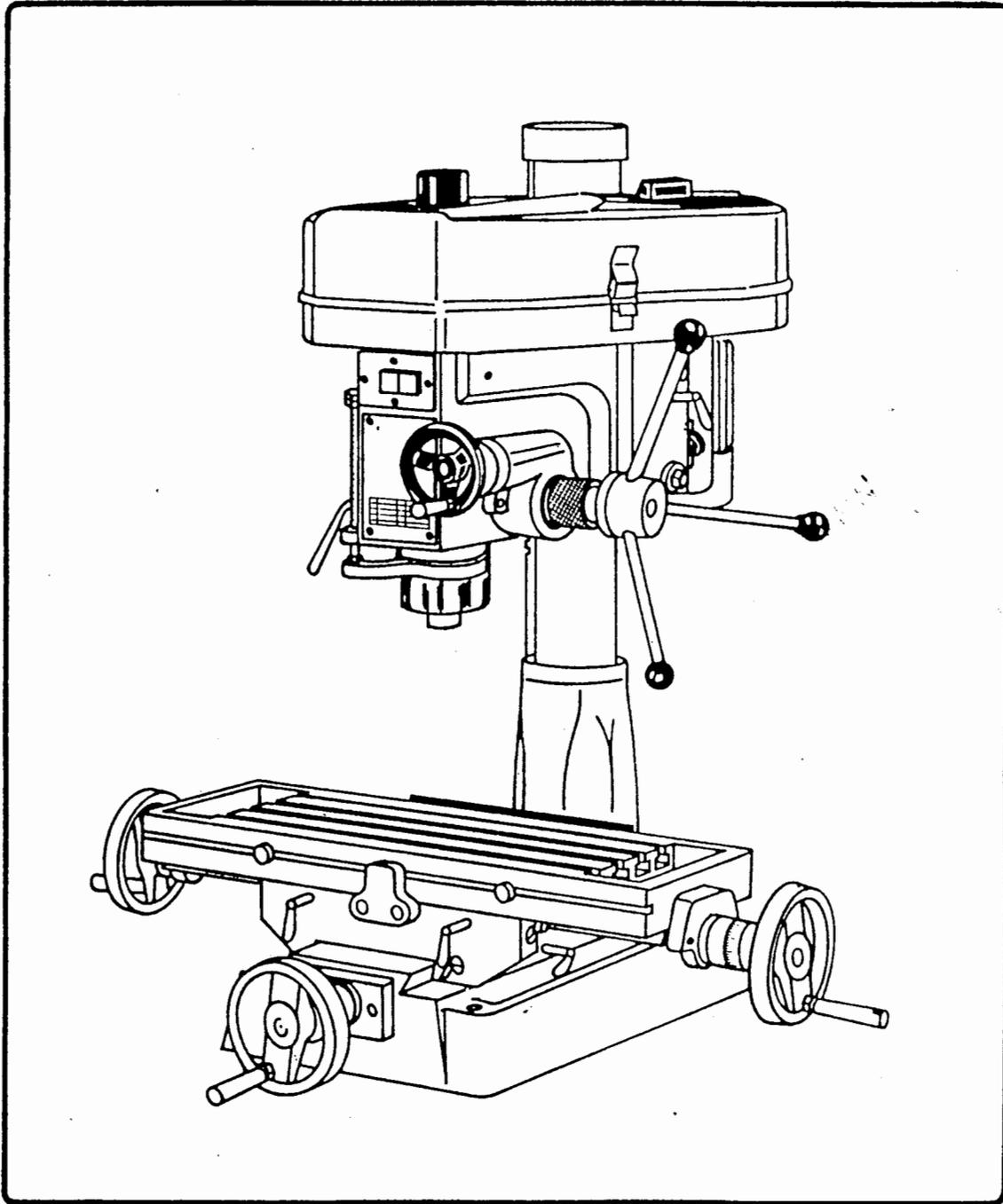


# COMPLEX MACHINE



MODEL RF-20/25

INSTRUCTION MANUAL

# Table of Contents

<b>Appearance View</b> .....	<b>2</b>
<b>Warning</b> .....	<b>3</b>
<b>Specification</b> .....	<b>4</b>
<b>Features</b> .....	<b>5</b>
<b>Precaution for Operation</b> .....	<b>6</b>
<b>Adjusting Table Slack and Compensate for Wear</b> ...	<b>7</b>
<b>Speed Changing and Adjust Belt</b> .....	<b>8</b>
<b>Extra Tooling and Accessories</b> .....	<b>9</b>
<b>Maintaining</b> .....	<b>10-11</b>
<b>Parts Lists and Breakdowns</b> .....	<b>12-18</b>

