Revision B (2013-07-10)

INSTRUCTION MANUAL

Original Instructions

Tilting Arbor Table Saw

MODEL: HW110E

(Version:LG-30,LG-50)

298003504

CE

1. Foreword

This manual contains basic information for qualified operating staff and describes the surroundings and using ways of the machine for those it is intended. It contains also all necessary information for a correct and safe operating. The machine is equipped with various safety equipment protecting operator and machines well at usual technological using. These regulations, however, cannot sheet all other safety aspects. That is why operator must peruse and make sense of this manual before starting of machine use. Installation and operation mistakes will be foreclosed herewith.

Do not try to start the machine before having read all instructions manual delivered with the machine and understood every function and technique.

2. Warranty Information

Limited Warranty

One year

Proof of Purchase

Please keep your dated proof of purchase for warranty and servicing purposes.

Limited Tool Warranty

We makes every effort to ensure that this product meets high quality and durability standards. we warrants to the original retail consumer a 1-year limited warranty as of the date the product was purchased at retail and that each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, normal wear and tear, negligence or accidents, repairs done by an unauthorized service center, alterations and lack of maintenance. we shall in no event be liable for death, injuries to persons or property or for incidental, special or consequential damages arising from the use of our products. To take advantage of this limited warranty, return the product at your expense together with your dated proof of purchase to us ,we will either repair or replace the product if any part or parts covered under this warranty which examination proves to be defective in workmanship or material during the warranty period.

3. Machine Description

3.1 Technical parameters

Item		HW110E	
		LG-30	LG-50
Product Dimensions	weight	260Kg （approx.）	
	length/width/height(mm)	1582x1100x1016	2090x1100x1016
	foot print(length/width)	508x508	
Electrical:	switch	magnetic with thermal overload protection	
Motor	type	TEFC capacitor start induction	
	horsepower/voltage/phase/amps	3HP-230V-1PH 12.8A	
		3HP-230V(400V)-3PH 7.43A/4.8A	
	speed/cycle	2850 RPM/50HZ	
	power transfer	Triple V-belt Drive	
blade information	maximum blade diameter	250mm	
	riving knife/spreader thickness	2.5mm	
	required blade body thickness	1.8-2.4mm	
	required blade kerf thickness	2.6-3.2mm	
	maximum width of Dado	15mm	
	blade tilt	left 0-45°	
	arbor size	30mm	
	arbor speed	4150 RPM(50Hz)	
	arbor bearings	sealed and permanently lubricated	
cutting capacities	maximum depth of cut at 90°	70mm	
	maximum depth of cut at 45°	50mm	
	maximum rip to right of blade-standard	750mm	1250mm
	maximum rip to left of blade	305mm	
Table informations	floor to table height	860mm	
	main table--length/width/thickness	512x685x48mm	
	distance front of table to center of blade	440mm	
	distance front of table to blade of maximum cut	310mm	
miter gauge information	miter gauge slot type	T-slot	
	miter gauge slot type--width/height	19.05 ×9.525mm	
other information	paint	power coated	
	dust port size	100mm	

3.2 Feature Identification*(Fig.1)*

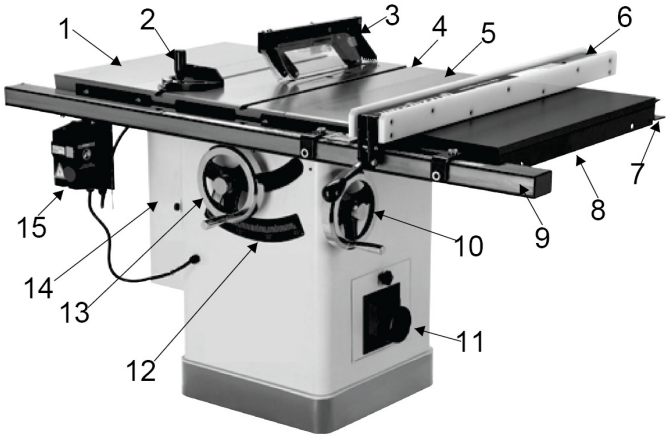


Fig.1

1	Left Extension Wing
2	Miter Gauge
3	Blade Guard
4	Main table
5	Right Extension Wing
6	Fence
7	Rear Rail
8	Extension Table
9	Front Rail Tube
10	Blade Tilt Hand wheel
11	Dust Port
12	Table Tilt Scale
13	Blade Height Hand wheel
14	Motor cover
15	On/Off Switch
16	Leg(not shown)

Remark:

The fence is not as shown, this model is equiped with a aluminium fence

The blade guard is not as shown, this model is equiped with a blade guard contain dust port

3.3 Intended Use

Table saw and the workpiece guide equipment supplied with it are intended to be used exclusively for the following purposes:

● Laminated and unlaminated board materials (e.g. chipboard, coreboard, MDF board, ...)

● Solid wood □

● Gypsum plasterboard □, Cardboard, Veneer with a suitable clamping device

●Dimensionally stable plastics (thermoset plastics, thermoplastics).Sawing these materials does not normally involve any risks in respect of dust, chips, and thermal degradation products.

Tools:

● The chosen saw blade must be suitable both for the specific work cycle and for the specific material.

● Only circular blades which are solid chrome vanadium (CV) or tungsten carbide tipped (TCT) and have a diameter of 250mm , arbor size 30mm,as well as a maximum width of 20mm are allowed for the main saw 。

● Saw blades made of high-alloy high-speed steel (HSS) are not allowed to be used.

● Saw blades and their fixing devices shall conform to EN 847-1:2005。

Site of installation/use:

● The machine is not suitable for use outdoors, or in rooms that are subject to moisture or the risk of explosions.

● The intended use of the machine involves connection to a suitably dimensioned extraction system .□

● Intended use also involves compliance with our specified operating, maintenance and repair conditions and the safety information contained in the operating instructions.

● The table saw may only be used, set up and maintained by persons who are familiar with the machine and aware of the dangers.

●The pertinent accident prevention regulations as well as any other generally recognised technical safety and industrial medicine rules must be observed.

● Repair work must be carried out by our own

customer service or by an organization that we have authorized. Only original spare parts are allowed to be used for this. we will assume no warranty for any damage that is caused by using non-original spare parts.

⚠ WARNING

The machine is prohibited to be used in a potentially explosive atmosphere!

3.4 Requirements of electrical power

List of the motor using & pre-wired voltage

Item	Motor		
	3HP	3HP	3HP
	(2.2kW)	(2.2kW)	(2.2kW)
Voltage(V)	230V	400V	230V
Phase	1Ph	3Ph	
Freq.(Hz)	50/60Hz		
Nominal current A	12.8A	7.43A	4.8A
Prewired	230V/1PH	400V/3PH	230V/3PH
Cords	3	5	4

The input power supply of the machine is 3/N/PE, AC400V. The steady-state AC power supply is 0.9～1.1 times of the rated value.

Frequency

0.99～1.01 times of rated frequency (50 Hz , continuous working)

0.98 ～ 1.02 times of rated frequency(50Hz, short period working)

Harmonics

The sum of 2nd-5th distorted harmonic must not exceed 10% of RMS of voltage. An additional 2% of RMS of line voltage is allowed to for the sum of 6th-30th harmonic.

Unbalanced voltage

Neither Negative nor zero sequence components is allowed to exceed 2% of the positive sequence component.

Electrical protection

End user should provide protection device against overvoltage due to lightning and short-circuited protection device at the power supply.

Ingress Protection at the inlet of incoming power cable

The incoming method of incoming cable should ensure IP54 protection class when finishing installation on the spot.

3.5 Noise

3.5.1 Reference standards

The measurements of noise emission were conducted according to the EN ISO 11202 for the determination of sound pressure level at the operation positions. When the measured sound pressure levels at the operation positions exceed 85dB(A), the measurements of sound power levels were conducted according to EN ISO 3746.

3.5.2 Operating conditions

The operating conditions for noise measurement comply with Annex A of ISO 7960:1995.

3.5.3 Testing results

		NO LOAD	LOAD
L_{WA}		101.3	104.1
L_{PA}	Position A	84.7	88.5
	Position B	86.1	89.1
	Position C	77.0	79.8
Associated uncertainty		*K* = 4 dB	

Note: Background noise of measurement surrounding is 65.0dB (A).

The figures quoted are emission levels and are not necessarily safe working levels. Whilst there is a correlation between the emission and exposure levels, this cannot be used reliably to determine whether or not further precautions are required. Factors that influence the actual level of exposure of the workforce include the characteristics of the work room, the other sources of noise etc. i.e. the number of machines and other adjacent processes. Also the permissible exposure level can vary from country to country. This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk."

4. Safety Regulations

4.1 General Safety Instructions

1. KNOW YOUR MACHINE.

Read and understand the owners manual and labels affixed to the machine. Learn its application and limitations as well as its specific potential hazards;

2.GROUND THE MACHINE.

In the event of the electrical short, grounding reduces the risk of electrical short;

3. KEEP GUARDS IN PLACE.

Keep in good working order, properly adjusted and aligned;

4. REMOVE ADJUSTING KEYS AND WRENCHES.

Form habit of checking to see that keys and adjusting wrenches are removed from machine before turning it on;

5. KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents. Make sure the floor is clean and not slippery due to wax and sawdust build-up;

6. AVOID DANGEROUS ENVIRONMENT.

Don't use machines in damp or wet locations or expose them to rain. Keep work area well lit and provide adequate surrounding work space;

7. KEEPCHILDREN AWAY.

All visitors should be kept a safe distance from work area;

8. MAKE WORKSHOP CHILD-PROOF.

With padlocks, master switches or by removing starter keys;

9. USE PROPER SPEED.

A machine will do a better and safer job when operated at the proper speed;

10. USE RIGHT MACHINE.

Don't force the machine or the attachment to do a job for which it was not designed;

11. WEAR PROPER APPAREL.

Do not wear loose clothing, gloves, neckties or jewelry (rings, watch) because they could get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Roll up long sleeves above the elbows;

12. DON'T OVER REACH.

Keep proper footing and balance at all times;

13. MAINTAIN MACHINE WITH CARE.

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories;

14. DISCONNECT MACHINES.

Before servicing, when changing accessories or attachments;

15. AVOID ACCIDENTAL STARTING.

Make sure the switch is in the ''OFF' 'position before plugging in;

16. USE RECOMMENDED ACCESSORIES.

Consult the manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards;

17. NEVER STAND ON MACHINE.

Serious injury could occur if the machine tips over .Do not store materials such that it is necessary to stand on the machine to reach them;

18. CHECK DAMAGED PARTS.

Before further use of the machine, a guard or other parts that are damaged should be carefully checked to ensure that they will operate properly and perform their intended function. Check for alignment of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other parts that are damaged should be properly repaired or replaced;

19. NEVER LEAVE MACHINE RUNNING UNATTENDED.

Turn power ''OFF''. Don't leave any machine running until it comes to a complete stop;

20. LIGHTING SHALL BE PROVIDED.

A dequate general or localised lighting shall be provided;

4.2 Specific Safety Instructions for Sliding Table Saw

1. ALWAYS USE A GUARD.

Always use a guard, splitter and anti-kickback fingers on all "thru-sawing" operations. Thru-sawing operations are those when the blade cuts completely through the work piece as in ripping or crosscutting.;

2. ALWAYS HOLD THE WORK.

Always hold the work firmly against the miter gauge or fence;

3. ALWAYS USE A PUSHSTICK OR PUSH BLOCKS.

Push blocks or push sticks shall be used when cutting small workpieces and in circumstances where it is necessary to push the workpiece against the fence;

4.NEVER.

