HiKOKI M12VE Variable Speed Router Instruction Manual

HiKOKI

Router
M12VE

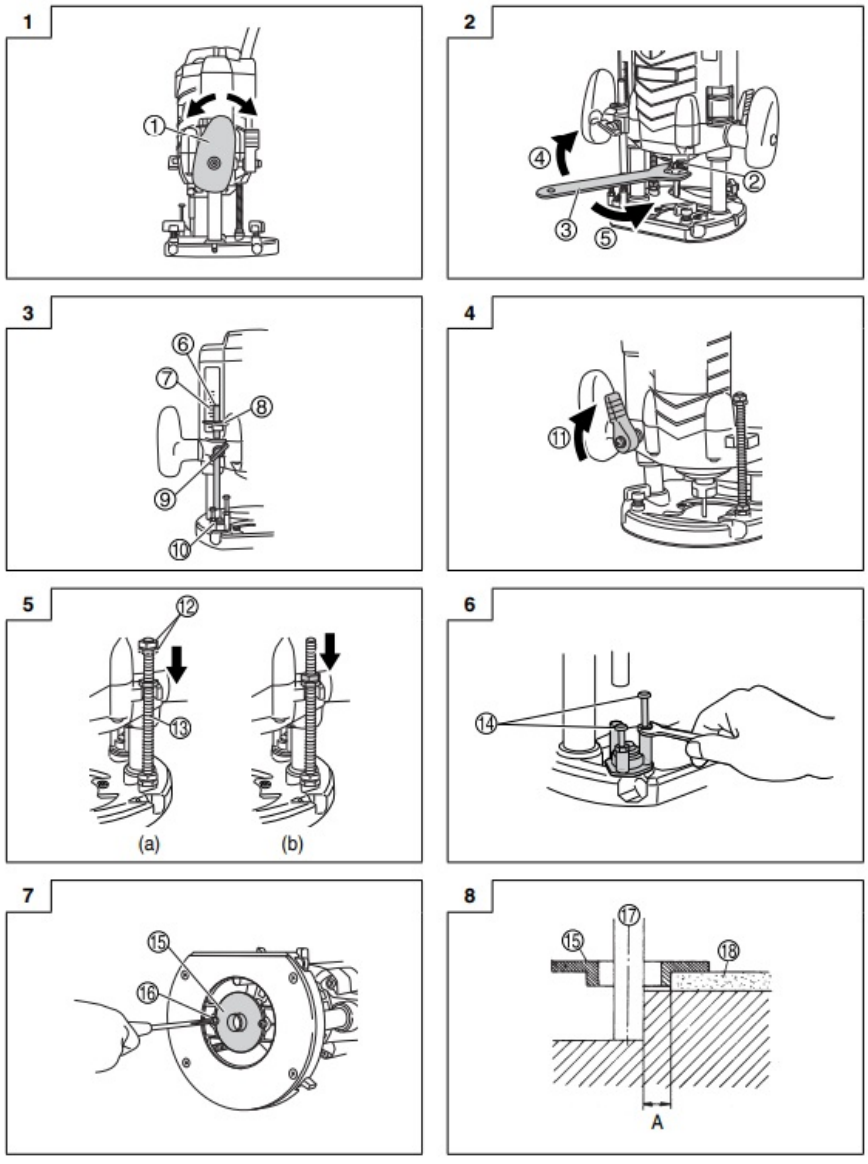
□Handling instructions

Contents

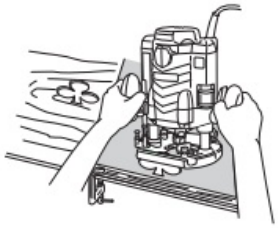
1 M12VE Variable Speed Router
2 ROUTER SAFETY WARNINGS
3 SPECIFICATIONS
4 STANDARD ACCESSORIES
5 OPTIONAL ACCESORIES – sold separately
6 APPLICATIONS
7 PRIOR TO OPERATION
8 INSTALLING AND REMOVING BITS
9 HOW TO USE THE ROUTER
10 USING THE OPTIONAL ACCESSORIES
11 MAINTENANCE AND INSPECTION
12 Documents / Resources
12.1 References

M12VE Variable Speed Router

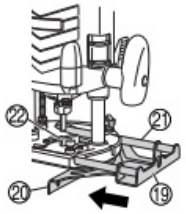
Read through carefully and understand these instructions before use.



