

# MATCHFIT™

MODEL # DVC-1177K2

# DOVETAIL CLAMP PRO

INSTRUCTION MANUAL v7.0



*Read the Important Safety Disclaimers in this manual prior to use.  
Keep manual for future reference.*

**MICROJIG**®

# Get started creating your own track system.

Watch the instructional video: [MICROJIG.com/videos/matchfit](https://MICROJIG.com/videos/matchfit)



Your MATCHFIT Dovetail Clamp Pro includes the following items:

- 2X** DVC-538 - Dovetail Clamps (2 Single)
- 1X** SG-133 - Setup Gauge
- 1X** MB-050-0514 - 1/2" 14° Dovetail Router Bit (1/2" Shank)
- 1X** DVC-PRO-MA - Dovetail Clamp Pro Manual
- 1X** DV-HK456x4 VP Dovetail Hardware Variety Pack
  - 2X** DV-HL4 - 10-32 x 1" Track Screws
  - 2X** DV-HL5 - 10-32 x 1.5" Track Screws
  - 2X** DV-HL6 - 10-32 Dovetail Track Nuts
  - 2X** GR-H52 - 10-32 Wing Knobs
  - 2X** GR-H50 - 10-32 Round Knobs
  - 2X** GR-H14 - Nylon Shoulder Washers
  - 2X** GR-H29 - 10-32 x 3/4" PH Screws
  - 2X** GR-H1 - #10 Flat Washers

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Please mail the provided registration card or complete the registration online at:

**[MICROJIG.com/support/warranty-registration](https://MICROJIG.com/support/warranty-registration)**

## **Get more out of your table saw.**

Get detailed information on how to tune up your table saw sent directly to your inbox when you become an MJ Insider.

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 Woodworking is an inherently dangerous activity. Be sure to know and follow all safety guidelines that come with your power tools.



## **WORK SAFER. WORK SMARTER.**

### **Congratulations on your purchase of the MATCHFIT Dovetail Clamp Pro.**

We know your projects are a labor of love just like our products are to us. That's why we put ourselves in your workshop, imagining every way you'll use and experience our family of products. Throughout your projects, you'll feel the difference our intelligent engineering and carefully selected materials make. We make the complex world of woodworking simpler, so you can work safer. We're always moving forward so you always *work smarter*.

**SAFETY WARNING!** Your **MATCHFIT** Dovetail Clamp Pro is designed to be used in conjunction with power tools. Make sure you are familiar with the operation of your tools before attempting any of the techniques presented within this manual. MICROJIG Inc. assumes no liability for any product not manufactured by it. The user must take all necessary precautions when operating power tools as recommended by their manufacturers and as required by any prudent tool user.

## PROPER USE

- All components must be inspected for damage and securely fastened before every use. Stop using the tool if any damage occurs.
- In table saw operations, the rip fence must be securely locked parallel to the saw blade.
- When using the Dovetail Clamp Pro and its contents in conjunction with any other tool, refer to that owner's manual first. Read and follow all instructions and safety information.
- Always wear safety glasses and hearing protection. Follow all shop safety practices.
- It is the sole responsibility of the purchaser of this product to ensure that any third party reads and agrees to all safety precautions prior to use of this tool.
- Use saw blades that are designed for the intended cutting operation.
- Do not use this product while under the influence of drugs, alcohol or any medication.

# OPERATION PRECAUTIONS & SAFETY

## MAINTENANCE

- Do not use this tool if any components are damaged. Contact MICROJIG for replacement parts. (contact information on back of manual)
- When not in use, store this product on a flat, clean surface.
- The Dovetail Clamp's rubber handles can be cleaned with either denatured alcohol, 91% isopropyl alcohol, or pumice hand cleaner.

## TOOL PREP

- Before cutting relief grooves or parts for jigs on the table saw, make sure that the saw top is flat and free from obstructions other than the required fence and one cutting element. The tabletop must be reasonably level and below the waistline.
- The table saw rip fence must be sturdy with a flat front surface, equipped with a locking mechanism to secure

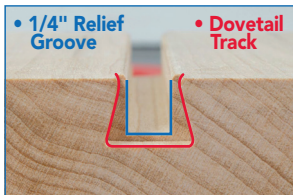
it on the tabletop so that it is parallel to the saw blade at all scale settings.

