

# OTMT

**Before Operating Your Tools,  
Please Read These Instructions Carefully**



ITEM NO.87-115-927&928  
MODEL NO . OT21625/OT21632



FLOOR DRILL PRESS

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## PARTS

Unpack carton, check your machine to see parts listed below.

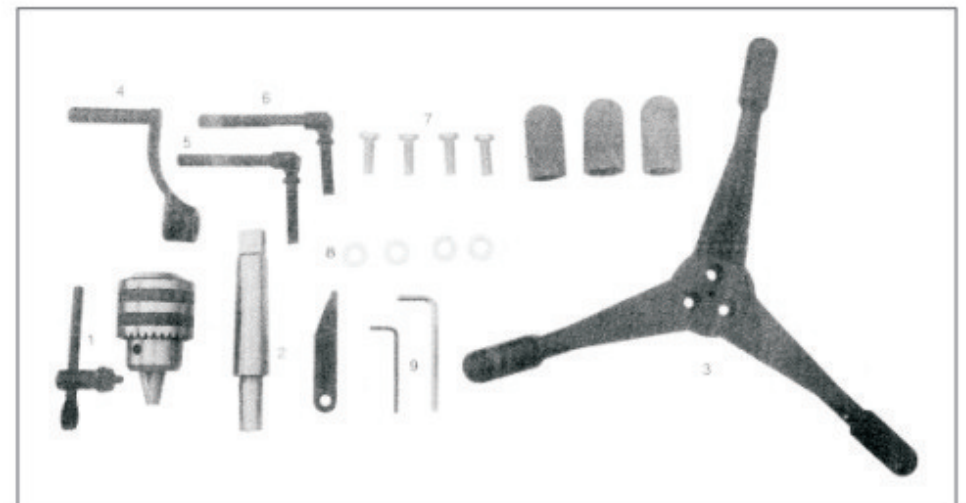
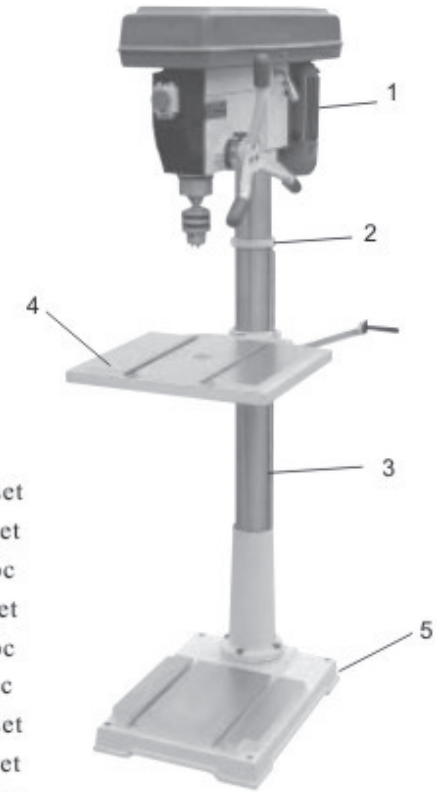
### A.Main Parts:

1. Head assembly	1pc
2. Column with flange	1pc
3. Arm of table and bracket	1set
4. Table	1pc
5. Base	1pc

### B.Accessories (in one separate box)

1.Chuck and key	1 set
2.Arbor and wedge (for CH 16(F) N only)	1set
3.Feeding handles and knobs	1pc
4.Height adjusting handle, table bracket	1set
5.Clamp bolt, table bracket	1pc
6.Clamp bolt, table arm	1pc
7.Knob and screw, upper pulley cover	4set
8.Screws and washers, flange	4set
9.Allen wrenches ( 3mm, 5mm)	1set

Note:If you find any parts missing or damaged, contact the dealer for exchange or replacement.



## ASSEMBLY

### 1. Assembly the column

Place column assembly on base and align holes in column support with holes in base. Secure the column with four bolts and washers provided.

### 2. Install table bracket

2-1 Take off collar and rack.

