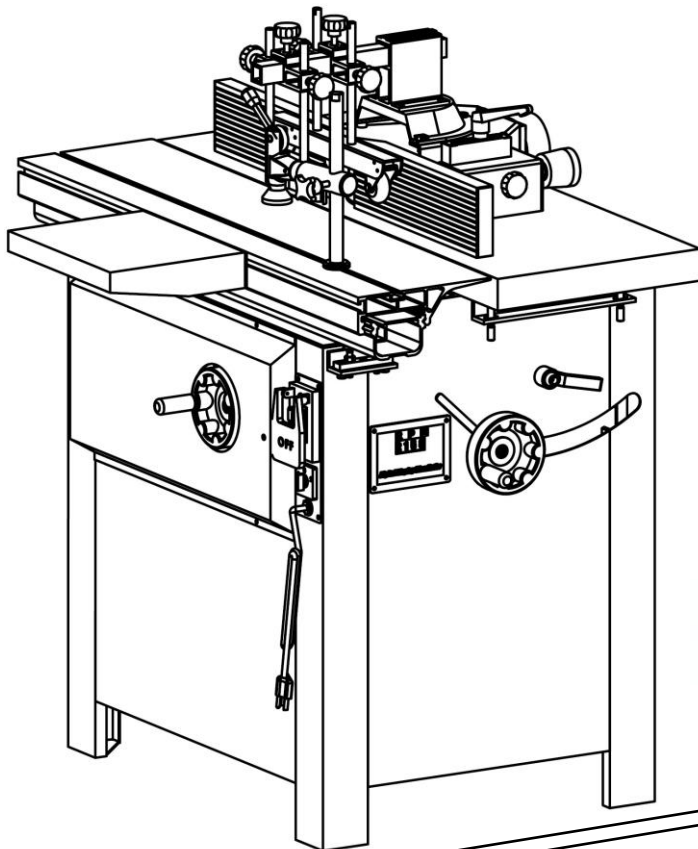


Manual

Spindle Moulder

w/Tilting Shaft

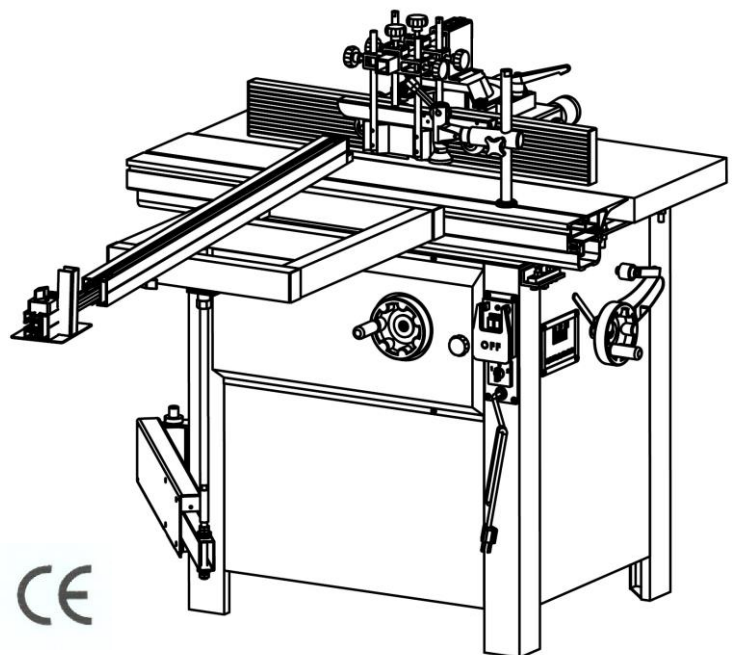


MODEL :

MX5110A

CE

MODEL :
MX5110A-1



CE

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1. SPECIFICATION

Motor power	2800	
Motor speed	R.P.M.	2800
Motor Protection	Thermal link	
Table size	mm	1000x360
Table height	mm	900
Spindle diameter	mm	30
Spindle travel	mm	100
Table opening	mm	200
Table tilt		-5°-+45°
Table ring	mm	200
Tool diameter Max.	mm	180
Speed	R.P.M.	1800/3000/6000/9000
Suction nozzle	mm	100

2. SAFETY INSTRUCTIONS

WARNING

For Your Own Safety Read Instruction Manual Before Operating This Equipment

2.1 Safety Instructions For Power Tools

- KEEP GUARDS IN PLACE** and in working order.
- REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on.
- KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- NEVER USE IN DANGEROUS ENVIRONMENT.** Do not use power tools in damp or wet locations, or where any flammable or noxious fumes may exist. Keep work area well lighted.
- KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
- MAKE WORKSHOP CHILD PROOF** with padlocks, master switches, or by removing starter keys.
- NEVER FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
- USE RIGHT TOOL.** Do not force tool or attachment to do a job for which it was not designed.
- USE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. Conductor size should be in accordance with the amperage rating listed on the motor or tool nameplate. An undersized cord will cause a drop in line voltage resulting in loss of power and over-heating. Your extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords if they become damaged.
- WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
- ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses.
- SECURE WORK.** Use clamps or a vise to hold work when practical. It is safer than using your hand and frees both hands to operate tool.
- NEVER OVERREACH.** Keep proper footing and balance at all times.
- MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- DISCONNECT TOOLS** before servicing and changing accessories, such as blades, bits, cutters, and the like.
- REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in off position before plugging in.

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

18. CHECK DAMAGED 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

A guard or other part that is damaged should be properly repaired or replaced.

parts, mounting, and any other conditions that may affect its operation.

19. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Do not leave tool until it comes to a complete stop.

20. NEVER USE UNDER THE INFLUENCE of alcohol or drugs, or when tired.

21. NEVER ALLOW UNSUPERVISED OR UNTRAINED PERSONNEL TO OPERATE THE MACHINE. Make sure any instructions you give in regards to the operation of the machine are approved, correct, safe, and clearly understood.

2.2 Additional Safety Instructions For Spindle Moulder

⚠WARNING

Like all power tools, there is danger associated with spindle moulder. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this tool with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment or poor work results.

1. NEVER ALLOW YOUR HANDS to come within 12 inches of the cutters. Never pass your hands directly over or in front of the cutter.

2. BLIND CUT WHENEVER POSSIBLE. This keeps the knives on the underside of the workpiece and provides a distance guard for the operator.

3. WHEN SHAPING CONTOURED WORK and using a rub collar, **NEVER** start out at a corner. See the "Rub Collar" instructions further on in the manual.

4. WITH THE MACHINE UNPLUGGED, always rotate the spindle by hand with any new setup to ensure proper cutter clearance before starting the machine.

5. DO NOT SHAPE STOCK SHORTER than 12 inches without special fixtures or jigs. Where practical, shape longer stock and cut to size.

6. NEVER ATTEMPT to remove too much material in one pass. You are far more likely to enjoy safer and higher quality results if you allow the cutter to remove material in multiple passes.

7. THE DANGER OF kickback is increased when the stock has knots, holes, or foreign objects in it. Warped stock should be run through a jointer before attempting to run it through a shaper.

8. KEEP THE UNUSED PORTION

of the cutter below the table surface.

9. THE USE OF PUSH STICKS as safety devices in some applications is smart; in others it can be quite dangerous. If the push stick comes in contact with the cutter on the end grain, it can fly out of your hand like a bullet—potentially causing serious injury. We recommend using some type of fixture, jig, or hold-down device as a safer alternative. Always use the guard as described in the manual.

10. NEVER FORCE MATERIALS through the shaper. Let the cutters do the work. Excessive force is likely to result in poor cutting results and will cause dangerous kickback conditions.

11. ALWAYS ensure that the cutters, fence, and spindle elevator knob have been tightened properly before beginning any operation.

12. ALWAYS feed the work toward the cutters in the direction opposite of the cutter rotation. Also, using and maintaining a sharp cutterhead will greatly reduce the chance of kickback.

13. NEVER REACH BEHIND CUTTER to grab the workpiece. Your hand may suddenly be pulled into the cutter in the event of a kickback.

14. IF AT ANY TIME YOU ARE EXPERIENCING DIFFICULTIES PERFORMING THE INTENDED OPERATION, STOP USING THE SPINDLE MOULDER! Then contact our service department or ask a qualified expert how the operation should be performed.

2.3 Site Considerations

Working Clearances

Working clearances can be thought of as the distances between machines and obstacles that allow safe operation of every machine without limitation. Consider existing and anticipated machine needs, size of material to be processed through each machine, and space for auxiliary stands and/or work tables. Also consider the relative position of each machine to one another for efficient material handling. Be sure to allow yourself sufficient room to safely run your machines in any foreseeable operation.