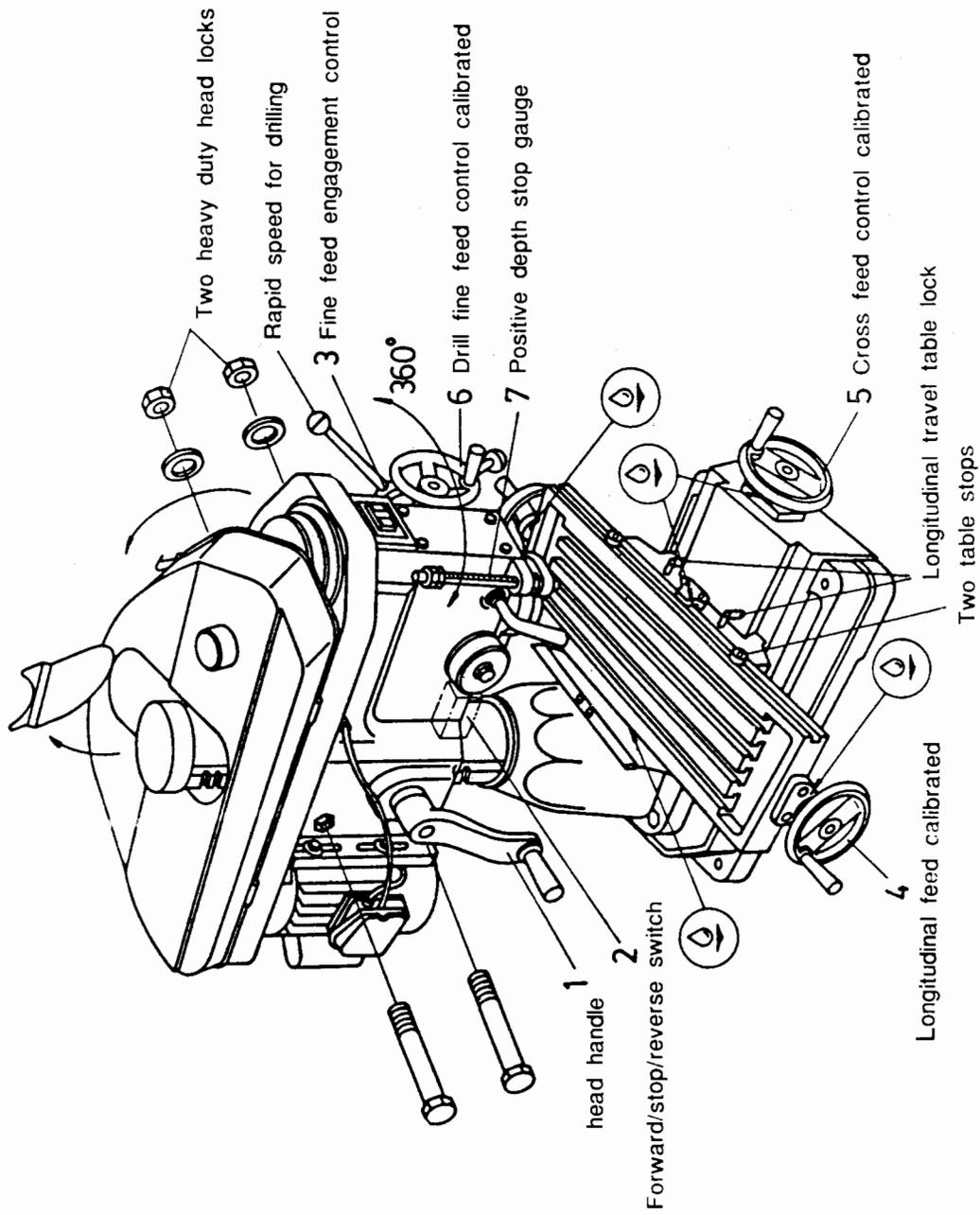


Fig. 1

As with all  
Using the  
jury. How  
erator ma  
This mac  
chine NOT  
have any  
and we ha

**A. USE**

**1. WEA**

clothing,  
jewelry to  
Nonslip fo  
protective ha

**2. ALW**

Refer to A  
recomme  
Also use f  
is dusty.

**3. DON**

ing and ba

**4. NEVE**

could occ  
tool is acc

**5. NEVE**

**UNAT**

't leave to

**6. DRU**

not opera  
drug, alcc

**B. USE**

**1. DON**

better an  
designed.

**2. USE**

tachment  
designed.

**3. SEC**

to hold w  
using you  
tool.

# WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

As with all machinery there are certain hazards involved with operation and use of the machine. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

This machine was designed for certain applications only. We strongly recommend that this machine **NOT** be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application **DO NOT** use the machine until you contact with us and we have advised you.

## SAFETY RULES FOR ALL TOOLS

### A. USER:

1. **WEAR PROPER APPAREL.** No loose clothing, gloves, rings, bracelets, or other jewelry to get caught in moving parts.

Nonslip foot wear is recommended. Wear protective hair covering to contain long hair.

2. **ALWAYS WEAR EYE PROTECTION.** Refer to ANSLZ87.1 standard for appropriate recommendations.

Also use face or dust mask if cutting operation is dusty.

3. **DON'T OVERREACH.** Keep proper footing and balance at all times.

4. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.

5. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

6. **DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drug, alcohol or any medication.

### B. USE OF MACHINE:

1. **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.

2. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.

3. **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand frees both hands to operate tool.

### 4. USE RECOMMENDED ACCESSORIES.

Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.

5. **AVOID ACCIDENTAL STARTING.** Make sure switch is in "OFF" position before plugging in power cord.

### C. ADJUSTMENT:

**MAKE** all adjustments with the power off. In order to obtain the machine, precision and correct ways of adjustment while assembling, the user should read the detailed instruction in this manual.

### D. WORKING ENVIRONMENT:

#### 1. KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents.

#### 2. 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-lighted.

3. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.

### E. MAINTENANCE

1. **DISCONNECT** machine from power source when making repairs.

2. **CHECK DAMAGED PARTS.** To read every details of trouble shooting, repair it very carefully and make sure the operator won't get injurt and damage the machine.

Thank you for purchasing the RF-20/25 COMPLEX Machine. If properly cared for and operated, this machine can provide you with years of accurate service. Please read this manual carefully before using your machine.

1.

**SPECIFICATION**

RF-20

RF-25

Drilling capacity		20mm(3/4")	25.4mm(1")
Face mill capacity		63mm(2-1/2")	
End mill capacity		13mm(1/2")	
Swing		404mm(15-7/8")	
Max. distance spindle nose to table		380mm(15")	
Spindle taper		M.T.3 R-8	
Spindle stroke		100mm(4")	
Diameter of Spindle sleeve		62mm(2 1/2")	
Head swivel		360°	
Diameter of column		92mm(3-5/8")	
Overall height (w/o stand)		900mm(35-1/2")	
Machine stand height		760mm(30")	
Length		930mm(36-1/2")	
Width		950mm(37-1/2")	
Motor		3/4HP – 1HP	
Spindle speed (r.p.m.)	12S	50Hz	90 – 2150
		60Hz	110 – 2580
Standard accessories		2 1/2"-cutter 1/2" chuck 2 1/2" angle vise	
Forward and backward travel of Table		160mm(6-1/4")	
Right and left travel of table		320mm(12-3/4")	370mm(14-1/2")
Working area of table		520mm × 160mm(20 1/2" × 6 1/4")	585mm × 190mm(23" × 7 1/2")
Gross weight		185kgs (407lbs)	200kgs (440lbs)
Measurement		15.9 Cuft	18.3 Cuft
Extra accessories		Collet chuck Work light Forward & Reverse switch Cabinet Stand Clamping Kits	
Noise		80 dB MAX	

