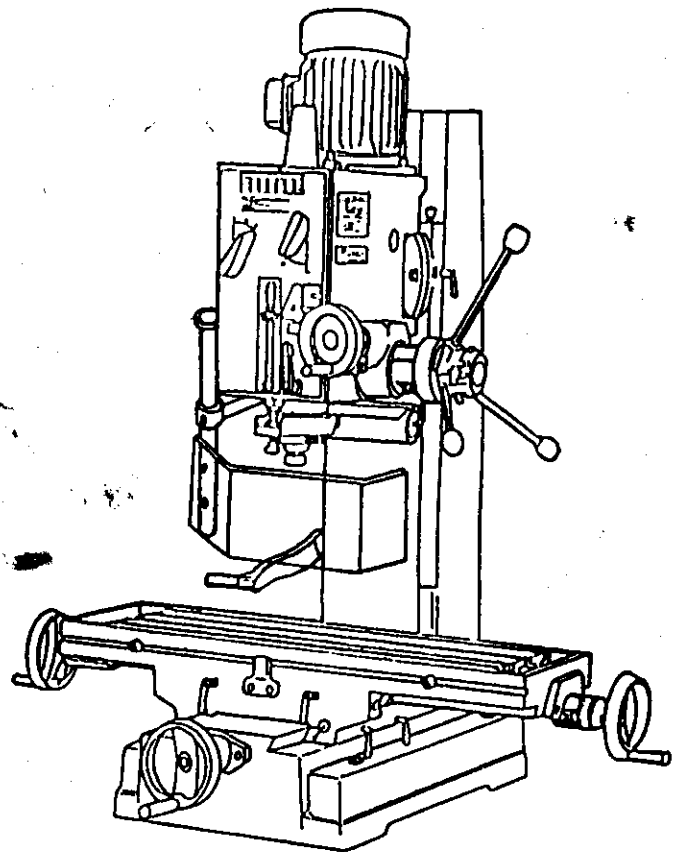


SAVE THIS MANUAL
FOR FUTURE REFERENCE

OWNER'S MANUAL

CAUTION:
READ ALL
INSTRUCTIONS
CAREFULLY



MODEL: RF-45

GEARED HEAD MILLING & DRILLING MACHINE

SPECIFICATIONS:

Drilling capacity	Cast iron	40mm(1-9/16")	
	mild steel	32mm(1-1/4")	
Face mill capacity		102mm(4")	
End mill capacity		32mm(1-1/4")	
Swing		550mm(21 5/8")	
Max. distance, spindle to table		445mm(17 1/2")	
Spindle taper		M.T. 3 or R-8, NT#30(Option)	
Spindle stroke		130mm(5")	
Quill diameter		76mm(3")	
Spindle speed (r.p.m.)	6S	60HZ	60,130,230,450,800,1500 (4P)
		50HZ	50,110,190,380,670,1250 (4P)

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. And call your local dealer for instructions.

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 OVER REACH.** 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 injured and damage the machine.

SPECIFICATIONS:

Drilling capacity	cast iron	40mm (1 9/16")	T-Slot size	16mm (5/8")	
	mild steel	32mm (1 1/4")	Working size	820mm x 240mm (32" x 9 1/2")	
Face mill capacity		102mm (4")	Working table longitudinal travel	510mm (20")	
End mill capacity		32mm (1 1/4")	Working table cross travel	240mm (9 1/2")	
Swing		550mm (21 5/8")	Overall height W/Stand	1745mm (68 5/8")	
Max. distance, spindle to table		445mm (17 1/2")	Length	785mm (30 7/8")	
Spindle taper		R-8 or MT#3, NT#30 (option)	Width	1100mm (43 1/4")	
Spindle stroke		130mm (5")	Vertical Spindle motor	2HP (4 Pole)	
Quill diameter		76mm (3")	Packing	1 set/1 case	
Spindle speed (r.p.m.)	6S	60HZ	60,130,230,450,800,1500 (4P)	Weight (NW/GW)	330 kgs/360 kgs
		50HZ	50,110,190,380,670,1250 (4P)	Measurement	830mm x 737mm x 1143mm (33" x 29" x 45")
Head tilt, left & right		90°	Q'ty/1 x 20' Container	39 sets	

OPTIONAL ACCESSOIRES:

1/2" drill chuck
3-Way angle vise

K-type milling vise
Face milling cutter
52 pcs clamping kits
Milling chuck (7 pcs/set)

Dividing head
5" lathe chuck
Tapping switch
Boring head set
Digital readout
Multi-spindle attachment
Horizontal / Vertical rotary table

WARNING: CHANGE SPEED ONLY WHEN MACHINE IS STOPPED

SPEED CHANGING

LEVERS	L1	L2	L3	H1	H2	H3
60Hz	60	130	230	450	800	1500
50Hz	50	110	190	380	670	1250

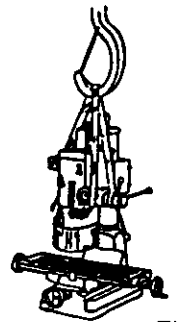


Fig.A

CHANGING THE GEAR BOX OIL

Tilt the head stock over as shown in Fig. 1 Open the oil drain plug to allow the oil to drain from the opening completely. Then lock the oil drain plug and turn the head to be upright position. Remove the oil filler plug fill the oil to the gear box until the oil lever reach the middle of oil fluid lever indicator. Then lock the plug.

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.

CLEANING

- (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 lubrication. Lubricate all points with a medium consistency machine oil.

LUBRICATION:

All ball bearings in your mill/drill are sealed for life, requiring no lubrication. Points requiring lubrication are.

