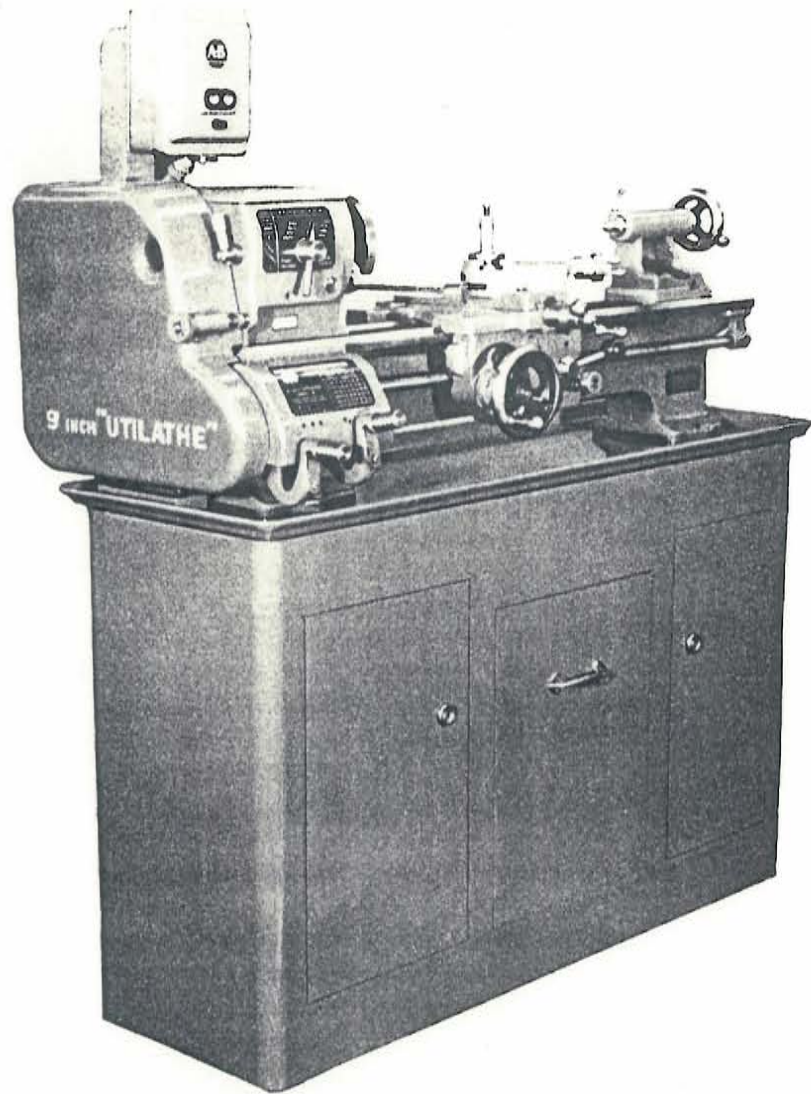
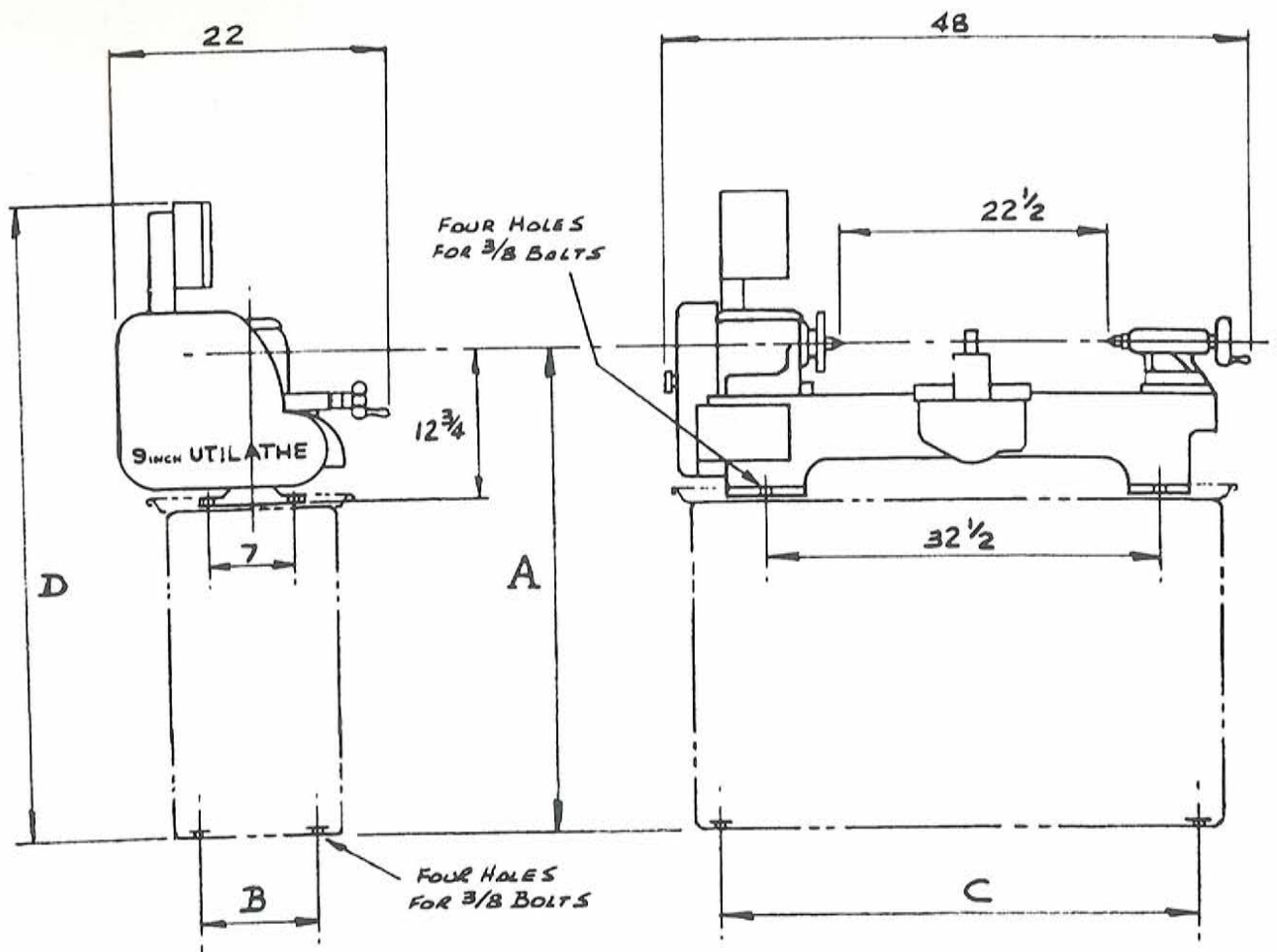


OPERATOR'S HANDBOOK.