Never perform any operations "free-hand" which means using your hands to support or guide the work piece. Always use either the fence or the miter gauge to position and guide the work piece;

5.NEVER.

Never stand or have any part of your body in line with the path of the saw blade;

6.NEVER REACH BEHIND.

Never reach behind or over the cutting tool with either hand for any reason;

7. MOVE THE RIP FENCE.

Move the rip fence out of the way when crosscutting;

8. DIRECTION OF FEED.

Feed work into the blade against the direction of rotation;

9. NEVER.

Never use the fence as a cut-off gauge when you are cross-cutting;

10. NEVER.

Never attempt to free a stalled saw blade without first turning the saw OFF;

11. PROVIDE ADEQUATE SUPPORT.

To the rear and sides of the table saw for wide or long work pieces;

12. AVOID KICKBACKS.

Avoid kickbacks (work thrown back towards you) by keeping the blade sharp, by keeping the rip fence parallel to the saw blade, by keeping the splitter and anti-kickback fingers and guard in place and operating, by not releasing work before it is pushed all the way past the saw blade, and by not ripping work that is twisted or warped or does not have a straight edge to guide along the fence;

13. AVOID AWKWARD OPERATIONS.

Avoid awkward operations and hand positions where a sudden slip could cause your hand to move into the spinning blade;

14. BLADE REQUIREMENTS.

Only correctly sharpened saw blades manufactured in accordance with the requirements of EN 847-1:2005 shall be used;

15. SPEED.

No saw blade shall be used where the maximum marked speed is lower than the maximum rotational speed of the saw spindle;

16. CHIP AND DUST.

The machine shall be connected to an external chip and dust extraction system;

The dust extraction equipment is to be switched on before commencing machining;

17. CHECK

Period check the brake function to make sure the stop time of the saw blade is less than 10s.

4.3 Residual risks

1. Take precautions to reduce the hazard of inhalation of harmful dusts (e.g. wearing a dust mask);

2. Wear ear protection to prevent hearing loss;

3. Always wear safety glasses. also use a face or dust mask if cutting operation is dusty;

4. Against the hazard of cutting when handling saw blades into the machine or doing maintenance;

5. Not to try removing chips whilst the saw blade(s) is (are) running and the saw unit(s) is (are) not in the rest position;

6. Not to try using the machine unless all of the guards and other safety devices necessary for machining are in good working order;

4.3 Safety equipment

A push block (***Fig.2***) and A push stick (***Fig.3***) must be used

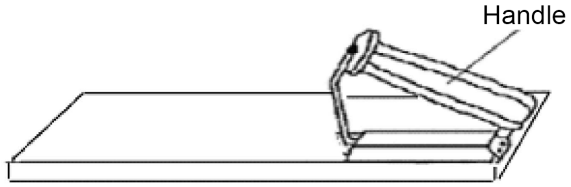


Fig.2

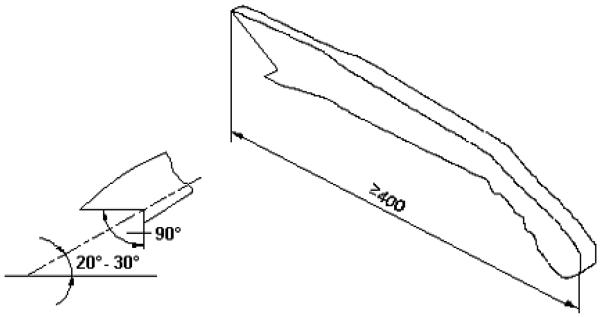


Fig.3

⚠ WARNING

If the workpieces is less then 120mm,you must use the push stick to prevent your hands from getting too close to the saw blade.

Push block must be used to cut narrow workpieces and, when necessary, to push the workpiece against the fence, a push block can be easily made by the operator as *Fig.2*,

5. Installation of the machine

5.1 Transportation of machines

5.1.1 Transportation and store

The measures of anti-rust and shockproof should be taken during packing. The machine endures transportation and store in -25~55°C ambient temperature.

Be care of not making machine exposed to rain or damaging the packing during transportation and store.

⚠ WARNING

While transporting or handling the machine, be careful and let the activity be done by qualified personnel especially trained for this kind of activity!

While the machine is being loaded or unloaded, make sure that no person or subject gets pressed by the machine!

Select proper transportation device according to the weight of the machine.

Make sure the lifting capacity of transportation device is competent for the weight of the machine.

5.1.2 Transportation before unpacking

As standard, the machine is packed in a robust wooden box. ***Fig.4*** shows the tool can be used to transport the packing box.

Fig.4

5.2 Unpacking

your machine was carefully packaged for safe transportation. remove the packaging materials from around your machine and inspect it. if you discover the machine is damaged, please immediately call Customer Service for advice.

save the containers and all packing materials for possible inspection by the carrier or its agent. Otherwise, filing a freight claim can be difficult.

5.3 Safety measure before use & installation

It is important to maintain free area of 0.8 m around the machine, which is required for the working place. If any long material is machined, it is necessary to have a sufficient room in front of the machine as well behind it in the places of material input and output.

5.4 installation

Before beginning assembly, take note of the following precautions and suggestions

----- The machine is bolted to the pallet. Before attempting any of the assembly procedures remove all of the loose parts and hardware from the inside of the machine and unbolt the machine from the pallet.

----- **FLOOR:** This tool distributes a large amount of weight over a small area. Make certain that the floor is capable of supporting both the weight of the machine and the operator. The floor should also be a level surface. If the unit wobbles or rocks once in place, be sure to eliminate by using shims.

-----**WORKING CLEARANCES:** Take into consideration the size of the material to be processed. Make sure that you allow enough space for you to operate the machine freely.

-----**OUTLET PLACEMENT:** Outlets should be located close enough to the machine so that the power cord or extension cord is not in an area where it would cause a tripping hazard. Be sure to observe all electrical codes if installing new circuits and/or outlets.

⚠ WARNING

DO NOT assemble the machine until you are certain that the machine is not plugged in and the power switch is in the OFF position.

DO NOT connect the machine to the power source until the machine is completely assembled and you read and understand the entire User Manual.

5.4.1Remove the shipping brace:

pull the switch out of the saw cabinet and remove the shipping brace as ***Fig.5*** ;

Fig.5: shipping brace location

5.4.2 motor cover install:

Install the door by inserting the door pins into the hinge sockets on the cabinet as ***Fig.6***;

Fig.6: motor cover install

5.4.3 handwheel handle install:

Install the handle into the Blade Tilt & Height hand wheel as ***Fig.7.***

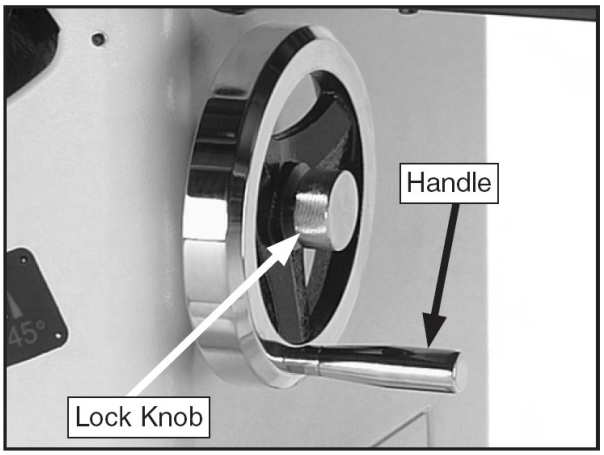


Fig.7: hand wheel handle install

5.4.4 Extension wings install*(Fig.8)*

A. remove the screws from the ends of the main table;

B. inspect the extension wings and main table mating surfaces for burrs or foreign materials that may inhibit assembly;

C. the mating edges of the wings and the table must be clean, smooth, and flat, use a wire brush or file if necessary to clean up the edges, this step will ensure that the wings mount properly to the main table;

D. Attach the wings to the main table with the screws removed in step A;

E. Place the straightedge across the extension wings and main table to make sure that the table surface is flat;

……If the outside end of extension wings tilts down Or up, use a strip of masking tape to shim the extension wing up Or down ;

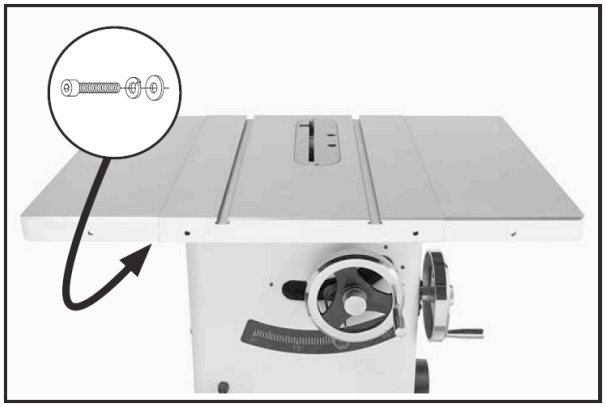


Fig.8: Extension wings install

5.4.5 install the rail & fence

A. install the rear rail , front rail, tube,（extension table ） as breakdown, Before tightening the fasteners,check to make sure the top edge of rear rail is flush with the lowest edge of both T-bolts，so the miter gauge will slide smoothly when installed later. ***as Fig.9***

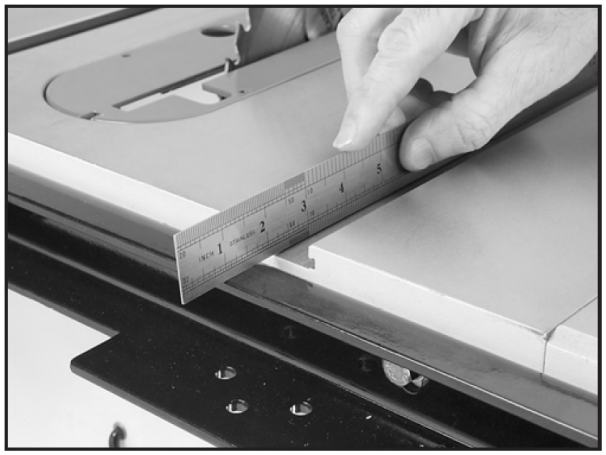


Fig.9: check the location of rear rail

B, Place the fence on the rails on the right hand side of blade as ***Fig.10-2*** .