- (1) Internal spline drive assembly. Keep this area well lubricated with a good grade non-hardening grease, such as Fiske Company "Lubriplate". Insert grease in the hole at the top of spindle pulley spline driver. Lube twice yearly.
- (2) A light film of oil applied to the quill and column will reduce wear, prevent rust, and assure ease of operation.
- (3) Quill return spring should receive oil (SAE 20) once yearly. Remove cover plate and apply oil with squirt can or small brush.
- (4) IMPORTANT: The gear box should be oiled with a lubricant such as SAE 68 oil in level. CHANGE OIL EVERY ONE YEAR.
- (5) Apply Lubriplate to quill pinion every 90 days.

NOTE: Use extreme care when performing this operation and keep hands clear of pinch points. When using parafin bar, do this only by turning the sheaves by hand. Do not apply with motor running.

USE OF MAIN MACHINE PARTS

- (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.

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 free handle 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) Unscrew 3 nuts while the workpiece needs to be bevel drilled Turn to the degrees you wish on the scale, then screw the 3.

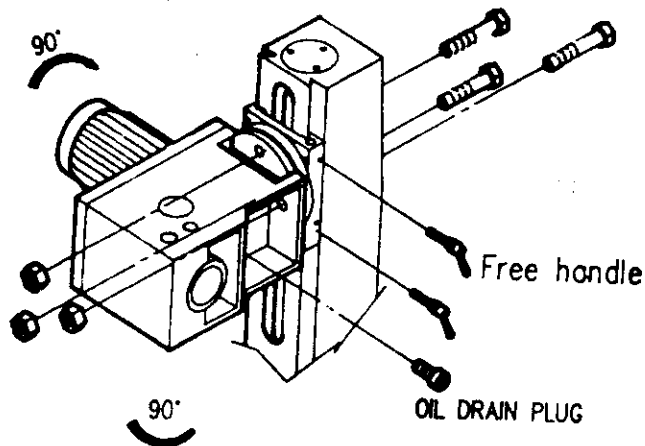


Fig. 1

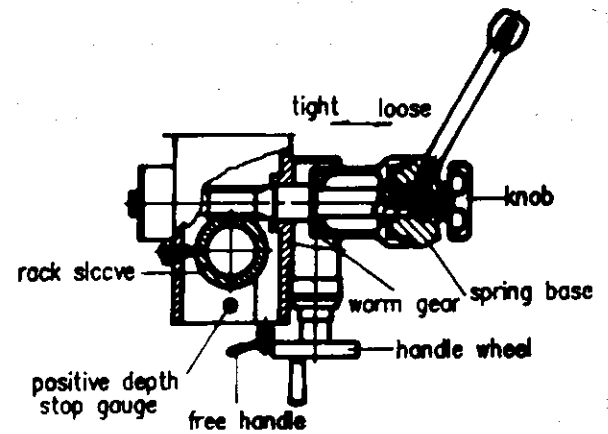


Fig 2

QUILL RETURN SPRING ADJUSTMENT:

Spring tension for return of spindle, after hole drilling, has been pre-set at the factory. No further adjustment should be attempted unless absolutely necessary. Adjustment will probably be required if a multiple spindle drilling or tapping head is used. If adjustment is necessary, loosen lock screw while holding quill spring housing. Do not allow the housing to turn in your hand, or spring will unwind. Turn entire housing Assembly clockwise the number of turns necessary to cause the quill to return to its up position. (NOTE: The flat of the spring housing pilot is lined up with the spring loading hole on the body of the spring housing.) Reset lockscrew make sure point of screw mates to flat on the housing journal.

(4) Preparing for Drilling (see fig. 2) (Except addition power feed system).

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) (Except addition power feed system).

(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 spindle of work piece machining height.

(c) Lock the rack sleeve at the desired height with fixed bolt.

ADJUSTING TABLE SLACK AND COMPENSATE FOR WEAR (see fig. 3)

(1) Your machine is equipped with jib strip adjustment to compensate for wear and excess slack on cross and longitudinal travel.

(2) Clockwise rotation the job strip bolt with a big screw for excess slack otherwise a little counter clockwise if too tight.

(3) Adjust the jib strip bolt until feel a slight drag when shifting the table.

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 longitudinal 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.

