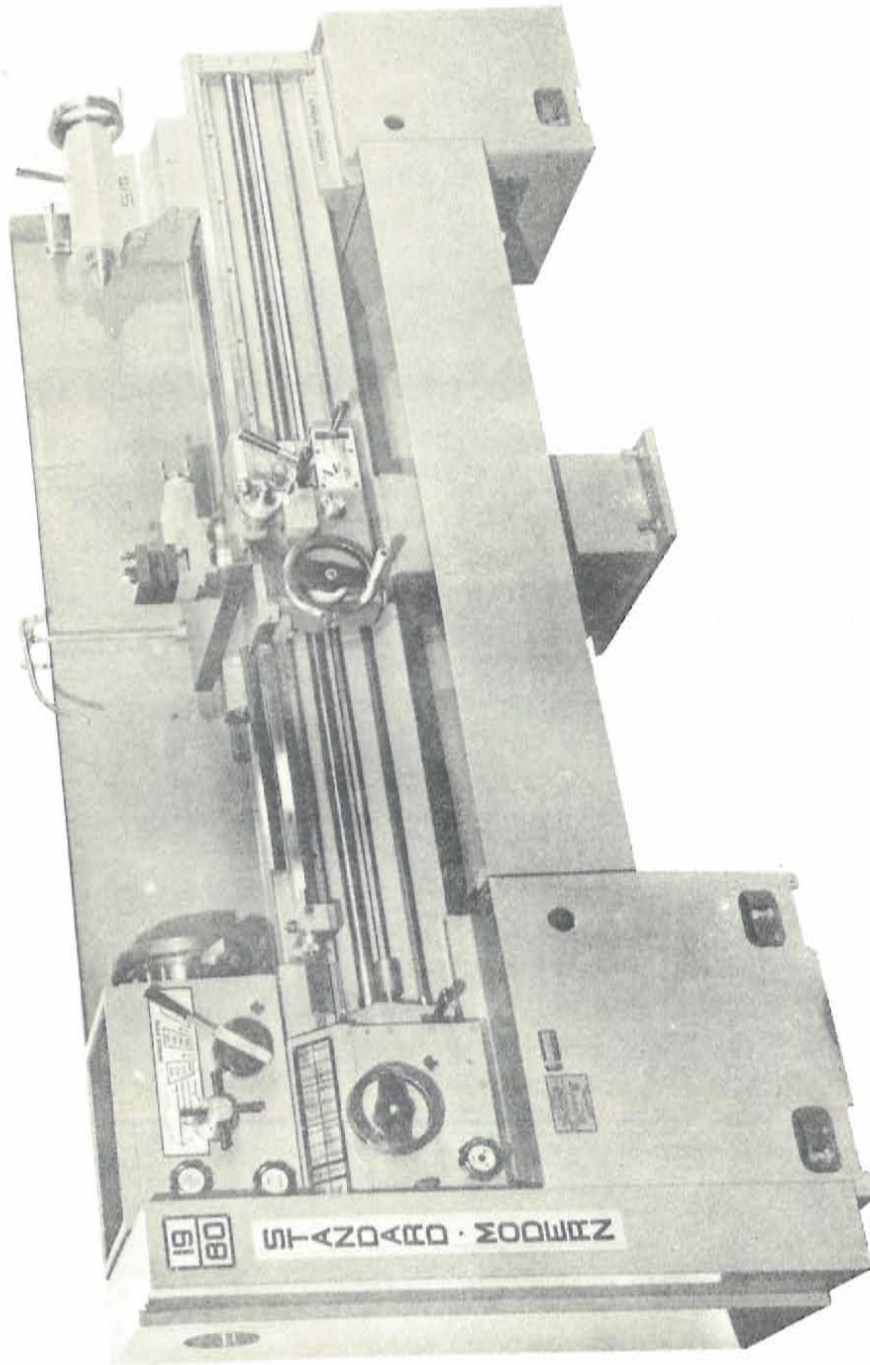


# OPERATOR'S HANDBOOK

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## 19 INCH MODEL 1960 & 1980 LATHES

8" TYPE D1 SPINDLE NOSE



GENERAL VIEW

## 1. LIFTING AND INSTALLATION INSTRUCTIONS

### 1.1 Lifting the Machine

To lift the machine by the use of chain slings, put the slings around 1 1/2" dia. lifting bars palced in the holes provided for that purpose in headstock and tailstock pedestals.

Protect painted surfaces with thick pads and wood blocks.

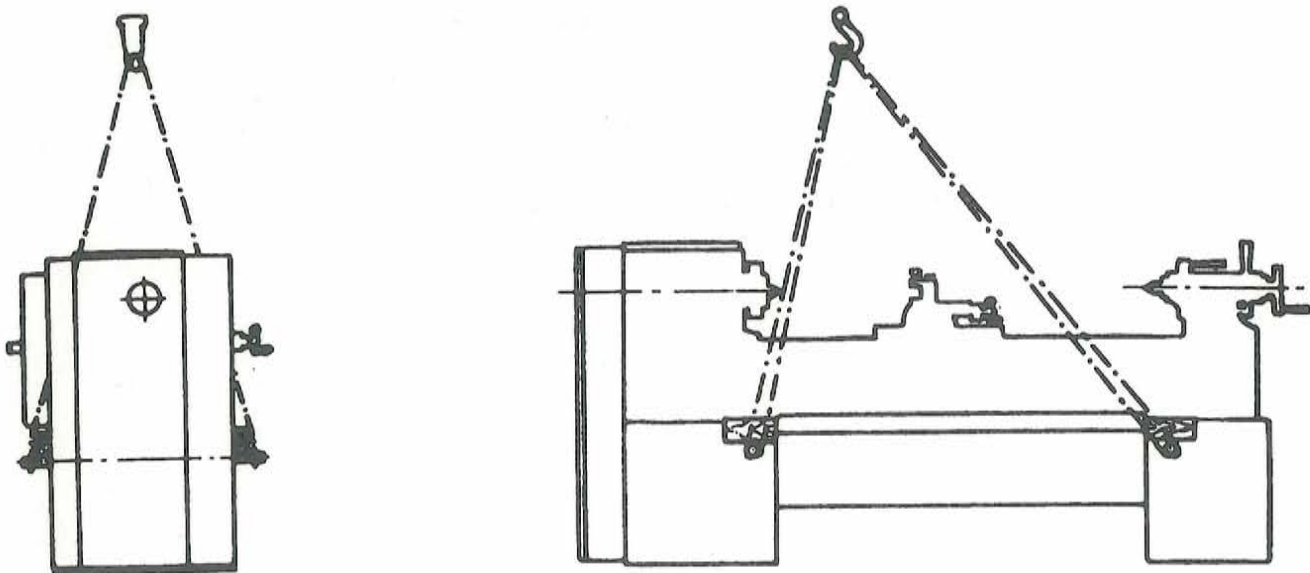


FIGURE 2.

Lift the machine with a crane having sufficient capacity to carry safely a load of:

Approx: 5000 lbs. shipping weight for 60" lathe.

5250 lbs. shipping weight for 80" lathe.

Do not remove skids from the machine until it is brought to its final position.

### 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 Tool Company Limited, immediately, giving the serial number of the machine which is stamped on the recessed face, on top of the bed, at the tailstock end.

### 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 on their respective slides.

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

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

### 1.4 Installation

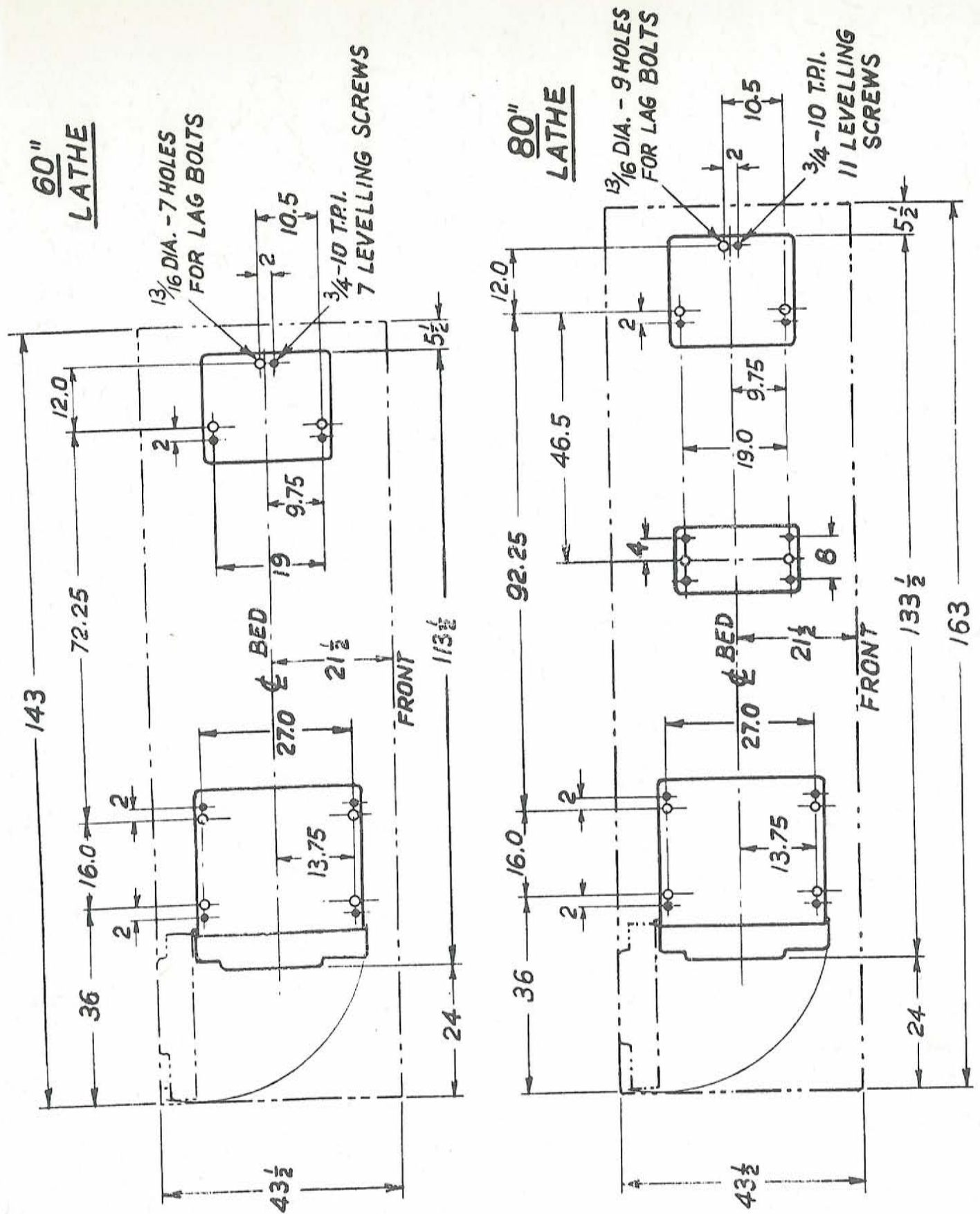
For proper operation, the machine should be set on a substantial floor capable of supporting the weight safely. To secure the machine on its foundation, use anchor bolts or lag screws. For the size of the lathe and the location of the bolt holes see the floor plan (Fig.3).

After the machine is in position, it must be levelled by the use of the square head set screws provided before tightening the lag screws. It will be necessary to use 4 inch square steel plates, about 3/8" thick, under the levelling screws to prevent the ends of the screws from sinking into the floor.

It is important that the lathe be level in order to produce accurate work.

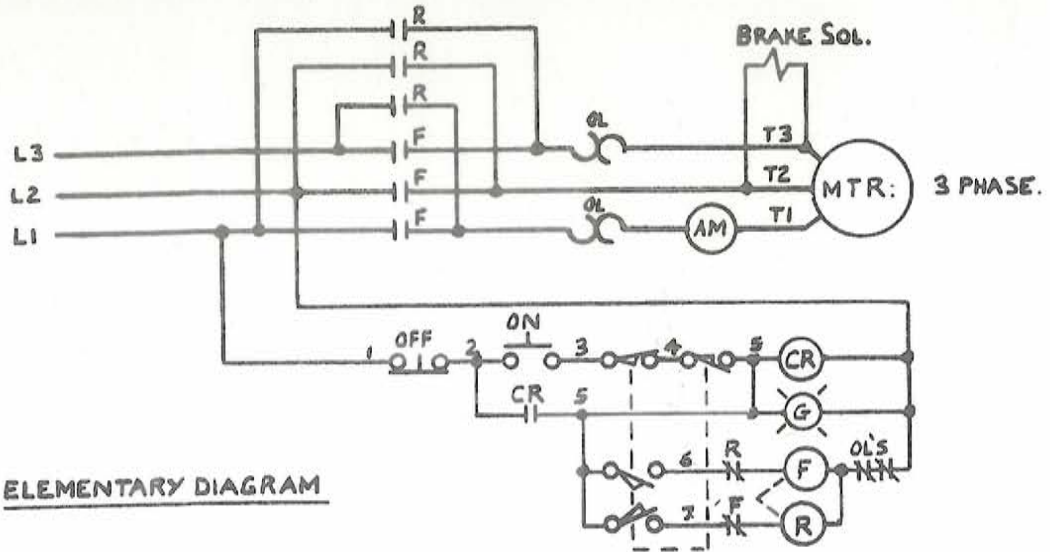
Use a precision level placed lengthwise, and cross wise on the bed. To take a reading off the level for the crosswise levelling of the bed, use parallel bars placed on the flats of the bed.

After all the strain and twist has been removed from the lathe bed, and it checks perfectly level, the pedestals should be lagged to the floor, and the levelling re-checked. Re-check the level of the machine at regular intervals.

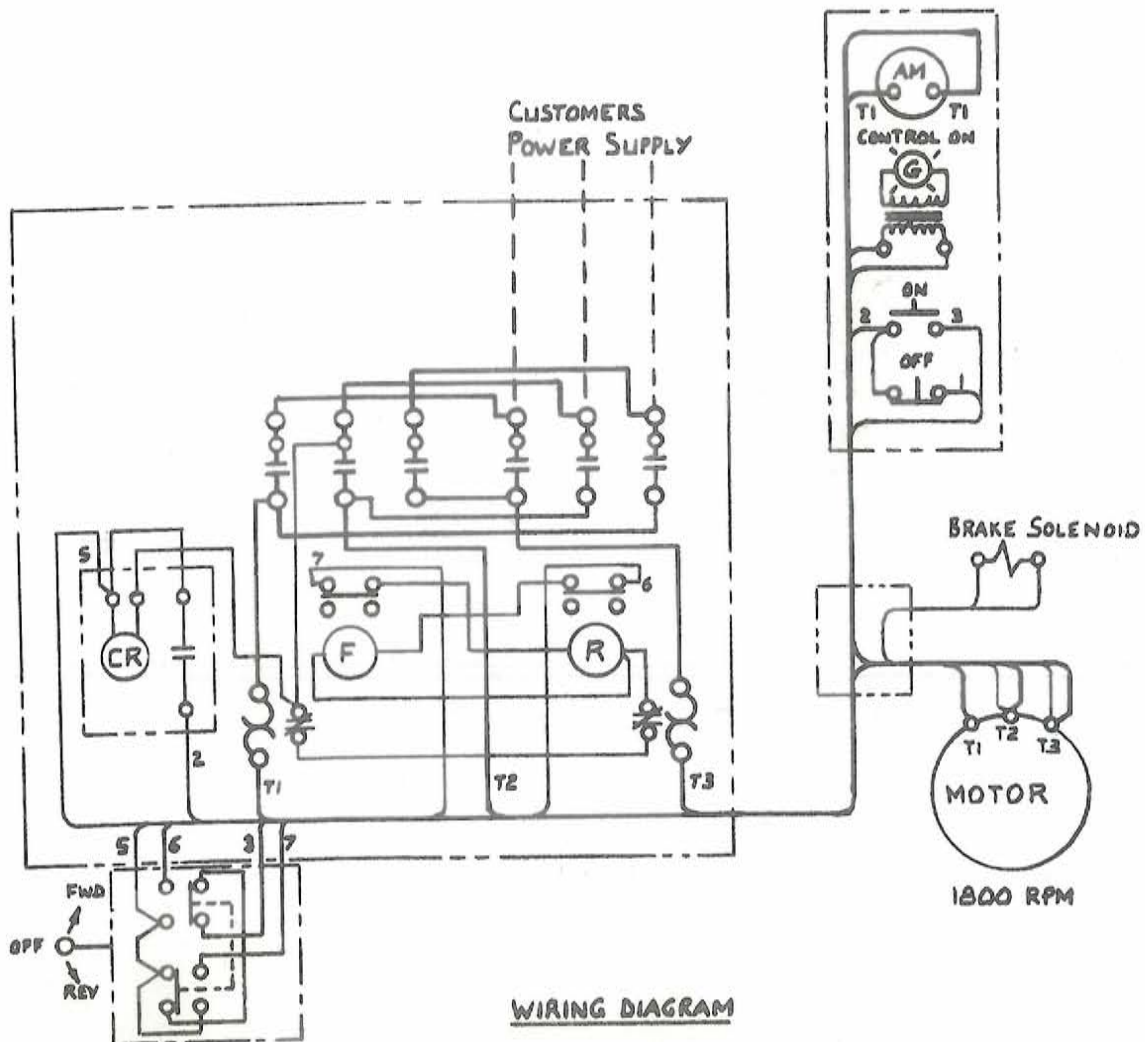


FLOOR PLANS - 60" & 80" LATHES

FIGURE 3.



