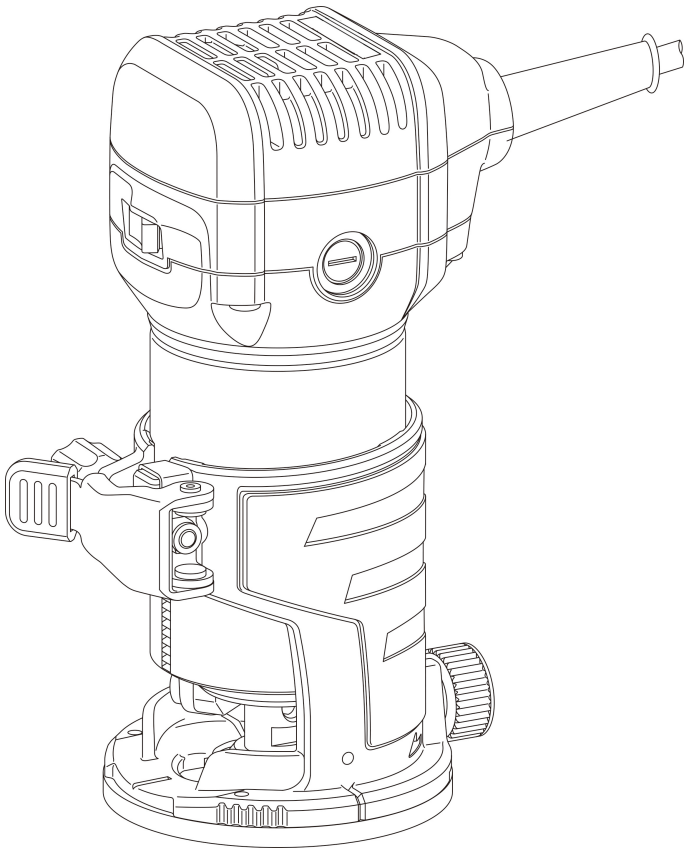
80 PERCENT ARMS

OPERATOR'S MANUAL
FREEDOM JIG ROUTER

HIGH-SPEED PRECISION MILLING ROUTER



FST-1

TABLE OF CONTENTS

WARNING: **To reduce the risk of injury and property damage, you must read and understand this operator's manual before using the router. Always wear eye and hearing protection when using the router. Always wear eye protection with side shields marked to comply with ANSI Z87.1.**

POWER TOOL SAFETY WARNINGS

⚠ WARNING

Read all safety warnings and all instructions. Failure to follow the warnings and instructions 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 corded mains-operated power tool.

WORK AREA SAFETY

- **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- **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.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

ELECTRICAL SAFETY

- **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.
- **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.
- **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. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **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.
- **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.

PERSONAL SAFETY

- **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.
- **Use personal protective equipment. Always wear eye protection.** Use protective dust mask, non-skid safety shoes, and hearing protection to reduce and avoid personal injuries.
- **Prevent unintentional starting. Ensure the switch is in the off position before connecting to power source and picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents. 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.
- **Do not overreach.** Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair.** Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts, or can be drawn into air vents.
- **Do not use on a ladder or unstable support.** Stable footing on a solid surface enables better control of the power tool in unexpected situations.

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 before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **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.
- **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.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

POWER TOOL SAFETY WARNINGS

- **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.

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.
- **When servicing a power tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance instructions may create a risk of shock or injury.