## 2. FEATURES:

- (1) This machine has, several uses, such as surface cutting, drilling, milling, and also can be equipped with an electric switch for tapping.
- (2) This machine is of fine quality, can be operated easily, and it is not limited to skilled operators.
- (3) The drilling and milling operation can be performed by two methods:
  - 1). Hand operation, which makes quick drilling.
  - 2). Worm gear feed operation, which makes slow mlling.
- (4) Bronze adjustable nuts, which adjust the thread clearance and reduce the wear. They also make screws rotated smoothly and increase the thread accuracy.
- (5) Whole column which makes this machine strong, stable, and also keep the high accuracy.
- (6) Head of tough cast ensures its accuracy lasting and enduring through the treatment of precise boring cylinder, grinding, and internal stress relief.
- (7) To adjust belt and change speed, new pulley cover is easy to open the cover.

## 3. DELIVERY & INSTALLATION:

- (1) BE SURE all locks of headstock & column are tighten before operation.
- (2) ALWAYS Keep proper footing & balance while moving this 300kgs machine. and only use heavy duty fiber belt to lift the machine as per Fig. A.
- (3) KEEP machine always out from sun, dust, wet, raining area.
- (4) POSITION & tighten 4 bolts into base holes properly after machine in balance.
- (5) TURN OFF the power before wiring, & be sure machine in proper grounding. Overload & circuit braker is recommended for safety wiring.
- (6) CHECK carefully if main shaft in clockwise direction while running test., if not, reverse the wiring then, repeat the test till spindle direction is correct.



Fig. A

## 4.CLEANING & LUBRICATING

- (1) Your machine has been coated with a heavy grease to protect it in shipping. This coating should be completely removed before operating the machine. Commercial degreaser, kerosene or similar solvent may be used to remove the grease from the machine, but avoid getting solvent on belts or other rubber parts.
- (2) After cleaning, coat all bright work with a light lubricant. Lubricate all points in Fig.1. with a medium consistency machine oil.
- (3) Lubricating points as shown in arrows.

## 5. USE OF MAIN MACHINE PARTS (See Fig.1)

- (1) To raise and lower the head by head handle.
- (2) Equipped with an electric switch for tapping operation clockwise or counterclockwise.
- (3) To adjust the quick or slow feeding by feed handle.
- (4) To adjust the table left and right travel by table handle wheel.
- (5) To adjust the table fore and aft travel by table handle wheel.
- (6) To operate the spindle handle wheel for micro feed.
- (7) To adjust the scale size according to working need.

## 6. PRECAUTION FOR OPERATION

Check all parts for proper condition before operation; if normal safety precautions are noticed carefully, this machine can provide you withstanding of accurate service.

### (1) Before Operation

- (a) Fill the lubricant.
- (b) In order to keep the accurate precision, the table must be free from dust and oil deposits.
- (c) Check to see that the tools are correctly set and the workpiece is set firmly.
- (d) Be sure the speed is not set too fast.
- (e) Be sure everything is ready before use.

### (2) After Operation

- (a) Turn off the electric switch.
- (b) Turn down the tools.
- (c) Clean the machine and coat it with lubricant.
- (d) Cover the machine with cloth to keep out the dust.

### (3) Adjustment of Head

- (a) To raise and lower the head, loosen the two heavy duty head lock nuts shown in Fig. 1. Use the left side head handle to raise and lower the head on its rack and pinion mechanism. When the desired height is reached, tighten the bolts to avoid vibration.
- (b) Head may be rotated 360° by loosening the same bolts mentioned above. Adjust the head to the desired angle, then fix the heavy duty head locknuts. It is Tighten the same time to fix the head if drilling & milling too much.

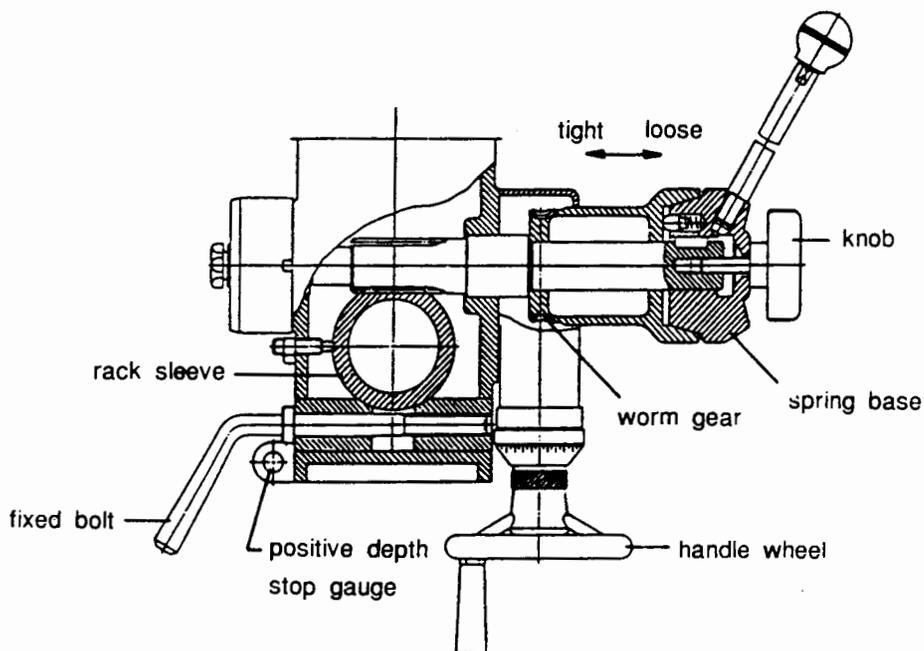


Fig. 2

(4) Preparing for Drilling (see fig. 2)

Turn of the knob make loose the taper body of worm gear and spring base . Then we decide spindle stroke setting the positive depth stop gauge for drilling blind hole or Free state for pass hole.