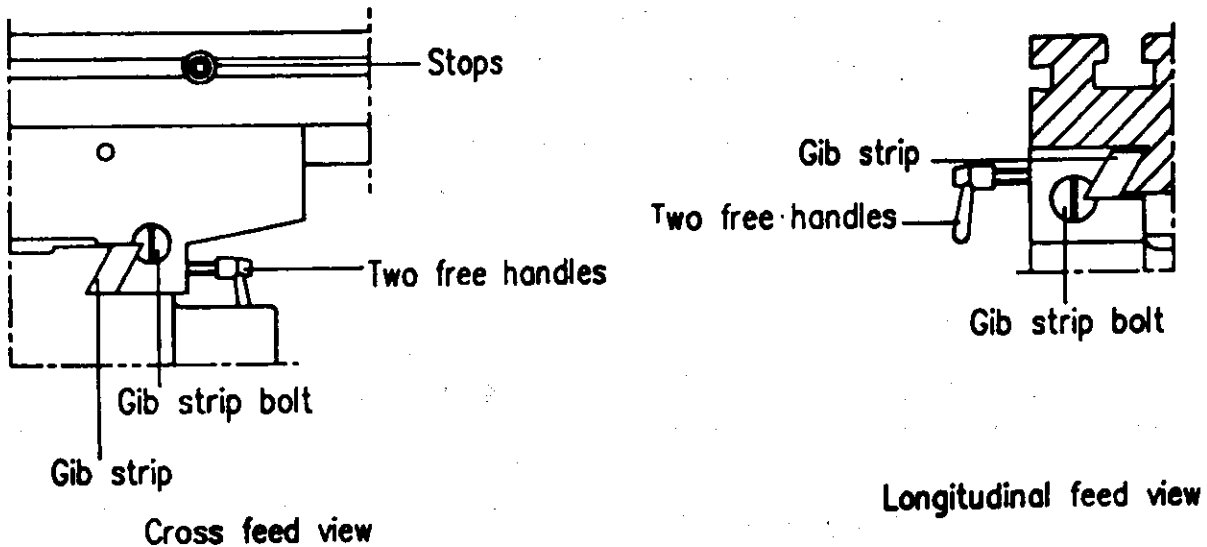


Fig. 3

TO CHANGE TOOLS

- (1) Removing Face Mill or Drill Chuck Arbor.

Loosen the arbor bolt 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 detach securely, but do not overtighten.

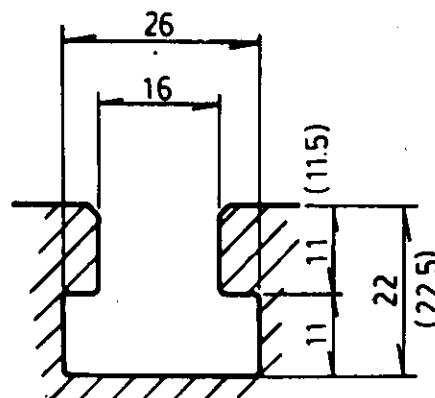
- (3) Removing Taper Drills

(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 key punch key through holes and strike lightly with a mallet. This will force the taper drill out.

SPECIFICATION OF T-SLOT

The size of T-Slot on table as Fig 4.

