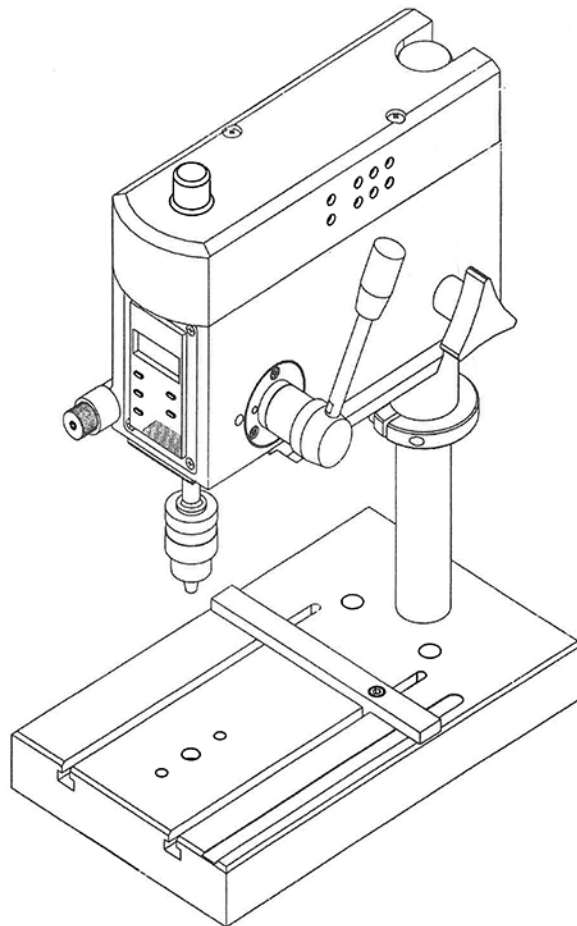


MICRO MILL

INSTRUCTION MANUAL



Read all instructions and warning before using this machine.

IMPORATANT SAFETY INSTRUCTION

READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS TOOL
Operator

PLEASE REMEMBER:

1. When using electric tools, machines or equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.
2. Keep work area clean. Cluttered areas invite injuries.
3. Consider work area conditions. Do not use machines or power tools in damp, wet, or poorly lit locations. Do not expose equipment to rain, keep work area well lit. Do not use tools in the presence of flam-mable gases or liquids.
4. Keep children away, all children should be kept away from the work area.
5. Guard against electric shock. Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
6. Stay alert. Never operate if you are tired.
7. Do not operate the product if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes might be impaired.
8. Do not wear loose clothing or jewelry as they can be caught in moving parts.
9. Wear restrictive hair covering to contain long hair.
10. Use eye and ear protection. Always wear.
11. Keep proper footing and balance at all times.
12. Do not reach over or across running machines.

Before operations

1. Be sure the switch is OFF when not in use and before plugging in.
2. Do not attempt to use inappropriate attachments in an attempt to exceed the tool's capacity. Approved accessories are available from the dealer or machine maker.
3. Check for damaged parts, before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function.
4. Check for alignment and binding of all moving parts, broken parts or mounting fixtures and any other condition that may affect proper operation. Any part that is damaged should be prop early repaired or replaced by a qualified technician.
5. Do not use the tool if any switch does not turn off and properly

Operation

1. Never force the tool or attachment to do the work of a larger industrial tool. It is designed to do the job better and more safely at the rate for which it was intended.
2. Do not carry the tool by its power cord.
3. Always unplug the cord by the plug. Never yank the cord out of the wall.
4. Always turn off the machine before unplugging.

IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE, DO NOT OPERATE THE TOOL!

