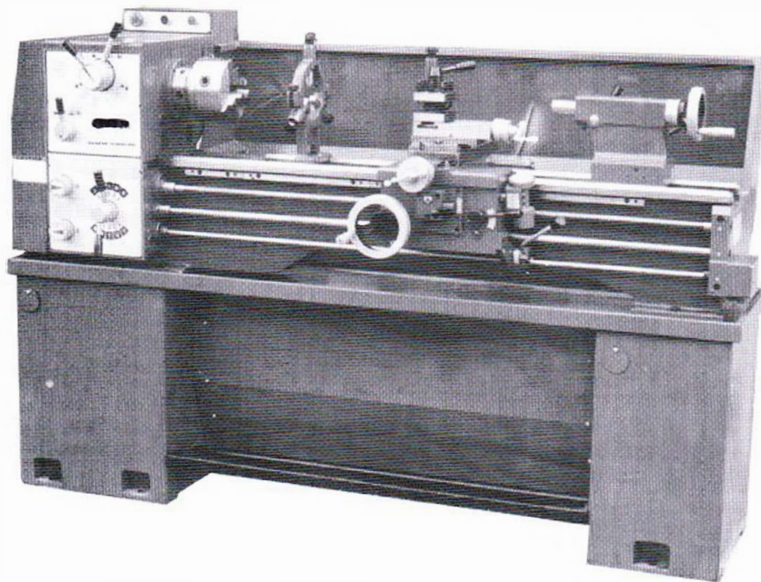


**GH-1322 LATHE**

# **OPERATOR'S MANUAL**



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## GENERAL SAFETY RULES FOR POWER TOOLS

WARNING-DO NOT ATTEMPT TO OPERATE UNTIL YOU HAVE READ THOROUGHLY AND UNDERSTAND COMPLETELY ALL INSTRUCTIONS, RULES, ECT. CONTAINED IN THIS MANUAL. FAILURE TO COMPLY CAN RESULT IN ACCIDENTS INVOLVING FIRE, ELECTRIC SHOCK, OR SERIOUS PERSONAL INJURY. MAINTAIN OWNERS MANUAL AND REVIEW FREQUENTLY FOR CONTINUING SAFE OPERATION, AND INSTRUCTING POSSIBLE THIRD-PART USER.

### READ ALL INSTRUCTIONS

#### 1. KNOW YOUR POWER TOOL.

For your own safety, read the owner's manual carefully. Learn its application and limitations as well as the specific potential hazards peculiar to this tool.

#### 2. GUARD AGAINST ELECTRICAL SHOCK BY PREVENTING BODY CONTACT WITH GROUNDED SURFACES.

For example: Pipes, radiators, ranges refrigerator enclosures.

#### 3. KEEP GUARDS IN PLACE and in working order.

#### 4. REMOVE ADJUSTMENT KEYS AND WRENCHES.

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on tool.

#### 5. KEEP WORK AREA CLEAN.

#### 6. DON'T USE IN DANGEROUS ENVIRONMENT.

Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well illuminated.

#### 7. KEEP CHILDREN AWAY.

All visitors should be kept a safe distance from work area.

#### 8. MAKE WORKSHOP KID PROOF.

With padlocks. Master switch, or by removing starter keys.

#### 9. DON' T FORCE TOOL.

It will do the job better and be safer at the rate for which it was designed.

#### 10. USE RIGHT TOOL.

Don' t force tool or attachment to do a job for which it was not designed.

#### 11. WEAR FROPER APPAREL.

No loose clothing. gloves, neckties, rings bracelets, or jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

#### 12. ALWAYS USE SAFETY GLASSES.

Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact-resistant lenses. They are not safety glasses.

13. SECURE WORK.

Use clamps or a vise to hold work when practical. It's safer than using your hand and free both hands to operate tool.

14. DON'T OVERREACH.

Keep your proper footing and balance at all times.

15. MAINTAIN TOOLS IN TOP CONDITION.

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. DISCONNECT TOOLS FROM POWER SOURCE.

Before servicing and when changing accessories such as blades, bit cutters or when mounting and re-mounting motor.

17. AVOID ACCIDENTAL STARTING.

Make sure switch is in "OFF" position before plugging in cord.

18. USE RECOMMENDED ACCESSORIES.

Consult the owner's manual for recommended accessories. Use of improper accessories may be hazardous.

19. NEVER STAND ON TOOL..

Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

20. CHECK DAMAGED PARTS.

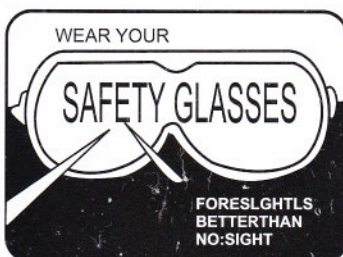
Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

21. DIRECTION OF FEED.

Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

22. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.

Don't leave tool until it comes to a complete stop.



The operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eyes damage. Always wear safety glasses or eye shields before using your lathe. We recommend wide vision safety mask or standard safety glasses.

## **SAFETY RULES FOR LATHES**

Safety is a combination of operator common sense and alertness at all times when lathe is being used. Study these safety rules and general safety rules before operating and retain for future use.

1. Wear eye protection.
2. Never attempt any operation or adjustment if procedure is not understood.
3. Keep fingers away from revolving parts and cutting tools while in operation.
4. Never force cutting action.
5. Never perform an abnormal or little used operation without study and use of adequate blocks, jigs stops, fixtures etc.
6. Use of shop manual such as "Machinery's Handbook" or similar is recommended for cutting speeds, feeds and operation detail.
7. Do not remove drive cover while machine is in operation. Make sure it is always closed.
8. Always remove chuck key, even when machine is not in operation.
9. Do not attempt to adjust or remove tools when in operation.
10. Always keep cutters sharp.
11. Never use in an explosive atmosphere or where a spark could ignite a fire.
12. Always use identical replacement parts when servicing.

### **WARNING:**

**DO NOT ALLOW FAMILIARITY(GAINED FROM FREQUENT USE OF YOUR LATHE) TO BECOME COMMONPLACE. A CARELESS FRACTION OF A SECOND CAN ALLOW FOR SEVERE INJURY.**

**MACHINE SPECIFICATION**

Bench lathes are especially suitable for machining, tool rooms and repairing workshops to machine shafts, spindle, sleeves, and disc workpiece of middle or small types. They can also be used to cut imperial, diametral and module thread, and with compact construction and reasonable composition, they can cut very well. They are easy and reliable to operate, convenient to repair, high in efficiency, and low noise.

**TECHNICAL SPECIFICATION**

**GH-1322 C0636A**

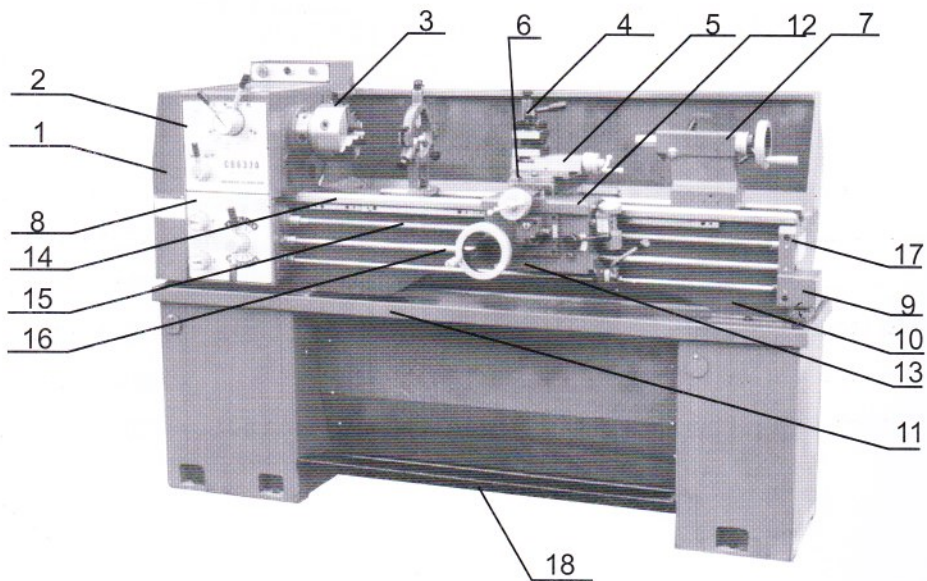
Swing over bed .....	330mm(13")	360mm(14")
Swing over support .....	198mm(7.8")	230mm(9")
Swing over gap .....	476mm(18.7")	508mm(20")
Center height .....	166mm(6.5")	
Distance between centers .....	1000mm(40")	
Bed width .....	186mm(7.36")	
Bed height .....	312mm(12.28")	
Motor output .....	1.5KW	
Voltage .....	220V or 380V	
Spindle bore .....	38mm(1.5")	
Camlock system .....	D1-4	
Spindle speed .....	70-2000r.p.m.	
Cross slide travel .....	160mm(6.3")	
Compound slide travel .....	68mm(2.7")	
Leadscrew diameter .....	2mm(0.87")	
Feed rod diameter .....	19mm(0.75")	
Cutting tool(max.section) .....	16mmX16mm(5/8"x5/8")	
Inch thread .....	3 1/2-80T.P.I.	
Metric thread .....	0.45-10mm	
Diametral thread.....	7-160D.P.	
Modulerthread.....	0.25-5 M.P.	
Longitudinal feed .....	0.067-1.019 mm/r(0.0026-0.040in/r)	
Cross feed .....	0.018-0.275mm/r(0.0009~0.040in/r)	
Tailstock quill diameter& taper .....	32mm(1.26")Morse No3	
Weights(Approx.) .....	NW 590kg(1,300lbs)	620kg(1,365lbs)
.....	GW 690kg(1,520lbs)	720kg(1,586lbs)

