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<http://www.kenpowertools.com>

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Electric Trimmer



3806 M1R-SH04-6



original instructions

Original instruction

GENERAL SAFETY INSTRUCTIONS

⚠ WARNING! Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and /or serious injury. The term "power tool" in all of the warnings listed below refers to your mains operated power tool.

SAVE THESE INSTRUCTIONS.

1) WORK AREA

- a) **Keep work area clean and well lit.** Cluttered and dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2) ELECTRICAL SAFETY

- a) **Power tool plugs must match the outlet. Never modify the plugs in any way. Do not use any adapter plugs with earthed grounded power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool.
- d) **Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.























3) PERSONAL SAFETY

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use personal protective equipment. Always wear eye protection.** protective equipment such as dust mask, no-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of these devices can reduce dust related hazards.



WARNING

The vibration emission level given in this information sheet has been measured in accordance with a standardised test given in EN 60745 and may be used to compare one tool with another. It may be used for a preliminary assessment of exposure. The declared vibration emission level represents the main applications of the tool. However if the tool is used for different applications, with different accessories or poorly maintained, the vibration emission may differ. This may significantly increase the exposure level over the total working period. An estimation of the level of exposure to vibration should also take into account the times when the tool is switched off or when it is running but not actually doing the job. This may significantly reduce the exposure level over the total working period. Identify additional safety measures to protect the operator from the effects of vibration such as: maintain the tool and the accessories, keep the hands warm, organisation of work patterns.

Type	(OD)	(CLE)	(R)	(D)	(A)	(OAL)	(SD)
 	1/8 " 3/16 "	5/16 " 1/2 "	- -	- -	- -	2 " 2 "	6mm 6mm
 	1/4 " 5/16 " 3/8 " 1/2 " 3/4 "	5/8 " 25/32 " 25/32 " 25/32 " 25/32 "	- - - - -	- - - - -	- - - - -	1-7/8 " 2 " 2 " 2 " 2 "	6mm 6mm 6mm 6mm 6mm
 	1/4 " 3/8 " 1/2 "	5/16 " 1/2 " 1/2 "	- - -	- - -	90° 90° 90°	1-9/16 " 1-3/4 " 1-3/4 "	6mm 6mm 6mm
 	7/16 "	19/32 "	-	-	45°	2-3/16 "	6mm
 	1 "	1/2 "	-	1/4 "	-	2-1/8 "	6mm
 	1/2 " 3/8 " 5/8 " 1 " 1/4 "	3/8 " 3/8 " 1/2 " 5/8 " 3/8 "	R1/4 " R3/16 " R5/16 " R1/2 " R1/8 "	- - - - -	- - - - -	1-9/16 " 1-9/16 " 1-3/4 " 2-1/4 " 1-9/16 "	6mm 6mm 6mm 6mm 6mm
 	-	1/2 "	R4 "	5/6 "	-	2-1/8 "	6mm
 	1 "	1/2 "	R1/4 "	-	-	2-1/8 "	6mm
 	- - -	17/32 " 21/32 " 3/4 "	R1/4 " R3/8 " R1/2 "	1/4 " 3/8 " 1/2 "	- - -	2-3/16 " 2-5/16 " 2-7/16 "	6mm 6mm 6mm
 	1 "	9/16 "	R1/4 "	-	-	1-13/16 "	6mm
 	1/4 " 3/8 " 1/2 "	1/2 " 9/16 " 1/2 "	- - -	- - -	- - -	2-1/8 " 2-3/16 " 3-3/16 "	6mm 6mm 6mm

4) POWER TOOL USE AND CARE

- Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- Save all warnings and instructions for future reference.**
- Recommendation: The tool always be supplied via residual current device with a rated residual current of 30 mA or less.

5) Service

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

IMPORTANT: Hold power tool by insulated gripping surfaces, because the cutter may contact its own cord. Cutting a "live" wire may make exposed metal parts of the power tool "live" and shock the operator.

Use clamps or another practical way to secure and support the workpiece to a stable platform. Holding the work by your hand or against the body leaves it unstable and may lead to loss of control.

