

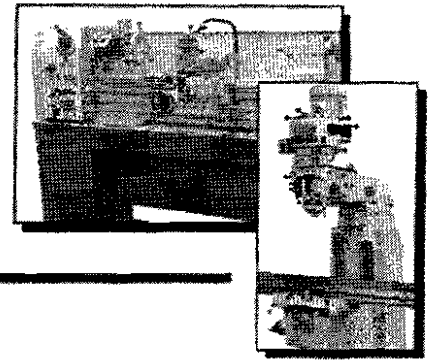


MACHINERY DIVISION

6465 18 MILE ROAD
STERLING HEIGHTS, MI 48314

PHONE:
(586) 731-3600 • 1-800-860-1740

FAX:
(586) 731-7464 • 1-800-862-1740



MODEL VM-22-R8 MILLING MACHINE

THANK YOU FOR PURCHASING WITH KBC MACHINERY. ALL KBC MACHINES ARE BACKED BY OUR 1 YEAR PARTS REPLACEMENT WARRANTY. WHEN USED AS INTENDED, AND WITH PROPER MAINTENANCE THIS MACHINE WILL PROVIDE YOU WITH YEARS OF TROUBLE-FREE SERVICE. IF YOU NEED PARTS SIMPLY FILL OUT THE PARTS REQUEST FORM, AND FAX OR E-MAIL YOUR REQUEST. ALL OTHER QUESTIONS PLEASE CONTACT US @ :

**KBC MACHINERY
6465 18 MILE ROAD
STERLING HEIGHTS, MI 48314
PH (800) 860-1740
FAX (800) 862-1740
MACHINERY@KBCTOOLS.COM
WWW.KBCTOOLSANDMACHINERY.COM**



PARTS REQUEST FORM

YOUR COMPANY NAME:

STATE/PROVINCE

YOUR NAME

PHONE # + EXT

FAX #

MACHINE INFO:

MAKE/MANUFACTURER

MODEL NUMBER

YEAR MADE

SERIAL#

PARTS REQUESTED:

PART#

DESCRIPTION

PLEASE INCLUDE COPY(S) OF THE PARTS DRAWING FROM THE
MANUAL AND CIRCLE THE PARTS NEEDED

FAX PARTS REQUEST TO (800) 862-1740

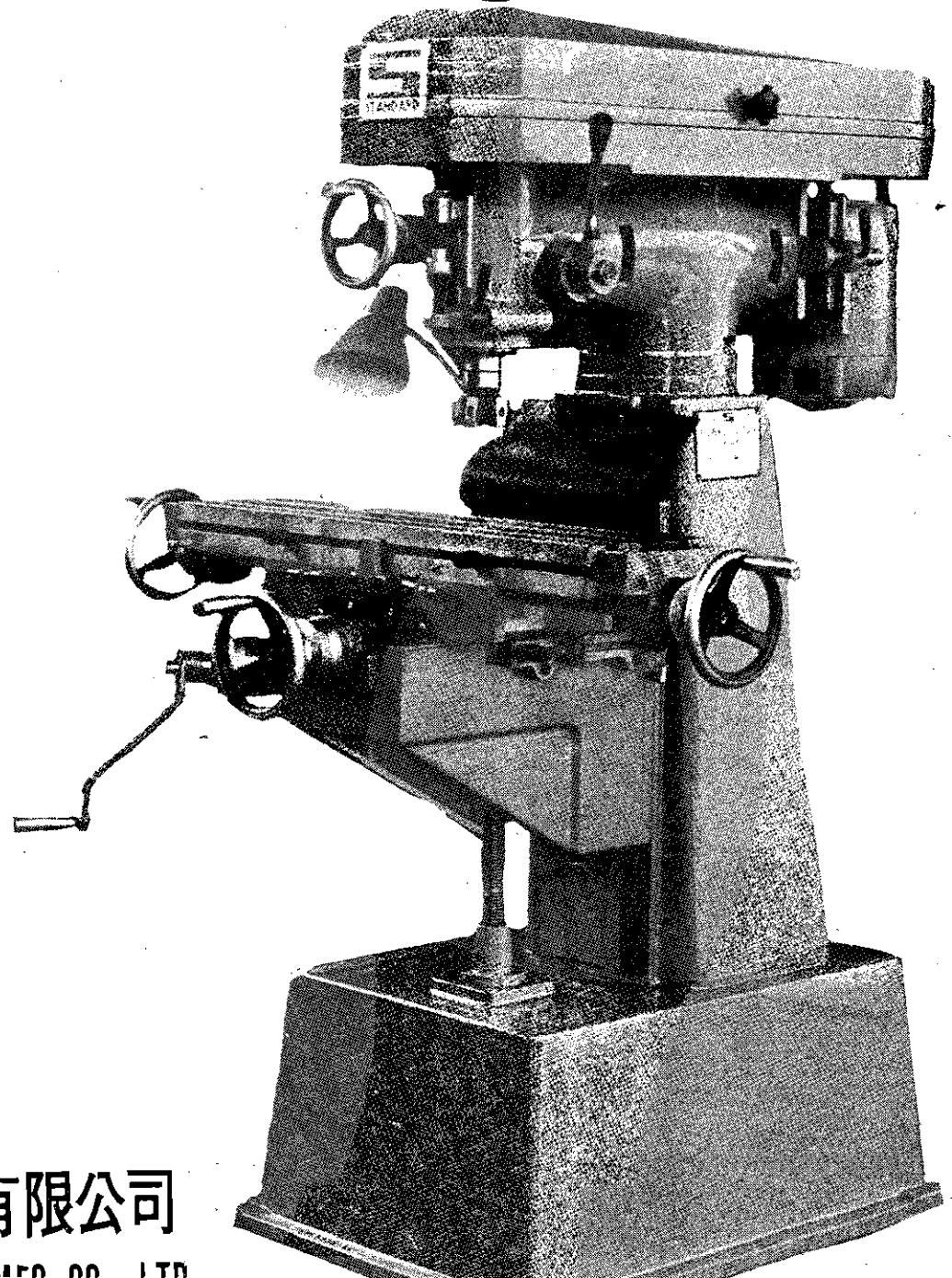
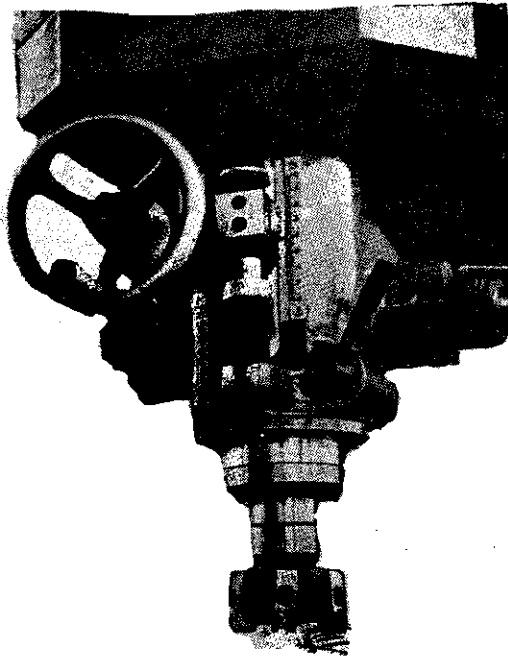
E-MAIL PARTS REQUEST TO: machinery@kbctools.com

