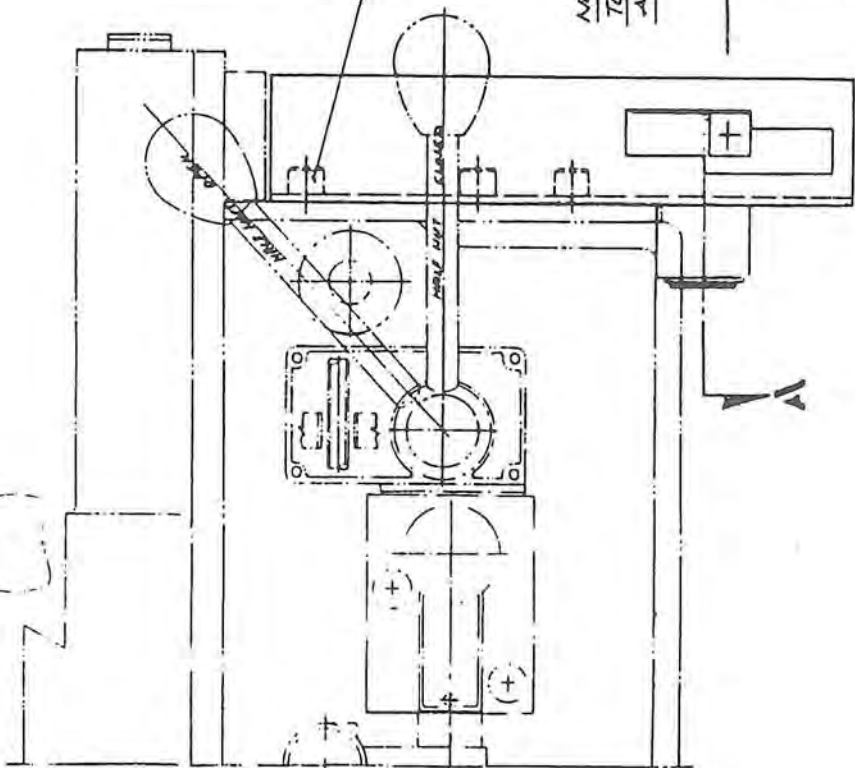
## LIST OF ITEMS SHOWN ON CONTROL LEVER ASSEMBLY

Sheet 1 of 1

| I.D. NUMBER | MANUFACTURER  | FSCM  | PART NUMBER | NOMENCLATURE                     |
|-------------|---------------|-------|-------------|----------------------------------|
| 83690       | OMT           | 3AA35 | 83690       | BRACKET CONTROL LEVER            |
| 83691       | OMT           | 3AA35 | 83691       | SHANK FOR CONTROL LEVER          |
| 83692       | OMT           | 3AA35 | 83692       | FLAT SPRING                      |
| 83693       | OMT           | 3AA35 | 83693       | HEXAGON BUSHING                  |
| 101653      | OMT           | 3AA35 | 101653      | RED HANDLE                       |
| 5103-81     | WALDES TRUARC | 79136 | 5103-81     | RETAINING RING                   |
|             | COMMERCIAL    |       |             | LOCKWASHER 3/16                  |
|             | COMMERCIAL    |       |             | SOC.HD.CAP SCREW 5/16 - 18 X 5/8 |
|             | COMMERCIAL    |       |             | SOC.HD.CAP SCREW 10 - 32 X 1/2   |



SECTION A-A



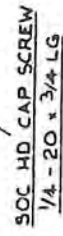
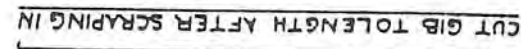
## LIST OF ITEMS SHOWN ON SADDLE AND CROSS SLIDE

Sheet 1 of 1

| I.D. NUMBER | MANUFACTURER   | FSCM  | PART NUMBER    | NOMENCLATURE                                    |
|-------------|----------------|-------|----------------|-------------------------------------------------|
| 30524       | OMT            | 3AA35 | 30524          | FRONT SADDLE WIPER PLATE                        |
| 30525       | OMT            | 3AA35 | 30525          | REAR SADDLE WIPER PLATE                         |
| 30526       | OMT            | 3AA35 | 30526          | FRONT SADDLE WIPER                              |
| 30527       | OMT            | 3AA35 | 30527          | REAR SADDLE WIPER                               |
| 83511       | OMT            | 3AA35 | 83511          | CROSS SLIDE                                     |
| 83673       | OMT            | 3AA35 | 83673          | DIAL SCREW                                      |
| 83679       | OMT            | 3AA35 | 83679          | REAR SADDLE GIB                                 |
| 83680       | OMT            | 3AA35 | 83680          | CROSS SLIDE GIB                                 |
| 83681       | OMT            | 3AA35 | 83681          | TEE HEAD BOLT                                   |
| 114296      | OMT            | 3AA35 | 114296         | CROSS FEED CRANK - DISENGAGING                  |
| 114297      | OMT            | 3AA35 | 114297         | CRANK DISENGAGE SPIGOT                          |
| 114311      | OMT            | 3AA35 | 114311         | SADDLE CLAMP                                    |
| 114358      | OMT            | 3AA35 | 114358         | DIAL HUB                                        |
| 114360      | OMT            | 3AA35 | 114360         | DIAL HUB COMPOUND                               |
| 114362      | OMT            | 3AA35 | 114362         | DIAL                                            |
| 114408      | OMT            | 3AA35 | 114408         | NUT                                             |
| 114420      | OMT            | 3AA35 | 114420         | EXTENSION BEARING                               |
| 114421      | OMT            | 3AA35 | 114421         | SADDLE                                          |
| 114941      | OMT            | 3AA35 | 114941         | CROSSFEED SHAFT AND GEAR                        |
| 522         | GITS           | OBT82 | 522            | OILER                                           |
| NTA-1018    | TORRINGTON     | 60380 | NTA-1018       | THRUST BEARING                                  |
| TRA-1018    | TORRINGTON     | 60380 | TRA-1018       | THRUST RACE                                     |
|             | WALLACE-BARNES | 08337 | C0480-038-0500 | SPRING                                          |
|             | COMMERCIAL     |       |                | DRIVE SCREW TYPE "U" #2 X 1/4                   |
|             | COMMERCIAL     |       |                | HARD DOWEL 3/16 DIA. X 1                        |
|             | COMMERCIAL     |       |                | HEAVY HEX NUT 7/16 - 14 HARDENED                |
|             | COMMERCIAL     |       |                | HEX THIN NUT 5/8 - 18 NYLOCK                    |
|             | COMMERCIAL     |       |                | HEX.HD.CAP SCREW 3/8 - 16 X 1                   |
|             | COMMERCIAL     |       |                | HEX.HD.CAP SCREW 1/2 - 13 X 2 1/2 CAD.PLATED    |
|             | COMMERCIAL     |       |                | HEX.SOC.PIPE PLUG 1/4 NPT.                      |
|             | COMMERCIAL     |       |                | PULL DOWEL 5/16 DIA. X 2 1/4                    |
|             | COMMERCIAL     |       |                | ROUND HD.SLOTTED MACH.SCREW #10 - 32 X 1/2      |
|             | COMMERCIAL     |       |                | SOC.HD.CAP SCREW 3/8 - 16 X 1 LOCWEL            |
|             | COMMERCIAL     |       |                | SOC.HD.CAP SCREW 1/4 - 28 X 1                   |
|             | COMMERCIAL     |       |                | SOC.SET SCREW 3/8 - 16 X 2                      |
|             | COMMERCIAL     |       |                | SOC.SET SCREW 3/8 - 24 X 1/2                    |
|             | COMMERCIAL     |       |                | SOC.SET SCREW 1/4 - 28 X 3/8 LOCWEL             |
|             | COMMERCIAL     |       |                | SPRING LOCKWASHER 3/8                           |
|             | COMMERCIAL     |       |                | SQ.HD.SET SCREW 5/16 - 18 X 3/4 PLAIN CUP POINT |
|             | COMMERCIAL     |       |                | TYPE 'B' SER 'N' PLAIN WASHER 1/2 CAD.PLATED    |
|             | COMMERCIAL     |       |                | WOODRUFF KEY #404 1/8 X 1/2                     |
|             | COMMERCIAL     |       |                | ROLL PIN 5/32 X 3/4 LG.                         |