## STANDARD ACCESSORIES

1. Center sleeve MT-5/MT-3
2. 2 fixed centers MT-3
3. Three jaw chuck
4. 2 V-belts
5. Metric change gears or Imperial change gears
6. Tool box
7. Grease gun

## MACHINE ASSEMBLY

1. End cover
2. Headstock
3. Spindle with three jaw chuck
4. Tool support
5. Compound rest
6. Cross slide
7. Tailstock
8. Gear case
9. Forward/reverse switch
10. Bed
11. Chip tray
12. Bed slide
13. Apron
14. Rack
15. Leadscrew
16. Feed rod
17. Bracket
18. Foot-brake



## UNPACKING

Unload the machine with a tackle, using clamping plates and eyebolts. Keep the machine in balance by moving the tailstock and the bed slide to the right. Avoid using sling chains as they could damage feed rod and leadscrew. Lift the lathe carefully and place it softly on the floor or workbench.

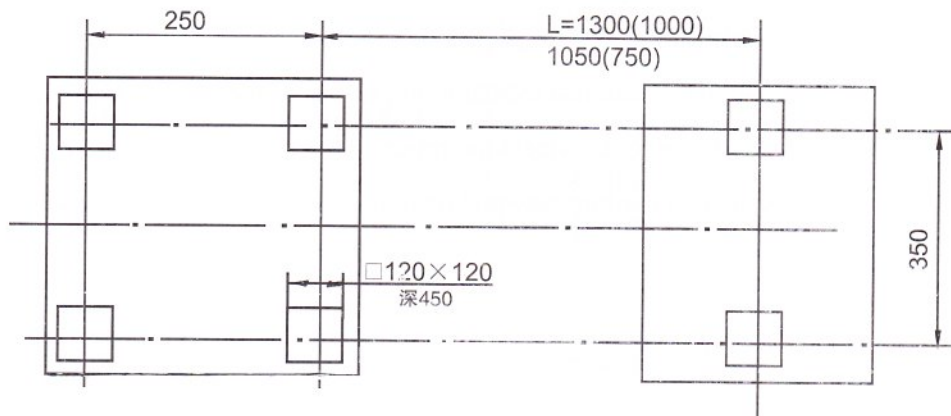
## CLEANING

Before putting the machine into operation, using kerosene (paraffin) or white spirit to remove the anti-corrosive coating or grease from all slideways and gear train. Don't use lacquer thinner or other caustic solvents. Oil all bright machine surface immediately after cleaning. Use heavy oil or grease on the change gears.

## INSTALLATION

Place the lathe on a solid foundation. A concrete floor is the best base for the machine (If necessary, use an underframe optional). Make sure there is sufficient area around the lathe for easy work and maintenance. Use a precision level on the bedways to make further adjustment for level condition, then tighten the foundation bolts evenly and finally recheck for level condition.

### FOUNDATION DRAWING





## **LUBRICATION**

Before putting the lathe into operation, make the following lubrication check.

### **A. HEADSTOCK**

The bearings of the headstock turn in an oil bath. Ensure that the oil level reaches three quarters of the oil gauge glass.

For changing the oil, remove the end cover and the change gears with swing frame. Drain off the oil by removing the drain plug on the bottom of the headstock. To fill, take off the headstock cover.

Check the oil level regularly. The first oil change should be made after 3 months, then change it once a year.

### **B. GEAR CASE**

Remove the end cover to expose the filling plug. Through it the Shell Tellus 32 is filled to the oil level in the oil gauge glass regularly. The first oil change should be made after three months, then change it once a year.

### **C. APRON**

The oil bath is filled with Shell Tellus 32 through the filling plug on the right side of the apron. Check the oil level in the oil gauge glass on the front regularly. The first oil change should be made after three months, then change it once a year.

For changing the oil, drain away all oil by taking off the drain plug on the bottom of the apron.


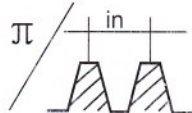

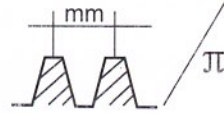
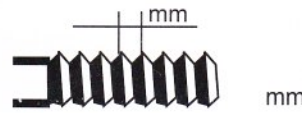

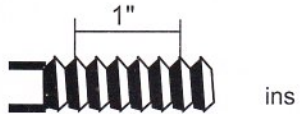

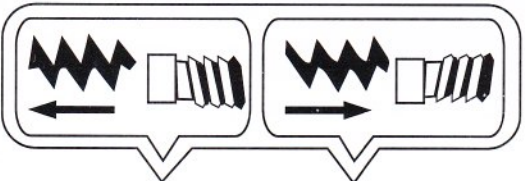

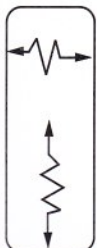
### **D. CHANGE GEARS**

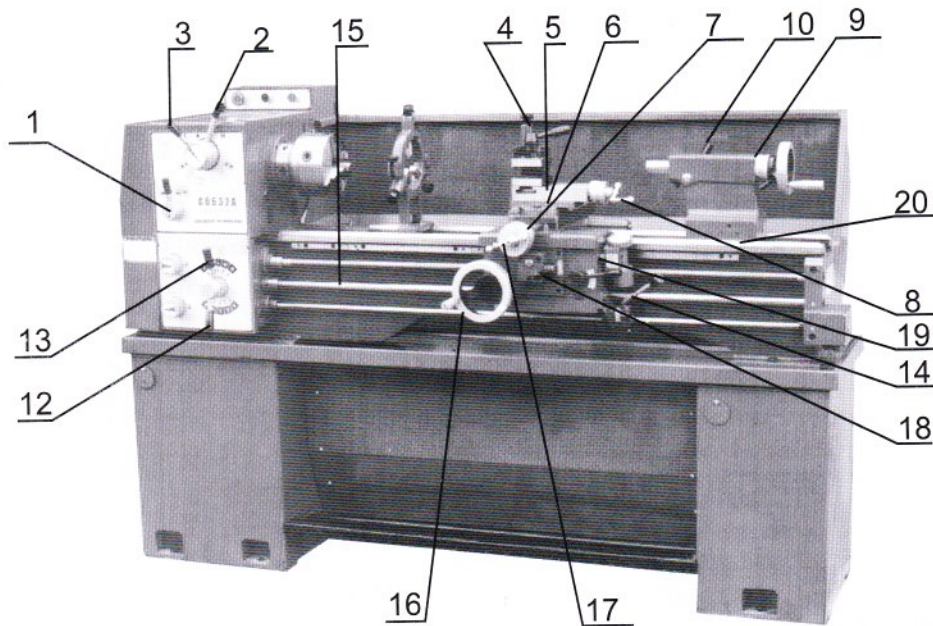
Lubricate the change gears with thick machine oil or grease once a month.

### **E. OTHER PARTS**

There are other lubricating points on the input shaft bracket of the gear box, the handwheel on the apron, the longitudinal and cross slide, the thread dial indicator, the tailstock and the bracket, use the grease gun to put a few drops of oil from time to time. Lubricate the apron worm and worm gear, half nut and leadscrew twice a month. Apply a light oil film to the bed way and all other bright parts, like the tailstock quill, feed rod etc. once a day.

**OPERATION: SYMBOLS FOR OPERATION**

OPERATION: Symbols for operation			
	Electrical (danger)		Diametral pitch thread
	Coolant		Module pitch thread
	Metric thread		Half nut opened
	Imperial thread		Half nut closed
		Right-hand thread and Longitudinal feed toward the headstock side (Left figure)	
		Left-hand thread and Longitudinal feed toward the tailstock side (Right figure)	
		Feeding (Left figure) Threading (Right figure)	
		Longitudinal feed engaged (upward) Both longitudinal and cross feed disengaged (central) Cross feed engaged (downward)	



- |  |  |
|--|--|
| 1. Feed direction selector             | 14. Forward/reverse switch             |
| 2. Speed selector (high/low)           | 15. Feed rod                           |
| 3. 4 Steps speed selector              | 16. Longitudinal traverse handwheel    |
| 4. Tool post clamping lever            | 17. Cross traverse handwheel           |
| 5. Compound rest lock                  | 18. Feed axis selector                 |
| 6. Cross slide lock                    | 19. Thread cutting engagement lever    |
| 7. Carriage lock                       | 20. Tailstock set-over adjusting screw |
| 8. Compound rest handwheel             |  |
| 9. Tailstock lock                      |  |
| 10. Tailstock quill clamping           |  |
| 11. Tailstock quill traverse handwheel |  |
| 12. Feed selector handle               |  |
| 13. Feed/thread selector handle        |  |

## SPINDLE SPEED CONTROL

### IDENTIFICATION BEFORE OPERATION

Ensure that lubrication has been carried out as described before.