9 INCH

UTILATHE



TYPE OF BASE	A Dim.	B Dim.	C Dim.	D Dim.
Sheet Steel Cabinet Base	$41\frac{1}{2}$	$10\text{-}3/4$	$40\text{-}3/4$	54
Cast Iron Base (With Wood Shelf)	41	$13\text{-}3/4$	26	$53\frac{1}{2}$
Cast Iron Legs (With Wood Shelf)	42	16	$36\frac{1}{2}$	$54\frac{1}{2}$

GENERAL SPECIFICATIONS

CAPACITY

swing over bed $9\frac{1}{2}$ " dia.
 swing over cross slide $5\frac{1}{4}$ " dia.
 max. distance between centres $22\frac{1}{2}$ "

HEADSTOCK

number of speeds 8
 range of speeds 50-100-180-250-300-500-
 900-1500 r.p.m.
 spindle nose $1\frac{1}{2}$ " dia. x 8 t.p.i.
 through hole in spindle $13/16$
 spindle nose taper No. 3M
 spindle centre No. 2M

QUICK CHANGE FEED GEAR BOX

No. of thread and feed changes 48
 range of threads 4 to 224
 range of feeds per rev. of spindle
 longitudinal .001 to .060
 cross slide .0003 to .018
 lead screw $3/4$ " dia. x 8 t.p.i.
 motor $1/3$ H.P.
 safety interlock between feed and
 thread controls
 safety shear pin in lead screw
 shipping weight - approx. 400 lbs.
 (without Bed or Legs)

TAIL STOCK

graduated spindle travel - $2\frac{1}{2}$ "

spindle-- $1\text{-}3/16$ " dia. x 6" long
 taper hole in spindle -- No. 2M

Lifting and Installation Instructions

Lifting the Machine:

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

Do not attempt to lift this machine with a hoist having less than half a ton capacity. The shipping weight of the machine including electrics is 300 lbs. plus base or legs.

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.

Cleaning:

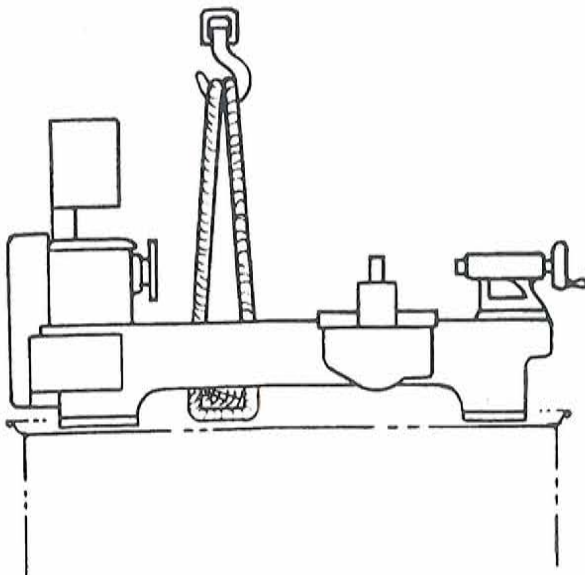
Thoroughly clean anti-rust compound from all unpainted surfaces after the machine is installed, and before moving the carriage, compound rest or tailstock. Use a wiper dipped in Varsol or Kerosene. Unpainted surfaces should be coated with a film of light oil to prevent rust.

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. Ltd. immediately, giving the serial number of the machine which is stamped on the finished face, on the top of the bed at the tailstock end.

Installation:

For proper operation, the machine should be set on a substantial floor capable of supporting the weight safely. To secure the machine in its foundation, use anchor bolts or lag screws. For the size of the base and the location of the bolt holes, see Page One.



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

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.

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.

Oil capacities listed under lubrication instructions are based on British Imperial Measure.

Headstock (Oil Bath)

To service the headstock remove the cover plate and fill the reservoir to the centre of the oil sight gauge.

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

The reservoir capacity of the headstock is one quart.

Approximately every six months, the headstock should be drained and thoroughly flushed out, with a light blending oil to which a small percentage of kerosene has been added.

Run the machine for several minutes 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.

Quick Change Gear Box

Three oilers located at the top of the Gear Box Casting lubricate all bearings and gears.

Fill the three oilers with machine oil at least once per eight hours of operation. Use an S.A.E. #30 oil.

Bed Ways

The Bed Ways on which the carriage and tailstock, etc. slide should be cleaned and oiled frequently.

Apron

The Double Wall construction of the apron encloses all moving parts and forms an oil reservoir in which gears run to provide an even distribution of lubricant.

Service the apron reservoir through the oiler located behind the apron handwheel.

Fill with oil to the top of the oiler using an S.A.E. No. 30 oil. The reservoir capacity of the apron is 1/2 cup.

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-nuts and the handwheel.

Tailstock

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

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

The compound and cross feed screw bearings are lubricated by flush type oilers behind the feed dials. Lift chip guard and apply a small amount of oil to the cross feed screw before using.

Leadscrew Bracket and Leadscrew

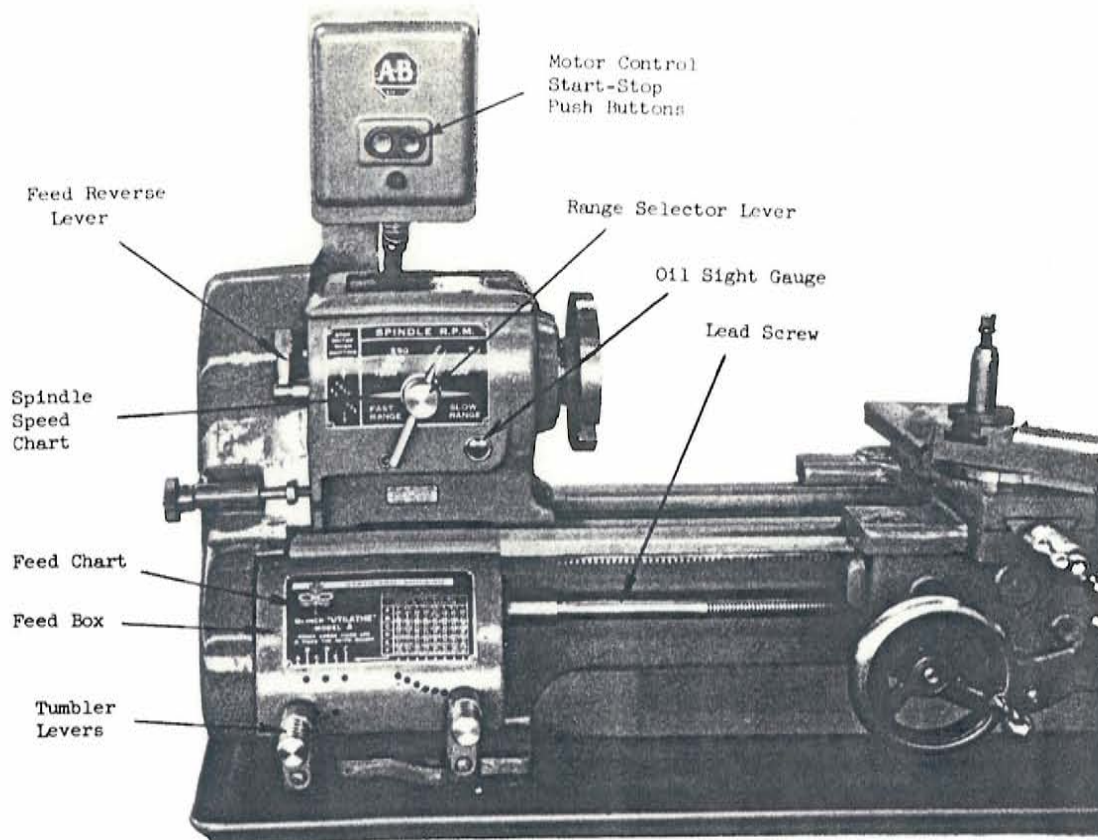
A single oil hole located in front of the end bracket lubricates the leadscrew.