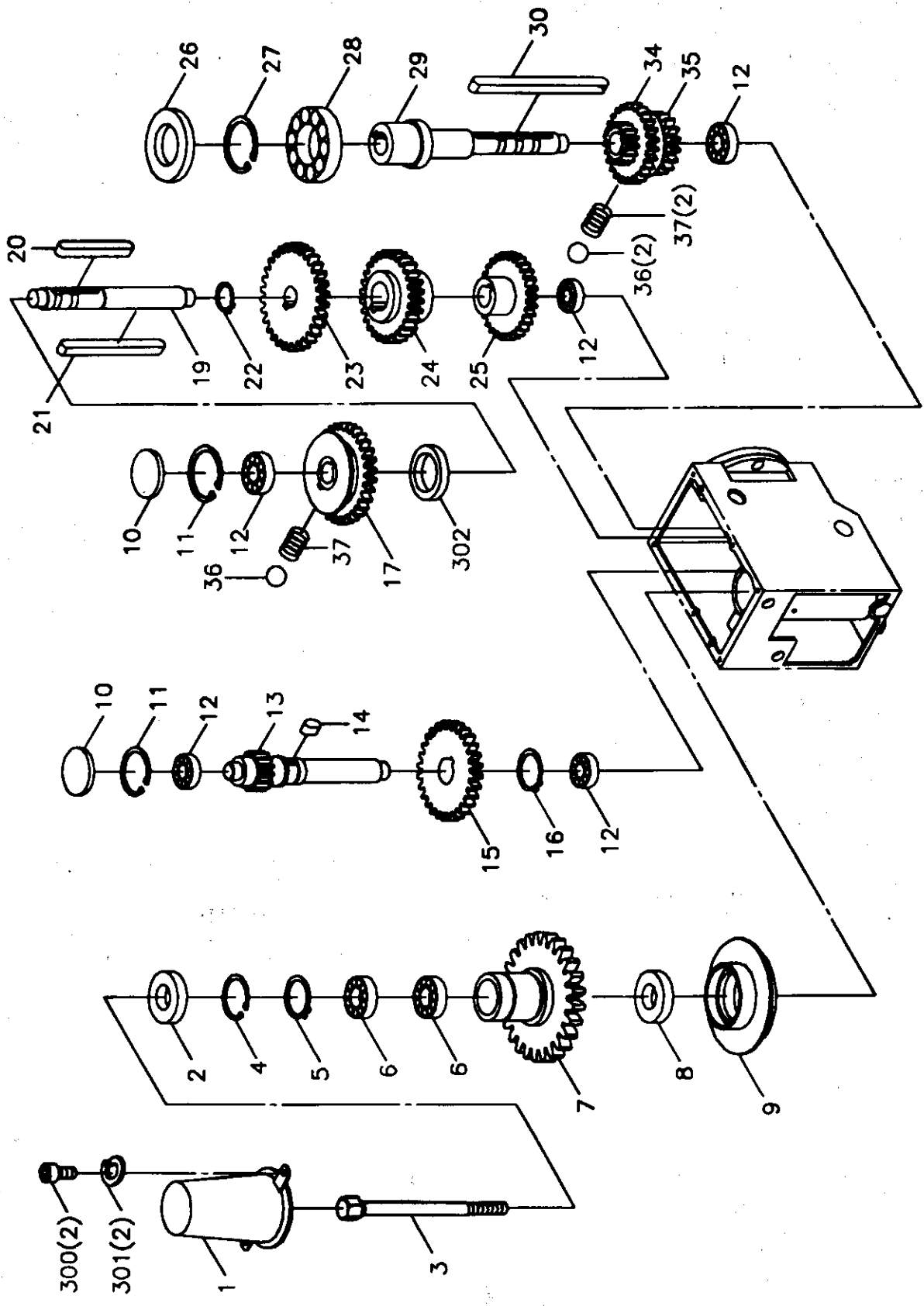


TROUBLE SHOOTING HINTS

TROUBLE	PROBABLE CAUSE	REMEDY
Excessive Vibration	<ol style="list-style-type: none"> 1. Motor out-of-balance. 2. Bad motor. 	<ol style="list-style-type: none"> 1. Balance or replace problem motor. 2. Replace motor.
Motor Stalls	<ol style="list-style-type: none"> 1. Over feeding. 2. Dull drill. 3. Motor not building up to running speed 4. Bad motor. 	<ol style="list-style-type: none"> 1. Reduce feed rate. 2. Sharpen drill and keep sharp. 3. Replace or repair motor. Check fuses in all three legs on three phase motors and replace if necessary. 4. Replace motor.
Noisy Operation	<ol style="list-style-type: none"> 1. Excessive vibration. 2. Improper quill adjustment. 3. Noisy spline. 4. Noisy motor. 	<ol style="list-style-type: none"> 1. Check remedy under excessive vibration. 2. Adjust quill 3. Lubricate spline. 4. Check motor bearings or for loose motor fan.
Drill or Tool heats up or burns work .	<ol style="list-style-type: none"> 1. Excessive speed. 2. Chips not clearing. 3. Dull tool. 4. Feed reate too slow. 5. Rotation of drill incorrect. 6. Failure to use cutting oil or coolant (on steel). 	<ol style="list-style-type: none"> 1. Reduce speed. 2. Use pecking operation to clear chips. 3. Sharpen tool or replace. 4. Increase feed enough to clear chips. 5. Reverse motor rotation. 6. Use cutting oil or coolant on steel.
Drill leads off	<ol style="list-style-type: none"> 1. No drill spot. 2. Cutting lips on drill off center. 3. Quill loose in head. 4. Bearing play. 	<ol style="list-style-type: none"> 1. Center punch or center drill workpiece. 2. Re grind drill. 3. Tightne quill. 4. Check bearings and reseal or replace if necessary.
Excessive drill runout or wobble	<ol style="list-style-type: none"> 1. Bent drill. 2. Bearing play. 3. Drill not seated properly in chucks. 	<ol style="list-style-type: none"> 1. Replace drill. Do not attempt to straighten. 2. Replace or reseal bearings. 3. Loosen, reseal and tighten chuck.
Work or fixture comes loose or spins.	<ol style="list-style-type: none"> 1. Failure to clamp workpiece or work holding device to table. 	<ol style="list-style-type: none"> 1. Clamp workpiece or work holding device to table surface.

Caution for Switch:

When changing the running direction of the spindle, forward to reverse or reverse to forward, STOP THE MOTOR POWER first. Absolutely do not change the spindle running direction when machine is running. Improper operation of the switch may cause to the damage of the switch, machine or danger to operator.



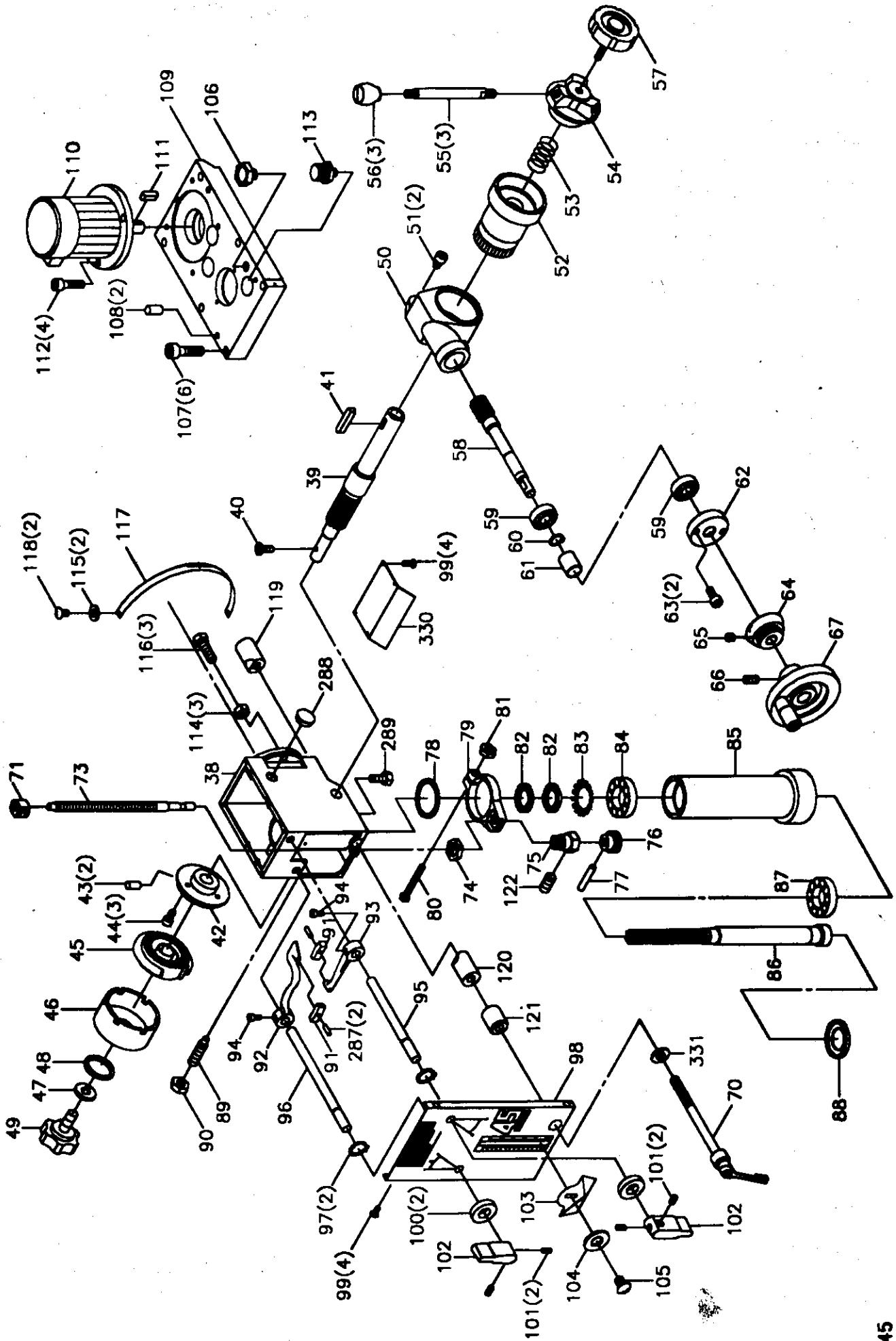
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PARTS LIST