When the main spindle is rotating, the gear box and feed axis of the bedslide are put into operation. The forward/reverse switch (14) should be on neutral. The feed axis selector (18) and feed/thread selector handle (19) are in disengaged position. Under this circumstances, both the longitudinal traverse handwheel and cross traverse handle (17) can be operated by hand.

## MAIN SPINDLE ROTATION

The main spindle rotation is selected by the forward/reverse switch.

## MAIN SPINDLE SPEED

The speed of the main spindle is selected by (high/low) speed selector (2) and 4 steps speed selector (3). For both high and low speed, there are 4 different positions. For correct speed, please refer to the speed chart. When selector (3) is on "high", we can get the four speeds, according to the graph.

## NEVER CHANGE THE SPEED BEFORE THE MOTOR HAS STOPPED COMPLETELY!

Adjusting the speed can be assisted by turning the main spindle by hand.

## RUNNING-IN

Running-in should be done at lowest possible spindle speed. Let the machine run at lowest speed for about twenty minutes. Then check for irregularities. If everything seems in order, gradually increase the speed.

## OPERATION

Use only high peripheral speed type chucks.

The maximum spindle speed for chuck plate of 254mm diameter should not be more than 1255r.p.m. When thread cutting or auto feeding are not in use, the feed/thread selector should be in neutral position so as to ensure disengagement of the leadscrew and the feed rod. To avoid unnecessary wear, the thread dial indicator should be out of mesh with the leadscrew.

## SPINDLE NOSE-LOCK SYSTEM

When mounting the chuck, face plates and other attachment, ensure that the location faces on both nose and attachment are scrupulously clean. All the cams should be in the release position (fig 1).

Mount the attachment onto the spindle nose. Lock each cam by turning it clockwise, using the provided key. Make a check on face plate with a reference line for subsequent remounting.

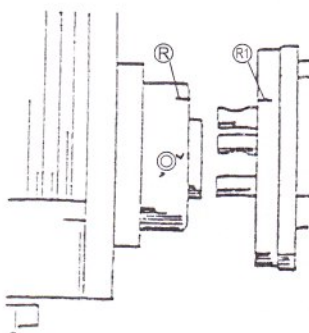


fig 1

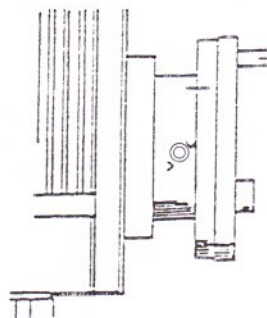


fig 2

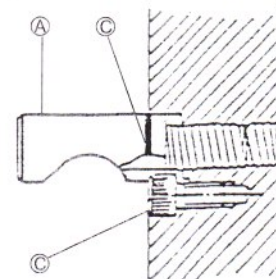


fig 3

**NOTE:**

For correct locking condition, each cam must tighten with its index line between the two "V" marks on the nose (fig2).

Do not interchange chucks or other attachment without checking each cam for correct locking.

To adjust camlock studs, remove lock screw B and turn A one full turn in or out as required. Refit and tighten screw B, each stud (fig3). A datum ring (c) is marked on each stud as guide to original or initial setting.

**THREAD AND FEED SELECTION**

All threads and feeds are indicated on the tables fitted on the front and top of the gearbox. They are selected with the feed selector handle on the gear box.

**A. Manual operation**

The carriage is moved by the bandwheel (16), the cross slide by handwheel (17) and the compound rest by handwheel (8). The slide can be anchored by turning the lock bolts on the top of the slide.

**B. Feed and thread tables**

Longitudinal and cross feed table.

Metric and imperial thread table.

Suitable for metric lead crew

Suitable for imperial leadscrew

	<b>PITCH</b>							<b>M.M</b>		
	M	K	K	M	N	L	L	N	J	
	V	R	V	S	R	S	T	S	S	
AD	3.5	3.6	4	5.25	5.4	5.5	6	9	10	
BD	1.75	1.8	2	2.7	2.75	3	4.5	5		
AC	0.9	1	1.35	1.5	2.25	2.5				
BC	0.45	0.5		0.75	1.25					
	<b>T.P.I</b>							<b>INCH</b>		
	N	N	K	K	L	K	K	L	L	
	U	S	U	T	T	V	R	T	T	
AD	3 $\frac{1}{2}$	4	5 $\frac{1}{2}$	5 $\frac{1}{4}$	6	9	10	5 $\frac{1}{2}$	6 $\frac{1}{2}$	
BD	7	8	10 $\frac{1}{2}$	11	12	18	20	11 $\frac{1}{2}$	13	
AC	14	16	21	22	24	36	40	23	26	
BC	28	32	42	44	48	72	80	46	52	
	<b>MODULE</b>									
	M	K	K	M	N	L	L	N	J	
	V	R	V	S	R	S	T	S	S	
AD	1.75	1.8	2	2.62	2.7	2.75	3	4.5	5	
BD	0.9	1	1.35	1.5	2.25	2.5				
AC	0.45	0.5		0.75	1.25					
BC	0.25									
	<b>D.P</b>									
	N	N	K	K	L	N	K	K		
	U	S	U	T	T	R	V	R		
AD	7	8	10 $\frac{1}{2}$	11	12	13 $\frac{1}{2}$	18	20		
BD	14	16	21	22	24	26 $\frac{1}{2}$	36	40		
AC	28	32	42	44	48	53 $\frac{1}{2}$	72	80		
BC	56	64	84	88	96	106 $\frac{1}{2}$	144	160		
	<b>mm/r</b>									
	U	T	S	V	R					
PAD	1.109	0.972	0.891	0.594	0.534					
PBD	0.275	0.262	0.243	0.160	0.144					
PAC	0.510	0.486	0.446	0.297	0.267					
PBC	0.138	0.131	0.122	0.080	0.072					
	<b>in/r</b>									
	U	T	S	V	R					
PAD	0.040	0.038	0.035	0.0234	0.0210					
PBD	0.0138	0.0132	0.0121	0.0080	0.0072					
PAC	0.020	0.019	0.0175	0.0117	0.0105					
PBC	0.0069	0.0066	0.0060	0.0040	0.0036					

	<b>PITCH</b>							<b>M.M</b>		
	M	K	K	M	N	L	L	N	J	
	V	R	V	S	R	S	T	S	S	
AD	3.5	3.6	4	5.25	5.4	5.5	6	9	10	
BD	1.75	1.8	2	2.7	2.75	3	4.5	5		
AC	0.9	1	1.35	1.5	2.25	2.5				
BC	0.45	0.5		0.75	1.25					
	<b>T.P.I</b>							<b>INCH</b>		
	N	N	K	K	L	K	L	L	L	
	U	S	U	T	T	V	R	T	T	
AD	3 $\frac{1}{2}$	4	5 $\frac{1}{2}$	5 $\frac{1}{4}$	6	9	10	5 $\frac{1}{2}$	6 $\frac{1}{2}$	
BD	7	8	10 $\frac{1}{2}$	11	12	18	20	11 $\frac{1}{2}$	13	
AC	14	16	21	22	24	36	40	23	26	
BC	28	32	42	44	48	72	80	46	52	
	<b>MODULE</b>									
	M	K	K	M	N	L	L	N	J	
	V	R	V	S	R	S	T	S	S	
AD	1.75	1.8	2	2.62	2.7	2.75	3	4.5	5	
BD	0.9	1	1.35	1.5	2.25	2.5				
AC	0.45	0.5		0.75	1.25					
BC	0.25									
	<b>D.P</b>									
	N	N	K	K	L	N	K	K		
	U	S	U	T	T	R	V	R		
AD	7	8	10 $\frac{1}{2}$	11	12	13 $\frac{1}{2}$	18	20		
BD	14	16	21	22	24	26 $\frac{1}{2}$	36	40		
AC	28	32	42	44	48	53 $\frac{1}{2}$	72	80		
BC	56	64	84	88	96	106 $\frac{1}{2}$	144	160		
	<b>mm/r</b>									
	U	T	S	V	R					
PAD	0.40	0.38	0.35	0.234	0.210					
PBD	0.0138	0.0132	0.0121	0.0080	0.0072					
PAC	0.020	0.019	0.0175	0.0117	0.0105					
PBC	0.0069	0.0066	0.0060	0.0040	0.0036					
	<b>in/r</b>									
	U	T	S	V	R					
PAD	0.0138	0.0132	0.0121	0.0080	0.0072					
PBD	0.0069	0.0066	0.0060	0.0040	0.0036					
PAC	0.010	0.0095	0.0089	0.0058	0.0053					
PBC	0.0034	0.0033	0.0030	0.0020	0.0018					