| I.D. NUMBER | MANUFACTURER  | FSCM  | PART NUMBER | NOMENCLATURE                      |
|-------------|---------------|-------|-------------|-----------------------------------|
| 83512       | OMT           | 3AA35 | 83512       | SLIDE COMPOUND D1-4               |
| 83525       | OMT           | 3AA35 | 83525       | TAPERED GIB                       |
| 83667       | OMT           | 3AA35 | 83667       | GIB SCREW                         |
| 83673       | OMT           | 3AA35 | 83673       | DIAL SCREW                        |
| 114294      | OMT           | 3AA35 | 114294      | SWIVEL BASE - ENGRAVED            |
| 114360      | OMT           | 3AA35 | 114360      | POINTER                           |
| 114361      | OMT           | 3AA35 | 114361      | DIAL HUB COMPOUND                 |
| 114362      | OMT           | 3AA35 | 114362      | INCH/METRIC DIAL - SOLID TYPE     |
| 114417      | OMT           | 3AA35 | 114417      | NUT - BRASS                       |
| 114418      | OMT           | 3AA35 | 114418      | COMPOUND SCREW - HARDENED         |
| 114419      | OMT           | 3AA35 | 114419      | COMPOUND END PLATE                |
| 5133-50     | WALDES TRUARC | 79136 | 5133-50     | RETAINING RING                    |
| 521         | GITS          | OBT82 | 521         | OILER                             |
| 522         | GITS          | OBT82 | 522         | OILER                             |
| TRB-815     | TORRINGTON    | 60380 | TRB-815     | THRUST RACE                       |
|             | COMMERCIAL    |       |             | DRIVE SCREW TYPE 'U' #2 X 1/4     |
|             | COMMERCIAL    |       |             | HARD DOWEL 5/8 DIA. X 1 1/2       |
|             | COMMERCIAL    |       |             | NUT 1/2 - 20 MS 20364-820A NYLOCK |
|             | COMMERCIAL    |       |             | SOC.HD.CAP SCREW 1/4 - 20 X 3/4   |
|             | COMMERCIAL    |       |             | WOODRUFF KEY #405 1/8 X 5/8       |



CITY OILER No. 521

WOODRUFF KEY 1/8" 5/8  
#405

OILER GITS<sup>®</sup> 522

TRU-ARC RETAINER

C-83512

NYLOK NUT 1/2-20

MS20364-820A



TORRINGTON THRUST RACE  
vs TRB-015 (2-REQ'D)

A-83675

114417

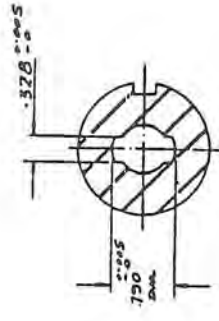
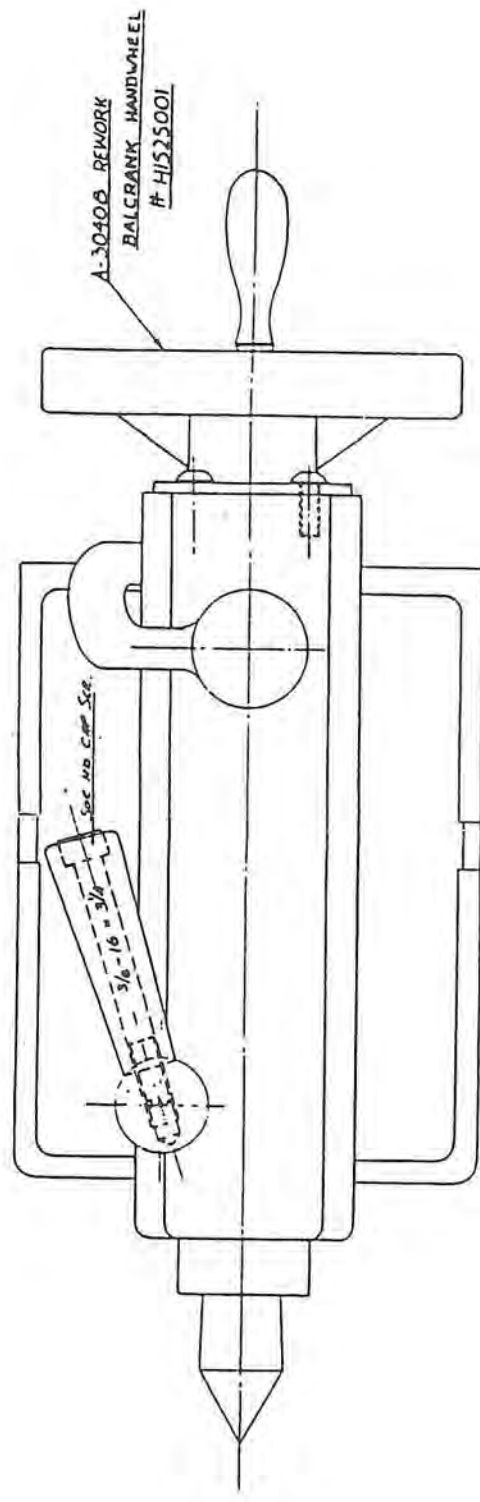
114418

114294

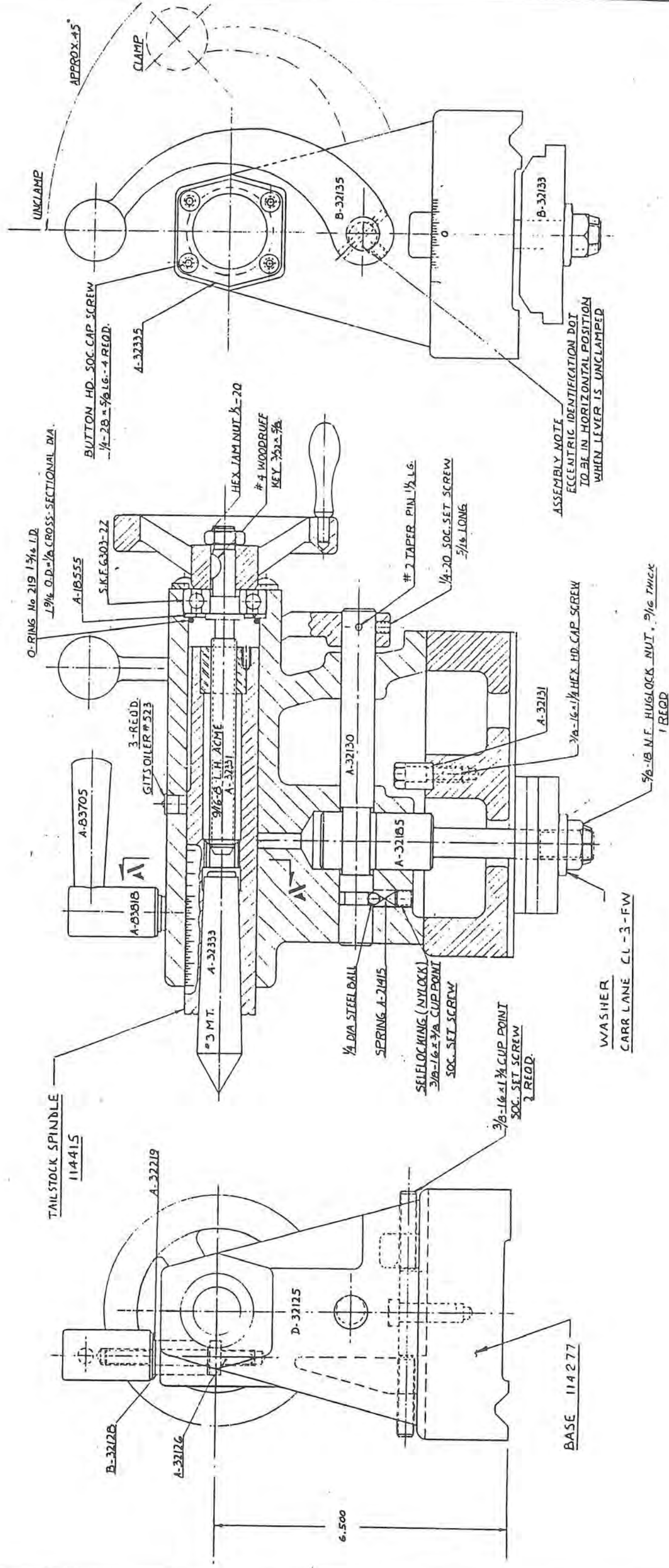
TRAVEL OF SWIVEL BASE  
RHS  $\pm 5"$  TO MINUS  $.5"$  IN RELATION TO  
SPINDLE &