Dear Customer,

Thank you for buying a KEN power tool. Should you have any questions, vagueness or second thoughts about our products, we recommend you to contact our experts in Sales and Service Departments, who will advise you and help you find the right answers to the set questions. Please contact our local distributors or dealers directly.

SAFETY

Read these instructions before operating this power tool. They contain information which will enable you to use the tool safely and help protect those around you. A copy of this instruction leaflet should be kept with the tool so that you can refer to it quickly when undertaking work. Another copy should be made and safely away.

- Please use protective earplug if using the tool continuously.
- Be careful when assembling or disassembling the cutter.
- Please check if there's any fissure or damage of the cutter carefully before operation, if yes, please replace the cutter without fissure or damage at once.
- Do avoid to cut the nail. Please check the object before operation and get rid of all the nails.
- Always keep hands and body far away from the rotating part in operation..
- Holding the tool tightly by the hand in operation.
- Please confirm that the cutter has not any touch with the object before switching on the tool.
- Please make the tool to empty run before working on the object with the tool to observe if there is any liberation caused by the cutter installation.
- Please pay attention to the rotating direction and inlet direction of the cutter in work.
- Do not make the tool to empty run. Only start up the tool only when holding it in hands.
- Please switch off the tool firstly, and don't take the tool from the object away until the cutter stops running completely.
- Don't touch the cutter or the parts around it at once when finishing the operation; These parts may be very hot to scald your skin.
- Don't use solvent, gasoline, oil, etc. to wipe the base of tool to avoid fissure of the base.

We declare under our sole responsibility that the product described under "Technical Data" fulfills all the relevant provisions of the directives 2006/42/EC and the following harmonized standards documents have been used: EN 60745-1; EN 60745-2-17.

Winnenden, 2012-06-06

Rainer Kumpf

Rainer Kumpf
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SYMBOL

V :Volts

:Double insulation

Hz :Hertz

:Wear eye protection

W :Watts

:CE conformity.