	<b>PITCH</b>							<b>M.M</b>		
	M	K	K	M	N	L	L	N	J	
	V	R	V	S	R	S	T	S	S	
AD	3.5	3.6	4	5.25	5.4	5.5	6	9	10	
BD	1.75	1.8	2	2.7	2.75	3	4.5	5		
AC	0.9	1	1.35	1.5	2.25	2.5				
BC	0.45	0.5		0.75	1.25					
	<b>T.P.I</b>							<b>INCH</b>		
	N	N	K	K	L	K	L	L	L	
	U	S	U	T	T	V	R	T	T	
AD	3 $\frac{1}{2}$	4	5 $\frac{1}{2}$	5 $\frac{1}{4}$	6	9	10	5 $\frac{1}{2}$	6 $\frac{1}{2}$	
BD	7	8	10 $\frac{1}{2}$	11	12	18	20	11 $\frac{1}{2}$	13	
AC	14	16	21	22	24	36	40	23	26	
BC	28	32	42	44	48	72	80	46	52	
	<b>MODULE</b>									
	M	K	K	M	N	L	L	N	J	
	V	R	V	S	R	S	T	S	S	
AD	1.75	1.8	2	2.62	2.7	2.75	3	4.5	5	
BD	0.9	1	1.35	1.5	2.25	2.5				
AC	0.45	0.5		0.75	1.25					
BC	0.25									
	<b>D.P</b>									
	N	N	K	K	L	N	K	K		
	U	S	U	T	T	R	V	R		
AD	7	8	10 $\frac{1}{2}$	11	12	13 $\frac{1}{2}$	18	20		
BD	14	16	21	22	24	26 $\frac{1}{2}$	36	40		
AC	28	32	42	44	48	53 $\frac{1}{2}$	72	80		
BC	56	64	84	88	96	106 $\frac{1}{2}$	144	160		
	<b>mm/r</b>									
	U	T	S	V	R					
PAD	1.109	0.972	0.891	0.594	0.534					
PBD	0.275	0.262	0.243	0.160	0.144					
PAC	0.510	0.486	0.446	0.297	0.267					
PBC	0.138	0.131	0.122	0.080	0.072					
	<b>in/r</b>									
	U	T	S	V	R					
PAD	0.040	0.038	0.035	0.0234	0.0210					
PBD	0.0138	0.0132	0.0121	0.0080	0.0072					
PAC	0.020	0.019	0.0175	0.0117	0.0105					
PBC	0.0069	0.0066	0.0060	0.0040	0.0036					

	<b>PITCH</b>							<b>M.M</b>		
	M	K	K	M	N	L	L	N	J	
	V	R	V	S	R	S	T	S	S	
AD	3.5	3.6	4	5.25	5.4	5.5	6	9	10	
BD	1.75	1.8	2	2.7	2.75	3	4.5	5		
AC	0.9	1	1.35	1.5	2.25	2.5				
BC	0.45	0.5		0.75	1.25					
	<b>T.P.I</b>							<b>INCH</b>		
	N	N	K	K	L	K	L	L	L	
	U	S	U	T	T	V	R	T	T	
AD	3 $\frac{1}{2}$	4	5 $\frac{1}{2}$	5 $\frac{1}{4}$	6	9	10	5 $\frac{1}{2}$	6 $\frac{1}{2}$	
BD	7	8	10 $\frac{1}{2}$	11	12	18	20	11 $\frac{1}{2}$	13	
AC	14	16	21	22	24	36	40	23	26	
BC	28	32	42	44	48	72	80	46	52	
	<b>MODULE</b>									
	M	K	K	M	N	L	L	N	J	
	V	R	V	S	R	S	T	S	S	
AD	1.75	1.8	2	2.62	2.7	2.75	3	4.5	5	
BD	0.9	1	1.35	1.5	2.25	2.5				
AC	0.45	0.5		0.75	1.25					
BC	0.25									
	<b>D.P</b>									
	N	N	K	K	L	N	K	K		
	U	S	U	T	T	R	V	R		
AD	7	8	10 $\frac{1}{2}$	11	12	13 $\frac{1}{2}$	18	20		
BD	14	16	21	22	24	26 $\frac{1}{2}$	36	40		
AC	28	32	42	44	48	53 $\frac{1}{2}$	72	80		
BC	56	64	84	88	96	106 $\frac{1}{2}$	144	160		
	<b>mm/r</b>									
	U	T	S	V	R					
PAD	0.40	0.38	0.35	0.234	0.210					
PBD	0.0138	0.0132	0.0121	0.0080	0.0072					
PAC	0.020	0.019	0.0175	0.0117	0.0105					
PBC	0.0069	0.0066	0.0060	0.0040	0.0036					
	<b>in/r</b>									
	U	T	S	V	R					
PAD	0.0138	0.0132	0.0121	0.0080	0.0072					
PBD	0.0069	0.0066	0.0060	0.0040	0.0036					
PAC	0.010	0.0095	0.0089	0.0058	0.0053					
PBC	0.0034	0.0033	0.0030	0.0020	0.0018					

**C. AUTOMATIC FEED OPERATION**

Firstly, engage the 40T change gear at the transmission shaft and the 127T intermediate gear with feed direction selector (1), next, set the feed/thread selector (13) to the left hand position and position one lever (12) at any of the 1-8 holes, the other at any of A-E holes, thus the feed rod will rotate. If selector (18) is pushed upward, a cross feed will be obtained.

**D. THREAD CUTTING OPERATION**

The direction of thread cutting is controlled by feed director (P6,NO.1). By operation feed selector handle (P6,NO.12) and feed/thread selector handle (NO.13) according to thread pitch, the leadscrew rotate. Operate downward the thread cutting engagement lever(No.19), it should be engaged with leadscrew, thus the longitudinal travel of thread cutting feed.

**THREADING DIAL INDICATOR**

IMPERIAL THREADS ON IMPERIAL LEADSCREW OR METRIC THREADS ON METRIC LEADSCREW

**MACHINE**

For these thread it is recommend that the thread dial indicator is used.


**(1) METRIC LEADSCREW MACHINE**

The table show :

In column 1: millimeter pitch to be cut

28T 30T 32T: the number of teeth in "pick-off gear" arranged to mesh with the leadscrew.

Dial graduation: the dial numbers at which the half nut of the leadscrew may be engaged.

mm 	INDICATOR TABLE : METRIC		
	28T	30T	32T
	Dial Gradution		
0.25			
0.50			
0.75			
1.00			
1.25			
1.50		1,3,5,7,9,11	
1.75	1,4,7,10		
2.00			1,4,7,10
2.25		1,7	
2.50		1,3,5,7,9,11	
2.75			
3.00		1,3,5,7,9,11	
3.50	1,4,7,10		
4.00			1,4,7,10
4.50		1,7	
5.00		1,3,5,7,9,11	
5.50			
6.00			1,4,7,10
7.00	1,4,7,10		
8.00			1,4,7,10
9.00		1,7	
10.00		1,3,9	
11.00			
12.00			1,4,7,10

## (2) IMPERIAL LEADSCREW MACHINE

The table shows:

INDICATOR TABLE WHITWORTH					
T.P.I	SCALE	T.P.I	SCALE	T.P.I	SCALE
4	1-4	13	1	44	1-4
4.5	1	14	1or3	46	1or3
4		16	1-8	48	1-8
5	1	18	1or3	52	1-4
5.5	1	19	1	56	1-8
6	1or3	20	1-4	64	1-8
6.5	1	22	1or3	72	1-8
7	1	23	1	76	1-4
8	1-8	24	1-8	80	1-8
9	1	26	1or3	88	1-8
9.5	1	28	1-4	92	1-4
10	1or3	32	1-8	96	1-8
11	1	36	1-4	104	1-8
11.5	1	38	1or3	112	1-8
12	1-4	40	1-8		

T . P . I . : Thread per inch to be cut.

SCALE: The dial number at which the half nut of the leadserew should be engaged.

## IMPERIAL THREADS ON METRIC LEADSCREW MACHINES OR METRIC THREADS ON IMPERIAL LEADSCREW MACHINE

For these thread the half nut is kept engaged throughout the cutting of any one thread.

### (A). LATHE ALIGNMENT

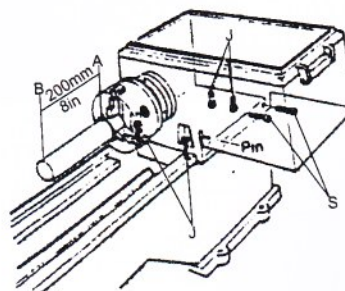
When the lathe is installed and ready for use, it is recommended to check the machine alignment before commencing work.

Alignment and leveling should be checked regularly to insure continued accuracy.

Adopt this procedure as follow:

Take a steel bar with a diameter of appr. 50mm and a length of appr. 200mm. Span it in the chuck without using the center. Then cut off a chip over a length of 150mm and measure the difference at A and B .

In order to correct a possible difference, loosen the screw(j) clamping the headstock on the bed. Adjust the headstock with setscrew(s). Repeat the above procedure until all measurings is correct. The lathe will be cutting correctly.



### (B).CROSS SLIDE AND COMPOUND REST

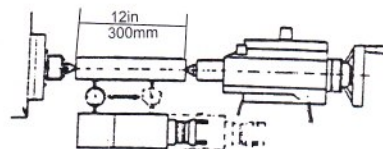
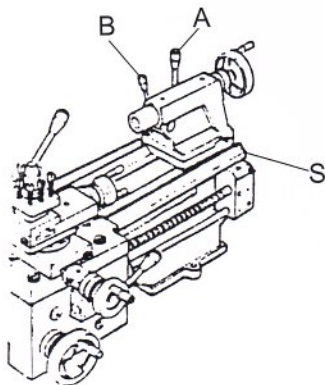
The graduation on the handwheel is in millimeter. The dovetail can be adjusted play with gib-strips. Make sure the dovetails are thoroughly clean. Grease before adjusting them. The adjustment procedure is as follows:

First loosen the rear set screw. Turn the front one until the slide moves smoothly without backlash. Then tighten the rear set screw. Provision is made for the elimination of backlash in the cross slide nut. Take off the dust plate mounting on the rear face of the carriage groove. Turn the cross traverse handwheel to move the cross feed nut until it get to the end edge of the feed leadscrew. Turn the socket screw clockwise as required. A 45 degree turning of the socket screw eliminates appr. 0.125mm backlash. Check from time to time until the cross slide moves smoothly.