RF 45

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
1	2401001-2	Main Shaft Cover		1
2		Oil Seal	§ 40x § 60x10t	1
3	6101	Chuck Arbor Bolt	MT3 M10xP1.5	1
3	6101-1	Chuck Arbor Bolt	MT3 M12xP1.75	1
3	6101-2	Chuck Arbor Bolt	MT3 W3/8"-16	1
3	6101-3	Chuck Arbor Bolt	MT3 M12xP1.75	1
3	6101-4	Chuck Arbor Bolt	R8 W1/16"-20	1
3	6101-5	Chuck Arbor Bolt	NT30	1
4		C-Retainer Ring	R68	1
5		C-Retainer Ring	S40	1
6	CA6008ZZ	Ball Bearing (6008ZZ)	6008ZZ	2
7	2402006A	Idle Gear		1
8		Oil Seal	§ 35x § 45x8t	1
9	2401008	Oil Seal Ring		1
10		Cap	§ 35	2
11		C-Retainer Ring	R35	1
12	CA6002ZZ	Ball Bearing (6002ZZ)	6002ZZ	5
13	2402020	Pinion Shaft		1
14		Key	6x6x10L	1
15	2402021	Idle Gear		1
16		C-Retainer Ring	S22	1
17	2402029	Idle Gear		1
17	2402030	Idle Gear		1
19	2402031	Pinion Shaft		1
20		Key	6x6x50L	1
21		Key	6x6x75L	1
22		C-Retainer Ring	S18	1
23	2402055	Idle Gear		1
24	2402037	Idle Gear		1
25	2402027	Idle Gear		1
26		Oil Seal	§ 35x § 62x8t	1
27		C-Retainer Ring	R62	1
28	CA6007ZZ	Ball Bearing (6007ZZ)	6007ZZ	1
29	2402043	Pinion Shaft		1
30		Key	5x5x80L	1
34	2402049	Idle Gear		1
35	2402051	Idle Gear		1
35	2402051A	Idle Gear		1
36		Steel Ball	§ 5/16"	3
37		Spring	§ 0.8x	1
300		Hex. Socket Head Screw	M4x0.7Px6L	2
301		Spring Washer(For CE Only)	M4	2



HEAD PARTS

RF-45

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
38	2401011	Head Body		1
39	61106	Pinion Shaft		1
40	H05010	Flat Cross Head Screw	3/16"x3/8"L	1
41		Key	7x7x20L	1
42	61105	Spring Base		1
43		Spring Pin	φ 3x12L	2
44	H04140	Cross Round Head Screw	3/16"x3/4"L	3
45	61104	Spring		1
46	61103	Spring Cover		1
47		Spring Washer	1/4"x1"x1.5t	1
48		Washer	1/4"	1
49	6185	Plum Screw	1/4"-20UNC	1
50	61108	Feed Cover		1
51		Hex. Socket Head Screw	5/16"x1/2"L	2
52	61107	Worm Gear		1
53	61115	Spring		1
54	61110	Handle Base		1
55	6139	Handle Rod		3
56	290086	Plastic Round Knob	6-1-PF64	3
57	6138	Lock Bolt With Knob		1
58	6147	Worm Shaft		1
59	CA6202Z	Ball Bearing (6202Z)	6202Z	2
60		C-Retainer Ring	S15	
61	6135	Bearing Spacer	φ 34x φ 27.5x30L	1
62	6145	Worm Cover	FC	1
63		Hex. Socket Head Screw	3/16"x7/16"L	2
64	6144	Micro Adjusting Indicator	metric 0 ~ 2.25	
64	6144-1	Micro Adjusting Indicator	inch 0 ~ 0.09	
65		Hex. Socket Headless Screw	1/4"x1/4"L	1
66		Hex. Socket Headless Screw	5/16"x5/16"L	1
67	6142-2	Head Wheel		1
70	2421003	Handle Rod		1
71	6192	Set Position Block		1
73	6554	Graduated Rod	TW12-10牙-2A	1
74	6193	Hex. Socket Headless Screw		1
75	6194	Screw Support		1
76	6195	Knob		1
77		Spring Pin		1
78	6112	Rubber Flange		1
79	6513	Feed Base		1
80		Hexagon Head Bolt	1/4"x2"L	1
81		Hex. Nut	1/4"	1
82	6114	Bearing Nut	φ 29.5-20	x5.5t 2
83		Star Washer	AW06 φ 30	1
84	CA30206J	Taper Roller Bearing (30206J)	30206J	1
85	6116-2	Rack Sleeve	MT3	1
85	6116-3	Rack Sleeve	MT3	1
85	6116-4	Rack Sleeve	MT3	1
85	6116-5	Rack Sleeve	MT3	1
85	6116-6	Rack Sleeve	R8	1
86	6117	Spindle Shaft	MT3	1
86	6117-2	Spindle Shaft	R8	1
86	6117-3	Spindle Shaft	NT30	1
86	6117-4	Spindle Shaft	R8	1
86	6117-6	Spindle Shaft	R8	1

