



SIP INDUSTRIAL

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# Spindle Moulder with Tilting Shaft



01456

*Please read and fully understand the instructions in this manual before operation. Keep this manual safe for future reference.*

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## SPECIFICATIONS

|                    |                    |                     |
|--------------------|--------------------|---------------------|
| Motor power        | 230V~, 50Hz, 2800W |                     |
| Motor speed        | R.P.M.             | 2800                |
| Motor Protection   | Thermal link       |                     |
| Table size         | mm                 | 640x710             |
| Table height       | mm                 | 900                 |
| Spindle diameter   | mm                 | 30                  |
| Spindle travel     | mm                 | 100                 |
| Table opening      | mm                 | 200                 |
| Table tilt         |                    | -5° +30°            |
| Table ring         | mm                 | 200                 |
| Tool diameter Max. | mm                 | 200                 |
| Speed              | R.P.M.             | 1800/3000/6000/9000 |
| Suction nozzle     | mm                 | 100                 |

**NOTE:** The above specifications and the constructions were current at the time this manual was published, but because of our policy of continuous improvement, we reserve the right to change specifications and the constructions without notice and without incurring obligations.

## SAFETY INSTRUCTIONS



### Warning!

**For Your Own Safety Read Instruction Manual Before Operating This Equipment**

### Safety Instructions For Power Tools

- 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 on.
- 3. KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- 4. 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 lit.
- 5. KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
- 6. MAKE WORKSHOP CHILD PROOF** with padlocks, master switches, or by removing starter keys.
- 7. NEVER FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
- 8. USE RIGHT TOOL.** Do not force tool or attachment to do a job for which it was not designed.
- 9. 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 overheating. Your extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords if they become damaged.
- 10. 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.
- 11. 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.
- 12. 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.
- 13. NEVER OVERREACH.** Keep proper footing and balance at all times.
- 14. MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- 15. DISCONNECT TOOLS** before servicing and changing accessories, such as blades, bits, cutters, and the like.
- 16. 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 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.** 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.

### 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.

## SITE CONSIDERATIONS

### General Condition:

- 1 .Electrical connection: Steady state voltage: 0.9-1.1 of nominal voltage.  
Frequency: 0.99-1.01 of nominal frequency continuously; 0.98-1.02 short time
- 2 .Altitude are not exceeding 1000m,  
Maximum ambient air temperature is +40 °C,  
minimum ambient air temperature is not less Than+5 °C,  
Storage and transportation temperature range is -15 °C ~ +55 °C.  
The relative humidity does not exceed 50% at a maximum temperature of +40 °C, higher relative humidity may be permitted at lower temperature (e.g. 90% @ 20 °C).

### Floor Load

This machine represents a moderately large weight load in a small footprint. Most commercial shop floors will be adequate for the weight of the machine. Some floors may require additional support. Contact an architect or structural engineer if you have any question about the ability of your floor to handle the weight.

## 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.

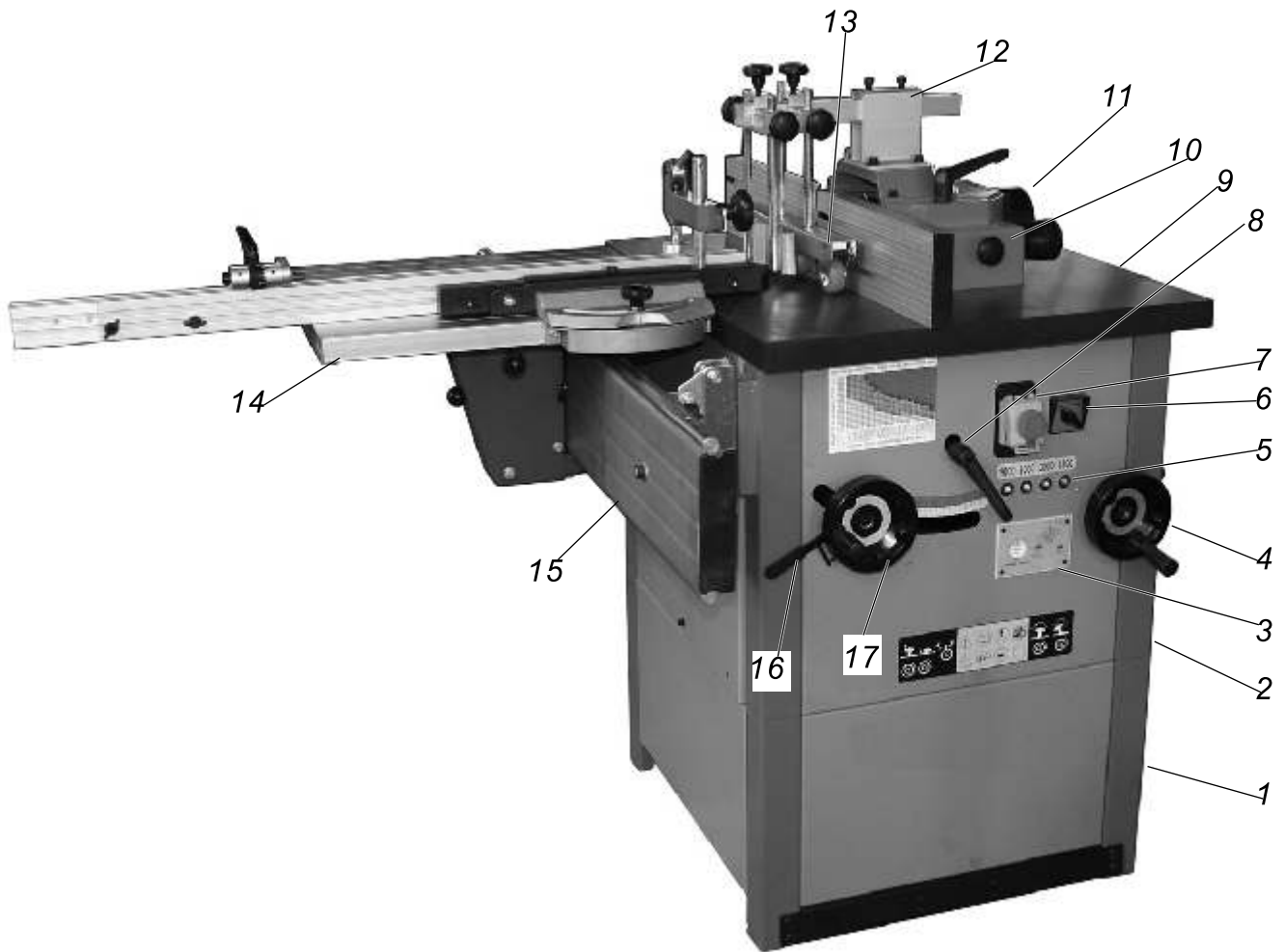
## Dust Collector

As a rule, this machine must be vacuumed during use. A time relayed socket is available as an accessory. In addition, the vacuum performance must be sufficient to achieve the required negative pressures and a maximum air speed of 20m/sec at the connector.



**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.**

## GETTING TO KNOW YOUR MACHINE



- |                                  |                                      |
|----------------------------------|--------------------------------------|
| 1 . Workstand                    | 10 . Safety guard                    |
| 2 . Machine housing              | 11 . Dust outlet                     |
| 3 . Spindle height display       | 12 . Feeder ass'y                    |
| 4 . Spindle tilt handwheel       | 13 . Feed roller                     |
| 5 . Spindle speed display        | 14 . Sliding bench (optional)        |
| 6 . Reversing switch             | 15 . Sliding carriage (optional)     |
| 7 . Main switch(No-volt release) | 16 . Spindle height lock             |
| 8 . Spindle tilt lock            | 17 . Spindle height adjust handwheel |
| 9 . Table                        |                                      |

# ASSEMBLY

## 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:

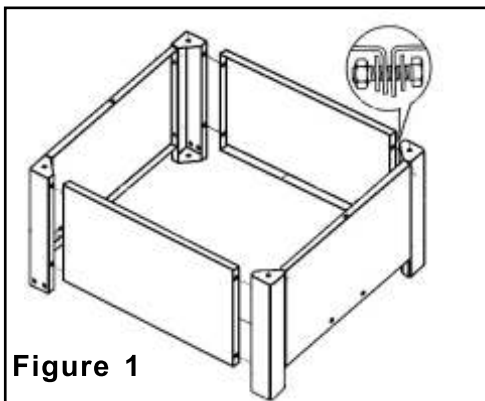
- Spindle Moulder Machine Housing Ass'y
- Workstand panel (4) Column (4) & hardware (1 bag)
- Safety Guard Ass'y
- Feeder Ass'y
- Fence Extrusion (2)
- Tools & Hardwares

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.

## Installing the work stand

1. Take 4 panels and 4 columns from main carton.
2. Take the following hardware from the workstand hardware bag.
  - 16-Hex head screw M8x20
  - 32-8mm Flat washer
  - 16-Hex Nut
3. Assemble the work stand as shown in **Figure 1**.

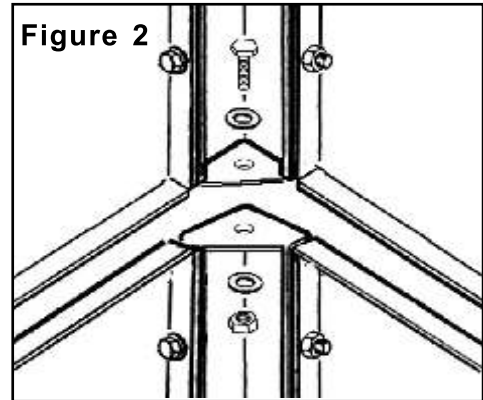


## Installing the machine housing onto work stand

### **Warning!**

**Do not lift the machine housing without help. This machine housing is over 70 Kg, customers should seek assistance from staff to lift this item.**

1. Place the machine housing over the thread holes on the work stand.
2. Loosen 2-Startype Screw to open the machine housing door and remove 6-Allen Bolt to the sidepanel.
3. Take the following hardware from the workstand hardware bag.
  - 4-Hex head screw M8x20
  - 8-8mm Flat washer
  - 4-Hex Nut
4. Secure all screws as shown in **Figure 2**.



## Installing the Cutting Tools

### **Caution!**

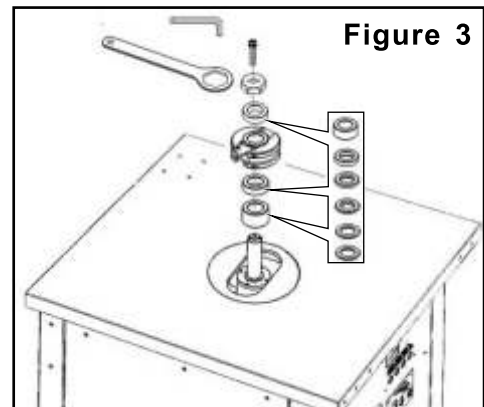
Install tool on the spindle as low as possible. It should turn freely in the lowest spindle position. Make sure that tool does not make contact with the table ring or fence extrusion when the spindle is tilted.