THANKS; KBC MACHINERY - MICHIGAN

STANDARD

MILLING

MODEL SM-1



標準機械股份有限公司

STANDARD MACHINERY MFG. CO., LTD.

1. CLEANING.

Use a good grease solvent and thoroughly remove the rust preventative oil from all unpainted surfaces.

Use a stiff paint brush to clean the lead screw and the feed rack.

Then apply a light coat of machine oil to all machined surfaces for protection.

NOTE: Make it a habit to clean and lubricate regularly in order to assure a long service life.

2. LEVELING.

To accurately level your milling machines, a precision machinist's level must be used.

Back-off the 4 mounting bolts to be sure that the cast iron is resting solidly on the floor. Now, place the level on the table both longitudinal and cross direction. Place Shims as required between the base and the floor to obtain a "ZERO" reading on the table. again using shims to obtain a "ZERO" reading. It will be necessary to repeat this procedure several times making necessary minor adjustments when both ends of the table are level, tighten the 4 mounting bolts securely and recheck level reading.

NOTE: The bed should be kept perfectly level at all times. Even a slight amount of twist will move the centers out of alignment and result in inaccurate work and excessive wear. make it a habit to regularly check the level of the bed.

3. LUBRICATION.

All moving parts and riding surfaces should be regularly lubricated with clean lubricating oil. Specially, the spindle sometimes running in high speed, if it failure in lubricating, the friction and heat generate will make damage on spindle. The spindle oiling be open the upper belt cover, filling the oil into the spindle surround securely.

1. OPERATION

A. There are three steps pulley inside the upper cover provides 9 spindle speeds transfer by 2 V-Belt. The spindle speed range from 215 to 3440rpm choose according to your works. The lower Speeds should be used for heavy cuts, and hard to cut materials. The higher speeds for drilling, surfaces grinding etc.

B. The driving procedure as follows:

(1) Turn off motor, wiring to the power source.

(2.) Raise upper cover(1) and loosen the idle pulley for speeds change.

(3.) Move the 2 V-belts to the desire V-groove to obtain the desire speeds. (The speeds diagram show on inside upper cover.)

(4.) Check the belts tension than lock the nut of idle pulley and the motor set tension lever(3).

(5.) Start Motor.

NOTE: Don't touch the V-belts and pulley, unless the motor and spindle have stopped.