HEAD PARTS

RF-45

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
87	CA30207J	Taper Roller Bearing (30207J)	30207J	1
88	6119	Bearing Cap	MT3 R8	1
89	6127	Screw Key	3/8"-16UNC-38L	1
90		Hexagon Nut	3/8"	1
91	2401066	Gear Lever Bracket		2
92	2401067	Gear Lever (Left)		1
93	2401068	Gear Lever (Right)		1
94		Hex. Socket Head Screw	1/4"-20UNCx1/2"L	2
95	2401070	Lever Shaft (Right)		1
96	2401071	Lever Shaft (Left)		1
97		C Ring	S12	2
98		Name Plate		1
98-1		Name Plate(For CE Only)		1
99	H04140	Cross Round Head Screw	3/16"-24UNCx3/8"L	8
100		Oil Seal	G12	2
101		Hex. Socket Headless Screw	1/4"-20UNCx1/4"L	4
102	2401075	Speed Lever		2
103	61102	Limit Plate		1
104		Washer	5/32"	1
105	H04140	Cross Round Head Screw	5/32"x1/4"L	1
106		Oil Plug	PT3/8"x2"L	1
107		Hex. Socket Head Screw	3/8"-16UNCx1-3/4"L	6
108		Miter Pin	φ 3/8"x2"L	2
109	2401084	Head Body Cover		1
110		Motor		1
111		Key	6x6x30L	1
112		Hex. Socket Head Screw	3/8"-16UNCx1"L	3
113		Vent Plug Screw	PT1/8"x90°	1
114		Hex. Nut	5/8"-11UNC	3
115		Washer		2
116		Hex. Nut	5/8"-11UNCx2-1/4"L	3
117	2401076-1	Degree-Meter		1
117	2401076	Degree-Meter		1
118	H04140	Cross Round Head Screw		2
119	6126A	Fixed Tight Collar (Thread)		1
120	6125A	Head Lock		1
121	6125-2	Fixed Tight Collar		1
122		Pin	M4x8L	1
287		Spring Pin		2
288		Fluid Lever Indicator	φ 29	1
289		Oil Plug	1/4PT牙	1
303		Washer	W5/16"-18	2
306		Hex. Socket Head Screw	M8x1.25P	4
307	61191	Rotary Shaft Fixed Base(For CE Only)		2
308	6185	Plum Screw	1/4"-20UNC	2
309	H04140	Cross Round Head Screw	W5/16"-18	2
310		Hex. Socket Headless Screw	W1/4"-20	2
311		C Ring	S12	1
312		Spring Pin		1

HEAD PARTS

RF-45

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
322		Hex. Socket Head Screw	M5x8L	2
323		Washer	M5	2
324		Hex. Socket Headless Screw	M5x10L	3
325		Hex. Socket Head Screw	M8x25L	2
326		Hex. Socket Head Screw	M4x6L	1
328		Spring Washer	M5	2
329		Hex. Socket Head Screw	M5x16L	1

