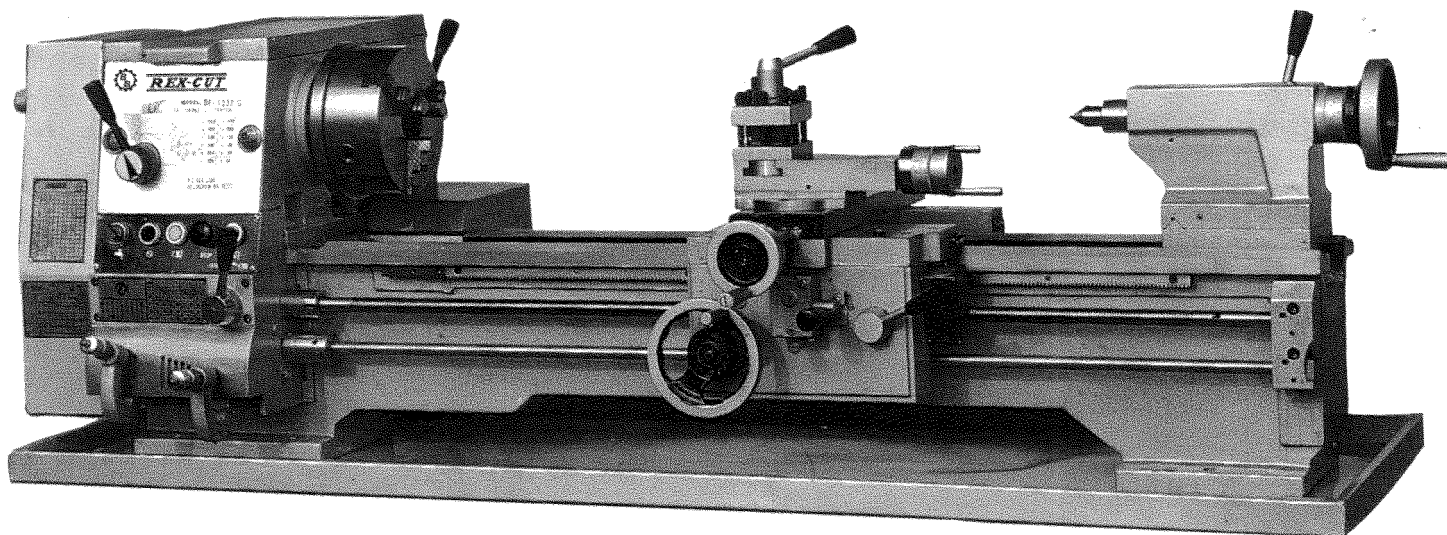


# ***REX-CUT***

## **INSTRUCTION AND SPARE PARTS MANUAL**

### ***BENCH LATHE***

***1224G***  
***DF- 1237G***  
***1240G***  
***1340G***



# BENCH LATHE: DF-1224G DF-1240G 1237G 1340G

SPECIFICATION:	INCH				METRIC			
Model:	1224 G	1237 G	1240 G	1340 G	1224 G	1237 G	1240 G	1340 G
Swing over bed	12"	12"	13"	13"	305	305	330	330
Swing over saddle	6"	6"	6½"	6½"	152	152	165	165
Distance between centers	24"	36"	30"	40"	609	915	750	1000
Width of bed	7-3/16"	7-3/16"	7-3/8"	7-3/8"	183	183	187	187
Spindle bore	1-9/16"	1-9/16"	1-9/16"	1-9/16"	40	40	40	40
Taper of spindle nose bush	M. T. 5				M. T. 5			
Taper of tailstock barrel	M. T. 3				M. T. 3			
Travel of cross slide	6"	6"	6½"	6½"	152	152	165	165
Travel of top slide	3"	3"	3¼"	3¼"	76	76	89	89
Travel of tailstock barrel	4"	4"	4"	4"	100	100	100	100
Number of spindle speeds	12				12			
Range of spindles speeds	60 – 1300 R.P.M.				60 – 1300 R.P.M.			
Number of metric pitches	23				23			
Range of metric pitches	0.25 – 7.5 MM				0.25 – 7.5 MM			