C. SPINDLE OPERATION:

There are two methods for spindle travel. Before moving the spindle up and down, must first loose the lock lever(4).

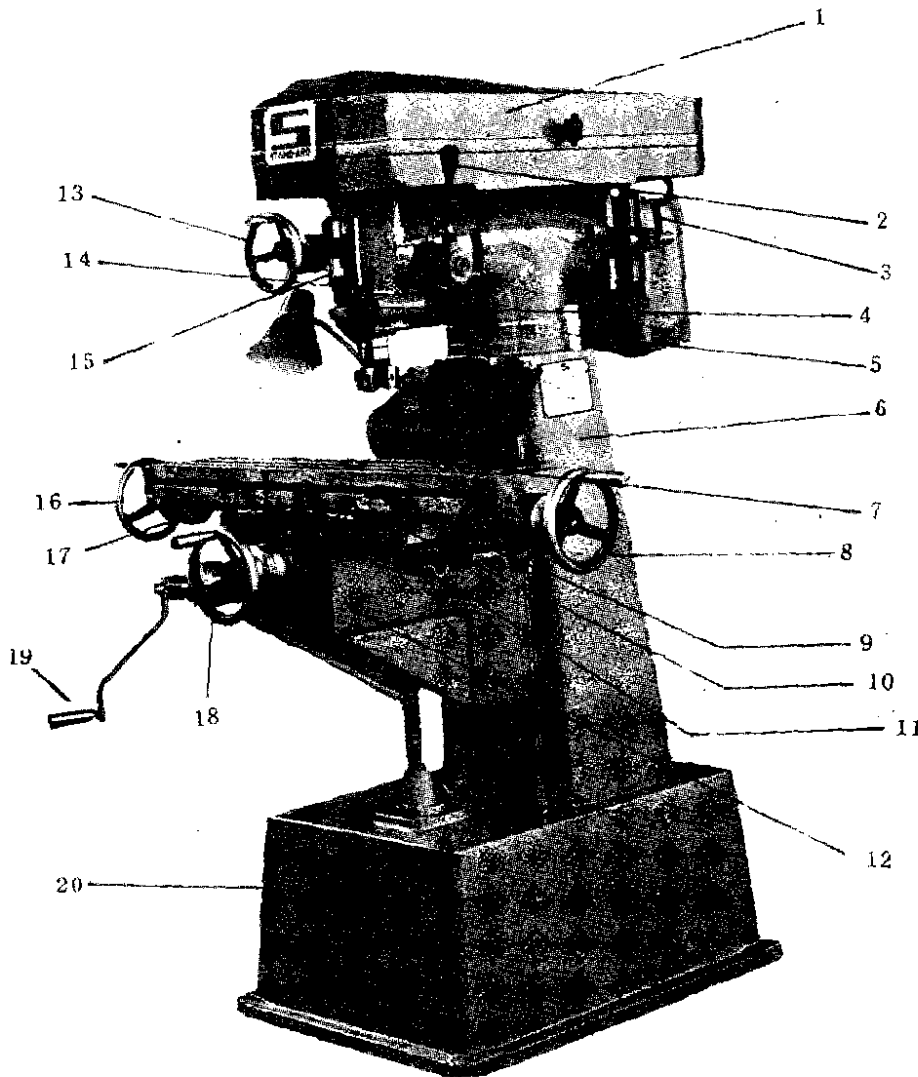
Then loosen the tension lock(14) counter clockwise, and you can catch

handle lever(2) to drive the spindle up and/or down. For drilling operation or longer distance spindle travel. If the milling, boring and engraving works in necessary, to lock the tension lack(14) clockwise, and you can drive the handle wheel(13) for perform the small spindle feeds up or down, when you must be to set the spindle in the desire position, you can lock the lock lever(4) counter clockwise at any position. Also, during the mass production of drilling work in necessary, there is the depth for set

the depth on desire t position.

C. TABLE OPERAT- ION

- (1) Longitudinal hand wheel (8) provides to drive the table in longitudinal travels.
- (2.) Both adjusting screw(9) provide to adjust the table loose and/or tight for move. but too loose be failure in alignment and accuracy.
- (3.) Table lock lever (10) provide to lock the table on set position.
- (4.) Cross handle wheel (18) provide to drive the saddle (11) with table in cross direction.
- (5.) There are lock nut & screw(17) on the left side of saddle under the table, For lock the saddle at the desire position if necessary.
- (6.) The vertical handle(19) provide to drive the knee traveling on the column(6). Also there are lock nut & screw on the



left side of knee for lock the knee at the desire height if necessary.

4. INCLINATION AND SWIVEL WORK.

head separately. A little loosen on both two sets screw turn the head and mot -or incline to the desire position by hand and carefully. The desire degree is according to the plate show on the upper head, then lock the both two screws.