### **Danger!**

#### **Danger of personal injury!**

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

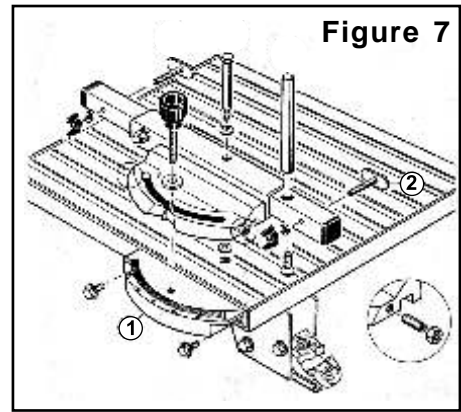
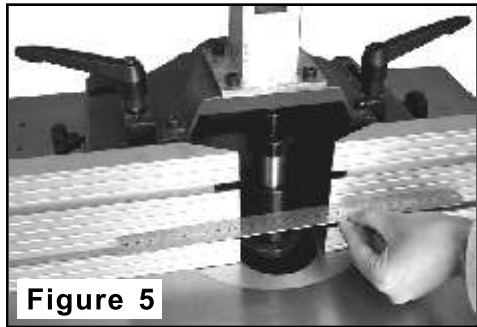
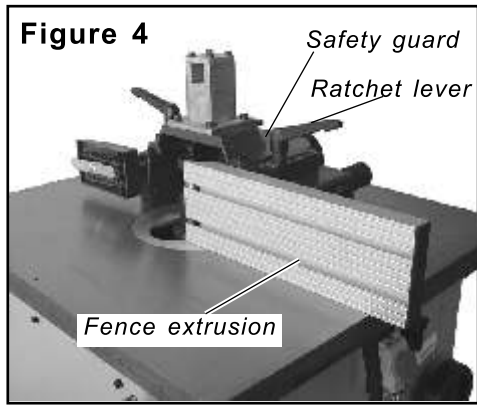
1. Lay the table ring flat into table plate.  
The table ring, when mounted, should not stand out over the table surface, in order to allow workpiece to be pushed smoothly over the table surface. When doing milling work with the raising mill, take the table ring out of the table part.
2. Position the moulding tool with the spindle ring onto the spindle and secure the lock flange with Allen bolt M12x25. See **Figure 3**.



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.

## Installing the Safety Guard

1. Place the safety guard over the threaded holes on the table.
2. Insert the ratchet lever M8x150 with a 8mm large washer into the safety guard as shown in **Figure 4**, 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 5**.

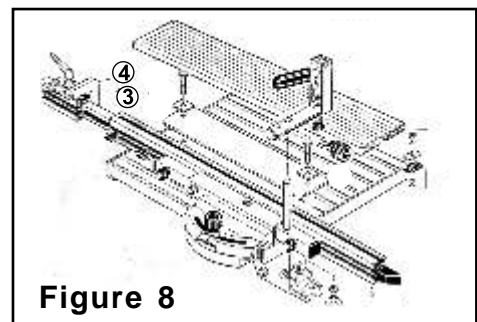
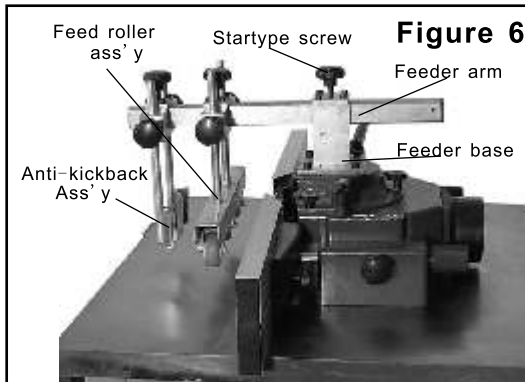


### Adjust the scale mount

1. Release the 2x allen bolts M6x16 and shift the scale mount to the left or to right make sure the pointer with the "0" scale , then tighten the 2x allen bolts
2. Slide the guide rail (3) over the intermediate plates (2) and tighten the thumbscrews .
3. Insert the folding stop (4) into the end stop and tighten the T-screw.

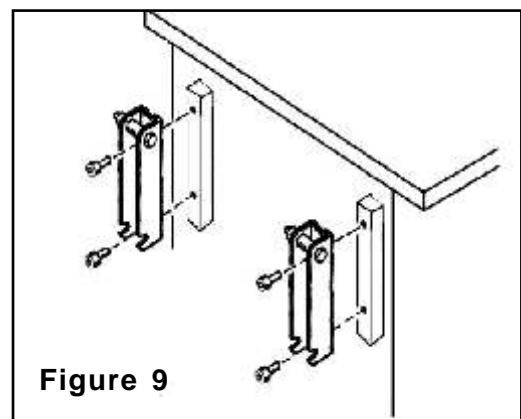
### Installing the feeder ass'y

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.



### Mounting bracket

Fit the two mounting brackets with two "I" shape insert block to machine housing.  
4 allen bolts M8x45



### Installing the Sliding Carriage (optional)

#### Installing the sliding bench

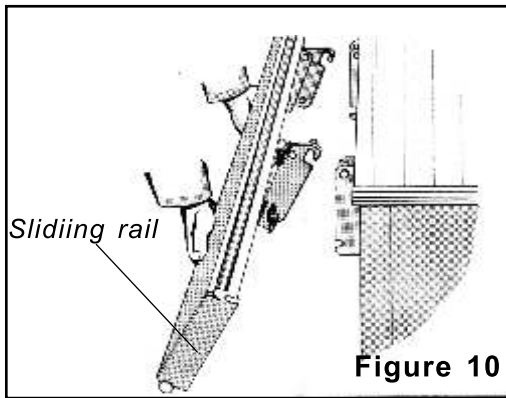
1. Fit the scale mount (1) to the sliding bench.  
2 allen bolts M6x16
2. Insert the intermediate plates (2) into the stop tube do not tighten the screws.  
2 washers 6mm  
2 thumbscrew M6
3. Fit the stop tube on the sliding bench.  
1 swing bolt  
2 washers 8mm  
1 Wave washer 8mm  
1 hex nut M8

The wave washer must be between the stop tube and the sliding bench.

### Mounting the sliding rail

Insert the Sliding rail from above at a slight angle into the mounting brackets and tighten the wing nuts.

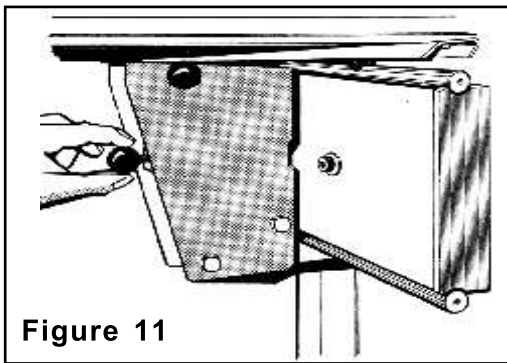




**Figure 10**

### Mounting the sliding bench

1. To mount the sliding bench on the sliding rail, unlock the stop bolt.
2. Pull out the ball knob and turn clockwise or counter-clockwise (1/4 turn).
3. Slide the bench on the sliding rail, ensuring that the bearings line up correctly and the bench runs smoothly.
4. Turn the ball knob until it is in its original position to prevent the bench from falling from the rail unintentionally.



**Figure 11**

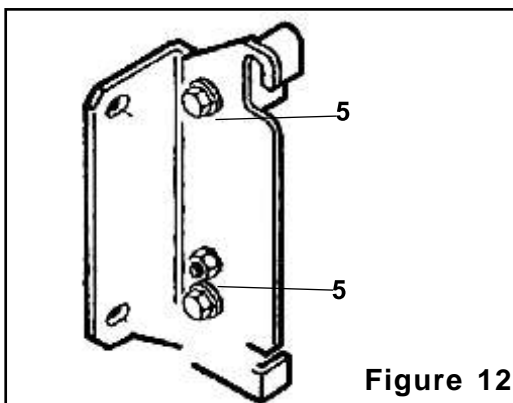
### Adjusting the sliding bench

#### **Caution!**

Adjust the sliding table so that it is flush with the main table of the machine. To assist with the alignment, use the main rip-fence (inverted) from the machine. Lay it across both the sliding table and fixed main table and adjust the height / angle until both are completely level.

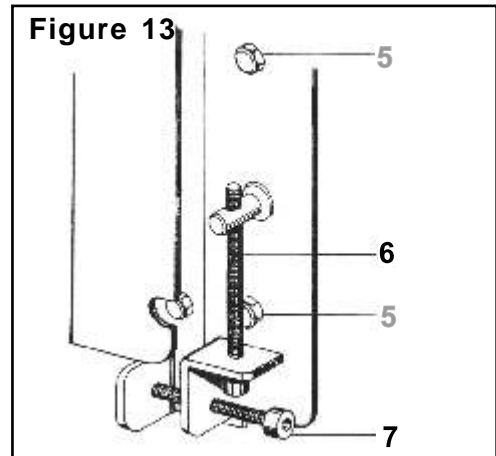
The adjustment is made at the left and right rail fixture.

1. Loosen the two hexagon screw (5) slightly.
2. By alternately adjusting the height adjustment screw (6) and the angle adjustment screw (7), align the slide bench so that it is at the same height as the cutting table.



**Figure 12**

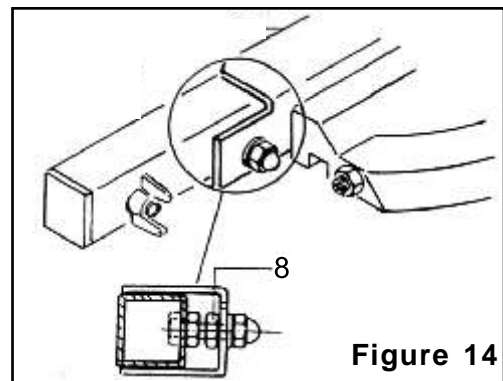
3. Test and measure the parallel motion of the slide bench to the cutting bench.
4. Measure in front and back positions.
5. If necessary, release 4x allen bolts on two mounting bracket to measure the parallel motion.
6. Tighten the hexagon nuts (5).