:Safety alert

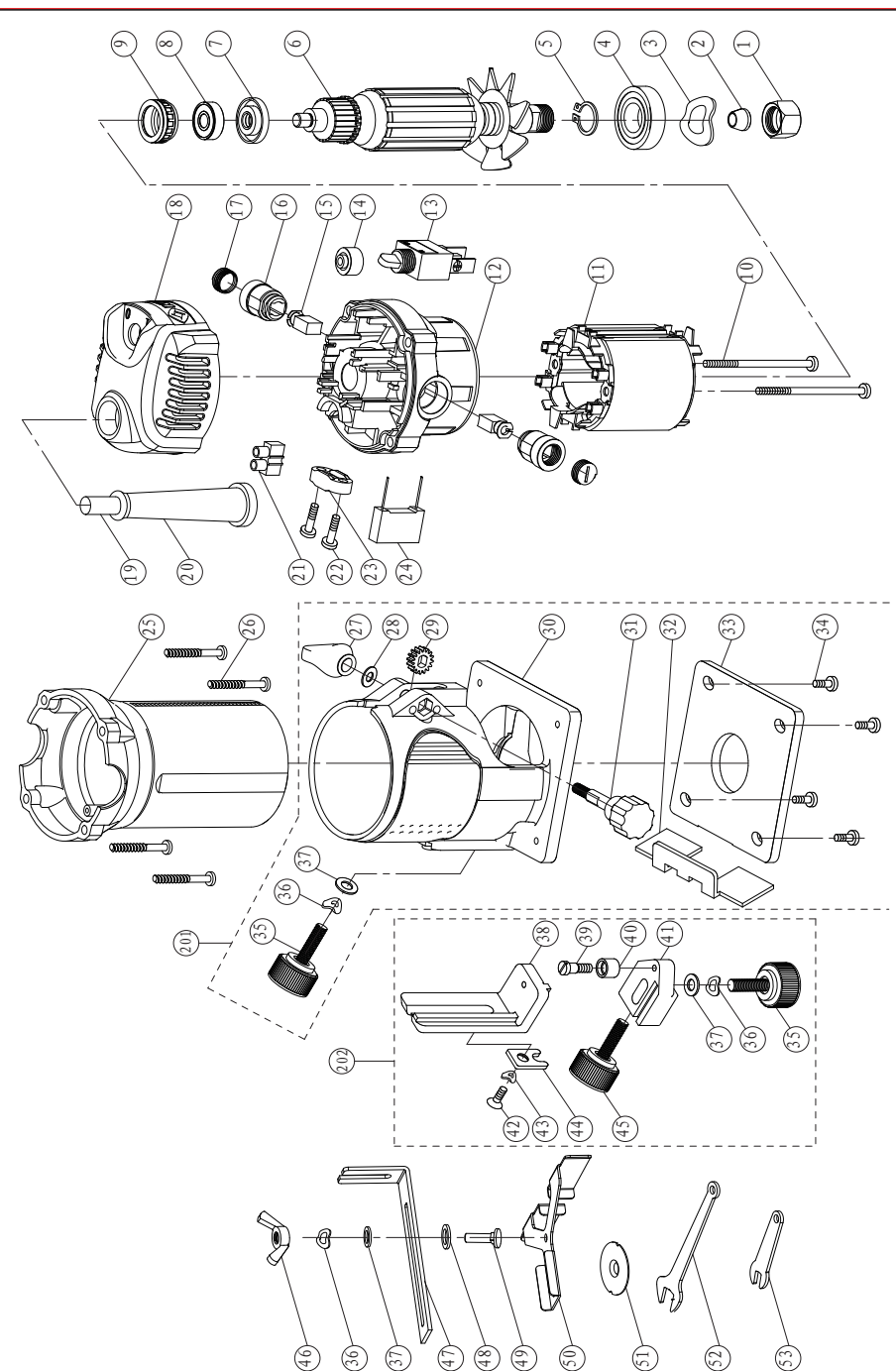
n. :No load Speed

~ :Altenating Current

min⁻¹:Revolutions or reciprocations per minute

:Please read the instructions carefully before startiring the machine.

:Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check wity your Lccal Authority or retailer for recycling advice .



PARTS LIST

No.	Code	Name	Remark	No.	Code	Name	Remark
1	146002	Screw head		29	310038	Plastic gear	
2	146013	Collet		30	326074	Field table	
3	243006	Wave washer		31	310119	Adjust button	
4	211210	Bearing	6002DW	32	310108	Dust protector	
5	252006	Retainer	φ 15	33	326075	Table protector	
6	442305	Rotor		34	231017	Screw	
7	319062	Retainer		35	310120	Adjusting screw	
8	211095	Bearing	607-2RS	36	243002	Wave washer	φ 6
9	331040	Bearing sleeve		37	242006	Washer	φ 6
10	221020	Screw	ST4×65	38	160006D	Saddle guidance	
11	441253	Stator		39	237011	Screw	
12	324027	Medial plate		40	620017	Lead wheel	
13	445003F	Switch		41	160005D	Lead table	
14	335018	Switch cap		42	233002	Screw	M4×12
15	431021A	Brush		43	244005	Washer	φ 4
16	432072	Brush holder		44	110065	Clamp sheet	
17	433010	Brush cap		45	310121	Clip screw	
18	315077	Real cap		46	266001	Nut	
19	411015	Power Cord	2*0.75	47	620007	Guide pole	
20	332006	Cord sleeve		48	242007	Washer	φ 8
21	437002	Cord connector		49	239002	Step bolt	
22	222002	Screw	ST4×16	50	620008C	SL guide board	
23	318001	Cord clamp		51	620006	Control gauge guide board	
24	443007	Capacitor		52	623019B	Big wrench	
25	313221	Motor housing		53	623029B	Small wrench	
26	221205	Screw	ST4×35	201	620144	Base set	27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37
27	310118	Flat button		202	620019A	Fixing seat guide setting	35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45
28	242004	Washer	5				

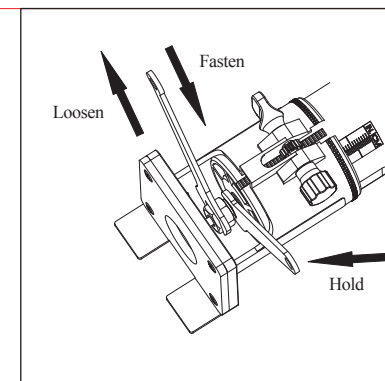
OPERATION

◆ Assemble or Disassemble the Cutter

Please do confirm the tool is closed and the electric plug is drawn out before assembling or disassembling the cutter.