Number of inch threads	40				40			
Range of inch threads	4 – 112 T.P.I.				4 – 112 T.P.I.			
Lead screw diameter & pitches	¾"x8 T.P.I.		7/8"x8 T.P.I.		19mmxM3		22mmxM3	
Motor horse power	1 HP or 1½ HP		1½ HP or 2 HP		0.75 K.W. – 1.0 K.W.		1.0 K.W. – 1.5 K.W.	
Net weight	280 kgs	300 kgs	295 kgs	320 kgs	280 kgs	300 kgs	295 kgs	320 kgs
Measurement (without stand) 1 set/case	56"x30"x28"	68"x30"x28"	62"x30"x28"	72"x30"x28"	56"x30"x28"	68"x30"x28"	62"x30"x28"	72"x30"x28"
Measurement (without stand) 2 set/case	70"x37"x28"	84"x37"x28"	75"x37"x28"	89"x37"x28"	70"x37"x28"	84"x37"x28"	75"x37"x28"	89"x37"x28"
Measurement (with stand) 1 set/case	56"x30"x55"	68"x30"x55"	62"x30"x55"	72"x30"x55"	56"x30"x55"	68"x30"x55"	62"x30"x55"	72"x30"x55"

This manual applies only to the machine having the serial number shown and must be quoted in all communication.

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## SERVICING & MAINTENANCE

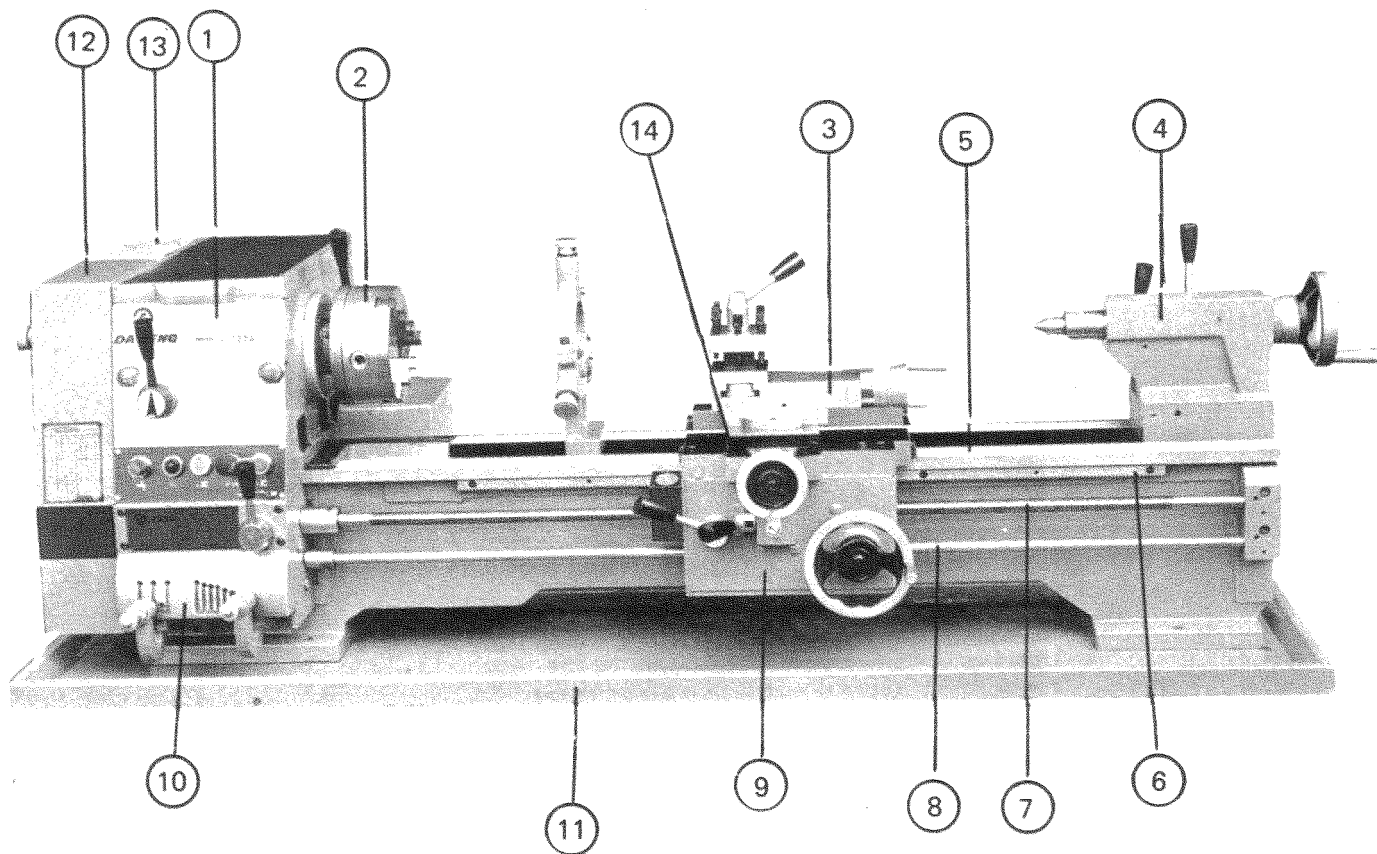
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# GENERALLAYOUT OF LATHE