COMPACT ROUTER SAFETY WARNINGS

- **Keep power cord away from rotating parts, 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.
- **Always use a vise to secure and support the workpiece to a stable platform.** Holding the work by your hand, or against the body, or use of an unstable device may lead to loss of control and personal injury.
- **Know your power tool. Read operator's manual carefully.** Learn its applications and limitations, as well as the specific potential hazards related to this tool. Following this rule will reduce the risk of electric shock, fire, or serious injury.
- **Always wear safety glasses. Everyday eyeglasses do not have impact-resistant lenses; they are NOT safety glasses.** Following this rule will reduce the risk of serious personal injury and blindness.
- **Protect your lungs. Wear a face or dust mask.** Following this rule will reduce the risk of serious personal injury.
- **Protect your hearing. Always wear hearing protection during operation.** Following this rule will reduce the risk of serious personal injury.
- **Inspect tool cords periodically and, if damaged, have repaired at your nearest authorized service center.** Constantly stay aware of cord location. Following this rule will reduce the risk of electric shock or fire.
- **Check for damaged parts. Do not use if any parts are damaged.** Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. Any part that is damaged must be properly repaired or replaced by an authorized service center. Following this rule will reduce the risk of shock, fire, or serious injury.
- **Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw.** A wire gauge size (A.W.G.) of at least 14 is recommended for an extension cord 50 feet or less in length. A cord exceeding 100 feet is not recommended. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.
- **Inspect for and remove all nails from lumber before using this tool.** Following this rule will reduce the risk of serious personal injury.
- **Save these instructions. Refer to them frequently and use them to instruct others who may use this tool.** If you loan someone this tool, loan them these instructions also.

CALIFORNIA PROPOSITION 65

WARNING:

This product and some dust created by power sanding, sawing, grinding, drilling, and other construction activities may contain chemicals, including lead, known to the State of California to cause cancer, birth defects, or other reproductive harm. ***Wash hands after handling.*** Some examples of these chemicals are:

- Lead from lead-based paints
- Crystalline silica from bricks and cement and other masonry products
- Arsenic and chromium from chemically treated lumber

Your risk from exposure to these chemicals varies, depending on how often you do this type of work. To reduce your exposure, work in a well-ventilated area and with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

SYMBOLS

The following signal words and meanings are intended to explain the levels of risk associated with this product.

SYMBOL	SIGNAL	MEANING
	**DANGER:**	Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.
	**WARNING:**	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
	**CAUTION:**	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
	NOTICE:	(Without Safety Alert Symbol) Indicates important information not related to an injury hazard, such as a situation that may result in property damage.

Some of the following symbols may be used on this product. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the product better and safer.

SYMBOL	NAME	DESIGNATION/EXPLANATION
	Safety Alert	Indicates a potential personal injury hazard.
	Read Operator's Manual	To reduce the risk of injury, user must read and understand operator's manual before using this product.
	Eye Protection	Always wear eye protection with side shields marked to comply with ANSI Z87.1.
	Wet Conditions Alert	Do not expose to rain or use in damp locations.

ELECTRICAL

EXTENSION CORDS

When using a power tool at a considerable distance from a power source, be sure to use an extension cord that has the capacity to handle the current the tool will draw. An undersized cord will cause a drop in line voltage, resulting in overheating and loss of power. Use the chart to determine the minimum wire size required in an extension cord. Only round jacketed cords listed by Underwriter's Laboratories (UL) should be used.

When working outdoors with a tool, use an extension cord that is designed for outside use. This type of cord is designated with "WA" or "W" on the cord's jacket.

Before using any extension cord, inspect it for loose or exposed wires and cut or worn insulation.

Cord Length	Wire Size (A.W.G.)*
25'	16
50'	14
100'	10

***Used on 12 gauge - 20 amp circuit.**
NOTE: AWG = American Wire Gauge

WARNING:
Keep the extension cord clear of the working area. Position the cord so that it will not get caught on lumber, tools or other obstructions while you are working with a power tool. Failure to do so can result in serious personal injury.

FEATURES

PRODUCT SPECIFICATIONS

Collet	1/4 in.
No Load Speed	35,000 - 40,00 RPM
Input	120 V, 6.5 Amps, 60 Hz
Switch	On / Off

KNOW YOUR COMPACT ROUTER

See Figure 1

The safe use of this product requires an understanding of the information on the product and in this operator's manual as well as a knowledge of the project you are attempting. Before use of this product, familiarize yourself with all operating features and safety rules.

PRECISION GROUND SPINDLE

The router has a custom precision ground spindle designed for use with the 80 Percent Arms SpeedMill™ cutting tools which significantly reduces run-out and chatter compared to ordinary routers.

DEPTH SCALE

A convenient inch and millimeter depth scale is located on the side of the motor housing.

RACK-AND-PINION DEPTH ADJUSTMENT

The smooth rack-and-pinion depth control adjustment makes for quick and easy depth of cut adjustments.