(5) Preparing for Milling (see fig. 2)

- (a) Adjust the positive depth stop gauge to highest point position.
- (b) Turn tight of the knob be use to taper friction force coupling the worm gear and spring base. Then turning the handle wheel by micro set the sprindle of work piece machining height.
- (c) Lock the rack sleeve at the desired height with fixed bolt.

7. ADJUSTING TABLE SLACK AND COMPENSATE FOR WEAR (See Fig. 3)

- (1) Your machine is equipped with Gib strip adjustment to compensate for wear and excess slack on cross and longitudinal travel.
- (2) Clockwise rotation the Gib strip bolt with a big screw driver for excess slack otherwise a little counter clockwise if too tight.
- (3) Adjust the Gib strip bolt until feel a slight drag when shifting the table.

8. CLAMPING, TABLE BASE, AND MACHINE BASE (See Fig. 3)

- (1) When milling longitudinal feed, it is advisable to lock the cross feed table travel to insure the accuracy of your work. To do this, tighten the small leaf screw located on the right side of the table base.
- (2) To tighten the lengitudinal feed travel of the table for cross feed milling, tighten the two small leaf screw on the front of the table base.
- (3) Adjustable travel stops are provided on the front of the table for control of cross travel and the desired milling length

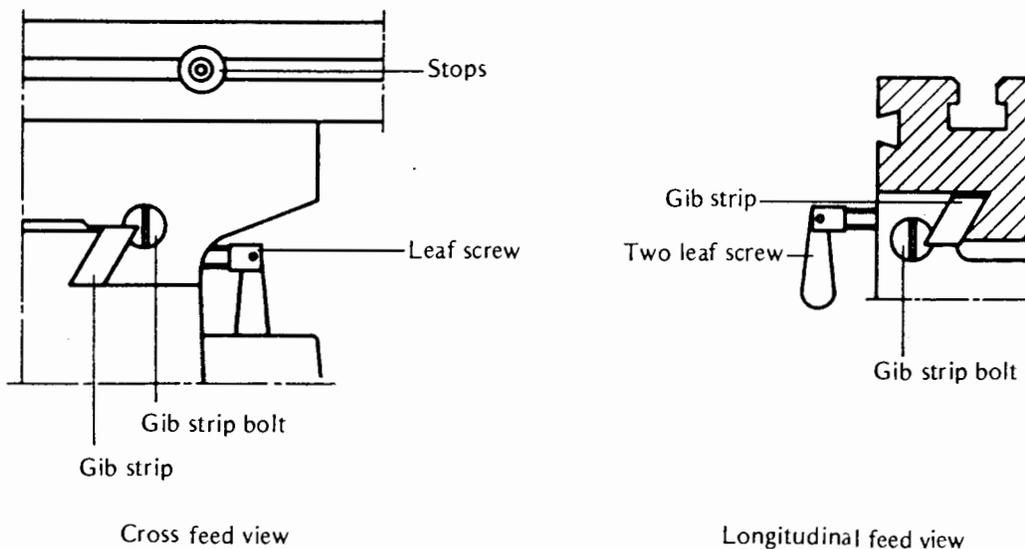


Fig. 3

## 9. SPEED CHANGING AND ADJUST BELT (Step See Fig. 4)

- (1) Turn power off.
- (2) Open belt cover by releasing side latches. step see (a) (b) (c).
- (3) Loosen motor mount leaf screw.
- (4) Push motor in order to loosen belts (head side of motor mount is set fixed, two motor's ear side with motor screw to tighten or loosen of belt.)
- (5) Loosen two screws of base for speed change inter pulley that also adjust the location of base for speed change inter pulley.
- (6) Select the suitable R. P. M. from speed charts of Fig. 5. Then place the belts on the desired pulley steps.
- (7) Tighten two screws of base for speed change pulley and the bolt of motor mount lock.
- (8) Cover the belt cover with counter step (2) after turn power on.

MOTOR			12 SPEEDS			25MM 20MM SPINDLE		
5	6	7	8	1	2	3	4	
50	60	BELT POSITION			50	60	BELT POSITION	
90	110	4-5		600	730	1-6		
170	210	4-6		700	850	2-7		
200	240	3-5		950	1140	1-7		
250	300	2-5		1290	1550	3-8		
280	340	4-7		1590	1910	2-8		
360	440	3-6		2150	2580	1-8		

Fig. 5

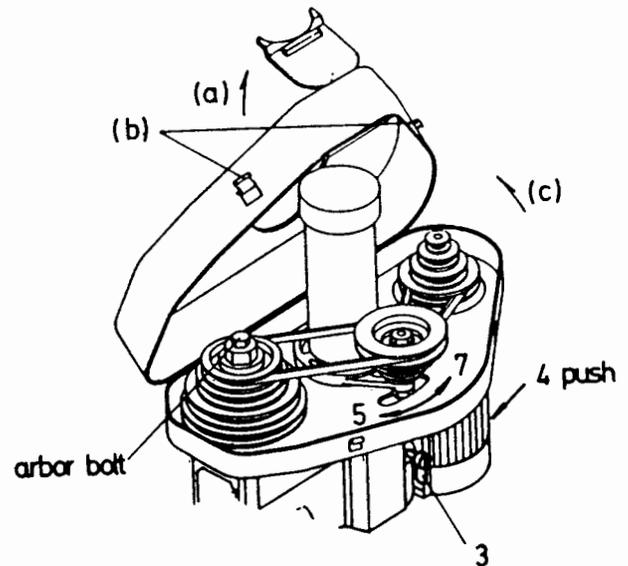


Fig. 4

## 10. TO CHANGE TOOLS

- (1) Removing Face Mill or Drill Chuck Arbor  
Loosen the arbor bolt (see fig. 4) at the top of the spindle shaft approximately 2 turns with a wrench. Rap the top of the arbor bolt with a mallet.  
After taper has been broken loose, holding chuck arbor on hand and turn detach the arbor bolt with the other hand.
- (2) To Install Face Mill or Cutter Arbor  
Insert cutter and cutter arbor into the taper of spindle. Tighten arbor bolt securely, but do not overtighten.
- (3) Removing Taper Drills  
(a) Turn down the arbor bolt and insert the taper drill into the spindle shaft.  
(b) Turn the rapid down handle rod down until the oblong hole in the rack sleeve appears. Line up this hole with the hole in the spindle. Insert punch key through holes and strike lightly with a mallet. This will force the taper drill out.