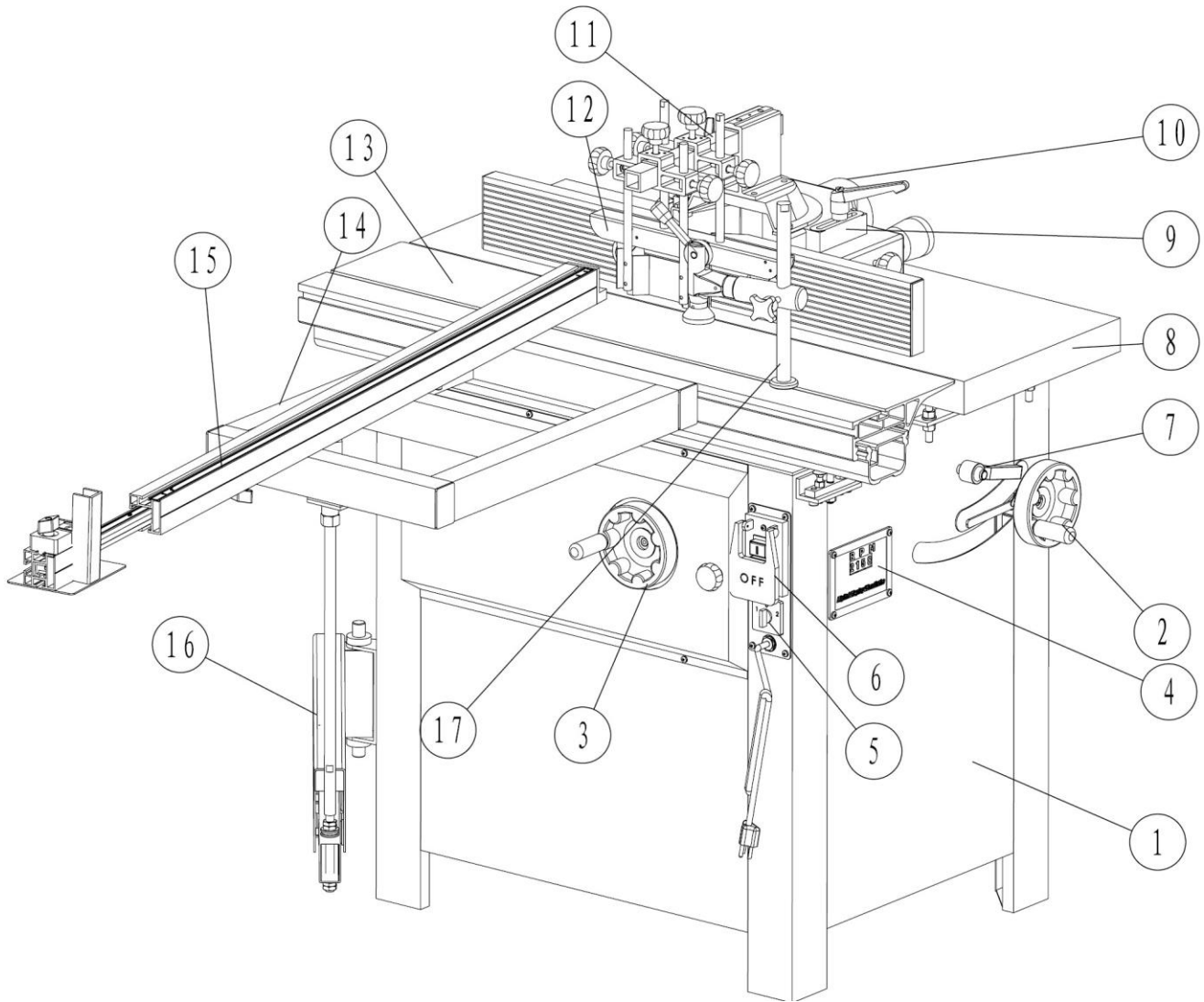
Lighting and outlets

Lighting should be bright enough to eliminate shadow and prevent eye strain. Electrical circuits should be dedicated or large enough to handle combined motor amp loads. Outlets should be located near each machine so power or extension cords are not obstructing high-traffic areas. Be sure to observe local electrical codes for proper installation of new lighting, outlets, or circuits.

⚠WARNING

Read the manual before assembly and operation. Become familiar with the machine and it's operation before beginning any work. Serious personal injury may result if safety or operational information is not understood or followed.

3. GETTING TO KNOW YOUR MACHINE



- | | |
|------------------------------------|------------------------------|
| 1. Machine housing | 9. Safer guard |
| 2. Spindle height adjust handwheel | 10. Dust outlet |
| 3. Spindle tilt handwheel | 11. Feeder ass'y |
| 4. Spindle speed display | 12. Feed roller |
| 5. Reversing switch | 13. Sliding Table |
| 6. Main switch (No-volt release) | 14. Sliding Table(assistant) |
| 7. Spindle tilt lock | 15. Composite rules |
| 8. Table | 16. Telescopic pipe |
| | 17. Workpiece clamp |

4. ASSEMBLY

4.1 Unpacking

The spindle moulder is shipped from the manufacturer in a carefully packed carton. If you discover the machine is damaged, you will need to file a freight claim. Save the containers and all packing materials. If you need assistance determining, please contact our Customer Service.

After all the parts have been removed from the carton, you should have:

- Spindle Moulder Machine Housing Ass'y
- Sliding table (assistant) & hardware (1 bag)
- Safer Guard Ass'y
- Feeder Ass'y

- Tools & Hardwares

Most of your spindle moulder has been assembled at the factory, but some parts must be assembled or installed after delivery. We have organized the assembly process into steps.

Please follow along in the order presented in this section.

4.2 Installing the Cutting Tools

⚠ CAUTION

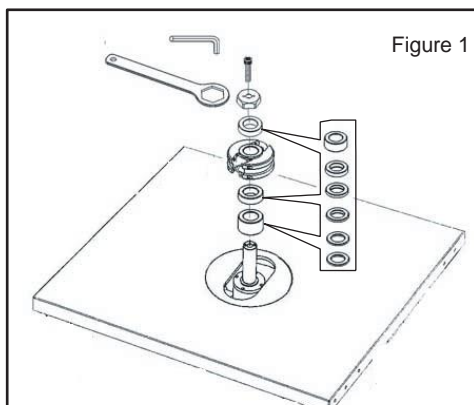
Install tool on the spindle as low as possible. It should turn freely in the lowest spindle position. Make sure that tool does not make contact with the table ring or fence extrusion when the spindle tilted.

⚠ DANGER

Danger of personal injury!

Form habit of turning tool by hand before switching machine on to be sure tool runs clear.

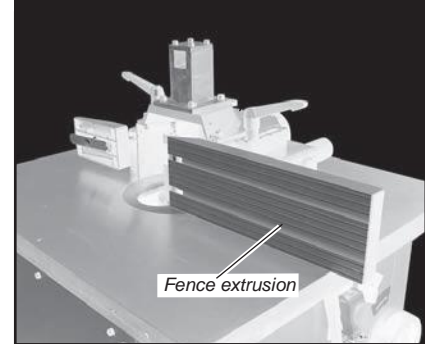
1. Lay the table ring flat into table plate.
The table ring, when mounted, should not stand out over the table surface, in order to allow workpiece to be pushed smoothly over the table surface.
When doing milling work with the raising mill, take the table ring out of the table part.
2. Position the moulding tool with the spindle ring onto the spindle and secure the lock flange with Allen bolt M12x25. See **Figure 1**.



3. Adjust the moulding tool height on shaft, using other thickness spindle ring or rings. The thickness of spindle ring is 30, 25, 15, 10, 5, 2 & 1 mm.

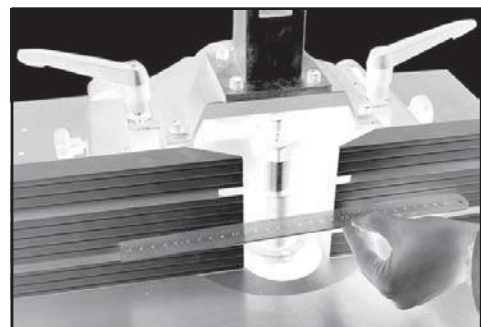
4.3 Installing the Safer Guard

1. Place the safer guard over the threaded holes on the table.



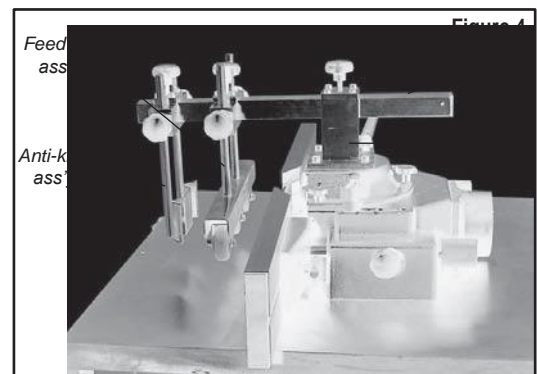
2. Insert the ratchet lever M8x150 with a 8mm large washer into the safer guard as shown in **Figure 2**, and thread the ratchet lever clockwise to secure to the table.
3. Slide the fence extrusion onto the fence extrusion carriage, and secure it.
4. To align the fence extrusion, adjust one or both fence so they are in close alignment. Check the alignment with a straightedge as shown in **Figure 3**.

Figure3



4.4 Installing the feeder ass'y

1. Insert the feeder arm into feeder base and secure it with startype screw M8x25.



2. Place the Feeder Ass'y and Anti-kickback Ass'y onto the Feeder Arm and secure it.

5. ADJUSTMENT & OPERATION

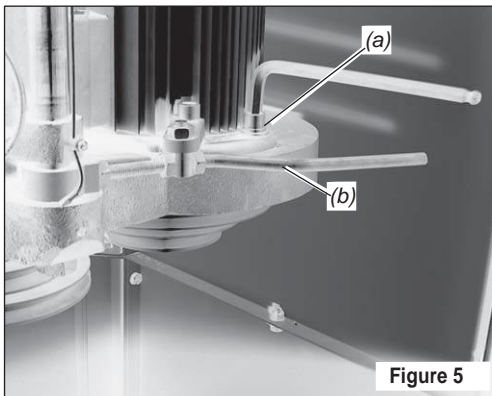
⚠CAUTION

Read the manual before assembly and operation. Become familiar with the machine and its operation before beginning any work. Serious personal injury may result if safety or operational information is not understood or followed.

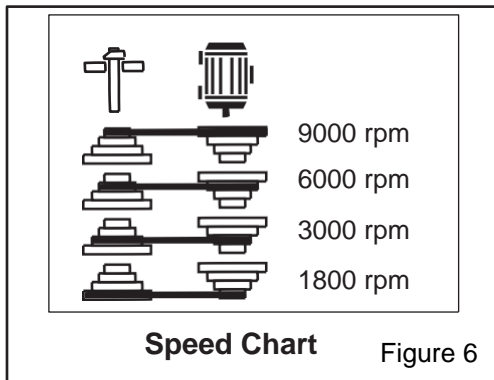
5.1 Speed Changes

This machine is equipped with a V-belt drive system that controls the speeds. To change spindle speeds:

1. Unplug the machine.
2. Loosen the two Startype Screw M6x30, open the Machine Housing Door.
3. Loosen the Allen Bolt M12x40(a) with allen wrench, Pull the Motor Tension Lever(b) out.



4. Select the desired speed. There are four speeds: 1800 R.P.M., 3000 R.P.M., 6000 R.P.M., 9,000 R.P.M. Figure 6 shows the belt positions for each available speed.



5. Align the belt along the appropriate pulley grooves.
6. Push up the Motor Tension Lever(b) and tighten the Allen Bolt(a).
When the belt is properly tensioned, there should be approximately 1/4" of deflection in the center of the belt when you press it with moderate pressure.
7. Tighten all the adjusting bolts.
8. Spin the pulley by hand to ensure proper tracking.
9. Close the door.