Note:make sure the cam foot contacts the cam on the fence lock handle before you place the fence on the rail, otherwise the fence will not lock into the rail tube. See Fig.10-1

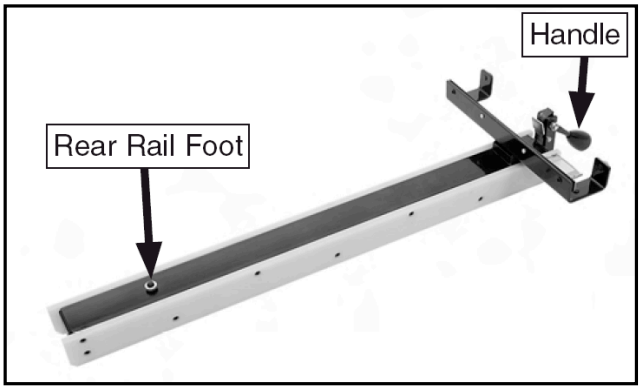


Fig.10-1: Fence assembled

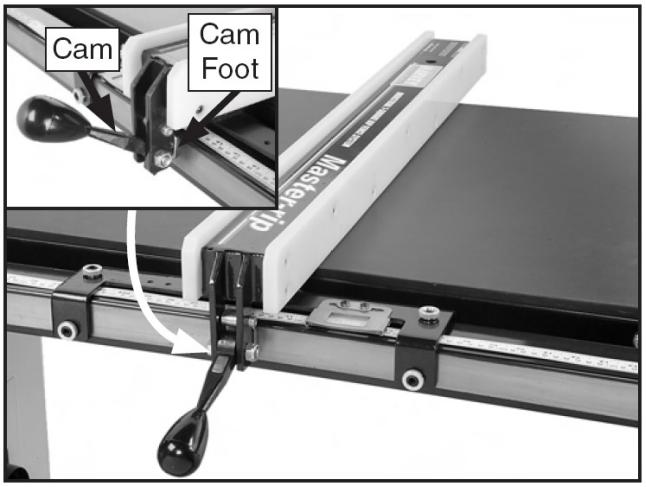


Fig.10-2: fence installed on rails

Remark:

The fence is not as shown, this model is equiped with a aluminium fence

C, checking fence parallelism***(see Fig.11)***

----Slide the fence along the rail , if it drags across the table, then adjust the foot at the rear of the fence to raise the fence off of the table just enough , so that the gap between the fence, and the table is even from front to back;

----Slide the fence up, against the right hand edge of the miter slot , and lock it in place ,examine how the fence line up with the miter slot;

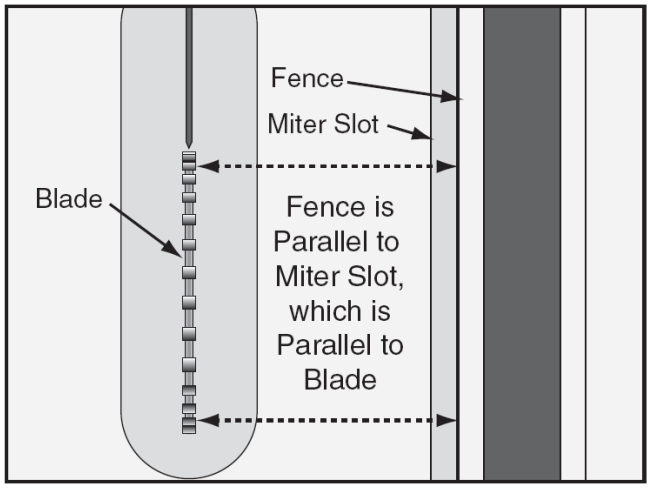


Fig.11: checking fence parallelism

Note: It's permissible for the back of the fence to pivot outward not more than 1 64" from being parallel to the blade. This creates a slightly larger opening between the fence and the blade, at the rear of the blade, to reduce the risk of workpiece binding or burning as it is fed through the cut. Many woodworkers intentionally set up their fence in this manner. Keep this in mind before adjusting your fence.

D, Install the fence scale***(see Fig.12)***

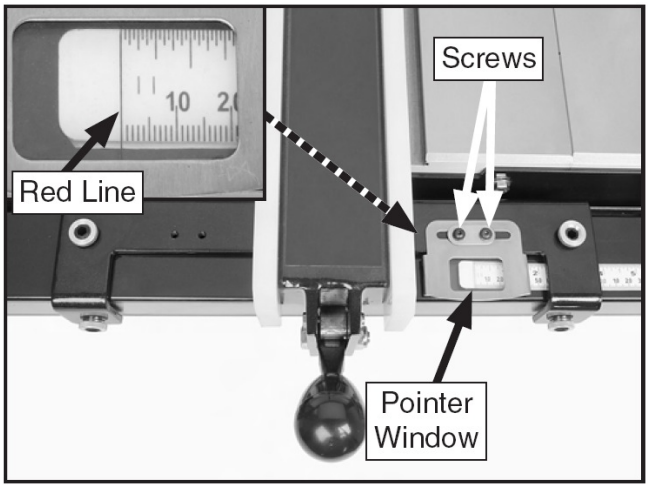


Fig.12 Aligning rail tape with scale pointer.

Slide the fence up against the saw blade, and lock it in place;

place the front rail tape scale on the fence tube, make sure it is parallel with the tube, and the“0” end is directly under the red line on the pointer window as shown; lightly mark the “0” location on the tube with a pencil, then remove the fence; peel the tape and carefully align the “0” mark on the scale with the pencil mark you made;

If you make a mistake, loosen the screws on the point window, slide the fence against the blade, adjust the pointer window , so the red line on the window is over the “0” mark on the tape, then secure the screws;

5.4.6 Install the switch

install the magnetic switch onto the bottom left hand side of the front rail using two M6-1x 12 hex bolts, 6mm lock washers, and 6mmflat washers, as shown in ***Fig.13***

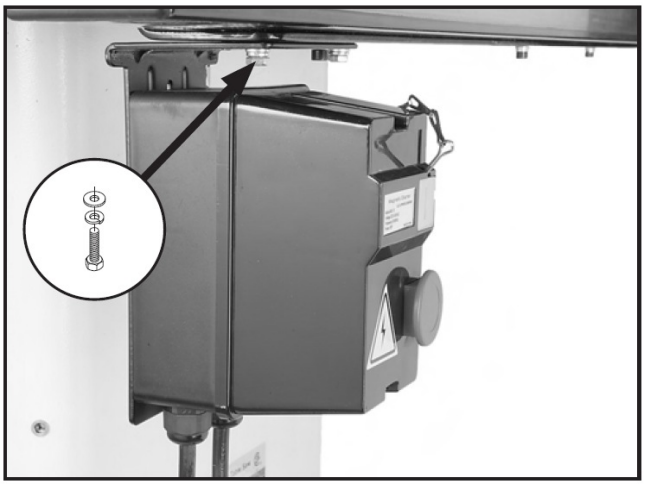


Fig.13: switch install

5.4.7 Install the blade

A. Remove blade guard assembly & table insert.

B. raise the arbor all the way up and set the blade angle at 0º.

C. remove the arbor nut and arbor flange from the arbor, slide on the included 10" saw blade, making sure the teeth face the front of the saw, then install the arbor flange and arbor nut onto the blade.

D. put on a pair of heavy leather gloves and use the included arbor wrenches to tighten the arbor nut (turn clockwise to tighten), as shown in ***Fig.14***

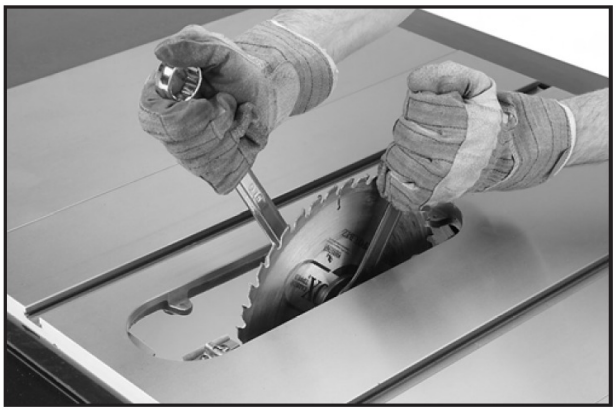


Fig.14: Install the blade

5.4.8 install the blade guard and riving knife

A. reinstall the insert, slide the knurled knob out ***(see Fig.15)*** and rotate it forward so it engages the upper bracket.

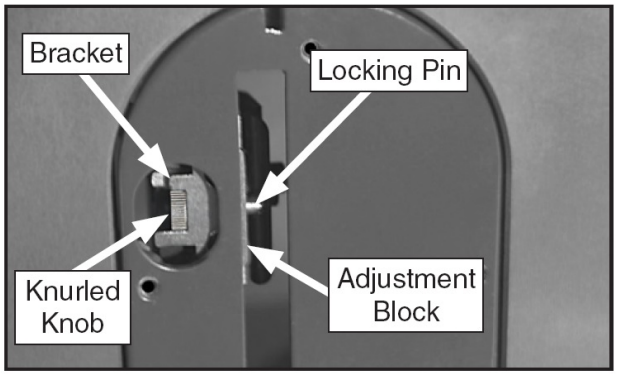


Fig.15:Knurled knob used

B. slide the blade guard spreader all the way down into the block, then rotate the knurled knob so it disengages the bracket and the locking pin engages the hole in the center of the spreader.

C. give the spreader an upward tug to verify that it is locked the blade guard, when properly installed, look like ***Fig, 16***

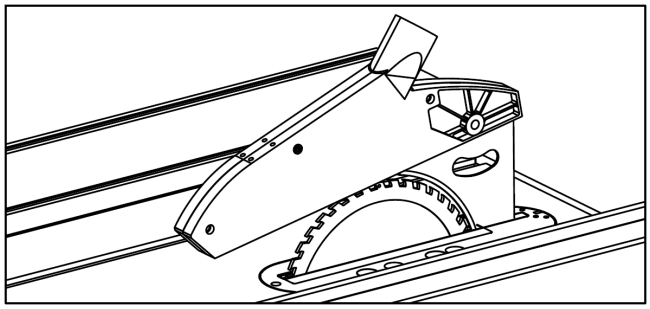


Fig.16: Blade guard installed.

D. place a straightedge against the blade and the spreader. When properly aligned, the spreader/riving knife will be in the "alignment zone," shown in ***Fig.17*** , and will be parallel with the blade.

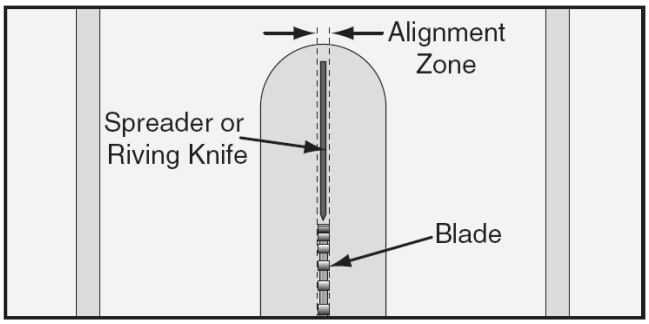
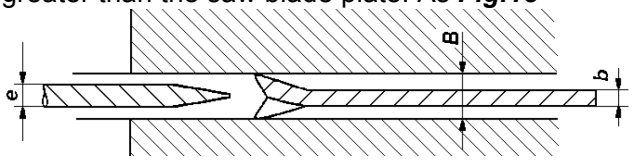


Fig.17: alignment zone

After changing a saw blade, always check that the Riving knife or Blade Guard is correctly set!

1. riving knives shall be manufactured from steel with an ultimate tensile strength of 580 N mm-2 or of a comparable material, have flat sides (within 0,1 mm per 100 mm) and shall have a thickness less than the width of cut (kerf) and at least 0,2mm greater than the saw blade plate. As ***Fig.18***



Key: ***Fig.18***

e riving knife thickness
b saw blade blade
B kerf(width of saw blade cut)

2, The distance of the riving knife from the gear rim must be between 3mm and 8mm. measured radially through the centre of the saw spindle. As ***Fig.19***

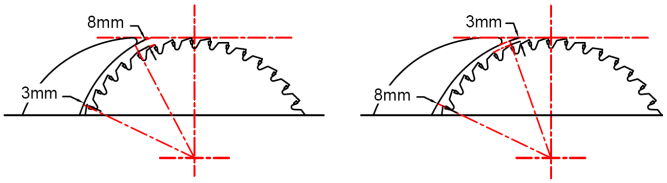


Fig.19

3. the highest point of the riving knife must be set beneath the topmost teeth.

⚠ WARNING

Check that saw blade clamping system is tight before operating the machine.

5.4.9 Connecting the extraction system

⚠ NOTICE

Dust collector device should be prepared by customer;

The dust extraction equipment is to be switched on before commencing machining;

The outlet diameter of is 100mm. ***Fig.20***

Air current speed is 20m/s for vacuum suction dust emission index, When air current speed of dust collector device (in accordance with EN 12779:2004) is not lower than 20m/s, ensure machine can be normal exhausted. User must wear dustproof mask.