ELEMENTARY DIAGRAM



WIRING DIAGRAM

## 2. LUBRICATION

All machines are shipped with the lubricant oil drained from the oil sumps in the headstock, feedbox and apron, and must be serviced before being put into use.

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

CAUTION: Do not mix detergent type, automotive oil or multipurpose oils with the regular grade of S.A.E. No. 30 lubricating oil.

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

### 2.1 Headstock

The lubrication of the headstock is automatic, so that an even distribution throughout the headstock is assured.

To service the headstock, fill the reservoir to the centre of the oil sight gauge through the oil pipe at the left end of the headstock inside the belt guard.

The reservoir capacity of the headstock is approximately 10 quarts.

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

A light blending oil to which a small percentage of kerosene has been added may be used to flush out any dirt or sediment. Run the machine for several minutes without load so that the flushing oil can circulate through the reservoir.

The flushing oil should be then drained and new oil added. The drain pipe is located at rear of headstock. Because most solvents tend to soften paints, they are not recommended as flushing mediums.

LUBRICATION (Continued)2.2 FEEDBOX

The construction of the feedbox completely encloses all moving parts and prevents the entry of dirt and loss of lubricant. To service the feedbox, fill the reservoir to the centre line of the oil sight utilizing the pipe fittings at the left end of the feedbox inside the belt guard. The capacity of the feed box reservoir is approximately 4 quarts.

Using the same method, as with the headstock, the feedbox oil reservoir should be drained, flushed and refilled with fresh, clean oil at least once every 6 months. The drain plug is located directly below the oil sight.

One grease fitting is located in the handwheel shaft. Grease once a month as indicated on lubrication plate.

2.3 APRON

The box construction of the apron completely encloses all moving parts.

The lower half of the apron forms a large oil reservoir in which the gears dip to provide an even distribution of lubricant. Service the apron reservoir through the oil filler above the half-nut lever. Fill with oil to the centre of the oil sight gauge. The reservoir capacity of the apron is approximately 2 quarts.

The oil level should be checked and replenished daily as the lubricating pump draws its oil from this reservoir in order to lubricate the saddle and cross slide ways.

The amount of oil being distributed to the saddle and cross slide ways is readily controlled by means of the pressure adjusting screw located immediately below the apron handwheel.

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

2.4 Saddle and Cross Slide

A built-in pump in the apron lubricates automatically the bearing surfaces of the saddle on the bed; also the dovetails and bearing surfaces of the cross slide.

The cross feed screw is lubricated through an oiler in the hexagonal anchor screw in centre of the cross slide.



LUBRICATION (CONT'D)

2.5 Compound

On the compound rest, one oil hole lubricates both the ways and the screw.

2.6 Tailstock

The spindle and screw are lubricated by two oilers located on top of the spindle housing.

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

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

2.7 Bed End Bracket and Leadscrew

Two grease fittings on the end bracket lubricate individually the end of the leadscrew and the end of the feedshaft. Grease every 8 working hours as indicated on lubrication plate.

One grease fitting lubricates the end of the control shaft.

Grease once a month.

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

2.8 Taper Attachment

Clean and oil the adjustable slide bar before using the taper attachment. Also apply a few drops of oil in each of the four oilers provided.

### 3. OPERATING INSTRUCTIONS

The electrical control station including power meter, pilot light and push buttons is located at the left end of headstock, on the End Plate.

#### 3.1 Motor and Spindle Rotation Control.

Spindle rotation is controlled by means of dual control levers mounted on a common control shaft. This control shaft in turn actuates a 3-position switch to give FORWARD, STOP and REVERSE rotation to the motor and spindle.

The R.H. CONTROL LEVER is mounted at right lower side of the Apron and moves with the apron along the bed.

Lifting the lever up gives FORWARD rotation of spindle in the normal direction for turning, drilling, boring, etc.

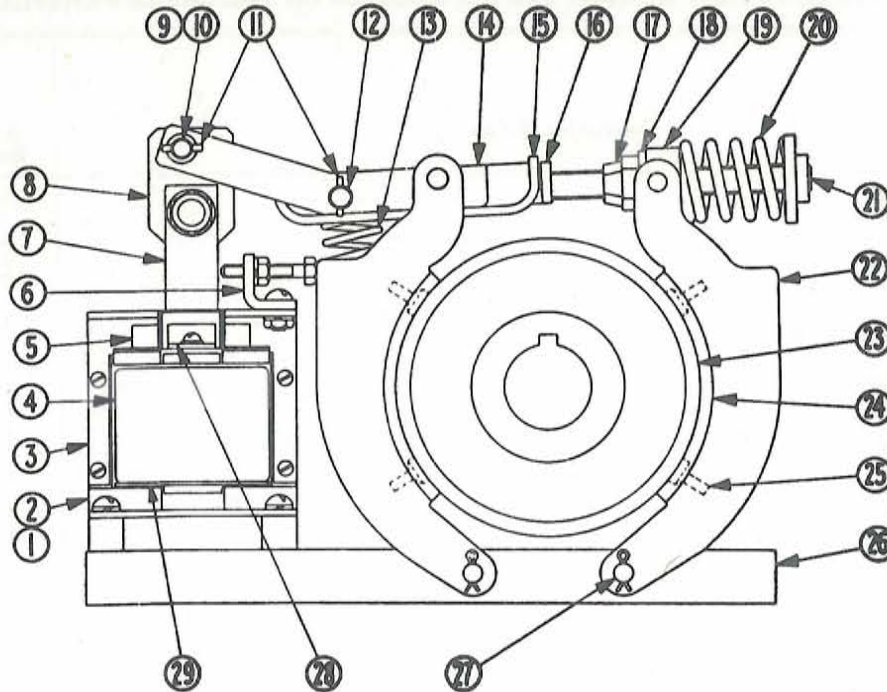
Central or STOP position stops the spindle. In this position the lever rests on a safety ledge and must be moved sideways, to the left, before being pushed down to give REVERSE spindle rotation. This arrangement prevents accidental reversing of the spindle in case a tool or some other object is dropped on either CONTROL LEVER.

The L.H. CONTROL LEVER is located just below the headstock and is used primarily for jogging the spindle when shifting gears, etc. It can only be used for forward rotation and stopping.

With control levers in STOP position the spring-actuated brake is engaged automatically. A solenoid releases the brake when the motor current passes through it. This accounts for the "thump" normally heard when starting the motor. The brake, working on motor pulley, is mounted on the motor plate, and is power-fail safe.

For mounting and adjustment instructions, and also for other brake particulars see Page 10.

**INSTRUCTION SHEET**  
**For Bulletin 511 Type "S" 5 1/2" A-c Brake**



88-1332-2, -3, -4, -6

**INSTRUCTIONS (See Figure 1)**

**1. MOUNTING** — Clamp the brake on the wheel by compressing torque spring "D" by tightening the adjusting nut "E". Insert shims between the mounting stand and the base of the brake until the brake is setting solid on base.

**2. Adjustment** — a. Compress the torque spring "D" until the desired torque is obtained. The approximate compressed length of this spring, to obtain rated torque, is given in the table below and on some brakes this length is given on a small plate mounted on the pivot block, item 19. It is an approximate dimension and further adjustment may be necessary.

While making this adjustment maintain a clearance of

.015 inch at "C" when the brake is applied. When the desired torque is obtained be sure that the clearance "C" is .015 inch. The lock nut "B" will secure itself in this position.

b. Equalize the clearance between the shoes and wheel when the brake is released by setting screw "A".

**3. Re-Adjustment** — When the lining wears, the clearance "C" decreases. Never permit this clearance to become zero since complete loss of braking torque will result. When the clearance "C" becomes low, again adjust to .015 inch by turning screw "E". No change in torque will result from this adjustment if nut "B" is not changed.

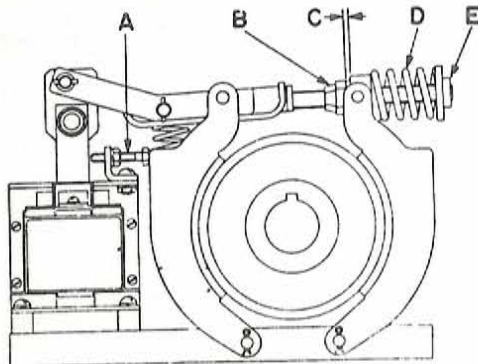


Fig. 1

Size of Brake	Torque Rating	Compressed Length of Spring "D"
5 1/2"	25 Lbs. Ft.	1 3/4"
5 1/2"	35 Lbs. Ft.	1 3/4"

## RENEWAL PARTS — Information Required

Parts CANNOT be sent promptly unless you include the FOLLOWING with your order: PUBLICATION NO. 10824, ITEM NO., DESCRIPTION, PART NUMBER AND NO. STAMPED ON THE BRAKE NAMEPLATE

Item No.	Description of Part	No. Req.	Part No. 25 Lb. Ft. Torque 88-1332-2, -3 35 Lb. Ft. Torque 88-1332-4, -6
1	Case (when used).....	1	39-16564
2	Cover (when used).....	1	47-828
3	Magnet frame.....	1	17-476
▲ 4	Coil (Give No. on Coil).....	1	.....
5	Spring.....	2	69-273
6	Bracket.....	1	79-415
▲ 7	Plunger (includes item 8).....	1	51-93-4
	1/2-13 screw.....	1	11-709-2
	1/2-13 hexagon nut.....	1	915-1401Z
	1/2 lockwasher.....	1	916-1161Z
8	Link.....	1	51-116-2
9	Pin.....	1	13-3527
10	Spacer.....	2	56-2561-4
11	Spring pin.....	4	13-3187-2
12	Pin.....	1	13-317-9
▲ 13	Solenoid spring.....	1	69-336
	25 lb. ft. torque.....	1	69-1584
	35 lb. ft. torque.....	2	24-4026
14	Lever.....	1	49-3025
15	Spring gland.....		
16	Adjusting stud nut.....	1	15-774
17	Locknut — 1/2-20.....	1	15-299
18	Washer.....	1	916-1121Z
19	Pivot block.....	1	17-241
▲ 20	Torque spring.....	1	69-287
	25 lb. ft. torque.....	1	69-303
	35 lb. ft. torque.....	1	14-141-2
21	Adjusting stud assembly.....	2	48-98-3
22	Brake shoe (includes items 24 and 25).....	1	.....
*23	Brake wheel (see below).....	2	48-338-2
24	Lining.....	8	13-4762
25	Groov pin.....		
26	Base.....	1	17-242
27	Base pin.....	2	13-474
▲ 28	Plunger guide.....	2	54-300-2
29	Washer.....	2	16-254
▲ 30	Set of lining for repairs (includes items 24 and 25).....	1	6-166-2

\*Give Catalog "H" No. when stamped on the wheel or, if this Number does not appear on the wheel, give complete brake nameplate data and bore and keyway dimensions.

▲We recommend that these items be stocked. The quantity to be stocked will depend upon the total number in use.

OPERATING INSTRUCTIONS (CONTINUED).3.2 Spindle speed selection

The direct reading SPINDLE SPEED CHART is located on upper front face of the headstock. Immediately below are two speed selectors: The 4-position STARWHEEL and the 3-position SHIFT LEVER.

The desired spindle speed is obtained by placing the STARWHEEL in one of the four positions and moving the SHIFT LEVER to one of the three speed ranges. The resultant spindle speed may be noted directly from the chart.

For free hand rotation of the spindle move the 3-position SHIFT LEVER to either of its "N" (neutral) positions.

DO NOT OPERATE THE SPEED SELECTORS WHILE THE SPINDLE IS REVOLVING.

Standard-Modern lathes have been built to accommodate various sizes of headstock pulleys so that different ranges of spindle speeds can be obtained. Interchangeable pulleys, belts and speed charts are available for the following speed ranges:-

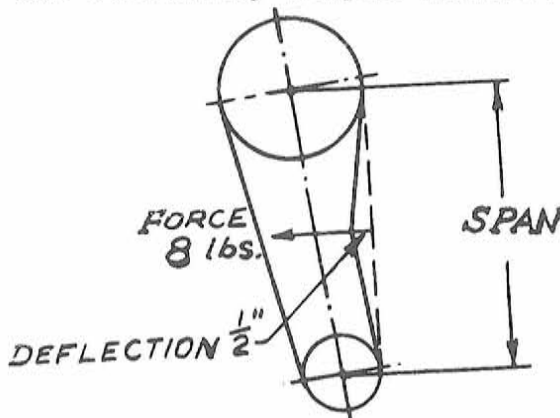
- 30 - 1200 R.P.M.
- 40 - 1600 R.P.M.

See General Assembly Parts List for particulars.

When changing the Headstock pulley and belt, loosen the motor plate clamp and lift the motor plate by means of adjusting screw provided. With new pulley in position adjust new belt for the proper tension (see below) , and tighten the nut on motor plate clamp.

For correct belt tension, use the following simple method:-

At the center of the span  
apply a force of 8 lbs. with  
a spring scale (at right angles  
to the span) 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).

OPERATING INSTRUCTIONS (cont'd)

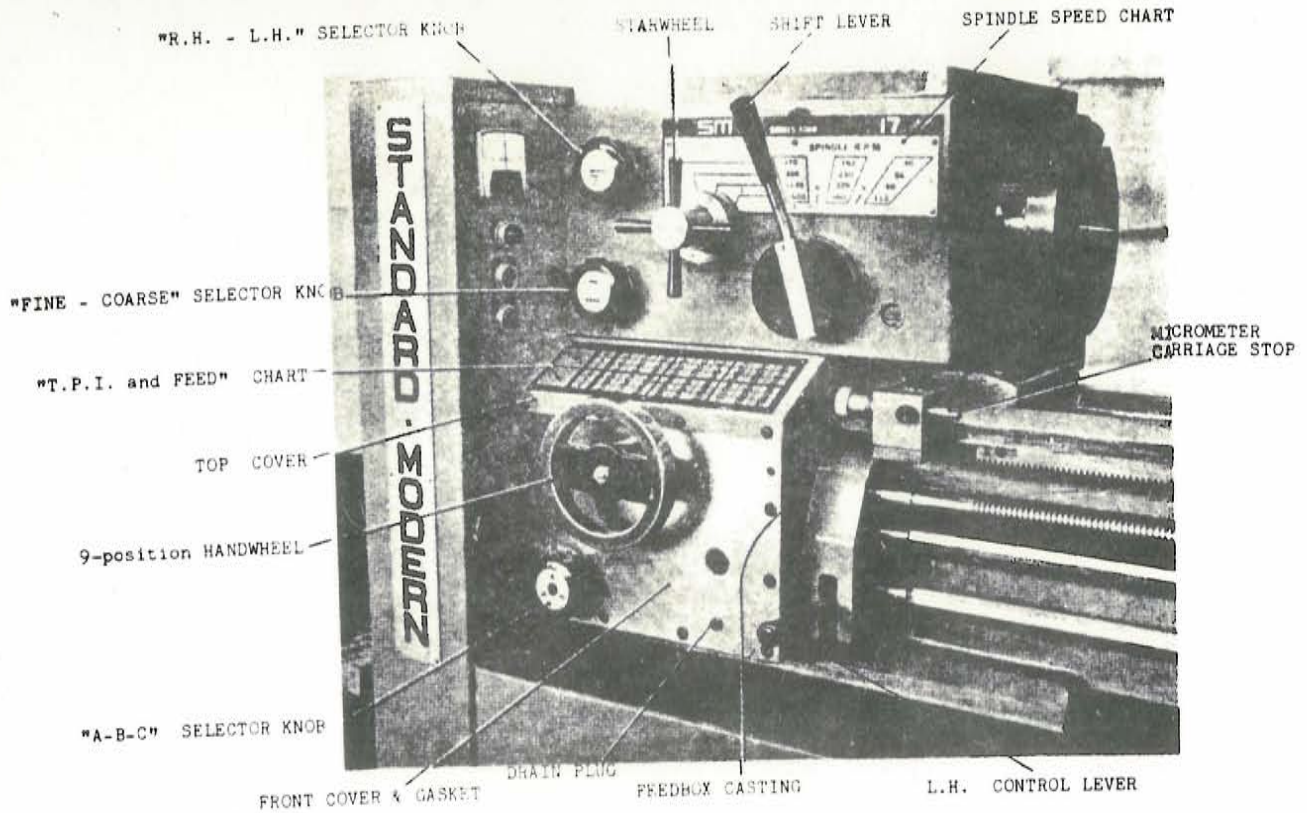


FIGURE 4.