COMPOUND SLIDE ASSEMBLY

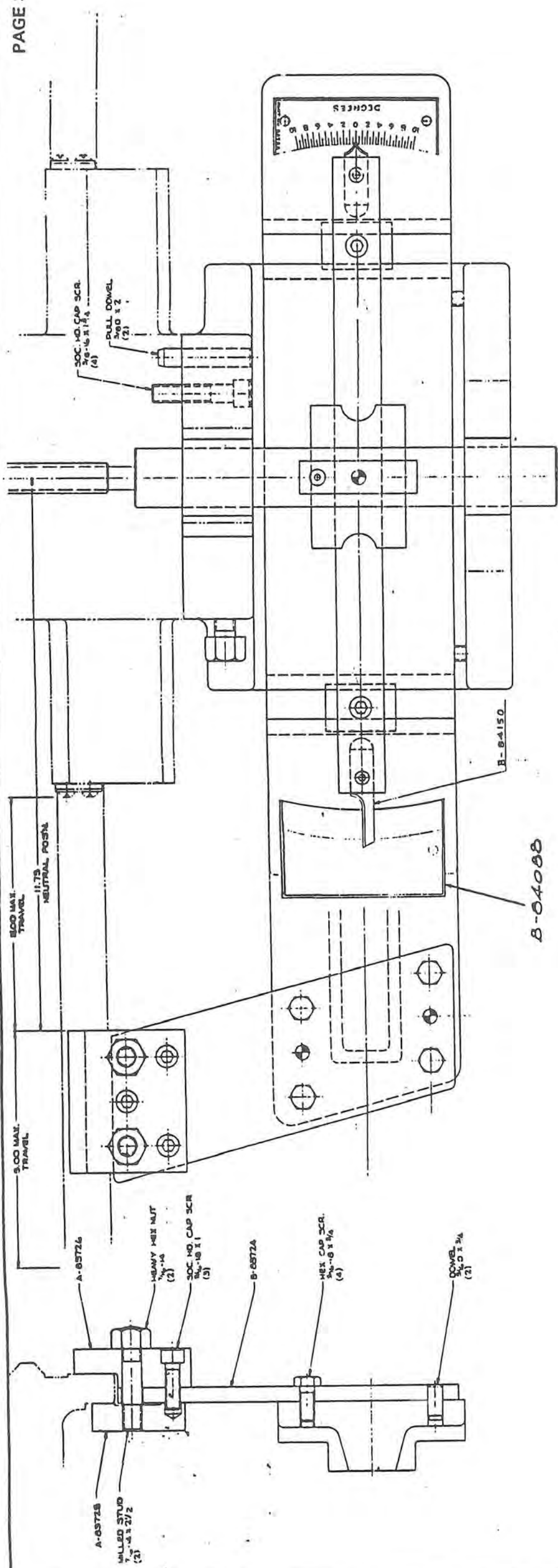
| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                                    |
|-------------|--------------|-------|-------------|-------------------------------------------------|
| 18555       | OMT          | 3AA35 | 18555       | RETAINING WASHER                                |
| 21415       | OMT          | 3AA35 | 21415       | SPRING                                          |
| 30408       | OMT          | 3AA35 | 30408       | HANDWHEEL                                       |
| 32125       | OMT          | 3AA35 | 32125       | HOUSING TAILSTOCK SPINDLE                       |
| 32126       | OMT          | 3AA35 | 32126       | STUD                                            |
| 32128       | OMT          | 3AA35 | 32128       | SPINDLE LOCKING WEDGE                           |
| 32129       | OMT          | 3AA35 | 32129       | WASHER                                          |
| 32130       | OMT          | 3AA35 | 32130       | SHAFT CLAMP                                     |
| 32131       | OMT          | 3AA35 | 32131       | BLOCK THRUST                                    |
| 32185       | OMT          | 3AA35 | 32185       | CLAMP STUD                                      |
| 32331       | OMT          | 3AA35 | 32331       | SCREW                                           |
| 32333       | OMT          | 3AA35 | 32333       | CENTER #3 MT                                    |
| 32335       | OMT          | 3AA35 | 32335       | RETAINING PLATE                                 |
| 83705       | OMT          | 3AA35 | 83705       | HANDLE APRON TAILSTOCK                          |
| 83818       | OMT          | 3AA35 | 83818       | HUB FOR TAILSTOCK                               |
| 114277      | OMT          | 3AA35 | 114277      | BASE                                            |
| 114415      | OMT          | 3AA35 | 114415      | TAILSTOCK SPINDLE                               |
| 523         | GITS         | OBT82 | 523         | OILER                                           |
| 6303-2Z     | SKF          | 36121 | 6303-2Z     | BALL BEARING                                    |
| CL-3-FW     | CARR LANE    | 99862 | CL-3-FW     | WASHER                                          |
|             | COMMERCIAL   |       |             | BUTTON HD.SOC.CAP SCREW 1/4 - 28 X 5/8          |
|             | COMMERCIAL   |       |             | HEX.HD.CAP SCREW 3/8 - 16 X 1 1/4               |
|             | COMMERCIAL   |       |             | HUGLOCK NUT 5/8 - 18 9/16 THICK                 |
|             | COMMERCIAL   |       |             | JAM NUT 1/2 - 20                                |
|             | COMMERCIAL   |       |             | O-RING, 219                                     |
|             | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 3/8 - 16 X 3 1/4               |
|             | COMMERCIAL   |       |             | SOC.SET SCREW 3/8 - 16 X 1 3/4 CUP POINT        |
|             | COMMERCIAL   |       |             | SOC.SET SCREW 3/8 - 16 X 1 3/8 CUP POINT NYLOCK |
|             | COMMERCIAL   |       |             | SOC.SET SCREW 1/4 - 20 X 5/16                   |
|             | COMMERCIAL   |       |             | STEEL BALL 1/4 DIA.                             |
|             | COMMERCIAL   |       |             | TAPER PIN #2 X 1 1/2                            |
|             | COMMERCIAL   |       |             | WOODRUFF KEY #4 3/32 X 5/8                      |