5.2 Replace V-belt

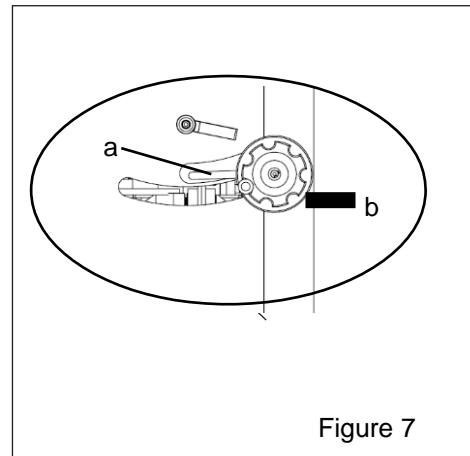
See above chapter.

5.3 Adjust the height of Spindle

⚠WARNING

Perform this adjustment must switch off the power first.

1. Loosen the Spindle Height Lock(a).
2. Make sure the fence & table cleaning with milling tool.
3. Move the spindle up or down with the Spindle Height Handwheel(b) until the desired position is obtained.
To raise = turn counter-clockwise
To lower = turn clockwise
4. Secure the Spindle Height Lock(a).

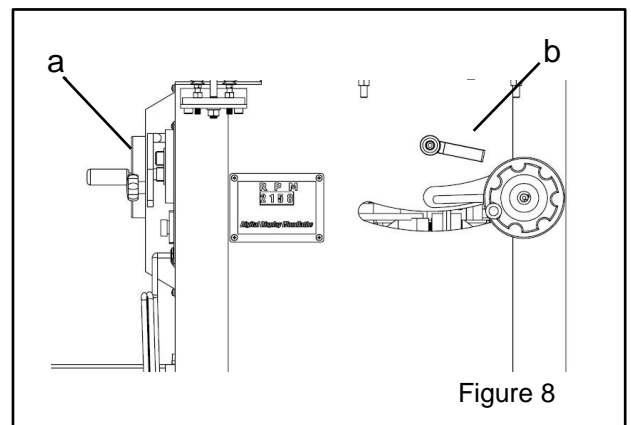


5.4 Spindle Tilt Setting

⚠WARNING

Perform this adjustment must switch off the power first. Using the Tilting table ring!

1. Loosen the Spindle Bevel Lock(a).
To loosen = turn counter-clockwise
To lock = turn clockside
2. Make sure the fence & table cleaning with milling tool. And secure that if the spindle tilted, it can touch the fence and table ring.
3. Move the spindle bevel with the Spindle Tilting Handwheel(b) until the desired position is obtained.
To right = turn leftside
To left = turn rightside
3. Secure the Spindle tilt Lock(a).



5.5 Rotation

⚠ CAUTION

Always check the direction of cutter rotation before beginning any milling operation.

! NOTICE

This machine was designed to be started and stopped with the **Main Switch(No-volt Release)**—not the reversing switch.

This machine is equipped with a FORWARD/REVERSE switch as shown in **Figure 9**. In many instances, you will find it necessary to flip the cutter over and reverse cutter rotation. Whenever possible, mount the cutter so the board is milled on the bottom side. This method does a better job and is safer for the operator.

⚠ CAUTION

Before turning the Reversing Switch, must switch off the power and wait the machine standstill.

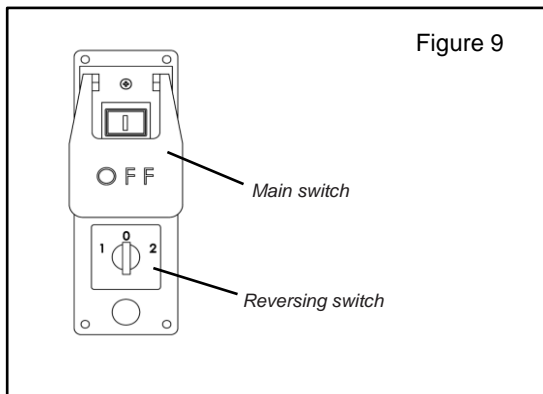


Figure 9

The reversing switch turns left, the machine is running at forward mode, the spindle is running counter-clockwise.
The reversing switch turns right, the machine is running at reverse mode, the spindle is running clockwise.

5.6 Fence adjustment

The fence is a two-piece adjusting system. Each fence is independently adjustable to compensate for different cutting thicknesses and special milling applications. To adjust the fence:

1. Loosen the fence lock handle(Startype Screw M8x25 a).
2. Turn the Spindle Latch Setting Knob(b) until the fence is set to the desired position.
3. Tighten the fence lock handle.

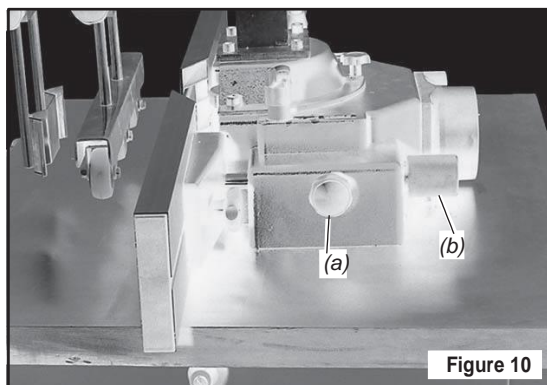


Figure 10

⚠ CAUTION

Perform this adjustment, must wait the spindle and milling tool standstill.

5.7 Adjust the Feed Roller

⚠ WARNING

Perform this adjustment must switch off the power first.

1. Loosen the Startype Screw M8x25(a) and (b).
2. Move the Feed Roller above the workpiece.
3. Lock the Startype Screw M8x25(a), make feed roller on the center line of workpiece.
4. Lock the Startype Screw M8x25(b), make secure the roller as close as possible to workpiece.
5. Loosen the Startype Screw M8x25(c) and (d).
6. Move the Anti-kickback Plate near the workpiece.
7. Lock the Startype Screw M8x25(c), make the Plate is 5-10mm above work table.
8. Lock the Startype Screw M8x25(d), make the plate is as close as possible to the work piece.

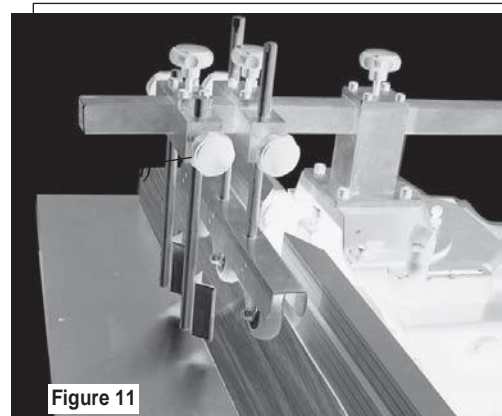


Figure 11

5.8 Sanding

⚠ WARNING

Perform this operation must at 1800 R.P.M. spindle speed.

1. Remove the Safer Guard and Feed Roller.
2. Adjust the spindle to **Highest Position**.
3. Insert the Sanding Drum(a) to Sanding Sleeve(b).
4. Place Support Disc(c) and Sanding Drum Ass'y onto spindle.
5. Secure the Lock Flange(d) with Allen Bolt M12x25(e).

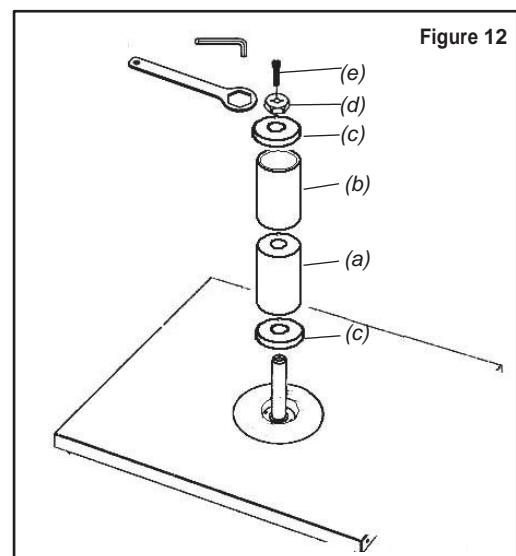


Figure 12

6. DUST COLLECTION

This spindle moulder is operated indoors, it needs to be connected to a dust collector of suitable capacity, i.e. having a minimum flow rate of 20 mtr/sec. Connection should be made with a flexible suction hose of 100mm nominal diameter.

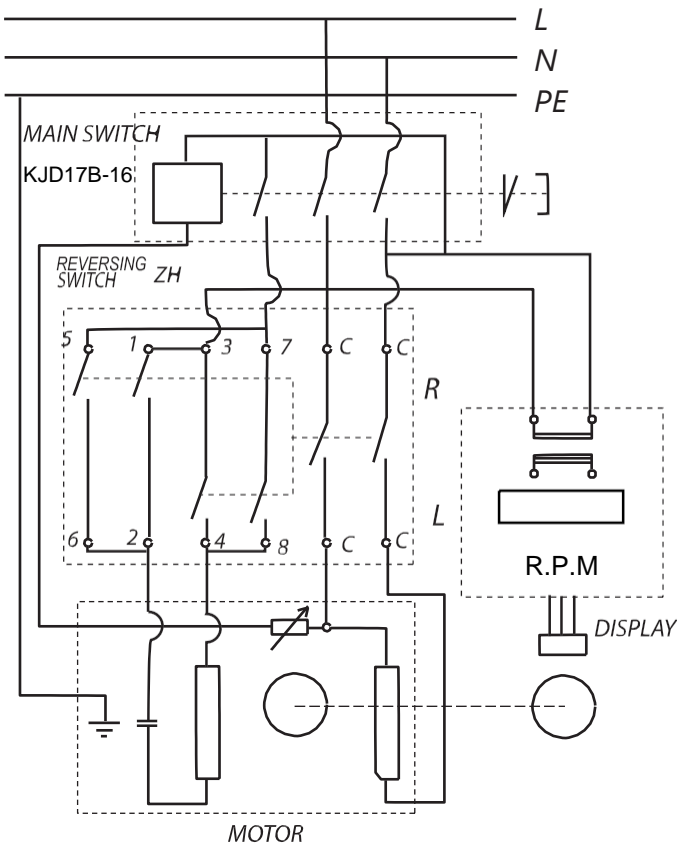
7. WIRING DIAGRAM

The electric motor is designed for the S6 40% operating mode. And the motor is equipped with a thermal protect system, therefore the motor is automatically switched off in the event of an overload. The motor can be switched on again after a cooling down period that can vary.

⚠WARNING

Electrical connection cables often suffer insulation damage. Such defective electrical connection cable must not be used as the insulation damaged makes them extremely hazardous.

Check electrical connection cables regularly for damage. Make sure the cable is disconnected from the mains when checking. Electrical connection cables must comply with the regulations applicable in your country.