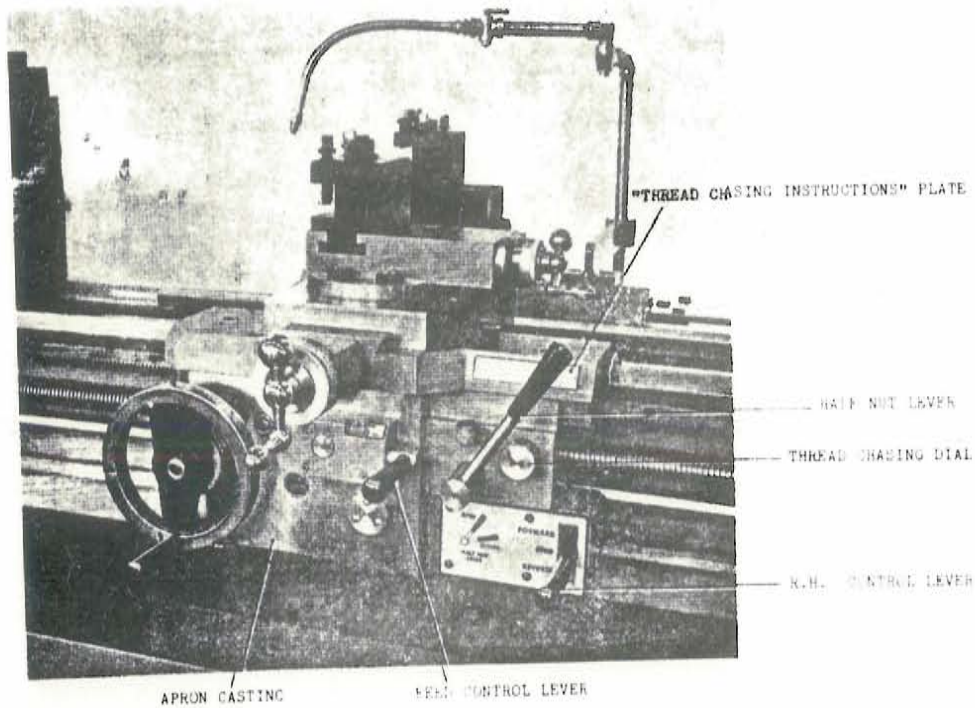


FIGURE 5.

OPERATING INSTRUCTIONS (Continued)3.3 Power Feeds

For power longitudinal feed or power cross feed arrange the "R.H. - L.H." and "FINE - COARSE" SELECTOR KNOBS on headstock, also "A-B-C" SELECTOR KNOB and SELECTOR HANDWHEEL on the feedbox to correspond to the desired feed rate as shown on the "T.P.I. and FEED" chart.

AVOID THE COARSE RANGE OF FEEDS WHEN SPINDLE SPEEDS ARE ABOVE 500 RPM.

As an added feature all feed rates are exactly as shown on the chart. This makes it possible to cut scrolls on faceplate work when using the power cross feed.

For longitudinal power feed move the FEED CONTROL LEVER up to the "LONG FEED" position and the tool will move along the bed parallel to the spindle.

For cross power feed move the FEED CONTROL LEVER down to the "CROSS FEED" position, and the tool will move across the bed, at right angle to the spindle.

NOTE: A short side shift is required before shifting from LONG FEED TO CROSS FEED or vice-versa. This prevents accidental through - shifting.

A safety interlock is also fitted so that it is impossible to engage the FEED CONTROL LEVER if the HALF-NUTS are engaged and vice-versa.

As an additional feature, lathes can be equipped with AUTOMATIC FEED TRIP to provide accurate carriage stopping at any point on the bed and in either direction of longitudinal feed.

3.4 Thread Cutting and Thread Chasing Dial

When cutting screw threads select the desired T.P.I. setting and proceed in the normal manner.

The open and closed positions of the HALF NUT LEVER are clearly shown on the aluminum plate directly below.

The THREAD CHASING DIAL is conveniently located in relation to the lever and the "THREAD CHASING INSTRUCTIONS" PLATE is attached to the saddle wing just above it.

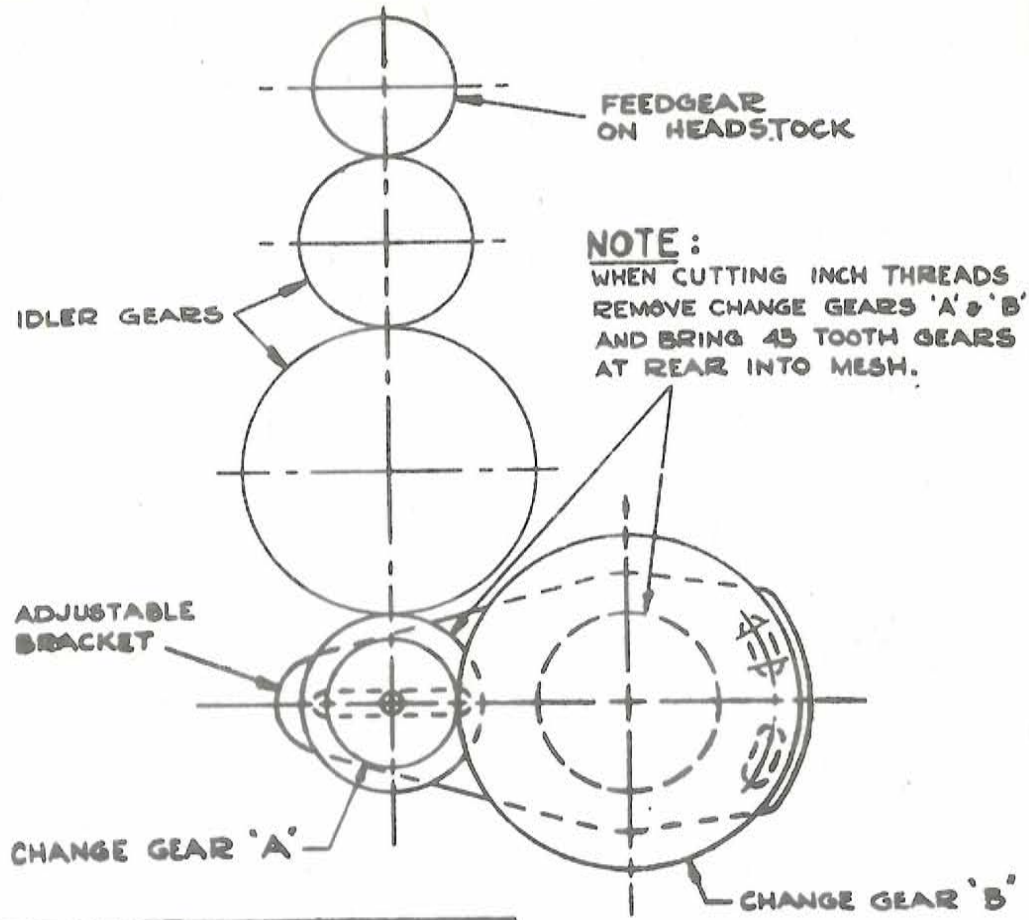
For cutting metric and special threads an ADJUSTABLE BRACKET with CHANGE GEARS for desired pitches is available.

A nameplate with tables of threads and particulars of change gears and feed box settings (as shown in Fig. 6) is then supplied.

**END GEAR TRAIN**

TABLE OF METRIC, DIAMETRAL AND MODULE PITCHES WITH PARTICULARS OF CHANGE GEARS AND FEEDBOX SETTINGS

METRIC PITCHES			
PITCH IN MM	CHANGE GEAR "A"	CHANGE GEAR "B"	FEEDBOX SETTING T.P.I.
0.125	50	127	80
0.15	60		80
0.175	70		80
0.2	80		80
0.225	45		40
0.25	80		64
0.3	60		40
0.35	70		40
0.4	80		40
0.45	45		20
0.5	80		32
0.6	60		20
0.7	70		20
0.75	60		16
0.8	80		20
1.0	80		16
1.25	50		8
1.5	60		8
1.75	70		8
2.0	80		8
2.5	50		4
3.0	60		4
3.5	70		4
4.0	80		4
4.5	45		2
5.0	50		2
5.5	55		2
6.0	60		2
7.0	70		2
8.0	80	127	2



**NOTE:**  
WHEN CUTTING INCH THREADS REMOVE CHANGE GEARS 'A' & 'B' AND BRING 45 TOOTH GEARS AT REAR INTO MESH.

SPECIAL THREADS			
T.P.I.	CHANGE GEAR "A"	CHANGE GEAR "B"	FEEDBOX SETTING T.P.I.
1	100	50	2
2 1/2	80	105	2
3 1/3	84	70	4
10 1/2	80	105	8
17	80	85	16
19	80	95	16

DIAMETRAL PITCHES				
DIA-METRICAL PITCH	CIRC' PITCH IN INCHES	CHANGE GEAR "A"	CHANGE GEAR "B"	FEEDBOX SETTING T.P.I.
5	.6283	93	74	2
6	.5236	89	85	2
7	.4488	79	88	2
8	.3927	84	107	2
9	.3491	67	97	2
10	.3142	93	74	4
11	.2856	*	*	3 1/2
12	.2618	89	85	4
14	.2244	79	88	4
16	.1963	84	107	4
18	.1745	67	97	4
20	.1571	93	74	8
22	.1428	*	*	7
24	.1309	89	85	8
26	.1208	86	89	8
28	.1122	79	88	8
30	.1047	98	117	8
32	.0982	84	107	8
36	.0873	67	97	8
40	.0785	93	74	16
48	.0654	89	85	16

MODULE PITCHES				
MODULE PITCH	CIRC' PITCH IN INCHES	CHANGE GEAR "A"	CHANGE GEAR "B"	FEEDBOX SETTING T.P.I.
0.5	.06184	92	93	16
0.75	.09276	92	124	8
1.0	.12368	92	93	8
1.25	.15460	110	91	8
1.5	.18552	92	124	4
1.75	.21644	84	97	4
2.0	.24737	92	93	4
2.25	.27829	108	97	4
2.5	.30921	110	91	4
2.75	.34013	117	86	4
3.0	.37105	92	24	2
3.5	.43289	84	97	2
4.0	.49474	92	93	2
4.5	.55658	108	97	2
5.0	.61842	110	91	2

\* BRING 45 TOOTH GEARS AT REAR INTO MESH

S.M.T. DRG B-42301

FIGURE 6



OPERATING INSTRUCTIONS (CONT'D).

3.5 Taper Turning

TAPER ATTACHMENT - SADDLE MOUNTED, TELESCOPIC TYPE

Stroke: 15", Taper: 4" per foot on dia. or 20 deg. included angle.

For Taper Turning:

- (1) Loosen HEX HEAD LOCK SCREW on the bracket;
- (2) Locate saddle on bed in relation to work piece;
- (3) Tighten the two - HEAVY HEX NUTS on the bed clamp;
- (4) Adjust the PIVOTED SLIDE BAR to desired taper and lock securely.

For Straight Turning:

- (1) Loosen HEAVY HEX NUTS on the bed clamp;
- (2) Tighten the HEX HEAD LOCK SCREW on the bracket;
- (3) Leave the PIVOTED SLIDE BAR locked at its angular setting, so that taper attachment will move with the saddle.

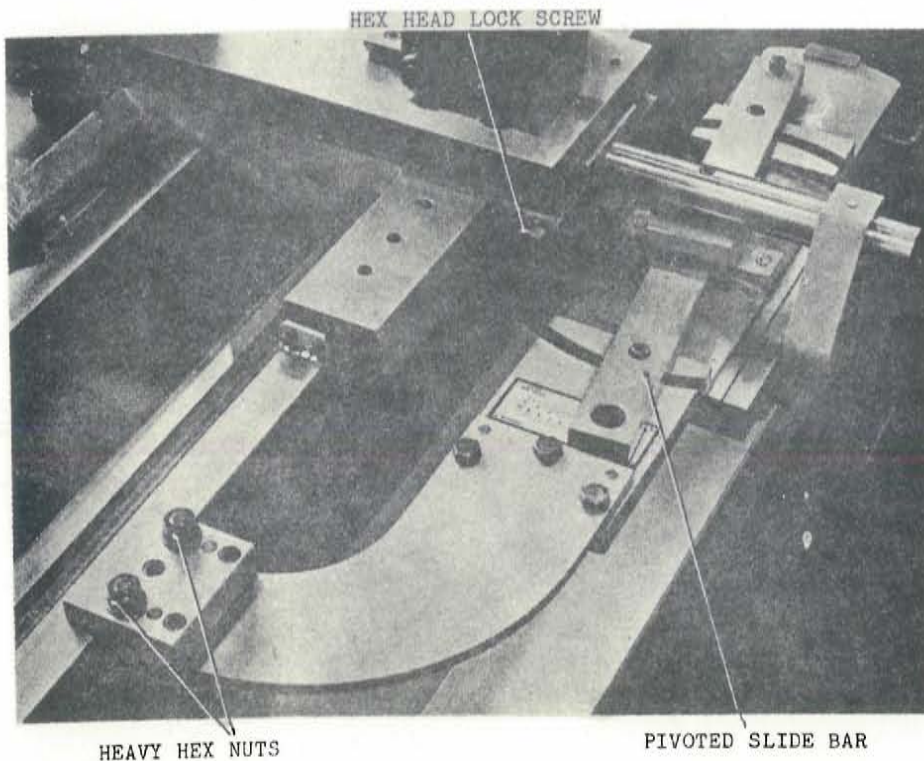


FIGURE 7.

OPERATING INSTRUCTIONS (CONTINUED)3.6 LEADSCREW SHEAR PIN

This brass shear pin is located at the left-hand end of the leadscrew (see Fig. 8) and 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 longitudinally.

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

3.7 GEAR TRAIN SHEAR KEY

This brass shear key, is located in the feed compound shaft and drives the top gear of the end gear train (see Fig. 8). It is provided to prevent damage to the feed compound gears in the headstock due to a possible seizure in the feed box.

A spare shear key which is provided with the machine, can be readily fitted by first removing the gear and knocking the broken portions of key out of the shaft with a small square nosed chisel. The new key is then fitted to the shaft and the gear assembled. It is important of course, to locate and remedy the cause of the seizure.

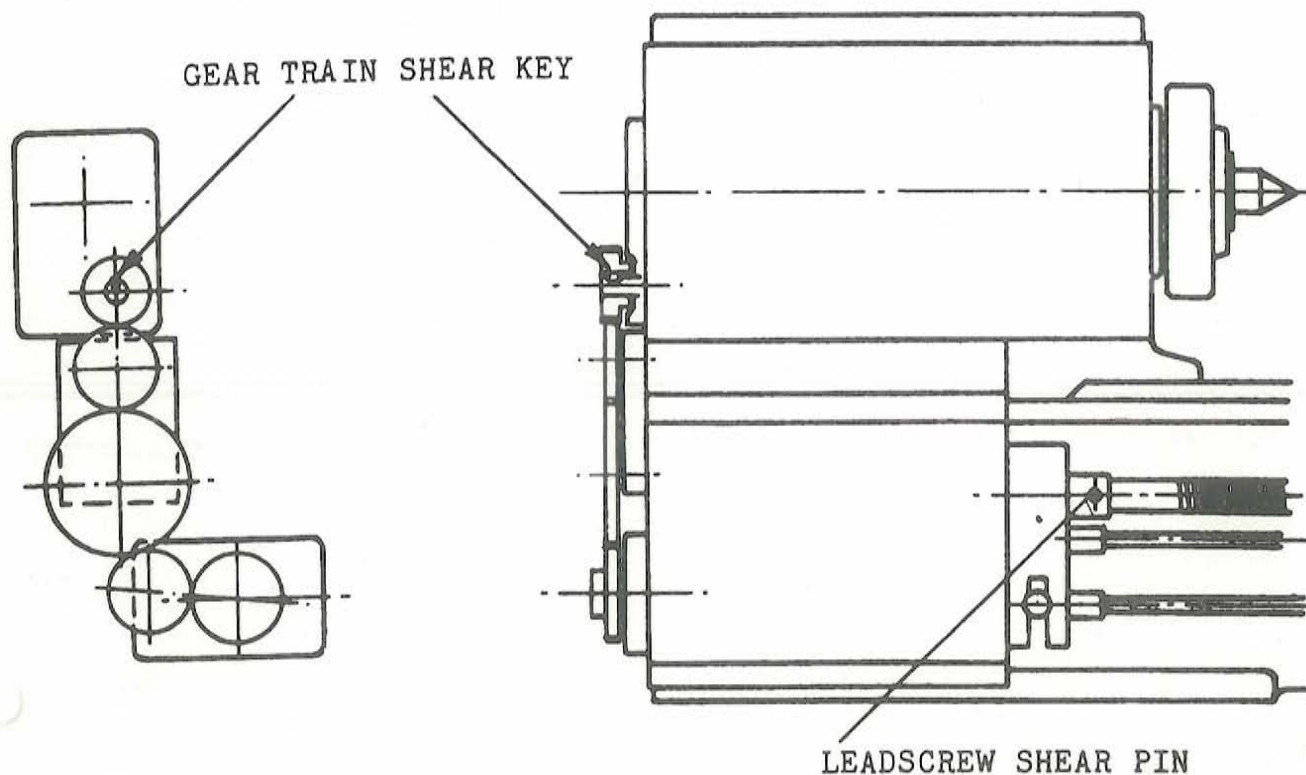


FIGURE 8.

OPERATING INSTRUCTIONS (CONTINUED).

3.8 COOLANT ATTACHMENT

Available with centrifugal pump unit GRAYMILLS MODEL NO. X11-HR35-LA which delivers a copious volume of liquid at relatively low pressure.