MOTOR

A powerful 6.5 amp permanent magnet motor has sufficient power to handle milling 6061 and 7075 aluminum lower receivers.

BASE RELEASE LEVER

The router has a quick release base release lever to make depth of cut adjustments quick and easy.

OVERMOLDED GRIP AREA

The base grip area is overmolded for improved grip and comfort.

REMOVABLE BASE

The removable base allows clear access to the spindle.

ON / OFF SWITCH

The switch is located on front of the motor housing for easy access.

SPINDLE LOCK

A spindle lock secures the spindle so that only one wrench is needed to loosen the collet nut or SpeedMill™ cutting tool.

HIGH-SPEED PERFORMANCE

The fixed-speed router has a no-load speed between 35,000 RPM to 40,000 RPM. This allows for rapid and smooth finishing of your lower receivers.

WARNING:

This is a high speed router designed to be used with 80% Arms SpeedMill™ tools only. Do not use any cutters with this router that are not rated for use above 35,000 RPM.

WARNING:

Do not attempt to modify this tool or use accessories not recommended for use with this tool as this can result in possible property damage and serious personal injury.

UNPACKING

This product requires assembly. Carefully remove the tool and any accessories from the box. Make sure that all items listed in the packing list are included.

WARNING

Do not use this product if it is not completely assembled or if any parts appear to be missing or damaged. Use of a product that is not properly and completely assembled could result in serious personal injury.

- Inspect the tool carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the tool.
- If any parts are damaged or missing, please call (949) 354-2767 for assistance.

PACKING LIST

- Compact Router with Base and Subbase
- Collet Nut Wrench
- Collet
- Collet Nut
- Replacement Carbon Brush Set
- Operator's Manual

ASSEMBLY

WARNING:
Do not connect to power supply until assembly is complete. Do not use if any parts are missing or damaged. Failure to comply could result in accidental starting and possible serious personal injury.

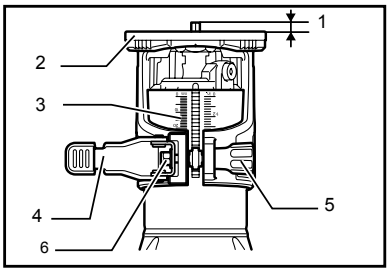
REMOVING THE BASE

- Unplug the router.
- Pull the base quick release lever to the open position.
- Get a firm grasp of the base with one hand. Hold the top of the router with the other.
- Pull the motor housing away from the base until they separate.

To reconnect the motor housing to the base:

- Align the motor housing rack gears with the pinion gears on the base and push the motor housing onto the base.
- Close the quick release lever.

ADJUSTING TOOL BASE LOCKING LEVER



1. **Bit Protrusion**
2. **Tool Base**
3. **Depth Scale**
4. **Locking Lever**
5. **Adjusting Screw**
6. **Tension Hex Nut**

To check function of the quick release **Locking Lever** (4), unlatch the lever and move the **Tool Base** (2) up and down by turning the **Adjusting Screw** (5). Close the Locking Lever to secure the Tool Base. Grasp the motor housing and firmly pull and press on the Tool Base to make sure it is secure and it does not slip. If the Tool Base is not secure with the Locker Lever latch closed, adjust the **Tension Hex Nut** (6) until the Tool Base is secure and does not slip when pressure is applied to the Tool Base.

Do not tighten the Tension Hex Nut more than 1/8th of a turn at a time before rechecking if the Tool Base is secure and does not slip. Periodically check that the Tool Base is secure to prevent the Tool Base from slipping during milling.

CAUTION:
Do not bottom out or tighten the Tension Hex Nut more than needed to avoid damage to the latch mechanism. Failure to properly adjust the Locking Lever Tension Hex Nut can result in property damage and personal injury.

INSTALLING AND REMOVING SPEEDMILL™

- Read your Easy Jig® manual for complete directions.
- Unplug the router.
- Pull the base quick release lever to the open position.
- Remove the base to provide clear access to the collet nut.
- Depress the spindle lock button and rotate spindle until the spindle locks.
- Rotate the wrench counterclockwise to loosen the collet nut. (See Figure 2)
- Remove collet nut and collet from the spindle.
- Screw a #3C 80 Percent Arms SpeedMill™ onto the spindle. Securely tighten the SpeedMill™ by turning it clockwise with a wrench.
- Do not remove the protective end mill tip cover until ready to start milling.
- Push the base quick release lever to the closed position.