Insert the cutter into the collet with utmost efforts, and use two wrenches to screw the screw heads.

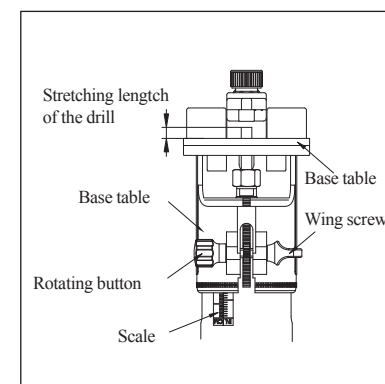
It just needs to disassemble the cutter according to the above-said order oppositely (Picture One).



Picture 1

◆ Adjust the Stretching Length of the Drill

Please release the wing screw firstly when adjusting the stretching length of the drill, and then move the base up and down, please tighten the wing screw after finishing the adjustment (Picture Two).

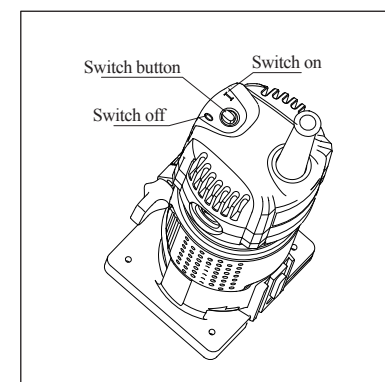


Picture 2

◆ Switch Operation

Pluck the switch extracting rod to "I", the tool switches on.

Pluck the switch extracting rod to "O", the tool switches off (Picture Three).

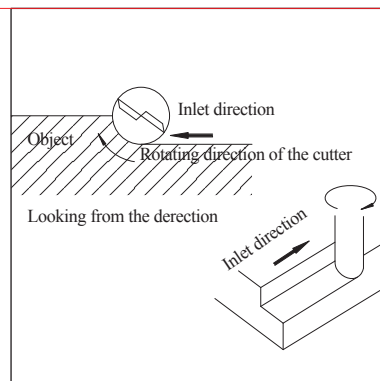


Picture 3

◆Effective and Safe Cutting Methods

Put the base plate of the tool on the object to make the cutter doesn't touch the object, and then switching on the tool and await the cutting blade to attain maximum speed, push the tool forward along the surface of the processing object, it demands to keep the protective board of the tool base smooth and move forward uniformly until finishing the cutting.

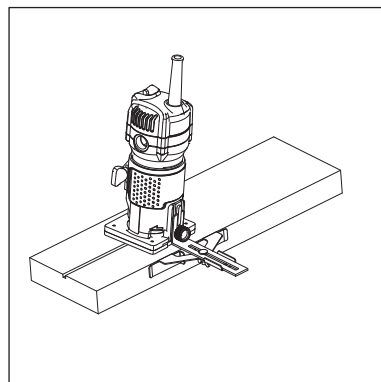
When undertaking edge cutting, please make the processing object to be on the left of the cutter blade (looking from the inlet direction). (Picture Four)



Picture 4

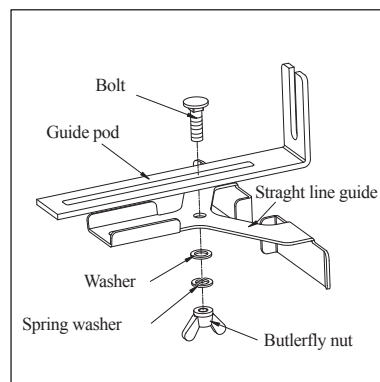
◆Straight Line Guide Object

Straight line guide object is very effective for straight line cutting when cutting the chamfer or groove (Picture Five).