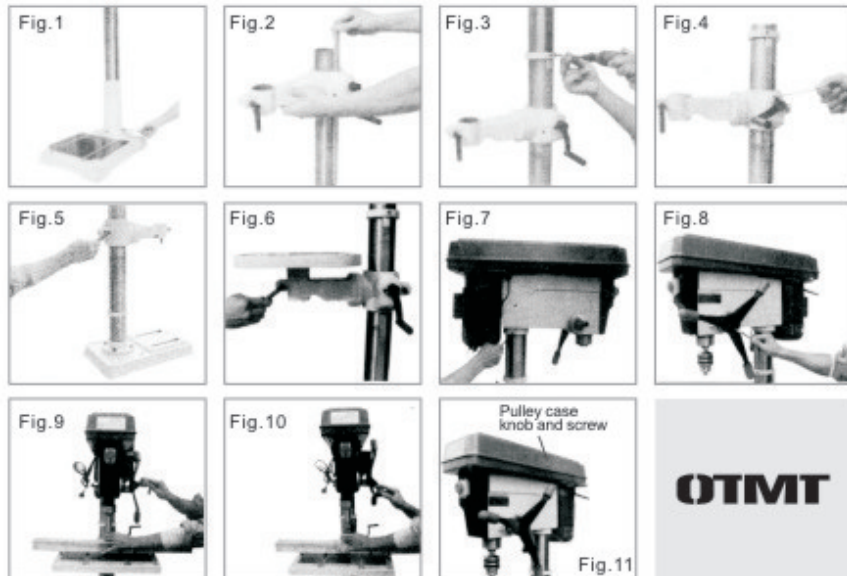
2-2 Install table bracket together with rack. Fig.2.

2-3 Install collar and fix it firmly. Fig.3

### 3. Install bracket handle and clamp bolt. Fig. 4, 5.

Fix handle with attached set screw. Install clamp bolt to fix table bracket.

### 4. Install table and clamp with bolt. Fig. 6.



### 5. Attach the Head Assembly

Carefully put the head assembly over column and slide it onto column into position. Align head frame with table base. Fix set screws in right side of head to lock head into position then tighten with allen wrench. Fig.7

### 6. Install the feeding handles Screw knob on each feeding handle, install them into hub of pinion shaft. Fig. 8

### 7. Attach the Arbor and Chuck

7-1 Insert arbor into spindle first. Pull feeding handle down to press arbor inward. Fig.9.

7-2 Open chuck jaws completely by turning attached chuck key counter-clockwise to the end. Put a piece of scrap wood on the table to protect chuck nose.

7-3 Install chuck to arbor tightly. Fig. 10.

8. Install knob and screw of upper pulley cover. Fig. 11

## ADJUSTMENT

### 1. Table adjustment

#### A. Height Adjustment

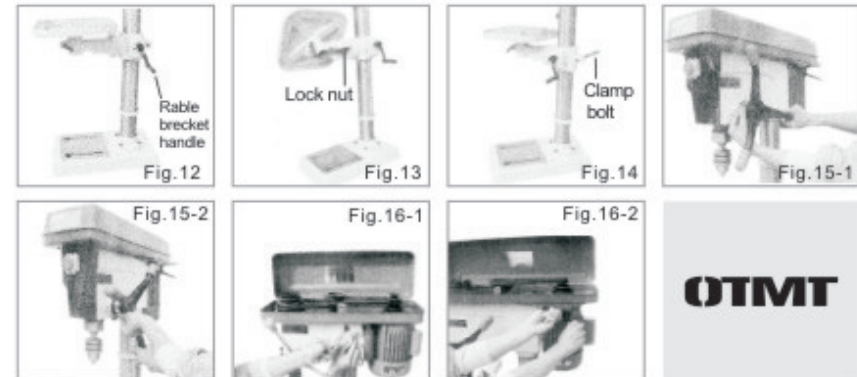
To adjust up or down, loosen the clamp bolt then adjust the table to your desired position by swing the table bracket handle. Fig. 12.

#### B. Tilting Adjustment

Loosen the table bevel lock bolt with adjustable wrench. Tilt table to desired angle and retighten the bolt. Fig. 13.