1. Headstock
2. Spindle
3. Topslide
4. Tailstock
5. Bed
6. Rack
7. Leadscrew

8. Feed Shaft
9. Apron
10. Gear Box
11. Chip Pan
12. End Cover
13. Electrical Box
14. Saddle And Cross-Slide



## LIFTING

Use the bed as in Fig. 1 Clamping hook and eyebolts to sling the lathe position the saddle and tailstock along the bed to obtain balance.

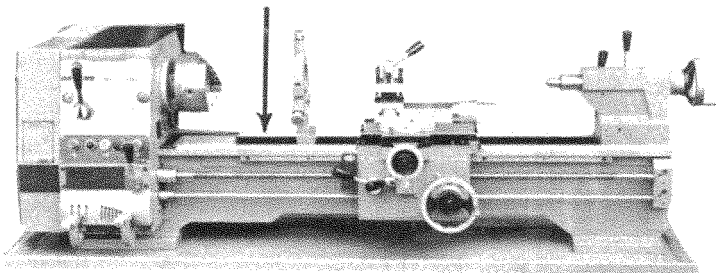
**IMPORTANT:** DO NOT USE SLINGS AROUND BED AS LEAD-SCREW AND FEED SHAFT MAY BE BENT.

## CLEANING

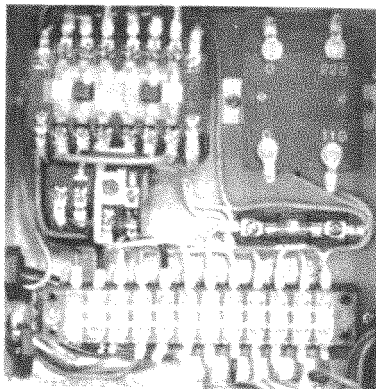
Before operating any controls, remove the anti-corrosion coating from all slideways and everywhere.

Using white spirit or Kerosene, but do not use cellulose solvents for cleaning as they will damage the paint finish.

Oil all bright machined surfaces immediately after cleaning, use heavy oil or grease on the end gears.