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.



Operating Instructions

Motor Control

The Starter with "Start"- "Stop" Buttons located above Headstock governs the operation of the motor. (See Above).

Spindle Speed Control

Spindle Speeds are selected by first positioning the V-Belt in one of the four steps of the drive pulleys and then shifting the range selector lever (front of headstock - see above) in either fast or slow range.

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

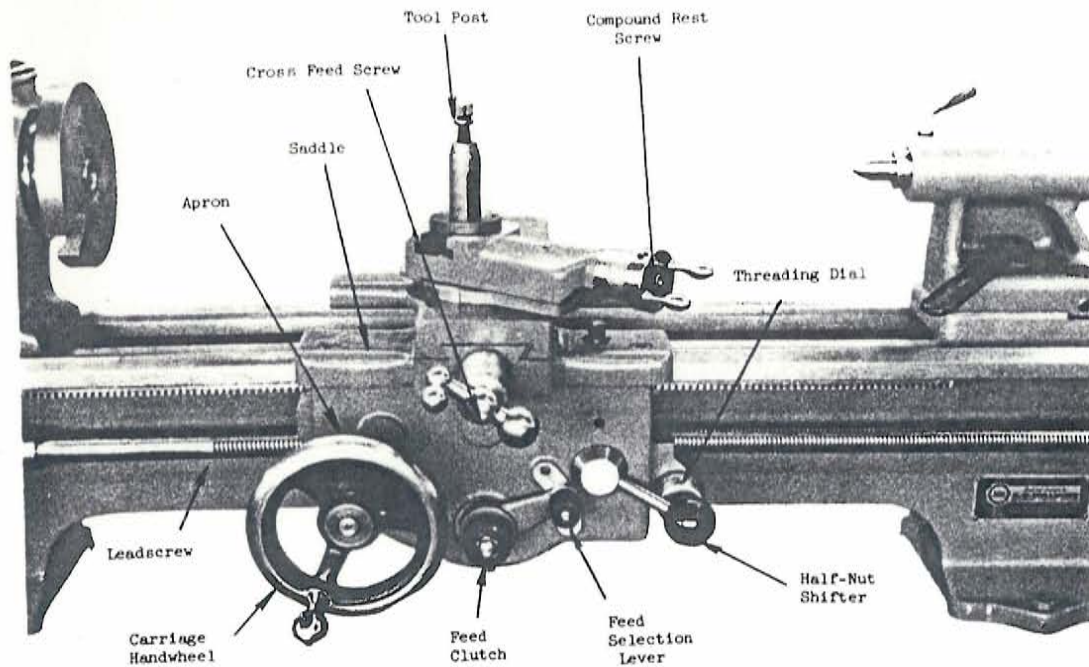
For free hand rotation of the spindle, move the range selector lever to its neutral position.

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

Power Feeds

For longitudinal power feed or cross power feed, arrange the two tumbler levers on the Feed Box to correspond to the desired feed rate as shown on the feed chart. (See above)

Set the "Feed-Reverse" lever located on the left hand side of the headstock, up for R.H. Feed, or down for L.H. feed.



Power Feeds (Cont'd.)

For longitudinal power feed, shift the Feed Selection Lever located on the front centre of the apron "Up."

For cross power feed, shift the lever "Down", which will produce a feed .3 times the rate indicated on Feed Chart (See Page 4).

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

After setting the Feed Selection Lever the power should be clutched in by tightening the Knurled Feed Clutch Knob located in front of the Feed Selection lever.

Do not use Feed Selection Lever for clutching in.

Half Nut Control and Thread Chasing Dial

For cutting screw threads, set the two Tumbler Levers on the Feed Box 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 lead-screw by the Half-Nut Shifter located on the front right 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).

Thread Chasing Dial Instructions (Separate Attach.)

The Dial on the R.H. End 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. $5\text{-}3/4$, $3\text{-}1/4$, T.P.I., engage Half-Nut on the same numbered line each time.