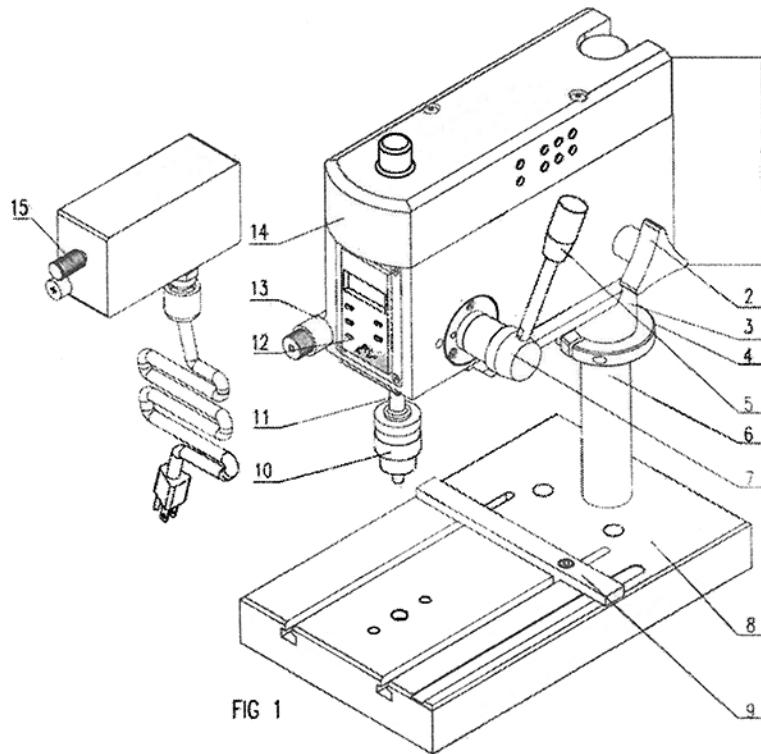
Grounding Instructions

This machine has a three prong plug, the third prong is the ground. Plug this cord only into a three-prong receptacle. Do not attempt to defeat the protection the ground wire provides by cutting off the round prong. Cutting off the ground will result in a safety hazard and void the warranty.

DO NOT MODIFY THE PLUG IN ANY WAY. IF YOU HAVE ANY DOUBT, CALL A QUALIFIED ELECTRICIAN.

Operation Cautions

- a) Before any operation or adjustment, please make sure that the plug of machine dose not plugs into the power source.
- b) Before operation, please wear the safety goggles.
- c) Do not run the machine, when the upper cover (#14) is opened.
- d) For different sizes of holes and different materials of work-pieces, please use different running speeds and feeding speeds.
- e) Please fix the work-piece in assembly and operation.



Component List

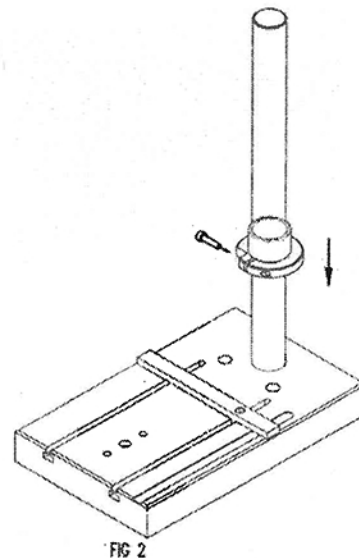
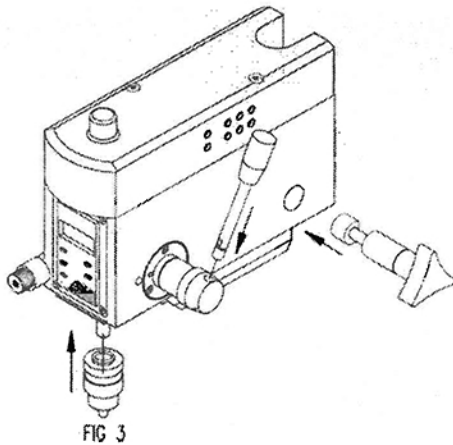
1	Headstock	9	Parallel Bar
2	Star Knob	10	Drill Chuck
3	Washer	11	Spindle
4	Fixing Ring	12	Digital Readout
5	Handle	13	Fine feeding wheel
6	Column	14	Upper Cover
7	Handle Socket	15	Power switch box
8	Base		

Specifications

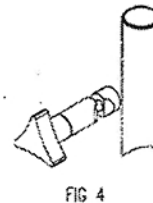
Max. Drilling Capacity:	6mm (1/4")
Max. Milling Capacity	6mm (1/4")
Spindle Travel:	40mm (1.57")
Headstock Travel:	200mm (7.8")
Spindle Taper:	B10 or JT1
Spindle Speed (variable speed)	- High Stage: 0 – 5000rpm - Low Stage: 0 -- 3600rpm
Base Size:	275mm x 165mm
Column Size:	Ø30mm x 390
Motor Power:	150 W
Weight	17 kg

Assembly

- Take out all the parts from the package carefully.
- Assemble the Fixing ring (#4) and Washer (#3) onto the column properly. (Fig. 2)
- Insert the Star Knob (#2) into the headstock hole. (Fig.3)



- Hold the Headstock (#1) and make the hole in line with the column, and then put down. Adjust the two fixture blocks (please refer part diagram, part No. 21,22) on the star knob sleeve (refer part diagram, part No.20) to comply with the direction of column, thus the headstock can be assembled properly only. Tighten the Star Knob (#2) to fix the Headstock (#1) on the Column (#6). (Fig.4)
- Push the Drill Chuck (#10) into the shank of spindle. Then turn the drill chuck to check if it is tightened. (Fig. 3)
- Put the handle (#5) into Handle Socket (#7) and tighten by provided wrench. (Fig.3)



Operations

a) Spacing of Headstock (#1)

Loosen the inner hex. Screw to adjust the height of Fixing Plate (#4) and Washer (#3) on the column to space the Headstock (#1). Thus can avoid the damage of the sudden dropping when moving the Headstock (#1) up and down.