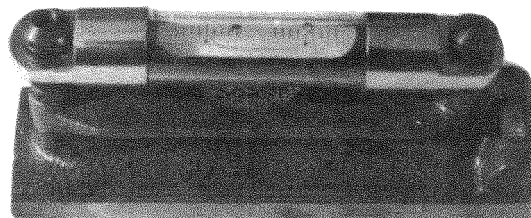
(Fig. 1)



(Fig. 2)

## ELECTRIC SUPPLY CONNECTION

Input wire should be connected to mains terminals of the isolator switch on the electrical panel at back of the bed, side the headstock, see Fig. 2

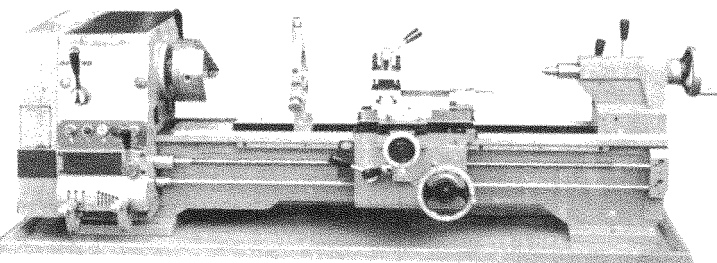


## INSTALLING

Locate the machine on a solid foundation, the lathe may be use free-standing or bolted to the foundation.

Free-standing: Position lathe on foundation and adjust each of the four mounting feet to take equal share of the load. Then using an engineers' precision level on the bedways as in Fig. 3 adjust the feet to level up machine. Periodically check bed level to ensure continued lathe accuracy.

If to fixed installation, must position lathe over four bolts set into the foundation to correspond with hole in the mounting feet; dimensions are shown on foundation plan, accurately level the machine then tighten hold-down bolts. Re-check bed level.



(Fig. 3).

## LUBRICATION

Ensure headstock is filled with Shell Tellus Oil 27, that gearbox is filled to correct level of sight window also with Tellus Oil 27 and apron reservoir filled to level of sight window with Shell Tonna 33 lubricant. Oil compound slide and tailstock through oilers furnished.

## CAUTION

- DO NOT change gears while spindle is turning.
- DO NOT change feeds in higher speed range.
- DO NOT change direction of feed while spindle is turning.
- DO NOT reverse motor direction while running.
- DO lubricate your machine.
- DO clean your machine.
- DO disconnect main power source before changing chucks or performing any maintenance on machine.

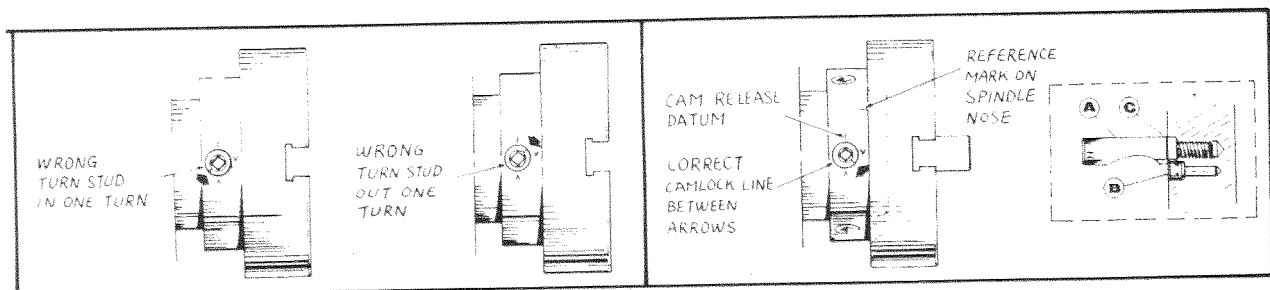
## CHUCKS AND CHUCK MOUNTING (Fig. 4)