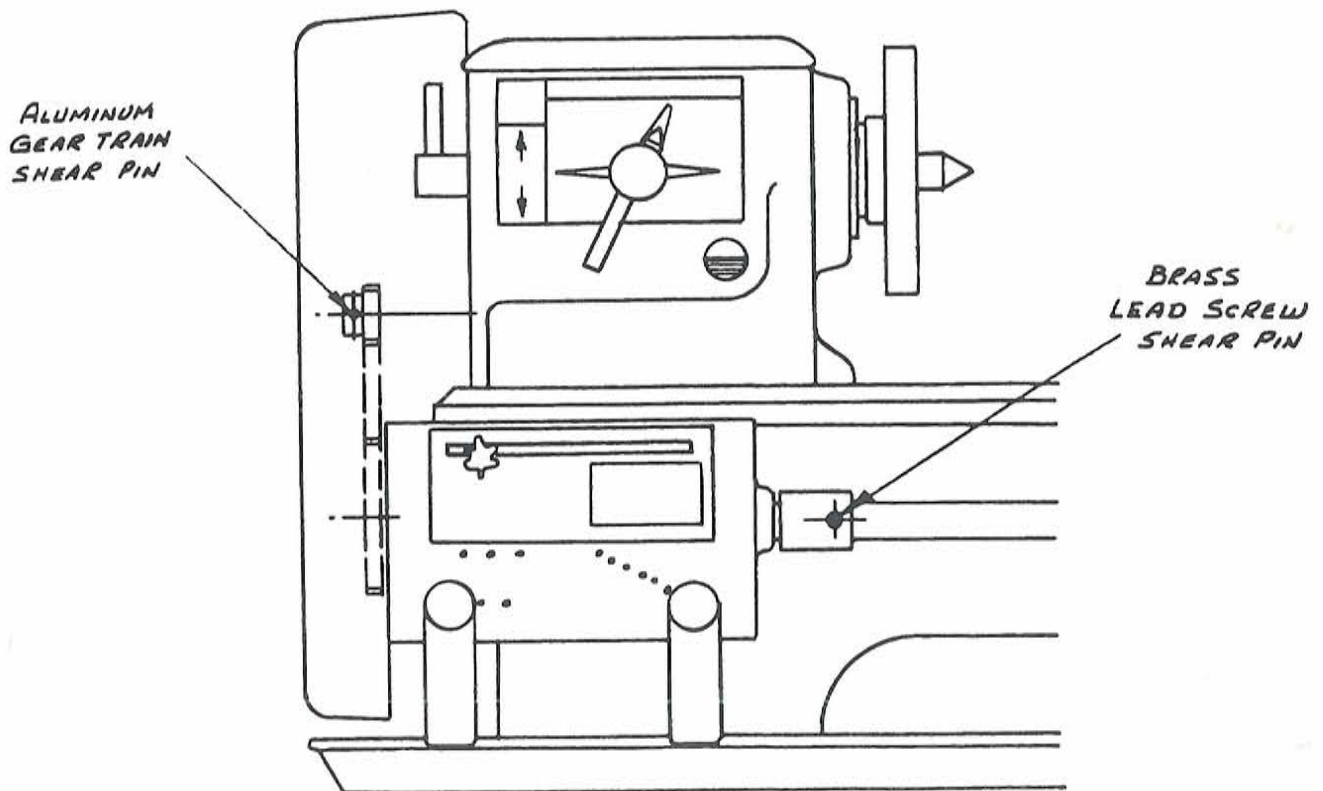
Lead Screw Shear Pin

This brass shear pin is located at the left-hand end of the lead screw 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 aluminum shear pin is located in the feed gear shaft and drives the top gear 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 Truarc Retaining Ring, and then 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.

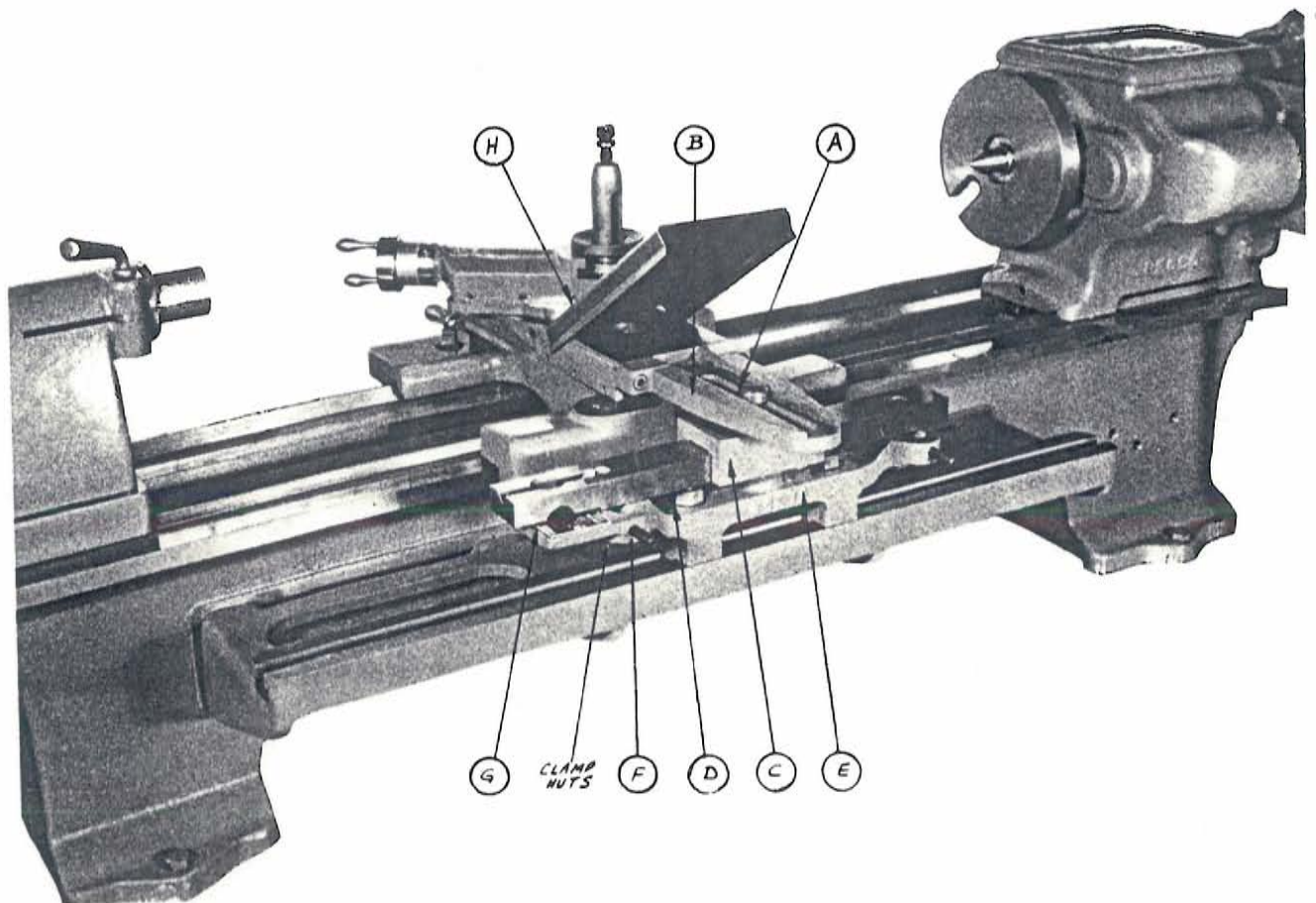


Taper Turning Attachment (for 10" Utilathe)