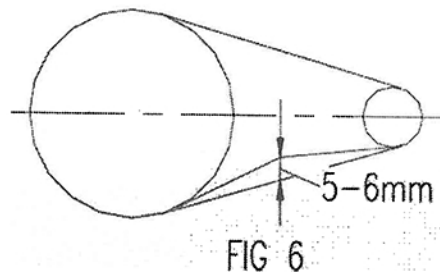
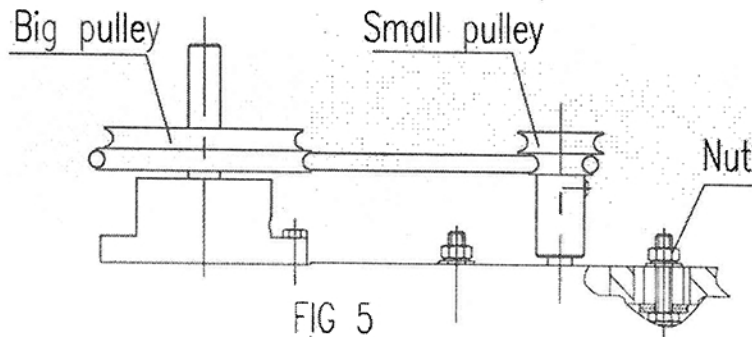
b) Adjust the height of headstock

Loosen the Star Knob (#2) and move the Headstock (#1) up and down to make the suitable distance between headstock and the surface of work-piece. If you want to drill through the work-piece, please make sure the drill could pass the hole on the base. Otherwise, that would damage the working surface of Base (#8)

c) Adjust the spindle speed

Different drilling holes or different material of work-pieces need different running speed. Normally, low speed is for hard material and big holes. Soft material and small holes need fast speed.

In order to change speed, use the provided screwdriver to loosen the two screws on Cover (#13). Open the cover and adjust belt. Move the belt to the small pulley and then turn the arbor of pulley to reset the big pulley on another side (Fig 5). Before close the cover and start running, please check the belt tension (Fig 6). This can be adjusted by two side nuts of the small pulley.



d) Digital Readout

For drilling operation, press the ON/OFF switch first, and then press the "ZERO" button. Press "mm/in" button to switch metric or imperial. These two functions can be effected regardless the handle position, then you can start drilling. The readings on display can be amended at any position by pressing "plus" or "minus" button. When displaying error (e.g. no readings or flash), it means the batteries are low and need to be replaced (Fig. 7). Push against the arrow showing in Fig 7 to open the battery cover, withdraw the batteries for replacement. The voltage of Zinc button batteries is 1.55V. After replacement, recover by opposite direction.

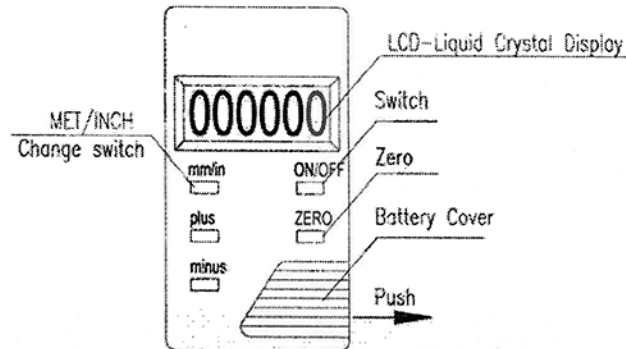


FIG 7

e) Depth pre-setting

Set the drilling depth as per following steps:

- 1) Turn the dial ring on handle shank till the "0" scale in line with the "0" scale on spring base.
- 2) Calculate the required scale according to the reading of dial ring. Turn the dial ring anti-clockwise to the required scale, and then tighten the fixing screw on dial ring by hex. wrench to stop any movement of the dial ring.
- 3) Turn the Handle (#5) for drilling operation, till the dial ring goes back to the "0" scale and can not press down anymore. That means the required drilling depth has been reached.