### (C).TAILSTOCK

The tailstock can be moved freely on the bed and fastened at any position by locking lever A. The tailstock quill can be fastened with lever B. For precise adjustment the tailstock can be adjusted crosswise. Slacken lever A and adjust the tailstock with set screw(s) on both sides of the tailstock body.

Place a ground steel bar with a length of appr. 300mm between the centers and measure with the measuring device mounted on the support, whether the distance on both sides of the bar is the same.



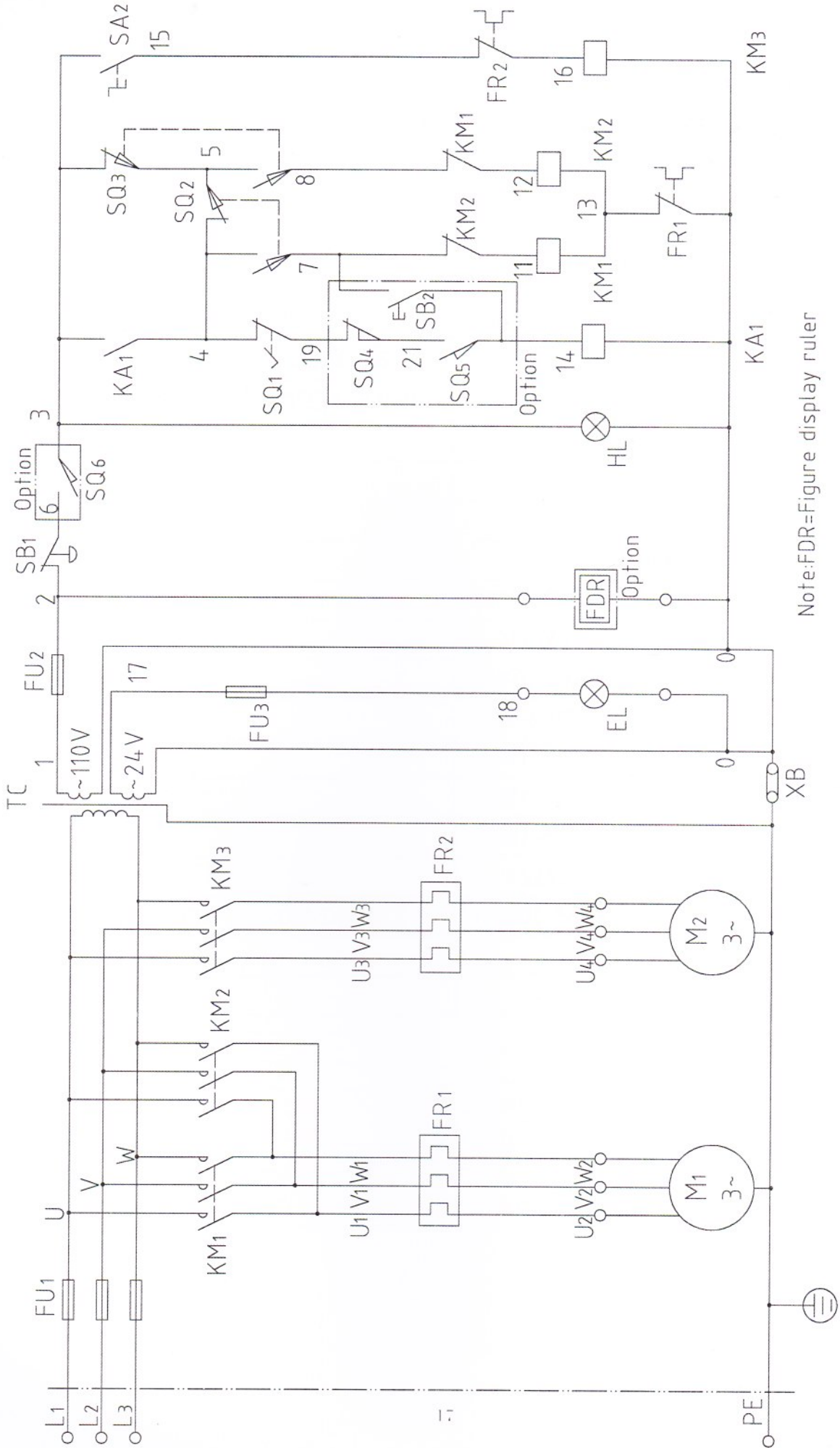


## **ELECTRIC SYSTEM**

Connect power cable to the junction box. Make sure that the voltage and frequency used are consistent with those indicated on the machine name plate.

Make the machine grounded.

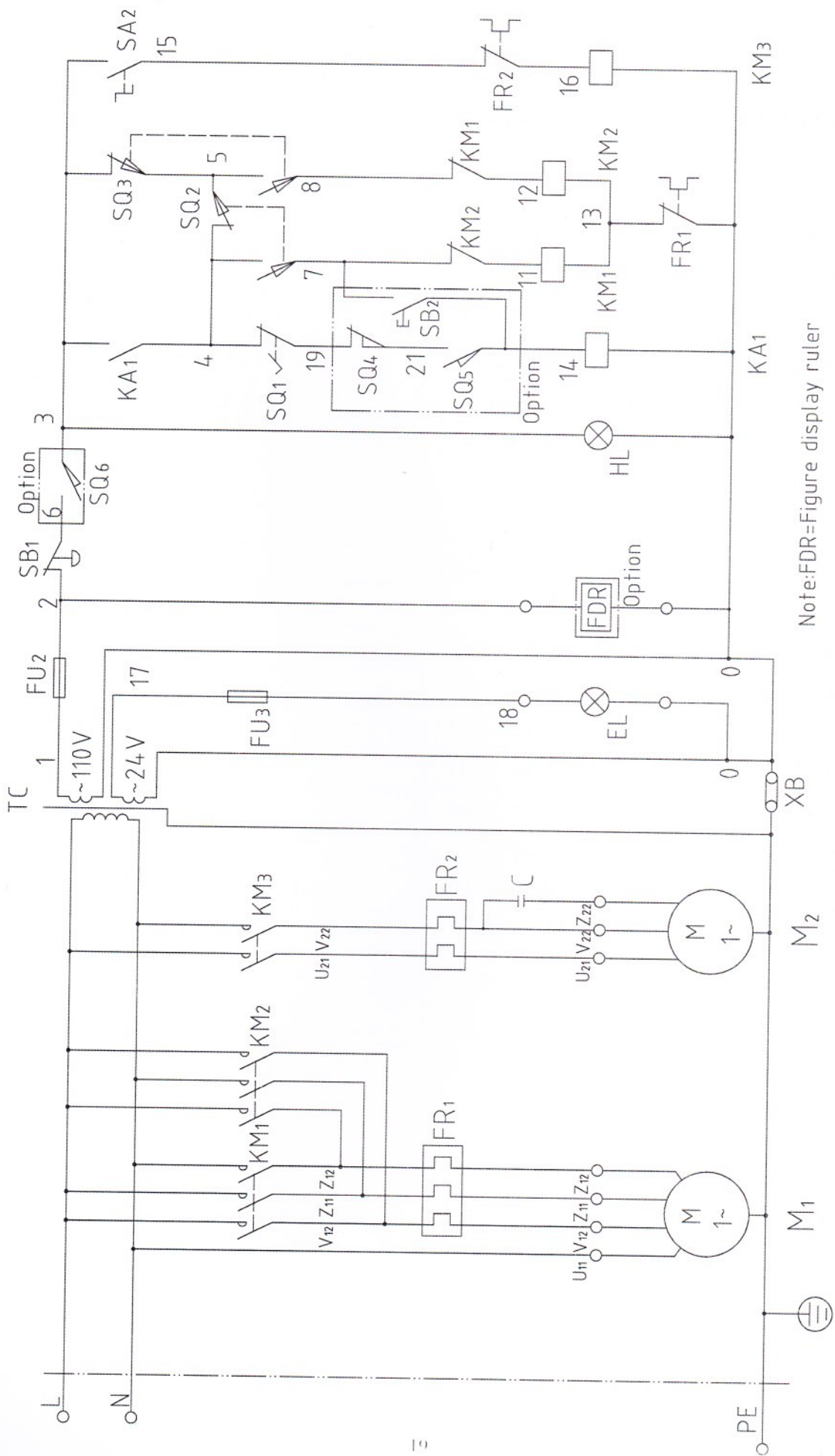
Viewed from pulley side, the main motor must run clockwise ( that is, viewed from tailstock side, the spindle must run counterclockwise ). if not, just exchange two power lines of the three.