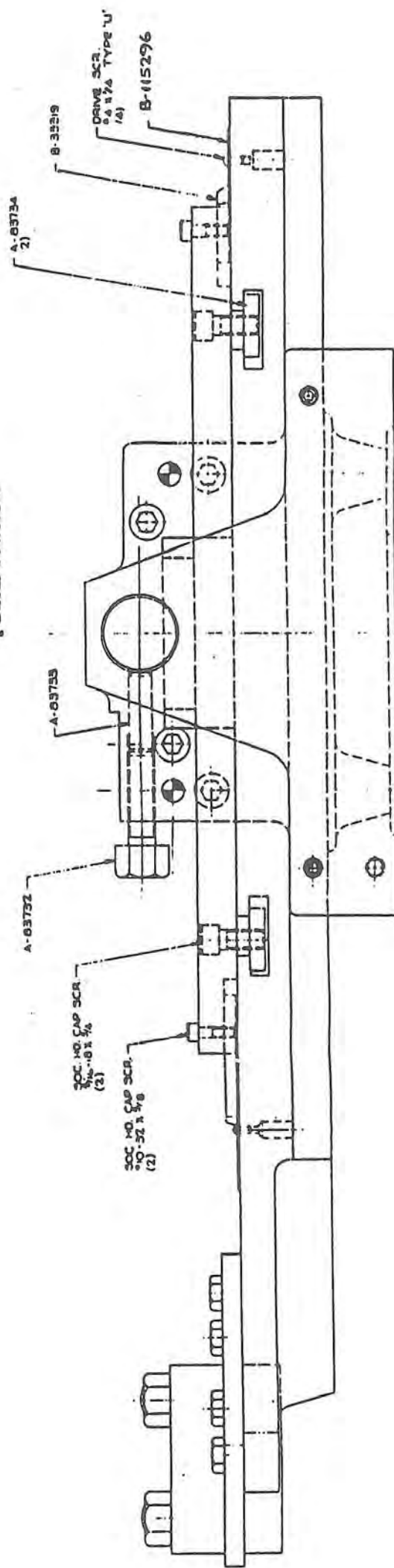
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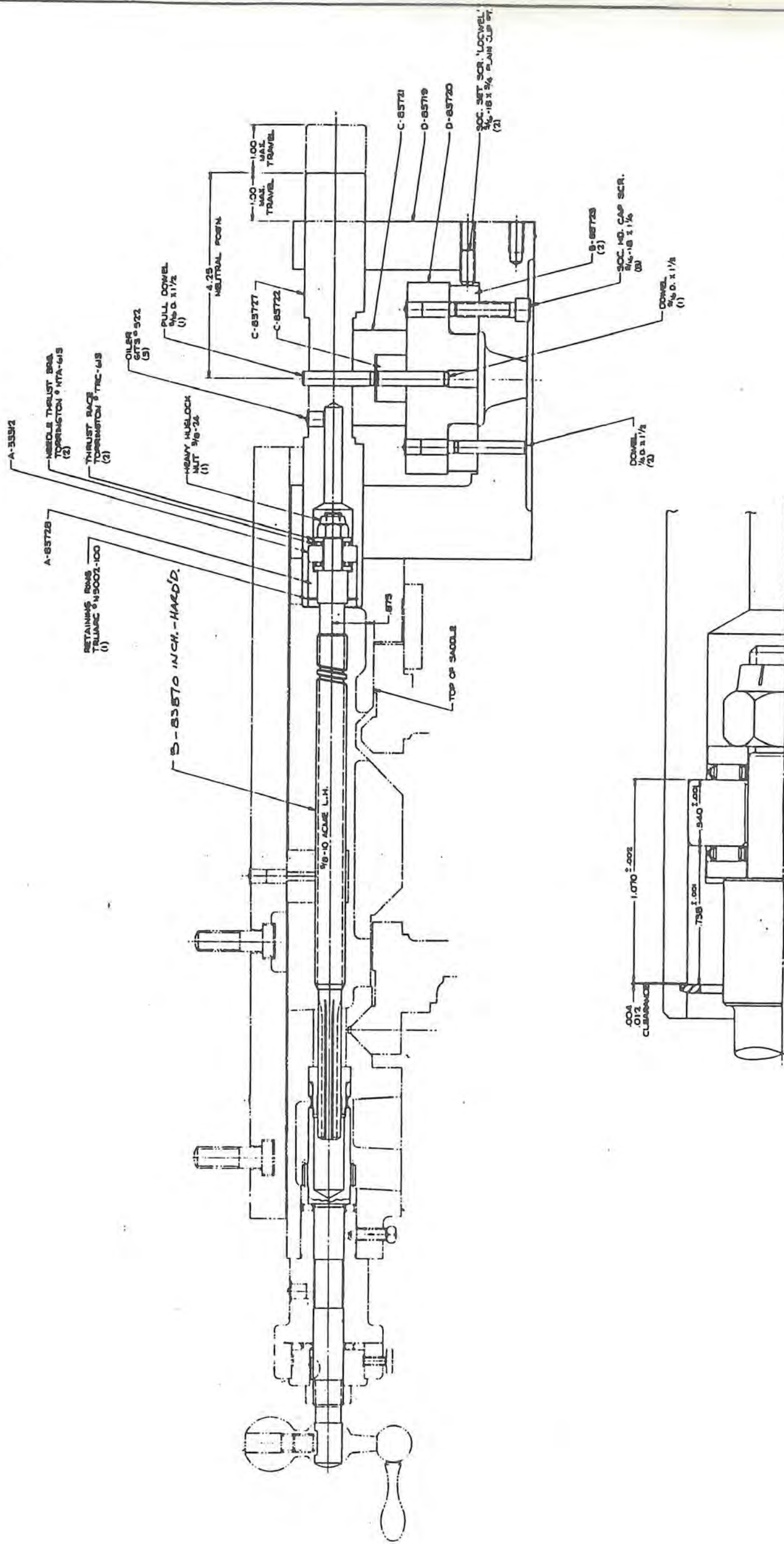
| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                      |
|-------------|--------------|-------|-------------|-----------------------------------|
| 33319       | OMT          | 3AA35 | 33319       | POINTER                           |
| 83724       | OMT          | 3AA35 | 83724       | BED ANCHOR ARM                    |
| 83725       | OMT          | 3AA35 | 83725       | CLAMP, BED LOWER                  |
| 83726       | OMT          | 3AA35 | 83726       | CLAMP, BED UPPER                  |
| 83732       | OMT          | 3AA35 | 83732       | SCREW, HEX CLAMP                  |
| 83733       | OMT          | 3AA35 | 83733       | CLAMPING ROD                      |
| 83734       | OMT          | 3AA35 | 83734       | NUT, FLAT                         |
| 84088       | OMT          | 3AA35 | 84088       | NAMEPLATE, GRADUATED, % OF TAPER  |
| 84150       | OMT          | 3AA35 | 84150       | POINTER, EXTENDED                 |
| 115296      | OMT          | 3AA35 | 115296      | NAMEPLATE, GRADUATED, DEGREES     |
|             | COMMERCIAL   |       |             | DOWEL 5/16 DIA X 3/4              |
|             | COMMERCIAL   |       |             | DRIVE SCREW TYPE "U" #4 X 1/4     |
|             | COMMERCIAL   |       |             | HEAVY HEX NUT 7/16 - 14           |
|             | COMMERCIAL   |       |             | HEX.HD.CAP SCREW 5/16 - 18 X 3/4  |
|             | COMMERCIAL   |       |             | MILLED STUD 7/16 - 14 X 2 1/2     |
|             | COMMERCIAL   |       |             | PULL DOWEL 3/8 DIA X 2            |
|             | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 5/16 - 18 X 3/4  |
|             | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 3/8 - 16 X 1 3/4 |
|             | COMMERCIAL   |       |             | SOC.HD.CAP SCREW #10 - 32 X 5/8   |
|             | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 5/16 - 18 X 1    |



§ SADDLE & CROSSSLIDE



| I.D. NUMBER | MANUFACTURER  | FSCM  | PART NUMBER | NOMENCLATURE                               |
|-------------|---------------|-------|-------------|--------------------------------------------|
| 33312       | OMT           | 3AA35 | 33312       | RING, BEARING                              |
| 83719       | OMT           | 3AA35 | 83719       | BRACKET                                    |
| 83720       | OMT           | 3AA35 | 83720       | SLIDER                                     |
| 83721       | OMT           | 3AA35 | 83721       | SHOE                                       |
| 83722       | OMT           | 3AA35 | 83722       | BAR, SLIDE                                 |
| 83723       | OMT           | 3AA35 | 83723       | GUIDE, LOWER                               |
| 83727       | OMT           | 3AA35 | 83727       | BAR, CROSS SLIDE                           |
| 83728       | OMT           | 3AA35 | 83728       | RETAINER                                   |
| 83870       | OMT           | 3AA35 | 83870       | SCREW, CROSS FEED                          |
| 522         | GITS          | OBT82 | 522         | OILER                                      |
| N5002-100   | WALDES TRUARC | 79136 | N5002-100   | RETAINING RING                             |
| NTA-613     | TORRINGTON    | 60380 | NTA-613     | THRUST BEARING                             |
| TRC-613     | TORRINGTON    | 60380 | TRC-613     | THRUST RACE                                |
|             | COMMERCIAL    |       |             | DOWEL 1/4 DIA X 1 1/2                      |
|             | COMMERCIAL    |       |             | DOWEL 5/16 DIA X 1 1/2                     |
|             | COMMERCIAL    |       |             | HEAVY HUGLOCK NUT 3/8 - 24                 |
|             | COMMERCIAL    |       |             | PULL DOWEL 5/16 DIA X 1 1/2                |
|             | COMMERCIAL    |       |             | SOC.HD.CAP SCREW 5/16 - 18 X 1 1/4         |
|             | COMMERCIAL    |       |             | SOC.SET SCREW 5/16-18X3/4 CUP POINT LOCWEL |