8. MAINTENANCE

⚠WARNING

Always switch off the motor and disconnect the plug from the power supply prior to any maintenance and cleaning work.

Before operation:

1. Visual check distance which is 3-8mm, between the milling tool and fence extrusion, between milling tool and table.
2. Visual check of power cable and power cable plug for damage; if necessary have damage parts replaced by a qualified electrician.

General maintenance:

Check for the following conditions and repair or replace when necessary.

1. Loose mounting bolts.
2. Worn switch.
3. Worn or damaged cords and plugs.
4. Damaged V-belt.
5. Any other condition that could hamper the safe operation of this machine.

Table

Tables can be kept rust-free with regular applications of light grease.

Lubrication

The only parts on this machine that require periodic lubrication are the ways where the cartridge slide rides on the machine housing and where the worm gear and bushing are located. Use a light grease or anti-seizing compound on the ways and worm gear, and give the shaft mount a shot of light oil.

V-Belt

Avoid getting grease or oil on the V-belt or pulleys. Check the V-belt, as part of a monthly inspection for proper tension and belt condition. Cracking and glazing could result in belt failure. Replace the belt if such conditions appear.

Schedule

Regularly blow out air vents with compressed air and keep the exhaust port clear. Always wear a dust mask during this operation. For every 1 hour of use, clean and wipe down with light grease:

- Table and miter gauge slide
- Fence faces

For every 5 hours of use, clean and oil:

- Spindle column and cartridge
- Offset adjustment mechanisms on fence
- All worm drive and other gears

Once a year, replace the V-belt.

9. TROUBLE SHOOTING



Before carrying out any fault service or maintenance work always:

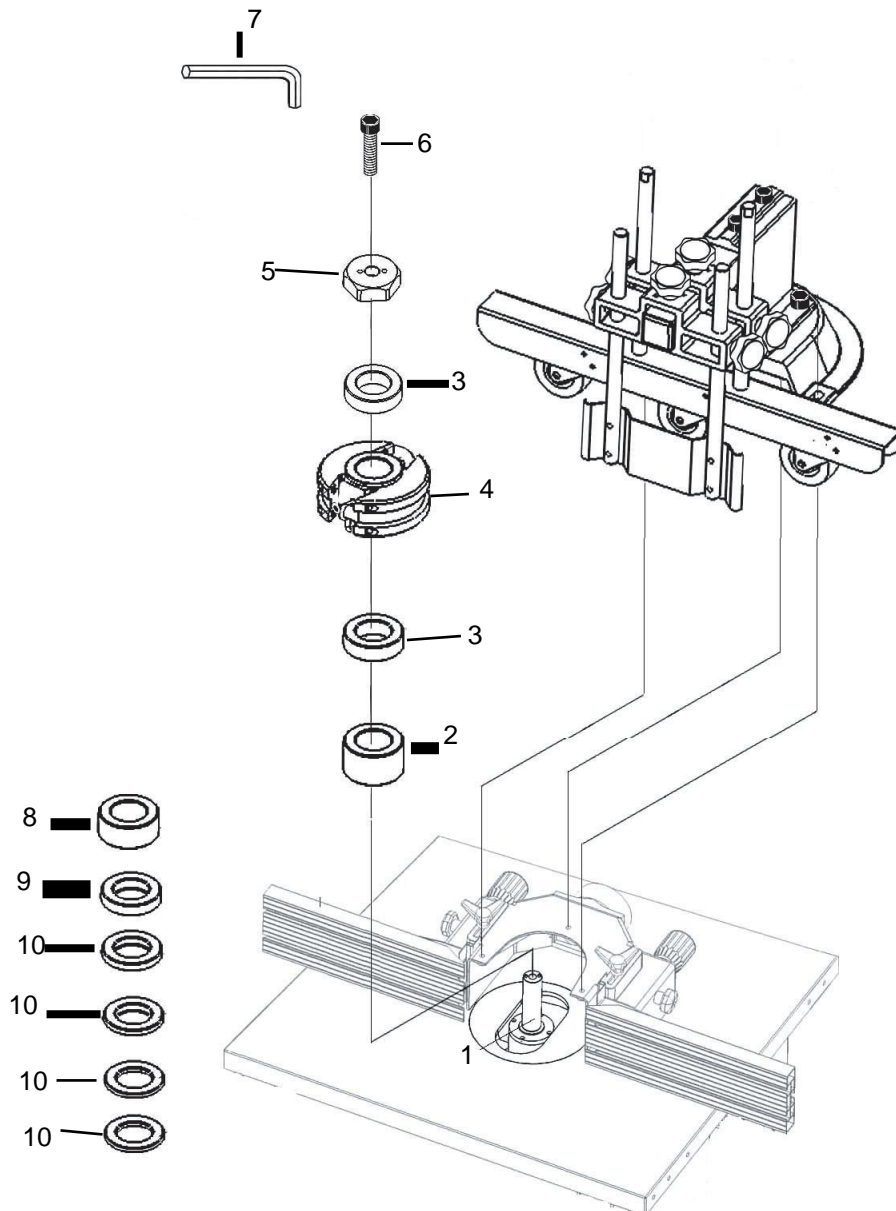
1. Switch machine OFF
2. Unplug power cable
3. Wait for spindle moulder to come to standstill.

Trouble Shooting Guide		
Problem	Cause	Solution
Motor is slow or weak	Voltage from source is low. Windings are burned out or open. Power Switch is defective. Circuit is overloaded with appliances, lights, or other electrically powered equipment.	Request a voltage check from local power company. Have the Motor checked / repaired. Have the Power Switch replaced. Do not use other appliances or electrically powered equipment on the same circuit when using the Table Saw.
Motor overheats.	Motor is overloaded. Dull milling tool.	Request a voltage check from the local power company. Replace the milling tool.
When milling, the cut burns the work-piece, or stalls the motor.	Milling tool is dull. Work-piece is warped.	Sharpen or replace the milling tool. Replace the work-piece.
Bevel & Height Handles are hard to turn.	Dust has collected on the mechanisms inside the base.	Clean and lubricate the mechanisms inside the base.
The spindle does not bevel or does not lower or higher.	Bevel Lock Handle is not fully released. Height Lock Handle is not fully released.	Fully release the Bevel Lock Handle. Fully release the height Lock Handle.
Spindle moulder vibrates excessively.	Floor surface is uneven. V-belt is damaged. Milling tool is damaged. Loose bolt, Screws, Nuts.	Readjust the Leveling Feet. Replace the V-belt. Replace the milling tool. Tighten all Hardware.
Spindle moulder does not start.	Motor Cord is not plugged in. Circuit fuse is blown. Circuit breaker is tripped. Motor Cord or Switch is damaged.	Plug in Motor Cord to volt electrical outlet. Replace circuit fuse. Reset circuit breaker. Have the Motor Cord or Switch replaced.
Power Switch does not operate.	Power Switch contacts are burned out. Capacitor is defective. Wiring connections are loose or damaged.	Have the Power Switch replaced. Request a voltage check from the local power company. Have the Capacitor replaced. Have the wiring connections checked / repaired.
Fuses or circuit breakers open frequently.	Motor is overloaded. Fuses or circuit breakers are wrong size or defective. Dull milling tool. Power Switch is defective.	Feed work-piece more slowly. Replace fuses or circuit breakers. Replace the milling tool. Have the Power Switch replaced.
Motor stalls, blows fuses, or trips circuit breakers.	Motor is overloaded. Dull milling tool. Fuses or circuit breakers are wrong size or defective. Feeding work-piece too rapidly.	Request a voltage check from the local power company. Replace the milling tool. Replace fuses or circuit breakers. Feed work-piece more slowly.
Spindle moulder is noisy when running.	Motor is loose or defective.	Have the Motor checked/repaired
<p>Warning: To prevent personal injury and/or damage to the spindle moulder, maintenance and repairs should be done only by a qualified technician.</p>		