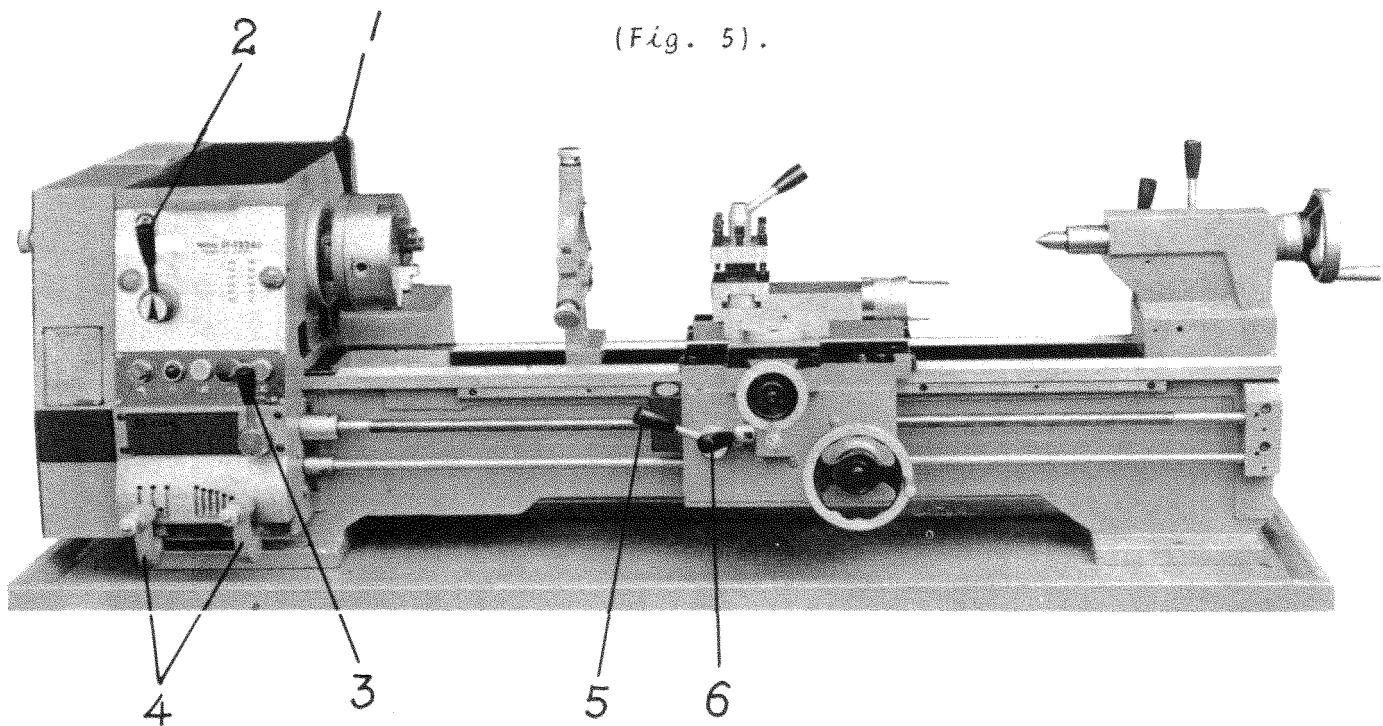
When fitting chucks or faceplates first ensure that spindle and chuck tapers are perfectly clean and that all cams lock in the correct position see Fig. 4 It may be necessary when mounting a new chuck to re-set the camlock studs (A). To do this, remove the cap-head locking screws (B) and set each stud so that the scribed ring (C) is flush with the rear face of the chuck-with the slot lining up with the locking screw hole.

Now mount the chuck or faceplate on the spindle nose and tighten the six cams in turn. When fully tightened, the cam lock line on each cam should be between the two V marks on the spindle nose.

If any of the cams do not tighten fully within these limit marks, remove the chuck or faceplate and re-adjust the stud as indicated in the illustration. Fit and tighten the locking screw (B) at each stud before remounting the chuck for work. A reference mark should be made on each correctly fitted chuck or faceplate to coincide with the reference mark scribed on the spindle nose.

This will assist subsequent remounting. DO NOT INTERCHANGE CHUCKS OR FACE PLATES BETWEEN LATHES WITHOUT CHECKING FOR CORRECT CAM LOCKING.



