

MICROJIG

MATCHFIT™



MatchFit Grid Router Guide

Instruction Manual

MFRG-400-025 (with router bits)
MFRG-400-000 (Router Guide only)

EN



Work Safer. Work Smarter.



Full Instructional Video

Watch the instructional video and see the full use of the FitFinder at:

microjig.com/routerguide



Warranty Registration

Register your product for an extended 3-year warranty at: microjig.com/warranty



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NOTE: This base is molded to cut grooves at 4" (101.6mm) on center. This also means that the first groove referenced from an edge will be 3-7/8" (98.4mm). Metric equivalents for the fixed grooves will be exact, but general stock dimensions will be rounded in metric for your convenience. This does not affect the functionality of the MatchFit system or Dovetail Grooves.

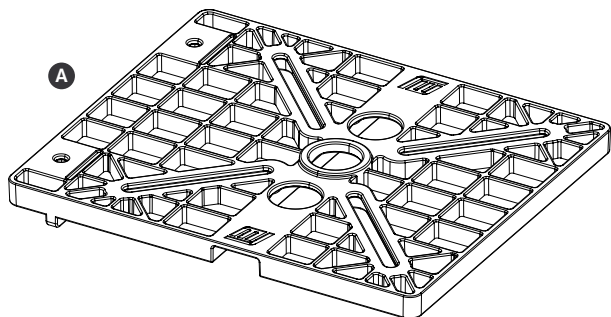
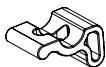
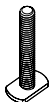
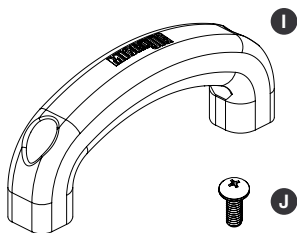
WARNING

Always wear safety glasses and hearing protection. Follow all safety precautions and use best practices. Microjig assumes no liability for products not sold by Microjig.

Parts List

#	Grid Router Guide Parts	Qty	Part #
A	Dovetail Grid Router Base	1	DVRG-P1
B	Wing Knob	2	GR-H55-AR
C	Screw Adapter	2	DVRG-P3
D	Hold Down Clamp	2	DVRG-P2
E	Shoulder Washer	2	GR-GH-14-AR
F	Compression Spring	2	MFRG-H1
G	1/4" Washer	2	GR-H2-AR
H	T-Bolt	2	GR-H14-AR
I	Grip Handle	1	GR-P1-AR
J	1/4-20 x 3/4" PH Screw	2	GR-H10-AR
K	1/4-20 Flat Nut	2	GR-H7-AR
L*	Dovetail Bit 1/4" Shank	1	MB-025-0514
M*	Relief Bit 1/4" Shank	1	MB-025-025ST

* Router bits are included with model # MFRG-400-025 only.
 Model # MFRG-400-000 **does not** include router bits.

**B****C****D****E****F****G****H****I****J****K****L****M**

A Introduction

The MatchFit Router Guide is an indexing router base designed specifically to let you make a MatchFit Dovetail Grid of virtually any size.

No measuring and marking of lines, no clamps or edge guides needed, no adjusting the jig, just set the cut depth and go. The base guides your router for you.



Fig A - Routing dovetail grids

The router base indexes itself to cut MatchFit Dovetail Grid relief cuts and dovetail grooves at the perfect 4" (101.6mm) spacing.

All you need is your own router with a standard Porter-Cable style guide bushing adapter. We provide the rest.

Works with virtually any router from 1 to 3-1/4 horsepower with bases up to 7" (177.8mm) in diameter.

Use MatchFit router bits (L, M) for best results.

You **must** only use:

- a 1/4" (6.35mm) straight bit for the relief grooves.
 - a 1/2" x 14° Dovetail Bit for the dovetail grooves.
- No other bit will work with the MatchFit system.