#### C. Swing 360 degree

Loosen clamp bolt then swing table to appropriate position and retighten clamp bolt. Fig. 14.



### 2. Feed Depth Adjustment

#### 2-1 Depth control stud type depth

Lower spindle assembly to desired depth and spin down nut. If nut moves due to vibration, spin down the 2nd nut and lock in position by holding the lower nut and tighten the upper nut. Fig.15-1.

#### 2-2 Depth control scale sleeve type

Loose the clamp bolt and move to the desired depth then retighten the clamp bolt. Fig. 15-2.

### 3. Speed Adjustment

#### 3-1

1. Open the pulley case and loosen the belt tension lock handle.

2. Choose speed for drilling operation and move belt to correct position for desired speed.

3. Push motor backward until moderate belt tension is acquired. Then retighten the lock handle again. Fig. 16-1 or Fig. 16-2.

3-2 The proper drill speed for a given drill bit size is as on following table:

Size		Cast steel	Tool steel	Cast iron	Mild steel	Alum&copper					
		Cutting speed									
Diameter		m/min	ft/min	m/min	ft/min	m/min	ft/min	m/min	ft/min	m/min	ft/min
		12	40	18	60	24	80	30	100	60	200
mm	inch	Cutting speed revolution per minute									
2	1/16	1910	2445	2865	3665	3820	4890	4775	6110	9550	12225
3	1/8	1275	1220	1910	1835	2545	2545	3185	3505	6365	6110
5	3/16	765	815	1145	1220	1530	1630	1910	2035	3820	4075
6	1/4	610	610	955	915	1275	1220	1590	1530	3180	3055
8	5/16	480	490	715	735	955	980	1195	1220	2390	2445
10	3/8	380	405	570	610	765	815	955	1020	1910	2035
11	7/16	350	350	520	525	700	700	870	870	1740	1745
13	1/2	300	305	440	460	590	610	735	765	1470	1530
16	5/8	240	245	360	365	480	490	600	610	1200	1220
19	1/4	190	205	285	305	380	405	480	510	955	1020

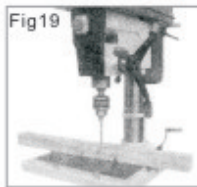
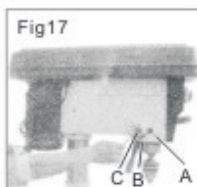
#### 4. Belt Tension Adjustment

For proper belt tension. Use 10lbs pressure or hand pressure on the belt as shown below. The distance is 1/2" (13mm) +10%.



#### 5. Quill Spring Adjustment

- ① .Move the stop nuts to lowest position and lock in place with wrench to prevent quill dropping while tensioning spring.
  - ② .Place screwdriver in lower front notch (A) of spring cap (B) and hold it in place while loosening and removing nuts.
  - ③ .Carefully turn screwdriver counter clockwise and engage next notch .Fig. 17.
  - ④ .Tighten inner nut (C) with wrench. Do not over tighten as this will restrict quill removal.
  - ⑤ .Move stop nuts to uppest position and check tension while turning feed handle. If there is not enough tension on spring. Repeat steps 2-4.
- Check quill while feeding to be smooth and unrestricted movement. If movement is too tight, slightly loosen nuts until unrestricted.



### OPERATION & TROUBLE SHOOTING GUIDE

#### 1. Installing drills

Insert drill into chuck jaws about 1"(25.4mm) long. When using a small drill does not insert it so far that the jaws touch the arbor of the drill. Make sure that the drill is centered in the chuck before tightening the chuck with the key. Fig. 18.

#### 2. Positioning Workpiece

Always place a piece of wood ( or plywood...) on the table. This will prevent "splintering" or making a heavy hurs on the underside of the workpiece as the drill breaks through. The wood must contact the left side of the column. Fig. 19.

#### 3. Using Vise

For small workpiece that cannot be clamped to the table, use a drill press vise. The vise must be clamped or bolted to the table.