The upper head are swivelable to both sides 120° against the swivel table on the top of column. A little loosen of both set screws(5), and swivel the upper head with the whole upper part to the desire position and steady it, the exact degree is according to the memorandum plate show on upper head.

6. Arbour and tools

The spindle nose contained standard R8(M.T#3) taper. Each machine supply with a standard R8(MT#3) arbour for equiped with drill chuck 1/2". There is a pull bolt in the spindle bore to lock the arbour insert the spindle nose securely. When you perform the heavy milling cut with the end mill by use the drill chuck, the drill chuck can be welding to the arbour secured and without loosen if necessary.

When you want to change the working, take off the arbour with drill chuck in necessary. First, open the upper cover and loosen the pull bolt about 2 revo -lution, knock the pull bolt light by a hammer, make the arbour loosing from the spindle nose, then turn off the pull bolt and take off arbour with chuck. If the drill or mill in the chuck must be handle the chuck to avoid the chuck drop down and damage it.

When you perform the surface milling or surface grinding works, a new R8 (MT#3) arbour is prepared show as figure 3.

The suppose sizes of surface cutter be 3" and the bowl type grinding wheel be 4" or 5" used for surface grinding.

7. GRADUATION ON HANDLE WHEEL.

All the graduation on handle wheel of this machine grade in 400 per revolution. Each graduation equal to 0.001 inch (m/m 0.01mm)

8. MAINTENANCE.

Keep the machine clean and properly lubricated at all times.

Don't leave tools resting on the table. Never leave the chuck wrench inserted into the chuck.

Recheck level of the table frequently. Keep lead screw threads clean and oil lightly.