1. Required air flow:1500 m3/h;
2. Ensure pressure drop of each dust collector outlet carrying air current speed: 1100Pa
3. Wind speed of dust collector tube m/s: dry chips: 20m/s, water content is equal to18% wet chips: 28m/s.

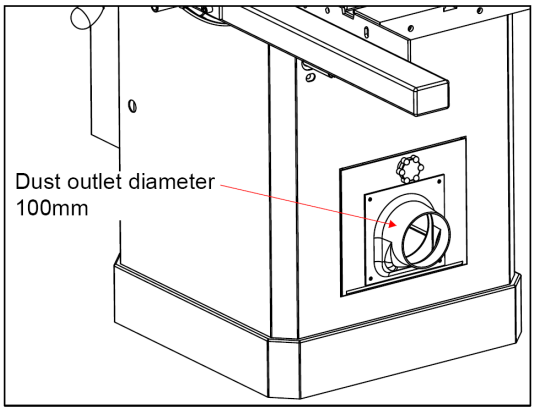


Fig.20

5.4.10 Electrical installation

⚠WARNING

1. Wiring should only be done by professional electricians. Always make sure the machine is properly earthed.

2. All wirings in the cabinets should be protected against direct contact to at least IP2X when finishing electrical installation.
3. All exposed conductive parts should be connected to the protective bonding circuit.
4. Close and lock the door of cabinets。

⚠NOTICE

1. Enough space around the machine and the cabinets should be kept in order to maintain conveniently.
2. The machine should be installed in a workshop with good illumination and ventilation.
3. Over-voltage protection device should be provided by end user on spot.

Check that the voltage and frequency required by the machine, shown on the machine's name plate, correspond to the electric power supply voltage and frequency.

The circuit breaker shall be installed for supplying electric power to this machine, in order to protect people against electrical shock due to indirect shock

Wiring:

Finish electrical connection according to the electrical drawings.

The wirings on the spot should refer to the requirements of Clause 13 (Wring practices) of EN 60204-1:2006.

Checking:

After finishing wiring on the spot, check the following items at least:

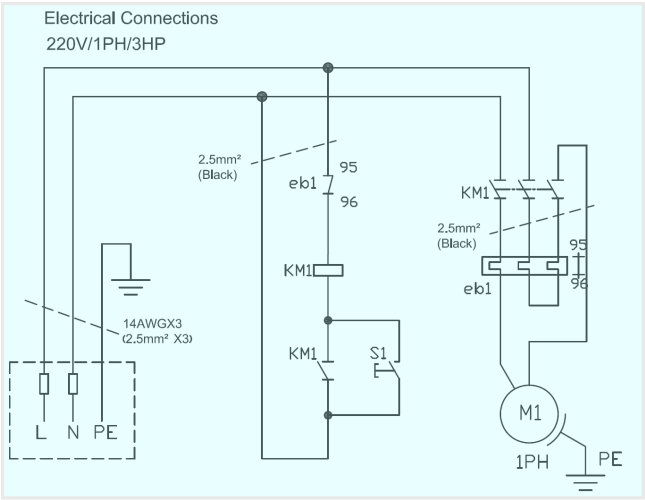
Check the wirings of machine.

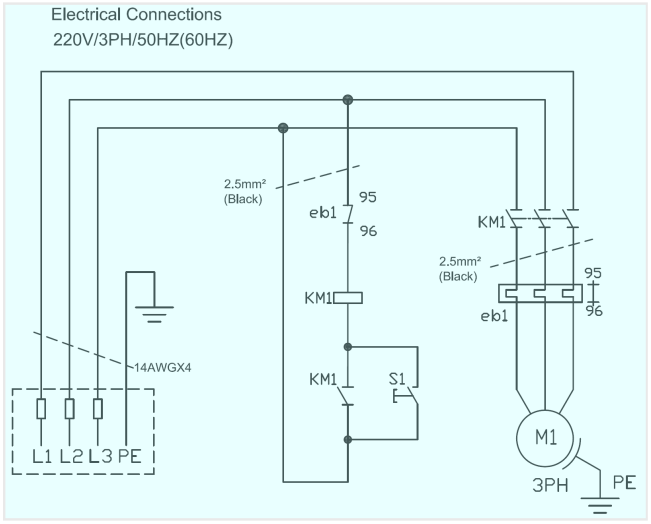
Check the direction of motors and change wiring if necessary.

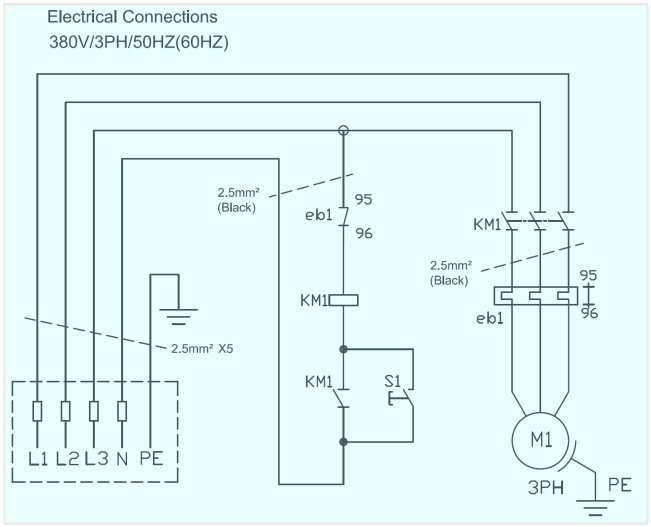
Check the components for defects, such as loosening or damage.

Check the functions of safety devices

ELECTRICAL CONNECTIONS

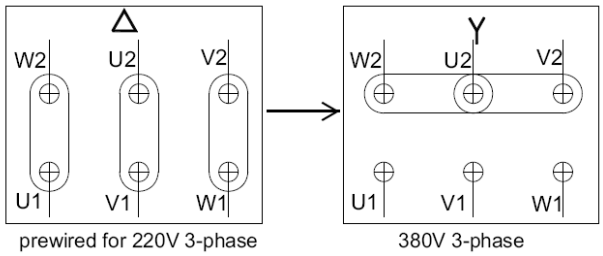






Change the Connections 220V/3PH or 380V/3PH.

This model can be rewired *220V/3PH or 380V/3PH* operation, this procedure takes moderate electrical skill and the rewiring job must be inspected by a qualified electrician before the saw is connected to the power source.



6. Adjustment

⚠ NOTICE

Before operation, the machine should be carefully adjusted for best performance. Please make adjustment as following:

6.1 Blade Raising and Tilting Machine

To raise or lower the blade, loosen lock knob (A) As Fig. and turn the raising handwheel (B). When desired height is obtained, retighten lock knob. The blade should be raised 1/8" to 1/4" above the top surface of the material being cut. With hollow ground blades the blade should be raised to the maximum to provide chip clearance. To tilt the saw blade, loosen lock knob (C) and turn tilting handwheel (D). When desired angle is obtained, retighten lock knob. See ***Fig.21.***

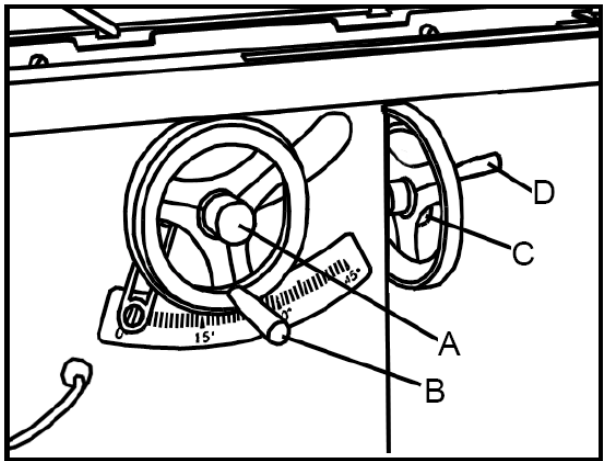


Fig.21

6.2 Adjusting Ripfence

1.The rip fence must be perfectly aligned with the table T-slot, to verify this, align the edge of the rip fence with the table T-slot and lower the locking lever (A)***Fig.22*** to lock in into place. Check to see if the edge of the rip fence and the table T-slot are parallel. If they are not parallel, unlock the rip fence and turn it upside down. Adjust the set screws (A) as ***Fig.23*** in or out, verify your adjustment, repeat if necessary.

2.The lock lever pressure can be adjusted by loosening the front lock nuts (B) as ***Fig.22*** and adjusting the set screws (C) the same amount, make sure the fence remains parallel with the table T-slot. Retighten lock nuts.

3.To set the fence perpendicular to the table, place a square on the table and against the side of the fence, loosen the top lock nuts (D) and adjust the setscrews (E) until the fence is perpendicular. Retighten lock nuts.

4.The pointer window (F) as ***Fig.22*** position can be adjusted if needed, loosen pan head screws (G), reposition the pointer window and retighten pan head screws.

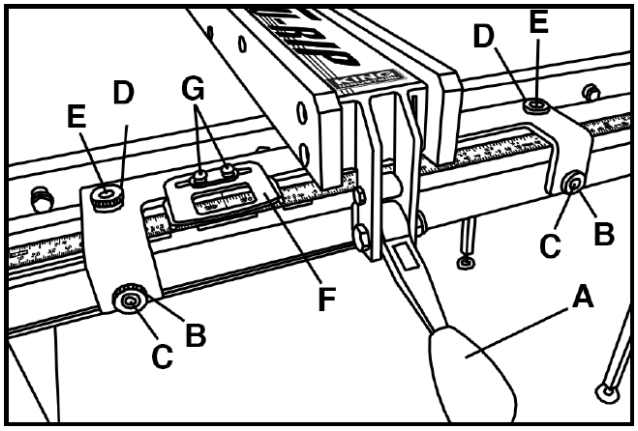


Fig.22

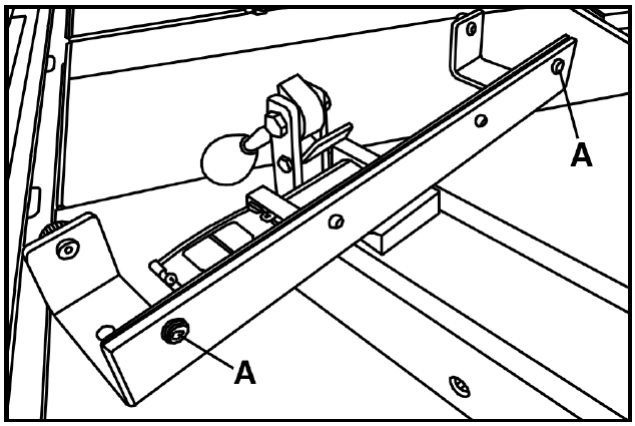


Fig.23

6.3 Aligning Table T-slot Parallel With Blade

1,The table T-slot must be aligned parallel with the blade. Using a combination square (A) as ***Fig.24***, measure the distance from the back edge of the blade to the table T-slot. Pivot blade forward 180º and remeasure the distance using the exact same point on the blade. The difference between both measurements must be less than 0.2mm.

2. If an adjustment is necessary, loosen the screws (B) as ***Fig.25*** which fix to the table, make the needed adjustment until both measurements are equal or less than 0.2mm. and retighten the screws.