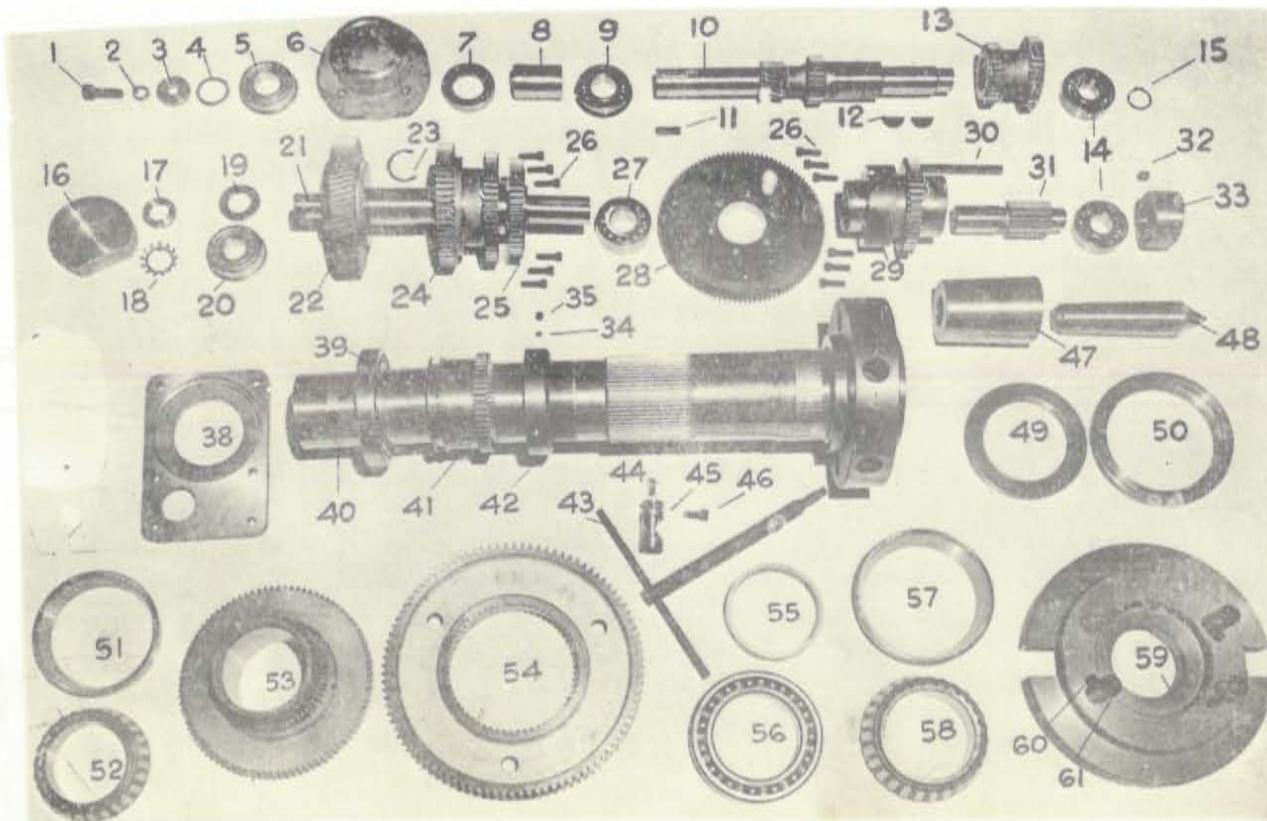
The flow may be throttled or shut off completely without overloading the motor.

The motor has permanently lubricated oilite bearings and no lubrication is required for either pump or motor.

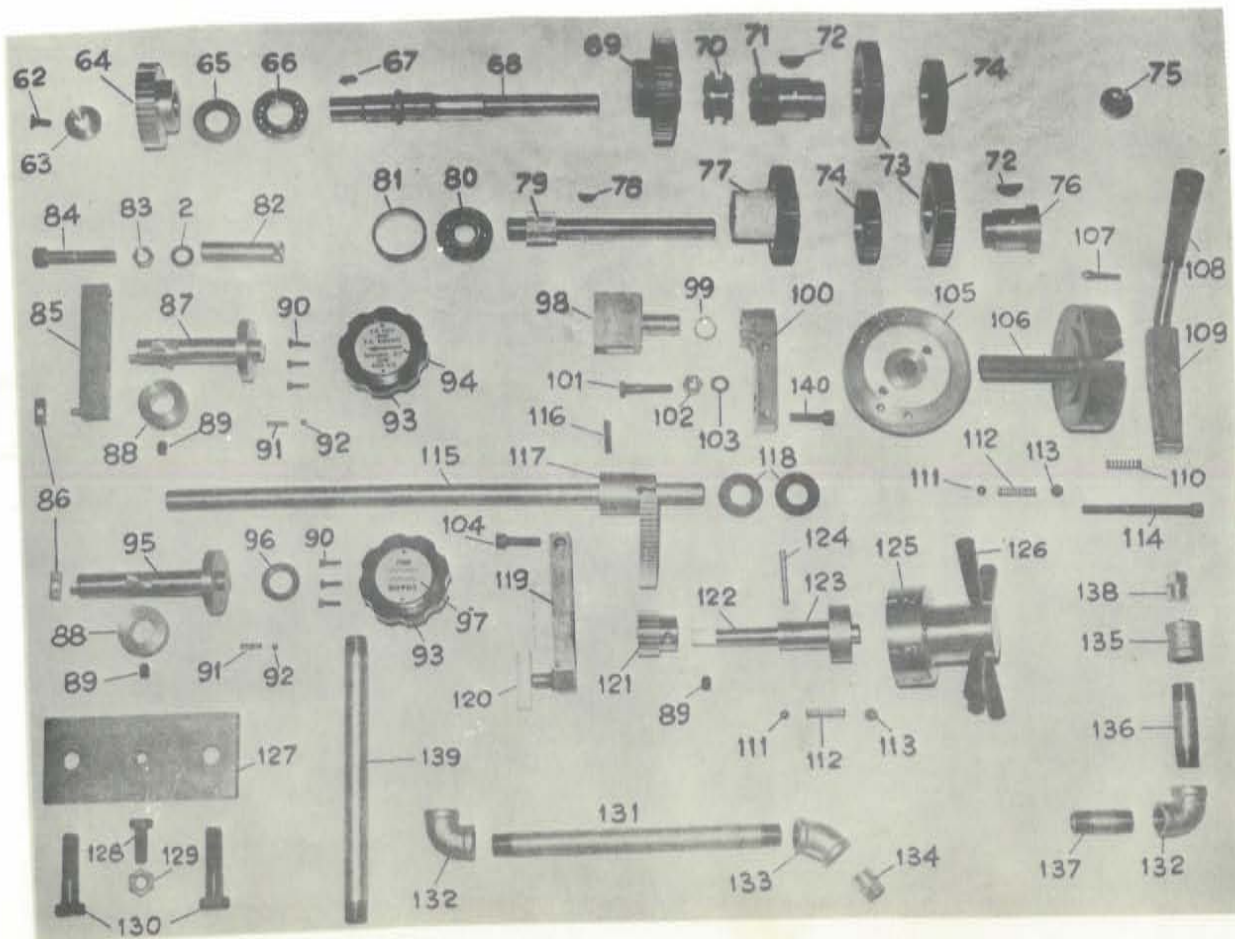
This unit has a 10 gal. tank supplied with removeable chip and sludge collecting tray with a baffle and deflector for settling out sediment. Easily removed for cleaning.

Coolant tank should be cleaned and re-filled every 6 months or more frequently depending on usage.

ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	SOC. HD. CAP SCREW $\frac{1}{2}$ -13 x $\frac{1}{2}$		33	END CAP	A-41040
2	SPLIT LOCKWASHER # $\frac{1}{2}$ MEDIUM (2 REQ'D.)		34	BRASS PAD	A-41072
3	WASHER	A-41474	35	SOC. SET SCREW 3/8-24 x 3/8 LG.	
4	SPACER	A-41040			
5	BALL BEARING - S.K.F. #6207-NR-2 RS		38	REAR COVER	C-41087
6	BEARING HOUSING	C-41038	39	BALL BEARING S.K.F. #6018	
7	OIL SEAL (1-11/16 I.D. x 2.839 O.D. x $\frac{1}{2}$ ) - CHICAGO ROWHIDE #16960		40	8 INCH CAMLOCK SPINDLE	D-41076
8	BEARING SPACER	A-41041	41	FEED REVERSING GEAR	B-41086
9	BALL BEARING - S.K.F. #6207-NR		42	SPINDLE NUT	B-41086
10	PULLEY SHAFT	C-41479	43	CAM WRENCH	B-41213
11	KEY 5/16 x 5/16 x 1-3/8 LG.		44	CAM SPRING (6 REQ'D.)	A-41131
12	WOODRUFF KEY #21 ( $\frac{1}{2}$ x $\frac{1}{2}$ DIA.)		45	CAM FOR DI-8" CAMLOCK SPINDLE (6 REQ'D.)	
13	28 T. & 34 T. DOUBLE GEAR	B-41478	46	CAM SCREW (6 REQ'D.)	A-41124
14	BALL BEARING - S.K.F. #6306		47	SLEEVE FOR #5 AM. STD. CENTER	A-41078
15	RETAINING RING - TRUARC #5100-118		48	LATHE CENTER #5 AM. STD.	A-41079
16	LEFT END COVER	A-41047	49	OIL SLINGER	A-41081
17	LOCKNUT #N 06		50	BEARING SHIELD	B-41080
18	LOCKWASHER #W 06	A-41048	51	CUP #42387B } NO.3 PRECISION 52 CONE #42381 } TIMKEN BEARING	
19	SPACER		53	3-POSITION SHIFTER GEARS SUB-ASS'Y.	C-41083
20	BALL BEARING - S.K.F. #6306-NR-2RS		54	BULL GEAR	C-41008
21	INTERMEDIATE SHAFT	B-41051	55	SPACER	A-41082
22	73 T. HELICAL CLUTCH GEAR	C-41457	56	BALL BEARING - S.K.F. #6021	
23	CRESCENT RING - TRUARC #5103-175		57	CUP #56650B } NO.3 PRECISION 58 CONE #56425 } TIMKEN BEARING	
24	58 T. & 52 T. DOUBLE GEAR	C-41458	59	DOG PLATE D-41217	
25	46 T. SPLINED GEAR	B-41459	60	SOC. HD. CAP SCREW 5/16-18 x 5/8 (4 REQ'D.)	SUB-ASS'Y. #41210
26	SOC. HD. CAP SCREW 5/16-24 x 1 LG. (12 REQ'D.)		61	8" CAMLOCK STUD - "MAC-IT" (4 REQ'D.)	
27	DOUBLE ROW BALL BEARING #3207		NOT SHOWN		
28	102 TOOTH SPUR GEAR	C-41061			
29	45 TOOTH HUB GEAR	C-41059			
30	KEY 3/8 x 3/8 x 4-3/8 LG.		SEE FIG. 1	HEADSTOCK CASTING	E-41408
31	INTERMEDIATE PINION SHAFT	B-41056	PAGE 1	HEADSTOCK COVER	D-41009
32	SOC. SET SCREW "NYLON" $\frac{1}{2}$ -13 x $\frac{1}{2}$ LG.			VINYL MAT	B-41449

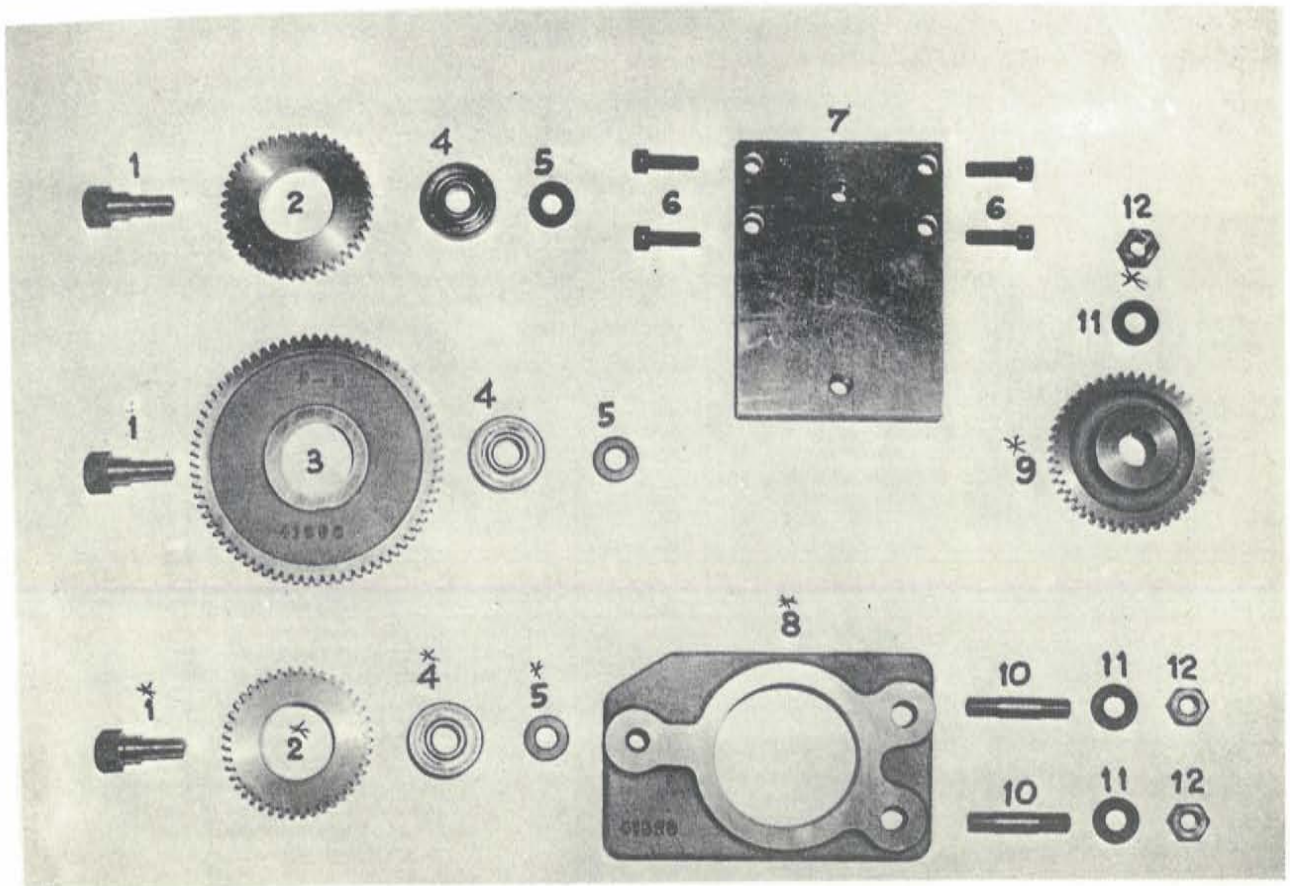


ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
52	FLAT HD. SOC. HD. CAP SCREW 5/16-18 x 1/2 LG.		100	SHIFTER PLATE	B-41112
53	WASHER	A-41480	101	HEX. HD. CAP SCREW 3/8-16 x 1 1/2 LG.	
54	35 T. FEED GEAR	B-41394	102	HEX. NUT 3/8-16	
55	OIL SEAL (31/32 I.D. x 1 1/2 O.D. x 5/16) - CHICAGO ROWHIDE #9567		103	SPLIT LOCKWASHER #3/8 MEDIUM	
56	BALL BEARING - S.K.F. #6205		104	SOC. HD. CAP SCREW 3/8-16 x 1 1/2 LG.	B-41446
57	SHEAR KEY FOR FEED TRAIN	A-21180	105	FIXED HUB	D-41424
58	FEED COMPOUND SHAFT	B-21429	106	ROTATING HUB	A-41427
59	48 T. FEED CLUTCH GEAR	B-41096	107	PIN FOR INDENT	
60	FEED CLUTCH BOBBIN	A-41092	108	TAPERED HANDLE - BALCRANK #PTH 202	
61	20 T. FEED CLUTCH IDLER	B-41095	109	LEVER FOR 4-POS'N. SHIFTER	C-41425
62	WOODRUFF KEY #15 (1/2 x 1 DIA.)		110	COMPRESSION SPRING	A-9181
63	42 T. FEED IDLER	A-41093	111	STEEL BALL .375 DIA.	
64	30 T. FEED IDLER	A-41094	112	COMPRESSION SPRING	A-30455
65	OIL WINDOW UNIT - BIJUR #B-5093		113	SOC. SET SCREW 7/16-14 x 3/8 LG.	
66	IDLER SLEEVE	A-41091	114	SOC. HD. CAP SCREW 3/8-16 x 3 1/2 LG.	
67	40 T. FEED COMPOUND GEAR	B-21422	115	CROSS SHAFT	A-41118
68	WOODRUFF KEY #8 (5/32 x 1/2 DIA.)		116	ROLL PIN 1/2 DIA. x 1 1/2 LG.	
69	PINION SHAFT	B-41089	117	GEAR SECTOR	B-41014
70	BALL BEARING - S.K.F. #6304		118	WASHER - WESPO #6011	
71	SPACER	A-41090	119	4-POSITION SHIFTER	B-41116
72	FIXED PLUG	A-41021	120	SHIFTER SHOE	A-41117
73	HEX. JAM NUT 1/2-20		121	24 T. SHIFT GEAR	A-41012
74	SOC. HD. CAP SCREW 1/2-20 x 2 1/2 LG.	A-41130	122	SHAFT FOR 4-POS'N. SHIFTER	A-41428
75	SWINGING ARM	A-30468	123	BUSHING FOR 4-POS'N. SHIFTER	B-41430
76	SHIFTER SHOE	B-41127	124	TAPER PIN #4 x 2 LG.	
77	UPPER ECCENTRIC SHAFT	A-41018	125	STARWHEEL HUB	C-41431
78	COLLAR		126	HAND LEVER	A-41429
79	SOC. SET SCREW 3/8-24 x 1/2 LG.		127	HEADSTOCK CLAMP (2 REQ'D.)	B-41020
80	SOC. HD. CAP SCREW #10-32 x 5/8 LG. (6 REQ'D.)	A-30454	128	HEX. HD. BOLT 1/2-13 x 1 1/2 LG.	(2 REQ'D.)
81	COMPRESSION SPRING		129	HEX. JAM NUT 1/2-13 (2 REQ'D.)	
82	STEEL BALL .250 DIA.	A-41016	130	HEX. HD. BOLT 5/8-11 x 2 1/2 LG.	(4 REQ'D.)
83	DIMCO KNOB	A-41026	131	PIPE NIPPLE 1/2 NPTF x 10 LG.	
84	L.H. & R.H. CHART	B-41126	132	90° ELBOW 1/2 NPTF	
85	LOWER ECCENTRIC SHAFT		133	45° ELBOW 1/2 NPTF	
86	OIL SEAL (7/8 I.D. x 1-3/8 O.D. x 1/2) - CHICAGO ROWHIDE #8677	A-41027	134	PIPE PLUG 1/2 NPTF	
87	COARSE & FINE CHART	B-41113	135	PIPE COUPLING 1/2 NPTF	
88	SHIFTER SHOE		136	PIPE NIPPLE 1/2 NPTF x 3 LG.	
89	RETAINING RING - TRUARC #S100-75		137	PIPE NIPPLE 1/2 NPTF x 2 LG.	
90			138	FILLER BREATHER PLUG	A-41712
91			139	PIPE NIPPLE 1/2 NPTF #11 LG.	
92			140	HEX. HD. CAP SCREW 3/8-16 x 1 1/2 LG.	



