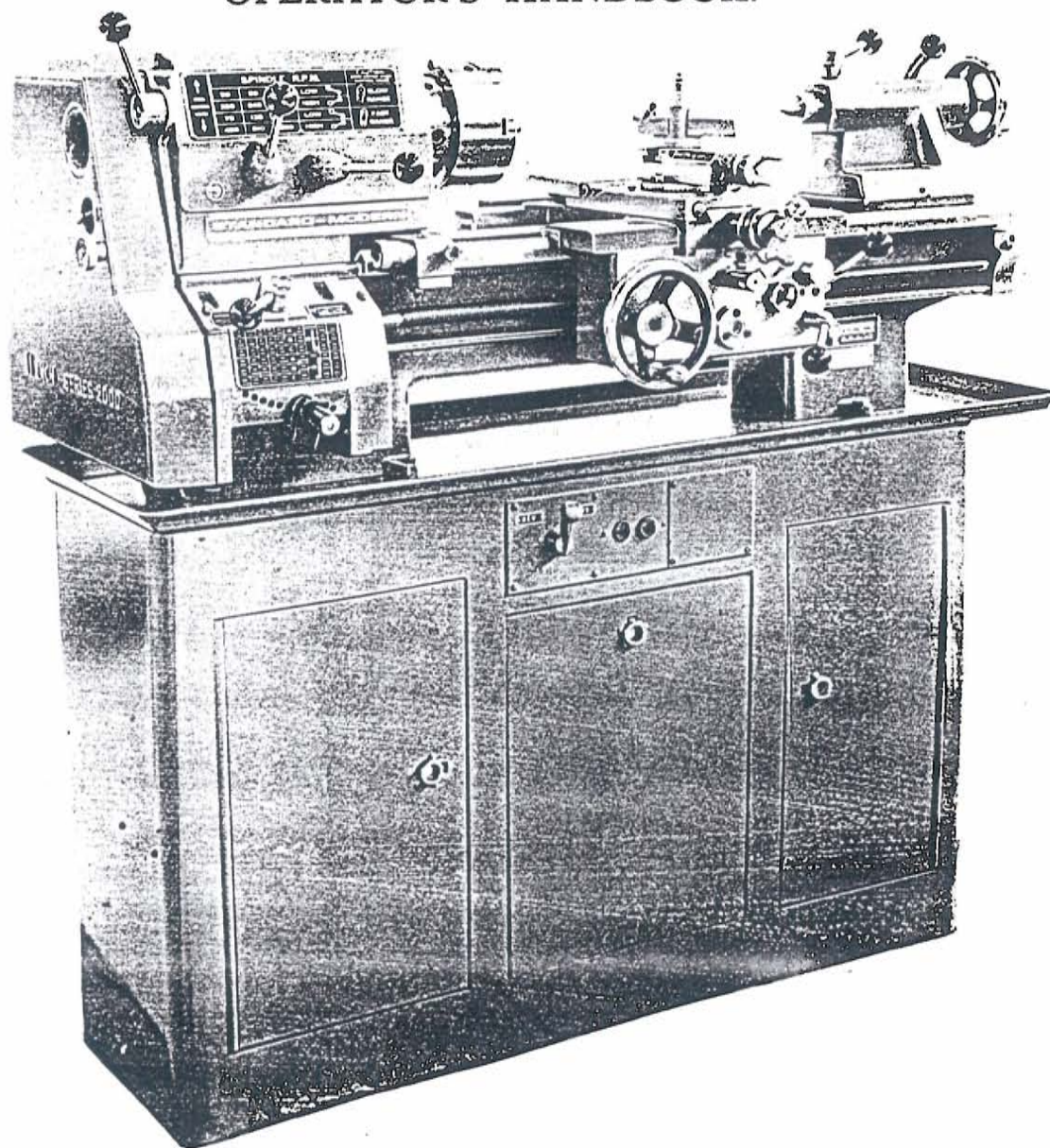


OPERATOR'S HANDBOOK.



11 INCH and 13 INCH
Series 2000 Lathes

3RD EDITION - JULY 1971

Lifting and Installation Instructions

1. Lifting the Machine:

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

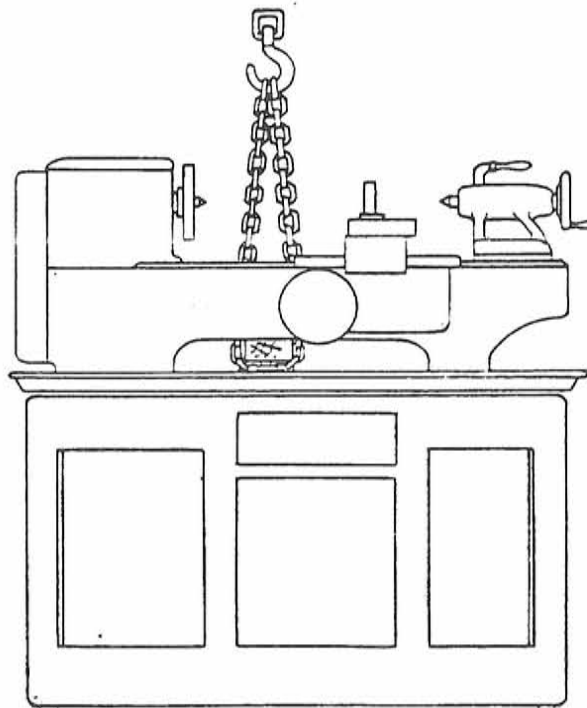


FIGURE 1

Do not attempt to lift this machine with a hoist having less than one ton capacity. The shipping weight of the machine including electrics is 1200 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.

2. Cleaning:

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

To remove the anti-rust compound use a wiper dipped in Varsol or Ker

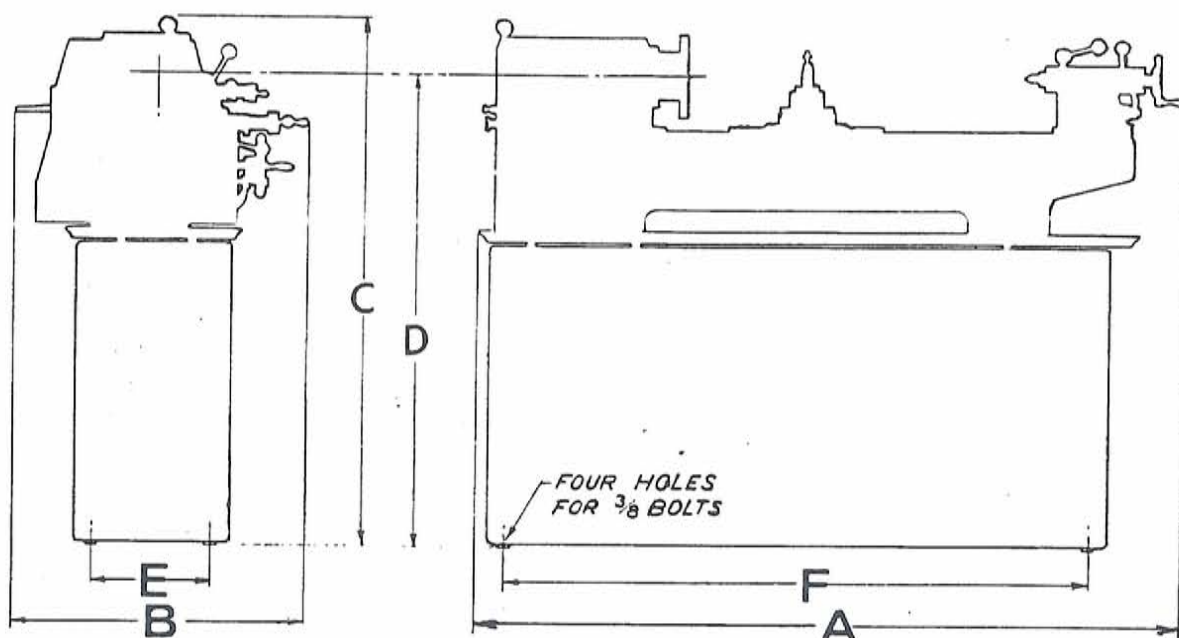
All unpainted surfaces should immediately be coated with a film of light machine oil to prevent rust. If the finished surfaces are kept clean and well coated with oil, the lathe will retain its new appearance indefinitely.

3. Inspection:

Check your delivery slip against the accessories that were ordered with the machine. If there is a shortage or error, report it to Standard-Modern Tool Co. Limited immediately, giving the serial number of the machine which is stamped on the recessed face, on the top of the bed at the tailstock end.

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 Figure 2.



OVERALL DIMENSIONS SERIES 2000 LATHES

Lathe Size	A	B	C	D	E	F
11 x 20	54"	27"	50"	44"	10 $\frac{3}{4}$ "	40 $\frac{3}{4}$ "
13 x 30	64"	27"	51"	45"	14 $\frac{3}{4}$ "	52 $\frac{3}{4}$ "

FIGURE 2

After the machine is in position, it must be levelled by the use of the four levelling bushings before tightening lag screws.

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

Use a precision level placed lengthwise and crosswise 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 legs should be lagged to the floor and the levelling re-checked. Recheck the level of the machine at regular intervals.

LUBRICATION

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

For proper lubrication follow the instructions listed in this manual.

Headstock

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

To service the headstock, fill the reservoir to the centre of the oil sight gauge through the oil cap on the back of the Headstock casting.

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

The reservoir capacity of the headstock is 3 Imperial or 3 1/2 U.S. quarts.

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

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

Run the machine for several minutes without load so that the flushing oil can circulate through the reservoir and remove the dirt.

The flushing oil must then be drained and new oil added.

Do not flush with solvents, which will soften and remove the paint.

Quick Change Gear Box

Two oilers located at the top ends of the Gear Box Casting, and one oiler located in Bearing Bush (inside the Belt Guard) lubricate all bearings and gears in the quick change gear box.

Fill the three oilers with machine oil at least once per eight hours of operation. Use an S.A.E. No. 30 oil.

Carriage

On the right hand side of the carriage two oilers lubricate the bearing surfaces of the carriage on the bed ways.

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

Apron

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

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

Service the apron reservoir through the 1/4" pipe plug in the saddle casting.

Fill with oil to the centre of the oil sight gauge using an S.A.E. No. 30 oil. The reservoir capacity of the apron is 1/2 pint Imperial or U.S. Measure.

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

Two individual oilers service the half-nut and the feed dial.

LUBRICATION (Contd.)Tailstock

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

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

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

Compound Slide and Cross Slide

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

On the cross feed, the screw bearing is lubricated by an oiler behind the cross feed dial. Lift chip guard and apply a small amount of oil to the cross feed screw before using.