#### 4. Trouble Shooting Guide

TROUBLE	PROBABLE CAUSE	REMEDY
Noisy operation	A)Incorrect belt tension B)Dry spindle  C)Loose pulley D)Loose belt E)Bad bearing	A)Adjust tension B)Remove spindle/quill assembly lubricate C)Tighten pulley D)Adjust belt tension E)Replace bearing
Excessive Drill wobble	A)Loose chuck B)Worn spindle shaft or bearing  C)Bad chuck	A)Tighten by pressing chuck down against table B)Replace spindle shaft or bearing C)Replace chuck
Motor won't start	A)Power supply B)Motor connection C)Switch connections D)Motor windings burned E)Bad switch	A)Check power cord B)Check motor connections C)Check switch connections D)Replace motor E)Replace switch
Drill binds In workpiece	A)Excessive pressure on feed handle B)Loose belt C)Loose drill D)Speed too fast	A)Apply less pressure B)Check belt tension C)Tighten drill with key D)Change speed
Drill burns Or smokes	A)Incorrect speed slow down RPM B)Chips are not discharging C)Dull drill or not cut properly for material D)Needs lubrication E)Feed pressure wrong	A)Refer to speed chart  B)Clean drill C)Check sharpness & taper D)Use lubrication while drilling E)Apply less pressure
Table difficult To raise	A)Needs lubrication B)Bent rack C)Table lock tightened	A)Lubricate with tight oil B)Straighten rack C)Loosen clamp

### MAINTENANCE

Frequency below out any dust that may accumulate inside the motor. A coat of automobile type wax applied to the table and column will help to keep the surfaces clean.

If the power cord is worn or cut, or damaged in any way, have it replaced immediately.

#### Lubrication

All of the BALL BEARINGS are packed with grease at the factory. They require too further lubrication.

Periodically lubricate the gear and rack table elevation mechanism, the SPLINES ( grooves) in the spindle and the RACK ( teeth on the quill).

### SAFETY RULES

#### General Safety Rules:

1. KEEP GUARDS IN PLACE and in working order.
2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
4. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet location, or expose then to rain. Keep work area well lighted.
5. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
6. MAKE WORKSHOP CHILD PROOF with padlocks, master switches, or by removing starter keys.
7. DON'T FORCE TOOL. Don't force tool or attachment to do a job for which it was not designed.

8. **USE RIGHT TOOL.** It will do the job better and safer at the rate for which it was not designed.

9. **WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, rings bracelets, or other jewelry to get caught in moving parts. Nonslip footwear recommended, Wear protective hair covering to contain long hair.

10. **ALWAYS USE SAFETY GLASSES.** Common eyeglasses only have impact resistant lenses, they are NOT safety glasses.

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

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

13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubrication and changing accessories.

14. **DISCONNECT TOOLS** before servicing; when changing, accessories such as blades.

15. **REDUCE THE RISK OF UNINTERTONAL STARTING.** Make sure switch is in off position before plugging in.

16. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.

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

18. **CHECK DAMAGE PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine 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.

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

### ◆ Special Safety Rules For Drill Press:

1. **Caution:** This drill press is intended for use only with drill bits. The use of other accessories may be hazardous.

2. **Correct drilling speeds:** Factors which determine the best speed to use in any drill press operation are: Kind of material being worked, size of hole, type of drill or other cutter, and quality of cut desired. The smaller the drill, the greater the required RPM. In soft materials, the speed should be higher than for hard metals.

3. **Drilling in metal:** Use clamps to hold the work when drilling in metal. The work should never be held in The bare hand, the flutes of the drill may seize the work at any time, especially when breaking through the stock. If the piece is whirled out of the operator's hand, he may be injured, in any case, the drill will be broken when the work strikes the column.

4. **The work must be clamped firmly while drilling:** Any tilting, twisting, or shifting results not only in a rough hole, but also increases drill breakage. For flat work, lay the piece on the a wooden base and clamp it firmly down against the table to prevent it from turning.

If the piece is of irregular shape and cannot be laid flat on the table, it should be securely blocked and clamped.

5. **The chuck shall be securely fastened to the spindle** and so that it can't separate form spindle.