B Router Guide Assembly

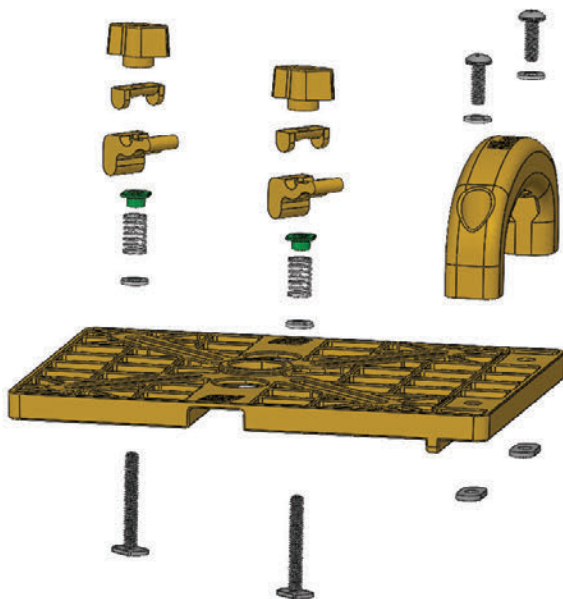


Fig B - Router Guide parts exploded view

1. Handle to Base

- 1.1. Put a washer onto the 1/4-20 screw, then feed that screw through to hole in the handle and through the matching hole on the guide base.
- 1.2. Thread the flat nut onto screw under the base and tighten with a Phillips screwdriver.
- 1.3. Do the same at the other end of the handle.



Fig 1 - Attaching the handle

2. Choose Mounting Slots

- 2.1. Mount the Porter-Cable style adapter plate onto your router.
- 2.2. Set router onto boss in the center of the MatchFit base.
- 2.3. Rotate the router position so that the handles and any controls are free to use and not too close to the handle on the Router Guide.
- 2.4. Check the bottom of the router to find the best spots to attach the clamps. Look for flats or gentle curves that the clamps can hold to.



Fig 2a - Incorrect position



Fig 2b - OK position

3. Assemble Clamps

- 3.1. Insert T-bolt up through slot in base.
- 3.2. Add a washer, spring, and shoulder washer over the T-bolt above the base (see page 8).
- 3.3. Add clamp body over T-bolt.
- 3.4. Add clamp pivot over T-bolt.
- 3.5. Thread Wing Nut onto T-bolt.



Fig 3 - Clamp assembly

4. Mount Router

- 4.1. Set router over center boss on base.
- 4.2. Rotate the router for the best handle and clamp location.
- 4.3. Slide clamps over the router base.
- 4.4. Secure with wing knobs, finger tight only.

NOTE: With thinner 'universal' type plastic bases, you may need to omit the shoulder washer and spring.



Fig 4 - Mounting router

C Project Sizes

- C.1. Can be any size from 8" (203.2mm) on up.
- C.2. Can be milled along both axes of the stock.
- C.3. Stock does not need to measure a factor of 4" (101.6mm), but the final grooves should not be less than 2" (50.4mm) from an edge.
- C.4. First groove is 3-7/8" (98.4mm) for yield. A base can be cut to 23-3/4" (603.3mm) to get two from a 48" sheet.