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

Leadscrew Bracket and Leadscrew

A single oiler located on top of the lead screw end bracket lubricates both the end of the feed shaft and the end of the leadscrew.

Taper attachment

Apply a small amount of oil to the taper attachment slide before using.

Miscellaneous Lubrication

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

CAUTION

Do not mix detergent type Automotive Oil or Multi- Purpose Oils with the regular grade of S.A.E. No. 30 Lubricating Oil.

Operating Instructions

1. Motor Control

The control station located just below tray at centre of cabinet base governs the operation of the motor. See FIGURE 3.

With 'Reverse' lever in central (vertical) position - press 'Start' button pulling in starter.

Move the lever to 'Forward' and the motor turns the spindle in the normal direction for turning, drilling, boring, etc.

Move the lever to central (vertical) position and the motor is shut off.

Move the lever to 'Reverse' and the spindle direction is reversed.

Press 'Stop' button and starter disconnects power to lathe.

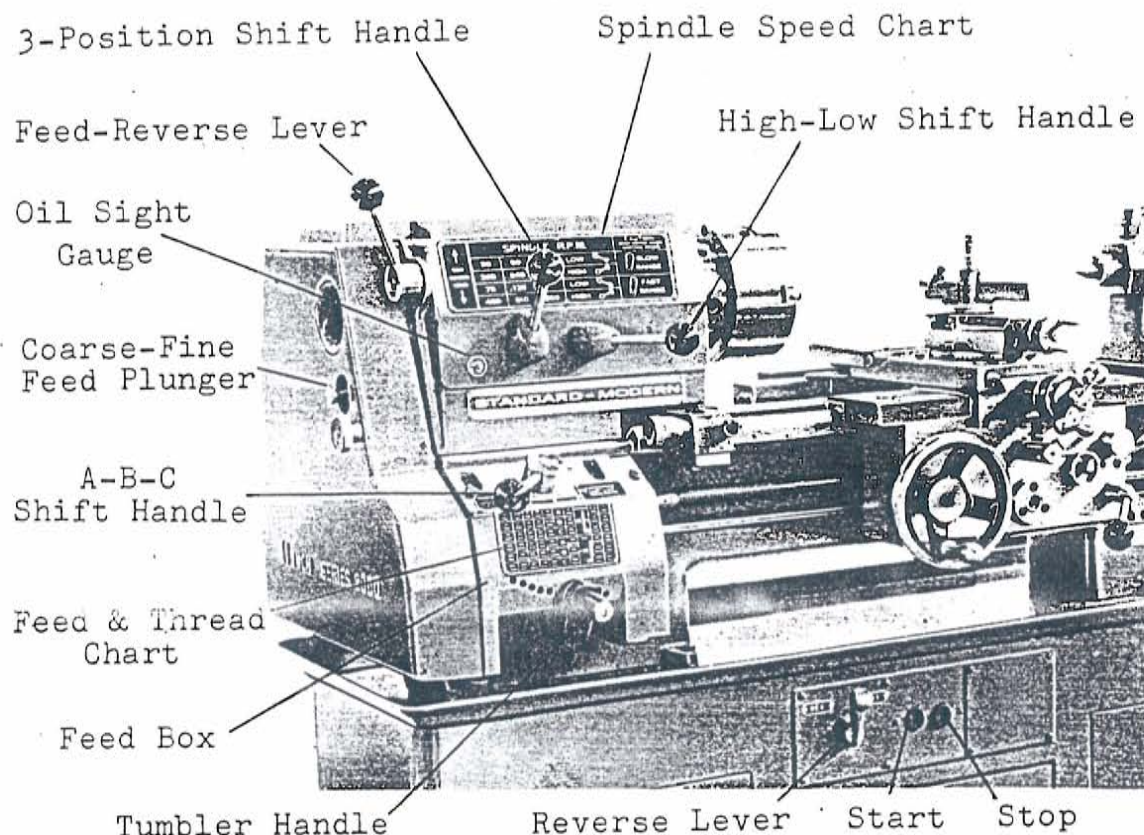


FIGURE 3

2. Spindle Speed Control Handles.

At the left front of the headstock, Fig 3 is the three position shift handle.

Immediately above, on the front of the headstock, is the Direct Reading Spindle Speed Chart.

The desired spindle speed is obtained by :

- (1) Placing the three position shift handle in one of the three positions;
 - (2) Moving the high-low shift handle to either the high or low range;
 - (3) Running the input V-belt over either the slow or the fast pulley.
- (Always run belt off headstock pulley first as it is made with shallow grooves for this purpose).

The resultant spindle speed may be noted directly from the chart.

For free hand rotation of the spindle, move the High-Low shift handle to its neutral position.

Do not operate the shift handles while the spindle is revolving.

Operating Instructions (contd.)

3. Power Feeds

For longitudinal power feed or cross power feed, arrange the shift handles on the headstock and the Quick Change Gear Box, to correspond to the desired feed rate as shown on the feed chart, Fig. 3.

Set the "Feed-Reverse" lever located on the left hand side of the headstock to "Feed", for L.H. Feed, or to "Reverse", for R.H. feed. For coarse feed range, pull out plunger protruding through belt guard, and for fine feed, push plunger in, as indicated on Thread and Feed Chart. Do not engage the coarse feeds when spindle speeds are over 100 r.p.m.

The A-B-C shift handle located on top of the Feed Box, and the tumbler lever at the bottom, are used to obtain the required thread or feed indicated on Feed Chart.

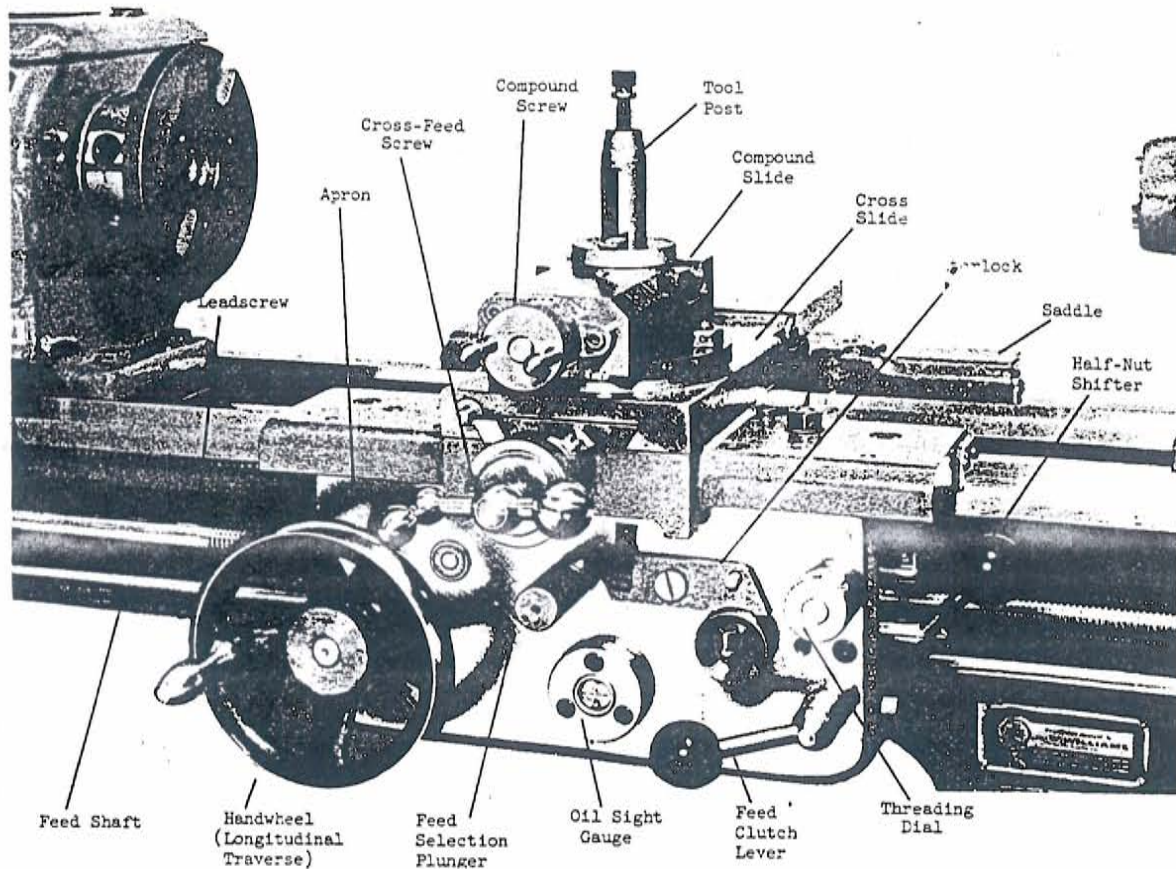


FIGURE 4

For longitudinal power feed, push in the Feed Selection Plunger located on the front centre of the apron to obtain the feed indicated on Chart.

For cross power feed, pull out the Plunger, which will produce a feed at half the rate indicated on Chart.

An interlock is fitted so that it is impossible to engage the Feed Selection Plunger if the half-nut is already engaged and vice versa.

After setting the Feed Selection Plunger the power should be clutched in by the Feed Clutch Handle located on the front lower right corner of the apron.

Do not use Feed Selection Plunger for clutching in.

Operating Instructions (contd.)

4. Half Nut Control and Thread Chasing Dial

For cutting screw threads, set the A-B-C handle and the tumbler handle to give the required T.P.I. on the Feed Chart.

To engage Apron for Threading, the Half-Nut is pushed into mesh with the leadscrew by the Half-Nut Shifter located on the right end of the Apron. At the end of the first cut, disengage the Half-Nut, withdraw the tool from the work and return the carriage to its starting position. The tool is then set to the next depth of cut and the Half-Nut is re-engaged with the correct line on the Dial lined up with the Index Line (See below).

5. Thread Chasing Dial Instructions

The Dial on the left front of the Apron has 4 divisions marked 1, 2, 3, 4, and 4 unmarked half-divisions. A 4" traverse of the carriage gives one complete turn of this Dial.

- (i) When the number of threads per inch is divisible by 8, disregard the Dial.
- (ii) When the thread has an even number of T.P.I., e.g. 12, 22, T.P.I., engage the Half-Nut at any graduation.
- (iii) For an odd number of T.P.I., e.g. 11, 13, T.P.I., engage only on numbered graduations.
- (iv) For half T.P.I., e.g. $3\frac{1}{2}$, $4\frac{1}{2}$ T.P.I., engage the Half-Nut only on opposite numbered lines, i.e. 1 and 3, or 2 and 4.
- (v) For quarter T.P.I., e.g. $5\frac{3}{4}$, $3\frac{1}{4}$ T.P.I., engage Half-Nut on the same numbered line each time.