Picture 5

Use the bolt, washer, spring washer and butterfly nut to fix the guide rod and straight line guide plate (Picture Six).



Picture 6

■SERVICING AND REPAIRS

If servicing is required, contact one of our listed service centers. It is not allowed and dangerous to perform any individual work on the tool.

◆Have the tool repaired by authorized persons.

◆Any repairs of the tool in unauthorized service centers is performed at own responsibility.

◆The owner of the tool is responsible for all works on the tool that were not performed in authorized service center, and therefore he losses the claim for guarantee.

■WASTE DISPOSAL AND ENVIRONMENT PROTECTION

The machine, accessories and packing should be sorted for environmental-friendly recycling.

Only for EC countries:

◆Do not dispose of power tools into household waste!

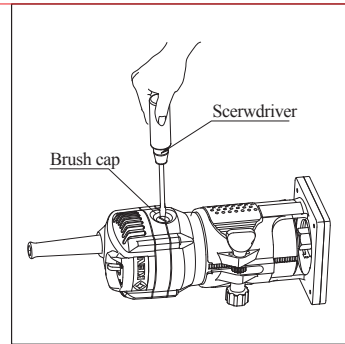
According the European Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national right, power tools that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

■TECHNICAL DATA

Type	M1R-SH04-6 3806
Disc Diameter	Φ6 mm
Current Source	AC 220-240V~ 50/60Hz
Rated Input Power	550W
Loading Current	1.9A
Rated Rotating Speed	31000/min
Weight	1.5kg
Noise	L_{pA} :80.1dB(A) K_{pA} :3.0dB(A) L_{WA} :91.1dB(A) K_{WA} :3.0dB(A)
Vibration	a_h :1.41m/s ² K =1.5m/s ²
Standard Spare Parts	17 Opening Wrench 1PC 10 Opening Wrench 1PC Straight Line Guide Plate 1PC Trimming Guide Socket 1PC Sample Gauge Guide Plate 1PC Carbon Brush 2PCS Operating Handbook 1PC

◆Replace the Electric Brush

The tool has set the electric brush limited position equipment especially, please replace the electric brush if there's big sparks or the rotation stops during the running. Please use screwdriver to screw the lid of the electric brush and take out the wearing electric brush and install the new ones, and please use hands to try and confirm it can slide freely in the slot, and then install and screw the lid of the electric brush. Please replace two brushes at the same time, and use the specified "KEN" brand electric brush (Picture Eighteen).



Picture 18

■PRACTICAL TIPS

◆Don't screw the screw head before inserting the cutter, otherwise it will damage the tapered chunk and axes.

◆Assemble the cutter safely and tightly and loose screwing or over tighten screwing will be dangerous.

◆Hold the tool tightly to overcome the bounce-back when switch on or switch off.

◆In cutting, it will make poor quality if the tool moves over quickly, it will damage the cutter or motor; it will make poor cutting effects caused by generating heat possibly if the tool moves over

slowly, suitable cutting speed depends on the size of cutter, sorts of processing objects and cutting depth. KEN suggests the users to try cutting on the abandoned wood before undertaking practical object cutting, therefore, it will let the users to know how to do the cutting correctly and can make the users to inspect whether the size meets with the demands or not.

◆Please check the straight line guide object or trimming guide socket is equipped on the right side (looking from the inlet direction) when using it, it's helpful to keep it smooth with the edge of the processing object.

◆Overmuch cutting and processing will originate the loading of the motor or make it hard to control the tool, so the cutting depth of one cutting course during the cutting of the groove shall not more than 3 millimeter (1/8 inch), it can obtain more deep cutting purpose by taking processing course for many times.

■MAINTENANCE AND CARE

- Unplug the tool from the socket before performing any works on the tool!
- Tool requires no special maintenance, but after some time you must control the parts that are submitted to wear-and-tear under normal operating conditions. This includes the control and replacement of carbon brushes and grease in reducing gear housing. Take the tool to an authorized service centre.