ENLARGED PARTIAL SECTION  
SCALE: 4 X SIZE

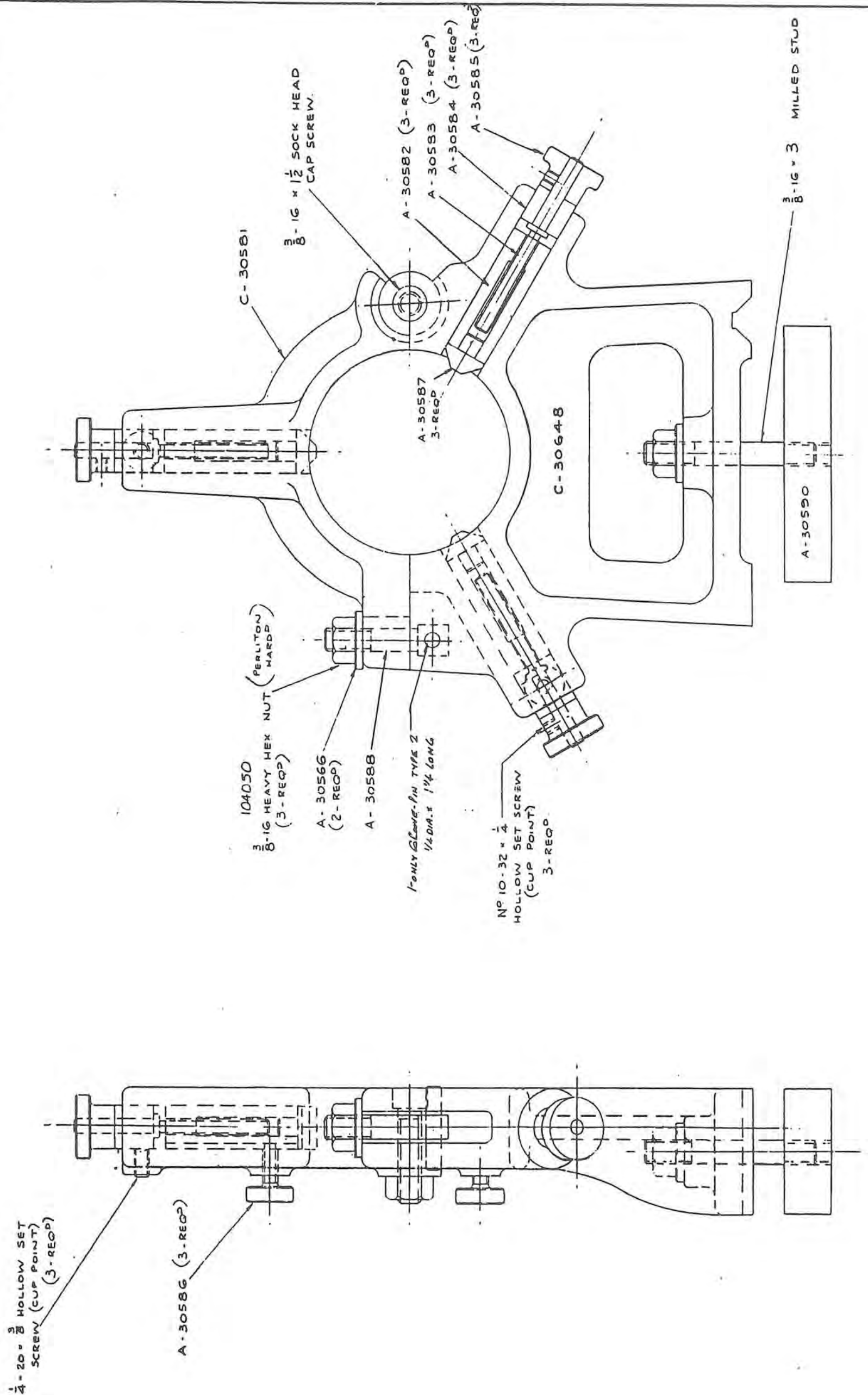
USE SQUARE PLIER 8 L-3003

TELESCOPIC TAPER TURNING  
ATTACHMENT  
(See also Page 38)

## LIST OF ITEMS SHOWN ON STEADY REST ASSEMBLY

Sheet 1 of 1

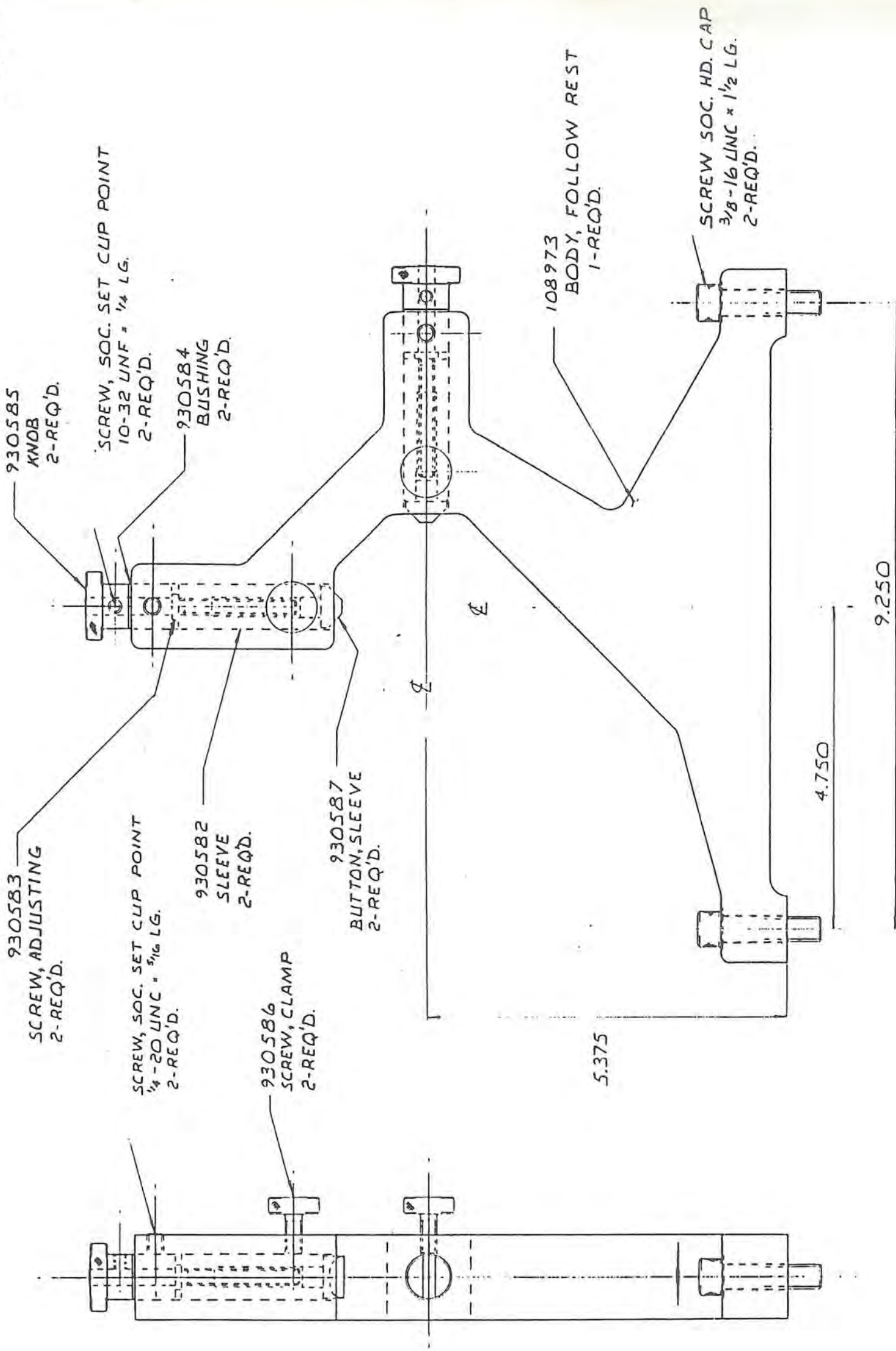
| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                             |
|-------------|--------------|-------|-------------|------------------------------------------|
| 30566       | OMT          | 3AA35 | 30566       | SPECIAL WASHER                           |
| 30581       | OMT          | 3AA35 | 30581       | TOP, STEADY REST                         |
| 30582       | OMT          | 3AA35 | 30582       | SLEEVE                                   |
| 30583       | OMT          | 3AA35 | 30583       | SCREW, ADJUSTING                         |
| 30584       | OMT          | 3AA35 | 30584       | BUSHING                                  |
| 30585       | OMT          | 3AA35 | 30585       | KNOB                                     |
| 30587       | OMT          | 3AA35 | 30587       | BUTTON, SLEEVE                           |
| 30588       | OMT          | 3AA35 | 30588       | BOLT, EYE                                |
| 30590       | OMT          | 3AA35 | 30590       | CLAMP                                    |
| 30648       | OMT          | 3AA35 | 30648       | BASE, STEADY REST                        |
| 104050      | OMT          | 3AA35 | 104050      | HEAVY HEX.NUT 3/8 -16 HARDENED           |
|             | COMMERCIAL   |       |             | GROOVE PIN TYPE 2 1/4 DIA X 1 1/4        |
|             | COMMERCIAL   |       |             | HOLLOW SET SCREW 1/4 - 20 X 3/8          |
|             | COMMERCIAL   |       |             | HOLLOW SET SCREW 10 - 32 X 1/4 CUP POINT |
|             | COMMERCIAL   |       |             | MILLED STUD 3/8 - 16 X 3                 |
|             | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 3/8 - 16 X 1 1/2        |