Camlock Stud Adjustment

Camlock studs, required for all face-plates, chuck adapters etc., must be properly adjusted in order to be held securely by the cams in the spindle nose.

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

Lead Screw Shear Pin

This brass shear pin is located at the left-hand end of the lead screw (see below) and is provided to prevent damage to the lead screw 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 lead screw 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 lead screw 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, which is provided with the machine, is then driven into place.

Gear Train Shear Pin

This brass shear pin is located in the feed gear shaft and drives the top gear (see below) of the end gear train under the belt guard. It is provided to prevent damage to the feed compound gears in the headstock due to a possible seizure in the feed box.

A new pin, which is provided with the machine, can be readily fitted by first removing the gear and knocking the broken portions out of the shaft and gear. The new pin is then fitted to the shaft and gear. It is essential, of course, to locate and remedy the cause of the seizure.

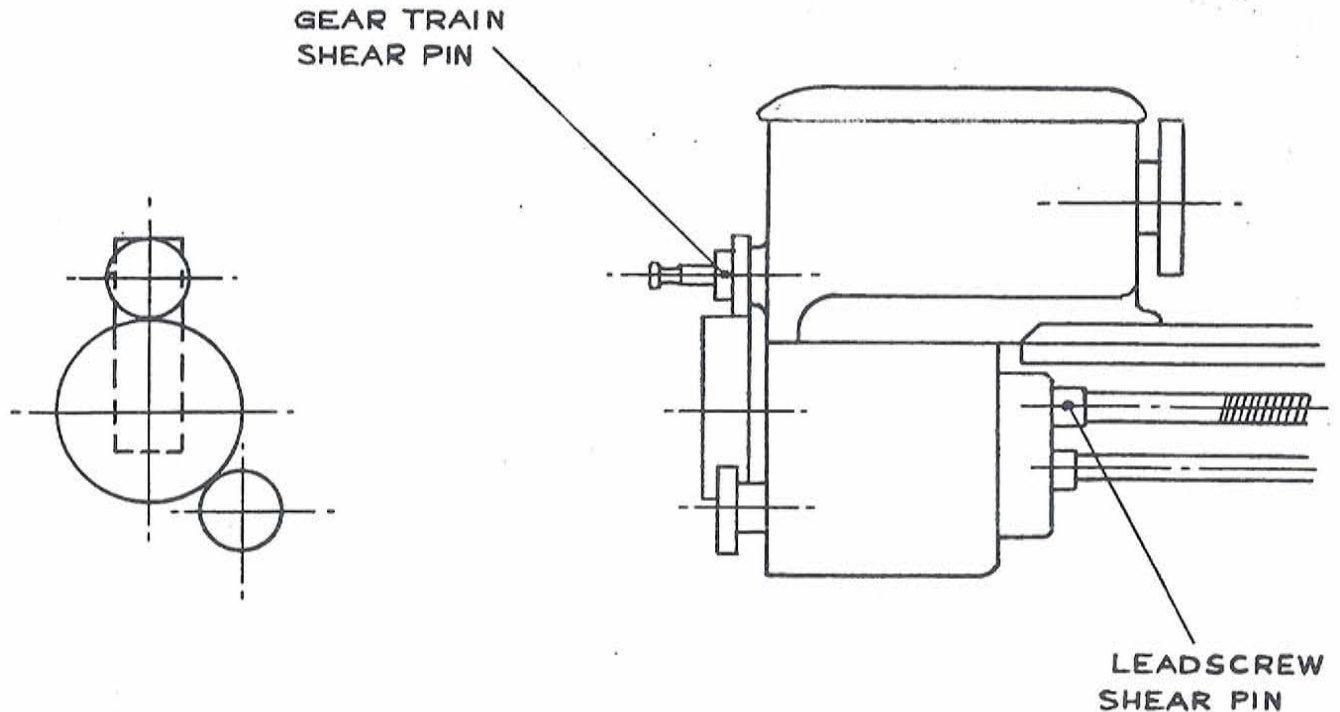


FIGURE 5

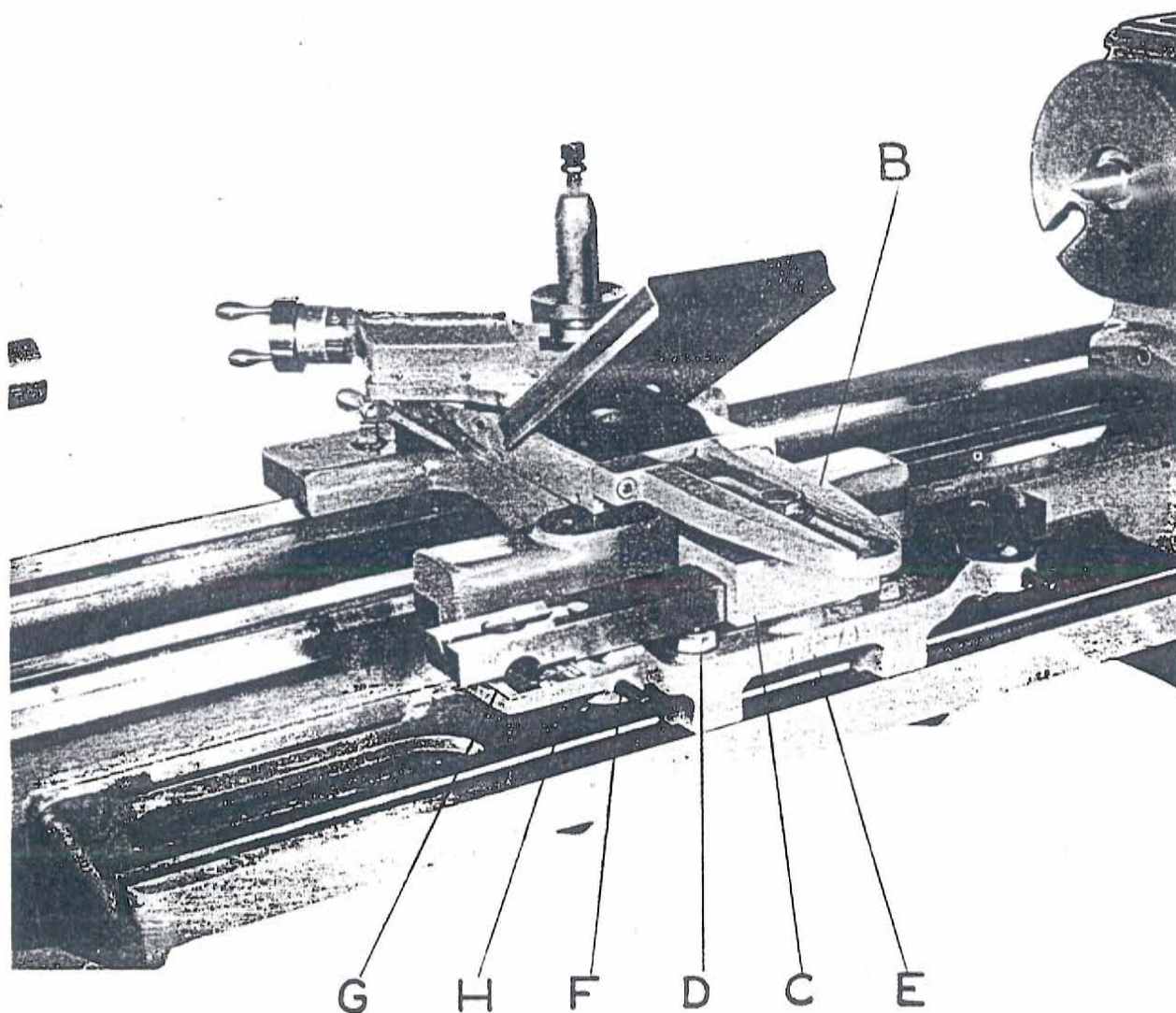
Taper Turning Attachment (Series 2000 Lathes)

Capacity - 9" stroke. Taper on dia. 4" per foot, or 20° included angle.

- (1) Remove the Hex. Head Screw and Washer which clamp the Cross-Feed Nut and replace with the knurled plug to keep dirt from falling down on to the Cross Feed Screw. (Be careful to brush away chips and dirt around the Screw before removing).
- (2) The Hex. Head Screw with Washer is then inserted through the slot in the extension bracket 'B' and screwed into the slide shoe 'C'.
- (3) Slacken clamp nuts 'D' and push the sliding bracket 'E' longitudinally along the bed to the position where it straddles the work, and tighten the clamp nuts.
- (4) Slacken the clamp nuts 'H' under the ends of Bracket 'E'. By adjusting the set screws 'F' the Index Line on the slide is set to the graduated plate 'G' to give the desired taper in degrees or inches per foot. Tighten the clamp nuts underneath.

NOTE

Keep the slide bar clean and well oiled. Do not forget to slack off the hex. head screw when making new settings of the slide bar.



Taper Turning Attachment (Telescopic Type Saddle Mounted)

Maximum Stroke: 7 1/2"