**Figure 13**

### Workpiece stop angle correction

1. After making a test cut, check the 90° angle.
2. Loosen the cap nut to make the necessary correction.
3. Swing back the stop tube a short way and set the adjusting nut (8) by hand.
4. Tighten the cap nut again and make a further test cut.
5. Repeat the correction procedure if necessary.



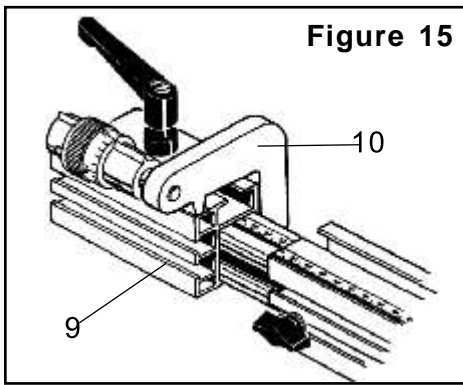
**Figure 14**

### Installing the stop rail.

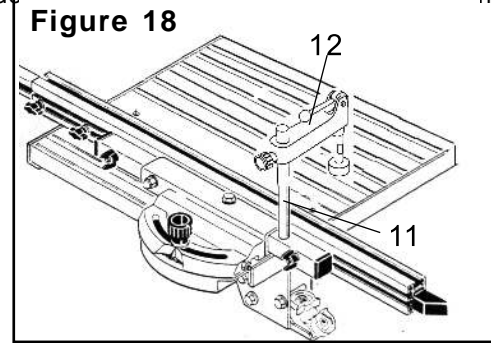
The stop rail is 1500 mm long when it is fully pulled out.

1. Adjust the folding stop on the end stop to exactly 900 mm. when pulling out the end stop rail, read the length on the scale.
2. Fine adjustment can be made using the knurled screw on the folding stop.  
1 division = 0.1 mm  
1 turn = 2 mm
3. Tighten the screw (9) onto the axle of the stop lever (10) so that the stop lever does not drop down when folding.





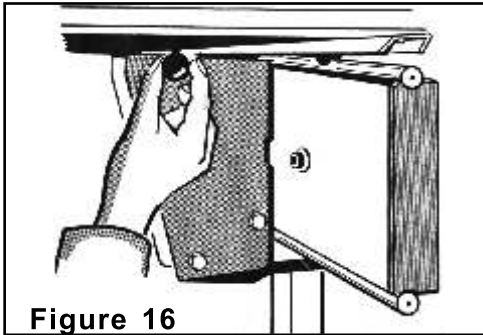
2. Attach the workpiece clamp (12) to the pulling rod; the desired height can be held with the handwheel.



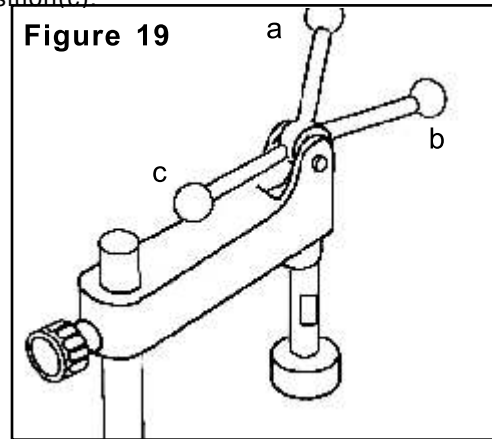
### Mounting the angle stop

The angle stop can swing to 45° either side of 0°.

1. Loosen the handwheel on the swing segment, pull out and turn the ball knob (situated under the slide bench) 1/4 of a turn, the desired angle between 45° either side of 0° can now be set, re-tighten the handwheel to lock in place.
2. When swinging the angle stop back, lock the ball knob back into place below the slide bench by hand.



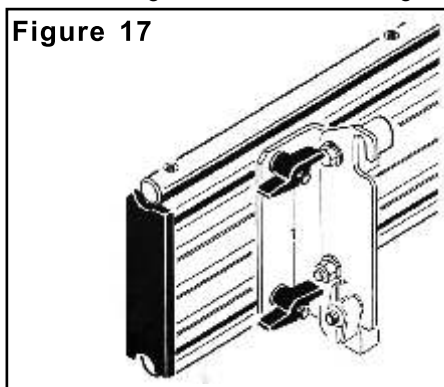
3. Place the workpiece on the bench.
4. Apply the workpiece clamp with the lever in position (a) to the pulling rod.
5. Loosen the height adjusting handwheel and place the lever in position (b), lower the clamp until it is touching the workpiece, retighten the handwheel to secure.
6. To clamp the workpiece, move the clamp into position (c).



### Installing the sliding rail

The sliding rail can be moved forwards or backwards.

1. Loosen the 2 wing nuts on the left and right hand mounting brackets.
2. Depending on the size of the workpiece, move the sliding rail into the ideal position relative to the main table, then tighten both sets of wing nuts.



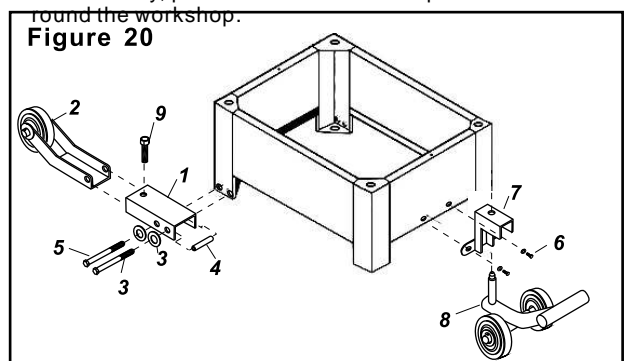
### Installing Mobile Wheel Kit (optional)

1. Place "U" Shape Bracket(1) onto Front Wheel Kit Ass'y(2).
2. Insert Hex Head Screw M10x70(3), secure Front Wheel Kit and Sleeve(4) to work stand.
3. Insert Special Thread(5) and secure Front wheel kit.
4. Secure Rear Castor Frame(7) to workstand with two Hex Head Screw M10x20 & washer.
5. When move the machine adjust the Allen Bolt M12x50, and raise the machine about 5mm above floor. Insert the Rear Castor Ass'y, push the lever down and pull the machine round the workshop.

### Installing the Workpiece Clamp

Safe workpiece guidance is a precondition for accurate and safe working. It is therefore important that you use the workpiece correctly.

1. Fit the pulling rod into its locating hole situated on the stop tube (see Figure 18). Hold the rod in place with the supplied counter sunk screw (from below).



## ADJUSTMENT & OPERATION

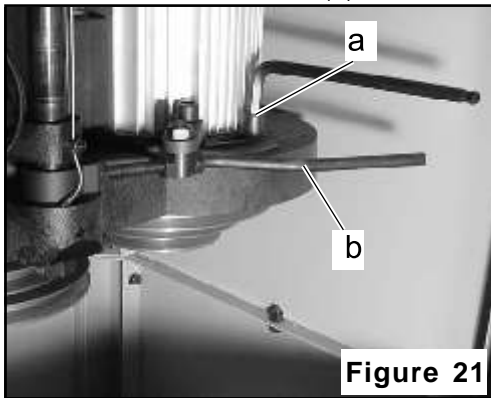
### **Caution!**

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.

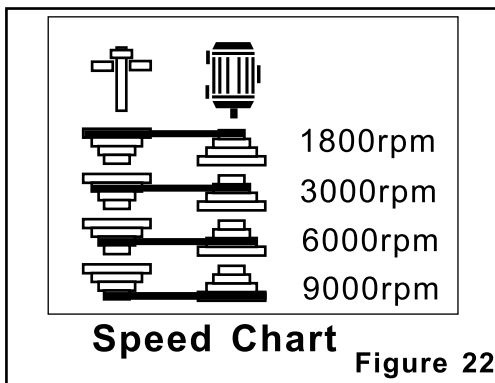
### Speed Changes

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 22** 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.*

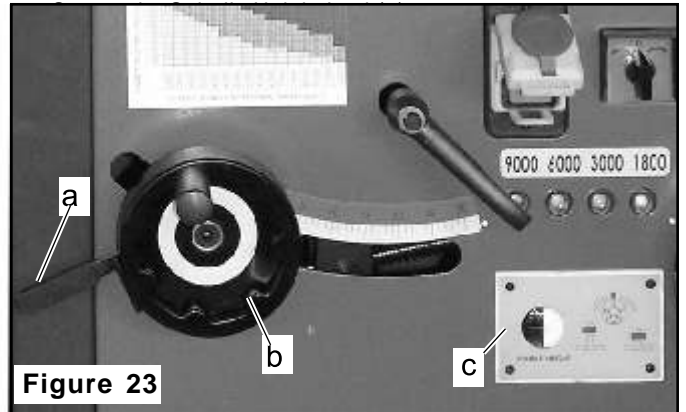
7. Tighten all the adjusting bolts.
8. Spin the pulley by hand to ensure proper tracking.
9. Close the door.

### 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*
- Any height adjustment can be read directly from the scale(c).

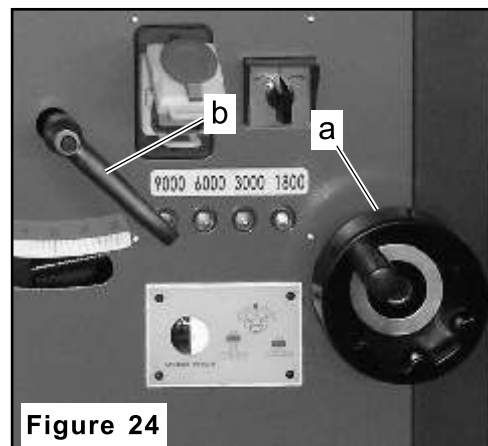


### Spindle Tilt Setting

### **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 clockwise*
  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).



### Rotation

### **Caution!**

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

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 25**. In many instances, you will find it necessary to flip the cutter over and reverse cutter rotation.

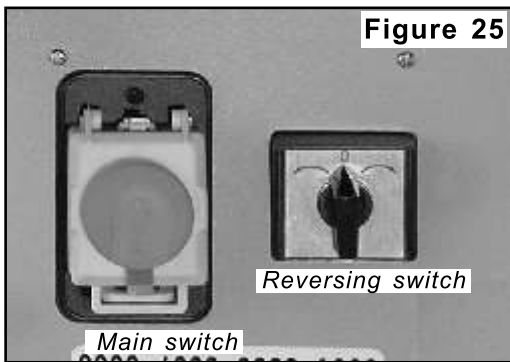
Whenever possible, mount the cutter so the board is milled on the bottom side. This method does a better job and is safer for the operator.

**Caution!**

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

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.