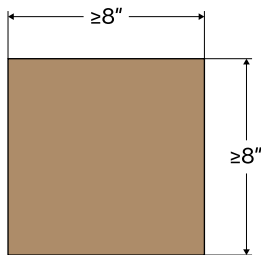


Fig C1 - Minimum size

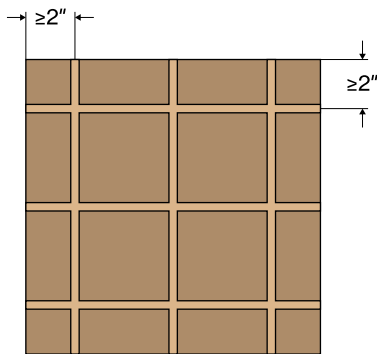


Fig C3 - Edge grooves minimum

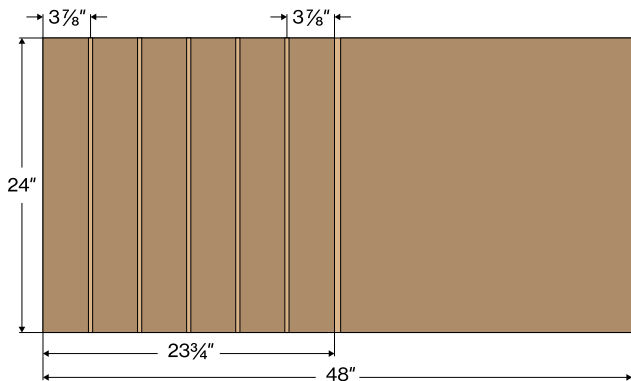


Fig C4 - Cut two bases from a standard sheet

D Milling Relief Grooves

- D.1. Mount the relief bit into your router collet.
- D.2. Set the depth to $11/32''$ (8.5mm) below the bottom face of the MatchFit Router Guide.

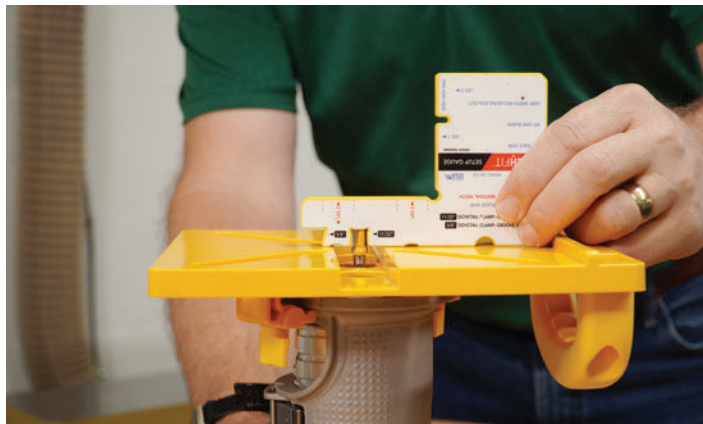


Fig D2 - Setting Relief Bit

- D.3. Start with the cleat aligned to the edge of the stock.
- D.4. Set the speed between 14,000–16,000 RPM and start the router.



Fig D4 - Router Guide off edge

- D.5.** Carefully holding the cleat tight to the edge of the stock, slide the Router Guide across the stock cutting a 1/4" wide groove through the opposite edge.



Fig D5 - Making first cut

- D.6.** Shut off the router and let the bit stop spinning before moving the Router Guide.
- D.7.** Clean out the grooves between cuts to allow the cleat to slide easily.

- D.8.** Set the cleat into the 1/4" relief groove just cut and slide the Guide forward until the bit is near the edge of the stock.

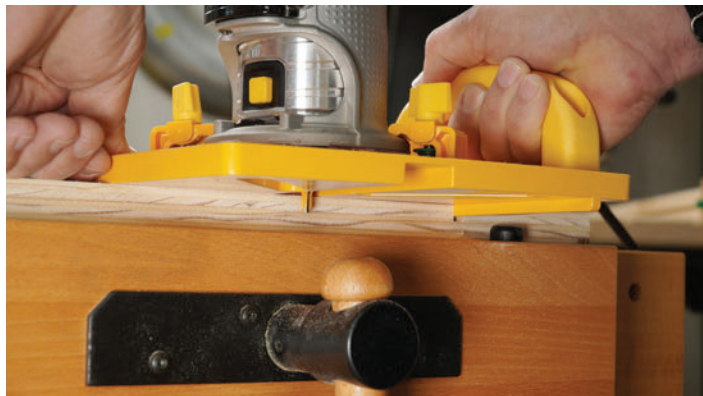


Fig D8 - Setting second cut

- D.9.** Start the router and cut the next relief groove with the cleat guiding along the previous groove.

D.10. Repeat Steps D.5 through D.8 until the stock has been grooved from end to end.



Fig D10 - Making second cut

D.11. Reset the base along the adjacent edge of the stock, and once again carefully run the cleat along the stock edge to form the first relief groove along this axis.

D.12. Repeat steps D.5 through D.8 until the entire panel has a full grid of relief grooves milled into the face.



Fig D12 - Making relief cut grid

E Milling Dovetail Grooves

IMPORTANT: You **must** cut the dovetail grooves in the opposite order as the relief grooves were cut.

E.1. Mount the Dovetail bit into your router collet.