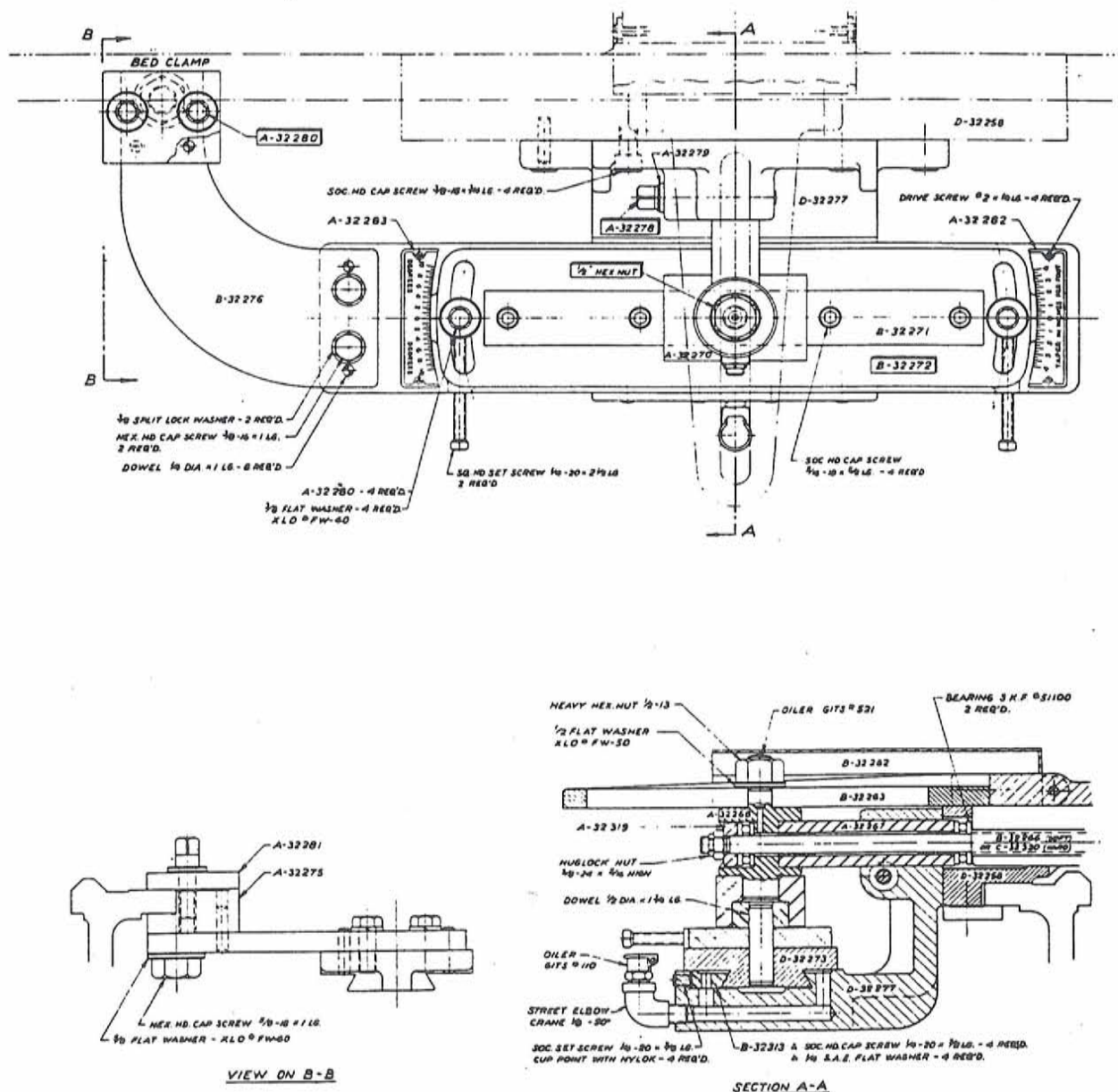
Maximum Taper: 4" per foot on dia. or 20° included angle.

For Taper Turning

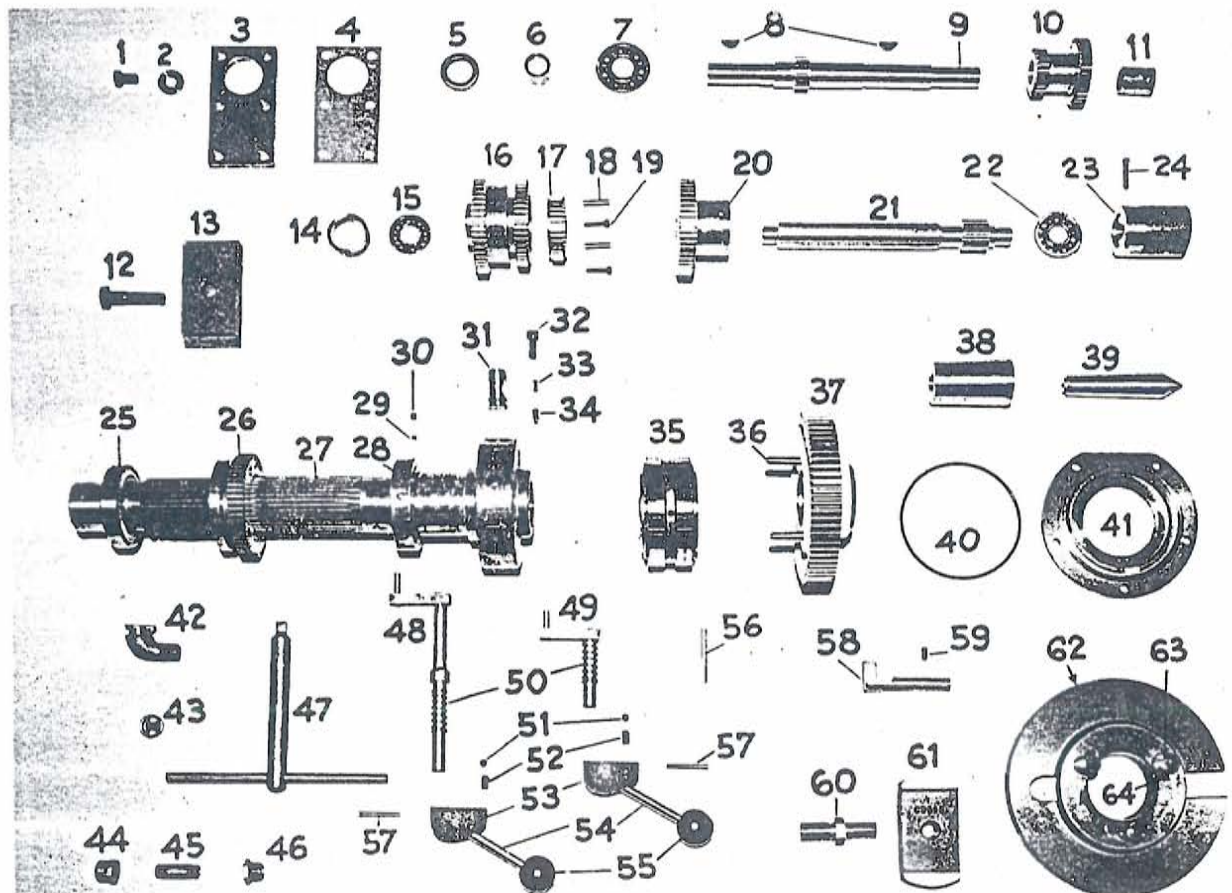
1. Loosen Clamp Screw "A" and also the 1/2" Hex Nut.
2. Locate saddle on bed in relation to workpiece and tighten the two screws on the Bed Clamp.
3. Adjust the Pivoted Slide Bar B-32272 to desired taper and lock securely.
4. Position the cross slide to suit the diameter of work being turned and then tighten the 1/2" Hex. Nut.

For Straight Turning

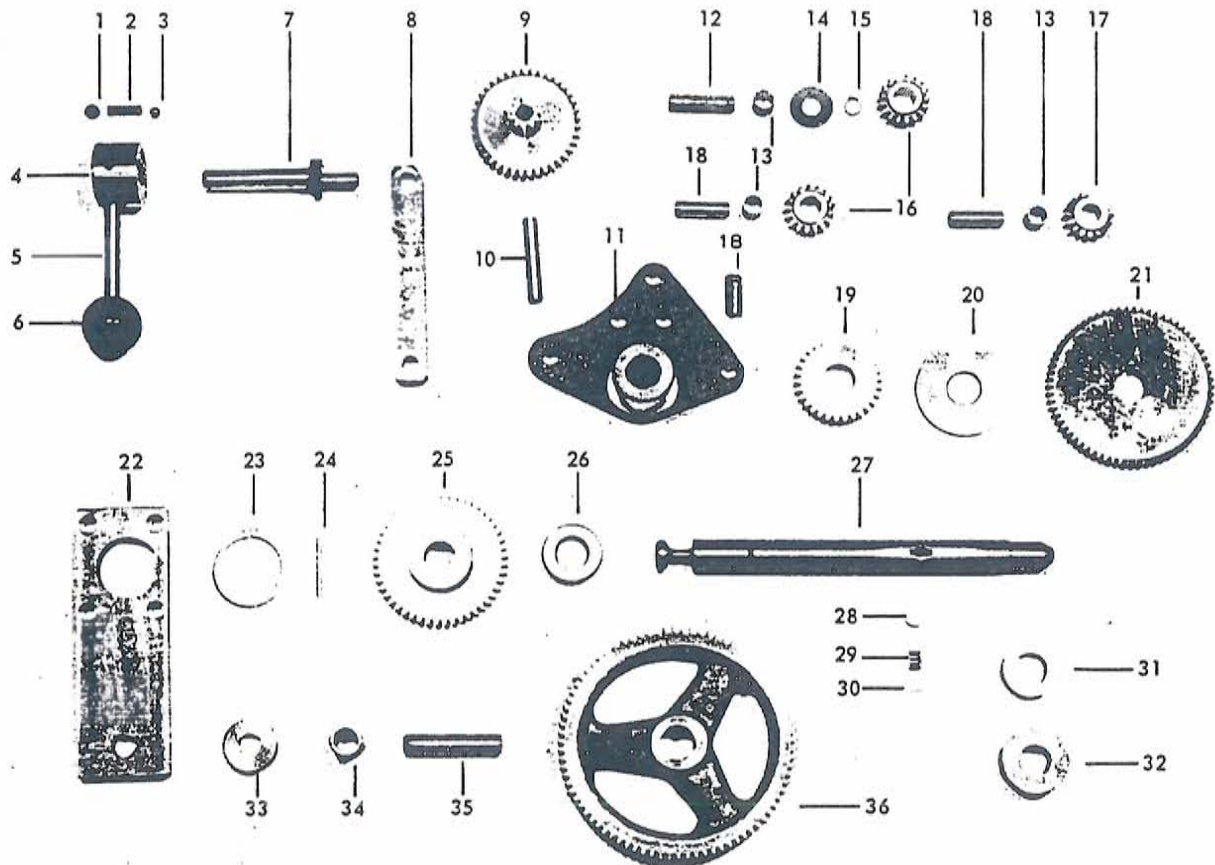
1. Loosen screws on the Bed Clamp and also the 1/2" Hex Nut. Then tighten Clamp Screw "A".
2. Leave the Pivoted Slide Bar locked in its angular setting so that the taper attachment will move with the saddle.