## 11. ORDERING REPLACEMENT PARTS

Complete parts list is attached. If parts are needed, contact your local distributor.

## 12. EXTRA TOOLING AND ACCESSORIES

Each of machine equipped with a MT # 3 spindle taper or a R-8 spindle taper (examples below). Contact your local distributor or a major cutting tool distributor to obtain any of these accessories.

Taper Drills  
Reamers  
End Mills  
Cutter Arbor  
Taps  
Collets  
Adapters and Sleeves

## 13. TAPPING EQUIPMENT

This machine can be equipped with an electric switch for tapping operation clockwise or counterclockwise, and the working depth also can be adjusted by the limit switch. (Electric switch will be installed according to your requirement, and you must pay the cost only.)

## 14. SPECIFICATION OF T-SOLT

The size of T-Solt on table as Fig 6:

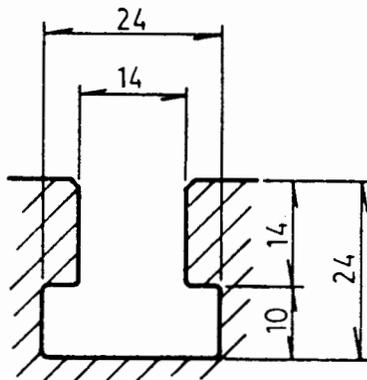


Fig.6.

## 15. TROUBLE SHOOTING

- (1) No running after switch on:
  - (a) Main switch interruption while volts irregular - Adjust input voltage and draw back the main switch.
  - (b) Break down of fuse in switch box - Replace with new one.
  - (c) In case of too much current, the overload relay jumps away automatically - Press the overload relay, and it will return to the correct position.
- (2) Motor Overheat and No Power:
  - (a) Overload - Decrease the load of feed.
  - (b) lower voltage - Adjust to accurate voltage.
  - (c) Spoiled contact point of magnetic switch - Replace with new one.
  - (d) Breakdown of overload relay - Connect it or replace with new one.
  - (e) Motor is poor - Replace with new one.
  - (f) Break down of fuse or poor contact with wire (it is easily to spoil motor while short circuit)- Switch off power source at once and replace fuse with new one.
  - (g) The tension of pulley V-belt too tight - Adjust for proper tension of V-Belt.
  - (h) If this machine with the tapping attachment, there is an aid plum screw fix on the motor mount in order to avoid the motor pulleys shake while turning.

- (3) The temperature of spindle bearing is too hot:
  - (a) Grease is insufficient - Fill th grease.
  - (b) The spindle bearing is fixed too tight - turning with no spced and feel the tightness with hand.
  - (c) Turning with high speed for a long time - Turn it to lightly cutting.
- (4) Lack of power with main spindle revolving:
  - (a) the tension of V-belt too loose - Adjust for proper tension of V-belt.
  - (b) Motor has burned out - Change a new motor.
  - (c) Fusc has burned out - Replace with new one.
- (5) table travel has not balanced:
  - (a) The gap of spindle taper too wide - Adjust bolt in proper.
  - (b) Loosening of leaf bolt - Turn and fasten in place.
  - (c) Feed too deep -Decrease dcpth of feed.
- (6) Shake of spindle and roughness of working surface has taken place during performance:
  - (a) The gap of spindle bearing too wide - Adjust the gap in proper or replace bearing with new one.
  - (b) Spindle loosening up and down - Make two of inner bearing covers on the top tight each other. Do not overtighten two inner bearing covers with the taper bearing; it is ok as long as no gap between them.
  - (c) The gap of taper sliding plate too Wide - Adjust the tension of bolt in proper.
  - (d) Loosening of chuck - Fasten chuck.
  - (e) Cutter is dull - Resharpen it.
  - (f) Workpiece has not hold firmly - Be sure to tighten workpiece.
- (7) Micro feed does not work smoothly:
  - (a) Loosening of clutch - Be sure to tighten it.
  - (b) Worm and worm shaft has worn out - Replace with new one.
  - (c) Loosening of handwheel fixed screw - Be sure to tighten it.
- (8) Without accuracy in performance:
  - (a) l'mbalance of heavy workpiece - Must be considerate of the principle of balance while hold- ing workpiece.
  - (b) Often use of hammer to strike workpiece - Forbidden to use hammer to strike workpiece.
  - (c) Unaccurate horizontal table - Cheek and maintain table for keeping accurate horizontal after a period of use.

## 16. MAINTAINING

That's easier ot keep machine in good condition or best performance by means of maintaining it at any time than remedy it after it is out of order.

- (1) Daily Maintenance (by operator)
  - (a) Fill the lubricant before starting machine everyday.
  - (b) If the temperature of spindle caused overhcating or strange noise, stop machine immedi- ately to check it for keeping accurate performance.
  - (c) Keep work area clean; release vise, cutter, workpiece from table; switeh off power source; take chip or dust away from machine and follow instructions lubricantiong or coating rust- proof oil before leaving.
- (2) Weekly Maintenance
  - (a) Clean and coat the cross leading screw with oil.
  - (b) Check to see if sliding surface and turning parts lack of lubricant. If the libricant is insufficant, fill it.

**(3) Monthly Maintenance**

(a) Adjust the accurate gap of slide both on cross and longitudinal feed.

(b) Lubricate bearing, worm, and worm shaft to avoid wear.

**(4) Yearly Maintenance**

(a) Adjust table to horizontal position for maintenance of accuracy.

(b) Check electric cord, plugs, switches at least once a year to avoid loosening or wearing.