10. DIAGRAM & PARTS LIST(Accessories)

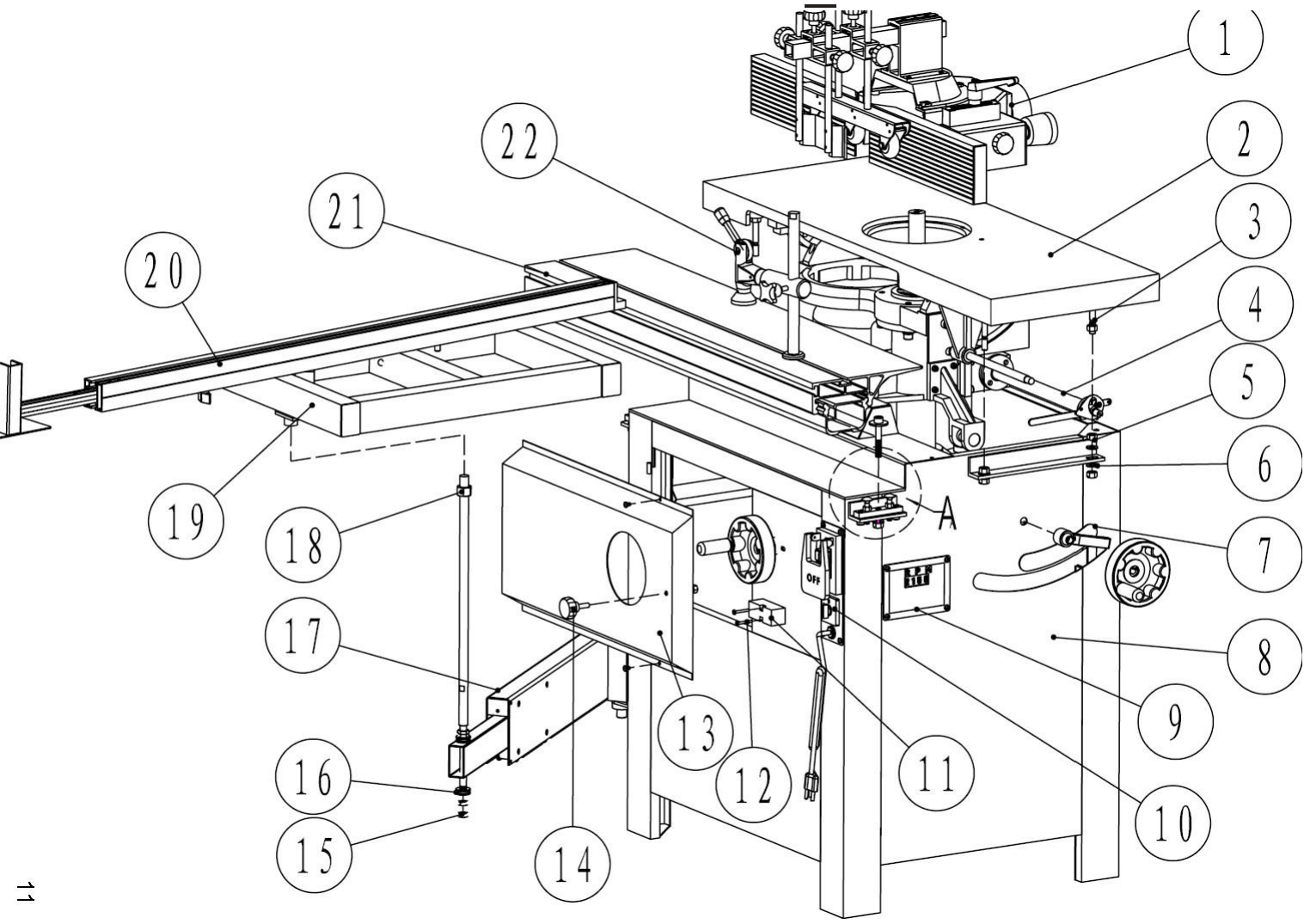
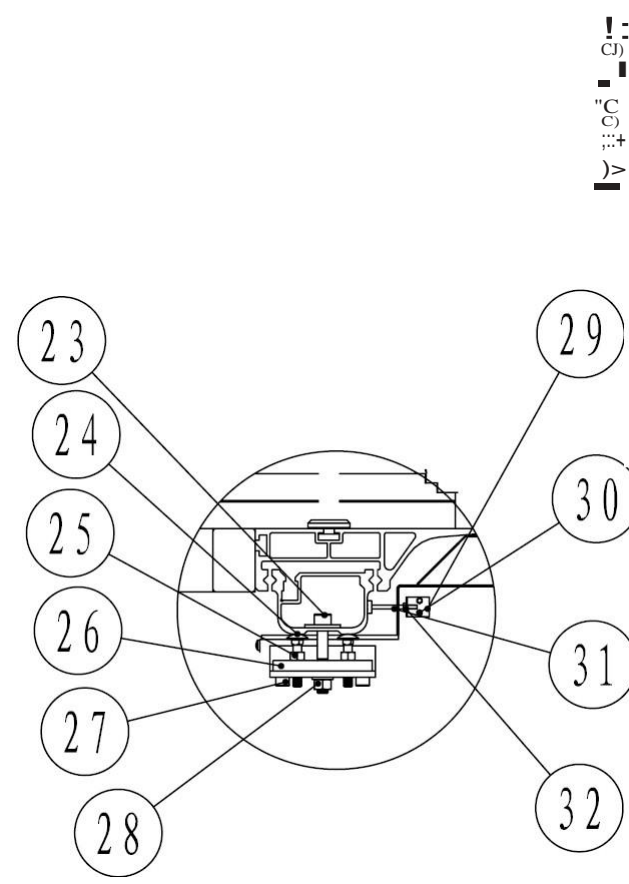
No.	DESCRIPTION	Q'ty
1	Spindle shaft	1
2	Spindle ring $\Phi 50 \times 30 \times 30 \text{mm}$	1
3	Spindle ring $\Phi 50 \times 30 \times 10 \text{mm}$	1
4	Cutting tool	1
5	Lock flange	1
6	Allen bolt M12x25	1
7	Allen wrench 10mm	1

No.	DESCRIPTION	Q'ty
8	Spindle ring $\Phi 50 \times 30 \times 20 \text{mm}$	1
9	Spindle ring $\Phi 50 \times 30 \times 10 \text{mm}$	1
10	Spindle ring $\Phi 50 \times 30 \times 5 \text{mm}$	4



10. DIAGRAM & PARTS LIST(PartA)

No.	DESCRIPTION	Q'ty
A-1	Safer guard	1
A-2	Table	1
A-3	Allen bolt M10x70	4
A-4	Mill drive set	1
A-5	Lock nut M10	12
A-6	Flat washer 10mm	8
A-7	Scutcheon	1
A-8	Workstand	1
A-9	Spindle height display	1
A-10	Main switch (No-volt release)	1
A-11	Switch(QKS8)	1
A-12	Cross recessed pan head screw M4x30	2
A-13	Left panel, machine housing	1
A-14	Startype screw M8x15	1
A-15	Lock nut M12	4
A-16	Thrust bearing 8101	2
A-17	Swing arm	1
A-18	Lock nut M16	1
A-19	Sliding bench (optional)	1
A-20	Guide rail	1
A-21	Sliding rail	1
A-22	Workplece	1
A-23	Allen bolt M12x65	2
A-24	Carriage bolt, M8x45	2
A-25	Lock nut M8	4
A-26	Guide, bolt	2
A-27	Allen bolt M8x16	4
A-28	Lock nut M12	2
A-29	End stop, guide	2
A-30	Hex head screw M5x16	4
A-31	Hex head screw M6x50	2
A-32	Lock nut M6	2



10. DIAGRAM & PARTS LIST(cont. - part B)

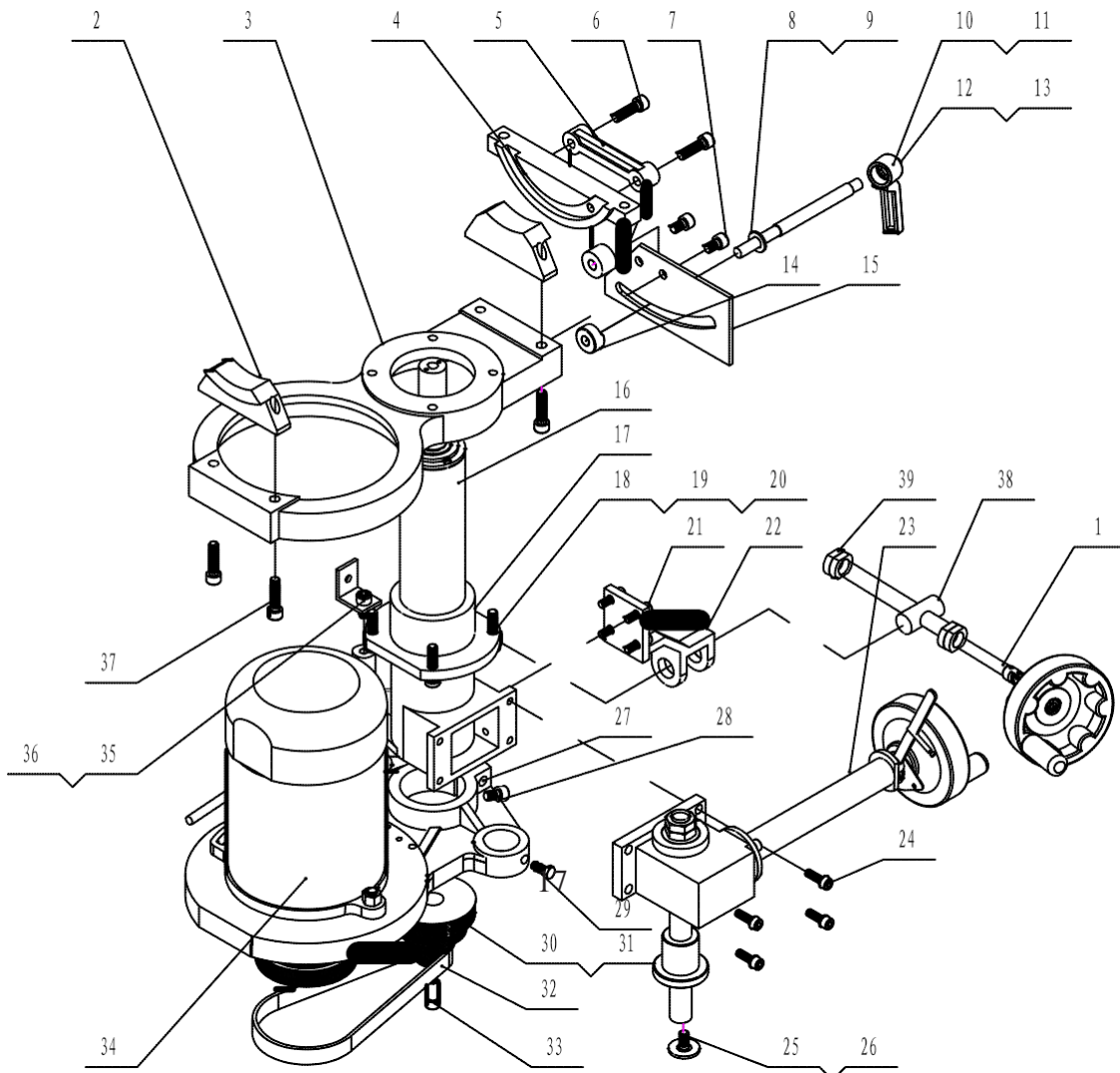
No.	DESCRIPTION	Q'ty
B-1	Dust outlet	1
B-2	Cross recessed pan head screw M5x12	2
B-3	Cross recessed pan head screw M5x16	2
B-4	Setting knob, spindle latch	2
B-5	Lock piece, handle	2
B-6	Hex head screw M5x16	4
B-7	Hex nut M5	4
B-8	Lock spacer	2
B-9	Flower screw M8x25	2
B-10	Hex nut	2
B-11	Safer guard	1
B-12	Ratchet lever	2
B-13	Lock cover	1
B-14	Roll pin 4x16	2
B-15	Starknob	2
B-16	Spring	2
B-17	Screw	2
B-18	Flat washer 8mm	2
B-19	Guide spindle, spindle latch	2
B-20	Countersunk head screw M8x20	2
B-21	Fence extrusion carriage	2
B-22	Flower nut	2
B-23	Flat washer 8mm	2
B-24	Batten	2
B-25	Countersunk head screw M5X10	12
B-26	Guide, bolt	2
B-27	Carriage bolt, M8x40	2