## END GEAR TRAIN STANDARD PARTS

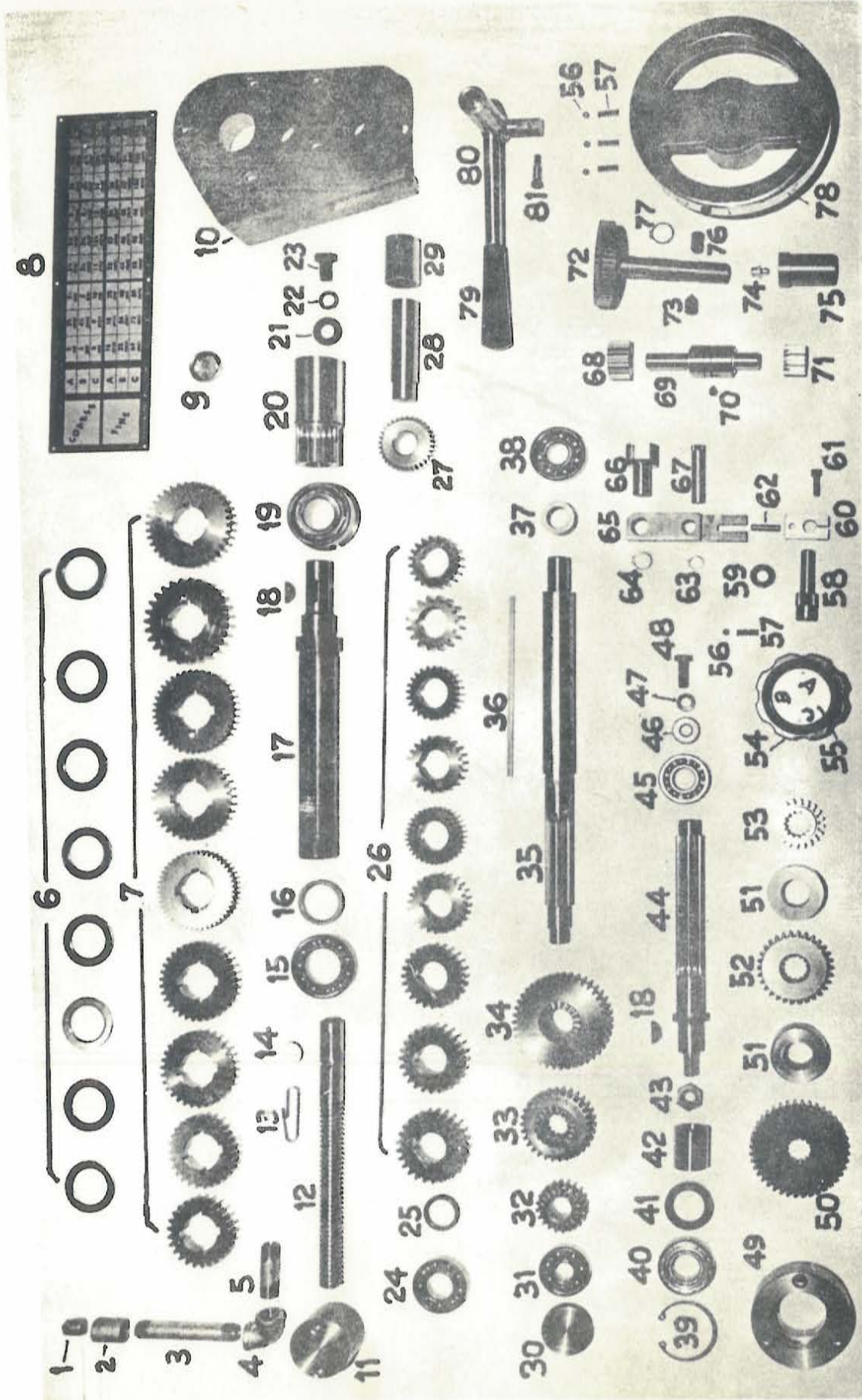
ITEM	NAME	PART NO.
1.	IDLER BOLT	A-41526
2.	42 T. IDLER GEAR	A-41363
3.	84 T. IDLER GEAR	B-41832
4.	BALL BEARING - S.K.F. #6303-2RS	
5.	WASHER - WESPO #6002	
6.	SOC. HD. CAP SCREW 3/8 - 16 X 1 1/2 LG.	
7.	FIXED IDLER BRACKET	B-41831
8.	IDLER BRACKET	C-41528
9.	45 T. FEED GEAR	B-41364
10.	MILLED STUD 1/2 - 13 X 2 1/2 LG.	
11.	WASHER - WESPO #6009	
12.	HEAVY HEX. NUT 1/2 - 13	



NOTE: PARTS MARKED THUS \* ARE NOT REQUIRED WHEN CUTTING METRIC OR SPECIAL PITCHES AND ARE TO BE REPLACED WITH PARTS LISTED ON PAGE 27.

## FEEDBOX PARTS

ITEM	NAME	PART NO.	ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	PIPE PLUG 3/4 NPTF		26	INTERMEDIATE SHAFT GEARS:		55	"A-B-C" NAMEPLATE	A-41190
2	PIPE COUPLING 3/4 NPTF		27	24 T. GEAR	A-42173	56	STEEL BALL .250 DIA. (4 REQ'D)	A-41190
3	PIPE NIPPLE 3/4 NPTF x 4" LG.		28	24 T. "	A-42174	57	COMPRESSION SPRING (4 REQ'D)	A-30454
4	90° ELBOW 3/4 NPTF		29	32 T. "	A-42175	58	KNOB SHAFT	A-41187
5	PIPE NIPPLE 3/4 NPTF x 2" LG.		30	22 T. "	A-42176	59	OIL SEAL (1/2 x 3/8 x 1/2) —	
6	SPACER — TORRINGTON #TRB-2233		31	24 T. "	A-42177	60	CHICAGO ROWHIDE #4938	
7	FEED DRIVE GEARS:		32	16 T. "	A-42178	61	SHIFTER BLOCK	A-41179
	25 T. FEED DRIVE GEAR	A-41143	33	20 T. "	A-42179	62	SOC. HD. CAP SCREW — 1/2 - .28 x 3/4 LG.	
	27 T. "	A-41144	34	24 T. "	A-42180	63	DOWEL 1/2 DIA. x 1" LG.	
	30 T. "	A-41145	35	32 T. FEED DRIVE GEAR	A-41193	64	RETAINING RING — TRUARC #5100-50	
	33 T. "	A-41146	36	SHAFT FOR FEED DRIVE GEAR	A-41194	65	RETAINING RING — TRUARC #5100-62	
	46 T. "	A-41147	37	SLEEVE BEARING — OILITE #AA-1232-8		66	SHIFTER ARM	A-41180
	33 T. "	A-41148	38	BEARING RETAINER	A-41164	67	SHIFTER	A-41181
	39 T. "	A-41149	39	BALL BEARING — S.K.F. #6303	B-41163	68	SHIFTER ARM SHAFT	A-41178
	27 T. "	A-41150	40	20 T. CLUTCH GEAR	B-41162	69	24 T. GEAR	A-41176
	35 T. "	A-42170	41	30 T. DOUBLE CLUTCH GEAR	B-41161	70	FAN & PUMP SHAFT BEARING —	
	45 T. "	A-42171	42	40 T. CLUTCH GEAR	B-41158	71	NEW DEPARTURE #885140	
	"T.P.I. & FEEDS" NAMEPLATE		43	INTERMEDIATE SHAFT		72	"NYLOK" SOC. SET SCREW	
8	OIL WINDOW — BIJUR #B-5093	B-42190	44	KEY 3/16 SQUARE x 6 - 11/16 LG.	A-41160	73	5/16 - 18 x 3/4 LG. CONE POINT	
9	END CASTING	D-41199	45	SPACER — INTERMEDIATE SHAFT		74	16 T. RACK PINION	A-41174
10	RACK COVER	A-42183	46	BALL BEARING — S.K.F. #6304		75	HANDWHEEL GEAR & SHAFT	A-42182
11	ROTATING RACK	C-42186	47	RETAINING RING — TRUARC #N5000-206		76	SOC. SET SCREW 1/2 - 13 x 1/4 LG., CONE POINT	
12	LEAF SPRING	A-41156	48	BALL BEARING — S.K.F. #6205-2RS		77	GREASE FITTING — KLEENSEAL #5000	
13	CIRCULAR KEY	A-41155	49	OIL SEAL (1 1/2 x 1 3/4 x 3/4) —	A-41171	78	BUSHING	A-41177
14	BALL BEARING — S.K.F. #6007	A-42184	50	CHICAGO ROWHIDE #12359		79	SOC. SET SCREW 1/2 - 13 x 1/4 LG., FLAT POINT	
15	SPACER — OUTPUT SHAFT	B-42185	51	OIL SEAL SLEEVE		80	RETAINING RING — TRUARC #5100-75	
16	FEED DRIVE SHAFT		52	HEAVY HEX. NUT 1/2 - 13	B-41165	81	HANDWHEEL	C-33459
17	WOODRUFF KEY #11 (3/16 x 7/8 DIA.)		53	POWER INPUT SHAFT			TAPERED HANDLE — BALCRANK #PTH202	
18	BALL BEARING — NEW DEPARTURE #45206	B-41191	54	BALL BEARING — S.K.F. #6204			L.H. CONTROL LEVER	B-41207
19	24 T. DRIVE GEAR			WASHER — WESPO #6008			SHOULDER SCREW 5/16 x 3/4 LG.	
20	WASHER — WESPO #6009			SPRIT LOCKWASHER 3/8 MEDIUM			NOT SHOWN	
21	SPRIT LOCKWASHER 1/2 MEDIUM			HEX. HD. CAP SCREW 3/8 - 24 x 1" LG.	B-41170			
22	HEX. HD. CAP SCREW 1/2 - 20 x 1" LG.			BEARING HOUSING	B-41168			
23	BALL BEARING — S.K.F. #6205	A-41159		40 T. SPLINED GEAR	B-41169			E-41133
24	SPACER — INTERMEDIATE SHAFT			SPACER — INPUT SHAFT	A-41169			D-42169
25	INTERMEDIATE SHAFT GEARS:			30 T. SPLINED GEAR	B-41167			D-41184
	25 T. GEAR	A-42171		20 T. SPLINED GEAR	A-41166			D-41820
	24 T. "	A-42172		BLACK PHENOLIC KNOBS	B-41188			