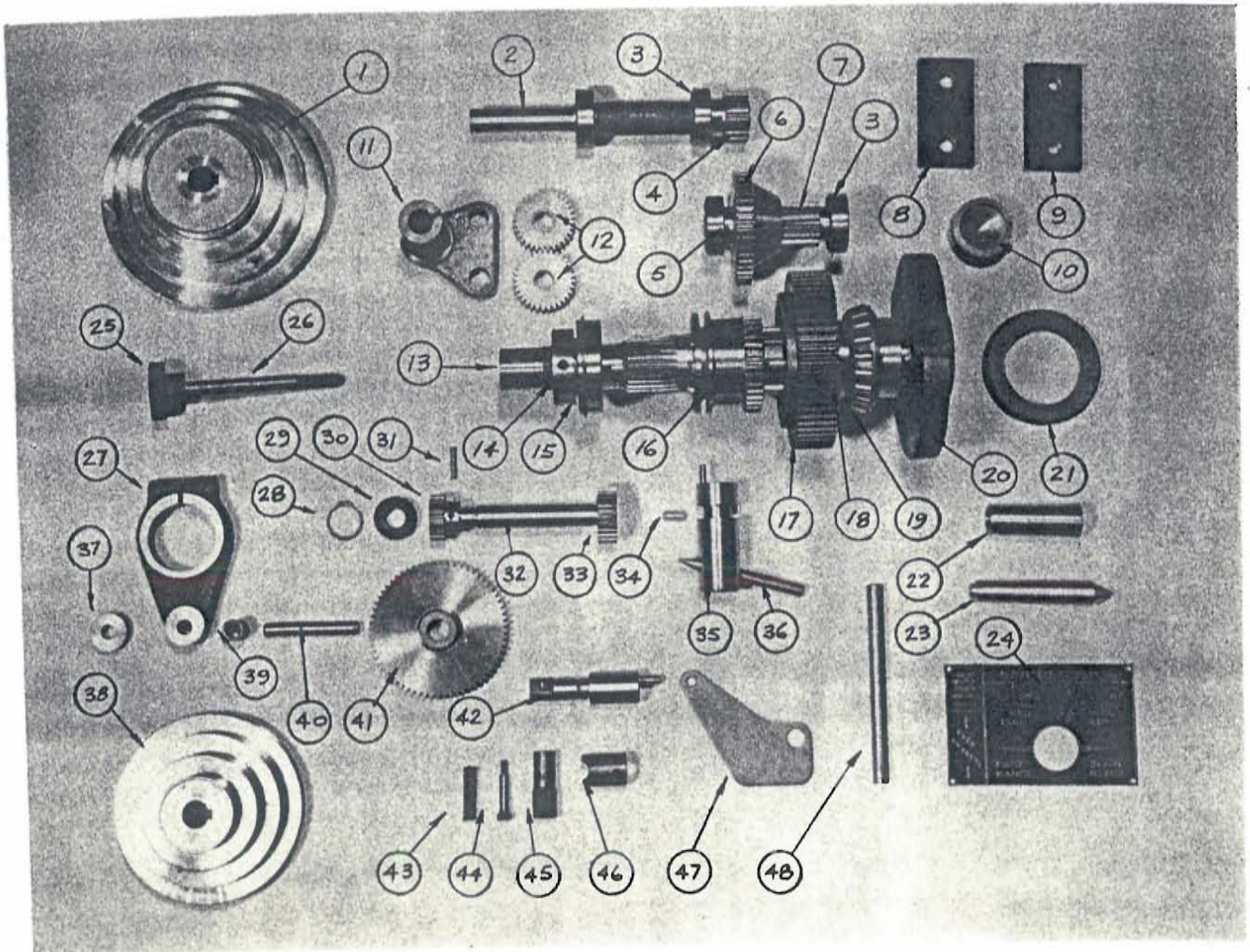
Capacity:- 10" stroke. Taper on dia. 4" per foot, or 20° included angle.

- (a) Remove the Flat Head Screw and Washer (A) which clamp the Cross-Feed Nut. (Be careful to brush away chips and dirt around the Screw before removing).
- (b) The Flat Head Screw and Washer are then inserted through the slot in the extension bracket 'B' and screwed into the slide shoe 'C'.
- (c) 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.
- (d) Slacken the clamp nuts 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.

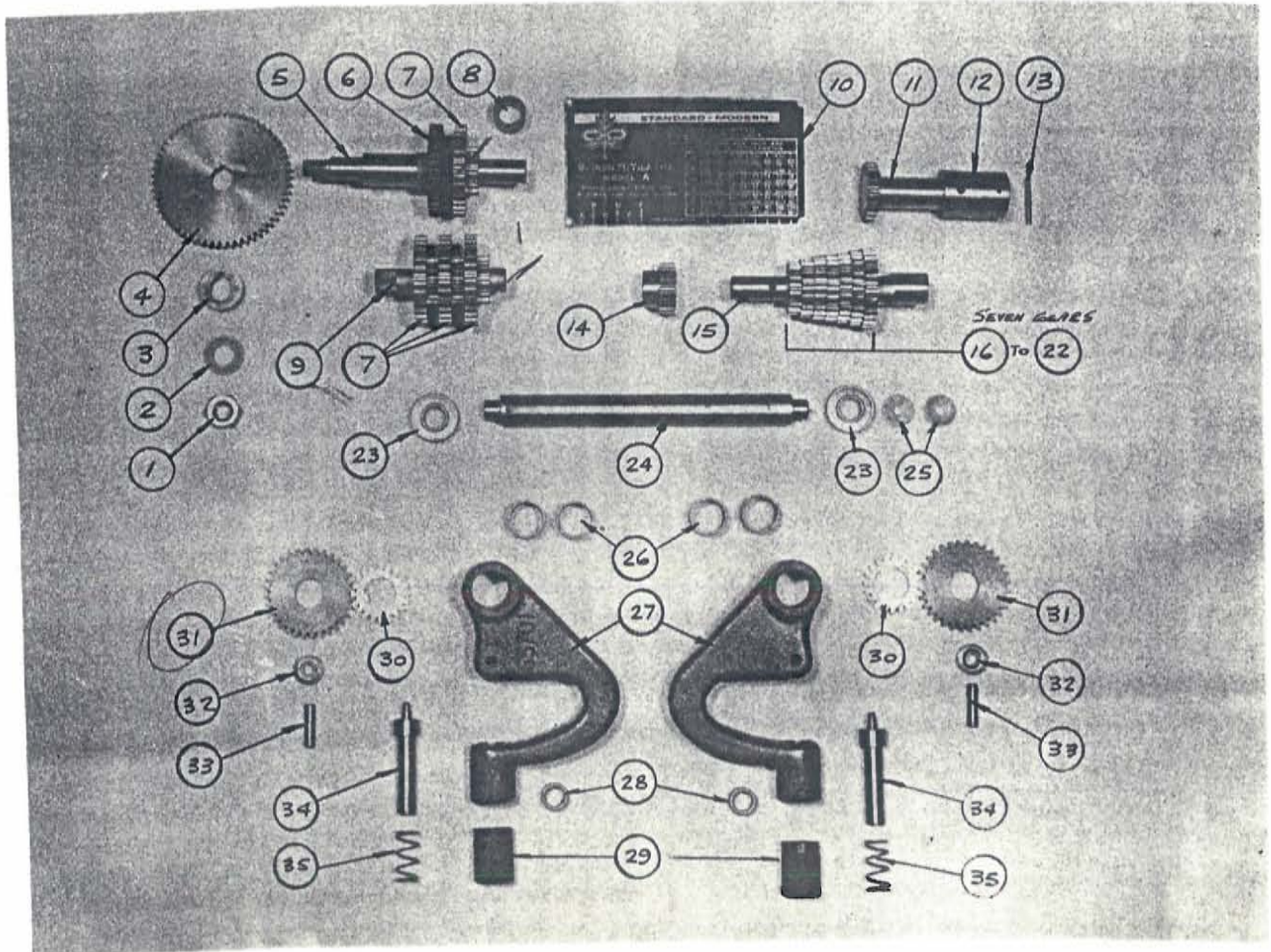
NOTE: Keep the slide bar clean and well oiled. Do not forget to slack off the Flat Head Screw when making new settings of the slide bar. "Replace cover 'H' before operating the machine".