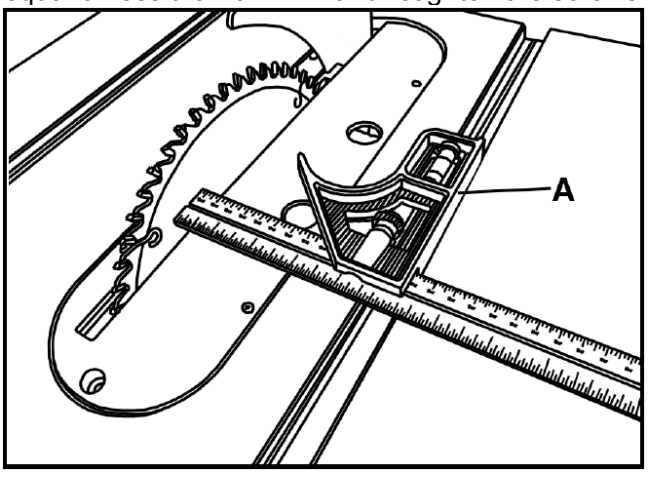


Fig.24

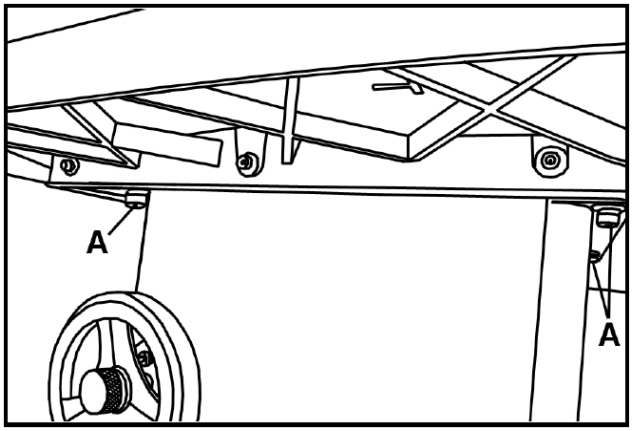


Fig.25:Adjust Trunnions to Align Blade and Miter Slot

6.4 Adjusting 45 and 90 Degree Positive Stops

The blade tilting mechanism of your saw is equipped with a positive stop at 45 and 90 degrees. To check and adjust these positive stops, proceed as follows:

1. Raise the saw blade to its maximum height.
2. Set the blade at 90 degrees to the table by turning the blade tilting hand wheel counterclockwise as far as it will go.
3. Place a square on the table and check to see if the blade is at a perfect 90 degree angle to the table.
4. If the blade is not at 90 degrees loosen lock nut (A) As ***Fig.26*** and turn stop ring (B) in or out. The stop ring (B) should stop against the front trunnion bracket when the blade is at 90 degrees to the table. Recheck and adjust further if necessary. Retighten lock nut (A).

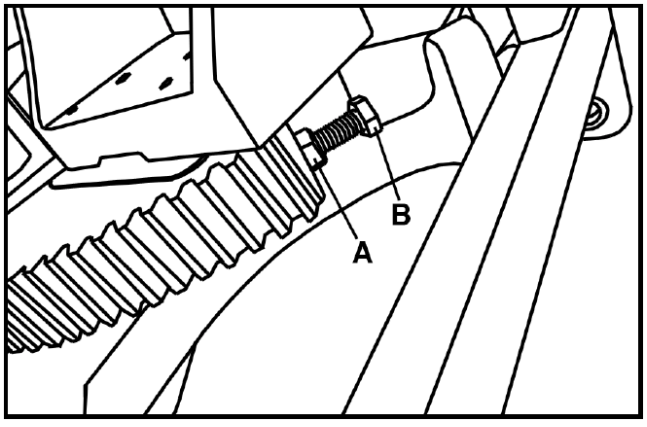


Fig.26: Adjust 90 degrees

5. If the 45 degree postive stop is not set properly, turn the same hand wheel clockwise as far as it will go and follow the same procedure using lock nut (C) As ***Fig.27*** and stop ring (D). The stop bolt (D) should stop against the front trunnion bracket when the blade is at 45 degrees to the table. Recheck and adjust further if necessary. Retighten lock nut (C).

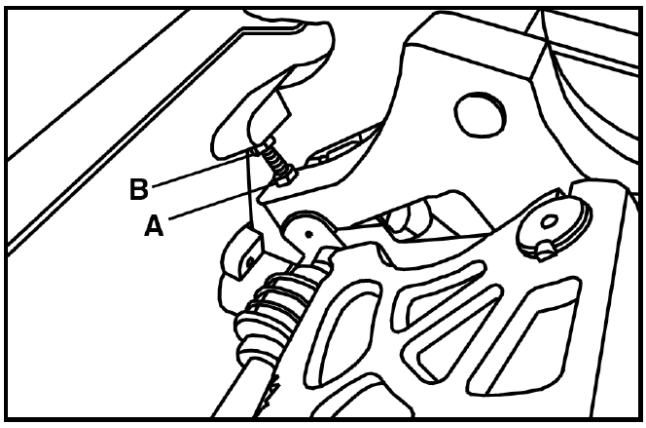


Fig.27: Adjust 45 degrees

6.5 Aligning Blade Guard Splitter or Riving Knife with Blade

The blade guard splitter and/or riving knife must be aligned with the blade. If not properly aligned, the splitter/riving knife will force the workpiece sideways during the cut, increasing risk of kickback. Place a straightedge against the blade and the splitter or riving knife and check for parallelism. If an adjustment is needed, the mounting position can be adjusted into alignment with the blade using the adjustment set screws (A) ***(see Fig.28)***

1. Disconect saw from power source.
2. Remove the table insert.
3. Loosen the upper and lower cap screws (B), then adjust the 4 set bscrews in or out until the alignement is perfectly parallel.
4. Reinstall the table insert.

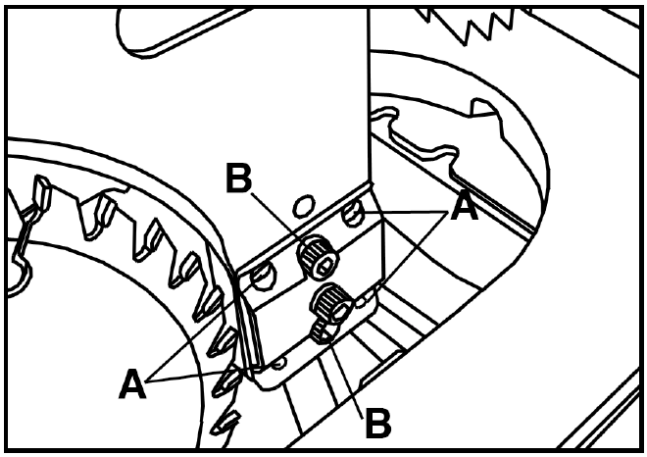


Fig.28

7. Operations

7.1 Electrical Operation*(Fig.29)*

A, Start button

B, Stop button

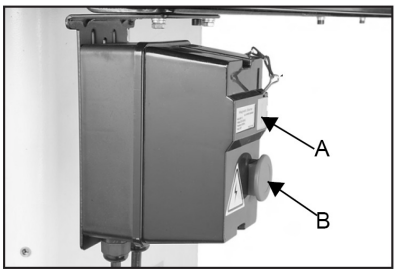


Fig.29

7.2 Safety Precautions Before Operations

The operation of power tools involves a certain amount of hazard for the operator. Before attempting regular work we recommend you get the feel of operations using scrap lumber to check settings. Read entire instructions before you start to cut workpiece. Always pay attention to safety precautions to avoid personal injury.

7.3 Operation

Plain sawing includes ripping and crosscutting, plus a few other standard operations of a fundamental nature. The following methods feature safety. As with all power tools there is a certain amount of hazard involved with the operation and use of the tool. Using the tool with the respect and caution demanded as far as safety precautions are concerned will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or completely ignored, personal injury to the operator can develop. It is good practice to make trial cuts using scrap material when setting up you saw for operation.

7.4 Crosscutting

Crosscutting requires the use of the miter gauge to position and guide the work. Place the work against the miter gauge and advance both the miter gauge and work toward the saw blade, as shown in ***Fig.30*** The miter gauge may be used in either table slot, however, most operators prefer the left groove for average work. When bevel cutting (blade tilted), use the table groove that does not cause interference of your hand or miter gauge with the saw blade guard.

Start the cut slowly and hold the work firmly against the miter gauge and the table. One of the rules in running a saw is that you never hang onto or touch a free piece of work. Hold the supported piece, not the free piece that is cut off. The feed in crosscutting continues until the work is cut in two, then the miter gauge and work are pulled back to the starting point. Before pulling the work back it is good practice to give the work a little sideways shift to move the work slightly away from the saw blade.

Never pick up any short length of free work from the table while the saw is running. A smart operator never touches a cut-off piece unless it is at least a foot long. Never use the fence as a cut-off gauge when crosscutting. Never use the miter gauge in combination with the rip fence.

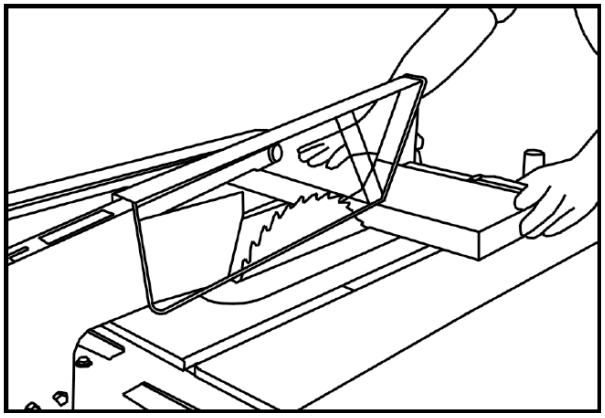


Fig.30

7.5 Ripping

Ripping is the operation of making a lengthwise cut through a board, as shown in ***Fig.31***, and the rip fence is used to position and guide the work. One edge of the work rides against the rip fence while the flat side of the board rest on the table. Since the work is pushed along the fence, it must have a straight edge and make solid contact with the table. The saw guard must be used. The guard has anti-kickback fingers and a splitter to prevent the saw kerf from closing.

Start the motor and advance the work holding it down and against the fence. Never, stand in the line of the saw cut when ripping. Hold the work with both hands and push it along the fence and into the saw blade as shown in Fig. The work can then be fed through the saw blade with one or two hands.

When this is done the work will either stay on the table, tilt up slightly and be caught by the rear end of the guard or slide off the table to the floor. Alternately, the feed can continue to the end of the table, after which the work is lifted and brought back along the outside edge of the fence. The waste stock remains on the table and is not touched with the hands until the saw is stopped unless it is a large piece allowing safe removal.

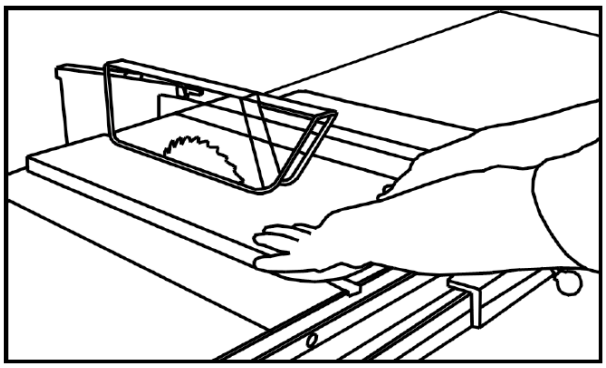


Fig.31

8. Maintenance

This table saw requires very little maintenance other than minor lubrication and cleaning. The following sections detail what will need to be done in order to assure continued operation of your saw.

LUBRICATION

The table saw has sealed lubricated bearings in the motor housing and the arbor assembly, they will not require any additional lubrication. Use a wire brush to clean off the worm gears and trunnions and apply a white lithium grease to keep them lubricated

CLEANING

Cleaning the Model is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it.