No.	DESCRIPTION	Q'ty
B-28	Lock screw M6X20	8
B-29	Fence extrusion	2
B-30	End cap,fence	2
B-31	Plate, anti-kickback	1
B-32	Rod, roller	2
B-33	Flat washer 5mm	4
B-34	Cross recessed pan head screw M5x12	4
B-35	Feed arm	2
B-36	Starknob	6
B-37	Hex nut	6
B-38	Insert, feed arm	2
B-39	Roll pin 3X10	4
B-40	Rod, roller	2
B-41	Roller frame	1
B-42	Roller house	3
B-43	Roll pin 4X35	6
B-44	Roller	3
B-45	Plate spring	3
B-46	Hex head screw M6X35	3
B-47	Lock nut M6	3
B-48	Feeder base	1
B-49	Block,feeder base	1
B-50	Roll pin 3X10	1
B-51	Cover, safer guard	1
B-52	Feeder arm	1
B-53	Allen bolt M8x20	9
B-54	Flat washer 8mm	7

10. DIAGRAM & PARTS LIST(cont. - part C)

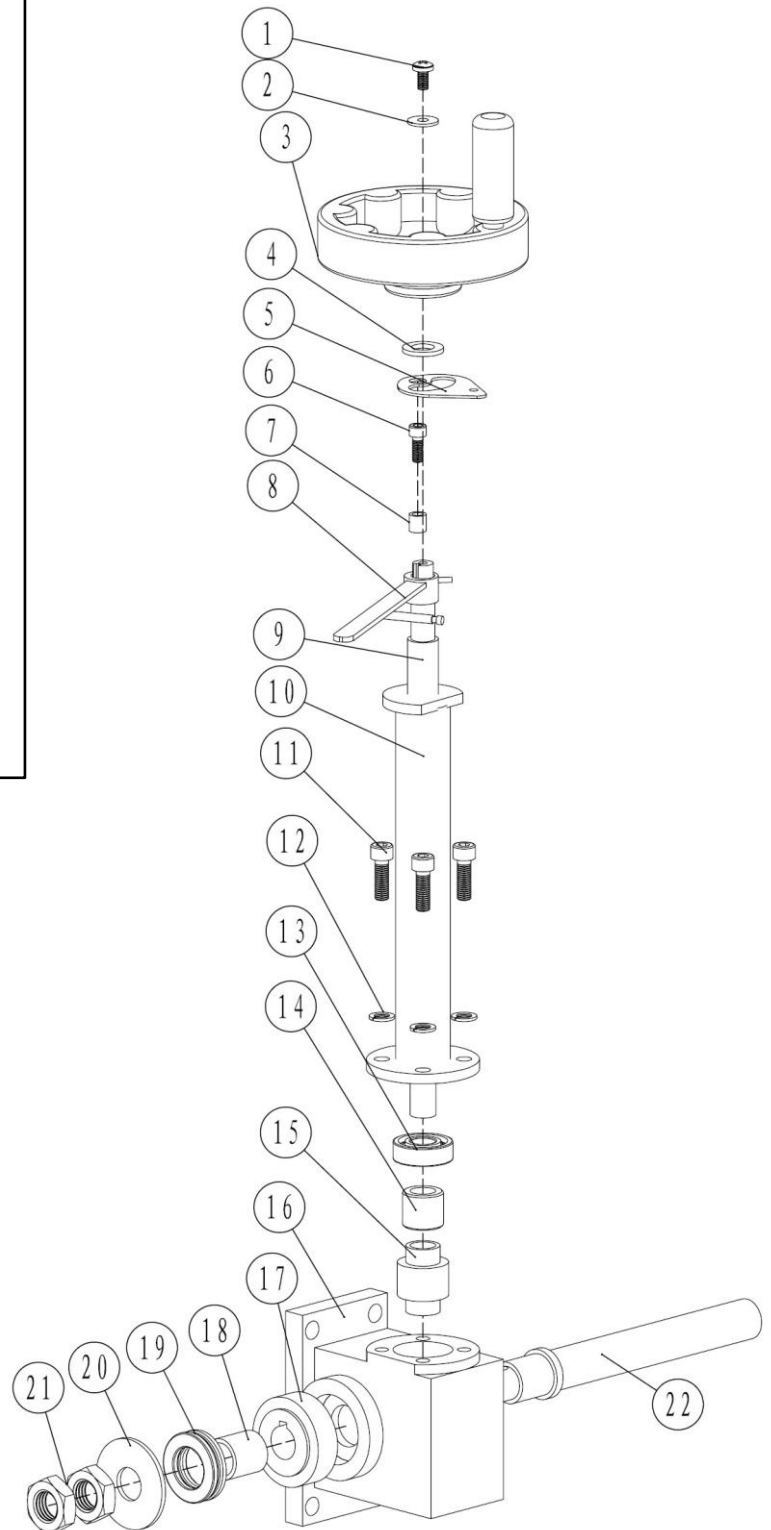
No.	DESCRIPTION	Q'ty
C-1	Tilting set	1
C-2	Support, swivel turnion	2
C-3	Swivel guide	1
C-4	Swivel, turnion	2
C-5	Lockup seat	1
C-6	Allen bolt M10x35	2
C-7	Allen bolt M8x16	2
C-8	Flat washer 12mm	1
C-9	Lockup shaft	1
C-10	Tilt locking lever	1
C-14	Tilt locking block	1
C-15	Lockup seat	1
C-16	Spindle shaft set	1
C-17	Swivel head	1
C-18	Allen bolt M10x35	4
C-19	Spring washer 10mm	4
C-20	Flat washer 10mm	4
C-21	Allen bolt M6x20	4

No.	DESCRIPTION	Q'ty
C-22	Joint, swivel rod	1
C-23	Elevator	1
C-24	Allen bolt M8x20	4
C-25	Allen bolt M10x16	1
C-26	Big flat washer 10mm	1
C-27	Allen bolt M12x30	1
C-28	Allen bolt M8x20	2
C-29	Hex head screw M8x16	1
C-30	Spindle pulley	1
C-31	Flat key 8x8x25	1
C-32	V-belt	1
C-33	Allen bolt M10x45	1
C-34	Motor set	1
C-35	Allen bolt M10x16	1
C-36	End stop, guide	1
C-37	Allen bolt M10x45	4
C-38	Nut, swivel rod	1
C-39	Nut,fix rod	4



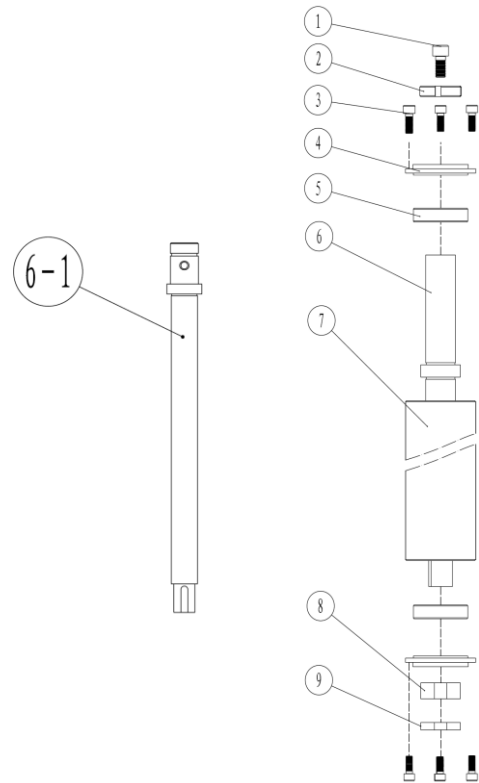
10. DIAGRAM & PARTS LIST(cont. - part C-23)

No.	DESCRIPTION	Q'ty
D-1	Countersunk head screw M5x12	1
D-2	Large washer 6mm	1
D-3	Wheelhandle	1
D-4	Large washer 12mm	1
D-5	Pear plate, lock lever	1
D-6	Allen bolt M6x25	1
D-7	Bushing, pointer	1
D-8	Lock lever, rise	1
D-9	Rise shaft	1
D-10	Housing, rise shaft	1
D-11	Allen bolt M8x25	4
D-12	Spring washer 8mm	4
D-13	Ball bearing 80202	1
D-14	Bushing, worm	1
D-15	Worm	1
D-16	Carrier, rise gear	1
D-17	Gear-helical	1
D-18	Bushing, spindle	1
D-19	Thrust bearing 8105	1
D-20	Special washer	1
D-21	Thin hex nut M20	2
D-22	Rising spindle	1



10. DIAGRAM & PARTS LIST(cont. - part C-16)

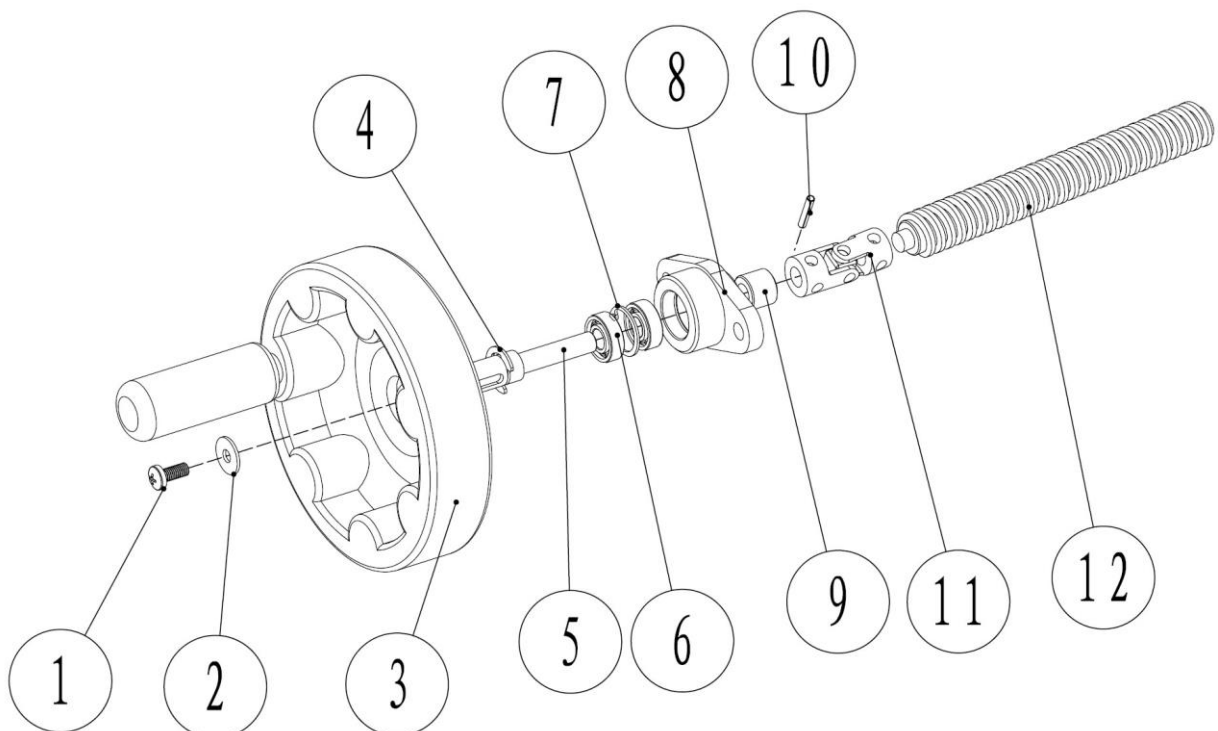
No.	DESCRIPTION	Q'ty
E-1	Allen bolt M12x25	1
E-2	Lock flange	1
E-3	Allen bolt M4x16	8
E-4	Cup, Spindle guide tube	2
E-5	Ball bearing 80106	2
E-6	Spindle shaft A	1
E-6-1	Spindle shaft B	1
E-7	Spindle guide tube	1
E-8	Lock nut M30	1
E-9	Lock nut M30	1