Note:FDR=Figure display ruler

**No.1****Bill of electric apparatus(3~220/380/400/415/440V.etc,50/60Hz)**

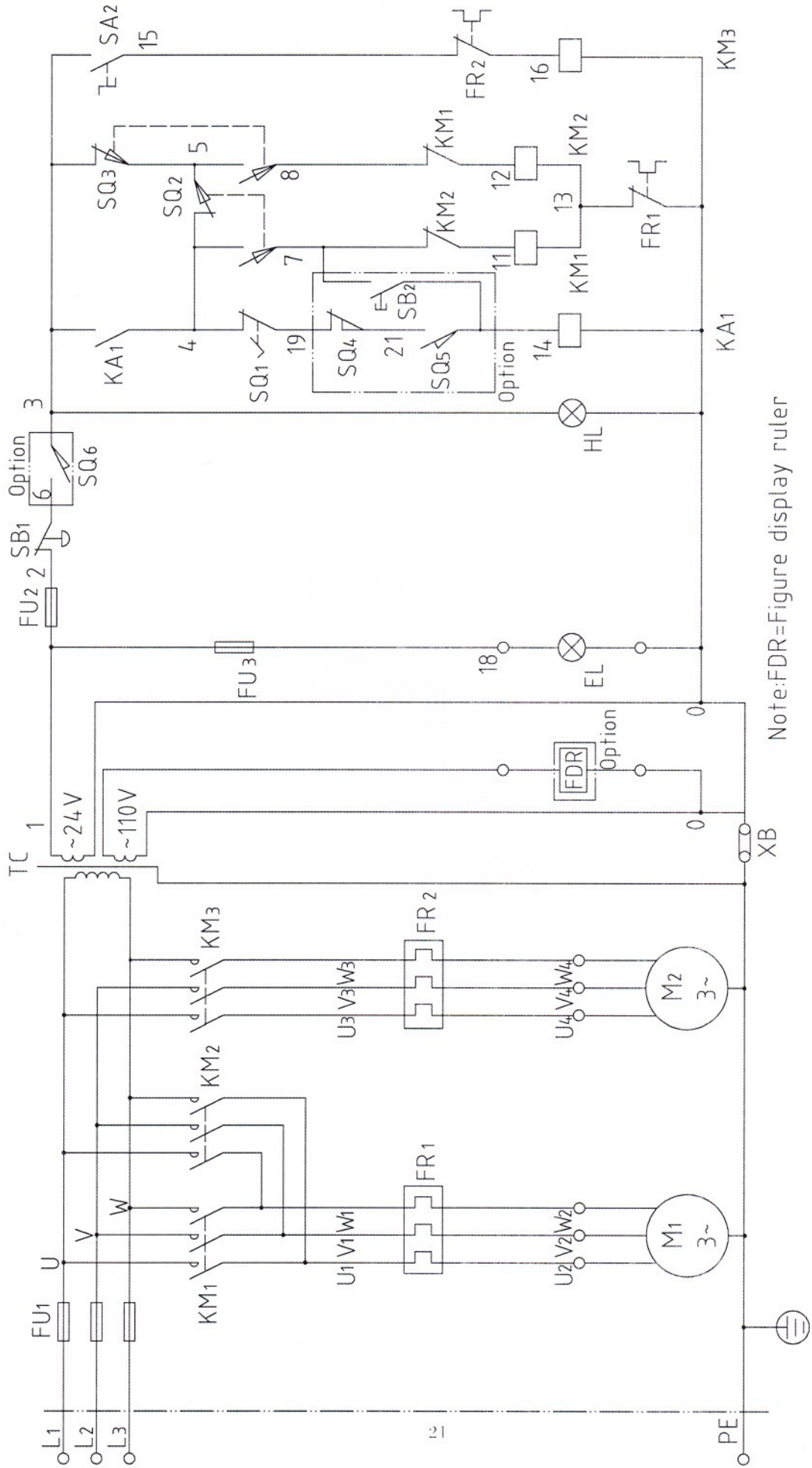
Code name	Description	Model	Technical data	Qty
KM1;KM2	A.C. contactor	LC1-D189	AC110V,50/60Hz	2
KM3	A.C. contactor	LC1-D099	AC110V,50/60Hz	1
KA1	Relay	CA2-DN140	AC110V,50/60Hz	1
FR1	Thermal relay	T16	6.3-9A(220V) ;3~4.5A(380V~)	1
FR2	Thermal relay	T16	0.35-0.52A(220V) ;0.19A~0.29A(380V~)	1
FU1	Blow fuse	RDD-1	12A	3
FU2	Blow fuse	RT21	2A	1
FU3	Blow fuse	RT21	3A	1
EL	Machine lamp	JC52		1
SB1	Buttom	LAY3-01ZS		1
SB2	Buttom	LAY3-10		1
SA2	Buttom	LAY3-10X/2		1
HL	indicator light	XDY2-AD		1
SQ1	Limit switch	LXW5-11N1		1
SQ2;SQ3	Limit switch	LXW5-11D1		2
SQ4;SQ6	Limit switch	LXW5-11Q1		2
SQ5	Limit switch	LXW3		1
TC	Transformer	JBK5-100TH	220;380;400;415;440V/110V.24V	1



Note: FDR=Figure display ruler

**No.2****Bill of electric apparatus(1~220/230/240V.etc,50/60Hz)**

Code name	Description	Model	Technical data	Qty
KM1;KM2	A.C. contactor	LC1-D189	AC110V,50/60Hz	2
KM3	A.C. contactor	LC1-D099	AC110V,50/60Hz	1
KA1	Relay	CA2-DN140	AC110V,50/60Hz	1
FR1	Thermal relay	T16	9-13A&12-17.6A	1
FR2	Thermal relay	T16	0.35-0.52A	1
FU2	Blow fuse	RT21	2A	1
FU3	Blow fuse	RT21	3A	1
EL	Machine lamp	JC52		1
SB1	Buttom	LAY3-01ZS		1
SB2	Buttom	LAY3-10		1
SA2	Buttom	LAY3-10X/2		1
HL	indicator light	XDY2-AD		1
SQ1	Limit switch	LXW5-11N1		1
SQ2;SQ3	Limit switch	LXW5-11D1		2
SQ4;SQ6	Limit switch	LXW5-11Q1		2
SQ5	Limit switch	LXW3		1
TC	Transformer	JBK5-100TH	220;230;240V//110V.24V	1