## LIST OF ITEMS SHOWN ON FOLLOW REST ASSEMBLY

Sheet 1 of 1

| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                            |
|-------------|--------------|-------|-------------|-----------------------------------------|
| 30582       | OMT          | 3AA35 | 30582       | SLEEVE                                  |
| 30583       | OMT          | 3AA35 | 30583       | SCREW, ADJUSTING                        |
| 30584       | OMT          | 3AA35 | 30584       | BUSHING                                 |
| 30585       | OMT          | 3AA35 | 30585       | KNOB                                    |
| 30586       | OMT          | 3AA35 | 30586       | CLAMP SCREW                             |
| 30587       | OMT          | 3AA35 | 30587       | BUTTON, SLEEVE                          |
| 108973      | OMT          | 3AA35 | 108973      | FOLLOW REST BODY                        |
|             | COMMERCIAL   |       |             | SOC.HD.CAP SCREW 3/8 - 16 X 1 1/2       |
|             | COMMERCIAL   |       |             | SOC.SET SCREW 10 -32 X 1/4 CUP POINT    |
|             | COMMERCIAL   |       |             | SOC.SET SCREW 1/4 - 20 X 5/16 CUP POINT |

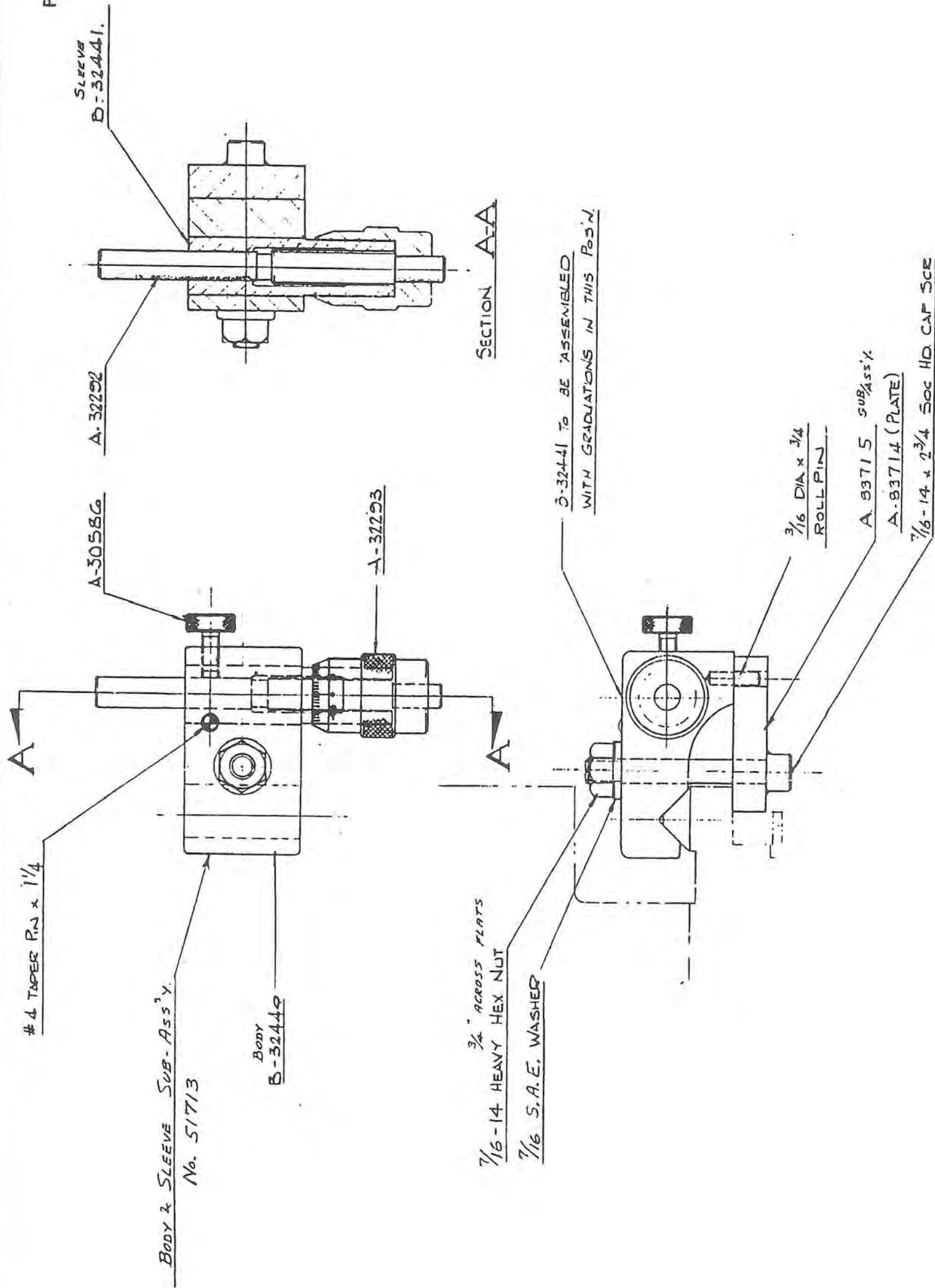


FOLLOW REST ASSY.

## LIST OF ITEMS SHOWN ON MICROMETER CARRIAGE STOP (INCH)

Sheet 1 of 1

| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                           |
|-------------|--------------|-------|-------------|----------------------------------------|
| 30586       | OMT          | 3AA35 | 30586       | CLAMP SCREW                            |
| 32292       | OMT          | 3AA35 | 32292       | STEM                                   |
| 32293       | OMT          | 3AA35 | 32293       | KNOB                                   |
| 32440       | OMT          | 3AA35 | 32240       | BRACKET, CLAMPING (PART OF 51713)      |
| 32441       | OMT          | 3AA35 | 32441       | SLEEVE, GRADUATED                      |
| 51713       | OMT          | 3AA35 | 51713       | BODY & SLEEVE SUB ASSEMBLY             |
| 83714       | OMT          | 3AA35 | 83714       | CLAMP, MICROMETER (PART OF 51713)      |
| 83715       | OMT          | 3AA35 | 83715       | CLAMP, PLATE SUB ASSEMBLY              |
|             | COMMERCIAL   |       |             | HEAVY HEX NUT, 7/16-14                 |
|             | COMMERCIAL   |       |             | ROLL PIN 3/16 DIA x 3/4                |
|             | COMMERCIAL   |       |             | S.A.E. WASHER 7/16                     |
|             | COMMERCIAL   |       |             | SOCKET HEAD CAP SCREW, 7/16-14 x 2-3/4 |
|             | COMMERCIAL   |       |             | TAPER PIN #4 x 1-1/4                   |