# HEAD PARTS

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
1	7101	Chuck Arbor Bolt	MT3 M10xP1.5	1	17	7117-2	Spindle Shaft	R8	1
1	7101-1	Chuck Arbor Bolt	M12xP1.75	1	18	CA30206J	Taper Roller Bearing (30206J)	E30206J	1
1	7101-2	Chuck Arbor Bolt	W3/8"-16	1	19	7119	Bearing Cap	MT3	1
1	7101-3	Chuck Arbor Bolt	W1/2"-16	1	19	7119-1	Bearing Cap	R8	1
1	7101-4	Chuck Arbor Bolt	W7/16"-20	1	20	7120	Cutter Arbor	MT3 M10xP1.5	1
2	7102	Spindle Locknut		1	20	7120-1	Cutter Arbor	MT3 M12xP1.75	1
3	7103	Spindle Pulley		1	20	7120-2	Cutter Arbor	MT3 W3/8"-16	1
4	7104	Belt Bottom Cover		1	20	7120-3	Cutter Arbor	MT3 W1/2"-12	1
5	7105	Outer Bearing Plate	φ 84x50x2.8t	1	20	7120-4	Cutter Arbor	R8 W7/16"-20	1
6	7106	Spindle Taper Sleeve		1	21	7121	Chuck Arbor	MT3 M10xP1.5	1
7	CA6007ZZ	Ball Bearing(6007ZZ)	6007ZZ	2	21	7121-1	Chuck Arbor	MT3 M12xP1.75	1
8	7108	Bearing Spacer	φ 60x φ 55x16	1	21	7121-2	Chuck Arbor	MT3 W3/8"-16	1
9	7109	C-Retainer Ring	φ 3x φ 61	1	21	7121-3	Chuck Arbor	MT3 W1/2"-12	1
10	7110	C-Retainer Ring	φ 2x φ 52	1	21	7121-4	Chuck Arbor	R8 W7/16"-20	1
11	7111	Head Body		1	22		Grip		1
12	7112	Rubber Flange		1	23	7123	Retainer Ring		1
13	7113	Feed Base		1	24	7124	Handle Rod	213L	1
14	7114	Locknuts		2	25	7125	Fixed Tight Collar		1
15	CA30205J	Taper Roller Bearing(30205J)	E30205J	1	26	7126	Fixed Tight Collar		1
16	7116	Rack Sleeve	MT3	1	27	7127	Screw Key		1
16	7116-2	Rack Sleeve	R8	1	35	7135	Bearing Spacer		1
17	7117	Spindle Shaft	MT3	1	38	7138	Lock Bolt With Knob		1

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
39	7139	Handle Rod		3	68	7168	Punch Key		1
40	290086	Plastic Round Knob	6-1-PF64	3	69	7169	Belt Cover		1
42	6142-2	Head Wheel		1	69-1	6169-1	Spindle Cover		1
44	6144	Micro Adjusting Indicator	0~2.25 (mm)	1	69-2	7169-2	Shelf		1
44	6144-1	Micro Adjusting Indicator	0~0.09 (Inch)	1	70	7170-1	Motor Pulley		1
45	6145	Worm Cover	FC	1	71		V-Belt (A31)	A31	1
46	CA6202Z	Ball Bearing (6202Z)	6202Z	2	72	CA6204Z	Ball Bearing (6204Z)	6204Z	2
47	6147	Worm Shaft		1	73	7173	Inter Pulley		1
51	7151	Leaf Screw		1	74		V-Belt (A38)	A38	1
52	7152	Head Body Fix Bolt	1/2"-172L	2	75	7175	Inter Pulley Shaft		1
54	7154	Graduated Rod		1	76	7176	Speed Change Inter Pulley Base		1
55		Graduated Dial		1	79	7179	Rubber Collar		1
56		Switch		1	85	7185	Screw With Plum Knob		1
57		Name Plate (Speed)		1	86	7186	Milling Cutter		1
58	7158	Head Handle		1	87		Drill Chuck		1
59	7159	Worm Shaft		1	103	71103	Spring Cover		1
60	7160	Worm		1	104	71104	Spring		1
61	7161	Shaft		1	105	71105	Spring Base		1
62	7162	Compression Spring		1	106	71106	Pinion Shaft		1
63	7163	Pin		1	107	61107	Worm Gear		1
66	7166	Motor Mount		1	108	61108	Feed Cover		1
67		Motor		1	110	61110	Handle Base		1