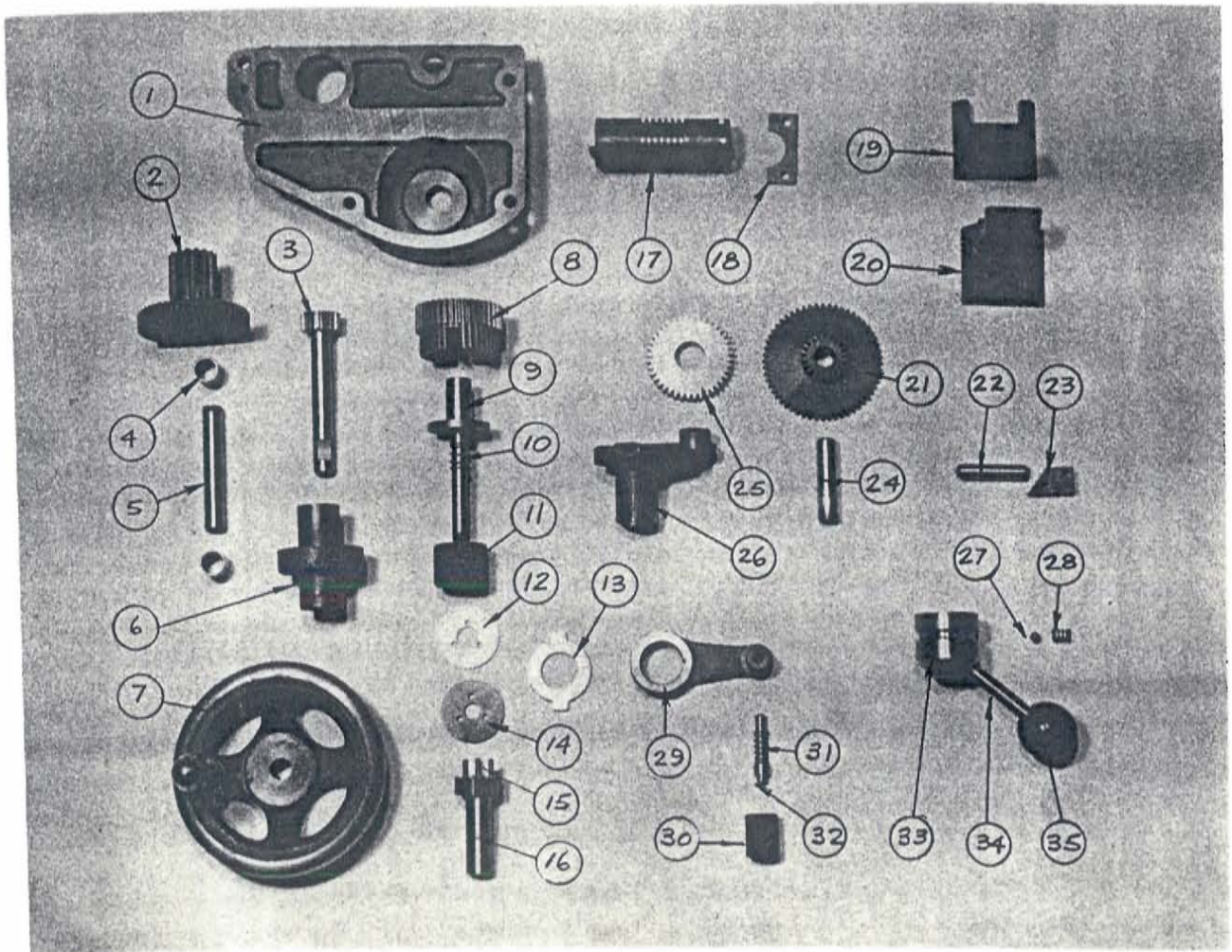
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
NOT SHOWN	HEADSTOCK CASTING	D-65040	23	NO. 2 MORSE CENTRE	A-30545
	BIJUR OIL SIGHT	B-5095	24	SPINDLE R.P.M. NAMEPLATE	B-65692
NOT SHOWN	HEADSTOCK COVER	C-65601	25	KNOB FOR GUARD	A-21120
1	CONGRESS 4-STEP PULLEY	SCA-64	26	CLAMP STUD	B-65695
2	PULLEY SHAFT	B-65076		3/8-16 HEX JAM NUT	
	S.K.F. BEARING	6203-3RS	27	IDLER BRACKET	C-65663
3	S.K.F. BEARING (3 REQ'D.)	6203		5/16-18 x 1-3/4 HEX HEAD SCREW	
4	20 ^T GEAR	B-65677	28	TRUARC RING	#5100-87
	ROLLPIN #59-040-187-1000		29	BURTONWOOD OIL SEAL	#062-112
5	SPACER	B-65674	30	SHEAR PIN GEAR	B-65689
6	48 ^T GEAR	B-65673	31	SHEAR PIN	B-65690
	NO.8 WOODRUFF KEY		32	FEED SHAFT	B-65684
7	15 ^T PINION SHAFT	B-65672	33	28 ^T FEED GEAR	B-65685
8	REAR CLAMP PLATE	B-65683	34	5/16-18 VLER BALL PLUNGER	#BL-56-N
9	FRONT CLAMP PLATE	65699	35	SPEED SELECTOR	B-65678
10	BEARING RETAINER	B-65675		3/16 DIA. x 1 HARD DOWEL	
11	TUMBLER BRACKET	C-65662		1/8 DIA. x 1 GROOVE PIN	
12	32 ^T TUMBLER GEAR (2 REQ'D.)	B-65686	36	HANDLE	B-65679
	1/2 x 1-1/2 HARD DOWEL		37	RETAINING COLLAR	B-65691
	1/2 x 1-1/4 HARD DOWEL		38	CONGRESS 4-STEP MOTOR PULLEY	SCA-54
	OILITE BEARING #AA-628-10(2 REQ'D)		39	BRONZE BEARING	#B-69-7
13	MAIN SPINDLE	C-65667	40	3/8 DIA. x 2 1/2 HARD DOWEL	
14	SPINDLE ADJ. NUT	B-65668	41	FEED IDLER GEAR	B-65665
	BRASS PAD	A-30564	42	FEED REVERSE SELECTOR	B-65680
	1/4-28 x 1/4 HOLLOW SET SCREW			1/4 DIA. x 1 HARD DOWEL	
15	NEW DEPARTURE BALL BEARING	#499506	43	SPRING	A-30455
16	40 ^T SPINDLE GEAR	B-65671	44	1-20 x 1 1/2 SHOULDER SCREW	
17	BULL GEAR	B-65664	45	HANDLE	B-65681
18	SPACER	B-65670	46	LOCATING SLEEVE	B-65698
19	TIMKEN NO. 3 PREC. BEARING		47	TUMBLER PLATE	B-65687
	CONE #12175 CUP #12303		48	RETAINING ROD	B-65688
20	DOG PLATE	B-65666		1/4 HOLLOW PIPE PLUG (3-REQ'D)	
21	SPINDLE CAP	B-65669	NOT SHOWN	BELT GUARD	D-65694
22	SPINDLE SLEEVE	B-65693		STANLEY BUTT HINGE 3 1/2	#241