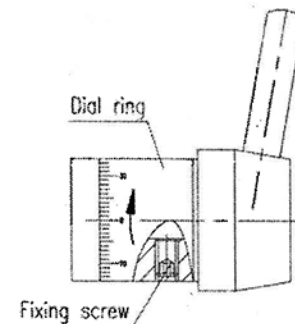


FIG 8

f) How to use fine feeding function

Press the connecting shaft (see Fig 9) in is the state of fine feeding, rotate the small wheel anti-clockwise, the spindle will go down slowly. Pull out the connecting shaft, the machine return to normal feeding state.

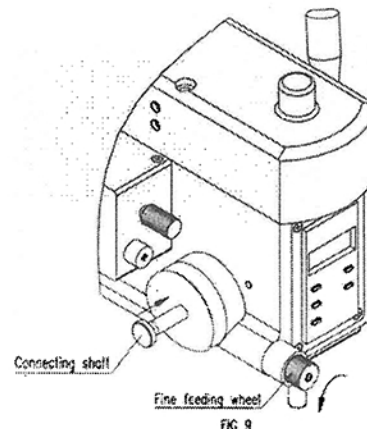
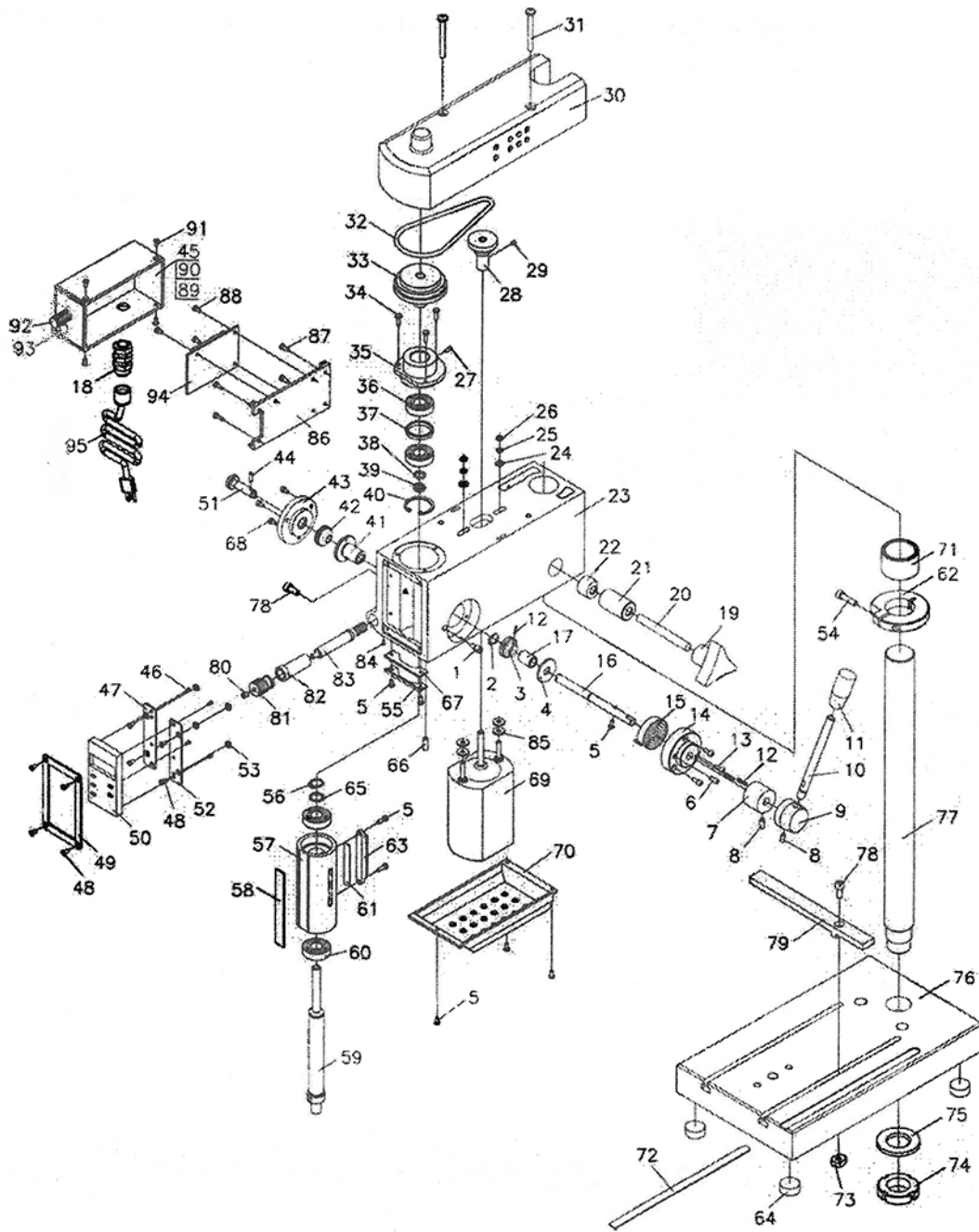