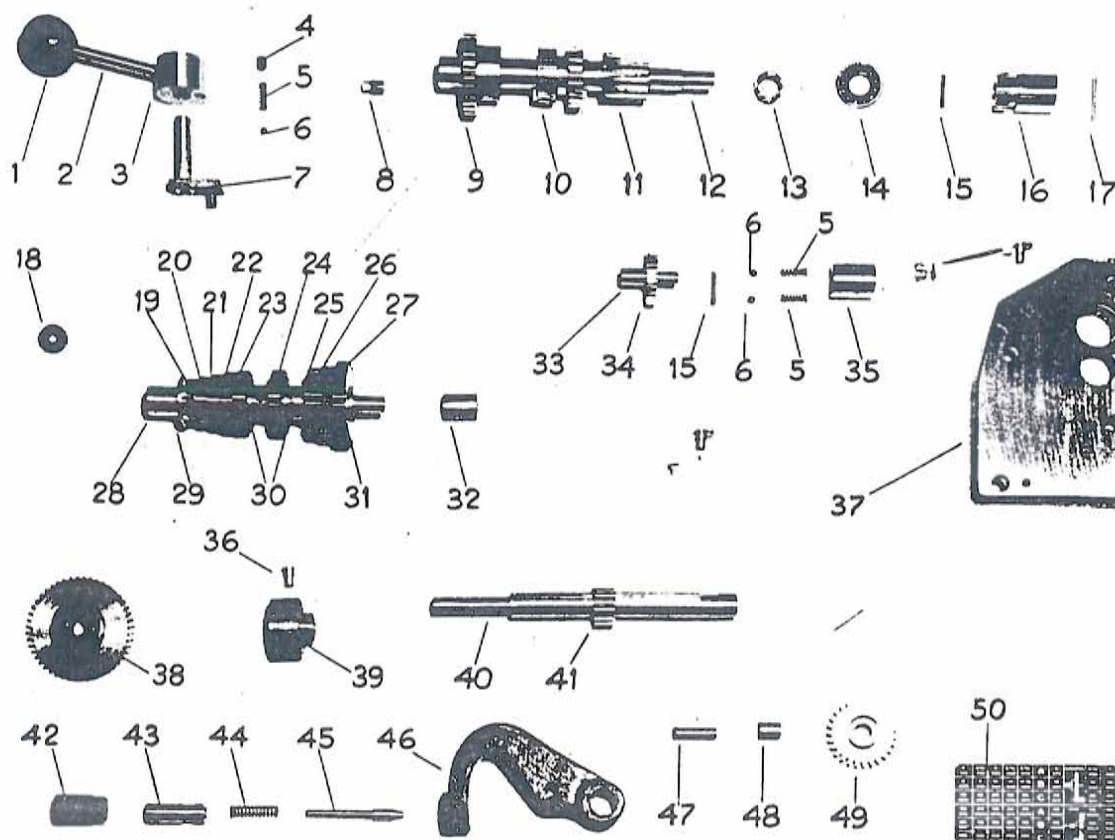
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	HEX HD. CAP SCREW 3/8-24 x 5/8		38	SPINDLE NOSE SLEEVE FOR NO. 3 MORSE CENTER	A-32332
2	SPECIAL WASHER	A-30566		SPINDLE NOSE SLEEVE FOR NO. 2 MORSE CENTER	A-32115
3	BEARING RETAINER PLATE	A-30533	39	NO. 3 MORSE LATHE CENTER	A-32333
4	GASKET FOR RETAINER PLATE	A-30553		NO. 2 MORSE LATHE CENTER	A-30545
5	OIL SEAL - PERFECT #1481		40	O-RING NO. 244 (4 1/2 x 4 1/2 x 1/8)	
6	INNER RACE - TORRINGTON #1R-1212		41	SPINDLE FRONT COVER	B-32114
7	BALL BEARING - SKF #6204		42	OIL FILL CAP - GITS #1402	
8	WOODRUFF KEY #9 (3/16 x 3/4 DIA.)		43	OIL SIGHT - BIJUR #B-5095	
9	PULLEY SHAFT	B-30534	44	PIPE CAP 1/2 NPT - 11 INCH	
10	26 T. & 37 T. DOUBLE GEAR	A-30535	45	PIPE CAP 3/8 NPT - 13 INCH	
11	BEARING - OILITE #AA-1049			PIPE NIPPLE 1/2 NPT x 1 1/2 - 11 INCH	
12	HEX HD. MACH. SCREW 1/2-13 x 2"			PIPE NIPPLE 3/8 NPT x 2 - 13 INCH	
13	CLAMPING PLATE	A-30532	46	REDUCING BUSHING 3/8 x 1/2 NPT - 11 INCH	
14	BEARING SPACER	A-30540	47	CAM WRENCH	B-32168
15	BALL BEARING - SKF #6203		48	THREE - POSITION SHIFTER	A-32119
16	56 T. & 48 T. DOUBLE GEAR	B-32054	49	HIGH - LOW SHIFTER	A-30548
17	37 T. SPLINE GEAR	B-32055	50	SHIFTER SPRING	A-21122
18	DOWEL 1/2 DIA. x 1" (2 REQ'D.)		51	STEEL BALL 5/16 DIA.	
19	SOC. HD. CAP SCREW #10-32 x 3/4 (2 REQ'D.)		52	"NYLOK" SOC. SET SCREW 5/16-18 x 3/8	
20	56 T. SPLINE GEAR	B-32056	53	SHIFT LEVER HUB	A-32111
21	INTERMEDIATE SHAFT	B-32057	54	SHIFT LEVER HANDLE	A-30451
22	BALL BEARING - SKF #6303		55	BLACK PLASTIC KNOB - DIMCO #95 (3/8-24 INSERT)	
23	BEARING RETAINER	A-32222	56	GROOV - PIN TYPE #2, 1/2 DIA x 2	
24	SQ. HD. SET SCREW 1/2-20 x 1" CUP POINT		57	TAPER PIN #2 x 1 1/2	
25	BALL BEARING - SKF #6009-2 RS	A-32065	58	OIL PICK-UP ASSEMBLY	A-32204
26	56 T. SHIFTING GEAR	C-32109	59	SOC. SET SCREW 1/2-20 x 1/2	
27	CAMLOCK SPINDLE	A-32112	60	FRONT CLAMP SCREW	A-32211
28	SPINDLE NUT	A-30564	61	FRONT CLAMP PLATE	A-32210
29	BRASS PAD		62	8" DOG PLATE ASSEMBLY	ASSEMBLY #32187
30	SOC. SET SCREW 1/2-28 x 1/2 FLAT POINT		63	8" DOG PLATE C-32174	
31	CAM FOR 4"-D1 SPINDLE NOSE (3 REQ'D.)	A-30611	64	CAMLOCK STUD D1-4" (3 REQ'D.)	
32	SOC. HD. CAP SCREW 5/16-18 x 1/2 (3 REQ'D.)	A-30613		SOC. HD. CAP SCREW 1/2-20 x 1/2 (3 REQ'D.)	
33	DETENT SPRING (3 REQ'D.)		NOT SHOWN		
34	DETENT PLUNGER (3 REQ'D.)			HEADSTOCK CASTING - 11 INCH	E-32108
35	ROLLER BEARING - TIMKEN TYPE T.D.O. ASS'Y. NO. A-4968			HEADSTOCK CASTING - 13 INCH	E-32154
	CONE NO. 387A (2 REQ'D.)			HEADSTOCK COVER	C-32298
	CUP NO. 384ED (1 REQ'D.)			MAT FOR HEADSTOCK COVER	B-32300
36	HARDENED DOWEL (2 REQ'D.)	A-30551			
37	72 T. BULL GEAR	B-30643			



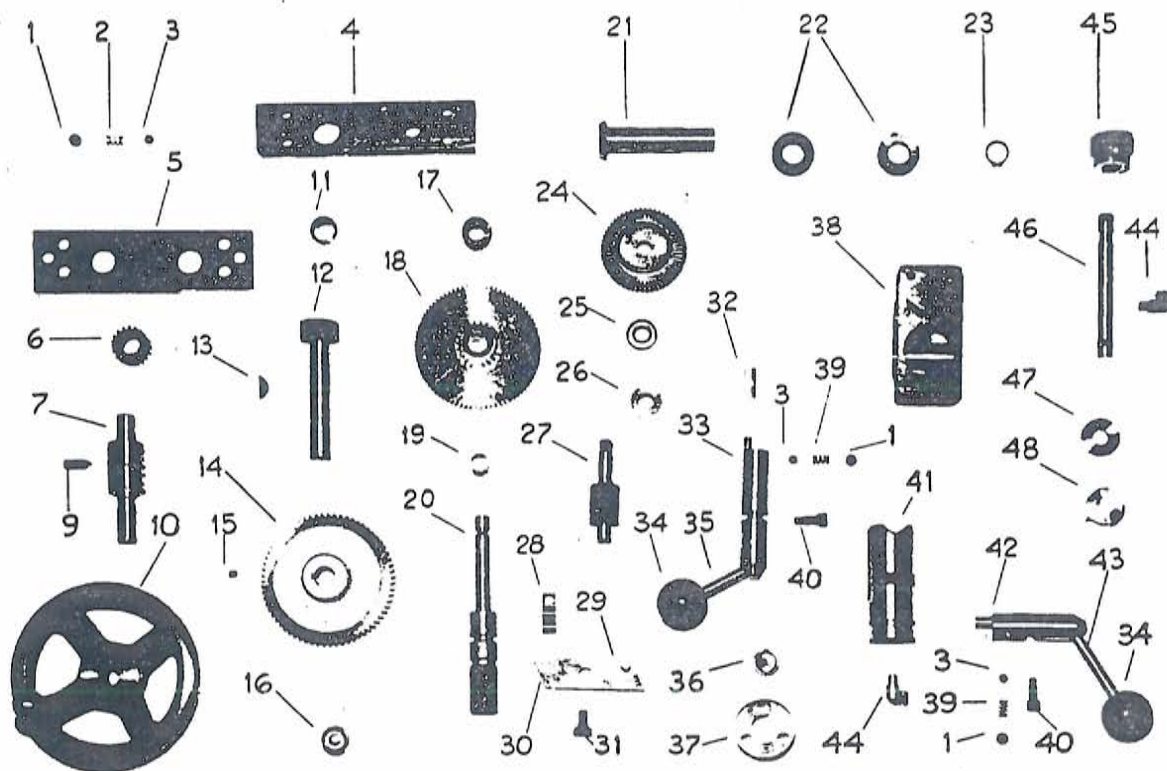
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	SOC. SET SCREW "NYLOK" 5/16-18 X 3/8		22	IDLER PLATE - 11 INCH	B-32062
2	COMPRESSION SPRING	A-30454		IDLER PLATE - 13 INCH	B-32083
3	STEEL BALL 1/2 DIA.		23	RETAINING RING - TRUARC #5100-156	
4	SHIFT LEVER HUB	A-32037	24	BRASS SHEAR PIN	A-30398
5	SHIFT LEVER HANDLE	A-30451	25	48T FEED TRAIN GEAR	A-30392
6	BLACK PLASTIC KNOB DIMCO #95 (3/8-24 INSERT)		26	OIL SEAL - PERFECT #13524	
7	ECCENTRIC	A-32069	27	FEED GEAR SHAFT	B-30381
8	TUMBLER LINK	A-32070	28	CIRCULAR SPRING KEY	A-30390
9	TUMBLER GEAR & PINION ASS'Y 40T TUMBLER GEAR A-32072 11T TUMBLER PINION A-32074	#32075	29	KEY SPRING	A-30531
10	HARDENED STEEL DOWEL 3/8 DIA X 2		30	SPRING HOLDER	A-30397
11	TUMBLER REVERSE BRACKET	C-32068	31	SPACING COLLAR	A-30389
12	TUMBLER PIN	A-32077	32	STOP COLLAR	A-30391
13	BEARING - OILITE AAB-502-3		33	RETAINING COLLAR (1 FOR 11" - 2 FOR 13")	A-30393
14	WASHER	A-32219	34	BEARING - OILITE #AA-744-3 (1 FOR 11" - 2 FOR 13")	
15	RETAINING RING - TRUARC #5100-37		35	HARDENED DOWEL 1/2 DIA X 2 1/2 (1 FOR 11" - 2 FOR 13")	
16	17T TUMBLER GEAR	A-32073	36	83T IDLER GEAR - 11 INCH 54T IDLER GEAR (2-REQ'D) - 13 INCH	B-30353 A-30640
17	16T IDLER TUMBLER GEAR	A-32078	NOT SHOWN		
18	HARDENED STEEL DOWEL 3/8 DIA X 1 1/2		TAPER PIN #2 X 1 1/2 SOC. SET SCREW FLAT POINT 1/4-20 X 1 HEX JAM NUT 1/4-20		
19	30T FEED GEAR	A-32071			
20	WASHER	A-30388			
21	66T FEED GEAR	A-32076			



ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	KNOB (3 8-24 INSERT; BLACK PLASTIC) - DIMCO #95		28	CLUSTER GEAR SHAFT	A-30427
2	SHIFT LEVER HANDLE	A-30451	29	SPACER WASHER	A-30437
3	SHIFT LEVER HUB	A-32037	30	SPACER COLLAR	A-30439
4	SOC. SET SCREW FLAT POINT 5 16-18 x 3/8		31	SPACER WASHER	A-30438
5	COMPRESSION SPRING	A-30454	32	BEARING - OILITE #AA-742	
6	STEEL BALL 1/4 DIA		33	STUB SHAFT	A-30426
7	SHIFTER	A-30445	34	FEED SHAFT CLUTCH GEAR	A-32392
8	1/8 PIPE PLUG		35	FEED SHAFT CLUTCH COUPLING WITH SOC. SET SCREWS 1/4-28X5/8	A-32399
9	32T CLUTCH GEAR	A-30420	36	OILER - GITS #303	
10	24T DOUBLE CLUTCH GEAR	A-30424	37	GEAR HOUSING	B-32398
11	16T CLUTCH GEAR	A-30421	38	48T INPUT GEAR	A-30453
12	CLUTCH SHAFT	A-30419	39	BEARING BUSHING	A-30444
13	SPACER COLLAR	A-30440	40	POWER INPUT SHAFT	A-30441
14	BALL BEARING - SKF #3202		41	16T SLIDING GEAR	A-30442
15	TAPER PIN #0 x 1		42	PLUNGER HANDLE	A-30445
16	LEADSCREW COUPLING GEAR	A-32391	43	PLUNGER HOUSING	A-30448
17	BRASS SHEAR PIN	A-30450	44	COMPRESSION SPRING	A-30445
18	SHAFT RETAINING WASHER	A-30452	45	PLUNGER	A-30447
19	16T SPUR GEAR	A-30428	46	TUMBLER BRACKET	C-30360
20	18T SPUR GEAR	A-30429	47	HARDENED STEEL DOWEL 3/8 DIA. x 1 1/2	
21	20T SPUR GEAR	A-30430	48	BEARING - OILITE #AA-507-5	
22	22T SPUR GEAR	A-30431	49	27T IDLER GEAR	A-30443
23	23T SPUR GEAR	A-30432	50	T.P.I. AND FEEDS NAMEPLATE	A-32416
24	24T SPUR GEAR	A-30433	51	OILER - GITS #522	
25	26T SPUR GEAR	A-30434	NOT SHOWN		
26	28T SPUR GEAR	A-30435	FEEDBOX CASTING		
27	32T SPUR GEAR	A-30436	TAPER PIN #2 X 1 1/2		
			D-32116		



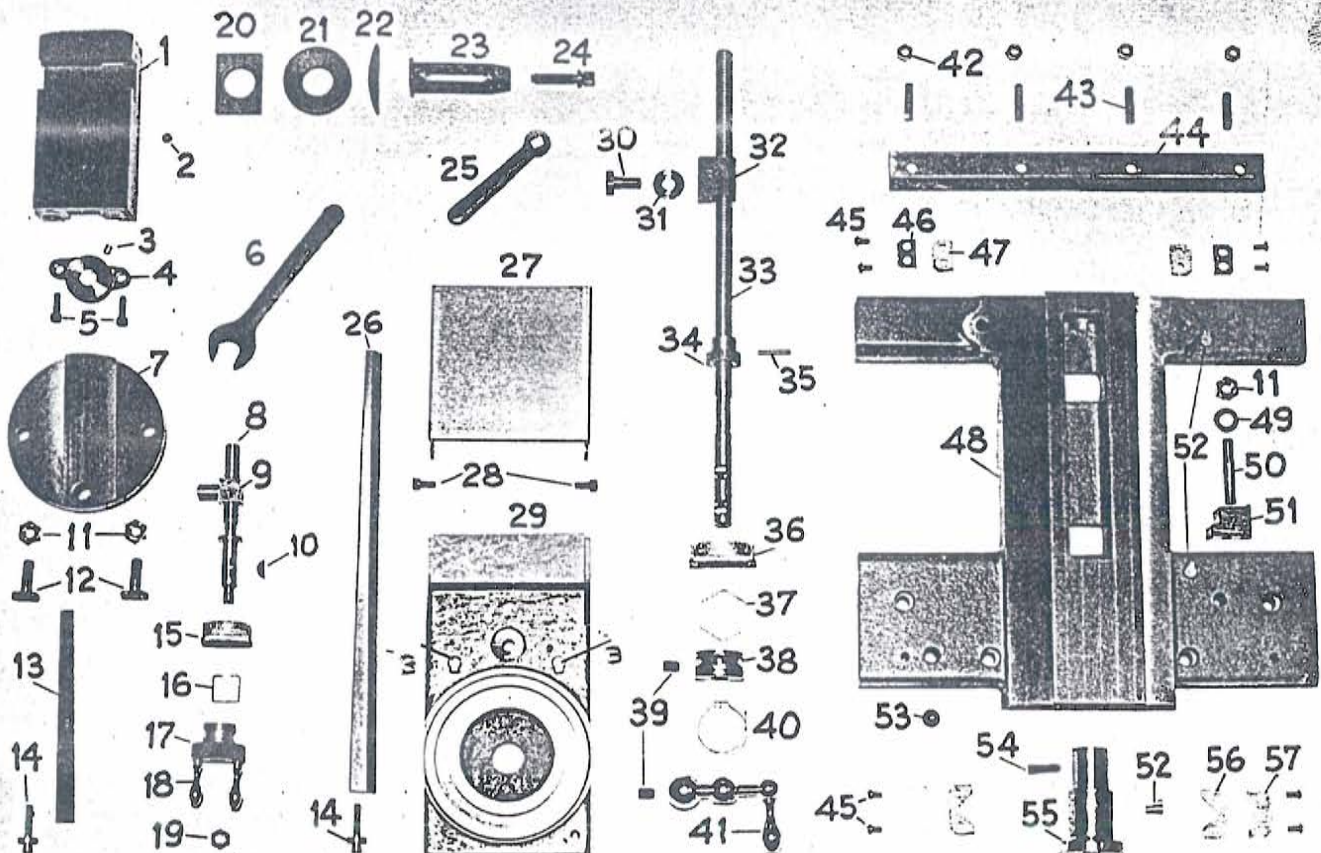
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	SOC. SET SCREW FLAT POINT 3/8-16 X 1/2		24	55T BEVEL GEAR	B-30456
2	COMPRESSION SPRING	A-30484	25	OIL SEAL - PERFECT #09916	
3	STEEL BALL 5/16 DIA.		26	BEARING BUSHING	A-30476
4	BEARING PLATE	B-30458	27	16T PINION	A-30464
5	GIB PLATE	B-30459	28	LEAF SPRING	A-30485
6	17T PINION	A-30462	29	GROOVE PIN TYPE 2, 1/4 DIA X 1/2	
7	SHAFT BEARING - NEW DEPARTURE #885140		30	INTERLOCK	A-30473
9	SOC. SET SCREW CONE POINT "NYLOK" 3/8-16 X 1/2		31	LOCKSCREW EX-CELL-O #2	
10	HANDWHEEL	B-30481	32	SHIFTER SHOE	A-30468
11	NEEDLE BEARING - TORRINGTON #B-1112		33	FEED SHIFTER SHAFT	A-30635
12	RACK PINION SHAFT	A-30463	34	KNOB (3/8-24 INSERT; BLACK PLASTIC) - DIMCO #95	
13	WOODRUFF KEY #506		35	HAND LEVER	A-30636
14	67T GEAR	B-30378	36	OIL SIGHT - BIJUR #B-5095	
15	SOC. SET SCREW CUP POINT 1/4-20 X 1/4 "NYLOK"		37	HOUSING FOR OIL SIGHT	A-30479
16	NEEDLE BEARING - TORRINGTON #M-1112		38	BEVEL GEAR BRACKET	B-30377
17	COLLAR	A-30475	39	COMPRESSION SPRING	A-30483
18	PINION AND GEAR	B-30460	40	SPECIAL SCREW	A-30480
19	BEARING - OILITE #AA-628		41	HALF NUT	B-50266
20	FEED ENGAGING SHAFT	A-30465	42	HALF NUT SHIFTER	A-30466
21	22T BEVEL PINION	B-30457	43	SHIFT LEVER HANDLE	A-30451
22	COLLAR	A-30469	44	OILER - GITS #1228	
23	RETAINING RING - TRUARC #5100-68		45	32T WORM GEAR	A-50267
			46	DIAL SHAFT	A-30471
			47	ZERO WASHER FOR DIAL	A-30474
			48	THREAD CHASING DIAL	A-30470
			NOT SHOWN		
			APRON CASTING HOLLOW PIPE PLUG 1/2 NPTF		D-30376