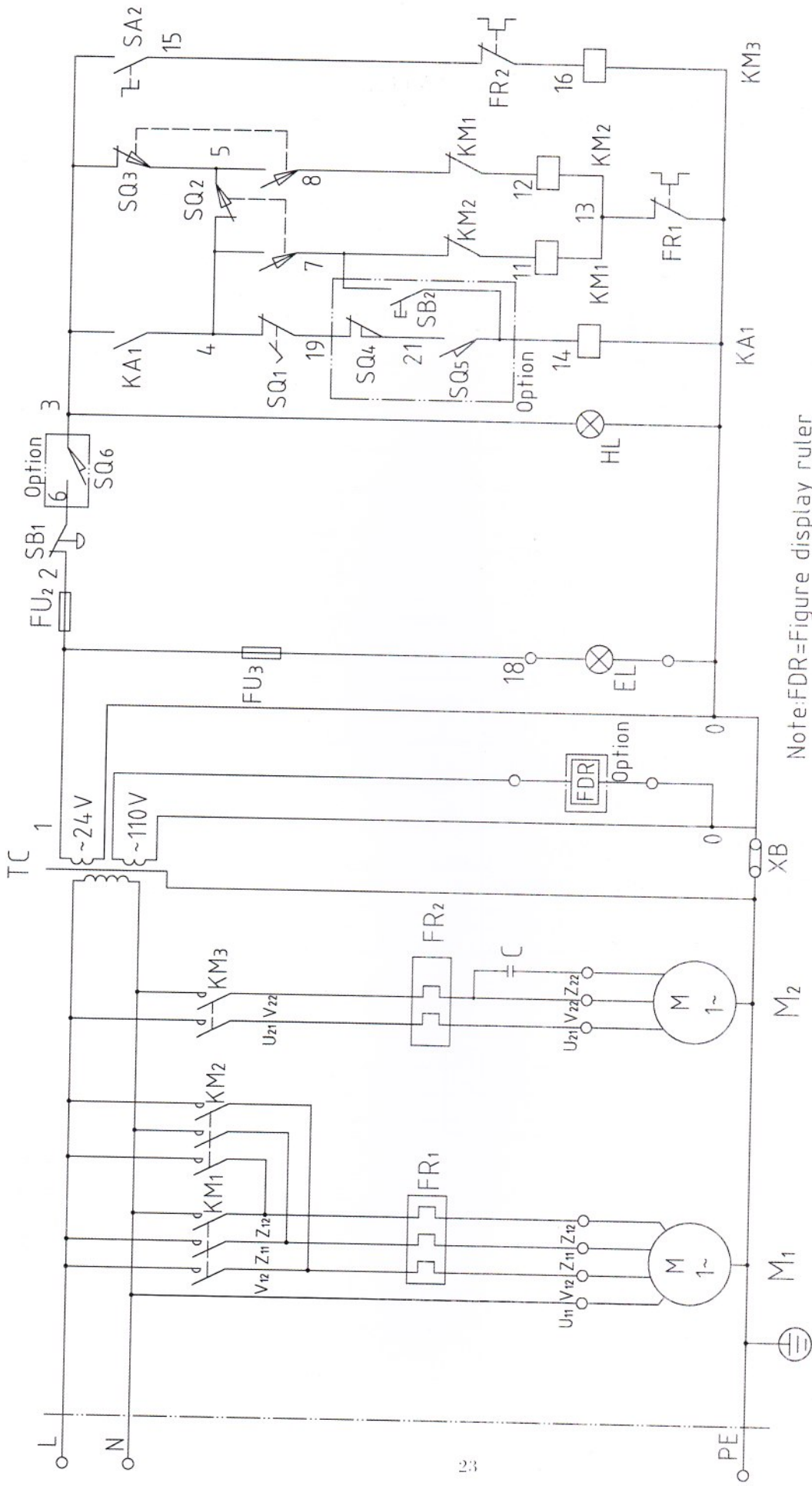


Note:FDR=Figure display ruler

No.3

**No.3****Bill of electric apparatus(3~220/380/400/415/440V.etc,50/60Hz)**

Code name	Description	Model	Technical data	Qty
KM1;KM2	A.C. contactor	LC1-D189	AC24V,50/60Hz	2
KM3	A.C. contactor	LC1-D099	AC24V,50/60Hz	1
KA1	Relay	CA2-DN140	AC24V,50/60Hz	1
FR1	Thermal relay	T16	6.3-9A(220V) ;3~4.5A(380V~)	1
FR2	Thermal relay	T16	0.35-0.52A(220V) ;0.19A~0.29A(380V~)	1
FU1	Blow fuse	RDD-1	12A	3
FU2	Blow fuse	RT21	2A	1
FU3	Blow fuse	RT21	3A	1
EL	Machine lamp	JC52		1
SB1	Buttom	LAY3-01ZS		1
SB2	Buttom	LAY3-10		1
SA2	Buttom	LAY3-10X/2		1
HL	indicator light	XDY2-AD		1
SQ1	Limit switch	LXW5-11N1		1
SQ2;SQ3	Limit switch	LXW5-11D1		2
SQ4;SQ6	Limit switch	LXW5-11Q1		2
SQ5	Limit switch	LXW3		1
TC	Transformer	JBK5-100TH	220;380;400;415;440V/24V.110V	1



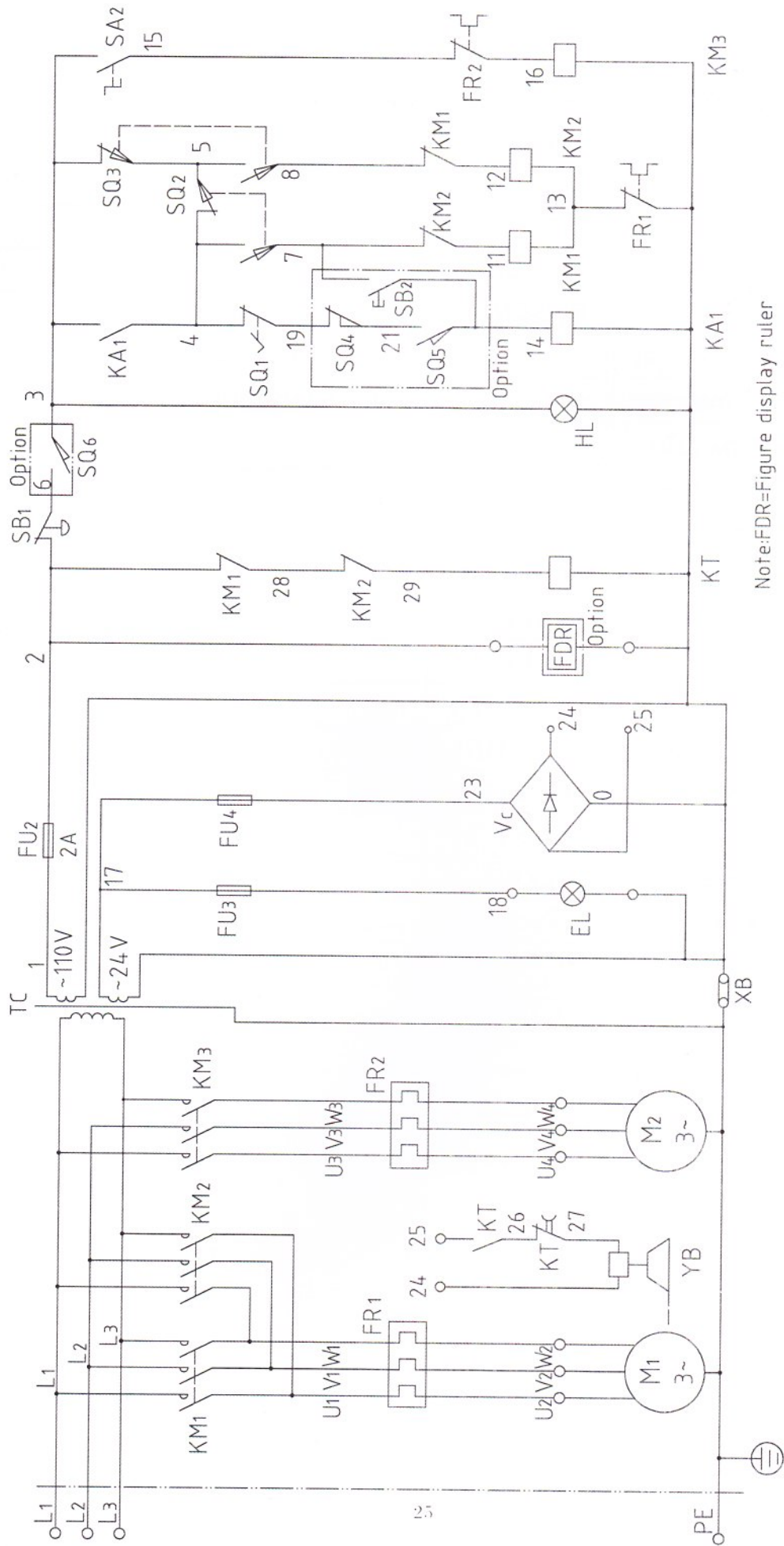
Note: FDR=Figure display ruler

No.4



**No.4****Bill of electric apparatus(1~220/230/240V.etc,50/60Hz)**

Code name	Description	Model	Technical data	Qty
KM1;KM2	A.C. contactor	LC1-D189	AC24V,50/60Hz	2
KM3	A.C. contactor	LC1-D099	AC24V,50/60Hz	1
KA1	Relay	CA2-DN140	AC24V,50/60Hz	1
FR1	Thermal relay	T16	9-13A&12-17.6A	1
FR2	Thermal relay	T16	0.35-0.52A	1
FU2	Blow fuse	RT21	2A	1
FU3	Blow fuse	RT21	3A	1
EL	Machine lamp	JC52		1
SB1	Buttom	LAY3-01ZS		1
SB2	Buttom	LAY3-10		1
SA2	Buttom	LAY3-10X/2		1
HL	indicator light	XDY2-AD		1
SQ1	Limit switch	LXW5-11N1		1
SQ2;SQ3	Limit switch	LXW5-11D1		2
SQ4;SQ6	Limit switch	LXW5-11Q1		2
SQ5	Limit switch	LXW3		1
TC	Transformer	JBK5-100TH	220;230;240V/110V.24V	1