6. **Remove key from chuck after adjustment.**

7. **The tool is to be disconnected from the power supply while the motor is being mounted, connected or reconnected.**

8. **Secure the tool to the supporting structure.** If during normal operation, there is any tendency for the tool to tip over, slide, or walk on the supporting surface.

9. **The set screws of head frame should be screwed tightly before using this machine.**

10. **Connect to a supply circuit protected by a circuit breaker or time delay fuse.**

11. **Fasten base to floor or worktable before using the drill press.**

12. **Use only the chuck key provided by the manufacturer or a duplicate of it.** This chuck key is spring loaded to prevent chuck key from remaining in chuck during operation of drill.

### ◆ GROUNDING

1. **In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.** This tool is equipped with an electric cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

2. **Do not modify the plug provided it will not fit the outlet, have the proper outlet installed by a qualified electrician.**

3. **Improper connection of the equipment grounding conductor can result in a risk of electric shock.** The conductor with insulation having an outer surface that is green with or without yellow stripe is the equipment grounding conductor. If repair or replacement of electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal.

4. **Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.**

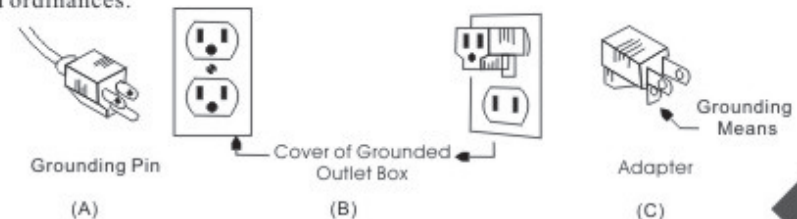
5. **Use only 3 wire extension cords that have 3-prong grounding plugs and 3 pole receptacles that accept the tool's plug.**

6. **Repair or replace damaged or worn cord immediately.**

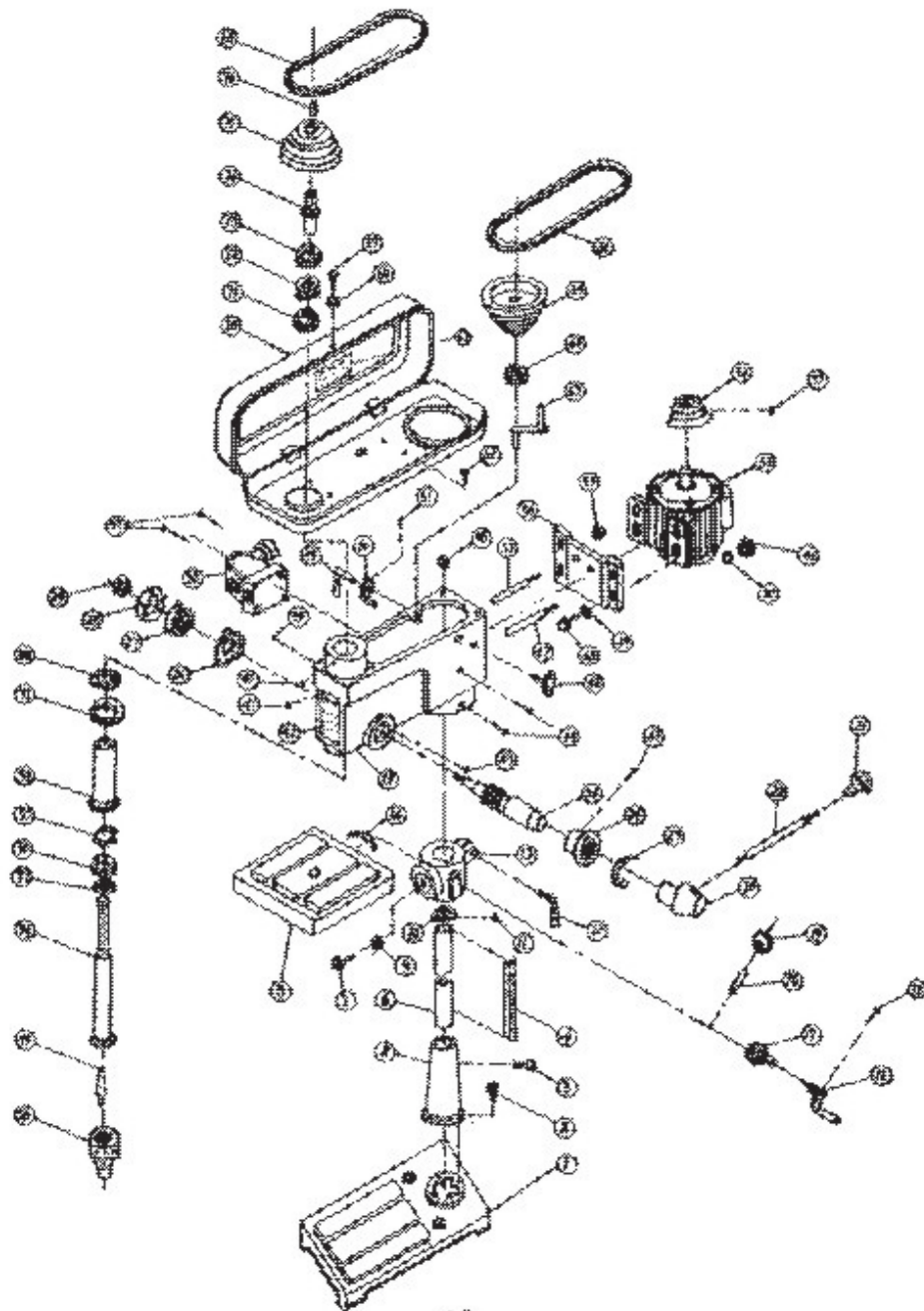
7. **For 115V Models:** This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in sketch A. The tool has a grounding plug that looks like the plug illustrated in sketch A. A temporary adapter, which looks like the adapter illustrated in sketches B and C, may be used to connect his plug to a 1 pole receptacle as shown in sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by qualified electrician. The green colored rigid ear, lug, etc. Extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