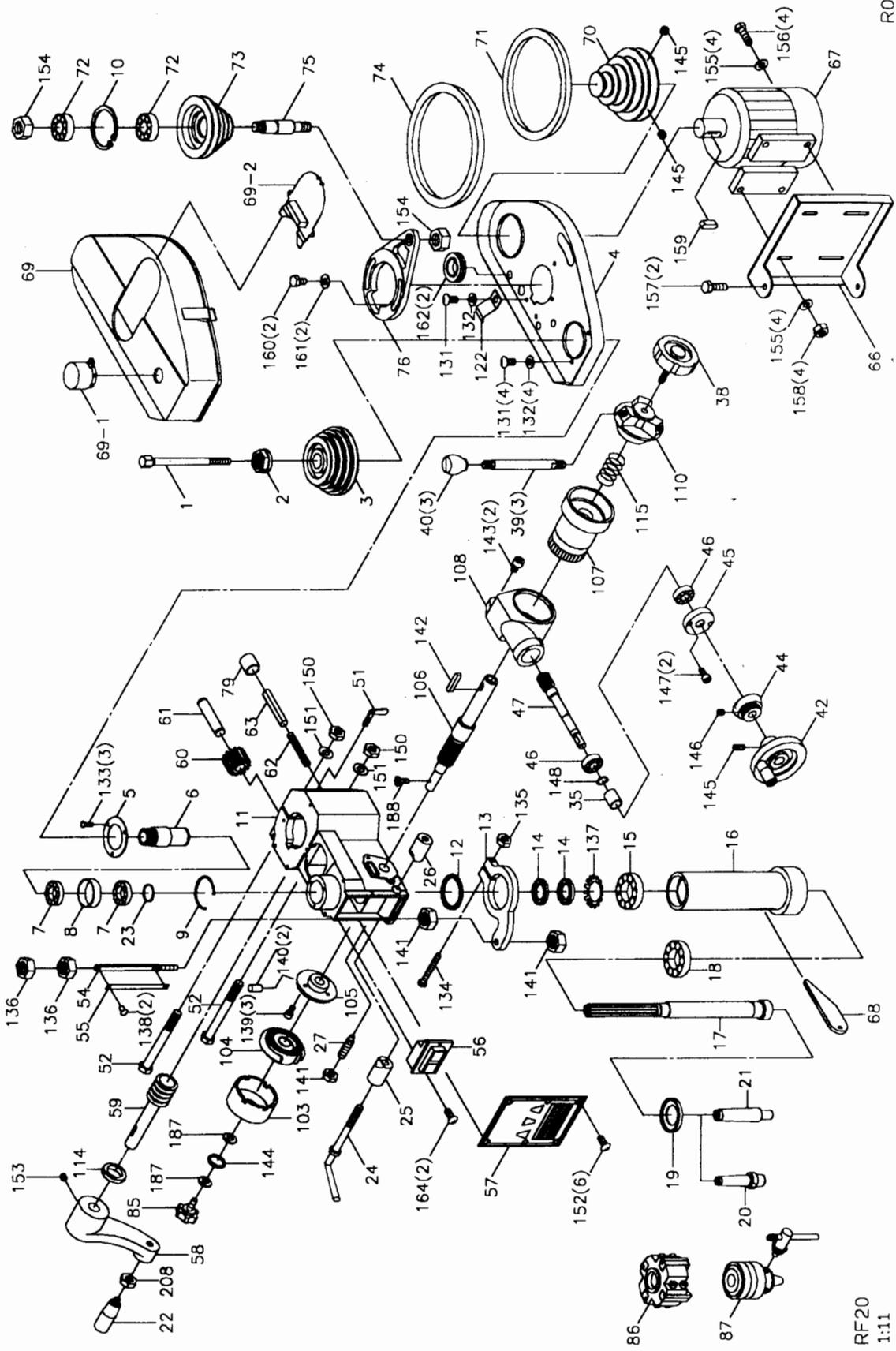
CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
114	71114	Bushing		1	151		Washer	1/2"x1-1/4"x3t	2
115	61115	Spring		1	152	H04140	Cross Round Head Screw	5/16"x1/2"L	6
122	6577	Clip Plate		1	153		Hex. Socket Headless Screw	3/8"x5/8"L	1
131	H04140	Cross Round Head Screw	1/4"x1/2"L	5	154		Hex. Nut	5/8"	2
132		Washer	1/4"x5/8"x2t	5	155		Washer	5/16"x15/16"x2t	8
133	H04140	Cross Round Head Screw	1/4"x3/8"L	3	156	H01260	Hex. Head Screw	5/16"x1"L	4
134	H01260	Hex. Head Screw	1/4"x2"L	1	157	H01260	Hex. Head Screw	3/8"x1/2"L	2
135		Hex. Nut	1/4"	1	158		Hex. Nut	5/16"	4
136		Hex. Nut	1/2"	2	159		Key	7x7x40L	1
137		Star Washer	AW06 $\phi$ 30	1	160	H01260	Hex. Head Screw	5/16"x1-1/2"L	2
138		Rivet	$\phi$ 2	2	161		Washer	3/8"X1X3t	2
139	H04140	Cross Round Head Screw	3/16"x3/4"L	3	162	61162	Outline Bush		2
140		Spring Pin	$\phi$ 2x8L	2	164	H04140	Cross Round Head Screw	3/16"x5/8"L	2
141		Hexagon Nut	3/8"	3	187		Spring Washer	1/4"	1
142		Key	7x7x20L	1	188	H05010	Flat Cross Head Screw	3/16"x3/8"L	1
143		Hex. Socket Head Screw	5/16"x1/2"L	2	208		Hex. Nut	W3/8"-16	1
144		Washer	1/4"	1					
145		Hex. Socket Headless Screw	5/16"x5/16L	3					
146		Hex. Socket Headless Screw	1/4"x1/4"L	1					
147		Hex. Socket Head Screw	3/16"x5/8"L	2					
148		C-Retainer Ring	$\phi$ 15	1					
150		Hex. Nut	1/2"	2					