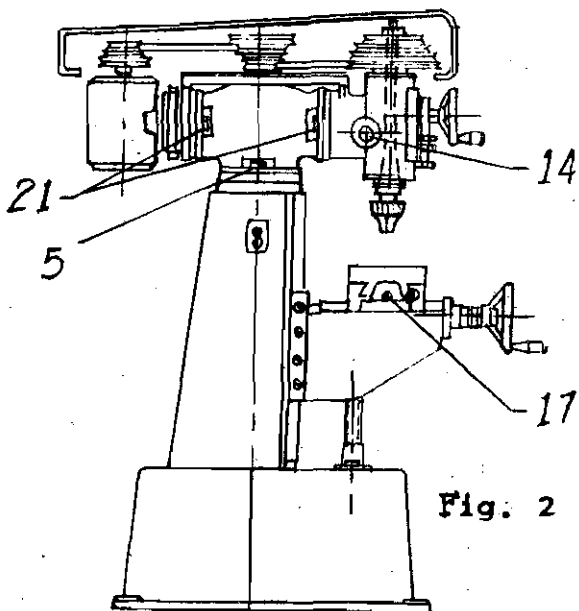
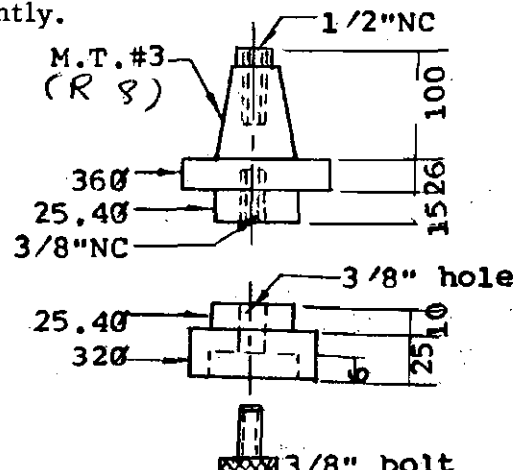
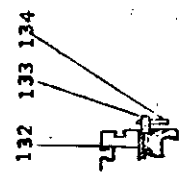
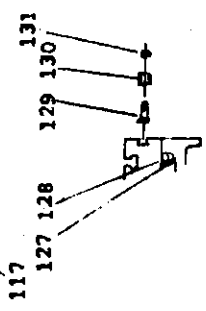
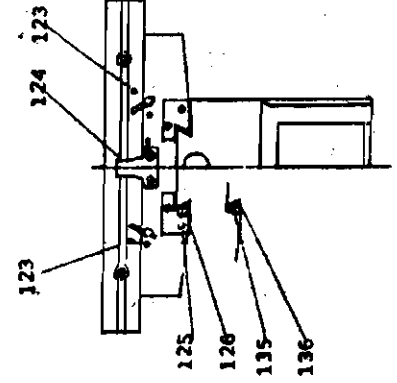
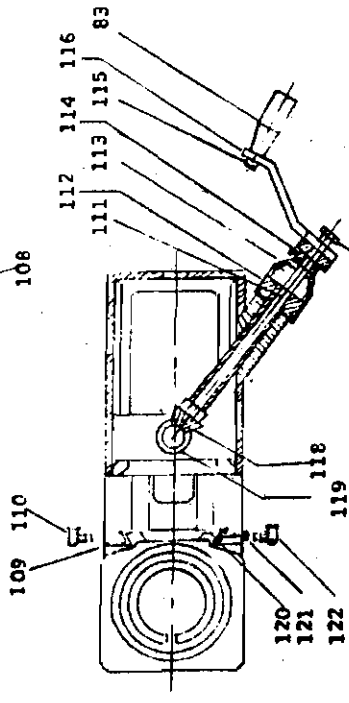