Fig E1 - Setting Dovetail Bit

- E.2. Set the bit to $\frac{3}{8}$ " (9.5mm) below the bottom face of the MatchFit Router Guide.
- E.3. Set the speed to between 12,000–14,000 RPM.



Fig E4 - Setting dovetail cut

- E.4. Set the cleat into the **second to last** relief groove you cut, so that the bit will cut the **last** relief groove. Slide the Router Guide until the dovetail bit is close to the edge of the stock.
- E.5. Start the router and cut the first dovetail groove along the path of the last relief groove out the far edge of the stock.
- E.6. Shut off the router and allow the bit to stop spinning before moving the Router Guide.



Fig E7 - Making dovetail cuts

- E.7.** Set the 1/4" wide cleat into the next relief groove opposite from the dovetail just cut, slide the Router Guide until the bit is close to the edge of the stock..
- E.8.** Start the router and cut the dovetail groove out past the other edge of the stock.
- E.9.** Shut off the router and allow the bit to stop spinning before moving the router guide.

E.10. Repeat steps E.7 through E.9 until you reach the end of the relief grooves.



Fig E10 - Cutting dovetail grids

E.11. Cut the final relief groove into a dovetail by setting the 1/4" cleat onto the edge of the stock where you started cutting the relief grooves.

- E.12.** Start the router and carefully guide the 1/4" cleat along the stock edge until the final dovetail groove is fully cut through.
- E.13.** Repeat this same process to recut all of relief grooves into dovetails along the other axis of your panel.

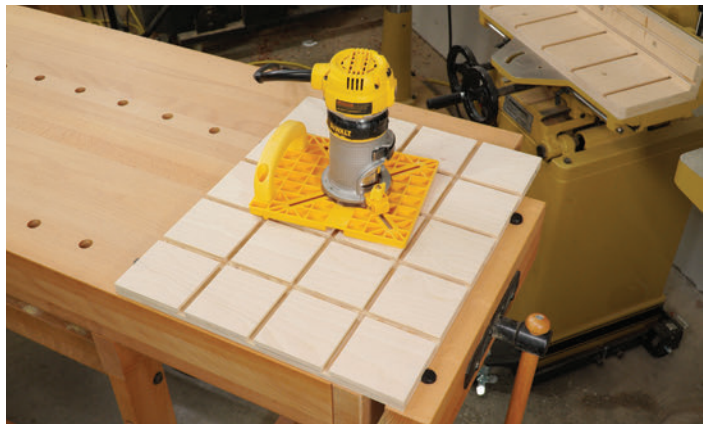
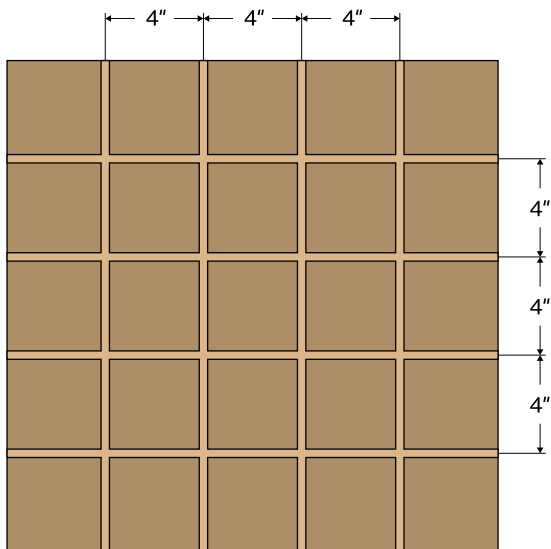


Fig E13 - Dovetail grids finished

You now have a full grid pattern across the entire surface of your panel with perfectly spaced grooves 4" (101.6mm) apart on center.



Safety Note

The operator is always responsible to read and understand the instruction manual for all their power tools. All machines must be set up according to the manufacturer's specifications, be clean and in good repair. Woodworking carries inherent risk, and it is your job to minimize your exposure.

If you need advice or have questions, email Microjig at **support@microjig.com** or call our office at **+1 (855) 747-7233** 9am-4pm EST Monday to Friday.



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