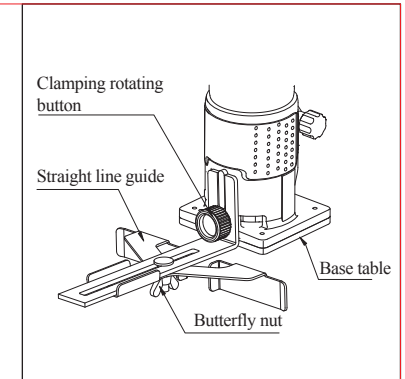
- Keep the tool and supply cord clean. Keep ventilation slots clean and open. Wipe the surface of the tool with a soft cloth!

- It is not allowed to use household cleaning agents that contain petrol, trichloroethylene, ammonia and chlorides. These substances corrode and damage plastic parts of the tool.

- Excessive sparking generally indicates the presence of dirt in the motor or abnormal wear on the carbons.

- In case of electric or mechanical failure, send the tool to a KEN authorized service centre for repair.

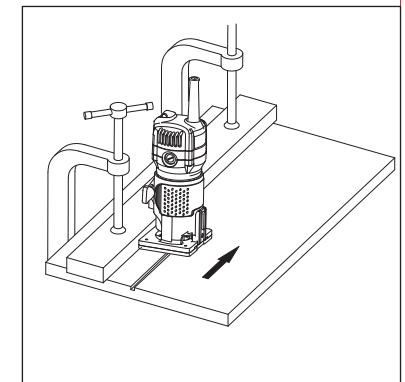
Dismantle the catching scraps plate and then equip the straight line guide plate with clamping rotating button, release the butterfly nut on the straight line guide plate and adjust the interspaced between the drill and straight line guide plate, and then tighten the butterfly nut at the demanding interspaced (Picture Seven).



Picture 7

Please do keep the straight line guide plate with the edge of object to be smooth when moving tool to do the cutting.

If the interspaced from the edge of object to the cutting position is wider than the straight line guide plate, or the edge of the object is not in straight line, the straight line guide plate can't be used directly under this condition, it needs to clamp the object with one piece straight line plate, and use it to be guide relative to the straight line guide plate. (Picture Eight)



Picture 8

◆Circumference Cutting

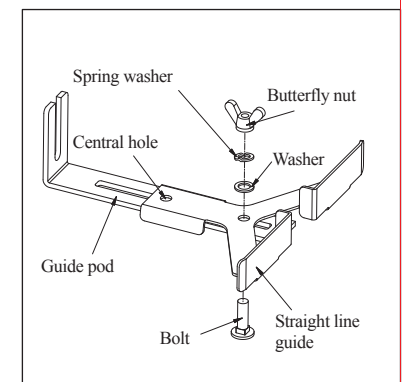
The circumference cutting can be finished after equipping the straight line guide plate and guide rod according to the picture (Picture Nine).

The maximum and minimum radius of the cutting circle (The distance from the center of circle to the center of drill) is:

Maximum radius:221 millimeter (8 11/16 inch)

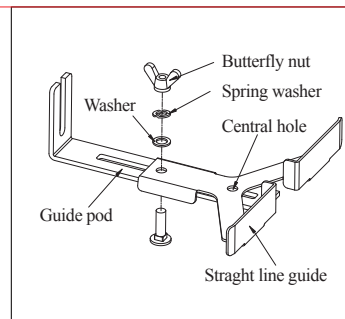
Minimum radius:70 millimeter (2 3/4 inch)

According to the right picture shown, it can finish the circle of which the cutting radius is between 70 millimeter and 120 millimeter.



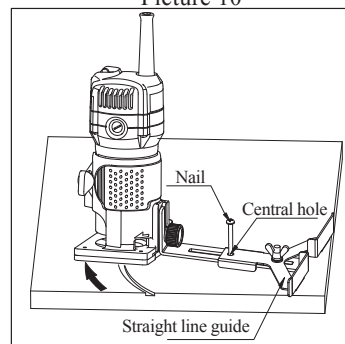
Picture 9

According to the right picture shown, it can finish the circle of which the cutting radius is between 121 millimeter and 221 millimeter. (Picture Ten)