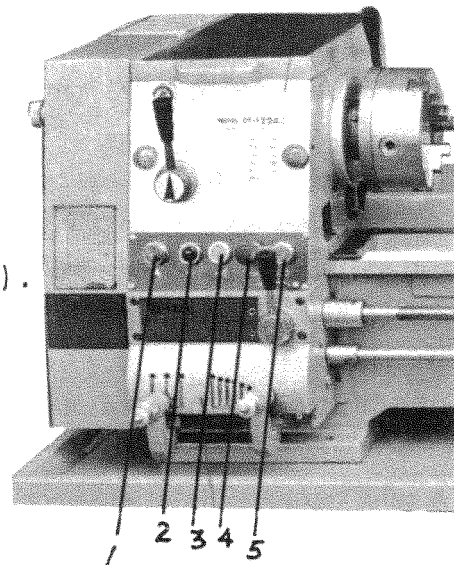


(Fig. 5).

### LATHE CONTROL (Fig. 5)

1. Control V-Belt Lever
2. Carriage Direction Select Knob
3. Lead Screw or Feed Change Lever
4. Gearbox Rotating Speed Change Lever
5. Thread Cutting Half-Nut Lever
6. Automatic Feed Lever

(Fig. 6).



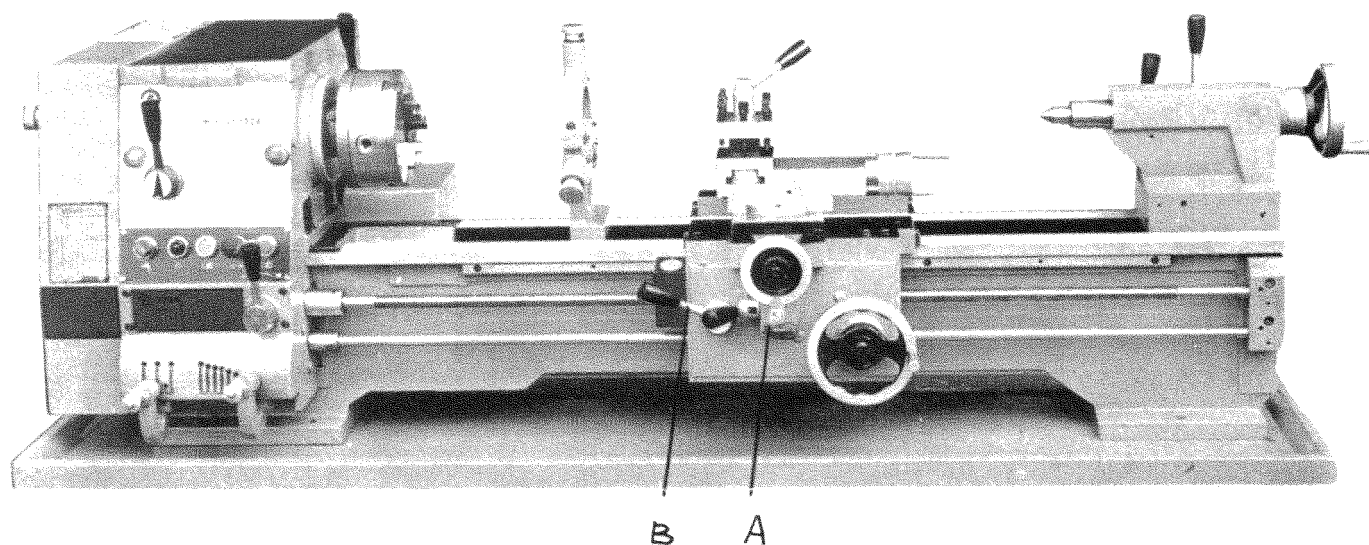
### ELECTRICAL CONTROL (Fig. 6)

With the exception of the lathe isolator, all electrical controls are fitting into the front face of the headstock:

1. Coolant pump ON/OFF switch
2. The indicator lamp glows while the electrical power is on
3. Spindle forward rotation switch
4. Emergency stop
5. Spindle reverse rotation switch

### SPINDLE SPEEDS

The 12 spindle speeds are obtained by selecting the V-Belt position on the pulley space and rear axle gear,



(Fig.7)

#### APRON CONTROLS (Fig.7)

In addition to handwheel traverse, the carriage can be power-operated through controls on the front of the apron lever (A) is moved up for sliding feed and down for surfacing feed.