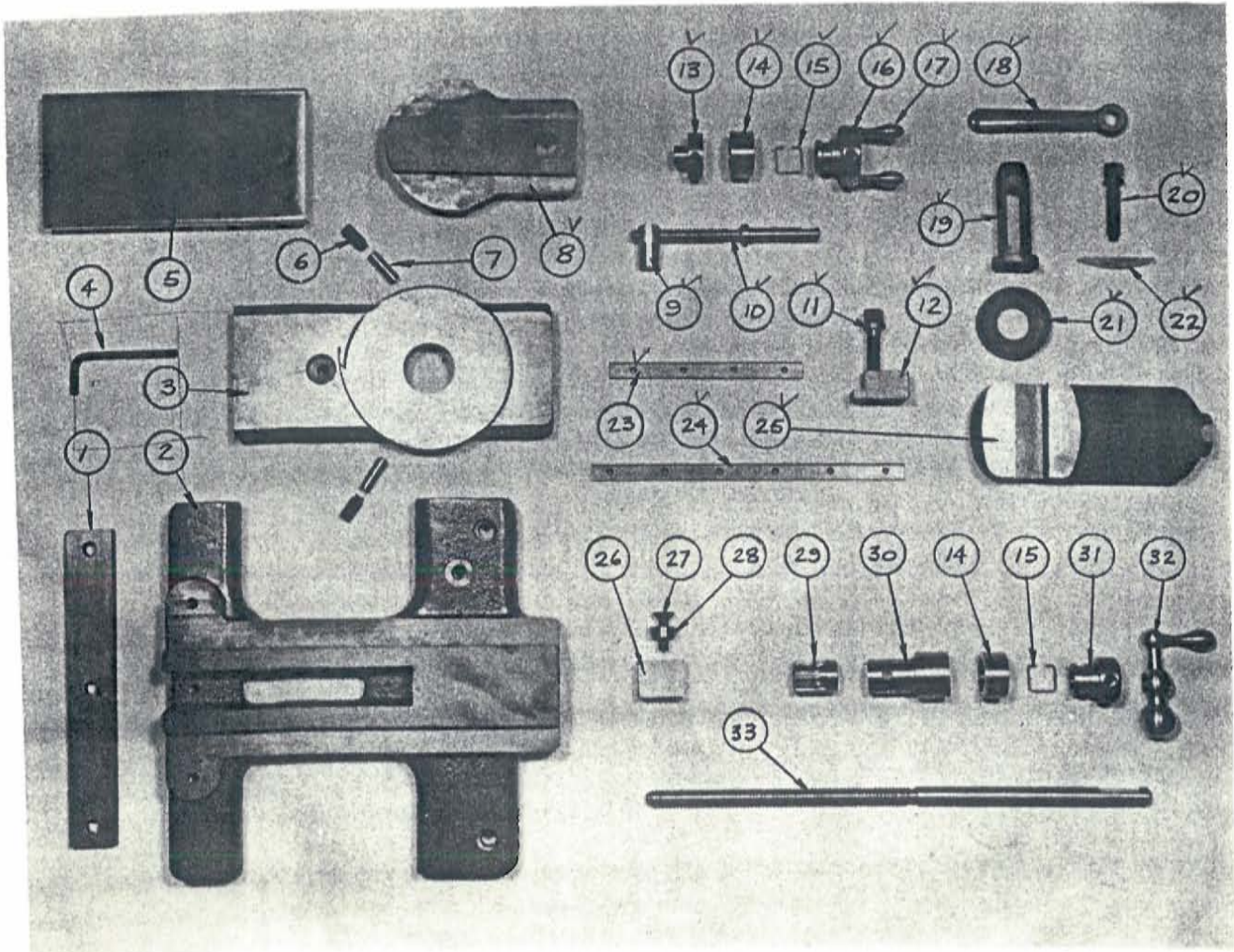
ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
NOT SHOWN	FEEDBOX CASTING	D-65700	18	22 ^T CLUSTER GEAR	B-65715
	GITS OILER	#GB-522	19	23 ^T CLUSTER GEAR	B-65716
1	7/16 - 14 HEX. NUT		20	24 ^T CLUSTER GEAR	B-65717
2	7/16 S.A.E. FLAT WASHER		21	26 ^T CLUSTER GEAR	B-65718
3	KEYED SPACER	B-65723	22	28 ^T CLUSTER GEAR	B-65719
4	56 ^T INPUT GEAR	B-65702	23	NICE BEARING (2-REQ'D)	1616-DS
	NO. 7 WOODRUFF KEY		24	TUMBLER SHAFT	B-65705
5	INPUT SHAFT	B-65703	25	RETAINING WASHERS (2 REQ'D)	B-65728
6	32 ^T - 16 ^T GEAR ASSEMBLY	B-65711		#10-32 x 3/4 FILL. HD. CAP SCREW	
	5/32 x 7/8 GROOVE PIN (SAE-6150)(2-REQ'D)	B-65712	26	BRONZE BEARING (4-REQ'D)	#P75-5
7	32 ^T - 16 ^T GEAR ASSEMBLY (4-REQ'D)	B-65712	27	TUMBLER BRACKET (2-REQ'D)	C-65701
8	BRONZE BEARING	#B912-6	28	BRONZE BEARING (2 REQ'D)	#AA-627-5
9	SHORT INTERMED. SHAFT	B-65767	29	TUMBLER HANDLE (2 REQ'D)	B-65724
10	FEED CHART	B-65726		1/2-20 x 3/4 SOCK. HD. SCREW (2 REQ'D)	
11	OUTPUT SHAFT & GEAR	B-65706	30	20 ^T TUMBLER GEAR (2-REQ'D)	B-65721
	ROLLPIN #59-040-187-1.125		31	32 ^T TUMBLER GEAR (2-REQ'D)	B-65720
12	LEADSCREW COUPLING	B-65707	32	NICE BEARING (2-REQ'D)	#1602DS
13	BRASS SHEAR PIN	B-65727	33	1/4 x 1 HARD DOWEL (2 REQ'D)	
14	16 ^T CLUSTER PINION GEAR	B-65710	34	TUMBLER PLUNGERS (2-REQ'D)	B-65739
15	LONG INTERMEDIATE SHAFT	B-65704	35	SPRING (2-REQ'D)	B-65725
16	18 ^T CLUSTER GEAR	B-65713			
17	20 ^T CLUSTER GEAR	B-65714			



ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	WORM HOUSING	D-65771	19	UPPER HALF NUT	C-65772
	APRON CASTING (NOT SHOWN)	D-65770	20	LOWER HALF NUT	
2	GITS OIL CUP #1207			1/4 x 1 HARD DOWEL (2-REQ'D)	
3	RACK PINION & GEAR	B-65780	21	CROSS FEED GEAR	B-65783
4	PINION SHAFT	B-65781	22	INTERLOCK PIN	B-65796
5	BRONZE BEARING (2-REQ'D)	#B-810-6	23	INTERLOCK CAM	B-65797
6	1/2 x 3 HARD DOWEL		24	1/2 x 2 HARD DOWEL	
	FLANGED BEARING	B-65774	25	40 th IDLER GEAR	B-65782
7	GITS OILER #GB-522		26	TUMBLER	B-65775
8	BALCRANK HANDWHEEL	B-65773		NO. 3 WOODRUFF KEY	
9	WORM WHEEL (CLUTCH DRIVE)	B-65777		(STOPS) ROLLPIN #59-040-187-0750 (2-REQ'D)	
10	CLUTCH PLATE AND ROD	B-65789	27	1/4 DIA. STEEL BALL	
11	CLUTCH RELEASE SPRING	B-65790	28	SPRING	A-30454
	CLUTCH CONTROL KNOB	B-65791		5/16-18 x 1/4 HOLLOW SET SCREW	
12	3/8-24 HUGLOCK NUT		29	TUMBLER HANDLE	B-65776
13	CLUTCH PLATE WASHERS (2-REQ'D)	B-65794	30	INDEX HANDLE	B-65793
14	CLUTCH PLATE DRIVERS (3 REQ'D)	B-65786	31	SPRING FOR INDEX	A-23064
15	CLUTCH PLATE (INNER)	B-65785	32	INDEX PLUNGER	B-65792
16	1/8 x 1 HARD DOWEL (3 REQ'D)		33	HALF NUT ACTUATOR	B-65795
17	20 ^T SLEEVE GEAR	B-65784	34	HANDLE	A-30636
	FEED WORM	B-65799	35	DIMCO NO. 95 BLACK BAKELITE KNOB	
18	3/16 SQ. KEY x 3 1/2 LONG.			WITH 3/8 - 24 INSERT.	
	THRUST WASHER	B-65800			



ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	SADDLE GIB	B-65764	18	WILLIAMS BOX WRENCH	#583
2	SADDLE CASTING	D-65741	19	TOOL POST	B-65760
3	CROSS SLIDE	C-65742	20	3/8-16 x 1 1/2 TOOL POST SCREW	
4	3/16 ALLEN KEY		21	TOOL POST RING	B-65762
5	COVER FOR CROSS SLIDE	B-65754	22	TOOL POST WEDGE	B-65763
6	3/8-16 x 3/4 HOLLOW SET SCREW		23	GIB FOR COMPOUND SLIDE	B-65766
7	HALF DOG POINT (2 REQ'D)	B-65755	24	GIB FOR CROSS SLIDE	B-65765
8	CLAMPING PINS (2 REQ'D)	C-65743	25	COMPOUND SLIDE	C-65744
9	SWIVEL BASE	B-65757	26	NUT FOR CROSS SLIDE	B-65749
10	NUT FOR COMPOUND SLIDE	B-65756	27	5/16-18 x 1 FLAT HEAD SOCK. CAP SCREW	A-65642
11	COMPOUND SCREW	B-65753	28	COUNTERSUNK WASHER	B-65746
12	3/8-16 x 1 1/2 SQ.HD.COLLAR CAP SCREW	B-65758	29	16 ^T PINTON	
13	SADDLE CLAMP	B-65751	30	ROLL PIN #59-028-125-0.875	
14	HEARING	B-65752	31	HEARING SLEEVE	B-65748
15	GRADUATED DIAL (2 REQ'D)	B-65759	32	GITS OILER #521 (2 REQ'D)	
16	MARCEL SPRING (2 REQ'D)		33	DIAL HUB	B-65747
17	DIAL HUB			BALANCED CRANK	B-65750
	BALCRANK HANDLE #H-3301 (2 REQ'D)			SCREW FOR CROSS SLIDE	B-65745



ITEM	NAME	PART NO.	ITEM	NAME	PART NO.
1	KEY WASHER 5/16 x 3/4 x 1/8		13	BASE CASTING	C-65647
2	BALCRANK HANDLE	B-65652	14	CLAMP BOLT & PLATE	B-65654
3	STUD 5/16-18 x 2		15	7/16-14 x 4 STUD.	
4	SPINDLE	B-65650	16	7/16 S.A.E. FLAT WASHER	
5	SPINDLE SCREW	B-65651	17	7/16-14 HEAVY HEX. NUT	101537
6	DIPSTICK	A-30403	18	S.K.F. BEARING	#6200-2Z
7	WRENCH (WILLIAMS)	#804A	19	TRUARC RING #5008-118 (2-REQ'D)	
8	NO. 2 M. CENTRE	A-30545	20	BALCRANK HANDWHEEL	B-65648
9	3/8-16 x 1 1/2 HOLLOW SET SCREW (2	REQ'D)		5/16-18 x 3/8 HOLLOW SET SCREW	
10	1/2-13 x 3/4 SOCK.HD. CAP SCREW			CLAMPING PLATE	B-65649
11	1/2" LOCK WASHER			3/8 HARDENED WASHER	
12	TAILSTOCK CASTING	D-65646			
	GITS OILER #GB-522				