WARNING:
If the SpeedMill™ or collet nut is not tightened securely, the cutter could come out during milling, resulting in property damage and possible serious personal injury. A collet and collet nut are not used when using a SpeedMill™.

WARNING:
If you are changing a cutter immediately after use, do not touch the SpeedMill™, collet nut, cutter, or collet with your hands or fingers as they may be very hot. Always use a wrench to avoid getting burned.

REMOVING THE SUBBASE

See Figure 3

- Unplug the router.
- Turn the router upside down to unscrew the subbase screws.
- Remove the subbase.

***NOTICE*:**
The Subbase must be removed before using the router with an Easy-Jig® Gen 2-3 Router Adapter Plate. Please see Easy-Jig® manual for details.

OPERATION

WARNING:
Do not allow familiarity with tools to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.

DANGER:
Always wear eye protection with side shields marked to comply with ANSI Z87.1. Failure to do so could result in objects being thrown into your eyes, resulting in blindness and possible serious injury.

WARNING:
Do not use any attachments or accessories not recommended by the manufacturer of this tool. The use of attachments or accessories not recommended can result in serious personal injury.

NOTICE:
If the motor is overloaded it can overheat and damage the router. Do not push the router too fast or make excessive deep cuts which can damage the router and your cutting tools.

APPLICATIONS

You may use this tool for the purposes listed below:

- Milling 6061 aluminum lower receivers
- Milling 7075 aluminum lower receivers
- Defending your Second Amendment rights

STARTING/STOPPING THE COMPACT ROUTER.

- To turn the router ON, press switch **(A)** on the front of the router to the **(I) ON** position.
- Return the switch to the **(O) OFF** position when finished.

NOTE: **The router will torque when the switch is turned on.** Make sure both hands are holding the router firmly and the cutting tool is not contacting any material before turning on.

WARNING:
The bit will continue to spin after the slide switch is set to the (O) OFF position. Wait for the bit to come to a complete stop to continue operation. Failure to do so could result in possible serious injury.

ADJUSTING MOTOR SPEED.

The FST-1 router has a fixed no-load speed of ~35,000 RPM for rapid milling. No speed adjustment is necessary.

OPERATING THE COMPACT ROUTER.

Before starting the router, unplug it and make sure the SpeedMill™ is securely tightened to the spindle and that the depth of cut is properly set to the appropriate hash mark on your Easy-Jig® Gen 2 or 3 jig. Never start the router while the end mill flutes are in contact with the workpiece.

After completing a full pass, turn the router off and wait until the rotating cutter comes to a complete stop before lifting the base from the work surface. When milling, hold the router over the jig or work surface firmly using both hands. Make sure the router is running at full speed before contacting the workpiece.

WARNING:
This is a very high speed router designed to be used with 80% Arms SpeedMill™ tools only. Do not use any cutters with this router that are not rated for use above 35,000 RPM.

WARNING:
Avoid hand positions that may expose fingers to cutter through open areas of the router base. Fingers entering the opening in the the router base can be seriously cut and/or burned.

WARNING:
Never install a trim cutter larger than 1-1/8" in this router. The use of larger bits can result in loss of control and possible serious personal injury.

WARNING:
Never use a trim cutter in this router which is rated at less than 35,000 RPM. Doing so could result in serious personal injury.

WARNING:
Always use the base for laminate trimming. Use of the router without a base or using the incorrect base can result in serious personal injury.

OPERATION

DIRECTION OF FEED AND THRUST

See Figure 4

The router motor and cutter revolve in a clockwise direction. This gives the tool a slight tendency to twist in your hands in a counterclockwise direction, especially when the motor starts.

Feed the router into the workpiece from left to right. When fed from left to right, the rotation of the cutter pulls the router against the workpiece. If fed in the opposite direction, the rotation forces of the spinning cutter will tend to throw the router away from the workpiece, causing kickback. This could result in loss of control of the router.