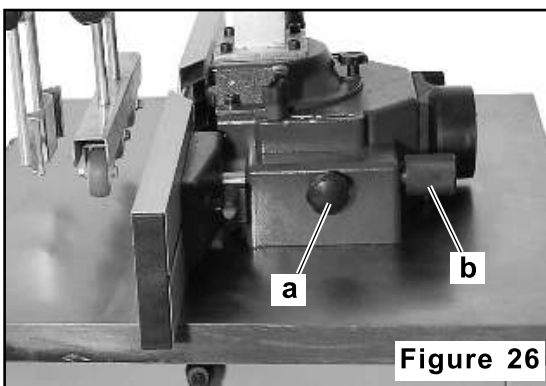


**Figure 25**

**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 26**

**Caution!**

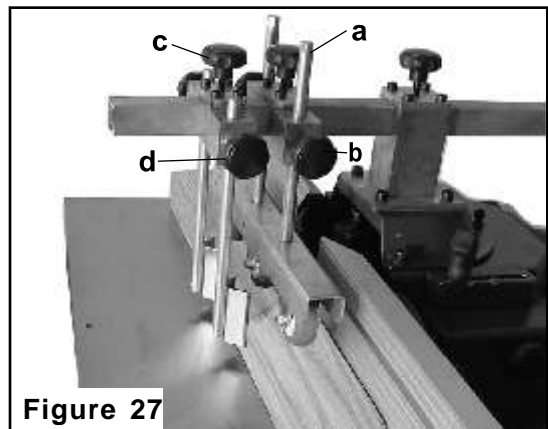
**Perform this adjustment, must wait the spindle and milling tool standstill.**

**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.



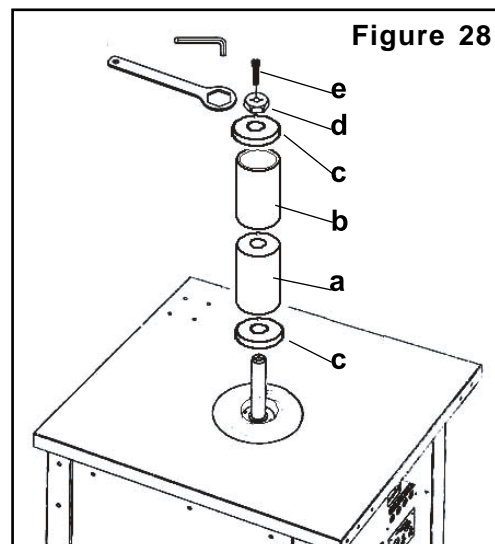
**Figure 27**

**Sanding**

**Caution!**

**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).



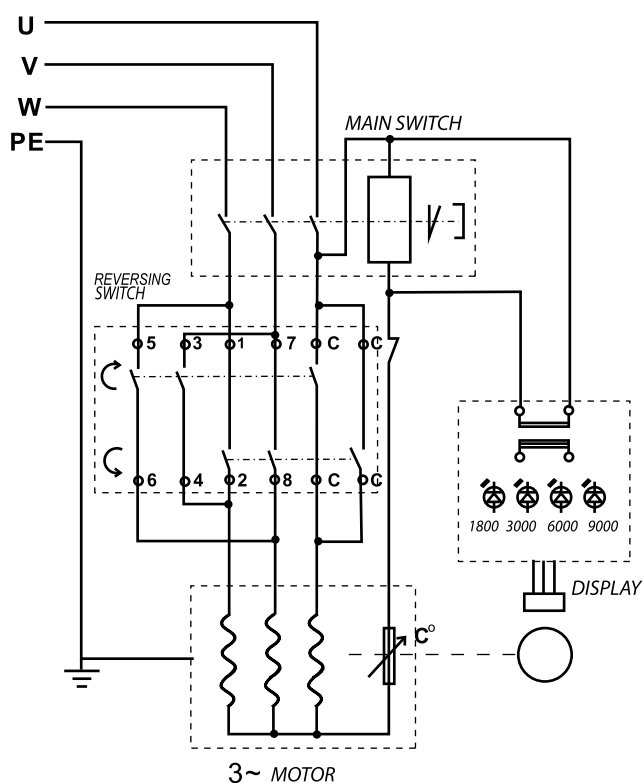
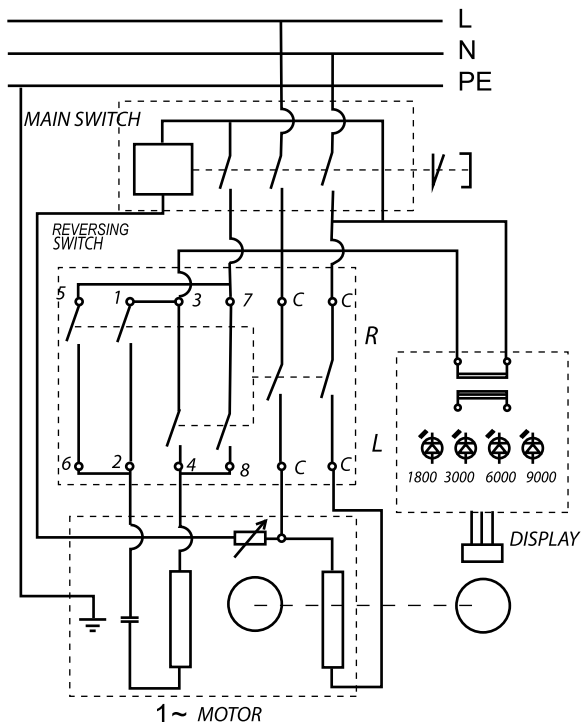
**Figure 28**

## 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. 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.



## MAINTENANCE

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.

# 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.<br>Windings are burned out or open.<br>Power Switch is defective.<br>Circuit is overloaded with appliances ,<br>lights, or other electrically powered<br>equipment. | Request a voltage check from local power<br>company.<br>Have the Motor checked / repaired.<br>Have the Power Switch replaced.<br>Do not use other appliances or electrically<br>powered equipment on the same circuit when<br>using the Table Saw. |
| Motor overheats.   | Motor is overloaded.<br>Dull milling tool.  | Request a voltage check from the local power<br>company.<br>Replace the milling tool.  |
| When milling, the cut burns the work-<br>piece, or stalls the motor. | Milling tool is dull.<br>Work-piece is warped.  | Sharpen or replace the milling tool.<br>Replace the work-piece.  |
| Height Handles are hard to turn.                                     | Dust has collected on the mechanisms<br>inside the base.  | Clean and lubricate the mechanisms inside the<br>base.   |
| Spindle moulder vibrates excessively.                                | Floor surface is uneven.<br>V-belt is damaged.<br>Milling tool is damaged.<br>Loose bolt, Screws, Nuts.   | Readjust the Leveling Feet.<br>Replace the V-belt.<br>Replace the milling tool.<br>Tighten all Hardware.   |
| Spindle moulder does not start.                                      | Motor Cord is not plugged in.<br>Circuit fuse is blown.<br>Circuit breaker is tripped.<br>Motor Cord or Switch is damaged.  | Plug in Motor Cord to volt electrical outlet.<br>Replace circuit fuse.<br>Reset circuit breaker.<br>Have the Motor Cord or Switch replaced.  |
| Power Switch does not operate.                                       | Power Switch contacts are burned out.<br>Capacitor is defective.<br>Wiring connections are loose or damaged.  | Have the Power Switch replaced.<br>Request a voltage check from the local power<br>company.<br>Have the Capacitor replaced.<br>Have the wiring connections checked /<br>repaired.  |
| Fuses or circuit breakers open<br>frequently.                        | Motor is overloaded.<br>Fuses or circuit breakers are wrong size or<br>defective.<br>Dull milling tool.<br>Power Switch is defective.   | Feed work-piece more slowly.<br>Replace fuses or circuit breakers.<br>Replace the milling tool.<br>Have the Power Switch replaced.   |
| Motor stalls, blows fuses, or trips<br>circuit breakers.             | Motor is overloaded.<br>Dull milling tool.<br>Fuses or circuit breakers are wrong size or<br>defective.<br>Feeding work-piece too rapidly.  | Request a voltage check from the local power<br>company.<br>Replace the milling tool.<br>Replace fuses or circuit breakers.<br>Feed work-piece more slowly.  |
| Spindle moulder is noisy when<br>running.                            | Motor is loose or defective.  | Have the Motor checked/repaired  |

**Warning: To prevent personal injury and/or damage to the spindle moulder, maintenance and repairs should be done only by a qualified technician.**

## DIAGRAM & PARTS LIST

**NOTE:** The above specifications and the constructions were current at the time this manual was published, but because of our policy of continuous improvement, we reserve the right to change specifications and the constructions without notice and without incurring obligations.

### Parts list of diagram A

| <b>No.</b> | <b>DESCRIPTION</b>       | <b>No.</b> | <b>DESCRIPTION</b>       |
|------------|--------------------------|------------|--------------------------|
| A-1        | Spindle shaft            | A-12       | Allen wrench 10mm        |
| A-2        | Spindle ring F50x30x30mm | A-13       | Allen bolt M8 x16        |
| A-3        | Spindle ring F50x30x15mm | A-14       | Spindle ring F50x30x25mm |
| A-4        | Not supplied             | A-15       | Spindle ring F50x30x10mm |
| A-5        | Not supplied             | A-16       | Spindle ring F50x30x5mm  |
| A-6        | Not supplied             | A-17       | Spindle ring F50x30x2mm  |
| A-7        | Not supplied             | A-18       | Spindle ring F50x30x1 mm |
| A-8        | Not supplied             | A-19       | Washer-Sanding drum      |
| A-9        | Lock flange              | A-20       | Sanding drum             |
| A-10       | Allen bolt M12x25        | A-21       | Sanding paper            |
| A-11       | Wrench 45mm              |            |                          |