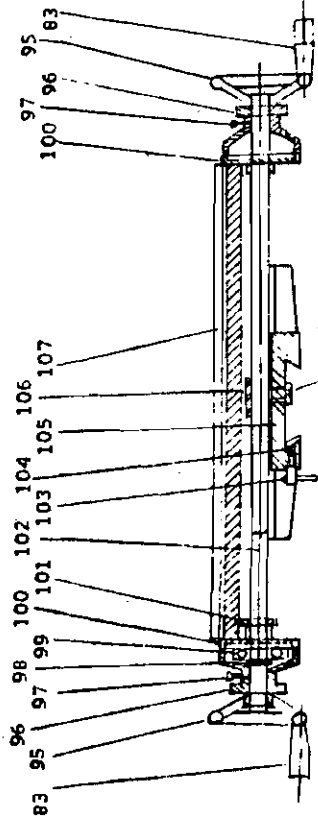
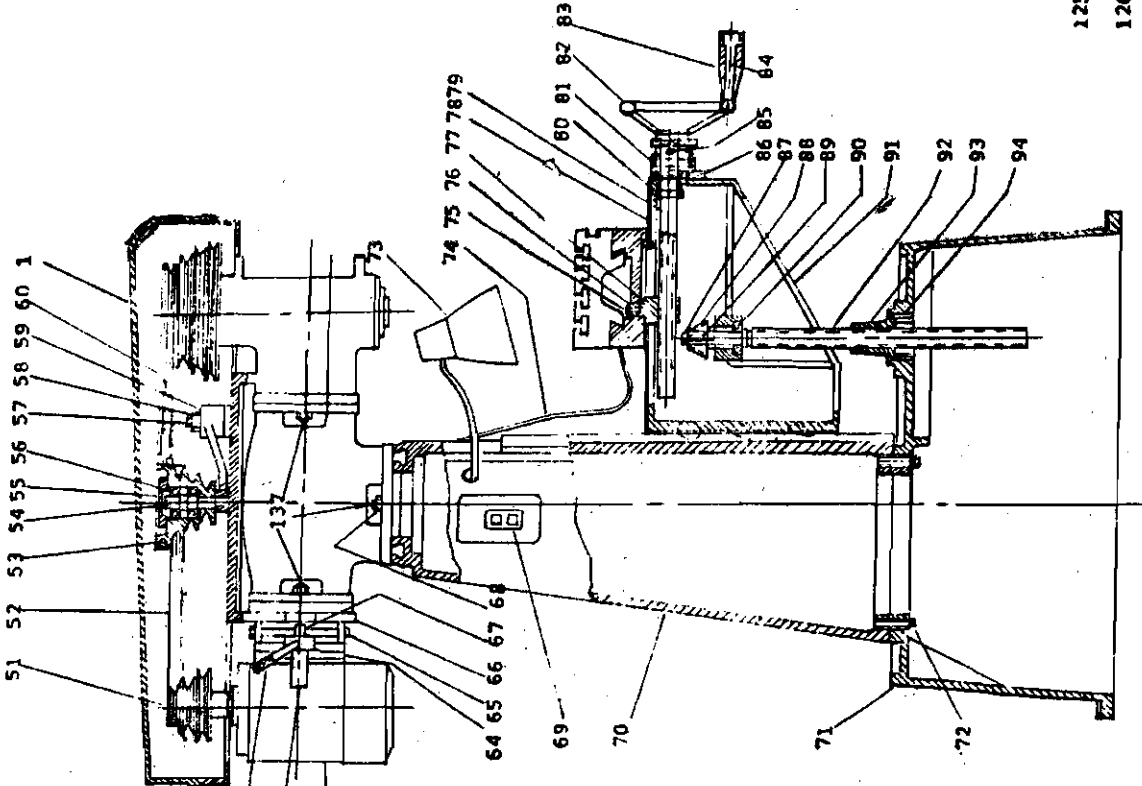
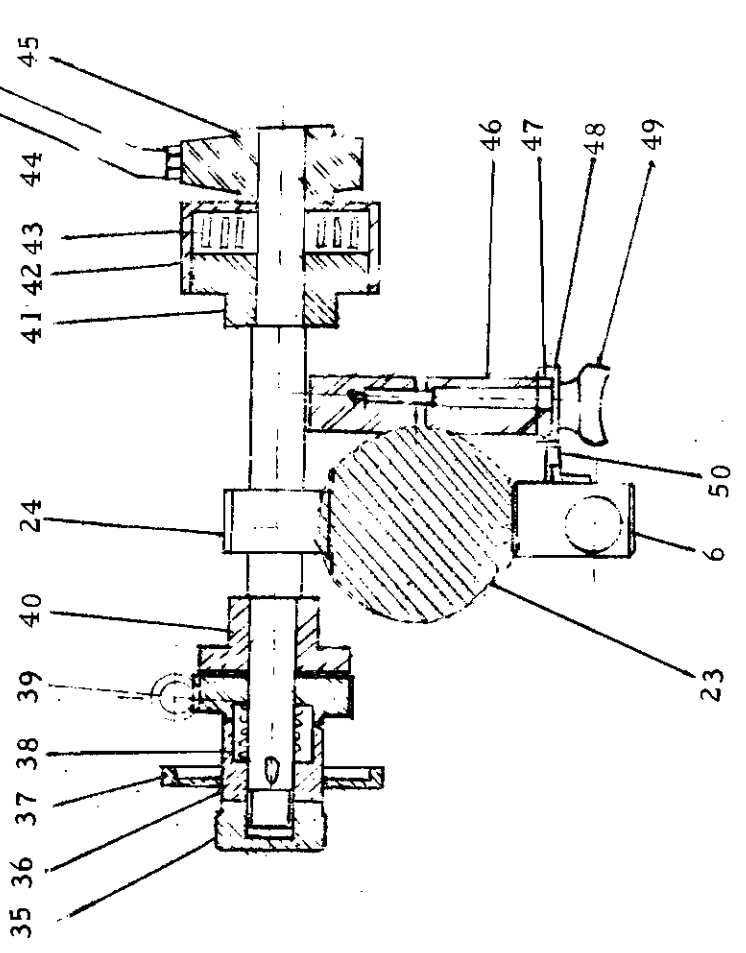
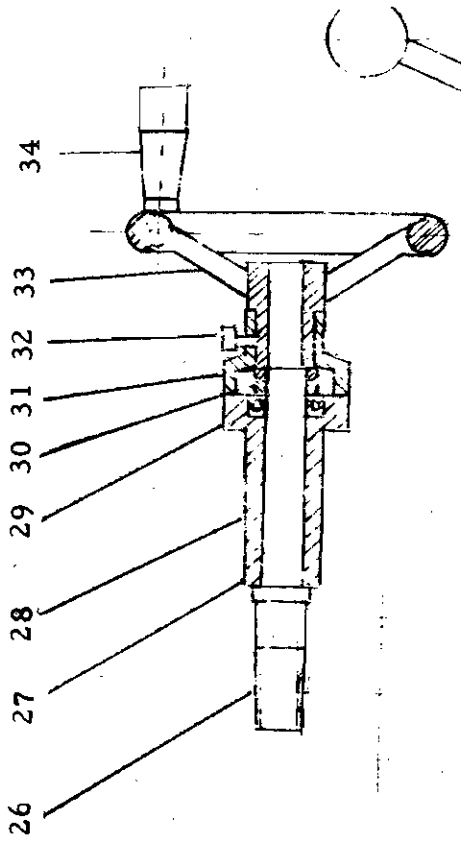
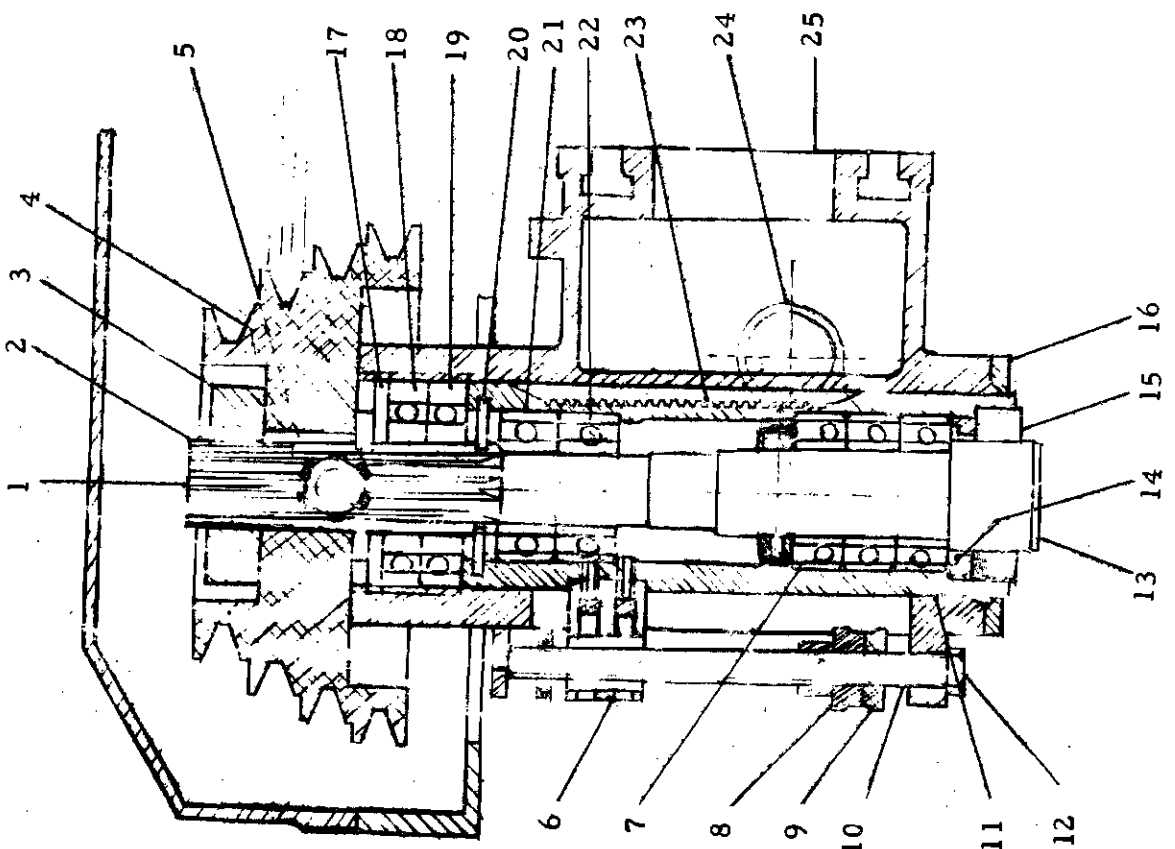