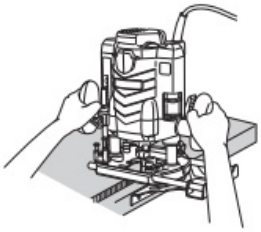
9



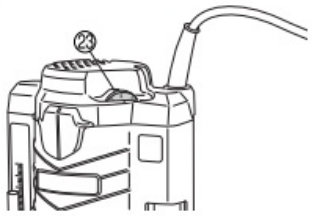
10



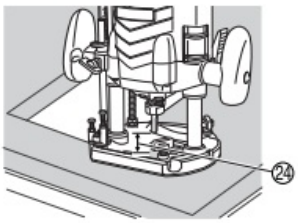
11



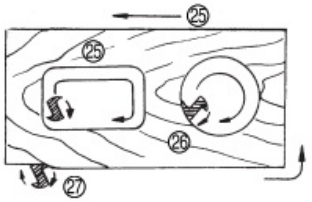
12



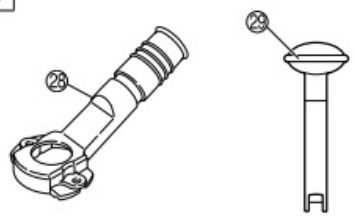
13



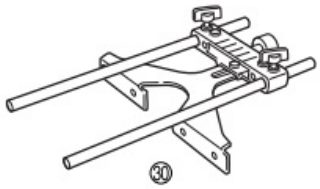
14



15



16



1	Handle
2	Lock pin
3	Wrench
4	Loosen
5	Tighten
6	Stopper pole
7	Scale
8	Depth indicator
9	Wing bolt
10	Stopper block
11	Loosen the lock lever
12	Nut
13	Threaded column
14	Cut depth setting screw
15	Template guide
16	Screw
17	Bit
18	Template
19	Parallel guide
20	Guide plane
21	Guide bar
22	Wing bolt (A)
23	Dial
24	Separate
25	Router feed
26	Workpiece
27	Rotation of bit
28	Dust collector set
29	Fine adjustment knob
30	Straight guide

Symbols

⚠WARNING

The following show symbols used for the machine. Be sure that you understand their meaning before use.

To reduce the risk of Injury, user must read Instruction manual.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

⚠ **WARNING**

Read all safety warnings, instructions, illustrations and specifications provided with this power tool.
Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.
Save all warnings and instructions for future reference.
The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1. **Work area safety**

   a)Keep work area clean and well lit.

   Cluttered or 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 plug 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.

   d) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool.

   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 a dust mask, nonSkid 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.

Awrench 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 jewellery. Keep your hair and clothing away from moving parts.

Loose clothes, jewellery 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 dust collection can reduce dust-related hazards.

h) Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.

A careless action can cause severe injury within a fraction of a second.

4. **Power tool use and care**

a) 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.

b) Donot 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.

c) Disconnectthe plug from the power source and/ or remove the battery pack, if detachable, 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.

d) 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.

e) Maintain power tools and accessories. 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.

f) Keep cutting tools sharp and clean.

Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

g) Use the power tool, accessorles and tool bits etc. In accordance with these Instructions, taking Into account the working conditlons and the work to be performed.

Use of the power tool for operations different from those intended could result ina hazardous situation.

h) Keep handles and grasping surfaces dry, clean and free from oll and grease.

Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

5. **Service**

a) Have your power tool serviced by a qualified repalr person using only Identical replacement parts.

This will ensure that the safety of the power tool is maintained.

PRECAUTION

Keep children and Infirm persons away.

When not In use, tools should be stored out of reach of children and Infirm persons.

ROUTER SAFETY WARNINGS

1. Hold the power tool by Insulated gripping surfaces only, because the cutter may contact Its own cord.

Cutting a “live” wire may make exposed metal parts of the power tool “live” and could give the operator an electric shock.

2. Use clamps or another practical way to secure and support the workplace to a stable platform.
   Holding the work by your hand or against the body leaves it unstable and may lead to loss of control.
3. Single-hand operation is unstable and dangerous.
   Ensure that both handles are gripped firmly during operation.
4. The bit is very hot immediately after operation. Avoid bare hand contact with the bit for any reason.
5. Use bits of the correct shank diameter suitable for the speed of the tool.

SPECIFICATIONS

Model	M12VE
Voltage (by areas)*	230 V ~
Power Input*	2000 W
Collet Chuck Capacity	12 mm or 1/2″
No-load speed	8000-22000 min-1
Main Body Stroke	65 mm
Weight (without cord and standard accessories)	5.3 kg

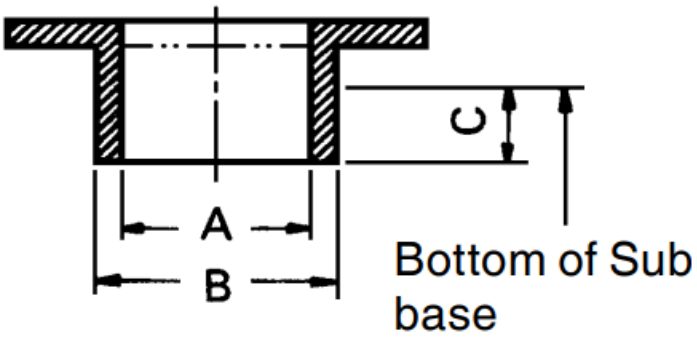
* Be sure to check the nameplate on product as it is subject to change by areas.