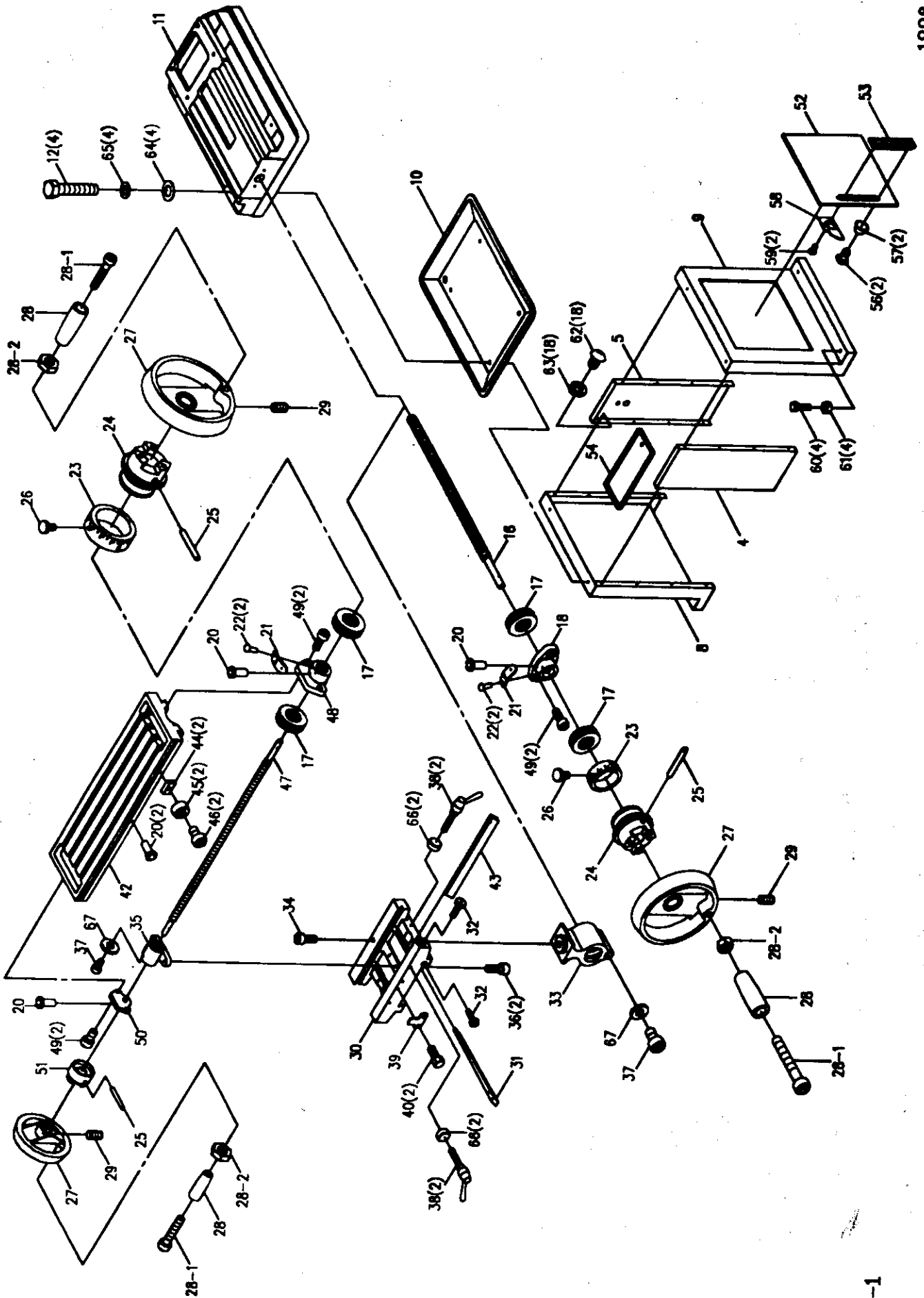


TABLE BASE PARTS

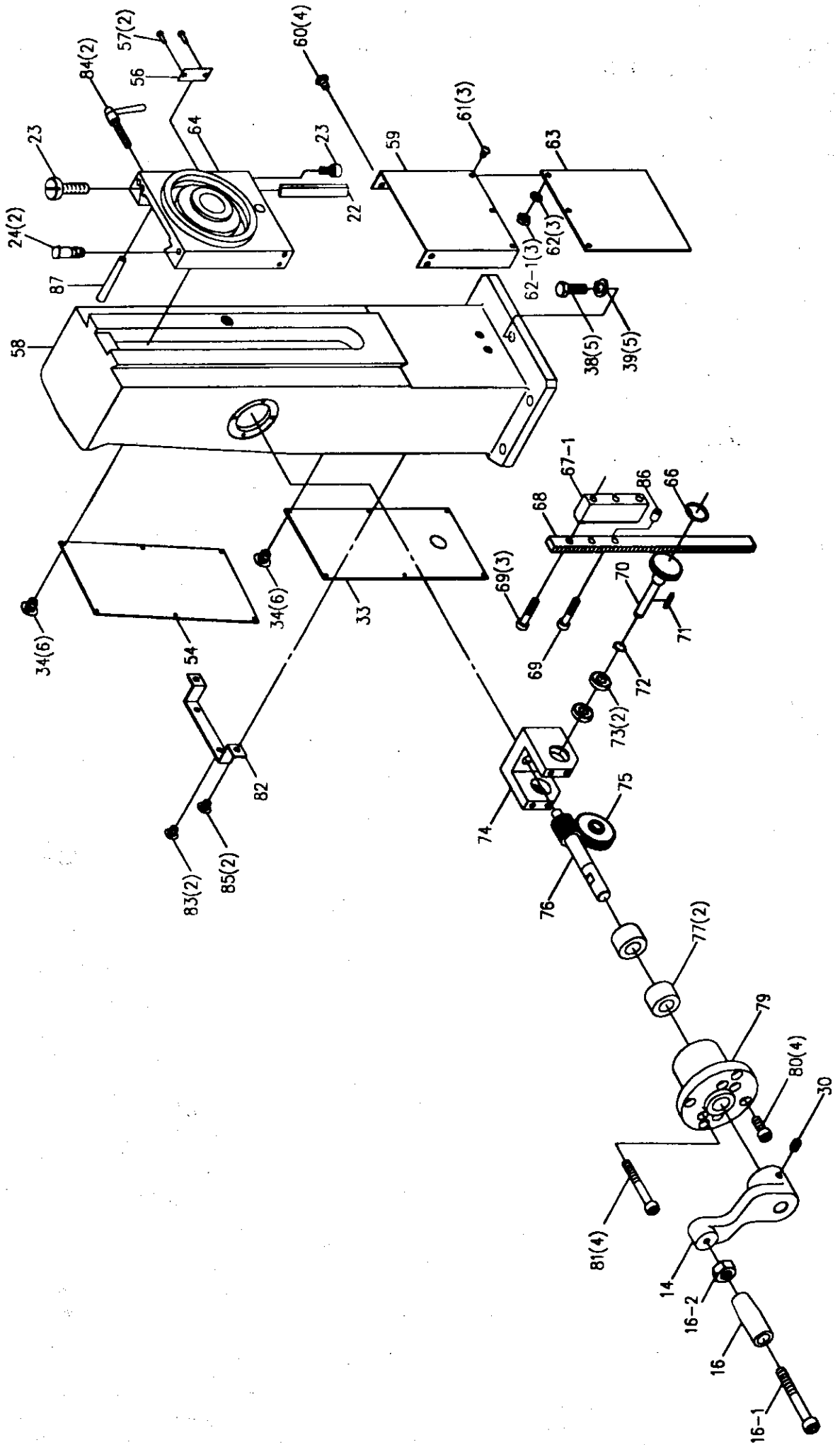
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CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
4	2423007	Support Plate(Frong)		1
5	2423008	Support Plate(Rear)		1
8	2423005	Stand (Left)		1
9	2423006	Stand (Right)		1
10	6231-5	Chip Pan		1
11	2423001	Base		1
12		Hex. Head Screw	3/8"x5-1/2"L	4
16	2402005	Table Screw	TM23.5xP2.5	
16	2402005A	Table Screw	TM23.5-10	
17	CA51103	Thrust Bearing	51103	4
18	6604	Square Flange	φ 17	1
20		Oil Ball	3/16"	5
21	61121	Limit Plate		2
22		Rivet	φ 2	4
23	6602-1	Graduated Dial(Metric)		2
23	6602-2	Graduated Dial(Imperial)		2
23	6602-4	Graduated Dial(Metric)		2
24	6602	Dial Clutch		2
25		Spring Pin	φ 5x38L	3
26	6602-3	Link Screw		2
27	6601	Table Handle Wheel	φ 17	
28		Hand Wheel		3
28-1		Hex. Socket Head Screw		3
28-2		Hex. Nut	3/4"	3
29		Hex. Socket Headless Screw	1/4"-20UNC	3
30	6616	Center Base		1
30	6616-1	Center Base		1
31	6607	Gib Strip		1
32	6212	Gib Strip Bolt		2
33	6215	Table Base Nut	TM23.7xP2.5	1
33	6215-1	Table Base Nut	TM23.7-10牙	1
34		Hex. Socket Head Screw	5/16"x2-1/2"L	1
35	6223	Table Nut	TM23.7xP2.5	1
35	6223-1	Table Nut	TM23.7-10	
35	6223-2	Table Nut	TM24xP5	1
36		Hex. Socket Head Screw	5/16"x1"L	2
37		Hex. Socket Head Screw	M5x6L	2
38	6213	Leaf Screw		4
38	6213-1	Leaf Screw		4
38	6213-2	Leaf Screw		4
38	6151-1	T Screw		4
39	6214	Movable Fixed Block		1
40	H01260	Hex. Head Screw	5/16"x1/2"L	2
42	6628	Table	30B	1
42	6628-1	Table	30L	1
42	6628-2	Table		1
43	6527	Gib Strip		1
43	6627-1	Gib Strip	30L	1
44	6229	Fixed Block		2
45	6230	Movable Fixed Ring		2
46		Hex. Socket Head Screw	1/4"x1/2"L	2
47	6224	Table Screw	metric 30B	
47	6224-1	Table Screw	inch 30B	
47	6224-2	Table Screw	metric 30L	
47	6224-3	Table Screw	inch 30L	1