Fig. 2



51 52 53 54 55 56 57 58 59 60 1





S/N	P/N	NAME	S/N	P/N	NAME
1.	SM-1001...	Belt housing cover.	45.	SM-1045...	Handle Clamp.
2.	SM-1002...	Draw bar.	46.	SM-1046...	Locking block.
3.	SM-1003...	pulley lock nut	47.	SM-1047...	Spring
4.	SM-1004...	Spindle pulley	48.	SM-1048...	Shaft .
5.	SM-1005...	Spindle sleeve	49.	SM-1049...	Handle.
6.	SM-1006...	Quill stopper.	50.	SM-1050...	Micrometer scale.
7.	SM-1007...	Bearing adjusting nut.	51.	SM-1051...	Motor pulley.
8.	SM-1008...	Micrometer nut.	52.	SM-1052...	Vee belt.
9.	SM-1009...	Micro stop nut.	53.	SM-1053...	Vee belt pulley.
10.	SM-1010...	Quill micro stop screw.	54.	SM-1054...	Pulley pivot stud.
11.	SM-1011...	Bearing. -3	55.	SM-1055...	Pulley shaft cover.
12.	SM-1012...	3/4" Microstop screw.	56.	SM-1056...	Bearing. 6204
13.	SM-1013...	Main spindle.	57.	SM-1057...	Swivel stud.
14.	SM-1014...	Spindle oil soal.	58.	SM-1058...	Nut.
15.	SM-1015...	Spindle bearing lock nut.	59.	SM-1059...	Swivel arm.
16.	SM-1016...	Felt ring.	60.	SM-1060...	Vee belt.
17.	SM-1017...	Bearing lock nut	61.	SM-1061...	Motor set unit handle.
18.	SM-1018...	Bearing 6206	62.	SM-1062...	Belt set unit.
19.	SM-1019...	Bearing. 6206	63.	SM-1063...	Motor.
20.	SM-1020...	Stop Ring	64.	SM-1064...	Motor mounting.
21.	SM-1021...	Bearing 6007	65.	SM-1065...	Motor suspending pivot.
22.	SM-1022...	Bearing. 6007	66.	SM-1066...	Motor mounting.
23.	SM-1023...	Quill.	67.	SM-1067...	Belt set unit.
24.	SM-1024...	Quill pinion shaft.	68.	SM-1068...	Nut.
25.	SM-1025...	Milling head.	69.	SM-1069...	Switch.
26.	SM-1026...	Worm shaft.	70.	SM-1070...	Column.
27.	SM-1027...	Worm shaft sleeve.	71.	SM-1071...	Base.
28.	SM-1028...	Worm shaft sleeve.	72.	SM-1072...	Bolt.
29.	SM-1029...	Thrust bearing.	73.	SM-1073...	Light.
30.	SM-1030...	Bearing adjusting nut.	74.	SM-1074...	Rubber sheet.
31.	SM-1031...	Dial.	75.	SM-1075...	Bolt.
32.	SM-1032...	Dial positioning screw.	76.	SM-1076...	Washer.
33.	SM-1033...	Hand wheel.	77.	SM-1077...	Cross feed nut.
34.	SM-1034...	Handle.	78.	SM-1078...	Chip guard.
35.	SM-1035...	Clutch adjusting nut.	79.	SM-1079...	Cross lead screw.
36.	SM-1036...	Clutch.	80.	SM-1080...	Bearing.
37.	SM-1037...	Clutch. Cover	81.	SM-1081...	Dial
38.	SM-1038...	Spring.	82.	SM-1082...	Handle wheel
39.	SM-1039...	Clutch worm gear.	83.	SM-1083...	Handle
40.	SM-1040...	Pinion shaft seat.	84.	SM-1084...	Handle rod
41.	SM-1041...	Pinion shaft seat.	85.	SM-1085...	Screw
42.	SM-1042...	Spring housing.	86.	SM-1086...	Bracket
43.	SM-1043...	Spring.	87.	SM-1087...	Nut
44.	SM-1044...	Handle.	88.	SM-1088...	Bevel gear
			89.	SM-1089...	Key
			90.	SM-1090...	Bearing
			91.	SM-1091...	Knee