After cleaning, treat all unpainted cast iron and steel with a non-staining lubricant.

Occasionally it will become necessary to clean the internal parts with more than a vacuum. To do this, remove the table top and clean the internal parts with resin/pitch dissolver or mineral spirits and a stiff wire brush or steel wool.

Make sure the internal workings are dry before using the saw again, so that wood dust will not accumulate. If any essential lubrication is removed during cleaning, re-lubricate those areas.

CHANGING BELTS

WARNING: MAKE SURE THE POWER CORD IS DISCONNECTED FROM THE POWER SOURCE!

1. Lower the blade completely, then open the motor access cover.

2. Loosen the hex nuts that secure the motor (see ***Fig.32***) and raise the motor fully to remove tension on the V-belts. Roll the V-belts off of the arbor and motor pulleys.

3. While continuing to raise the motor, install a new matching set of V-belts onto the pulleys, lower the motor to tension the V-belts, then tighten the hex nuts.

4. Close the motor access cover.

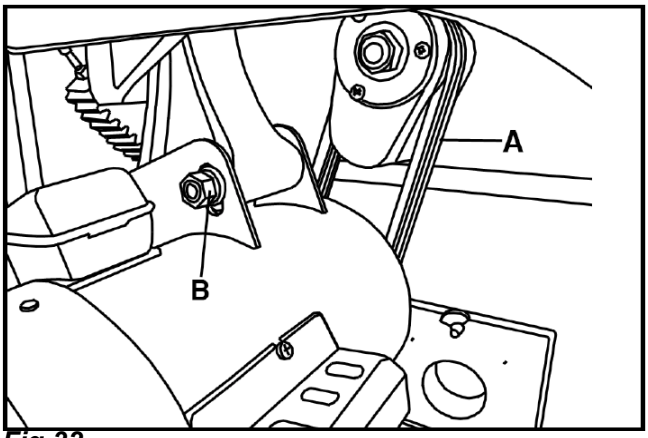


Fig.32

9. Trouble Shouting Guide

PROBLEM	SOLUTION
SAW WILL NOT START	
1. Saw not plugged in.	1. Plug in saw.
2. Fuse blown or circuit breaker tripped.	2. Replace fuse or reset circuit breaker.
3. Cord damaged.	3. Have cord replaced by a certified electrician.
OVERLOAD KICKS OUT FREQUENTLY	
1. Extension cord too light or too long.	1. Replace with adequate size cord
2. Feeding stock too fast.	2. Feed stock more slowly.
3. Blade in poor condition (dull, warped, gummed).	3. Clean or replace blade.
4. Blade binding due to misaligned rip fence.	4. Check and adjust the rip fence. See rip fence instructions.
5. Blade binding due to warped wood.	5. Select another piece of wood.
6. Low house current.	6. Contact your electrical company.
DOES NOT MAKE ACCURATE 45 AND 90 RIP CUTS	
1. Positive stop(s) not adjusted properly.	1. Check blade with square and adjust positive stop.
2. Tilt angle pointer not set properly.	2. Check blade with square and adjust pointer to zero.
MATERIAL PINCHES BLADE WHEN RIPPING	
1. Rip fence not aligned with blade.	1. Check and adjust rip fence.
2. Warped wood.	2. Select another piece of wood.
MATERIAL BINDS ON SPLITTER	
1. Splitter not aligned correctly with blade kerf.	1. Check and align splitter with blade kerf.
SAW MAKES UNSATISFACTORY CUTS	
1. Dull blade.	1. Replace blade.
2. Blade mounted backwards.	2.Turn blade around.
3. Gum or pitch on blade.	3. Remove blade and clean with terpentine and steel wool.
4. Incorrect blade for work being done.	4. Change the blade.
5. Gum or pitch on table causing erratic feed.	5. Clean the table with turpentine and steel wool.
BLADE DOES NOT COME UP TO SPEED	
1. Extension cord too light or too long.	1. Replace with adequate size extension cord.
2. Low house current.	2. Contact your electric company.
3. Motor not wired for correct voltage.	3. Refer to motor and /or nameplate.
MACHINE VIBRATES EXCESSIVELY	
1. Table not mounted securely to cabinet stand.	1. Tighten all mounting hardware.
2. Stand is on uneven floor.	2. Reposition on flat level surface.
3. Damaged saw blade.	3. Replace blade.
4. Bad V-belt(s).	4. Replace V-belt(s).
5. V-belts not tensioned properly.	5. Adjust V-belt tension.
6. Bent pulley.	6. Replace pulley.
7. Improper motor mounting.	7. Check and adjust motor mounting.
8. Loose hardware.	8. Tighten all nuts, bolts and set screws.
BLADE DOES NOT RAISE OR TILT FREELY	
1. Sawdust or dirt in raising or tilting mechanisms.	1. Brush or blow out loose dust or dirt.

10. Parts List

Table Saw Body Breakdown

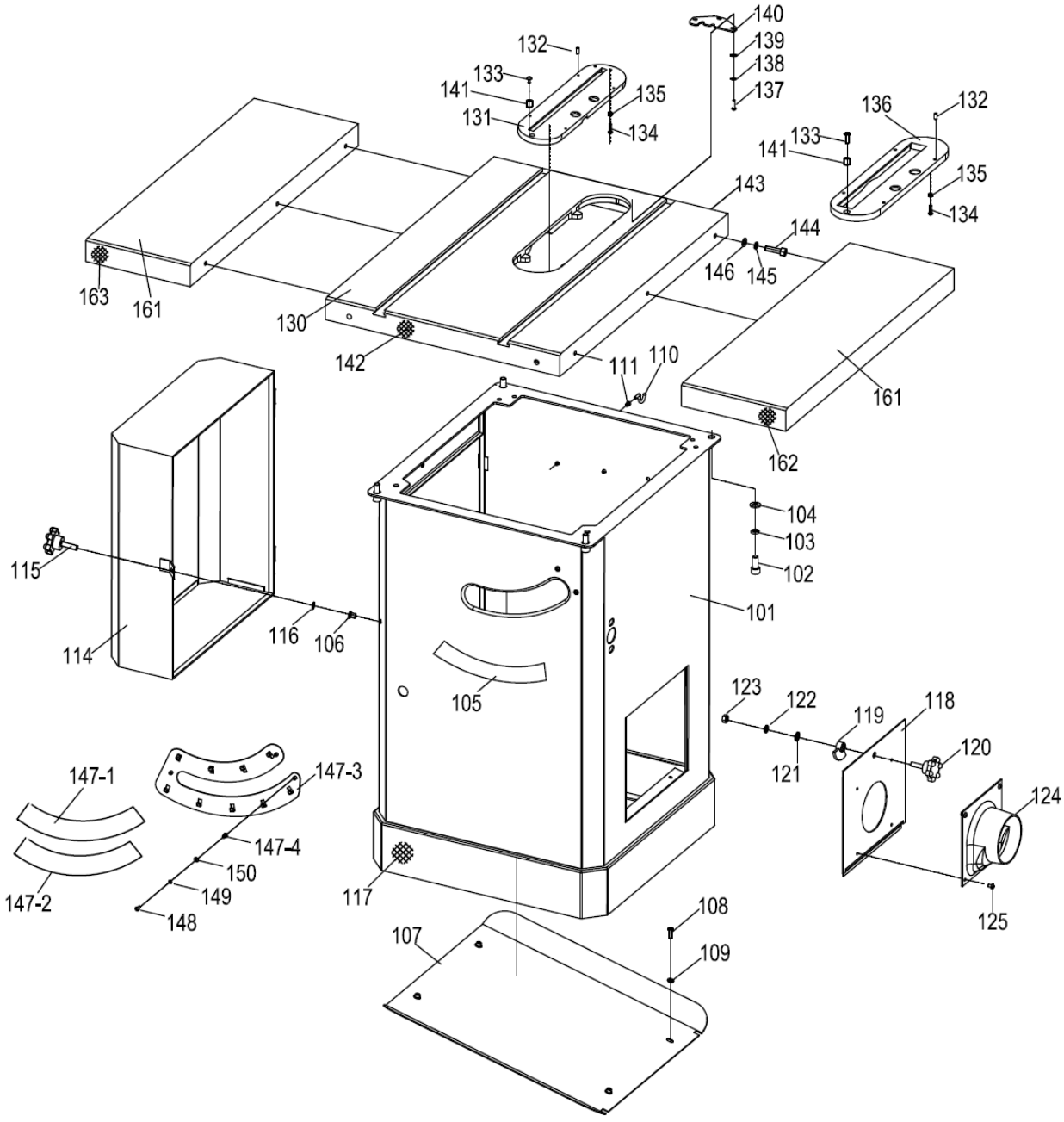
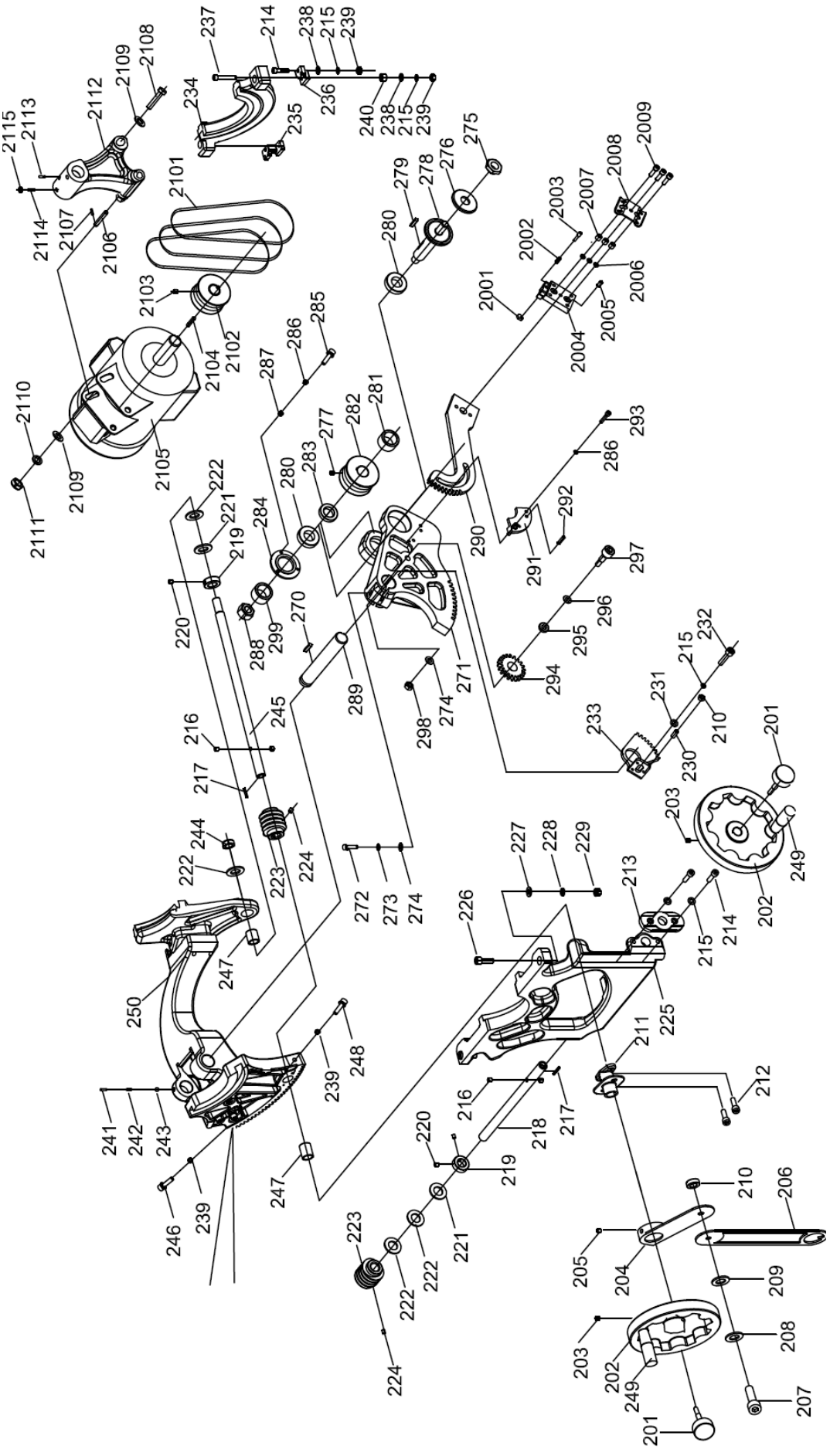