Because of the extremely high speed of cutter rotation during a proper feeding operation, there is very little kickback to contend with under normal conditions. However, should the cutter engage too much material, that would affect the normal progress of the cutting action, and there could be a slight kickback. Kickback could be sufficient to spoil the finish of your lower and damage the cutting tool if you are not prepared. Such a kickback is always in the direction opposite the direction of cutter rotation.

To guard against kickback, plan your set-up and direction of feed so that you will always be thrusting the tool—to hold it against whatever you are using to guide the cut—in the same direction that the leading edge of the cutter is moving. The thrust should be in a direction that keeps the sharp edges of the cutter continuously biting into the aluminum.

PROPER RATE OF FEED

Professional results depend upon using the proper rate of feed. The proper rate of feed is dependent upon:

- The hardness of the workpiece
- The depth of cut
- The cutting diameter of the cutter

Choose a rate of feed that does not slow down the router motor. Choose the rate at which the cutter advances smoothly and surely to produce uniform chips. Vibration and chatter and excess noise when milling signals force-feeding. Force feeding increases the strain on the motor and results in loss of speed and degraded finish quality.

The smaller the depth of cut, the faster the rate of feed that can be used. The rate of feed should be reduced when milling corners where more material will engage the cutting tool.

There is no fixed rule for rate of feed. Proper rate of feed is learned through practice and use. Always start out with shallow cuts and a slow feed rate until you find the proper balance between speed and finish quality.

FORCE FEEDING

The router is an extremely high-speed tool (35,000 - 40,000 RPM), and will make clean, smooth cuts if allowed to run freely without the overload of a forced feed. Three things that cause force feeding are cutter size, depth of cut, and workpiece characteristics. The larger the cutter or the deeper the cut, the more slowly the router should be moved forward. For harder materials, the operation must be slowed still more.

Clean, smooth milling can be done only when the cutter is revolving at a relatively high speed and is taking very small bites to produce tiny, cleanly-severed chips. If the router is forced to move forward too fast, the speed of the cutter becomes slower than normal in relation to its forward movement. As a result, the cutter must take bigger bites as it revolves. Bigger bites mean bigger chips and a rougher finish. Bigger chips also require more power, which could result in overloading the motor.

Under extreme force-feeding conditions, the relative speed of the cutter can become so slow—and the bites it has to take so large—that chips will be partially knocked off rather than fully cut off. This may result in damage to your cutting tool and gouging of the lower receiver.

WARNING:
Milling aluminum creates sharp chips. Never use compressed air to blow the chips away. Using compressed air will blow chips around which can cause injury to eyes, skin, and lungs if inhaled. Chips should be vacuumed or brushed away.

WARNING:
Always use a dust mask to prevent inhaling harmful particles which can be released or created when operating a router.

WARNING: To reduce the risk of injury and property damage, you must read and understand this operator's manual before using the router. Always wear eye and hearing protection when using the router. Always wear eye protection with side shields marked to comply with ANSI Z87.1.