### Parts list of diagram B

| <b>No.</b> | <b>DESCRIPTION</b>                  | <b>No.</b> | <b>DESCRIPTION</b>     |
|------------|-------------------------------------|------------|------------------------|
| B-1        | Table                               | B-28       | Insert, feed arm       |
| B-2        | Table ring 200mm for tilt           | B-29       | Ratchet lever          |
| B-3        | Table ring 110/80mm                 | B-30       | Flat washer 8mm        |
| B-4        | Table ring 150/110mm                | B-31       | Spring washer 8mm      |
| B-5        | Table ring 200/150mm                | B-32       | Allen bolt M8x25       |
| B-6        | End cap, fence                      | B-33       | End cap , feeder arm   |
| B-7        | Carriage bolt, M8x40                | B-34       | Feed arm               |
| B-8        | Guide, bolt                         | B-35       | Block, feeder joint    |
| B-9        | Fence extrusion                     | B-36       | Feeder joint           |
| B-10       | Countersunk head screw M8x20        | B-37       | Rod, roller            |
| B-11       | Fence extrusion carriage            | B-38       | Rod, roller            |
| B-12       | Startype nut                        | B-39       | Plate, anti-kickback   |
| B-13       | Safety guard                        | B-40       | Pin, roller            |
| B-14       | Starknob M8x25                      | B-41       | Spring washer 8mm      |
| B-15       | Ratchet lever M8x150                | B-42       | Hex nut M8             |
| B-16       | Lock spacer                         | B-43       | Roller frame           |
| B-17       | Dust outlet                         | B-44       | Roller house           |
| B-18       | Cross recessed pan head screw M5x12 | B-45       | Hex head screw M6x35   |
| B-19       | Lock piece, handle                  | B-46       | Plate spring           |
| B-20       | Guide spindle, spindle latch        | B-47       | Lock nut M6            |
| B-21       | Hex nut M5                          | B-48       | Spring                 |
| B-22       | Setting knob, spindle latch         | B-49       | Roller                 |
| B-23       | Large washer                        | B-50       | Bolt                   |
| B-24       | Cover, safer guard                  | B-51       | Socket screw           |
| B-25       | Allen bolt M8x16                    | B-52       | Circle ring            |
| B-26       | Feeder base                         | B-53       | Block, fence extrusion |
| B-27       | Block, feeder base                  |            |                        |



## Parts list of diagram C

| <b>No.</b> | <b>DESCRIPTION</b>           | <b>No.</b> | <b>DESCRIPTION</b>                  |
|------------|------------------------------|------------|-------------------------------------|
| C-1        | Swivel, turnion              | C-57       | Lock nut M10                        |
| C-2        | Spring washer 10mm           | C-58       | Motor                               |
| C-3        | Allen bolt M10x30            | C-59       | Flat washer 12mm                    |
| C-4        | Support, swivel turnion      | C-60       | Spring washer 12mm                  |
| C-5        | Hex head bolt M10x30         | C-61       | Allen bolt M12x30                   |
| C-6        | Allen bolt M10x40            | C-62       | Thread, joint                       |
| C-7        | Swivel guide                 | C-63       | Joint, motor tension                |
| C-8        | Spring                       | C-64       | Lock nut M10                        |
| C-9        | Swivel head                  | C-65       | Guide bar                           |
| C-10       | Scale wire mount             | C-66       | End stop, guide                     |
| C-11       | Countersunk head screw M4x6  | C-67       | Allen bolt M10x15                   |
| C-12       | Spring washer 8mm            | C-68       | Cross recessed pan head screw M4x12 |
| C-13       | Allen bolt M8x25             | C-69       | Lock lever, rise                    |
| C-14       | Circle ring 15mm             | C-70       | Spring, lock lever                  |
| C-15       | Flat key 5x5x14              | C-71       | Pear plate, lock lever              |
| C-16       | Swivel rod                   | C-72       | Cross recessed pan head screw M4x6  |
| C-17       | Nut, swivel rod              | C-73       | Flat washer 4mm, Tilt locking block |
| C-18       | Joint, swivel rod            | C-74       | Pointer                             |
| C-19       | Cup, Spindle guide tube      | C-75       | Allen bolt M6x25                    |
| C-20       | Allen bolt M4x16             | C-76       | Bushing, pointer                    |
| C-21       | Spring washer 4mm            | C-77       | Bracket, pointer                    |
| C-22       | Ball bearing 80106           | C-78       | Housing, rise shaft                 |
| C-23       | Spindle guide tube           | C-79       | Rise shaft                          |
| C-24       | Allen bolt M6x12             | C-80       | Rising spindle                      |
| C-25       | Large washer 6mm             | C-81       | Flat key 6x6x14                     |
| C-26       | Cone gear                    | C-82       | Carrier, rise gear                  |
| C-27       | Thrust bearing 8102          | C-83       | Worm                                |
| C-28       | Gear base                    | C-84       | Bushing, worm                       |
| C-29       | Circle 24mm                  | C-85       | Ball bearing 80202                  |
| C-30       | Hex head screw M8x20         | C-86       | Roll pin 4x20                       |
| C-31       | Flat washer 8mm              | C-87       | Gear-helical                        |
| C-32       | Countersunk head screw M5x12 | C-88       | Ball bearing 8105                   |
| C-33       | Large washer 6mm             | C-89       | Bushing, spindle                    |
| C-34       | Wheel-handle                 | C-90       | Special washer                      |
| C-35       | Mount, wheel-handle          | C-91       | Thin hex nut M20                    |
| C-36       | Pin, cone gear               | C-92       | Allen bolt M10x22mm                 |
| C-37       | Flat key 4x4x12              | C-93       | Tilt locking lever                  |
| C-38       | Spindle shaft                | C-94       | Washer 10mm                         |
| C-39       | Flat key 8x8x25              | C-95       | Plate, Locking handle               |
| C-40       | Lock nut M30                 | C-96       | Locking nut                         |
| C-41       | Set screw M6x8               | C-97       | Socket screw M6x10mm                |
| C-42       | Spindle pulley               | C-98       | Allen bolt M10x15mm                 |
| C-43       | Large washer 10mm            | C-99       | Support bracket                     |
| C-44       | Allen bolt M10x20            | C-100      | Nut M8                              |
| C-45       | Allen bolt M12x40            | C-101      | Bolt                                |
| C-46       | Hex nut m16                  | C-102      | Allen bolt M6x12mm                  |
| C-47       | Flat washer 16mm             | C-104      | Washer M6                           |
| C-48       | Mount, motor                 | C-105      | Allen bolt M6x12mm                  |
| C-49       | Special nut, 24mm            | C-106      | Block                               |
| C-50       | Hex head screw M12x40        | C-107      | Teeth belt                          |
| C-51       | Motor pulley                 | C-108      | Mounting bracket                    |
| C-52       | Flat key 8x8x40              | C-109      | Pan head screw M5x16mm              |
| C-53       | Joint, tension               | C-110      | Tap screw M3.5x10mm                 |
| C-54       | Hex nut M10                  | C-111      | Mounting cover                      |
| C-55       | Thread, tension              |            |                                     |
| C-56       | Lever, tension               |            |                                     |

**Parts list of diagram D**

| <b>No.</b> | <b>DESCRIPTION</b>                   | <b>No.</b> | <b>DESCRIPTION</b>                  |
|------------|--------------------------------------|------------|-------------------------------------|
| D-1        | Hex nut M10                          | D-25       | Nut scale                           |
| D-2        | Set screw M10x70                     | D-26       | Hex nut M4                          |
| D-3        | Flat washer 6mm                      | D-27       | Wire scale                          |
| D-4        | Allen bolt M6x30                     | D-28       | Wire holder                         |
| D-5        | Left panel, machine housing          | D-29       | Pan head tapping screw M4x30        |
| D-6        | Left frame, machine housing          | D-30       | Front panel, machine housing        |
| D-7        | Hex Nut M8                           | D-31       | Cross recessed tapping screw M4x10  |
| D-8        | Washer M8                            | D-32       | View glass                          |
| D-9        | Allen bolt M8x20mm                   | D-33       | Cross recessed pan head screw M4x10 |
| D-10       | Rear panel, machine housing          | D-34       | Column A                            |
| D-11       | Right frame, machine housing         | D-35       | Side panel,workstand                |
| D-12       | Open door, machine housing           | D-36       | Column B                            |
| D-13       | Startype screw M6x30                 | D-37       | Side panel,workstand                |
| D-14       | Box, switch                          | D-38       | Column C                            |
| D-15       | Display ass'y                        | D-39       | Column D                            |
| D-16       | Seal                                 | D-40       | Washer M4                           |
| D -17      | Panel, switch                        | D-41       | Micro-switch                        |
| D-18       | Turning switch                       | D-42       | Nut M5                              |
| D-19       | Cross recessed sunk head screw M4x10 | D-43       | Nut M4                              |
| D-20       | Main switch (No volt release)        | D-44       | Pan head screw M4x30mm              |
| D-21       | Pan head tapping screw M4x10         | D-45       | Pan head screw M5x10mm              |
| D-22       | Scale holder                         | D-46       | Plastic block                       |
| D-23       | Spring                               | D-47       | Mounting plate, micro switch        |
| D-24       | Scale                                |            |                                     |

**Parts list of diagram E** (optional SIP item no.: 01457)

| <b>No.</b> | <b>DESCRIPTION</b>       | <b>No.</b> | <b>DESCRIPTION</b>      |
|------------|--------------------------|------------|-------------------------|
| E-1        | Allen screw M8x20        | E-15       | Wing nut M8             |
| E-2        | Flat washer 8mm          | E-16       | Guide carriage -left    |
| E-3        | Flat washer 8mm          | E-17       | Guide carriage -right   |
| E-4        | Mounting bracket         | E-18       | Allen bolt M8x25mm      |
| E-5        | Nut M8                   | E-19       | Nut M6                  |
| E-6        | Bushing,mounting bracket | E-20       | Bolt guide              |
| E-7        | Allen bolt M8x50mm       | E-21       | Carriage bolt M8X30     |
| E-8        | Adjusting nut            | E-22       | Allen bolt M6x20mm      |
| E-9        | Guide holder -right      | E-23       | Steel rod, sliding rail |
| E-10       | Guide holder -left       | E-24       | Sliding rail            |
| E-11       | Washer M8                | E-25       | End cap, sliding rail   |
| E-12       | Allen bolt M 8x 20mm     | E-26       | Allen screw M8x20       |
| E-13       | Washer M6                | E-27       | Rubber bushing          |
| E-14       | Allen bolt M6x65mm       |            |                         |