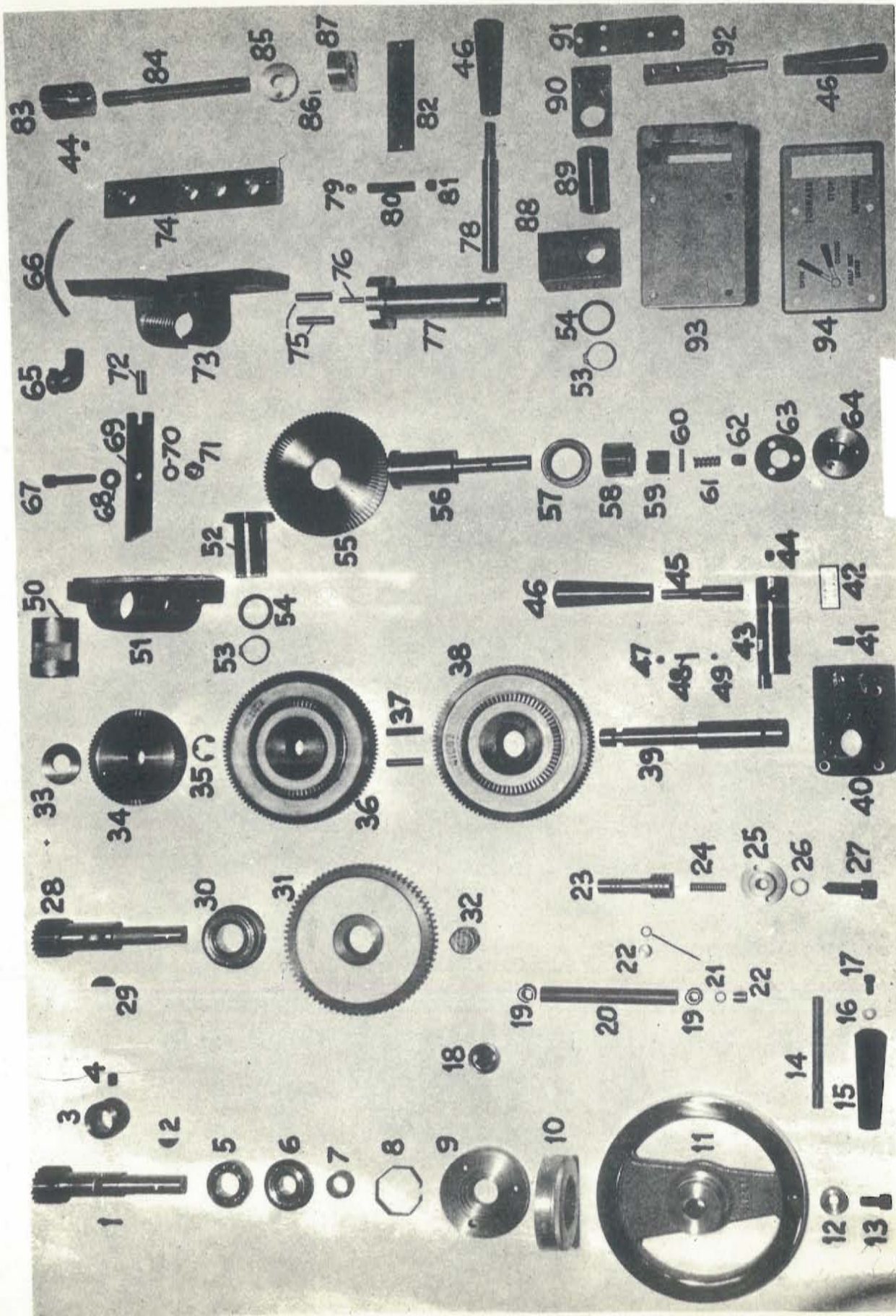


FEEDBOX PARTS



APRON PARTS

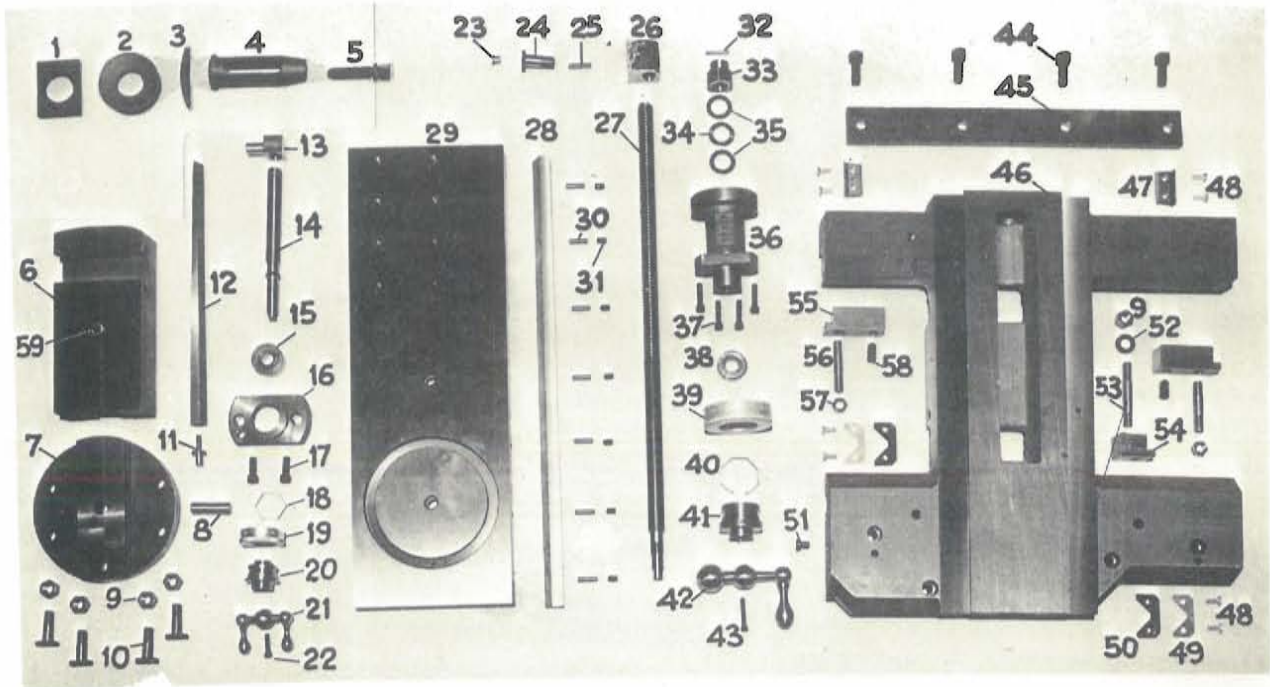
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	HANDWHEEL SHAFT	B-41278	31	72 T. GEAR	C-41289	64	COVER	A-21249
2	WOODRUFF KEY #11 (3/16 x 7/8 DIA.)		32	NEEDLE BEARING -		65	OIL CUP - GITS #1402	
3	ECCENTRIC RING	A-41270		TORRINGTON #M-12121		66	FELT WICK 1/2 DIA. x 4 1/2 LG.	
4	SOC. SET SCREW 3/8-24 x 1/2 LG.		33	SPACER	A-41285	67	SOC. HD. CAP SCREW 3/8-16 x 1 1/2 LG.	
5	BALL BEARING - S.K.F. #6005		34	16 T. CLUTCH GEAR	B-41286	68	WASHER - WESPO #6001	
6	BALL BEARING - S.K.F. #6204-NR-2RS (6206 NR 2RS)		35	E-RING TRUARC #5133-75		69	FEED INTERLOCK LEVER	B-41254
7	SPACER	A-41287	36	100 T. DOUBLE CLUTCH GEAR	C-41288	70	SPLIT LOCKWASHER 3/8 MEDIUM	
8	MARCEL SPRING	A-41455	37	SPACER PIN	A-41283	71	HEAVY HEX NUT 3/8-16	
9	BEARING RETAINER	B-41280	38	100 T. CLUTCH GEAR	C-41287	72	DOWEL 3/8 DIA. x 1 1/2 LG.	C-41265
10	DIAL	B-41279	39	CLUTCH SHAFT	B-41282	73	HALF NUTS	B-41282
11	HANDWHEEL	C-41277	40	FEED CONTROL BOX	C-41289	74	GIB	
12	HANDWHEEL RETAINER	A-41232	41	"NYLOK" SOC. SET SCREW		75	DOWEL 3/8 DIA. x 1 1/2 LG.	
13	SOC. HD. CAP SCREW		42	3/8-16 x 1/2 LG., FULL DOG POINT	A-41202	76	DOWEL 1/2 DIA. x 1 1/2 LG.	B-41275
14	SHAFT	A-41245	43	FEED INDICATOR PLATE	B-41280	77	ACTUATOR	A-41331
15	HANDLE	B-41244	44	CLUTCH CONTROL SHAFT		78	LEVER FOR HALF NUT	
16	SPECIAL WASHER		45	SOC. SET SCREW 5/16-18 x 3/8 LG.	A-41337	79	STEEL BALL .4375 DIA.	
17	1/2 O.D. x 17/64 I.D. x .062		46	FEED CONTROL LEVER		80	SPRING - WALLACE BARNES #1	
18	1/2-28 x 1/2 LG.		47	TAPERED HANDLE -		81	SOC. SET SCREW 1/2-13 x 3/8 LG.	
19	OIL WINDOW - BIJUR #B-5093		48	BALCRANK #PTH 202		82	THREAD CHASING INSTRUCTION CHART	A-41203
20	EXTENSION TUBING	A-41271	49	SOC. SET SCREW 5/16-18 x 1/2 LG.	A-21268	83	16 T. WORM GEAR	A-41284
21	CHECK VALVE GASKET -		50	STEEL BALL .250 DIA.		84	DIAL SHAFT	A-41283
22	BIJUR #A-4191		51	BUSH FOR BEV. GEAR BRACKET	A-41261	85	ZERO WASHER	A-41276
23	BIJUR #B-3674		52	BEVEL GEAR BRACKET	B-41253	86	DOWEL 1/8 DIA. x 1/2 LG.	
24	PISTON FOR PUMP	B-41273	53	RETAINING RING -	B-41257	87	THREAU CHASING DIAL BLOCK	A-21263
25	PLUG FOR PUMP	A-30455	54	TRUARC #5100-112		88	HEXAGON BUSH	B-41301
26	TRU-SEAL NUT	A-41272	55	THRUST WASHER	A-41256	89	SWIVEL BLOCK	A-41297
27	1/2-20 STRAIGHT THREAD		56	84 T. BEVEL GEAR	B-41258	90	SPRING	B-41300
28	RACK PINION SHAFT	A-41496	57	SHAFT	B-42278	91	LEVER	A-41299
29	WOODRUFF KEY #15 (1/2 x 1 1/8 DIA.)	B-41281	58	OIL SEAL (1-3/8 x 2 x 21/64) -		92	BACK UP PLATE & COVER	C-41439
30	BALL BEARING - S.K.F. #6206-NR-2RS		59	CHICAGO RAWHIDE #13860	B-42277	93	FORWARD & REVERSE LATCH PLATE	B-41332
			60	20 T. SLIP CLUTCH PINION	A-42279	94	NOT SHOWN	
			61	FEED SLIP CLUTCH	A-42286		APRON CASTING (SEE FIG. 5)	E-42288
			62	SOC. SET SCREW "NYLOK"			SQUARE HEAD MAGN. PIPE PLUG	
			63	5/8-18 x 9/8 LG. GASKET	A-20985		3/8 NPTF	



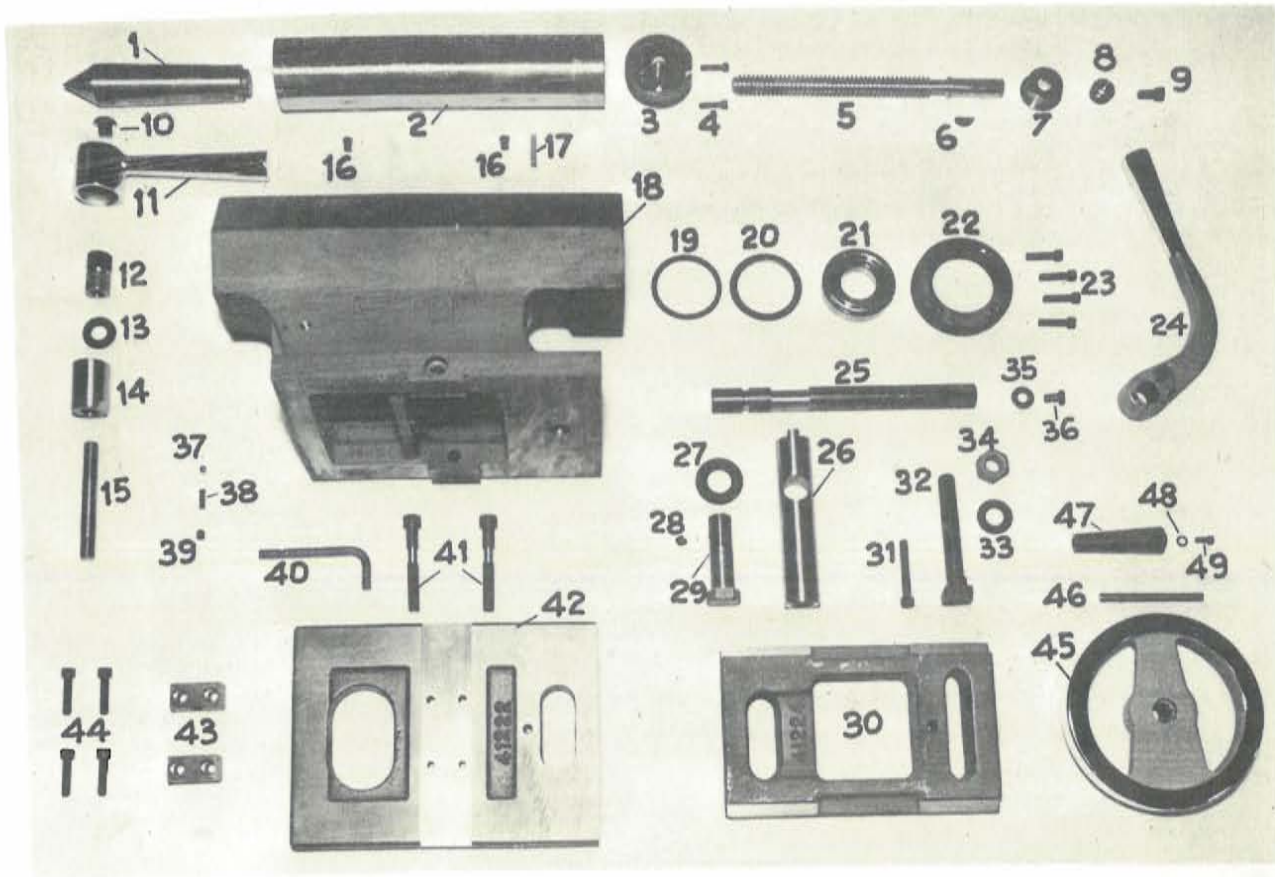
APRON PARTS

ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	TOOL POST SCREW 5/8-11 x 2 1/2 "MAC-IT"		32	TAPER PIN #2 x 1 1/2 LG.	
2	FRONT TOOL POST	C-41433	33	20 T. PINION	B-41312
3	HEAVY HEX NUT 1/2-10 (1 1/2 ACROSS FLATS)		34	NEEDLE THRUST BEARING - TORRINGTON #NTA-1423	
4	WASHER - WESPO #6011		35	THRUST RACE - TORRINGTON #TRA 1423 (2 REQ'D.)	
5	CLAMP STUD & T-NUT	B-41434	36	BEARING HOUSING	C-41305
6	COMPOUND SLIDE	C-41307	37	SOC. HD. CAP SCREW 5/16-18 x 1 1/2 LG.	
7	SWIVEL BASE	C-41498	38	BALL BEARING - S.K.F. #6203-2RS	
8	HARDENED DOWEL 5/8 DIA. x 2" LG		39	DIAL	B-41311
9	HEAVY HEX NUT 1/2-13		40	MARCEL SPRING	A-41455
10	TEE HEAD BOLT	A-21462	41	BEARING & DIAL RETAINING HUB	B-41315
11	GIB SCREW	C-41321	42	BALANCED CRANK	B-41316
12	TAPERED GIB	C-41330	43	SOC. HD. CAP SCREW 1/2-28 x 1 1/2 LG.	
13	NUT FOR COMPOUND SCREW	A-41319	44	"NYLOK" SOC. HD. CAP SCREW 1/2-13 x 1 1/2 LG.	
14	SCREW FOR COMPOUND SLIDE	B-41323	45	REAR SADDLE GIB	C-41313
15	BEARING - NEW DEPARTURE #55602		46	SADDLE CASTING	E-41250
16	BEARING & GIB SCREW HOUSING	B-41322	47	REAR SADDLE WIPER (2 REQ'D.)	A-41333
17	SOC. HD. CAP SCREW 3/8-16 x 1" LG.		48	HEX HD. CAP SCREW 1/2-28 x 5/8 CAD. PLATED (8 REQ'D.)	
18	MARCEL SPRING	A-30515	49	FRONT SADDLE WIPER (2 REQ'D.)	A-41335
19	GRADUATED DIAL	A-41328	50	FRONT FELT SADDLE WIPER (2 REQ'D.)	A-41336
20	BEARING & DIAL RETAINING HUB	A-41320	51	REST BUTTON - WESPO #7000A	
21	COMPOUND SLIDE CRANK	B-41324	52	WASHER - WESPO #6002	
22	SOC. HD. CAP SCREW 1/2-28 x 1" LG.		53	MILLED STUD 1/2-13 x 3 1/2 LG.	
23	OIL HOLE COVER - GITS #533		54	SADDLE CLAMP BLOCK	A-41286
24	FITTED BOLT	A-41314	55	SADDLE GIB (2 REQ'D.)	B-41329
25	FELT WICK 1/2 DIA. x 1" LG.		56	MILLED STUD 1/2-13 x 2 1/2 LG. (2 REQ'D.)	
26	NUT	B-41317	57	HUGLOCK NUT 1/2-13 (2 REQ'D.)	
27	CROSS FEED SCREW	C-41318	58	"NYLOK" SOC. SET SCREW 1/2-20 x 1" LG. (2 REQ'D.)	
28	GIB FOR CROSS SLIDE	B-41326	59	HEX SOC. PIPE PLUG 1/8 NPTF	
29	EXTENDED CROSSSLIDE	D-41529			
30	DOWEL 1/2 DIA. x 1" LG.				
31	"NYLOK" SOC. SET SCREW 5/16-24 x 1/2 LG.				

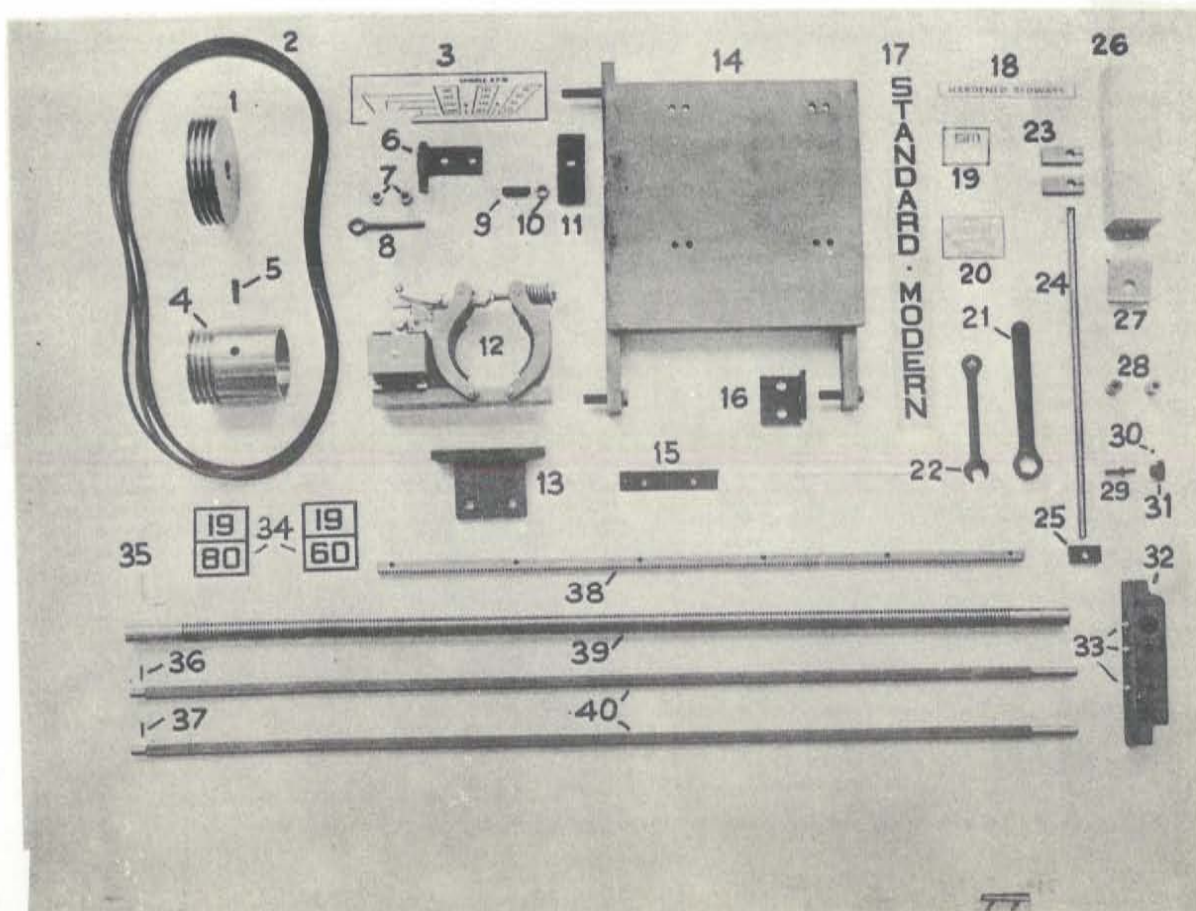
ITEMS: 27, 32, 33, 34 & 35 NOT REQUIRED ON LATHES  
EQUIPPED WITH TAPER ATTACHMENT.