Picture 10

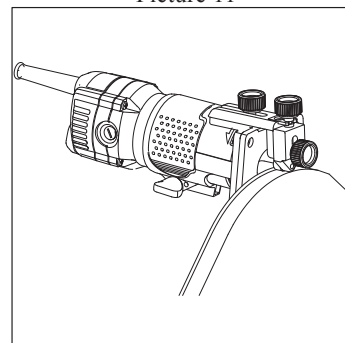
Aim the center of the cutting circle which is going to be cut and the center bore of the straight line guide plate. Insert a nail with the diameter is less than 6 millimeter (1/4 inch) into the center bore to fix the straight line guide plate. Reel the nail to rotate the tool in a clockwise direction. (Picture Eleven)



Picture 11

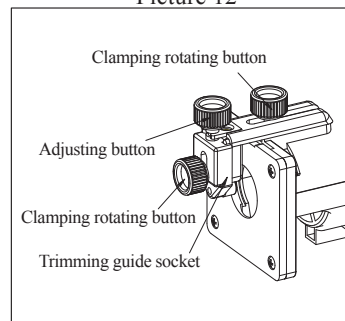
◆Trimming Guide Socket

The trimming guide socket can be used for the trimming on the decorating veneer board of the furniture or other similar objects and curved cutting, the cylindrical roller walks on the curve to guarantee the precise cutting (Picture Twelve).



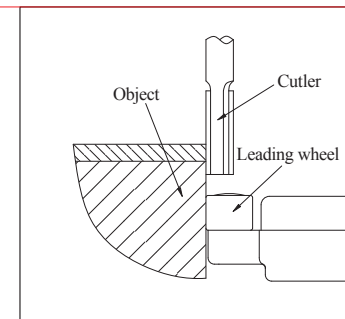
Picture 12

Equip the trimming guide socket on the tool base with the clamping rotating button (A), release the clamping rotating button (B), adjust the distance between the cutter and the trimming guide socket through rotating the adjusting distance rotating button (Every rotation is 1 millimeter or about 3/64 inch), and then tighten the clamping rotating button (B) to fix the trimming guide socket at the demanding distance position (Picture Thirteen).



Picture 13

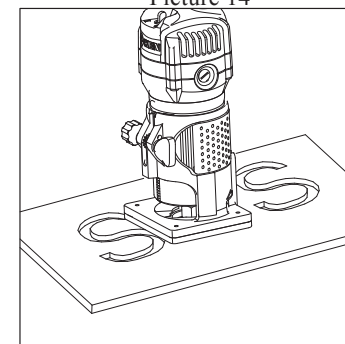
Please keeps the cylindrical roller riding on the edge of the object at the same time of moving the tool in operation. (Picture Fourteen).



Picture 14

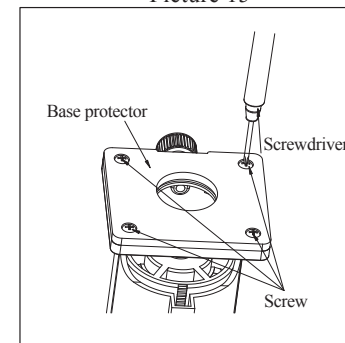
◆Sample Gauge Guide Plate

The sample gauge guide plate has one cylinder slot; the cutter makes the trimmer and the sample gauge to be the same form through the cylinder slot (Picture Fifteen).



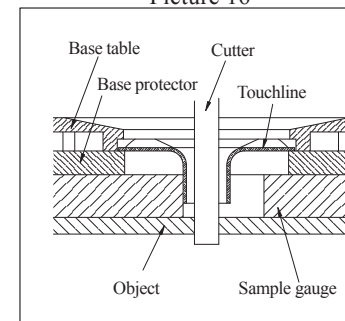
Picture 15

Release the screw to take down the protective plate of the tool, put the sample gauge guide plate on the base and then put the protective plate of the tool on, tighten the screw to fix (Picture Sixteen).



Picture 16

Put the sample gauge on the object and then make the tool to ride on the sample gauge, use the sample gauge guide plate move the tool along the touchline of the sample gauge. (Picture Seventeen).



Picture 17