**Parts list of diagram F** (optional SIP item no.: 01457)

| <b>No.</b> | <b>DESCRIPTION</b>               | <b>No.</b> | <b>DESCRIPTION</b>                   |
|------------|----------------------------------|------------|--------------------------------------|
| F-1        | Flower handle                    | F-44       | U' shape steel plate                 |
| F-2        | Workpiece clamp                  | F-45       | Cap nut M8                           |
| F-3        | Circle ring                      | F-46       | Handle                               |
| F-4        | Pin                              | F-47       | Flat washer 8mm                      |
| F-5        | Cam                              | F-48       | Nut M5                               |
| F-6        | Lever                            | F-49       | Pan head screw M5x20mm               |
| F-7        | Plastic knob                     | F-50       | Guage, sliding table                 |
| F-8        | Circle ring                      | F-51       | End plate, sliding bench             |
| F-9        | Holder rod                       | F-52       | Taping screw 3.5x13 E-19 Scale mount |
| F-10       | Spring                           | F-53       | Locking pin                          |
| F-11       | Holder                           | F-54       | Spring, Locking pin                  |
| F-12       | Countersunk head screw M6x16     | F-55       | Sleeve, Locking pin                  |
| F-13       | Ratchet lever M 6                | F-56       | Sliding bench                        |
| F-14       | Washer 8mm                       | F-57       | Intermediate plate -short            |
| F-15       | Spring                           | F-58       | Intermediate plate -long             |
| F-16       | Adjusting wheel                  | F-59       | Intermediate plate- guage            |
| F-17       | Mounting plate, micro-adjustment | F-60       | Pan head screw-M6x12mm               |
| F-18       | Bolt guide                       | F-61       | Scale, guage                         |
| F-19       | Working stop                     | F-62       | Guage base                           |
| F-20       | Carriage bolt M6x36              | F-63       | Allen bolt M6x16                     |
| F-21       | End stop                         | F-64       | support plate, locking pin           |
| F-22       | Pan head tap screw ST3.5X10mm    | F-65       | Roll pin                             |
| F-23       | Scale                            | F-66       | Ball knob                            |
| F-24       | Sliding rail                     | F-67       | Spring                               |
| F-25       | Intermediate plate               | F-68       | Carriage bolt M8x90mm                |
| F-26       | Thumbscrew M8x20                 | F-69       | Mounting bracket                     |
| F-27       | End cap,fence                    | F-70       | Hexagon head screw M6x20             |
| F-28       | Scale                            | F-71       | Serrated washer 6mm                  |
| F-29       | Fence, sliding table             | F-72       | Domant socket screw                  |
| F-30       | Bushing                          | F-73       | self-locking nut                     |
| F-31       | Pan head screw M5x5mm            | F-74       | Shaft                                |
| F-32       | Taping screw 4x13                | F-75       | Domant socket screw                  |
| F-33       | Carriage bolt M6x50              | F-76       | Bearing 80100                        |
| F-34       | Bolt guide                       | F-77       | spacer                               |
| F-35       | Allen bolt M8x25mm               | F-78       | upper -Roller seat                   |
| F-36       | Swing bolt                       | F-79       | self-locking nut                     |
| F-37       | Pulling rod                      | F-80       | Lower roller seat                    |
| F-38       | Steel tube, fence                | F-81       | U bracket                            |
| F-39       | End cap                          | F-82       | Hexagon head screw                   |
| F-40       | Washer 6 mm                      | F-83       | teeth washer                         |
| F-41       | Wing nut M6                      | F-84       | bolt M6x20mm                         |
| F-42       | Nut M8                           | F-85       | scale                                |
| F-43       | Allen bolt M8X12mm               |            |                                      |