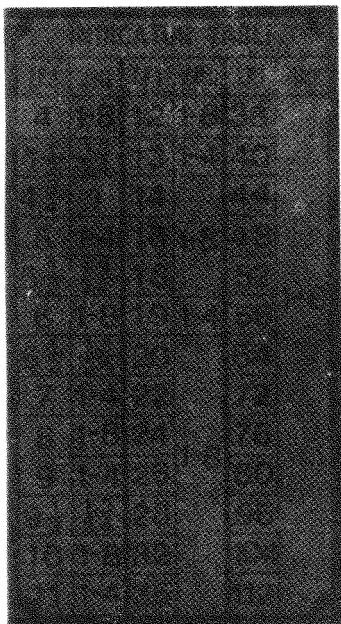
The direction of the carriage traverse is selected from the headstock. The half-nut lever (B) is pressed down ward to engage the leadscrew for screwcutting. To avoid undue wear, use the half-nut lever only when screwcutting. An interlock within the apron prevents inadvertent engagement of lever (B) at the same time.

#### CROSS-SLIDE AND TOP SLIDE (Fig. 7)

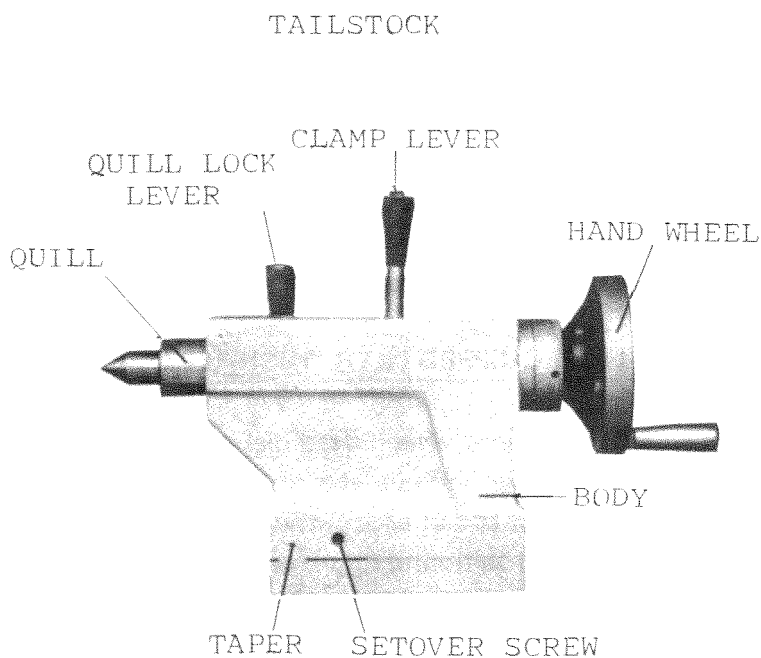
A solid topslide is fitted as standard to the cross-slide, carried on a rotatable base which is marked 0-90-0-90 degrees for accurate indexing. Handwheel dials are graduated in inch or metric divisions to suit the operation screw and nut fitted.



## THREADING DIAL INDICATOR (Fig. 8)



(Fig. 8)



(Fig. 9)

### TAILSTOCK (Fig. 9)

The tailstock slides along the bedways and may be anchored in any position by moving the clamp lever.

To slide the quill rotate the tailstock handwheel.

The quill can be locked by the quill lock lever.

For small tapers, The tailstock can be set over by loosening the clamp lever and adjusting the SET OVER SCREWS on the front of and the rear of the tailstock.