STANDARD ACCESSORIES

(1) Parallel Guide… …… 1
(2) Template Guide…….. 1
(3) WRENCH ……. 1
(4) Wing Bolt (A) ……..2
(5) LOCK Spring…… 2
Be sure to check standard accessories on product as it is subject to change by areas.
Standard accessories are subject to change without notice.

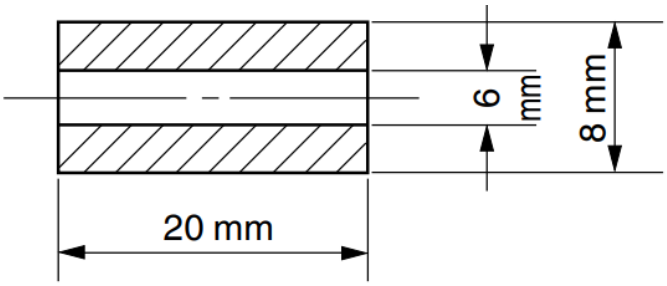
OPTIONAL ACCESORIES – sold separately

1. Template Guide



A	B	C
16.5 mm	18 mm	4.5 mm
18.5 mm	20 mm	
25.5 mm	27 mm	
28.5 mm	30 mm	

2. Chuck Sleeve (8 x 6)



3. Collet Chuck (8 mm)
4. Collet Chuck (1/4″)
5. Dust collector set (Fig. 15)
6. Fine adjustment knob (Fig. 15)
7. Straight guide (Fig. 16)

Optional accessories are subject to change without notice.

APPLICATIONS

º Woodworking jobs centered on grooving and chamfering.

PRIOR TO OPERATION

1. **Power source**
   Ensure that the power source to be utilized conforms to the power requirements specified on the product nameplate.
2. Power switch
   Ensure that the power switch is in the OFF position. If the plug is connected to a receptacle while the power switch is in the ON position, the power tool will start operating immediately, which could cause a serious accident.
3. Extension cord
   When the work area is removed from the power source, use an extension cord of sufficient thickness and rated capacity. The extension cord should be kept as short as practicable.
4. Setting the attachment angle of the handle
   As Fig. 1 shows, the handle attachment angle can be set in three stages. Use a plus head screwdriver to loosen the machine screw attached to the handle, adjust the handle to the desired position and retighten the machine screw.
5. RCD

The use of aresidual current device with a rated residual current of 30 mA or less at all times is recommended.

INSTALLING AND REMOVING BITS

WARNING
Be sure to switch power OFF and disconnect the plug from the receptacle to avoid serious trouble.

1. Installing bits
   (1) Clean and insert shank of bit into the collet chuck until shank bottoms, then back it out approximately 2 mm.
   (2) With the bit inserted and pressing the lock pin holding the armature shaft, use the 23 mm wrench to firmly tighten the collet chunk in a clockwise direction (viewed from under the router). (Fig. 2)
   CAUTION
   º Ensure that the collet chuck is firmly tightened after inserting a bit. Failure to do so will result in damage to the collet chuck.
   º Ensure that the lock pinis not inserted into the armature shaft after tightening the collet chuck. Failure to do so will result in damage to the collet chuck, lock pin and armature shaft.
   (3) When using the 8 mm or 1/4″ diameter shank bit, replace the equipped collet chuck with the one for 8 mm or 1/4″ diameter shank bit which is provided as the optional accessory.
2. Removing Bits
   When removing the bits, do so by following the steps for installing bits in reverse order.

CAUTION
Ensure that the lock pinis not inserted into the armature shaft after tightening the collet chuck. Failure to do so will result in damage to the collet chuck, lock pin and armature shaft.

HOW TO USE THE ROUTER

1. Adjusting depth of cut (Fig. 3)
   (1) Use stopper pole to adjust depth of cut.
   (1) Place the tool on a flat wood surface.
   (2) Turn the stopper block so that section to which the cutting depth setting screw on a stopper block is not attached comes to the bottom of the stopper pole.
   Loosen wing bolt allowing the stopper pole to contact with stopper block.
   (3) Loosen the lock lever and press the tool body until the bit just touches the flat surface. Tighten the lock lever at this point. (Fig. 4)
   (4) Tighten wing bolt. Align the depth indicator with the “0” graduation of scale.
   (5) Loosen wing bolt, and raise until indicator aligns with the graduation representing the desired cutting depth. Tighten wing bolt.
   (6) Loosen the lock lever and press the tool body down until the stopper block to obtain the desired cutting depth.
   (2) As shown in Fig. 5 (a), loosening the two nuts on the threaded column and moving then down will allow you to move down to the end position of the bit when the lock lever is loosened. This is helpful when moving the router to align the bit with the cutting position.
   As shown in Fig. 5 (b), tighten the upper and lower nuts to secure the cutting depth.
   (3) When you are not using the scale to set the cutting depth, push up the stopper pole so that it is not in the

way.