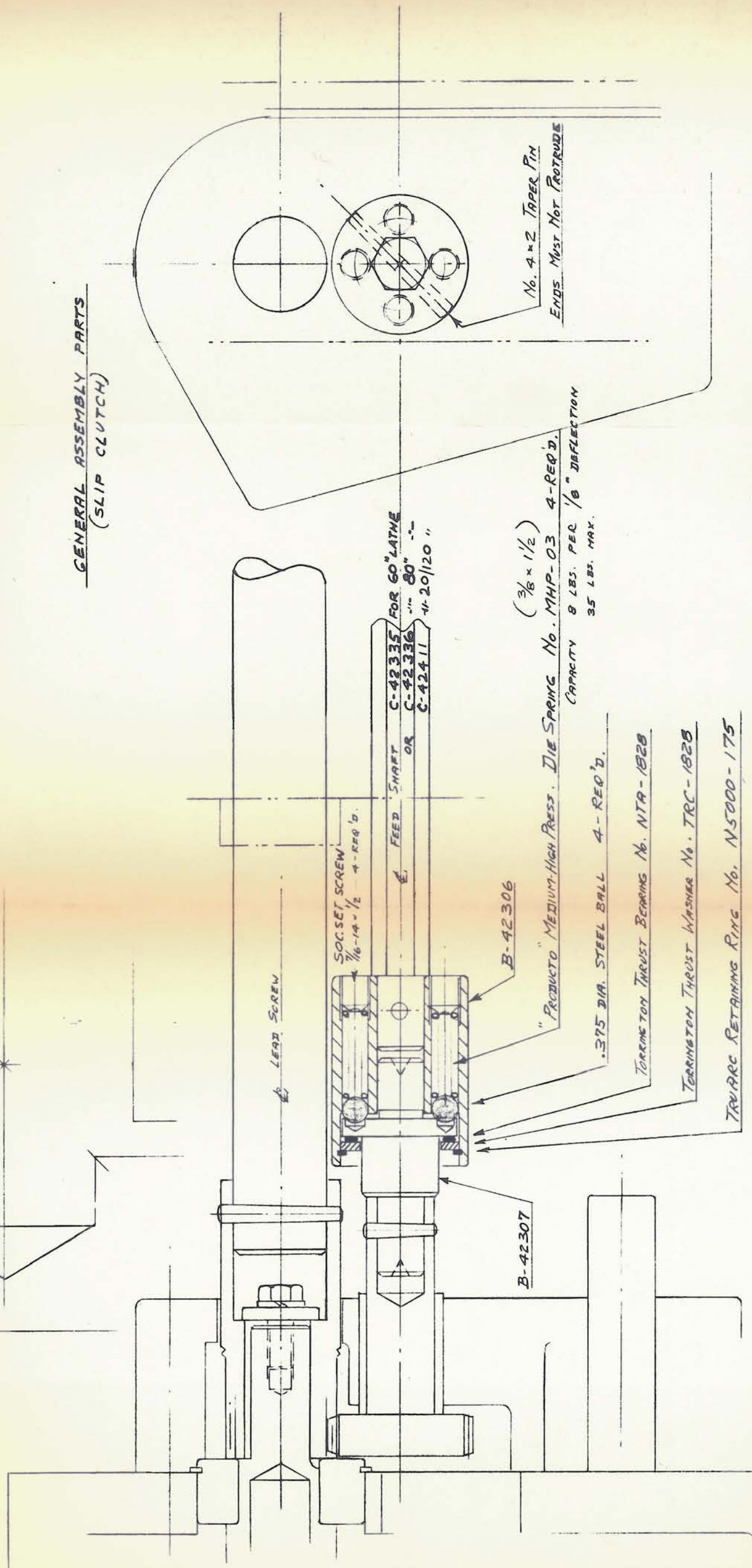
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	LATHE CENTER #5 MORSE	A-41079	27	FLAT WASHER - WESPO #6012	
2	SPINDLE	C-41463	28	INSERT FOR CLAMP BOLT	A-41477
3	REPLACEABLE NUT	A-41464	29	CLAMP BOLT WITH "NYLOK" INSERT	A-41241
4	SOC. HD. CAP SCREW 1/2-28 x 1" LG.		30	CLAMP PLATE	C-41224
5	SPINDLE SCREW	B-41465	31	SOC. HD. CAP SCREW "LOCWEL" 3/8-16 x 2 1/2 LG.	
6	WOODRUFF KEY #11 (3/16 x 7/8 DIA.)		32	T-SLOT BOLT "WILLIAMS" 1/2-10 x 6" LG.	
7	BEARING SEAT COLLAR	A-41466	33	FLAT WASHER - WESPO #6004	
8	HANDWHEEL RETAINER	A-41232	34	HEAVY HEX NUT 1/2-10 (1 1/2 ACROSS FLATS)	
9	SOC. HD. CAP SCREW 3/8-24 x 1/2 LG.		35	PLAIN WASHER 3/8 I.D. x 1-1/8 O.D.	
10	BUTTON HEAD SCREW	A-41518	36	HEX HD. MACH. SCREW 3/8-16 x 5/8 LG.	
11	SPINDLE CLAMP HANDLE	B-41236	37	STEEL BALL .3125 DIA.	
12	SPINDLE CLAMP NUT	A-41235	38	SPRING	A-21415
13	FLAT WASHER - WESPO #6010		39	"NYLOK" SOC. SET SCREW 3/8-16 x 3/8 LG.	
14	SPINDLE CLAMP BUSHING	B-41472	40	ALLEN KEY #3/8	
15	MILLED STUD 5/8 DIA. x 5" LG.		41	ADJUSTMENT SCREW	A-41242
16	OIL HOLE COVER - GITS #533		42	BASE	D-41223
17	FELT WICK 1/2 DIA. x 1 1/2 LG.		43	ADJUSTMENT BLOCK	A-41243
18	HOUSING	E-41462	44	SOC. HD. CAP SCREW 3/8-16 x 1 1/2 LG.	
19	O-RING (25/8 x 3 x 3/16) - CRANE #334		45	HANDWHEEL	C-41469
20	BEARING SPACER	A-41467	46	SHAFT	A-41245
21	BALL BEARING - S.K.F. #6208-2RS		47	HANDLE	B-41244
22	BEARING RETAINER	B-41468	48	FLAT WASHER 1/2 x 17/64 x .062	
23	SOC. HD. CAP SCREW 5/16-18 x 1 1/2 LG.		49	SOC. HD. CAP SCREW 1/2-28 x 1/2 LG.	
24	CLAMP LEVER	C-41470			
25	CLAMP SHAFT	B-41238			
26	CLAMP STUD	B-41819			



ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	HEADSTOCK PULLEY: — FOR SPINDLE SPEEDS 30 - 1200 R.P.M. — FOR SPINDLE SPEEDS 40 - 1600 R.P.M.	C-42281 C-42282	28	SPACER FOR FEEDBOX	A-41182
2	V-BELTS (MATCHED SET OF 4): — FOR 30 - 1200 R.P.M. GATES SUPER HC — FOR 40 - 1600 R.P.M. GATES SUPER HC	#3V850 #3V800	29	BELT GUARD LATCH SPINDLE	A-41415
3	SPEED CHART: — FOR SPINDLE SPEEDS 30 - 1200 R.P.M. — FOR SPINDLE SPEEDS 40 - 1600 R.P.M.	B-41733 B-41734 C-42280	30	S&C. SET SCREW 1/4 - 28 x 1/4 LG.	A-21120
4	MOTOR PULLEY		31	KNOB FOR GUARD	D-41200
5	SOC. SET SCREW 1/2 - 13 x 1 1/4 LG.	A-41625	32	BED END BRACKET	
6	ANCHOR BRACKET		33	GREASE FITTING — KLEENSEAL #5000	
7	HEX. NUT 1/2 - 13		34	MODEL SIZE NAMEPLATE: — FOR 1960 LATHE — FOR 1980 LATHE	A-42284 A-42285 A-41192
8	EYE BOLT	A-41624	35	BRASS SHEARPIN	
9	SOC. SET SCREW 5/8 - 11 x 2" LG.		36	TAPER PIN #2 1" LG.	
10	HEX. JAM NUT 5/8 - 11		37	ROLL PIN 3/16 DIA. x 1" LG.	
11	MOTOR PLATE CLAMP	A-41385	38	RACK: — FOR 1960 LATHE — FOR 1980 LATHE (2 REQ'D)	C-41295 C-41294
12	SOLENOID OPERATED BRAKE CUTTLER-HAMMER BULLETIN 511 TYPE "S", SIZE 5 1/2" (LESS BRAKE WHEEL)		39	LEADSCREW: — FOR 1960 LATHE — FOR 1980 LATHE	C-41289 C-41290
13	BRAKE SUPPORT	C-41383	40	FEED AND CONTROL SHAFT: — FOR 1960 LATHE — FOR 1980 LATHE	C-41292 C-41293
14	MOTOR PLATE	D-41697	NOT SHOWN		
15	BRACKET FOR END PLATE	B-41412		BED CASTING — FOR 1960 LATHE	E-41002
16	MOTOR PLATE SUPPORT	B-41384		BED CASTING — FOR 1980 LATHE	E-41003
17	VERTICAL NAMEPLATE	D-41413		HEADSTOCK PEDESTAL	D-41381
18	"HARD BEDWAYS" NAMEPLATE	B-41519		TAILSTOCK PEDESTAL	D-41386
19	SERIAL NAMEPLATE	B-60275		BELT GUARD	D-41389
20	"LUBRICATION" NAMEPLATE	A-41209		CHIP TRAY — FOR 1960 LATHE	D-41392
21	BOX WRENCH (1 1/2 ACROSS FLATS) — WILLIAMS #808 (FOR TOOL POST AND TAILSTOCK)			CHIP TRAY — FOR 1980 LATHE	D-41393
22	TOOL POST WRENCH (1/2 OPEN & 3/8 BOX) — ARMSTRONG #563D			COVER PANEL (2 REQ'D FOR PEDESTALS)	C-41395
23	TRIP DOG	A-41205		SPLASH GUARD — FOR 1960 LATHE	D-41511
24	SWITCH LINK ROD	A-41204		SPLASH GUARD — FOR 1980 LATHE	D-41512
25	FIBRE BEARING	A-41036		END PLATE	D-42153
26	SWITCH COVER	D-41414		CONTROL BOX PLATE	D-42154
27	SWITCH COVER BRACKET	B-41437	MODEL 1980 LATHE ONLY:		
				CENTRE LEG — LOWER PART	C-41621
				CENTRE LEG — TOP PART	C-41622



GENERAL ASSEMBLY PARTS  
(SLIP CLUTCH)



(3/8 x 1/2)

CAPACITY 8 LBS. PER 1/8" DEFLECTION  
35 LBS. MAX.

No. 4 x 2 TAPER PIN  
ENDS MUST NOT PROTRUDE

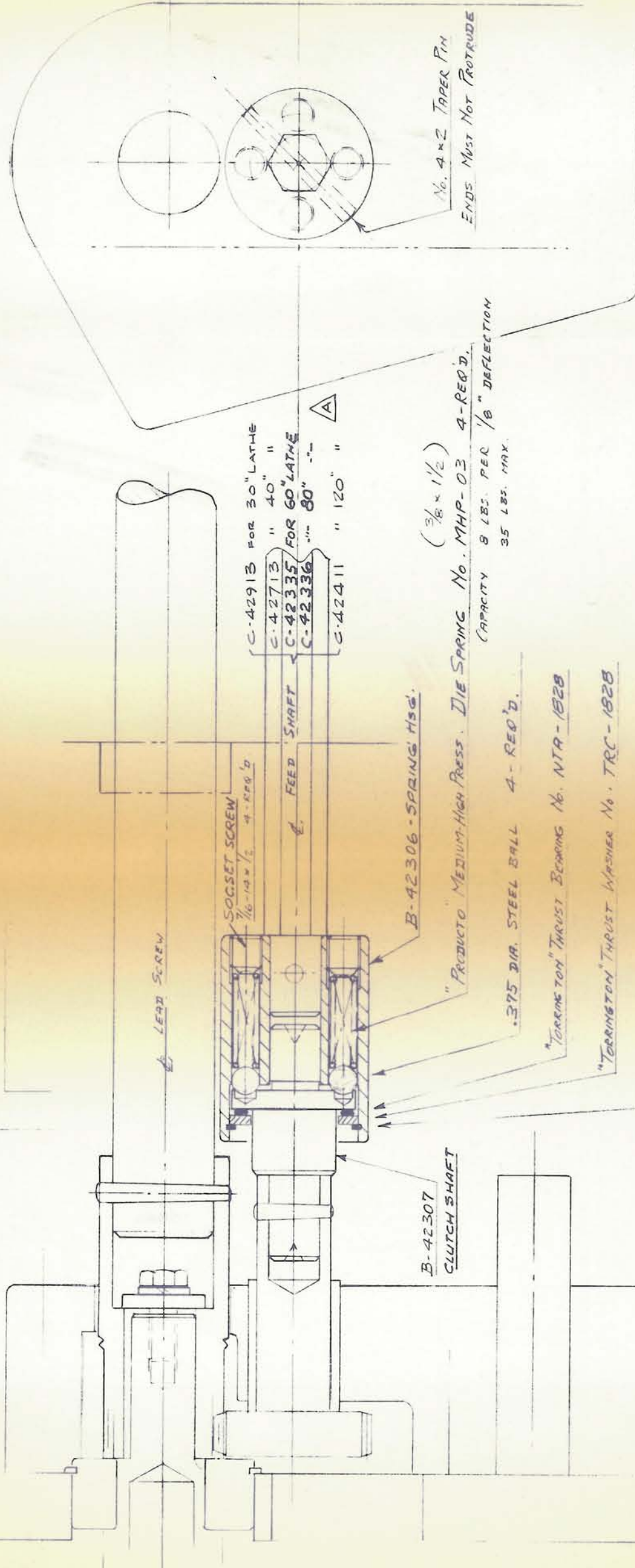
NOTE:  
PACK WITH GREASE AT ASSEMBLY.

DWG. No. C-42305

STANDARD-MODERN TOOL COMPANY LIMITED				TORONTO, CANADA	
DR. L. ZIEBERT	ITEM NO.	MATL.	NO. REQD	G.A. No.	
CHK'D	TITLE	SUB- Assy of		DRAWING No.	
DATE		HEAVY-DUTY SLIP CLUTCH		SHEET	
JUNE 2-72		Series 4000 LATHES &		OF	
SCALE		MODEL 1760 1780 1960 1980 LATHES		SHEET	C-42305
FULL					

ALSO 20/120 LATHE

GENERAL ASSEMBLY PARTS  
(SLIP CLUTCH)



NOTE:

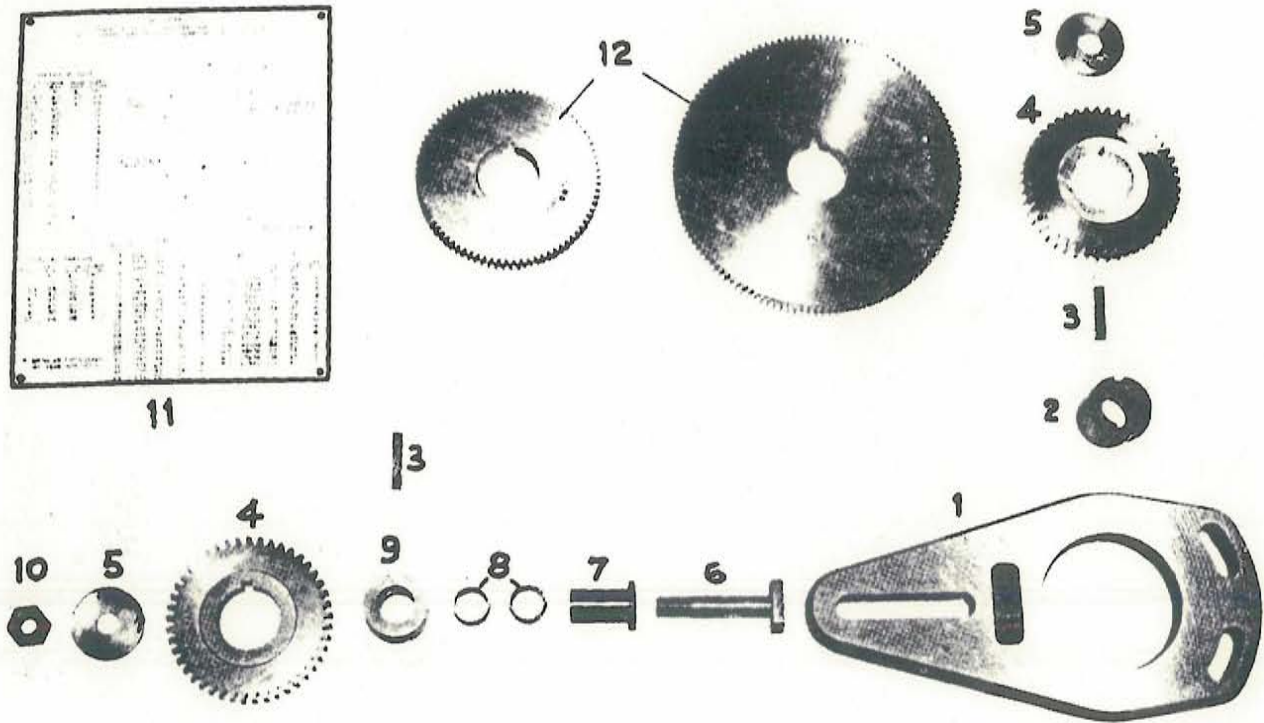
PACK WITH GREASE AT ASSEMBLY.