FIG 9

Part diagram



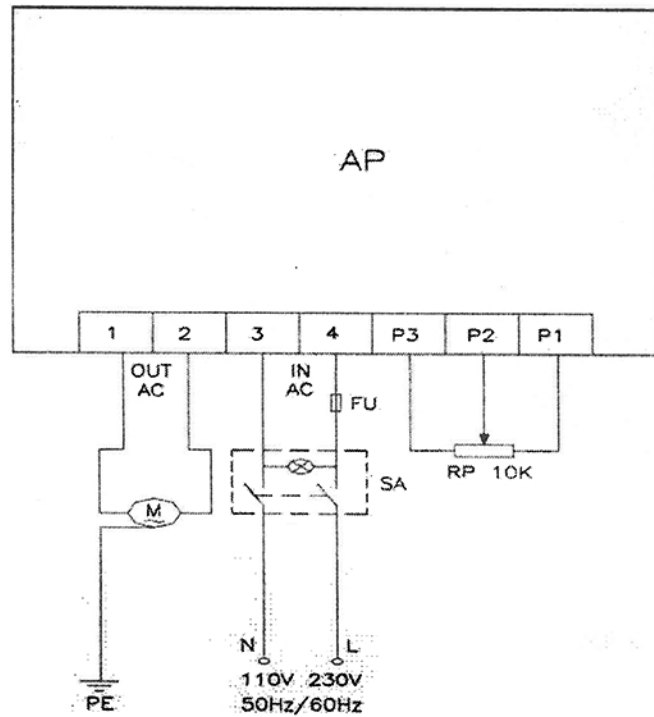
Part List (I)

P/No.	Description	P/No.	Description
1	Screw M6x14	43	Cover
2	Ring 8	44	Pin 3x10
3	Gear	45	Electrical box (I)
4	Washer	46	Screw M2x6
5	Screw M3x6	47	Connecting plate(left)
6	Pin 4x10	48	Screw M3x6
7	Dial ring	49	Plate
8	Screw M5x8	50	Digital read-out
9	Handle seat	51	Connecting shaft
10	Handle shaft	52	Connecting plate (right)
11	Cap of handle shaft	53	Rubber washer
12	Pin 3x12	54	Screw M5x20
13	Screw M3x12	55	Cover for avoiding dust
14	Spring seat	56	Ring 15
15	Wound spring	57	Spindle sleeve
16	Shaft	58	Inductive plate
17	Washer	59	Spindle
18	Fixing ring for cord	60	Bearing 6002-Z
19	Star knob	61	Copper plate
20	Star knob sleeve	62	Fixing ring
21	Fixture block (I)	63	Rack
22	Fixture block (II)	64	Rubber foot
23	Head stock	65	Washer
24	Washer 4	66	Screw M5x14
25	Spring washer 4	67	Felt plate for avoiding dust
26	Nut M4	68	Rubber block for shock absorption
27	Fixing pin	69	Motor
28	Small pulley	70	Bottom cover
29	Screw M4x5	71	Washer
30	Upper cover	72	Ruler
31	Screw M5x45	73	Nut
32	O' belt	74	Nut m24x1.5
33	Big pulley	75	Flat washer 24
34	Screw M4x12	76	Base
35	Bearing seat	77	Column
36	Bearing 6001-Z	78	Screw M5x12
37	Washer	79	Parallel bar
38	Sealing ring	80	Screw M5x6
39	Ring	81	Small wheel
40	Ring 28	82	Spacer
41	Pipe	83	Worm shaft
42	Gear	84	Screw M4x5

Part List (II)

85	Washer 4	91	Screw M3x6
86	Electrical box (II)g	92	Variable speed control knob
87	Screw M3x8	93	Fuse box
88	Screw M3x6	94	PC board
89	Power switch	95	Power cord with plug
90	Label		

Electrical Circuit Diagram



Packing list

No.	Description	Quantity
1	Hex keys 2, 2.5, 3, 4mm	Each 1
2	Double End Wrench 5.5 x 7mm	1
3	Screw-Driver	1
4	Drill chuck with key	1