10. DIAGRAM & PARTS LIST(cont. - part C-1)

No.	DESCRIPTION	Q'ty
F-1	Countersunk head screw M5x12	1
F-2	Large washer 6mm	1
F-3	Wheelhandle	1
F-4	Circle 9mm	1
F-5	Pin, cone gear	1
F-6	Ball bearing 619/8	2

No.	DESCRIPTION	Q'ty
F-7	Circle 19mm	1
F-8	Gear base	1
F-9	Bushing, worm	1
F-10	Roll pin 3x16	1
F-11	Gimbal	1
F-12	Swivel rod	1



10. DIAGRAM & PARTS LIST(cont. - part C-34)

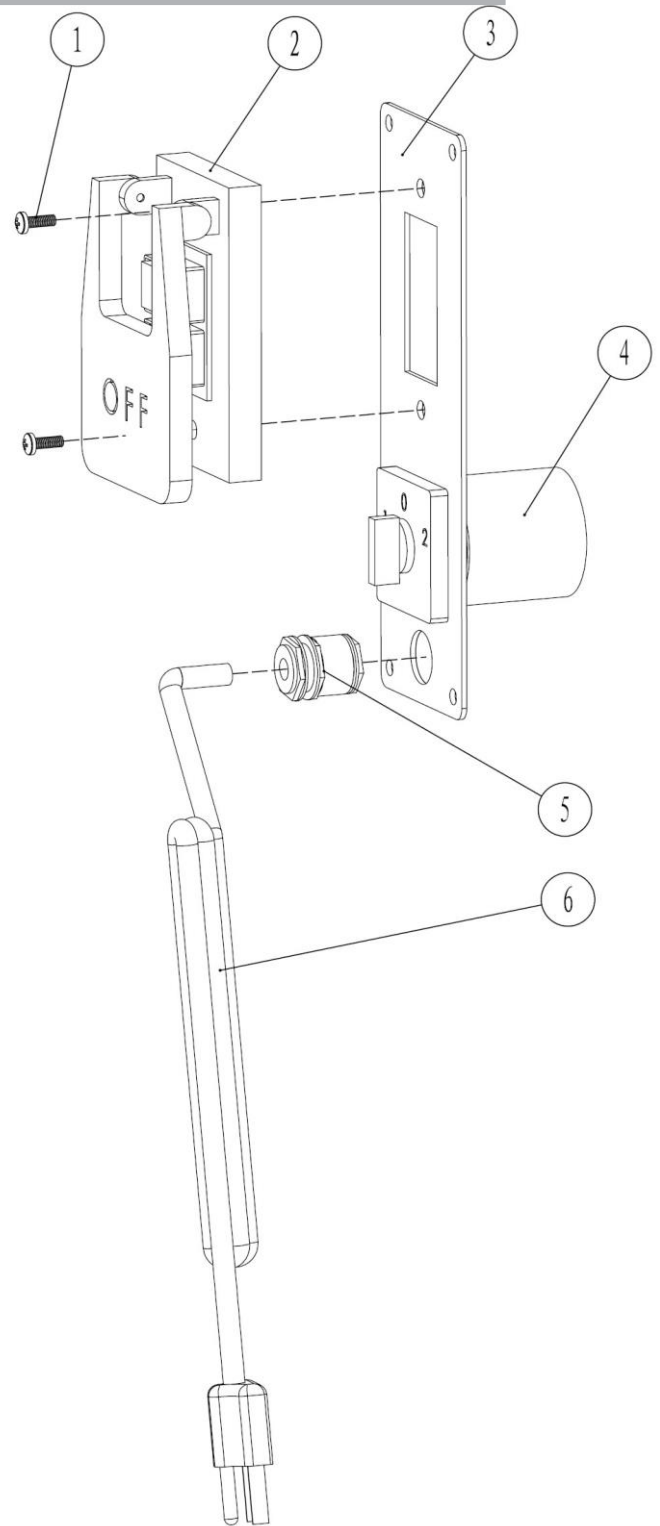
No.	DESCRIPTION	Q'ty
G-1	Allen bolt M10x15	1
G-2	Flat washer 10mm	1
G-3	Guide bar	1
G-4	Joint, tension	1
G-5	Flat washer 16mm	1
G-6	Hex nut m16	1
G-7	Thread, joint	1
G-8	Lock nut M10	1
G-9	Joint, motor tension	1
G-10	Thread, tension	1

No.	DESCRIPTION	Q'ty
G-11	Lock nut M10	3
G-12	Lever, tension	1
G-13	Circle 24mm	1
G-14	Motor pulley	1
G-15	Large washer 10mm	1
G-16	Allen bolt M10x20	1
G-17	Hex head screw M12x40	1
G-18	Mount, motor	1
G-19	Motor	1
G-20	Hex nut M12	1



10. DIAGRAM & PARTS LIST

No.	DESCRIPTION	Q'ty
H-1	Cross recessed pan head screw M4x12	2
H-2	Switch KJD17B-16	1
H-3	Switch Batten	1
H-4	ZH-HC-3	1
H-5	Nut M20	1
H-6	Electrical wire	1

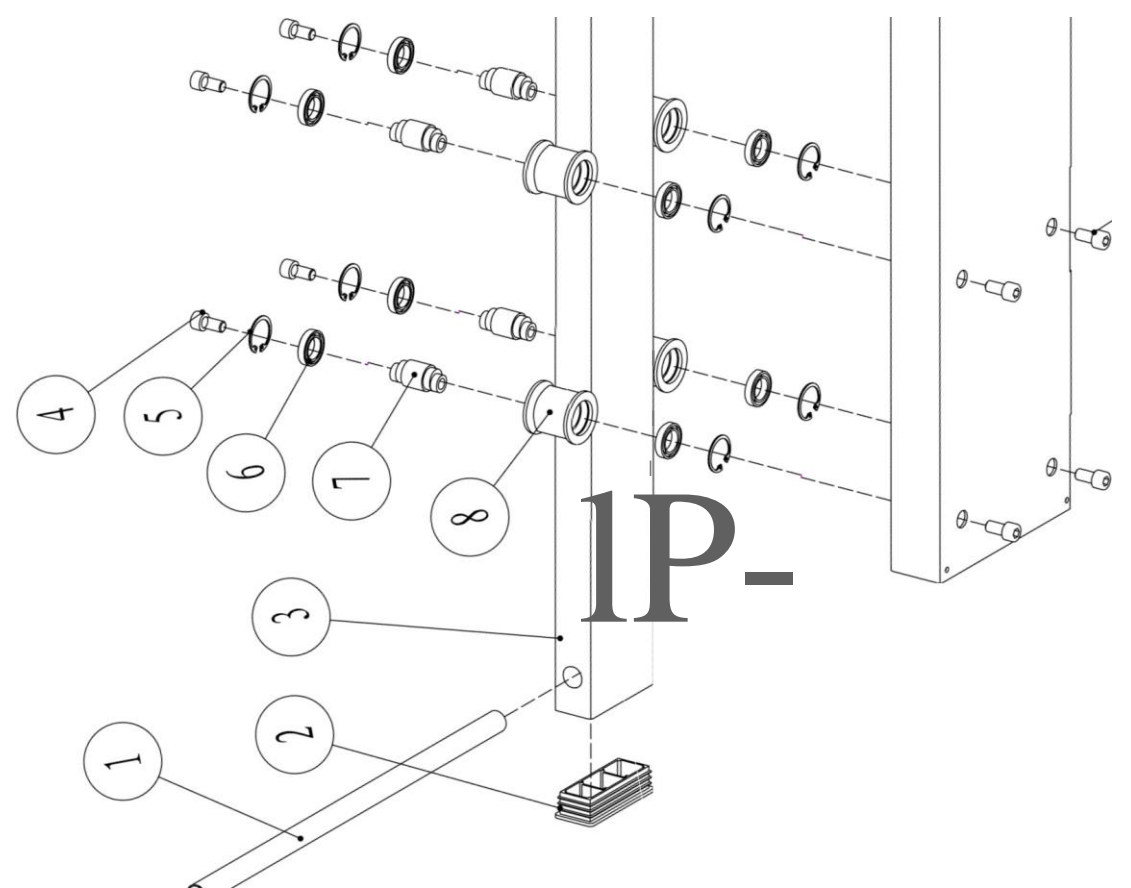
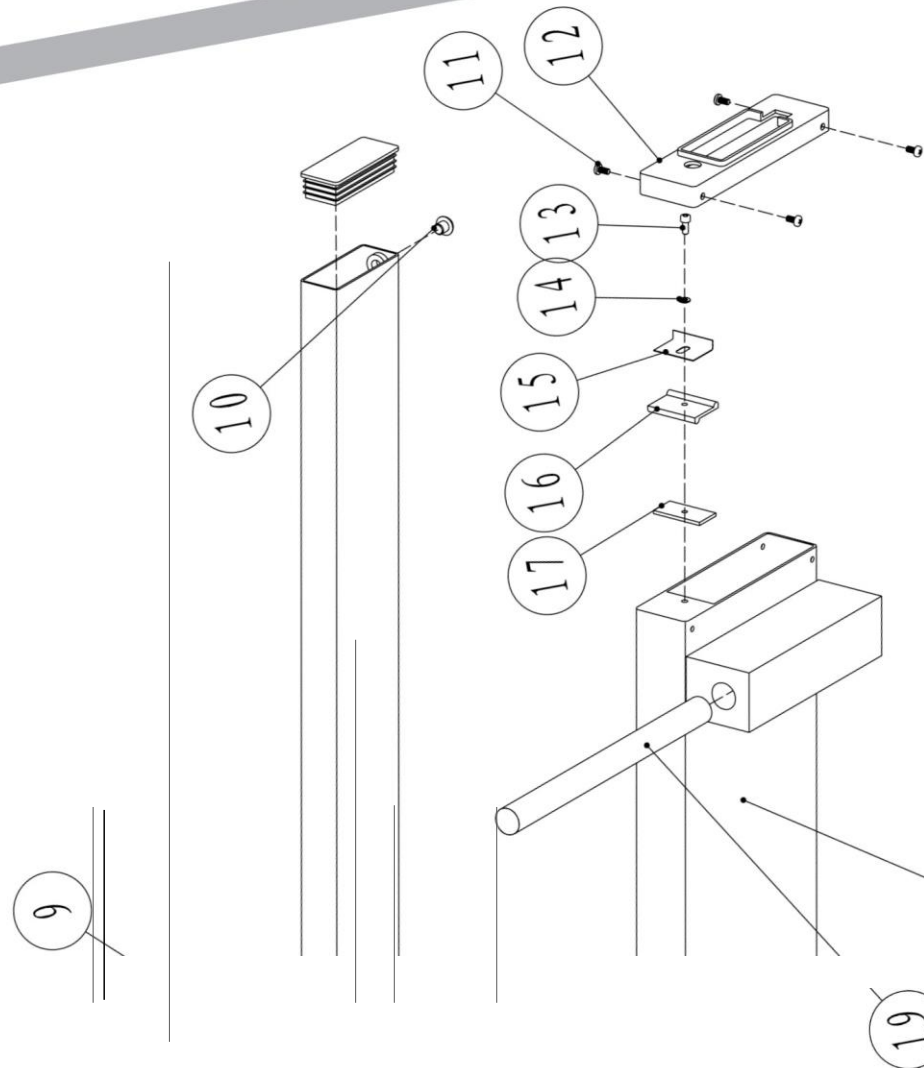