S/N	P/N	NAME
92.	SM-1092...	Elevating lead screw.
93.	SM-1093...	Set nut
94.	SM-1094...	Bolt
95.	SM-1095...	Handle wheel
96.	SM-1096...	Dial
97.	SM-1097...	Screw
98.	SM-1098...	Nut
99.	SM-1099...	Thrust bearing.
100.	SM-1100...	Bracket
101.	SM-1101...	Thrust bearing
102.	SM-1102...	Longitudinal lead screw
103.	SM-1103...	Table locking screw.
104.	SM-1104...	Copper block
105.	SM-1105...	Saddle
106.	SM-1106...	Longitudinal feed nut
107.	SM-1107...	Table
108.	SM-1108...	Bolt
109.	SM-1109...	Chip guard
110.	SM-1110...	oil cup
111.	SM-1111...	Elevating gear shape.
112.	SM-1112...	Elevating sub dial
113.	SM-1113...	Dial
114.	SM-1114...	Bolt
115.	SM-1115...	Nut
116.	SM-1116...	Handle arm
117.	SM-1117...	Bolt.
118.	SM-1118...	Bevel gear
119.	SM-1119...	Support
120.	SM-1120...	Knee gib
121.	SM-1121...	Set screw
122.	SM-1122...	oil cup
123.	SM-1123...	Greas nipple
124.	SM-1124...	Table stopper
125.	SM-1125...	Bolt
126.	SM-1126...	Chip guard
127.	SM-1127...	Table gib
128.	SM-1128...	Dbjusting screw
129.	SM-1129...	Adjusting screw.
130.	SM-1130...	Rcrew sleeve
131.	SM-1131...	Nut
132.	SM-1132...	Copper block
133.	SM-1133...	Locking screw
134.	SM-1134...	Handle bar
135.	SM-1135...	Adjusting screw
136.	SM-1136...	Saddle gib
137.	SM-1137...	Adapter set bolt

標準機械股份有限公司

Standard machinery mfG CO., LTD.

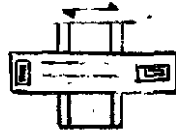

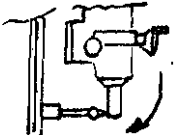

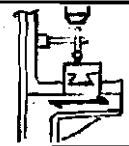
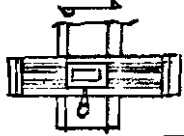
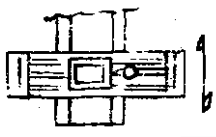
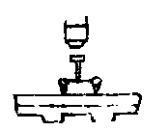
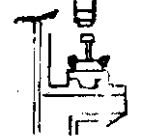
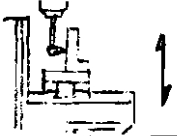
VERTICAL MILLING MACHINE

迷你銑床精床精度檢驗記錄表

(依 JIS B6023 檢驗)

FINAL INSPECTION RECORD MEC NO

DATE: MODEL: SM-1
SM-1A

No.	INSPECTION ITEMS		ILLUSTRATIONS	Allowance	Record
1.	Leveling of table	工作台面 水平度		0.06	
2.	Spindle nose movement	主軸端 縱移度		0.01	
3.	Spindle and taper runout	主軸及軸 孔擺度		0.02	
4.	Parallelism of table surface to spindle	工作台面對 主軸平行度		0.03/ full travel	
5.	Parallelism of table surface	工作台面 平行度		0.02	
6.	Perpendicularity of table in longitudinal movement	工作台面 縱向垂直度		0.01	
7.	Perpendicularity of table in cross movement	工作台面 橫向垂直度		0.03	
8.	Perpendicularity of table surface (R & L)	工作台面 垂直度		0.03	
9.	Perpendicularity of table surface (F & B)	工作台面 垂直度		0.03	
10.	Parallelism of table to spindle	工作台上 對主軸 直角度		0.03	
檢查結果:			Superintendent:	Inspector:	