TABLE BASE PARTS

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CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
47	6224-4	Table Screw	metric 30B	1
47	6224-5	Table Screw	inch 30L	1
48	6226	Right Flange	Ø 17	1
49		Hex. Socket Head Screw	5/16"x1"L	6
50	6222	Left Flange	Ø 17	1
51	6620	Table Clutch	Ø 17	1
52	2423013	Door		1
53		Door Lock		1
54	2423009	Built in Shelf		1
56		Cross Round Head Screw	NO.8 32UNC 1/4"L	2
57		Washer		2
58		Plate		1
59		Cross Round Head Screw	M4x0.5P-5L	2
60		Hex. Nut	1/2"x3"L	4
61		Nut	1/2"	4
62		Cross Round Head Screw	5/16"-18UNC-1/2"L	18
63		Spring Washer	5/16"	18
64		Plastic Washer	3/8"	4
65		Washer	3/8"x1/4"x3t	4
66	6630	Washer		1



PARTS LIST

RF-45

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY
14	6158	Up-Down Handle		1
16		Handle Bar		1
16-1		Hex. Socket Head Screw	3/8"-16UNC	1
16-2		Hexagon Nut	3/8"	1
22	2422044	Gib		1
23	6212	Gib Strip Bolt		2
24		Oil Seal	PT1/8"	2
30		Oil Seal	M8x1.25P	1
33	2422019	Steel Plate		1
34		Cross Round Head Screw	M6x10L	12
38		Oil Seal	M20x60L	5
39		Oil Seal	M20	5
54	2422018	Steel Plate		1
56		Oil Seal		1
57		Oil Seal	∅ 2-5L	2
58	2422001	Vertical Square Column		2
59	2422021	Antidust Plate		1
60		Cross Round Head Screw	M6x10L	4
61		Cross Round Head Screw	M5x6L	3
62		Oil Seal	M5	3
62-1		Oil Seal	M5	3
63	2422033	Antidust Plate		1
64	2422016	Headstock Swivel Base		1
65	2422034	U-plate		1
66		C-Retainer Ring	R35	1
67-1	2422035	Bushing		1
68	2422023	Rack		1
69		Oil Seal	M12x85L	4
70	2422028	Gear Shaft		1
71		Oil Seal	5x5x28L	1
72		C-Retainer Ring	S17	1
73	CA6003Z	Bearing (6003Z)	6003Z	2
74	2422027	Support		1
75	2422026	Worm Gear		1
76	2422024	Worm Shaft		1
77	2422030	Bearing		1
79	2422025	Support Flange		1
80		Hex. Socket Head Screw	M8x25L	4
81		Oil Seal	M8x60L	4
82	2422020	Support		1
83		Cross Round Head Screw	M5x6L	4
84	6213-1	Leaf Screw		2
84	6213-2	Leaf Screw		2
85		Cross Round Head Screw	M6x6L	4
86	2422036	Bushing		1
87		Pin	M6x50L (1:48)	1

MANUFACTURER:

ADDRESS:

SERIAL No.:

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