### TAPER ATTACHMENT

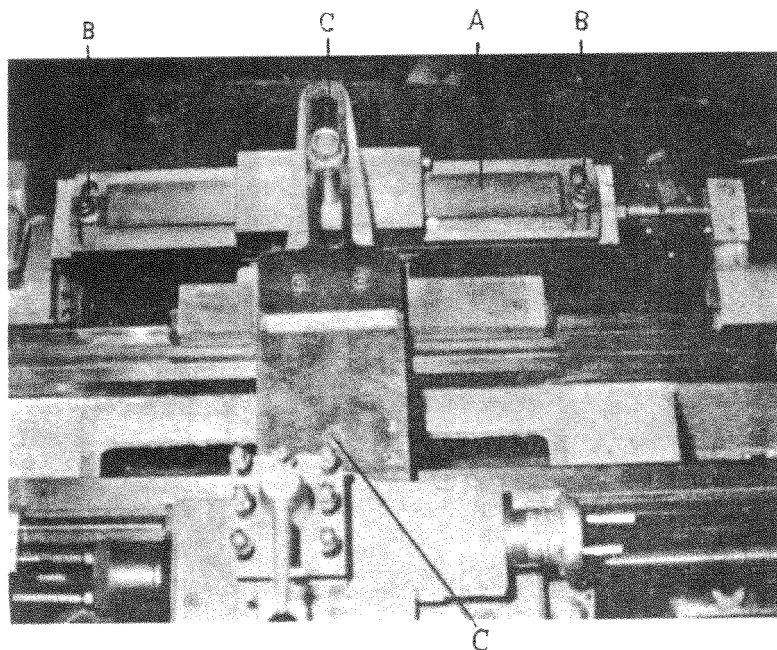
(Fig. 10)

For taper turning guide (A) is set to the required angle and the nuts (B) are tightened so the guide is clamped securely.

The screw (C) holding the cross feed screw nut is removed so as to give the cross slide free movement.

Swivel the compound to  $90^\circ$  so it is perpendicular to the work.

The compound is used for depths of cut.



(Fig. 10)



### END GEAR TRAIN (Fig. 11, 12).

#### TO CUT METRIC THREAD:

The chart shows four groups of gear arrangements by letters W, X, Y, & Z.

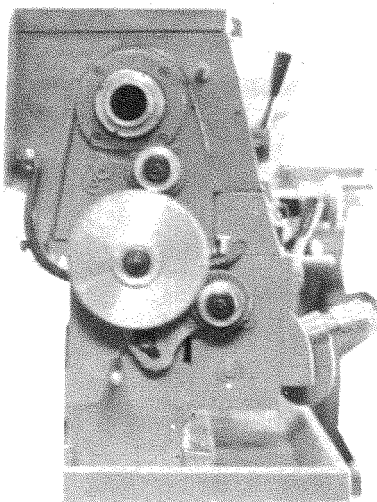
Mount the gears in the order shown for the desired metric threads. Maintain proper backlash in the meshing of gears.

#### FOR LATHES EQUIPPED WITH "INCH" LEADSCREW:

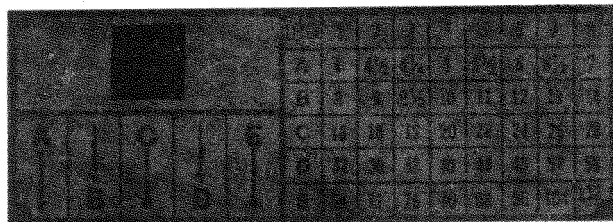
- Engage half-nut lever when thread dial indicator is in any position.
- DO NOT disengage half-nut lever or any other part of gear train until thread is completed.
- Use foot brake at end of each cutting pass to stop the machine.
- Reverse spindle rotation to return carriage for the start of the next cutting pass.

#### FOR LATHES EQUIPPED WITH "METRIC" LEADSCREW:

- Engage half-nut lever when thread dial indicator points to any full number.
- Disengage half-nut lever at end of each cutting pass.
- Re-engage half-nut lever at EXACTLY the same number on the thread dial indicator until thread is completed.



(Fig 11).



(Fig. 12)

# WIRING DIAGRAM

AC 220V CONTROL CIRCUIT DIAGRAM