Diagram A

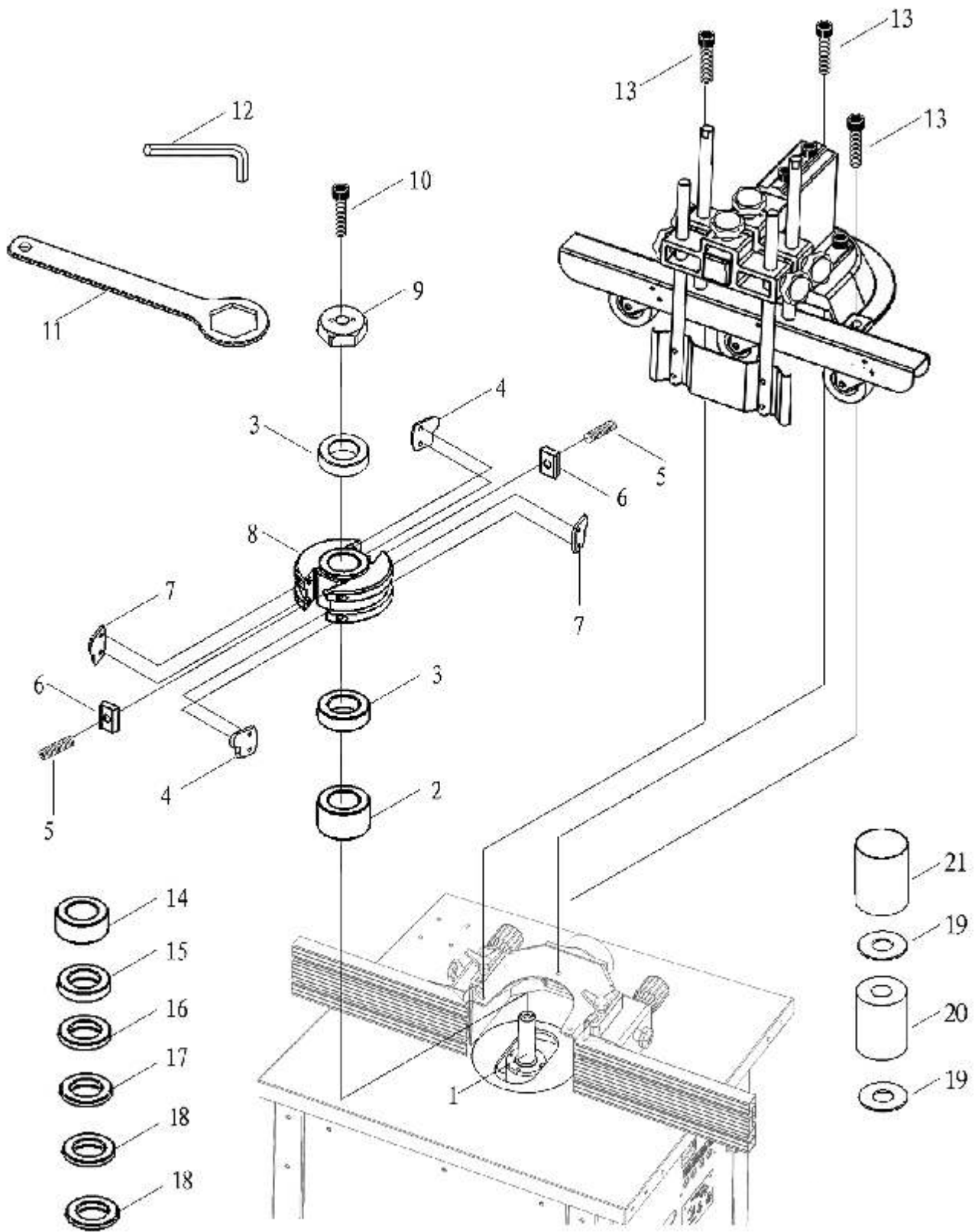


Diagram B

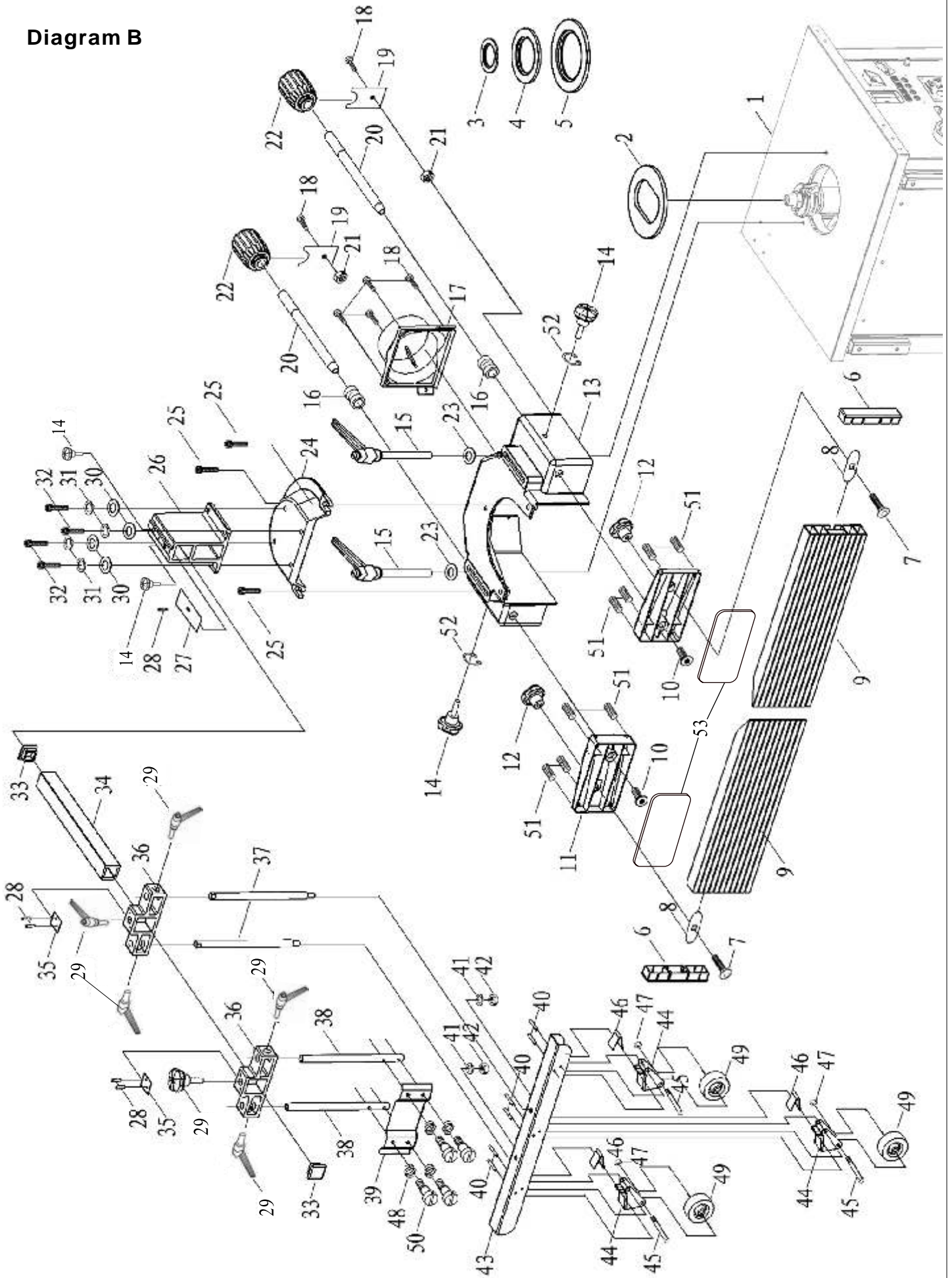


Diagram C

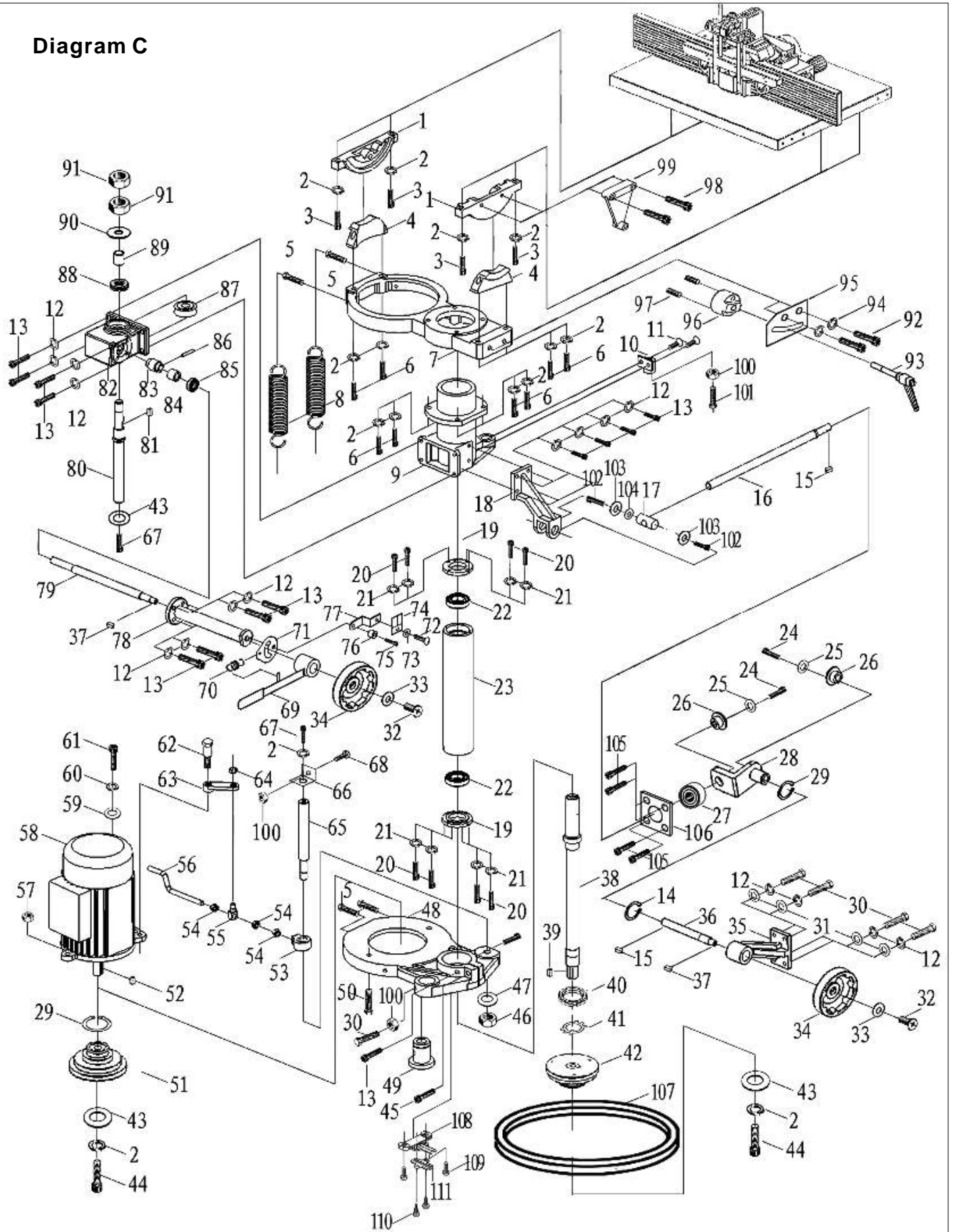




Diagram D

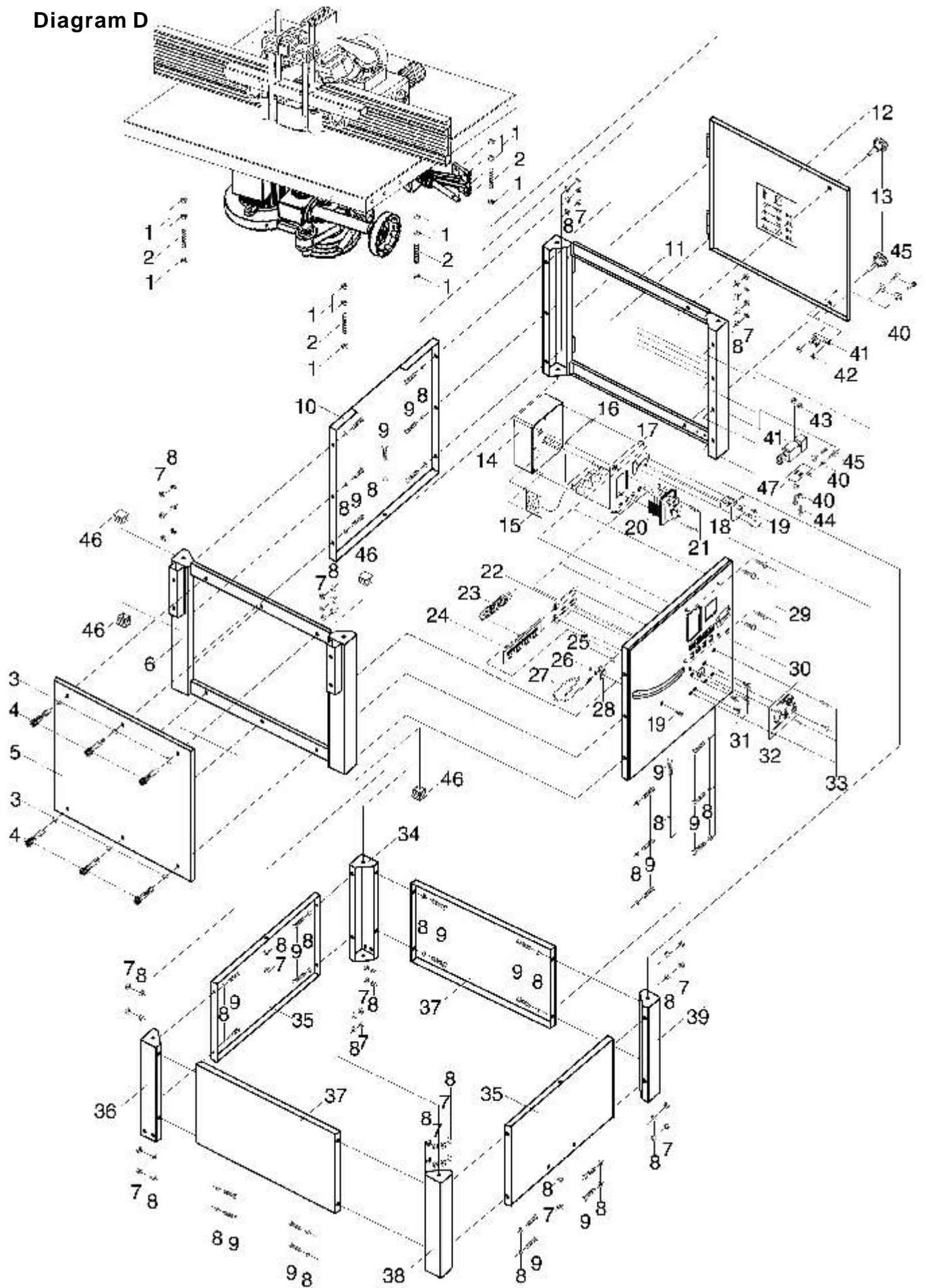


Diagram E

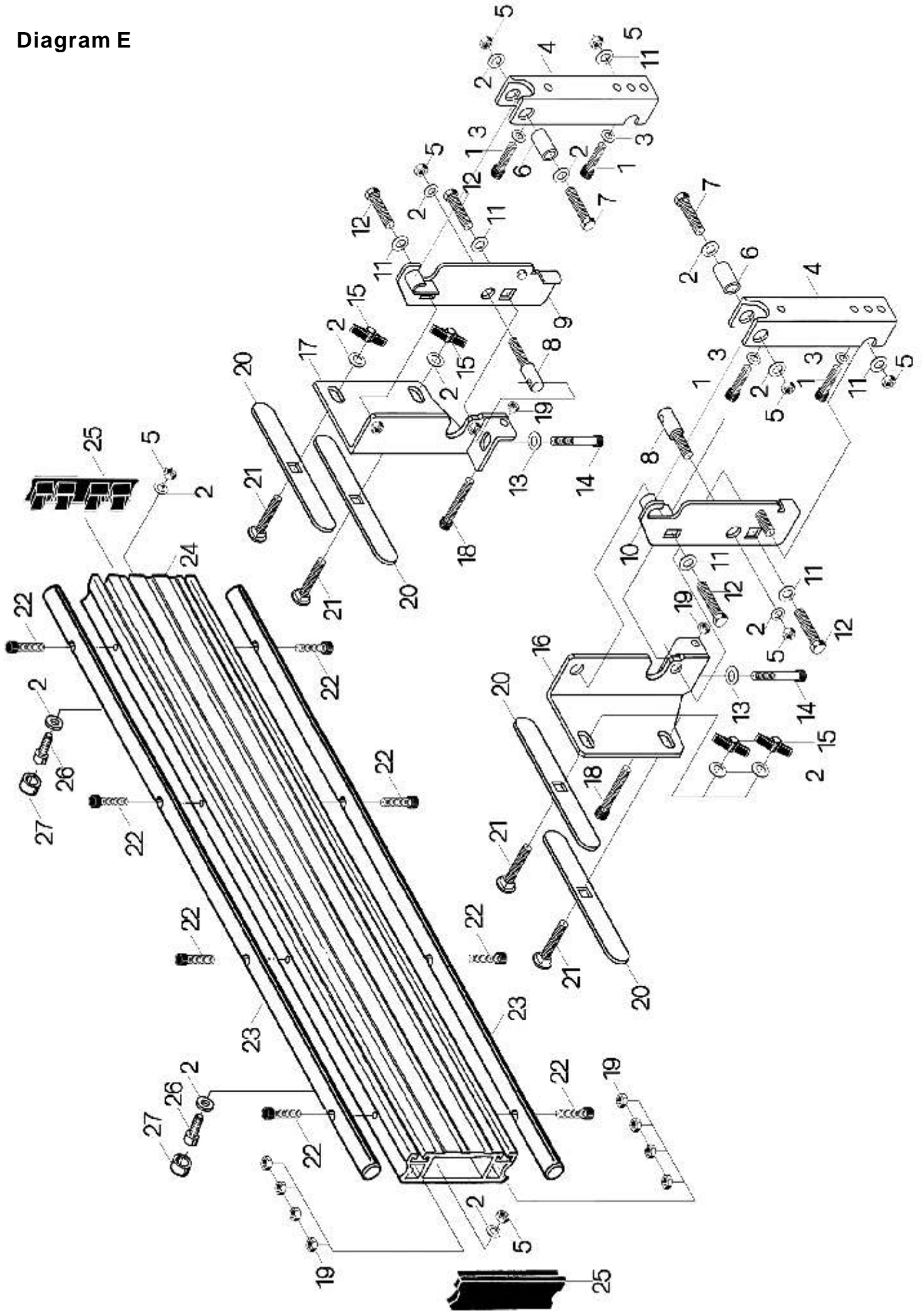
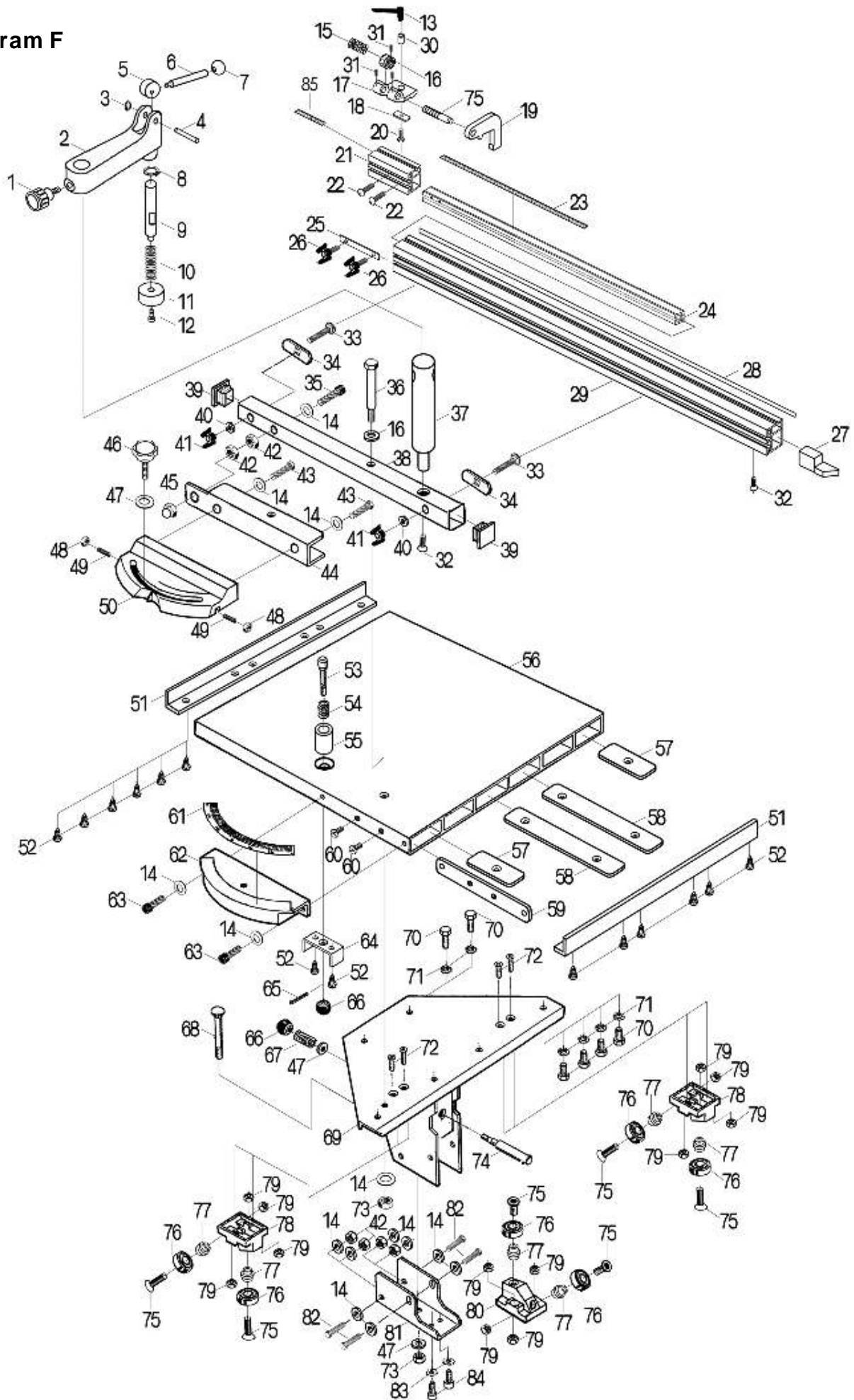


Diagram F



**Parts list of diagram G** (optional SIP item no.: 06920)

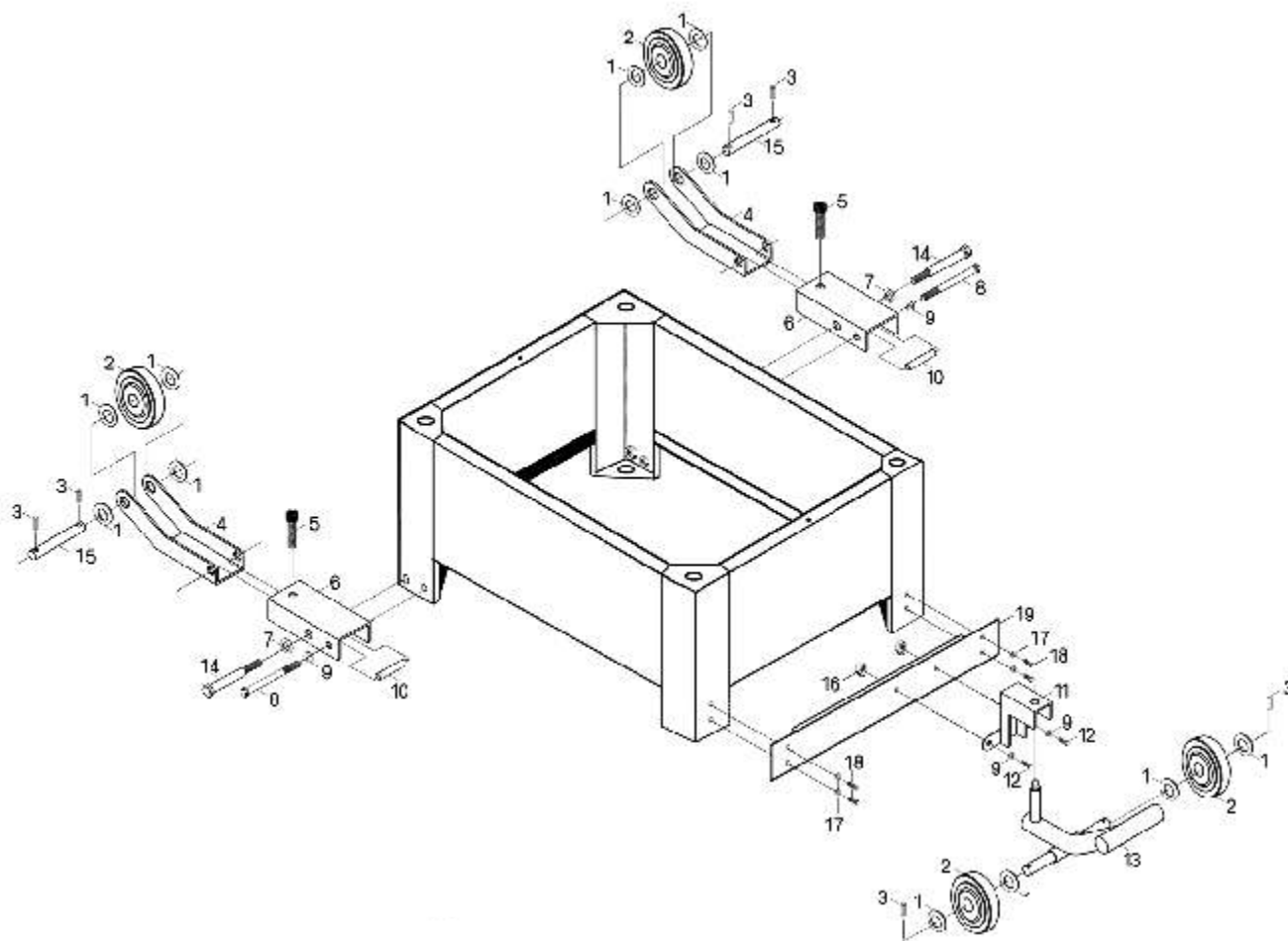
**No. DESCRIPTION**

- G-1 Flat washer 16mm
- G-2 Castor
- G-3 Roll pin 4 x 22
- G-4 Fork, castor
- G-5 Allen bolt M12x50
- G-6 Adjustable U-shape bracket
- G-7 Flat washer 14mm
- G-8 Hex head screw M10x70
- G-9 Flat washer 10mm
- G-10 Sleeve

**No. DESCRIPTION**

- G-11 Rear castor frame
- G-12 Hex head screw M10x20
- G-13 Lever, Wheel kit
- G-14 Special thread
- G-15 Pin, castor
- G-16 Nut M10
- G-17 Washer M8
- G-18 Bolt M8x16
- G-19 U'steel plate, mobile wheel

**Diagram G**



## DECLARATION OF CONFORMITY

WE  
SIP LTD  
GELDERS HALL ROAD  
SHEPSHED  
LOUGHBOROUGH  
LEICESTERSHIRE  
LE12 9NH

Declare that the

### **The Spindle Moulder**

( Model MX5110T)SIP Pt No: 01456

Complies with the following EEC Directives their supporting Statutory  
Instruments and the relevant standard where applicable

98/37/EC

**Machinery Directive**  
EN Standards used

73/23/EEC  
as amended  
by 93/68/EEC

**Low Voltage Directive**  
EN Standards used

89/336/EEC  
as amended  
by 93/68/EEC

**EMC Directive**  
EN 55014-1:2000 +A1+A2  
EN 61000-3-2:2000  
EN 61000-3-11:2000  
EN 55014-2:1997+A1

Signed:



Joint Managing Director

Date: 11 December 2007





Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin .



Never dispose of electrical equipment or batteries in with your domestic waste. If your supplier offers a disposal facility please use it or alternatively use a recognised re-cycling agent. This will allow the recycling of raw materials and help protect the environment.

**FOR HELP OR ADVISE ON THIS PRODUCT PLEASE CALL OUR  
CUSTOMER SERVICE HELP LINE : 01509 500359**

**THE MANUFACTURER RESERVES THE RIGHT TO ALTER THE DESIGN OR  
SPECIFICATION TO THIS PRODUCT WITHOUT NOTICE. PICTURES AND DIAGRAMS  
ARE FOR ILLUSTRATION PURPOSES ONLY**