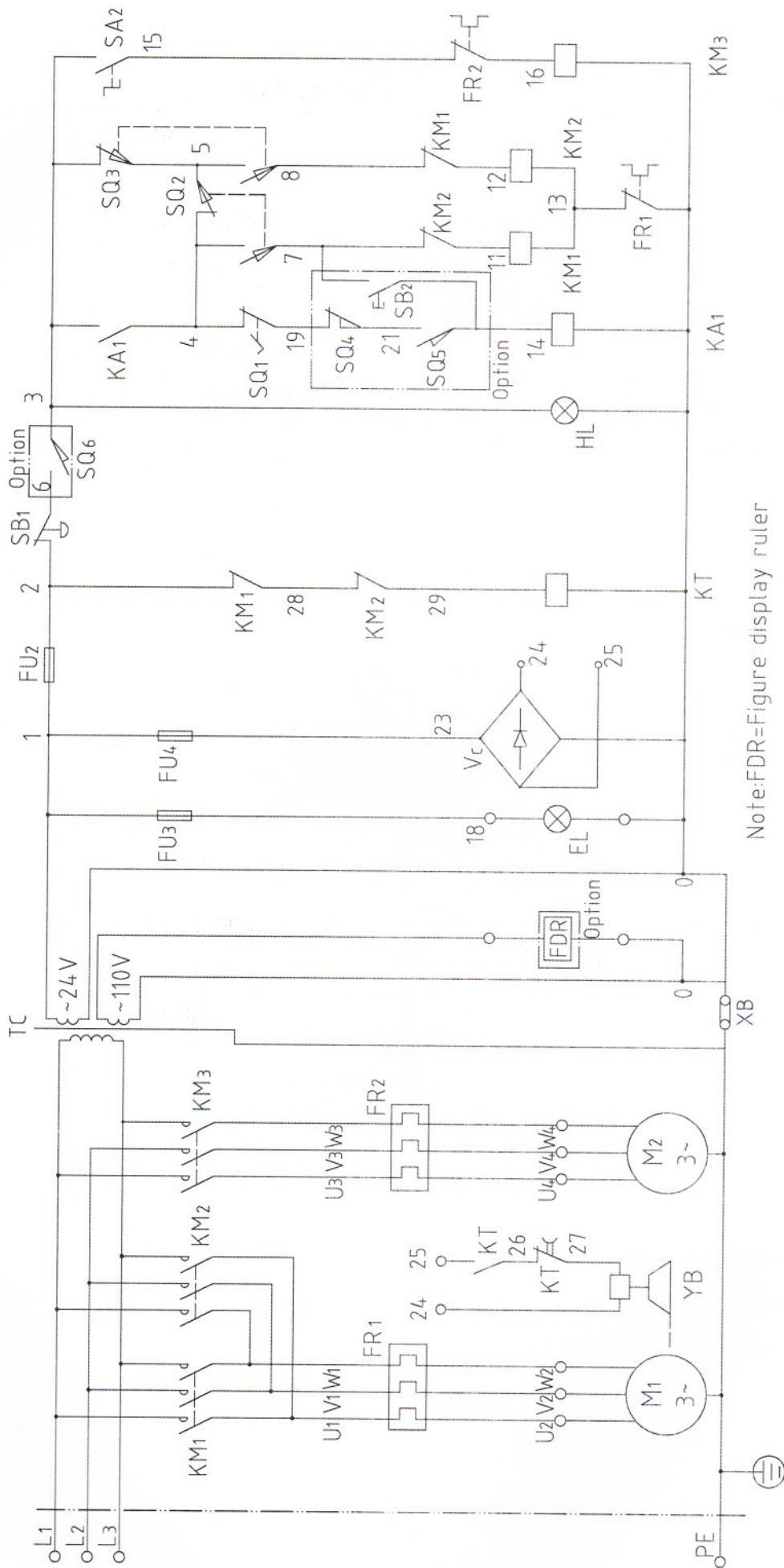
Note: FDR=Figure display ruler

No.5

No.5

Bill of electric apparatus(3~220/380/400/415/440V.etc,50/60Hz)

Code name	Description	Model	Technical data	Qty
KM1;KM2	A.C. contactor	LC1-D189	AC110V,50/60Hz	2
KM3	A.C. contactor	LC1-D099	AC110V,50/60Hz	1
KA1	Relay	CA2-DN140	AC110V,50/60Hz	1
FR1	Thermal relay	T16	6.3-9A(220V) ;3~4.5A(380V~)	1
FR2	Thermal relay	T16	0.35-0.52A(220V) ;0.19A~0.29A(380V~)	1
FU2	Blow fuse	RT21	2A	1
FU3;FU4	Blow fuse	RT21	3A	2
EL	Machine lamp	JC52		1
SB1	Buttom	LAY3-01ZS		1
SB2	Buttom	LAY3-10		1
SA2	Buttom	LAY3-10X/2		1
HL	indicator light	XDY2-AD		1
SQ1	Limit switch	LXW5-11N1		1
SQ2;SQ3	Limit switch	LXW5-11D1		2
SQ4;SQ6	Limit switch	LXW5-11Q1		2
SQ5	Limit switch	LXW3		1
TC	Transformer	JBK5-100TH	220;380;400;415;440V/110V.24V	1
Vc	Bridge rectifier		200V、5A	1
KT	Time relay	ST3PC	AC110V	1



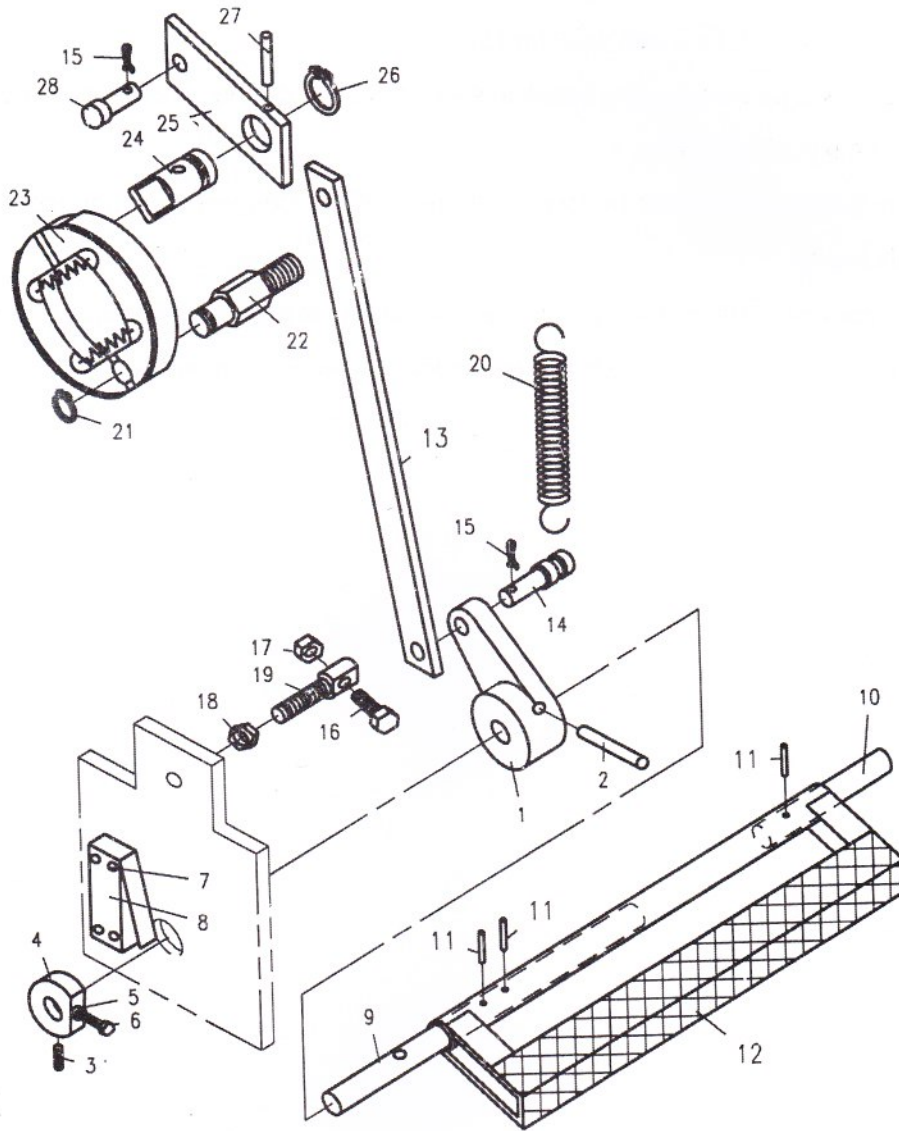
Note: FDR=Figure display ruler

No.6

**No.6****Bill of electric apparatus(3~220/380/400/415/440V.etc,50/60Hz)**

Code name	Description	Model	Technical data	Qty
KM1;KM2	A.C. contactor	LC1-D189	AC24V,50/60Hz	2
KM3	A.C. contactor	LC1-D099	AC24V,50/60Hz	1
KA1	Relay	CA2-DN140	AC24V,50/60Hz	1
FR1	Thermal relay	T16	6.3-9A(220V) ;3~4.5A(380V~)	1
FR2	Thermal relay	T16	0.35-0.52A(220V) ;0.19A~0.29A(380V~)	1
FU2	Blow fuse	RT21	2A	1
FU3;FU4	Blow fuse	RT21	3A	2
EL	Machine lamp	JC52		1
SB1	Buttom	LAY3-01ZS		1
SB2	Buttom	LAY3-10		1
SA2	Buttom	LAY3-10X/2		1
HL	indicator light	XDY2-AD		1
SQ1	Limit switch	LXW5-11N1		1
SQ2;SQ3	Limit switch	LXW5-11D1		2
SQ4;SQ6	Limit switch	LXW5-11Q1		2
SQ5	Limit switch	LXW3		1
TC	Transformer	JBK5-100TH	220;380;400;415;440V/24V.110V	1
Vc	Bridge rectifier		200V、5A	1
KT	Time relay	ST3PC	AC24V	1

**Directions for Installation of C0632A Lathe Foot Brake  
(Separated Packing)**



1. Loosen Screw 3, remove Part 4, take out Pin 2, dismount Part1. Put Part 9 (along with Part 12) into right side hole of the big bed stand. Mount Part 1. Put it through Bed Stand Supporting Plate. Mount Part 4. Move the small bed stand to the right end of Part 10. Mount the connecting axle into the small bed stand.

2. Put the chip pan on the right and left bed stands. Make 6 holes align that of the bed stands. the bed and other upper parts. Tighten screws 5-M12. Open the big stand left cover, connect the bed and the stand with a M16X45 hex bolt from inside the stand to the tapped hole of the bed , then tighten. Please refer to Fig.2. Make sure to put the white wire cord through the big hole of the chip pan to the big bed stand supporting plate. Fix Part 8 (stroke switch) .

3. Put part 14 into Fork 1, fix it with split Pin 15.

4. Put on the tensile returning spring between Part 14 and the pulling hole of the big bed stand. Use bolt 16 to adjust the position of Fork 1.

5. Connect pulling Bar 13 to Part 14, lock it with the split pin. Connect the other end to Part 28 and lock it with Split Pin 15.

6. Adjust the position of Hitting Pin Support 4 so that when the pedal is depressed Part 6 contact the spring plate of Stroke Switch 8. Use Set Screw 3 to lock Hitting Pin Support 4.