# TABLE BASE PARTS

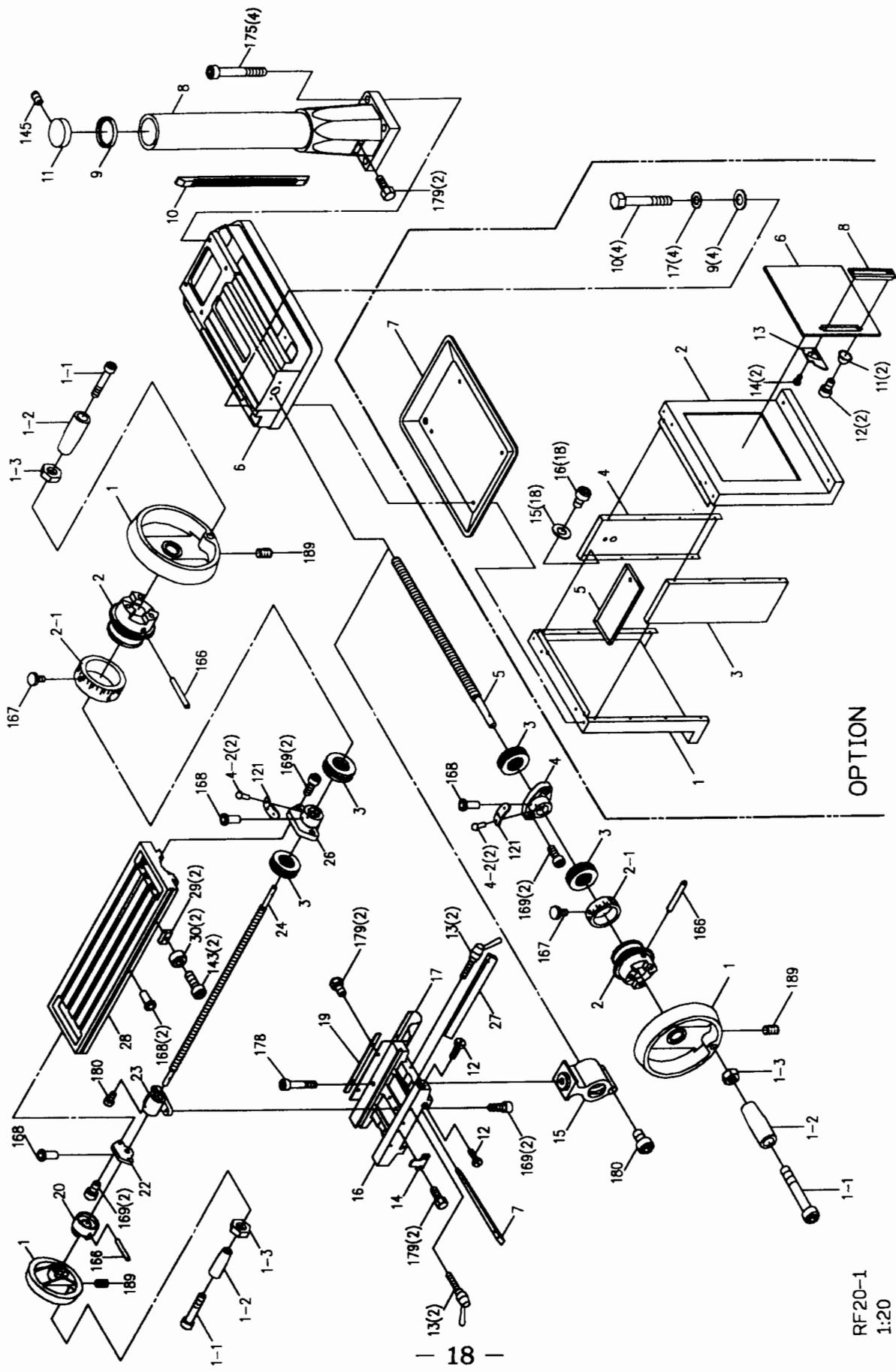
CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
1	6601	Table Handle Wheel	φ 17	3	17	6219	Antidust Plate		1
1-1		Hex. Socket Head Screw	3/8"-16UNC	3	19	6217	Antidust Plate		1
1-2		Handle Bar		3	20	7620	Table Clutch	φ 17	1
1-3		Hexagon Nut	3/8"	3	22	7222	Left Flange		1
2	6602	Dial Clutch	φ 17	2	23	6223	Table Nut	TM23.7xP2.5	1
2-1	6602-1	Graduated Dial(Metric)		2	23	6223-1	Table Nut	TM23.7-10	1
2-1	6602-2	Graduated Dial(Imperial)		2	23	6223-2	Table Nut	TM24xP5	1
3	CA51103	Thrust Bearing(51103)	51103	4	24	7224	Table Screw	TM23.5xP2.5	1
4	7204	Square Flange	φ 17	1	24	7224-1	Table Screw	TM23.5-10	1
4-2		Rivet	φ 2	4	26	7226	Right Flange		1
5	7205	Table Screw	TM23.5xP2.5	1	27	7227	Gib Strip		1
5	7205-1	Table Screw	TM23.5-10	1	28	7228	Table	RF-20	1
6	7206	Base	RF-20	1	28	12228	Table	RF-25	1
6	12206	Base	RF-25	1	29	6229	Fixed Block		2
7	7207	Gib Strip		1	30	6230	Movable Fixed Ring		2
8	7208	Column Base		1	121	61121	Limit Plate		2
9	7209	Column Flange Ring		1	143		Hex. Socket Head Screw	5/16"x1/2"L	2
10	7210	Rack		1	145		Hex. Socket Headless Screw	5/16"x5/16"L	1
11	7211	Column Head		1	166		Spring Pin	φ 5x40L	3
12	6212	Gib Strip Bolt		2	167	6602-3	Link Screw		2
13	6213-2	Leaf Screw		4	168		Oil Ball	3/16"	5
13	6151-1	T Screw		4	169		Hex. Socket Head Screw	3/8"x5"L	8
14	6214	Movable Fixed Block		1	175		Hex. Socket Head Screw	7/16"x2"L	4
15	6215	Table Base Nut	TM23.7xP2.5	1	178		Hex. Socket Head Screw	5/16"x3/4"L	1
15	6215-1	Table Base Nut	T 23.7-10	1	179	H01260	Hex. Head Screw	3/8"x3/4"L	6
16	7216	Center Base	RF-20	1	180		Hex. Socket Head Screw	M5x6L	2
16	12216	Center Base	RF-25	1	189		Hex. Socket Headless Screw	1/4"-20UNC	3

## STAND PARTS (OPTION)

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
1	2423014	Stand (Left)		1
2	2423015	Stand (Right)		1
3	2423007	Support Plate(Front)		1
4	2423008	Support Plate (Rear)		1
5	2423009	Built In Shelf		1
6	2423013	Door		1
7	12231-5	Chip Pan		1
8		Door Lock		1
9		Plastic Washer	3/8"	4
10	H01260	Hex. Head Screw	3/8"-16UNC-4"L	4
11		Washer		2
12	H04140	Cross Round Head Screw	NO.8-32UNC-1/4"L	2
13		Plate		1
14	H04140	Cross Round Head Screw	M4x0.5P-5L	2
15		Washer	5/16"	18
16	H04140	Cross Round Head Screw	5/16"-18UNC-1/2"L	18
17		Washer	3/8"x1-1/4"x3t	4



R0



OPTION

RF20-1  
1:20

**MANUFACTURER:**

**ADDRESS:**

**SERIAL No.:**

PLEASE WRITE DOWN THE SERIAL NO. ON THIS BLOCK  
FROM THE NAME PLATE AFTER YOU RECEIVE THIS MACHINE.