**COMPOUND, CROSS SLIDE AND SADDLE PARTS
WITHOUT TELESCOPIC TAPER ATTACHMENT.**

PAGE 14

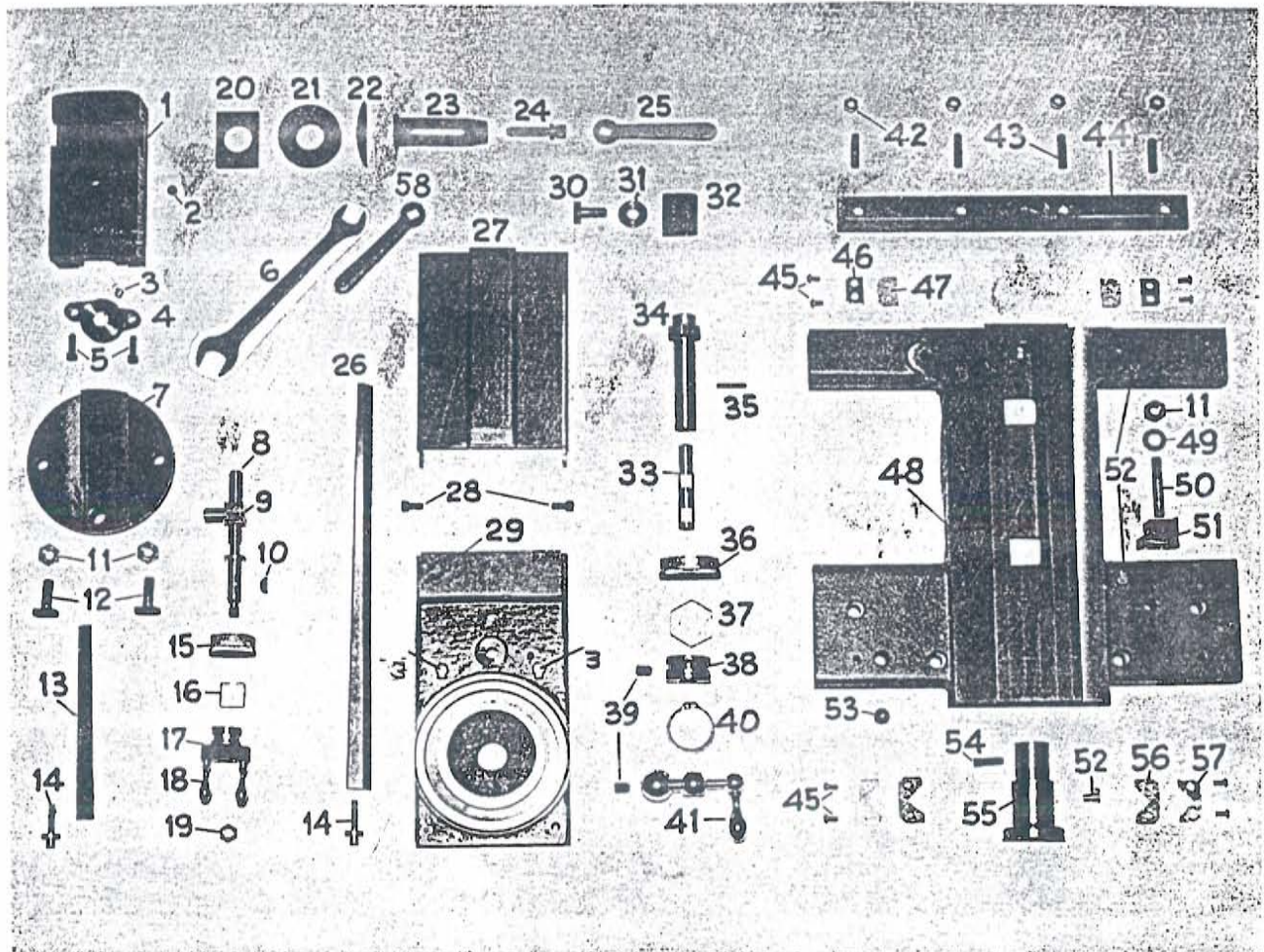
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	COMPOUND SLIDE	B-30486	30	SCREW FOR CROSS FEED NUT	A-30518
2	OILER - GITS #522		31	WASHER FOR CROSS FEED NUT	A-30566
3	OILER - GITS #521		32	CROSS FEED NUT	A-30372
4	BEARING PLATE	A-30497		CROSS FEED SCREW	
5	SOC. HD. CAP SCREW $\frac{1}{2}$ -20 \times $\frac{3}{4}$ LG.			& GEAR ASS'Y.	
6	OPEN END WRENCH - WILLIAMS #3		33	CROSS FEED SCREW	B-30511
7	COMPOUND SWIVEL BASE - 11"	B-30487	34	20 TOOTH GEAR	A-30517
	COMPOUND SWIVEL BASE - 13"	C-30499	35	TAPER PIN #0 \times 1" LG.	
8	COMPOUND SCREW	A-32362	36	GRADUATED DIAL	A-30514
9	COMPOUND FEED NUT	A-30379	37	MARCEL SPRING	A-30515
10	WOODRUFF KEY #5 (1/8 \times 5/8 DIA.)		38	SLEEVE FOR CROSSLIDE SCREW	A-30513
11	HEAVY HEX. NUT 3/8-16		39	SOC. SET SCREW 3/8-24 \times $\frac{1}{2}$ LG.	
12	TEE HEAD BOLT	B-30509	40	RETAINING RING - TRUARC	
13	GIB FOR COMPOUND SLIDE	B-30489		#5100-150	
14	GIB SCREW	A-30498	41	CRANK FOR CROSS FEED	A-30512
15	GRADUATED DIAL	A-30506	42	THICK HUGLOCK NUT 5/16-18	
16	MARCEL SPRING	A-30508	43	SPECIAL STUD	A-30528
17	SLEEVE FOR COMPOUND SCREW	A-32364	44	REAR SADDLE GIB	B-30523
18	HANDLE - BALCRANK #H-3301		45	ROUND HD. MACH. SCREW	
19	HUGLOCK NUT 3/8-24			#10-32 \times $\frac{1}{2}$ LG. (8 REQ'D.)	
	5/16 THICK, 9/16 ACROSS FLATS		46	REAR WIPER PLATE (2 REQ'D.)	A-30525
20	TOOL POST WASHER	A-30503	47	REAR WIPER (2 REQ'D.)	A-30527
21	TOOL POST RING	A-30502	48	SADDLE CASTING	D-30370
22	TOOL POST WEDGE	A-30501	49	FLAT WASHER S.A.E. #3/8	
23	TOOL POST (#0 HOLDER) - 11"	A-30500	50	CLAMPING STUD	A-32354
	TOOL POST (#1 HOLDER) - 13"	A-30655	51	SADDLE CLAMP	A-30520
24	TOOL POST SCREW "MAC-1T"		52	OILER - GITS #302	
	3/8-16 \times 1 $\frac{1}{2}$ LG.		53	HEX. SOC. PIPE PLUG $\frac{1}{2}$ NPTF	
25	SQUARE BOX WRENCH -		54	SQUARE HD. SET SCREW	
	WILLIAMS #583			5/16-18 \times $\frac{1}{2}$ LG. - CUP POINT	
26	GIB FOR CROSSLIDE	B-30496	55	EXTENSION BEARING	A-30516
27	CHIP GUARD	B-30522	56	FRONT WIPER (2 REQ'D.)	A-30526
28	SOC. HD. CAP SCREW $\frac{1}{2}$ -20 \times $\frac{1}{2}$ LG.		57	FRONT WIPER PLATE (2 REQ'D.)	A-30524
29	CROSS SLIDE	C-30488			