Table Saw Body Parts List

REF#	DERIPTION	QTY
101	cabinet	1
102	cap screw M10x25	4
103	lock washer 10	4
104	flat washer 10	4
105	scale	1
106	rivet nut M6x13.5	1
107	bottom plate	1
108	cap screw M6x16	4
109	big flat washer 5	4
110	hook	3
111	rivet nut M5x12	3
112	/	
113	/	
114	motor cover	1
115	knob	1
116	barrier chip	1
117	tape	2.1m
118	cleanout door	1
119	door latch	1
120	knob	1
121	flat washer 8	1
122	lock washer 8	1
123	lock nut 8	1
124	dust hood	1
125	pan HD screw M5x8	4
130	main table	1

REF#	DERIPTION	QTY
131	table insert	1
132	set screw M5x12	8
133	pan HD screw M5*12	2
134	pan HD screw M5*20	2
135	lock nut 5	2
136	dado insert	1
137	pan HD screw M5*20	3
138	lock washer 5	3
139	flat washer 5	3
140	limit plate	1
141	set screw	2
142	front tape	1
143	rear tape	1
144	cap screw M8x30	6
145	lock washer 8	6
146	flat washer 8	6
146-1	hairbrush	1
146-2	hairbrush	1
147-3	dust cover	1
147-4	rivet nut M4x10	3
148	pan HD screw M4x12	3
149	lock washer 4	3
150	flat washer 4	3
161	extension wing	2
162	tape	1
163	tape	1

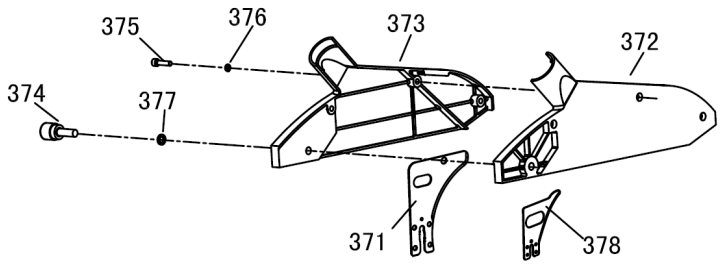
Trunnion Assembly Breakdown



Trunnion Assembly Parts List

REF#	DERIPTION	QTY	REF#	DERIPTION	QTY
201	lock knob	2	272	hex bolt M10x45	1
202	wheel	2	273	lock washer 10	1
203	set screw M5x12	2	274	flat washer 10	2
204	point 1	1	275	arboe nut	1
205	set screw M5x6	1	276	arboe flange	1
206	point 2	1	277	set screw M5x12	2
207	pan HD screw	1	278	arbor	1
208	lock washer 6	1	279	key 5x30	1
209	flat washer 6	1	280	bearing 6005-2RS	2
210	nut 6	4	281	set collar	1
211	point bracket	1	282	belt pulley	1
212	pan HD screw M5x25	2	283	set collar	1
213	stop plate	1	284	lock ring	1
214	pan HD screw M8x30	6	285	set screw M5x16	3
215	lock washer 8	9	286	lock washer 5	5
216	lock pin	4	287	flat washer 5	3
217	key 5x30	2	288	lock nut M16-1.5	1
218	worm arbor for angle	1	289	axis of rotation	1
219	set collar	2	290	gear	1
220	set screw M6x8	4	291	operation bar	1
221	wave lock washer	2	292	spring pin	2
222	copper backing	4	293	cap screw M5x25	2
223	worm	2	294	gear	1
224	set screw M6x12	2	295	sleeve	1
225	front bracket	1	296	flat washer 10	1
226	cap screw M10x30	2	297	cap screw M10x45	1
227	flat washer 10	2	298	lock nut 10	1
228	lock washer 10	2	299	lock washer	1
229	nut 10	2	2001	knob	1
230	cap screw M6x25	3	2002	spring	1
231	washer	1	2003	pin	1
232	cap screw M8x30	1	2004	block	1
233	locating gear	1	2005	set screw M6x12	4
234	front bracket	1	2006	lock washer 6	3
235	left bracket	1	2007	set collar	3
236	right bracket	1	2008	spring lock plate	1
237	square head bolt	2	2009	pan HD screw M6x30	3
238	flat washer 8	6	2101	V belt	3
239	nut 8	8	2102	motor pulley	1
240	adjust screw	2	2103	set screw M5x12	2
241	set screw M8x8	1	2104	key	1
242	spring	1	2105	motor	1
243	ball	1	2106	pin	1
244	lock nut M18-1.5	1	2107	cotter pin	1
245	worm arbor for high	1	2108	hex bolt M12x110	1
246	hex bolt M8x30	1	2109	flat washer 12	2
247	bush	2	2110	lock washer 12	1
248	hex bolt M8x35	1	2111	nut 12	1
249	handle	2	2112	motor bracket	1
250	TRUNNION	1	2113	set screw M8x12	2
270	key 6x35	1	2114	set screw M8x30	1
271	geared bearing housing	1	2115	nut 8	1

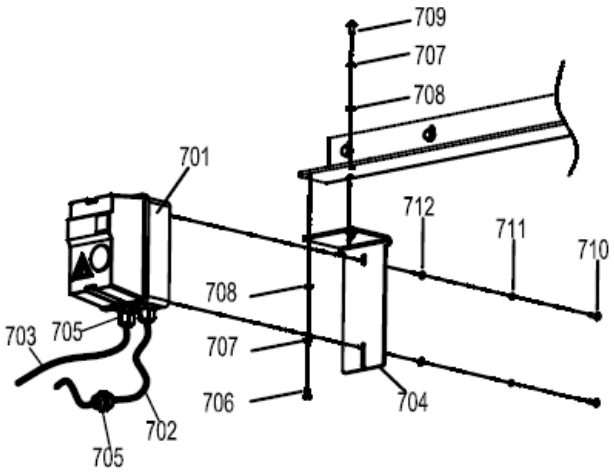
Blade Guard Breakdown



Blade Guard Parts List

REF#	DERIPTION	QTY	REF#	DERIPTION	QTY
371	splitter	1	375	pan head screw M6*25	3
372	right side guard	1	376	lock washer 6	3
373	left side guard	1	377	lock washer 10	1
374	pan head screw M10*30	1	378	riving knife	1

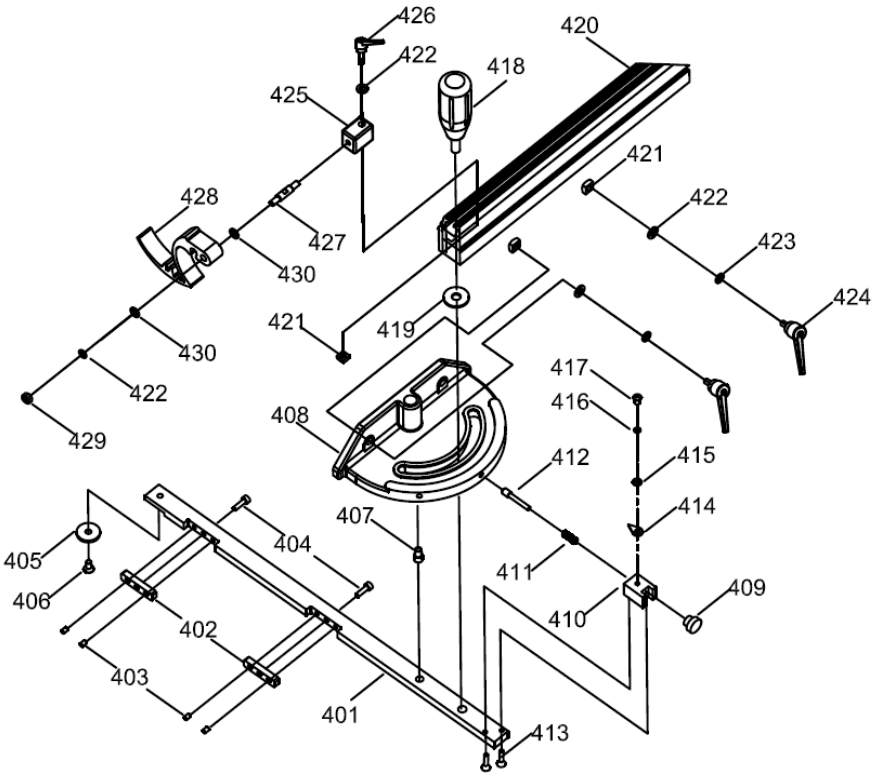
Switch Breakdown



Switch Parts List

REF#	DERIPTION	QTY	REF#	DERIPTION	QTY
701	switch	1	707	lock washer 6	3
702	cable 14AWG*3C	1.5m	708	flat washer 6	3
703	cable 14AWG*3C	1	709	pan HD screw M6x12	1
704	switch bracket	1	710	pan HD screw M5x16	2
705	strain relif	3	711	lock washer 5	2
706	hex bolt M6x12	2	712	flat washer 5	2