OPERATION

DEPTH OF CUT

See Figure 5

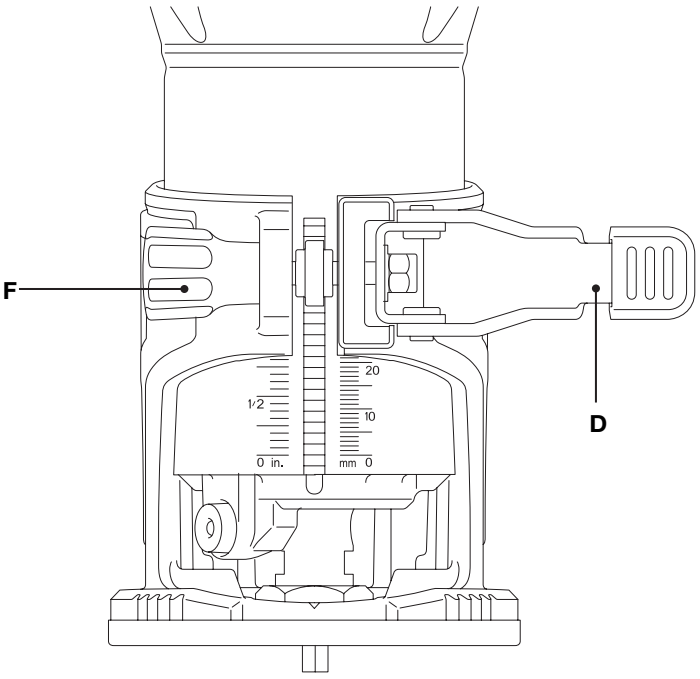
- Depth of cut affects the rate of feed speed and the quality of a cut. Using the proper depth of cut can lessen the possibility of damage to the router motor and cutter.
- A deeper cut requires a slower feed than a shallow one. Making a cut that is too deep will slow the feed so that the cutter is scraping, rather than cutting, and is not recommended.
- A too-deep cut can cause chatter and cutters to be broken off. Attempting a cut that is too deep will result in a rough cut, and may make it difficult to guide and control the cutter as desired. Do not exceed 1 hash mark depth of cut in a single pass. For best finish quality, do not exceed 1/2 hash mark depth of cut on our Easy-Jig® line of jigs. This will result in a higher quality finish.
- The cutter depth can be read on the depth scale on the motor housing. Do not exceed 0.05" or 1.3 mm. Each mark on the inch scale indicates a 0.05" change in depth setting. Use the depth gauge on your Easy-Jig® when setting the depth of cut.
- When the desired depth of cut is reached. Push the quick release lever to the closed position to lock the cutter in place.
- Before use, always check that the quick release locking lever nut tension is properly set so that the base does not accidentally slip while milling, causing the depth of cut to change, and possible damage to the lower and cutting tool.

WARNING:
Do not exceed more than 1 hash mark in a single pass. Excessive depth of cut can result in loss of control and the possibility of damage to your cutter, lower, jig, and can cause serious personal injury.

WARNING:
Make sure the quick release locking lever is properly adjusted and securely locks the motor housing to the removable base. Damage to your cutter, lower receiver, jig and serious personal injury can result from using a router with a loose quick release locking lever.

SETTING DEPTH OF CUT

- Unplug the router.
- Pull open the quick release Locking Lever "**D**".
- Turn the depth Adjusting Screw "**F**" to slide the motor housing and cutting tool up and down to the desired hash mark depth.
- Close the quick release Locking Lever "**D**".



CAUTION:
Failure to properly adjust the locking lever tension nut can result in the base slipping when using the router, resulting in property damage and possible personal injury. Please follow ADJUSTING TOOL BASE LOCKING LEVER directions on page 6 prior to using the router.

MAINTENANCE

WARNING:
Before inspecting, cleaning, or performing any maintenance, make sure the switch is in the off (O) position, wait for all moving parts to stop, and disconnect from the power supply. Failure to follow these instructions can result in death, serious personal injury, or property damage.

DANGER:
Always wear eye protection with side shields marked to comply with ANSI Z87.1. Failure to do so could result in objects being thrown into your eyes, resulting in possible serious injury.

CAUTION:
When servicing, use only identical replacement parts. Use of any other parts could create a hazard or cause product damage.

GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, oil, grease, etc.

WARNING:
Do not at any time let brake fluids, gasoline, petroleum-based products, penetrating oils, etc., come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which could result in serious personal injury.

ABRASIVE MATERIALS

Electric tools used on fiberglass material, wallboard, spackling compounds, or plaster are subject to accelerated wear and possible premature failure because the fiberglass chips and grindings are highly abrasive to bearings, brushes, commutators, etc. Consequently, we do not recommended using this tool for extended work on these types of materials. However, if you do work with any of these materials, it is extremely important to clean the tool using compressed air. (Do not use compressed air on aluminum chips, use a vacuum cleaner instead.)

LUBRICATION

Apply a thin coat of oil to the spindle shaft surfaces after each use to prevent corrosion to the spindle.

All of the bearings in this tool are lubricated with a sufficient amount of high grade lubricant for the life of the unit under normal operating conditions. Therefore, no further lubrication is required.

POWER SUPPLY CORD REPLACEMENT

If replacement of the power supply cord is necessary, this must be done by an authorized service center in order to avoid a safety hazard.