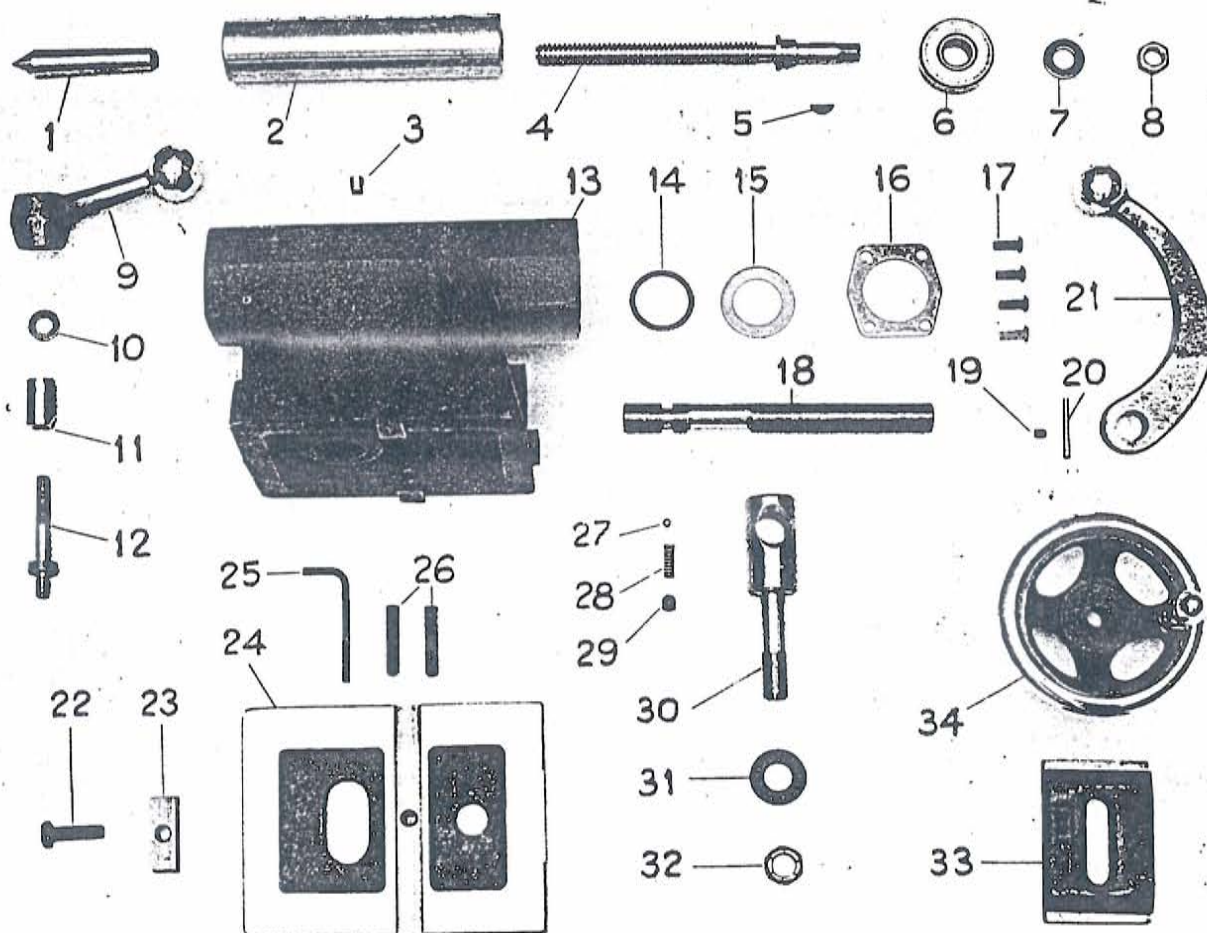
**COMPOUND, CROSS SLIDE AND SADDLE PARTS
WITH TELESCOPIC TAPER ATTACHMENT**

PAGE 14A

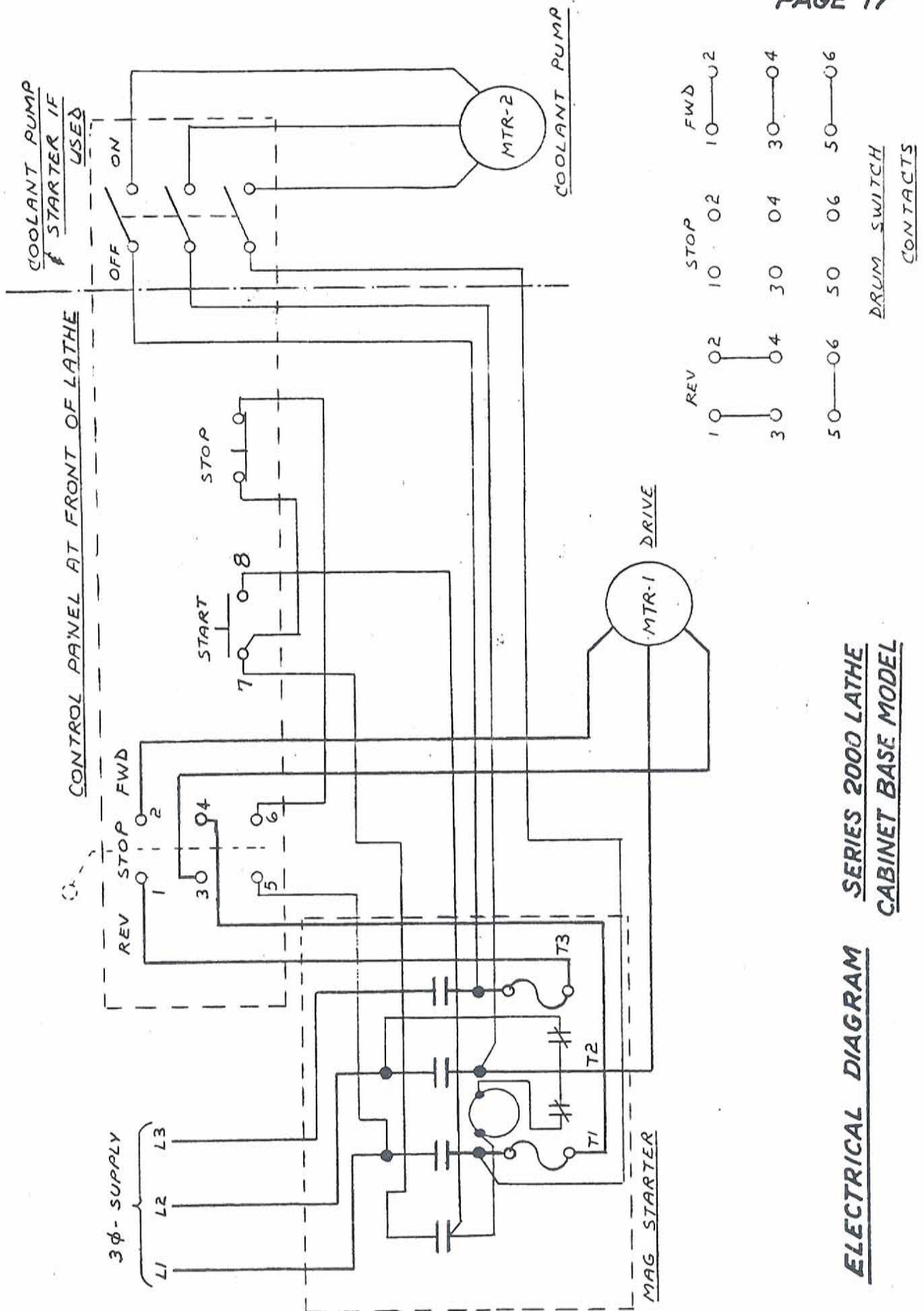
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	COMPOUND SLIDE	B-30486	29	CROSS SLIDE	C-30488
2	OILER - GITS #522		30	SCREW FOR CROSS FEED NUT	A-30518
3	OILER - GITS #521		31	WASHER FOR CROSS FEED NUT	A-30566
4	BEARING PLATE	A-30497	32	CROSS FEED NUT	A-30372
5	SOC. HD. CAP SCREW $\frac{1}{2}$ -20 \times $\frac{1}{2}$ LG.		33	CROSS FEED SCREW EXT'N. ASS'Y.	ASS'Y.
6	OPEN END WRENCH - WILLIAMS #3		34	SCREW EXTENSION A-32259	#32286
7	COMPOUND SWIVEL BASE - 11"	B-30487	35	20 T. SLEEVE GEAR A-32260	
	COMPOUND SWIVEL BASE - 13"	C-30499	36	TAPER PIN #0 \times 1" LG.	
8	COMPOUND SCREW	A-32362	37	GRADUATED DIAL	A-30514
9	COMPOUND FEED NUT	A-30374	38	MARCEL SPRING	A-30515
10	WOODRUFF KEY #5 (1/8 \times 5/8 DIA.)		39	SLEEVE FOR CROSSLIDE SCREW	A-30513
11	HEAVY HEX. NUT 3/8-16		40	SOC. SET SCREW 3/8-24 \times $\frac{1}{2}$ LG.	
12	TEE HEAD BOLT	B-30509		RETAINING RING - TRUARC #5100-150	
13	GIB FOR COMPOUND SLIDE	B-30489	41	CRANK FOR CROSS FEED	A-30512
14	GIB SCREW	A-30498	42	THICK HUGLOCK NUT 5/16-18	
15	GRADUATED DIAL	A-30506	43	SPECIAL STUD	A-30528
16	MARCEL SPRING	A-30508	44	REAR SADDLE GIB	B-30523
17	SLEEVE FOR COMPOUND SCREW	A-32364	45	ROUND HD. MACH. SCREW #10-32 \times $\frac{1}{2}$ LG. (8 REQ'D.)	
18	HANDLE - BALCRANK #H-3301		46	REAR WIPER PLATE (2 REQ'D.)	A-30525
19	HUGLOCK NUT 3/8-24		47	REAR WIPER (2 REQ'D.)	A-30527
20	5/16 THICK, 9/16 ACROSS FLATS		48	SADDLE CASTING	D-32258
21	TOOL POST WASHER	A-30503	49	FLAT WASHER S.A.E. #3/8	
22	TOOL POST RING	A-30502	50	CLAMP STUD	A-32354
23	TOOL POST WEDGE	A-30501	51	SADDLE CLAMP	A-30520
24	TOOL POST (#0 HOLDER) - 11"	A-30500	52	OILER - GITS #302	
25	TOOL POST (#1 HOLDER) - 13"	A-30655	53	HEX. SOC. PIPE PLUG $\frac{1}{2}$ NPTF	
26	TOOL POST SCREW "MAC-IT" 3/8-16 \times 1 $\frac{1}{2}$ LG.		54	SQUARE HD. SET SCREW 5/16-18 \times $\frac{1}{2}$ LG. - CUP POINT	
27	SQUARE BOX WRENCH - 3/8" WILLIAMS #583		55	EXTENSION BEARING	A-32261
28	GIB FOR CROSSLIDE	B-30496	56	FRONT WIPER (2 REQ'D.)	A-30526
29	CHIP GUARD	B-32262	57	FRONT WIPER PLATE (2 REQ'D.)	A-30524
30	SOC. HD. CAP SCREW - $\frac{1}{2}$ -20 \times $\frac{1}{2}$ LG.		58	SQUARE BOX WRENCH - $\frac{1}{2}$ " WILLIAMS #581 (FOR TAPER ATTACHMENT)	



ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	LATHE CENTRE #2 MORSE	A-30545	18	CLAMP SHAFT	A-32130
	LATHE CENTRE #3 MORSE	A-32333	19	SOC. SET SCREW $\frac{1}{4}$ -20 \times 5/16	
2	SPINDLE FOR #2 M CENTRE	B-30399	20	TAPER PIN #2 \times 1 $\frac{1}{2}$	
	SPINDLE FOR #3 M CENTRE	B-32330	21	CLAMPING HANDLE	B-32135
3	OILER - GITS #523		22	HEX HD. CAP SCREW 3/8-16 \times 1 $\frac{1}{2}$	
4	SPINDLE SCREW (#2 MORSE)	A-32127	23	THRUST BLOCK	A-32131
	SPINDLE SCREW (#3 MORSE)	A-32331	24	BASE CASTING - 11" LATHE	C-32129
5	WOODRUFF KEY #4 (3/32 \times 5/8)			BASE CASTING - 13" LATHE	C-32156
6	BALL BEARING - SKF #6303-2Z		25	ALLEN KEY #3/16	
7	17/321.D. \times 1-1/160.D. \times .095		26	SOC. SET SCREW 3/8-16 \times 1 $\frac{1}{2}$	
8	HEX JAM NUT $\frac{1}{2}$ -20		27	STEEL BALL $\frac{1}{2}$ DIA.	
9	SPINDLE CLAMP HANDLE	B-32123	28	SPRING	A-21415
10	WASHER	A-32219	29	SOC. SET SCREW "NYLOK"	
11	SPINDLE LOCKING WEDGE	B-32128		3/8-16 \times 3/8	
12	SPINDLE CLAMPING STUD	A-32126	30	CLAMP STUD - 11" LATHE	A-32134
13	SPINDLE HOUSING	D-32125		CLAMP STUD - 13" LATHE	A-32185
14	O-RING #219 (1-5/16 \times 1-9/16 \times 1/8)		31	WASHER - WESPO #6010	
15	RETAINER WASHER	A-18555	32	HUGLOCK NUT	
16	RETAINER PLATE	A-32335		5/8-18, 9/16 THICK	
17	BUTTON HD. SOC. CAP SCREW		33	CLAMPING PLATE	B-32133
	$\frac{1}{2}$ -28 \times 5/8		34	HANDWHEEL	A-30408



PAGE 16



SERIES 2000 LATHE
CABINET BASE MODEL

ELECTRICAL DIAGRAM