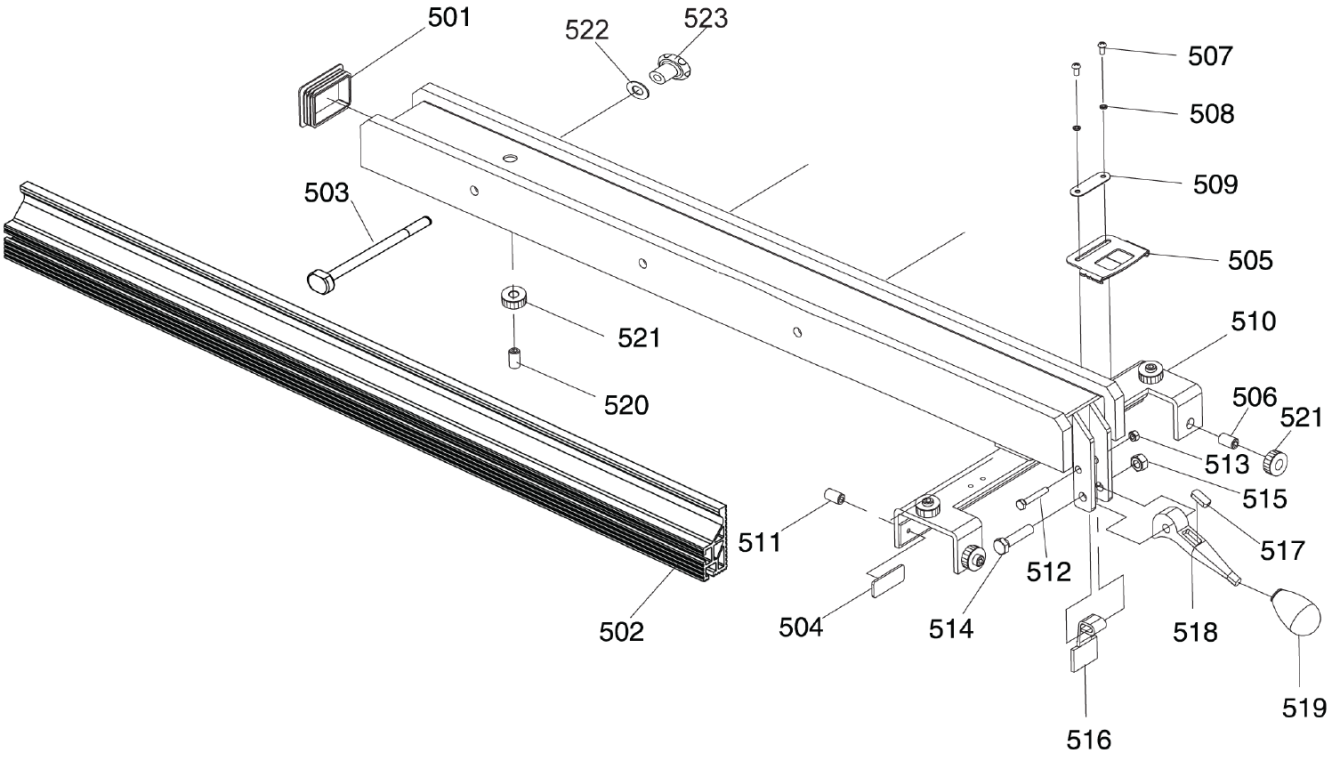
Miter Gauge Breakdown



Miter Gauge Parts List

REF#	DERIPTION	QTY	REF#	DERIPTION	QTY
401	miter bar	1	416	lock washer 4mm	1
402	gib	2	417	phlp hd screw m4-,7*6	1
403	set screw m4-7*6	4	418	miter knob	1
404	cap screw m4-7*14	2	419	fender washer 10mm	1
405	miter ring	1	420	meter gauge fence	1
406	flat head screw m5-8*8	1	421	square nut	3
407	miter body pivot pin	1	422	flat washer 6	4
408	miter guage body	1	423	lock washer 6	4
409	miter stop pin knob	1	424	lock level	2
410	miter stop pin block	1	425	tighten support	1
411	compression sping	1	426	lock level	1
412	miter stop pin	1	427	tighten pin	1
413	cap screw m4-7*10	2	428	tighten clip	1
414	pointer miter guage	1	429	lock nut 6	1
415	flat washer 4mm	1	430	teflon washer	2

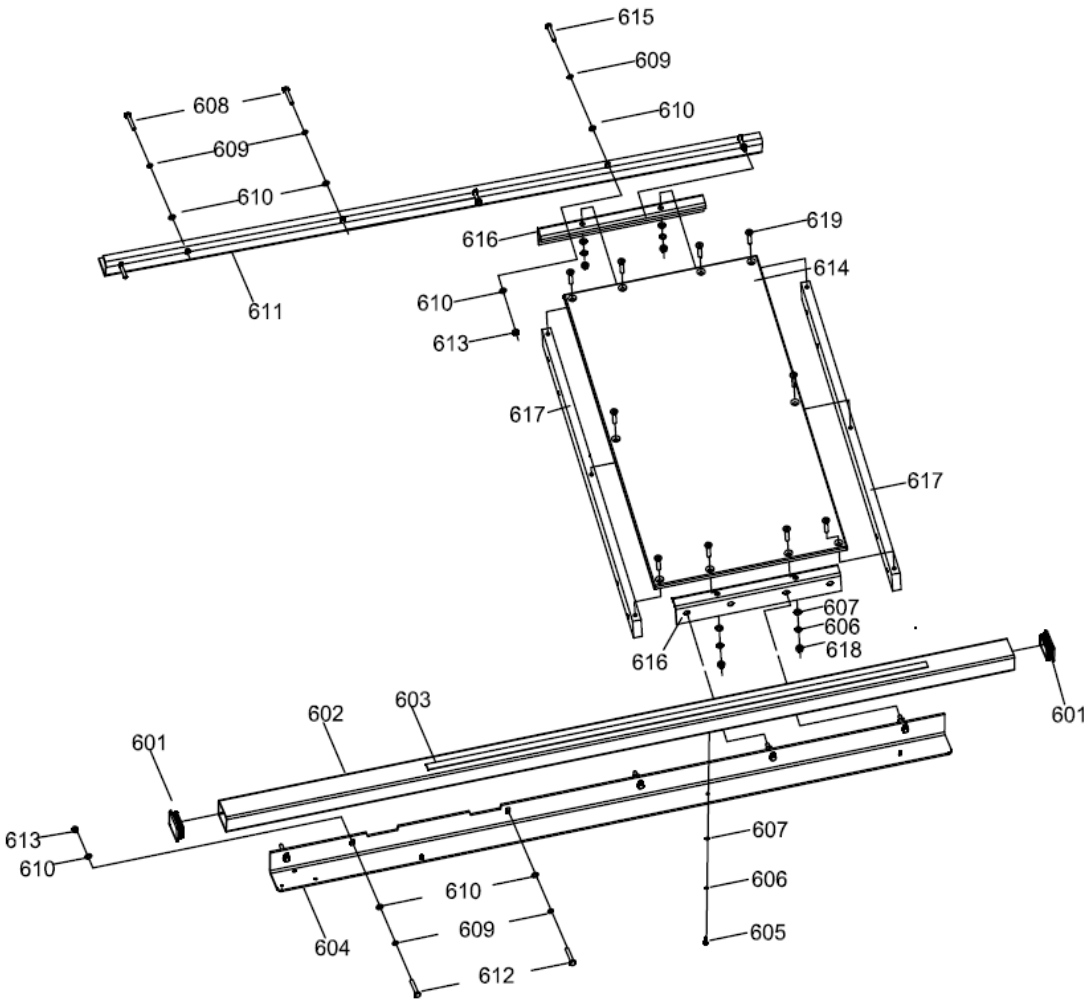
Fence Breakdown



Fence Parts List

REF#	DESCRIPTION	QTY	REF#	DESCRIPTION	QTY
502	Al fence	1	513	Lock nut M6-1	1
503	bolt M6	3	514	Hex bolt M10-1.5*45	1
504	Glide pad	2	515	Lock nut M10-1.25	1
505	Fence scale window	1	516	Cam foot	1
506	Set screw M12-1.75*15	4	517	magnet	1
507	Phlp head screw M5-.8*10	2	518	cam	1
508	Lock washer 5MM	2	519	Fence lock knob	1
509	indicator	2	520	Set screw M12-1.75*30	1
510	Fence body	1	521	Special locking nut M12-1.75	4
511	Set screw	2	522	Big washer 6	3
512	Hex bolt M6-1*40	1	523	knob 6	3

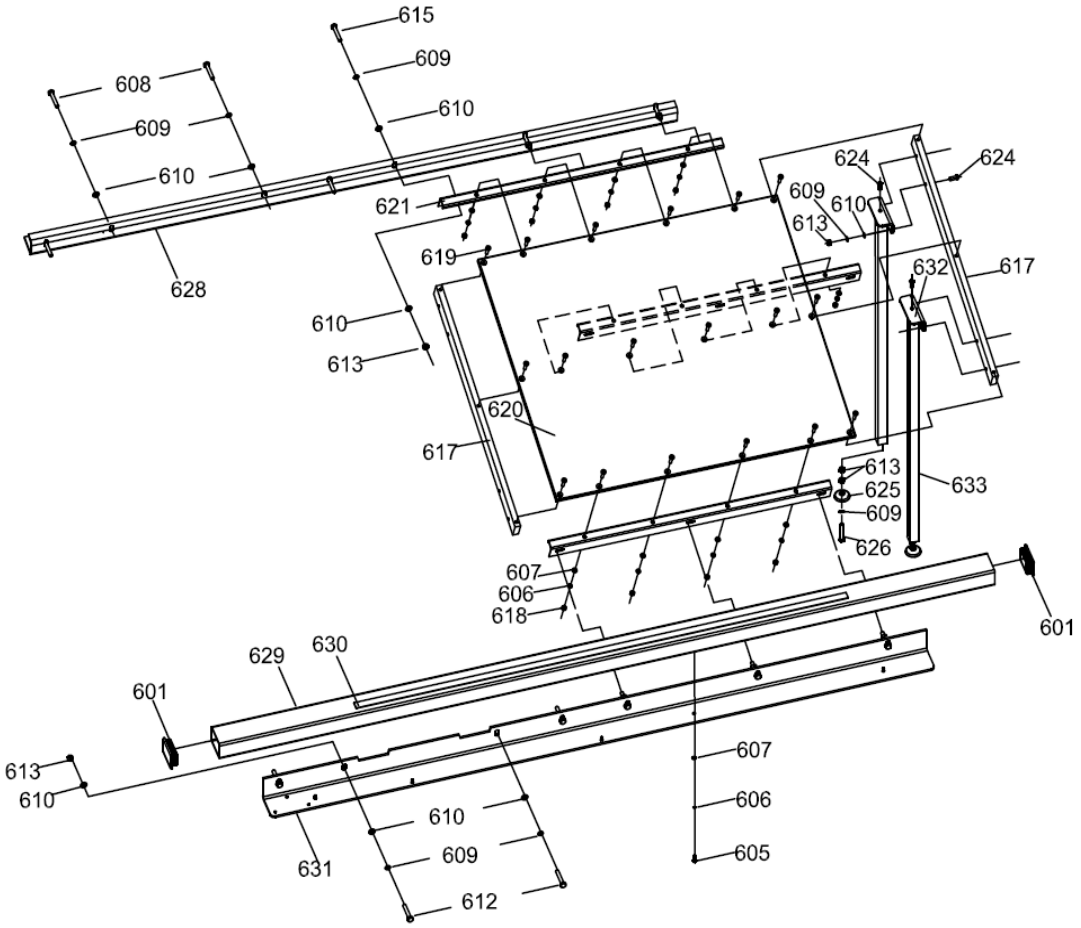
30″ Rail & Extension Table Breakdown



30″ Rail & Extension Table Parts List

REF#	DERIPTION	QTY	REF#	DERIPTION	QTY
601	guide tube insert	2	611	rear rail	1
602	guide tube	1	612	hex bolt M8-1.25x40	6
603	scale	1	613	nut M8-1.25	10
604	front rail	1	614	extension table	1
605	cap screw M6-1x16	3	615	hex bolt M8-1.25x30	4
606	lock washer 6	7	616	longitudinal extension support	2
607	flat washer 6	7	617	cross extension support	2
608	hex bolt 5/16-18x1-1/2	2	618	nut M6	4
609	lock washer 8	12	619	flat HD screw M6-1x25	10
610	flat washer 8	22			

50″ Rail & Extension Table Breakdown



50″ Rail & Extension Table Parts List

REF#	DERIPTION	QTY	REF#	DERIPTION	QTY
601	tube cover	2	619	countersunk HD screw	18
605	cap screw M6*16	5	620	extension table	1
606	lock washer 6	17	621	longitudinal bracket	3
607	flat washer 6	17	624	pan HD screw M8*35	6
608	hex bolt 5/16-18x1-1/2	2	625	foot	2
609	lock washer 8	20	626	hex bolt M8x120	2
610	flat washer 8	30	628	rear rail	1
612	hex bolt M8x40	6	629	tube	1
613	nut 8	20	630	scale	1
615	hex bolt M8x30	6	631	front rail	1
617	crossrange bracket	2	632	plate	2
618	nut 6	12	633	leg	2