BRUSH REPLACEMENT

- Unplug the router.
- Remove cutter bit if there is one installed.
- With a flat head screwdriver, remove the brush cap (**B**).
- Remove the brush assembly (**A**).
- Check for wear. If worn, always replace in pairs. Do not replace one side without replacing the other.
- Replace the brush assembly.
- Make sure the alignment of the brush lines up with the slot in the router for the brush.
- Replace the brush cap and tighten with a screwdriver. Do not over tighten.
- Repeat for other side.
- The router is now ready for use.

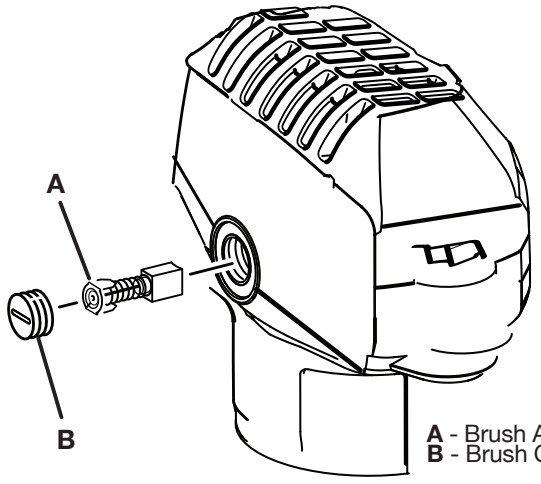
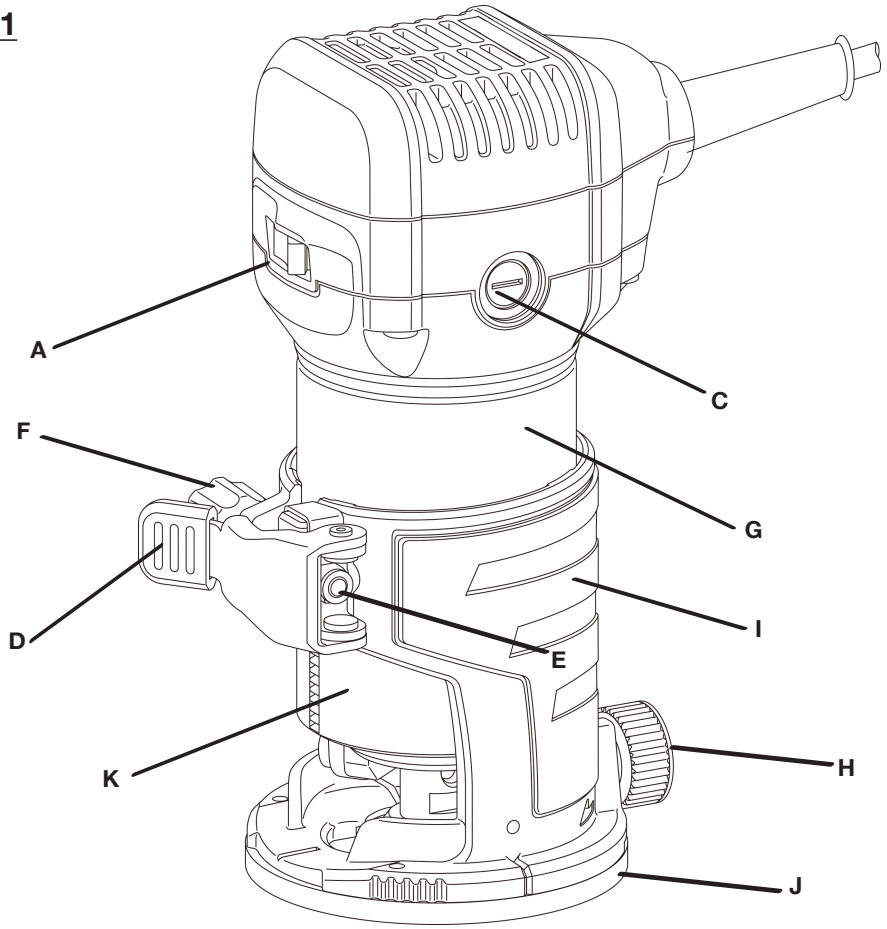