10. DIAGRAM & PARTS LIST

No.	DESCRIPTION	Q'ty
I-1	Guide bar	1
I-2	End cap	2
I-3	Telescopic arm	1
I-4	Allen bolt M6x12	4
I-5	Circle 24mm	8
I-6	Ball bearing 61901	8
I-7	Partiality shalf	4
I-8	Wheel	4
I-9	Telescopic arm	1
I-10	Allen bolt M6x12	1

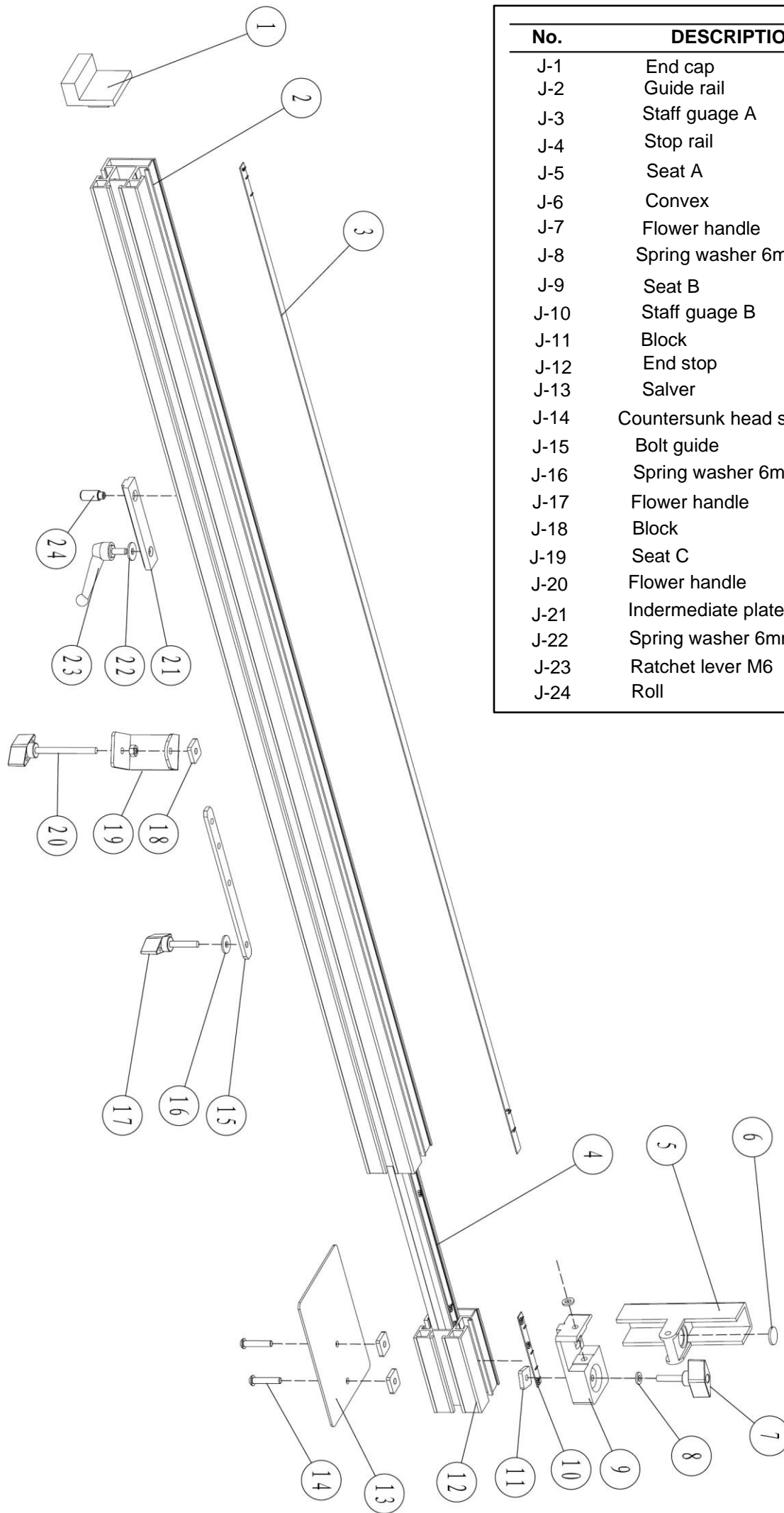
No.	DESCRIPTION	Q'ty
I-11	Cross recessed pan head screw M5x12	8
I-12	End cap	2
I-13	Allen bolt M6x12	1
I-14	washer 6mm	1
I-15	Guide, bolt A	1
I-16	Guide, bolt B	1
I-17	Guide, bolt C	1
I-18	Swing arm	1
I-19	Guide bar	1
I-20	Allen bolt M6x12	1

10. DIAGRAM & PARTS LIST



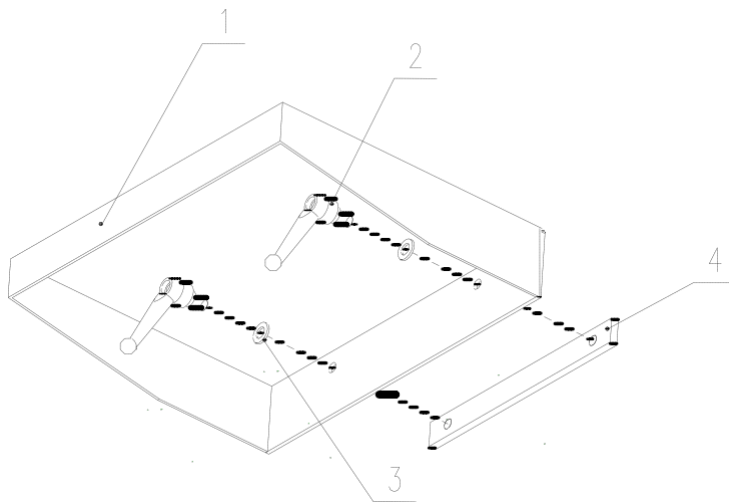
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10. DIAGRAM & PARTS LIST



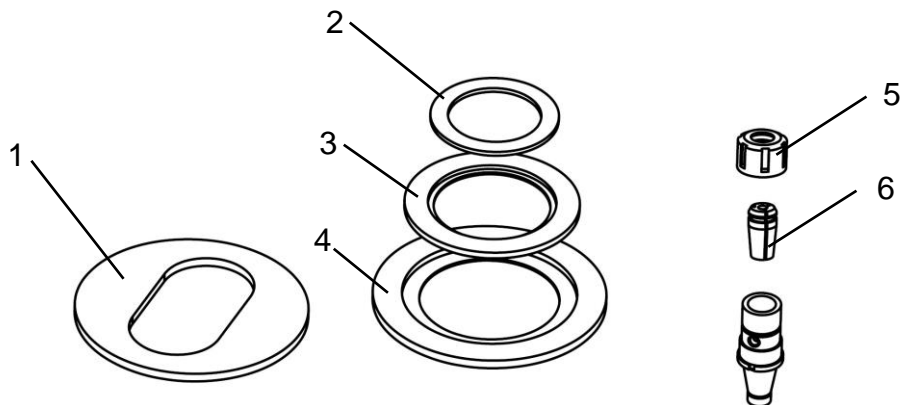
No.	DESCRIPTION	Q'ty
J-1	End cap	1
J-2	Guide rail	1
J-3	Staff guage A	1
J-4	Stop rail	1
J-5	Seat A	1
J-6	Convex	1
J-7	Flower handle	1
J-8	Spring washer 6mm	1
J-9	Seat B	1
J-10	Staff guage B	1
J-11	Block	1
J-12	End stop	1
J-13	Salver	1
J-14	Countersunk head screw M6x30	2
J-15	Bolt guide	1
J-16	Spring washer 6mm	1
J-17	Flower handle	1
J-18	Block	1
J-19	Seat C	1
J-20	Flower handle	1
J-21	Indermediate plate	1
J-22	Spring washer 6mm	1
J-23	Ratchet lever M6	1
J-24	Roll	1

10. DIAGRAM & PARTS LIST (MX5110A-1)



No.	DESCRIPTION	Q'ty
K-1	Sliding bench	1
K-2	Tilt lock	2
K-3	Spring washer 6mm	2
K-4	Bolt guide	1

11. ACCESSORY



No.	DESCRIPTION	Q'ty
L-1	Table ring 200mm for tilt	1
L-2	Table ring 110/80mm	1
L-3	Table ring 150/110mm	1
L-4	Table ring 200/150mm	1
L-5	Flange	1
L-6	Collet	1