DWG. No. C-42305

STANDARD-MODERN TOOL COMPANY LIMITED				TORONTO, CANADA	
DR. CHECKED	ITEM NO.	MATL.	No. REQ'D	G. A. No.	
CHK'D	TITLE	SUB. ASSY OF		FAST. No.	
	DATE	HEAVY-DUTY SLIP CLUTCH		SHEET	OF
	SCALE	SERIES 9000 LATHES &			
		MODEL 1760 1780 1960 1980 LATHES			C-42305

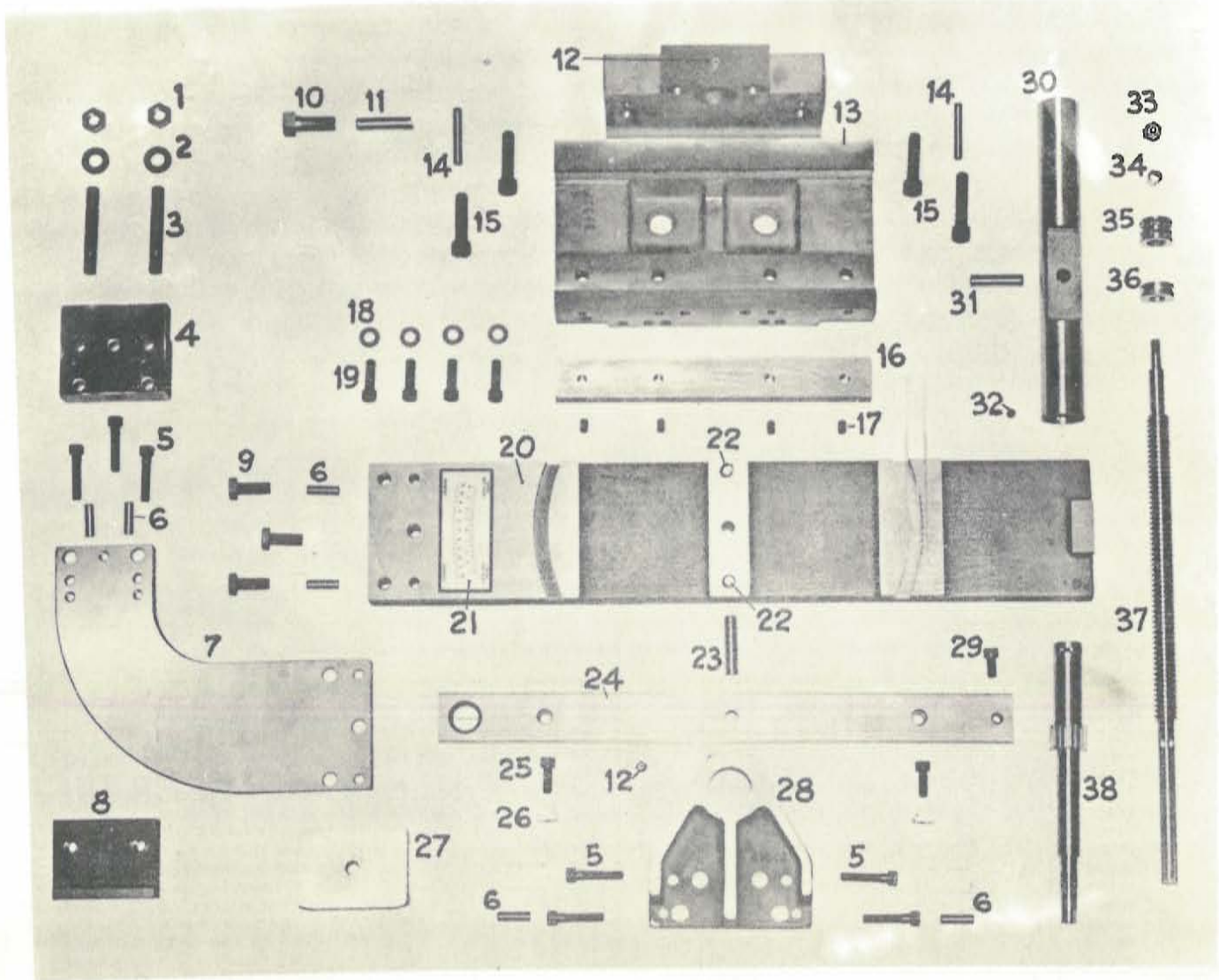
## END GEAR TRAIN PARTS FOR CUTTING METRIC AND SPECIAL THREADS

ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	ADJUSTABLE BRACKET	C-41368	12	70 T. CHANGE GEAR	22656
2	FIXED GEAR HUB	A-21361		74 T. " "	22657
3	KEY $\frac{1}{8} \times \frac{1}{8} \times 1\text{-}3/8$ LG.			75 T. " "	22658
4	45 TOOTH SPUR GEAR	B-41407		79 T. " "	22659
5	SPECIAL WASHER	A-21359		80 T. " "	22660
6	SPECIAL BOLT	A-21360		84 T. " "	22661
7	HARDENED SLEEVE	A-21358		85 T. " "	22662
8	BUSHING (.751 x .878 x 5/8 LG.) - OILITE #AA-838-25			86 T. " "	22663
9	IDLER GEAR HUB	A-21357		88 T. " "	22664
10	HEAVY HEX NUT $\frac{1}{2}$ -13			89 T. " "	22665
11	NAMEPLATE (METRIC & SPECIAL THREADS)	B-43201		91 T. " "	22666
12	CHANGE GEARS DRG: C-21362 (TWO ONLY SHOWN FOR ILLUSTRATION)			92 T. " "	22667
	45 T. CHANGE GEAR	22650		93 T. " "	22668
	50 T. " "	22651		95 T. " "	22681
	55 T. " "	22652		97 T. " "	22669
	60 T. " "	22653		98 T. " "	22670
	64 T. " "	22677		100 T. " "	22682
	65 T. " "	22654		107 T. " "	22671
	67 T. " "	22655		108 T. " "	22672
				110 T. " "	22673
				117 T. " "	22674
				124 T. " "	22675
				127 T. " "	22676



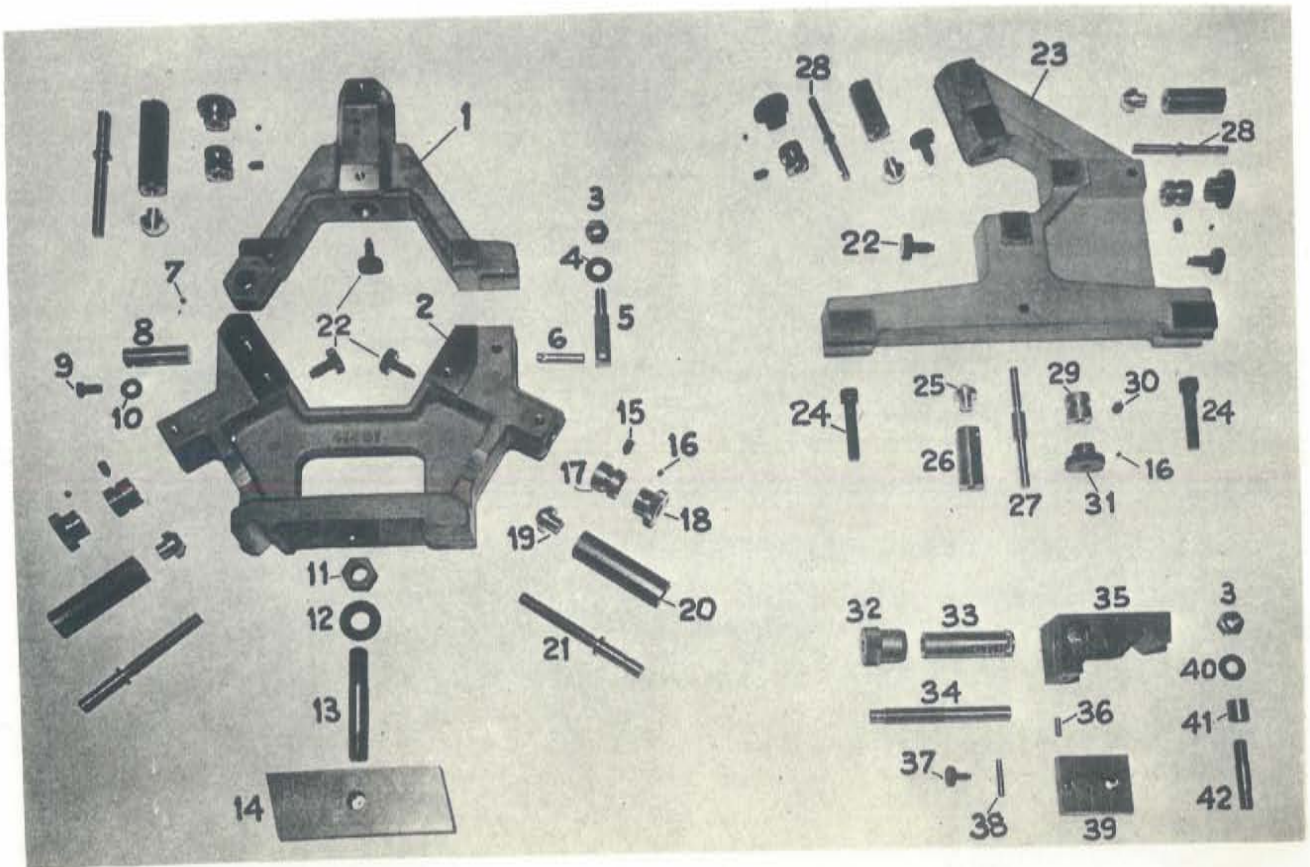


ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	HEAVY HEX NUT 1/2-13		21	TAPER CHART	B-41362
2	WASHER - WESPO #6002		22	OILER - GITS #533	
3	MILLED STUD 1/2-13 x 3 1/2 LG.		23	DOWEL 1/2 DIA x 2 1/2 LG.	
4	BED CLAMP UPPER	B-41349	24	SLIDE BAR	D-41347
5	SOC. HD. CAP SCREW 3/8-16 x 1 1/2 LG.		25	SOC. HD. CAP SCREW 3/8-16 x 1" LG.	
6	DOWEL 3/8 DIA. x 1 1/2 LG.		26	T-SLOT NUT	A-41353
7	CLAMP ARM	C-41348	27	SHOE	B-41345
8	BED CLAMP LOWER	B-41350	28	OUTER SUPPORT CASTING	C-41346
9	HEX HD. CAP SCREW 1/2-13 x 1 1/2 LG.		29	SOC. HD. CAP SCREW 3/8-16 x 1 1/2 LG.	
10	HEX HEAD LOCK SCREW	A-41351	30	GUIDE BAR	C-41354
11	LOCK SHAFT	A-41352	31	DOWEL 1/2 DIA x 2" LG. - PULL TYPE	
12	OILER - GITS #521		32	SOC. SET SCREW #10-32 x 1/4 CONE POINT	
13	MAIN BRACKET	E-41343	33	HEAVY HUGLOCK NUT 3/8-24	
14	DOWEL 3/8 DIA. x 2 1/2 - PULL TYPE		34	SPACER	A-41355
15	SOC. HD. CAP SCREW 1/2-13 x 2" LG.		35	DOUBLE THRUST BEARING - S.K.F. #52202	
16	GIB	B-41357	36	LOCK NUT	A-41361
17	"NYLOK" SOC. SET SCREW 5/16-24 x 1/2 LG.		37	CROSSFEED SCREW	C-41356
18	WASHER 3/8 S.A.E.		38	GEAR SHAFT	B-41360
19	SOC. HD. CAP SCREW 3/8-24 x 1 1/2 LG.				
20	SLIDE PLATE	D-41344			



# STEADY REST, FOLLOW REST AND MICROMETER CARRIAGE STOP PARTS

STEADY REST NO. 51700			FOLLOW REST NO. 51752		
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	UPPER CASTING	D-41482	16	SOC. SET SCREW $\frac{1}{4}$ -28 x $\frac{1}{2}$ (3 REQ'D.)	A-21292
2	LOWER CASTING	E-41736	22	CLAMP SCREW (3 REQ'D.)	D-42283
3	HEAVY HEX NUT $\frac{1}{2}$ -13, 7/8 ACROSS FLATS		23	FOLLOW REST CASTING	
4	WASHER - WESPO #6009		24	SOC. HD. CAP SCREW $\frac{1}{2}$ -13 x 3 $\frac{1}{2}$ LG.	A-41501
5	EYE BOLT	A-41488	25	BUTTON (3 REQ'D.)	A-41502
6	PIVOT PIN	A-21392	26	SLEEVE (3 REQ'D.)	A-41505
7	SOC. SET SCREW $\frac{1}{4}$ -20 x $\frac{1}{2}$ LG.		27	ADJUSTING SCREW LONG	A-41504
8	HINGE PIN	A-41489	28	ADJUSTING SCREW SHORT(2 REQ'D.)	A-41503
9	HEX HD. CAP SCREW 3/8-16 x $\frac{3}{4}$ LG.		29	BUSHING (3 REQ'D.)	
10	WASHER - WESPO #6001		30	SOC. SET SCREW 3/8-16 x 5/8 LG.	
11	HEAVY HEX NUT $\frac{3}{4}$ -10, 1 $\frac{1}{2}$ ACROSS FLATS		31	CONE POINT (3 REQ'D.)	A-21120
12	WASHER - WESPO #6011		<b>MICROMETER CARRIAGE STOP NO. 41370</b>		
13	MILLED STUD $\frac{3}{4}$ -10 x 5 $\frac{1}{2}$ LG.		3	HEAVY HEX NUT $\frac{1}{2}$ -13, 7/8 ACROSS FLATS	A-21396
14	CLAMPING PLATE	B-41495	32	KNOB	B-41373
15	SOC. SET SCREW 3/8-16 x 5/8 CONE POINT (3 REQ'D.)		33	GRADUATED SLEEVE	A-21397
16	SOC. SET SCREW $\frac{1}{4}$ -28 x $\frac{1}{2}$ (3 REQ'D.)		34	SCREWED STEM	B-41374
17	BUSHING (3 REQ'D.)	A-41486	35	BODY	
18	HAND KNOB (3 REQ'D.)	A-41485	36	DOWEL $\frac{1}{2}$ DIA. x $\frac{3}{4}$ LG.	A-30586
19	BUTTON FOR SLEEVES (3 REQ'D.)	A-41484	37	CLAMP SCREW	
20	SLEEVE (3 REQ'D.)	A-41487	38	TAPER PIN #4 x 1 $\frac{1}{2}$ LG.	A-41372
21	ADJUSTING SCREW (3 REQ'D.)	A-41483	39	CLAMP	
22	CLAMP SCREW (3 REQ'D.)	A-21292	40	WASHER - WESPO #6002	A-41476
			41	COLLAR	
			42	MILLED STUD $\frac{1}{2}$ -13 x 2 $\frac{3}{4}$ LG.	



ITEM	N A M E	PART NO.	ITEM	N A M E	PART NO.
1	PUMP UNIT — GRAY MILLS #X11-HR35-LA		10	ELBOW 3/8 x 90°	
2	NOZZLE AND VALVE WITH REDUCING BUSHING (SUPPLIED WITH PUMP UNIT)		REQUIRED ONLY ON LATHE WITH TAPER ATTACHMENT:		
3	FLEXIBLE HOSE (SUPPLIED WITH PUMP UNIT)		12	SOC. HD. CAP SCREW 3/8 - 16 x 1 1/2 LG.	
4	SWING JOINT 3/8 — CRANE #300		13	PIPE SUPPORT BLOCK	B-41475
5	PIPE NIPPLE 3/8 x 4" LG.		14	SOC. SET SCREW 3/8 - 16 x 3/4 LG.	
6	TEE 3/8		REQUIRED ONLY ON LATHE WITHOUT TAPER ATTACHMENT:		
7	PIPE NIPPLE 3/8 x 21" LG.		15	SOC. SET SCREW 3/8 - 16 x 1/2 LG.	
8	STREET ELBOW 1/2 x 90°		16	PIPE SUPPORT BLOCK	B-41418
9	PIPE CAP #3/8		17	SOC. HD. CAP SCREW 3/8 - 16 x 1 LG.	