Fig. 1



A - On / Off switch
B - Collet Nut Wrench
C - Brush cap
D - Quick release locking lever
E - Hex nut tensioner
F - Depth adjustment screw
G - Motor Housing
H - Accessory clamp screw
I - Removable Base
J - Round subbase
K - Depth Scale
L - Collet nut
M -Collet
N - Carbon Brush Set
O - SpeedMill™ (sold separately)

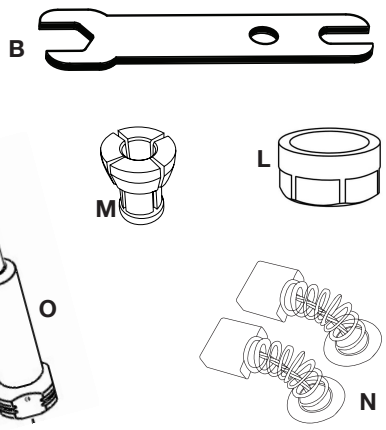
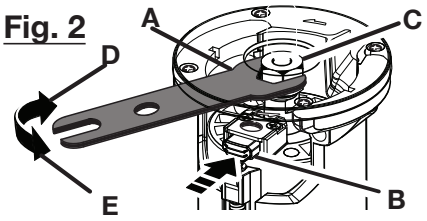
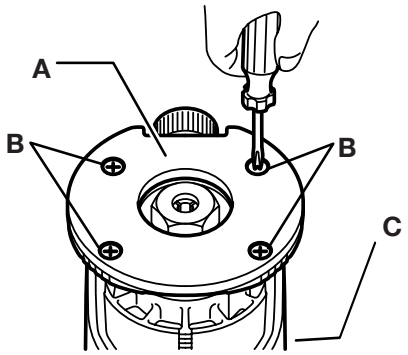


Fig. 2



A - Wrench
B - Spindle lock
C - Collet nut
D - Tighten
E - Loosen

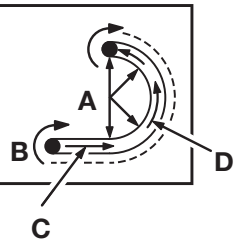
Fig. 3



A - Subbase
B - Screws
C - Removable Base

Fig. 4 **GUIDE OUTSIDE**

A - Thrust
B - Rotation
C - Guide
D - Feed



GUIDE INSIDE

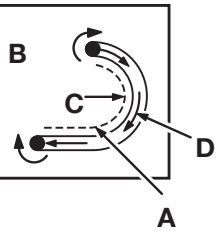
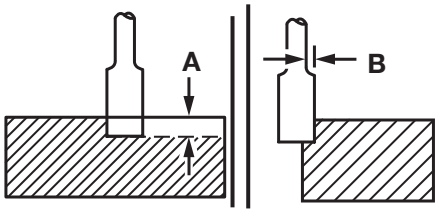
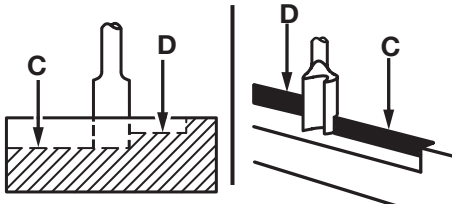


Fig. 5



A - Depth of cut
B - Width of cut
C - 2nd. pass
D - 1st. pass



HIGH-SPEED PRECISION COMPACT ROUTER

80 PERCENT ARMS

WARRANTY

80 PERCENT ARMS LIMITED ONE YEAR WARRANTY - Warranty Policy

Every 80 Percent Arms tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one year period, return the complete tool, freight prepaid, to 80 Percent Arms. If inspection shows the trouble is caused by defective workmanship or material, 80 Percent Arms will repair (or at our option, replace) without charge.

This Warranty does not apply when:

- **Repairs are required because of normal wear and tear**
- **The tool has been abused, misused or improperly maintained**
- **Modifications have been made to the tool**

IN NO EVENT SHALL 80 PERCENT ARMS BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

80 PERCENT ARMS DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

For replacement parts or service, contact 80 Percent Arms. For the location of our service center nearest to you, please call (949) 354-2767 or visit us online at www.80PercentArms.com.

80 PERCENT ARMS

12282 Monarch Street
Garden Grove, CA 92841, USA
1-949-354-2767 ■ www.80PercentArms.com

10-07-20
(REV. 0.97)