8. **For 230V Models:** Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating between 150-250 volts, inclusive:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in Sketch D. The tool has a grounding plug that looks like the plug illustrated in Sketch D. Make sure that the tool is connected to an outlet having the same configuration as the plug. No adapter is available or should be used with this tool. If the tool must be reconnected for use on a different type of electric circuit, the reconnection should be made by qualified service personnel; and after connection, the tool should comply with all local codes and ordinances.



# ASSEMBLY DIAGRAM



-12-

## PART LIST

PART NO.	NAME
1	Base
2	Bolt
3	Bolt
4	Teeth
5	Flanged Coloumn Base
6	Coloumn
7	Bolt
8	Working Table
9	Washer
10	Ring
11	bolt
12	Locking Handle
13	Working Table Holder
14	Angle Scale
15	Houseing
16	Handle
17	Worm
18	Pin
19	Gear
20	Handle Seat
21	Handle Tip
22	Handle
23	Depth Scale
24	Depth Indicator
25	Feeding Shaft
26	Spring Seat
27	Spring Seat
28	Spring Cover
29	Nut
30	Bearing
31	Ring
32	Spindle Socket
33	Washer
34	Spindle Socket
35	Tappered Spindle Tip
36	Chuck
37	Screw
38	Switch
39	Fixing Screw
40	Bolt

## PART LIST

PART NO.	NAME
41	Name Plate Fixing Rivet
42	Name Plate Fixing Rivet
43	Bolt
44	Fixing Screw
45	Fixing Screw
46	Fixing Bolt
47	Adjusting Shaft
48	Bolt
49	Washer
50	Washer
51	Nut
52	Motor
53	Fixing Screw
54	Motor Pulley
55	Nut56Motor Fixing Plate
57	Shaft
58	Rubber Washer
59	Adjusting Handle
60	Adjusting Pin
61	Screw
62	Bolt
63	Pulley Spindle
64	Bearing
65	Pulley
66	V-Belt
67	Speed Changing Lable
68	Washer
69	Lifting Handle
70	Pulley Cover
71	Bearing
72	Ring
73	Bearing
74	Keyway Spindle
75	Spindle Pulley
76	Key
77	Bearing
78	Locking Nut
79	Switch Seat