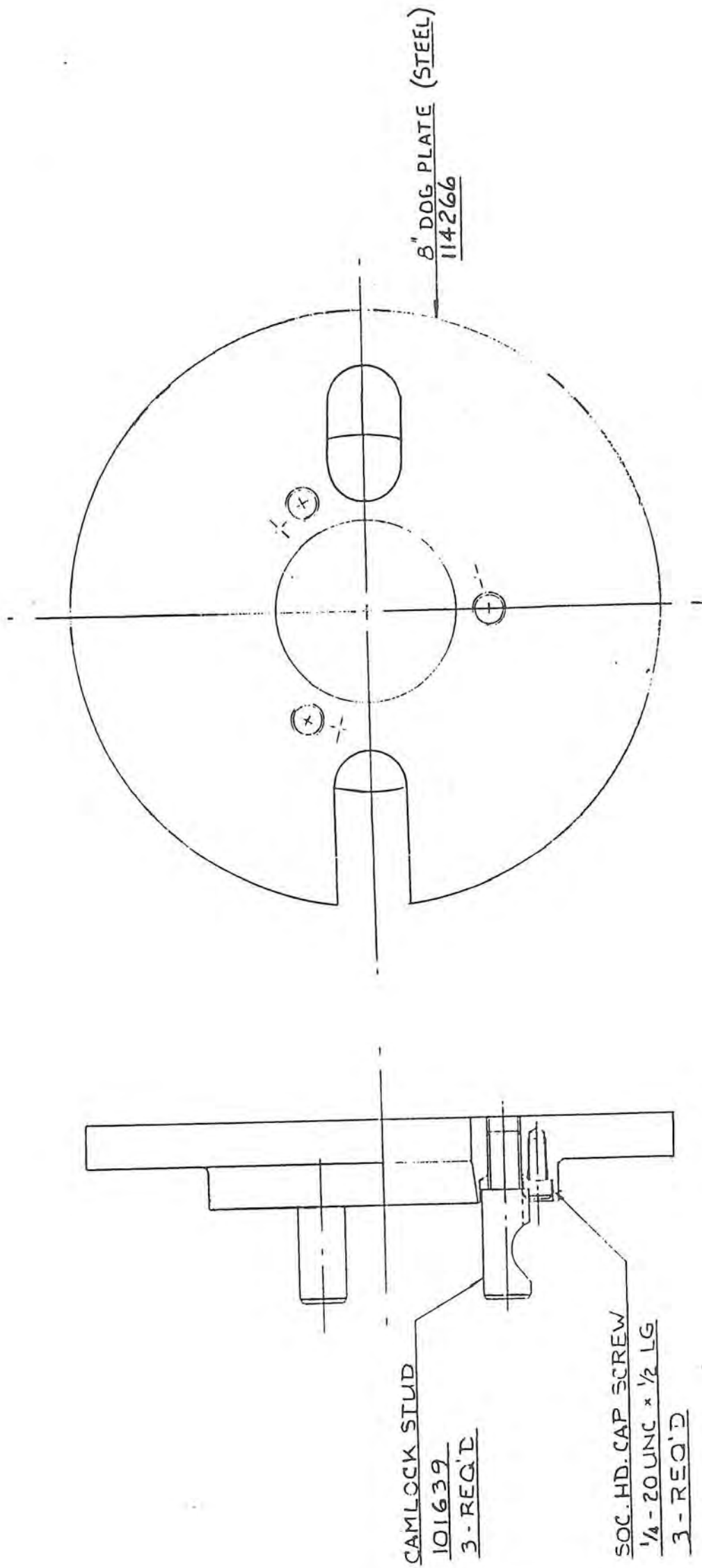


MICROMETER CARRIAGE STOP  
1" STROKE

## LIST OF ITEMS SHOWN ON 8" DOG PLATE ASSEMBLY

Sheet 1 of 1

| I.D. NUMBER | MANUFACTURER         | FSCM  | PART NUMBER | NOMENCLATURE                                             |
|-------------|----------------------|-------|-------------|----------------------------------------------------------|
| 114266      | OMT                  | 3AA35 | 114266      | 8" STEEL DOG PLATE                                       |
| 101639      | MAC-IT<br>COMMERCIAL | 76068 | 101639      | D1-4 CAMLOCK STUD<br>SOCKET HEAD CAP SCREW, 1/4-20 x 1/2 |

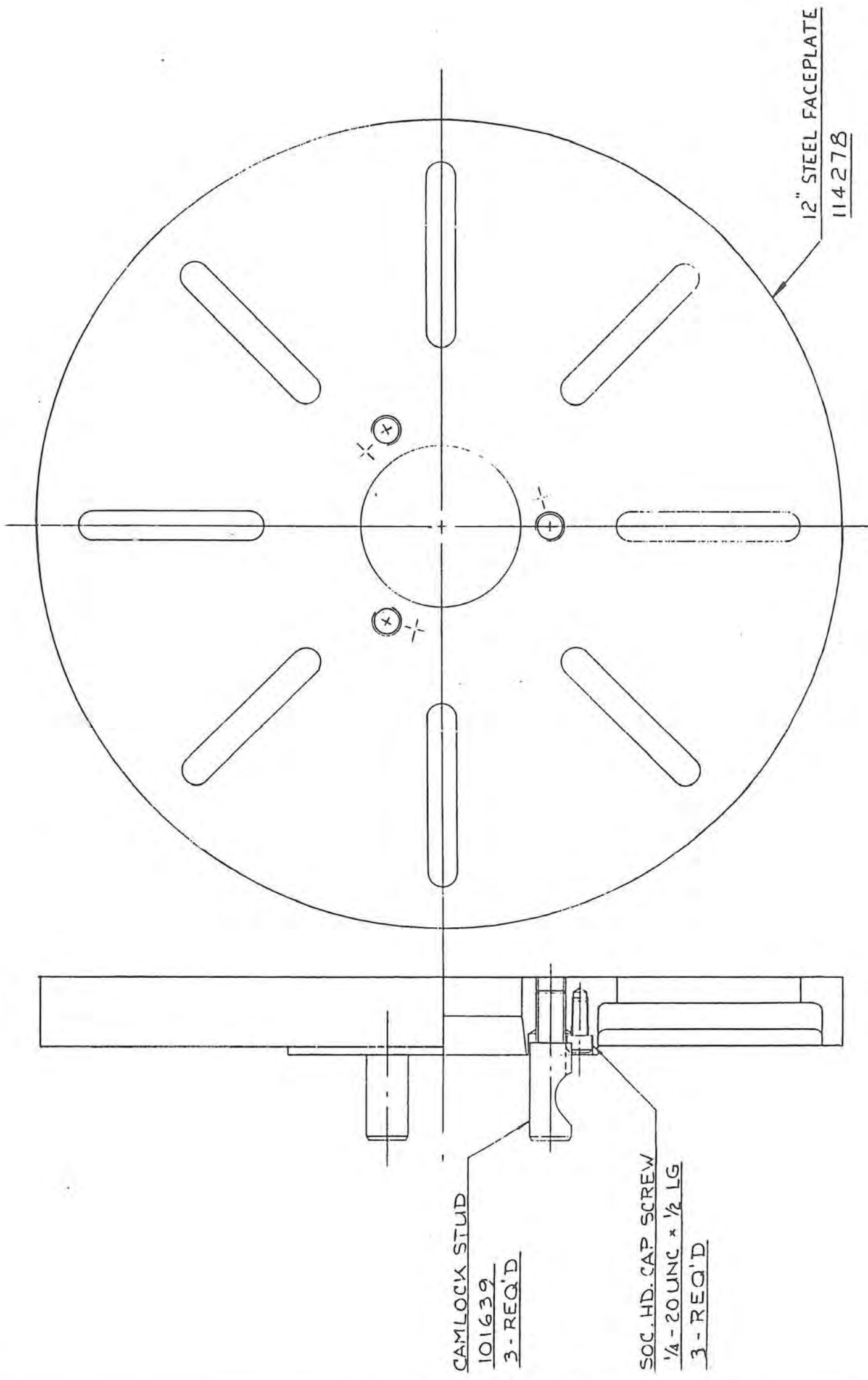


8" DOG PLATE ASSY. (STEEL)