2. **Stopper block (Fig. 6)**

   The 2 cut-depth setting screws attached to the stopper block can be adjusted to simultaneously set 3 different cutting depth. Use a wrench to tighten the nuts so that the cut-depth setting screws do not come loose at this time.

3. **Guiding the router**

   WARNING

   Be sure to switch power OFF and disconnect the plug from the receptacle to avoid serious trouble.

   (1) Template Guide

   Use the template guide when employing a template for producing a large quantity of identifiably shaped products.

   As shown in Fig. 7, secure the template guide to the base of the router with two accessory screws. At this time, ensure that the projection side of the template guide is facing the bottom surface of the base of the router.

   A template is a profiling mold made of plywood or thin lumber.

   When making atemplate, pay particular attention to the matters described bellow and illustrated in Fig. 8.

   When using the router along the interior plane of the template, the dimensions of the finished product will be less than the dimensions of the template by a amount equal to dimension “A”, the difference between the radius of the template guide and the radius of the bit.

   The reverse is true when using the router along the exterior of the template.

   Secure the template to the workpiece. Feed the router in the manner that the template guide moves along the template as shown in Fig. 9.

   (2) Parallel guide (Fig. 10)

   Use parallel guide for chamfering and groove cutting along the materials side.

   (1) Insert the guide bar into the hole in the base, adjust the distance between the bit and the guide surface, and then firmly tighten the wing bolt (A).

   (2) As shown in Fig. 11, securely attach the bottom of the base to processed surface of the materials. Feed the router while keeping the guide plane on the surface of the materials.

4. Adjusting the rotation speed

   The M12VE has an electronic control system that allows stepless rpm changes.

   As shown in Fig. 12, dial position “1” is for minimum speed, and position “6” for maximum speed.

5. Cutting

   CAUTION

   º Wear eye protection when operating this tool.

   º Keep your hands, face and other body parts away from the bits and any other rotating parts, while operating the tool.

   (1) As shown in Fig. 13, remove the bit from the work pieces and press the switch lever up to the ON position. Do not start cutting operation until the bit has reached full rotating speed.

   (2) The bit rotates clockwise (arrow direction indicated on the base). To obtain maximum cutting effectiveness, feed the router in conformance with the feed directions shown in Fig. 14.

NOTE

If a worn bit is used to make deep grooves, a high pitched cutting noise may be produced.
Replacing the worn bit with a new one will eliminate the high pitched noise.

USING THE OPTIONAL ACCESSORIES

1. Dust collector set (Fig. 15)

   Connect the dust collector set cleaner to collect dust.

   For installation methods, please refer to the handling instructions that came with the set.
2. Fine adjustment knob (Fig. 15)

   Connect the fine adjustment knob to adjust the depth of cut finely.

   For installation methods, please refer to the handling instructions that came with the set.

MAINTENANCE AND INSPECTION

1. **Oiling**

   To ensure smooth vertical movement of the router, occasionally apply a few drops of machine oil to the sliding portions of the columns and end bracket.
2. **Inspecting the mounting screws**

   Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loose, retighten them immediately. Failure to do so could result in serious hazard.
3. **Maintenance of the motor**

   The motor unit winding is the very “heart” of the power tool.

   Exercise due care to ensure the winding does not become damaged and/or wet with oil or water.
4. **Inspecting the carbon brushes**

   For your continued safety and electrical shock protection, carbon brush inspection and replacement on this tool should ONLY be performed by a HiKOKI AUTHORIZED SERVICE CENTER.
5. **Replacing supply cord**

   If the supply cord of Tool is damaged, the Tool must be returned to HiKOKI Authorized Service Center for the cord to be replaced.

CAUTION

In the operation and maintenance of power tools, the safety regulations and standards prescribed in each country must be observed.

NOTE

Due to HiKOKI’s continuing program of research and development, the specifications herein are subject to change without prior notice.

Koki Holdings Co.,Ltd.
Shinagawa Intercity Tower A, 15-1, Konan 2-chome,
Minato-ku, Tokyo, Japan
403
Code No. C99182911M
Printed in China

Documents / Resources

	HiKOKI M12VE Variable Speed Router [pdf] Instruction Manual C99182911, M12VE, M12VE Variable Speed Router, M12VE, Variable Speed Router, Speed Router, Router

References

- User Manual