## LIST OF ITEMS SHOWN ON 12" FACE PLATE ASSEMBLY

Sheet 1 of 1

| I.D. NUMBER | MANUFACTURER         | FSCM  | PART NUMBER | NOMENCLATURE                                             |
|-------------|----------------------|-------|-------------|----------------------------------------------------------|
| 114278      | OMT                  | 3AA35 | 114278      | 12" STEEL FACE PLATE                                     |
| 101639      | MAC-IT<br>COMMERCIAL | 76068 | 101639      | D1-4 CAMLOCK STUD<br>SOCKET HEAD CAP SCREW, 1/4-20 x 1/2 |



12" FACE PLATE ASSY. (STEEL)

## LIST OF ITEMS SHOWN ON CROSS FEED STOP PARTS

Sheet 1 of 1

| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                    |
|-------------|--------------|-------|-------------|---------------------------------|
| 30491       | OMT          | 3AA35 | 30491       | ROD                             |
| 30492       | OMT          | 3AA35 | 30492       | ANCHOR BELT                     |
| 30493       | OMT          | 3AA35 | 30493       | LATCH PLATE                     |
| 104050      | OMT          | 3AA35 | 104050      | HEAVY HEX NUT, 3/8-16, HARDENED |
| CL-1-FW     | CARR LANE    | 99862 | CL-1-FW     | WASHER                          |
|             | COMMERCIAL   |       |             | MILLED STUD, 3/8-16 x 1-1/2     |

16-30  
3/8-16 HEAVY HEX NUT  
PERLITON HARDEN  
4-REQD.

CL-1-FW  
WASHER

2-REQD.

8-30492

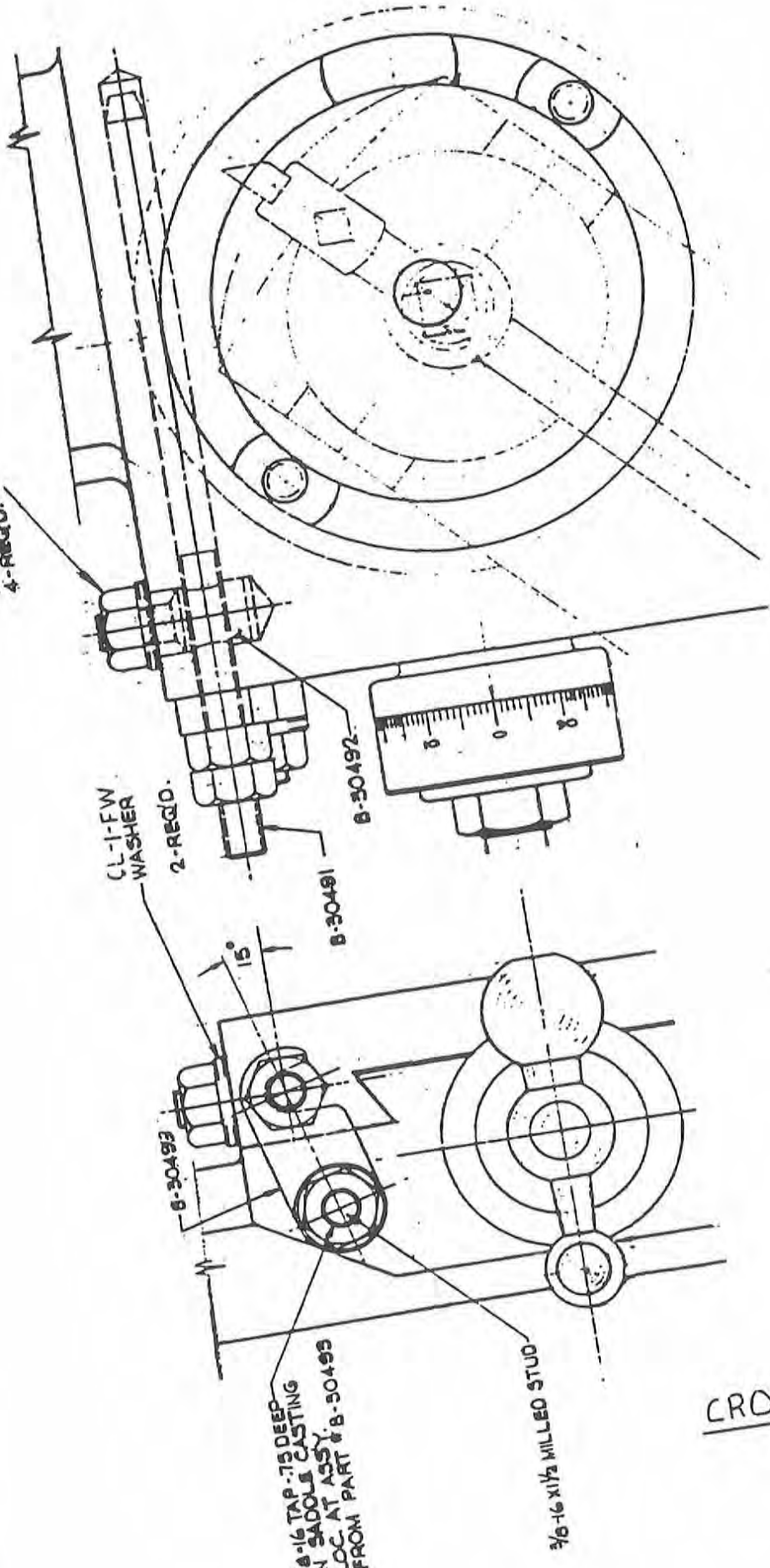
8-30491

8-30493

3/8-16 TAP .75 DEEP  
IN SADDLE CASTING  
LOC. AT ASSY.  
FROM PART 8-30493

3/8-16 x 1 1/2 MILLED STUD

CROSS FEED STOP PARTS



| I.D. NUMBER | MANUFACTURER | FSCM  | PART NUMBER | NOMENCLATURE                            |
|-------------|--------------|-------|-------------|-----------------------------------------|
| 115595      | OMT          | 3AA35 | 115595      | Chuck guard.                            |
| 115600      | OMT          | 3AA35 | 115600      | Chuck guard side support. (2)           |
| 115602      | OMT          | 3AA35 | 115602      | Chuck guard complete assembly.          |
| 115603      | OMT          | 3AA35 | 115603      | Chuck guard mounting block.             |
| 115606      | OMT          | 3AA35 | 115606      | Chuck guard pivot shaft.                |
|             | COMMERCIAL   |       |             | Dowel 1/4 x 1-1/2 (2)                   |
|             | COMMERCIAL   |       |             | Socket head cap screw 5/16-18 x 1/2 (2) |
|             | COMMERCIAL   |       |             | Socket head cap screw 5/16-18 x 1       |
|             | COMMERCIAL   |       |             | Socket head cap screw 1/4-20 x 1/2 (6)  |
| 115595      | OMT          | 3AA35 | 115595      | Chip guard.                             |
| 115600      | OMT          | 3AA35 | 115600      | Chip guard side support. (2)            |
| 115601      | OMT          | 3AA35 | 115601      | Chip guard complete assembly.           |
| 115602      | OMT          | 3AA35 | 115602      | Chip guard complete assembly.           |
| 115603      | OMT          | 3AA35 | 115603      | Chip guard mounting block.              |
| 115604      | OMT          | 3AA35 | 115604      | Chip guard clamping block.              |
| 115605      | OMT          | 3AA35 | 115605      | Chip guard clamp                        |
| 115606      | OMT          | 3AA35 | 115606      | Chip guard pivot shaft.                 |
| 115607      | OMT          | 3AA35 | 115607      | Chip guard support shaft.               |
| 115608      | OMT          | 3AA35 | 115608      | Support shaft.                          |
|             | COMMERCIAL   |       |             | Dowel 1/4 x 1-1/2 (2)                   |
|             | COMMERCIAL   |       |             | Socket head cap screw 5/16-18 x 1/2 (2) |
|             | COMMERCIAL   |       |             | Socket head cap screw 5/16-18 x 1 (4)   |
|             | COMMERCIAL   |       |             | Socket head cap screw 1/4-20 x 1/2 (6)  |