- A sharp, clean carbide-tipped saw blade should be used when cutting jig parts or relief grooves.
- Ensure that your saw blade is set vertically at an absolute 90-degree angle to ensure safe operation.
- When routing dovetail grooves, ensure that the router is mounted securely to the router table (if using a router table), and that the bit height can firmly lock in position before operation.
- The Router table insert must be level with router table top to ensure accurate and uniform cutting depth.
- The Router must be equipped with a 1/2" collet to accommodate the Dovetail Router Bit's 1/2" shank.
- A router with at least 1-1/2 horsepower is recommended.

**WARNING!** Never wear loose clothing, gloves, bracelets, or other jewelry that may get caught in the moving parts or cutting elements.

# USING THE MATCHFIT SET UP GAUGE

## A. 1/4" RELIEF GROOVE DEPTH GAUGE



1. Prior to cutting dovetail tracks with the included **MATCHFIT** Dovetail Router Bit, it's a good idea to remove some of the waste material. Doing so will result in cleaner cuts, reduce stress on your router, and extend the lifespan of your router bit.
2. Relief grooves should be 1/4" wide and 11/32" deep. They can either be cut on a table saw or with a router.
3. If using a table saw, set the long side of the Setup Gauge flat on the table saw top, then raise your saw blade up into the 11/32" notch until it touches the top of the notch.
4. If using a router to cut relief grooves, set the long side of the Setup Gauge flat on the router table top or router base, then raise the router bit (1/4" straight or spiral) up into the 11/32" notch until it touches the top of the notch.



# USING THE MATCHFIT SET UP GAUGE

## B. 3/8" DOVETAIL BIT DEPTH GAUGE

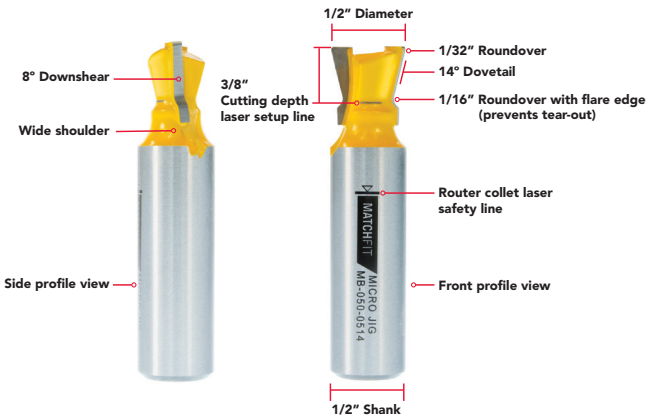


1. The **MATCHFIT** Setup Gauge features a 3/8" (.375") depth gauge to quickly and easily set the **MATCHFIT** Dovetail Router Bit's cutting depth. However, the bit's built-in roundover creates a tolerance range of .365-.395".
2. With the long side of the Setup Gauge flat on the router table top or router base, raise the bit until it touches the top of the outermost notch.



# MATCHFIT DOVETAIL ROUTER BIT

The **MATCHFIT** System was designed around a standard 1/2" 14-degree dovetail profile because it is one of the most common, accessible dovetail router bits on the market. The **MATCHFIT** Dovetail Router Bit improves on its design, and is optimized for routing **MATCHFIT** dovetail tracks for jigs and fixtures.



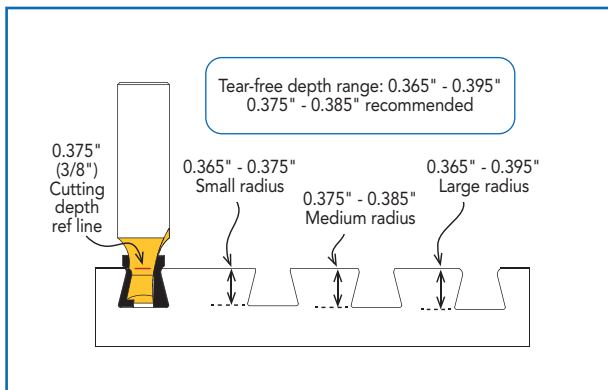
## FEATURES

- The 8 degree downshear carbide works similarly to a helical cutterhead on a jointer or planer. Approaching the material at an angle puts less stress on the carbide, and results in clean, virtually tear-out free cuts.
- The wide shoulder reduces vibration and noise.
- The 3/8" laser-etched cutting depth line allows you to quickly dial in a perfect cutting depth, with or without the Setup Gauge.
- The laser-etched router collet safety line shows the safest depth within the collet to secure the router bit. This prevents it from bottoming out or vibrating and ejecting from the router.

# MATCHFIT DOVETAIL ROUTER BIT

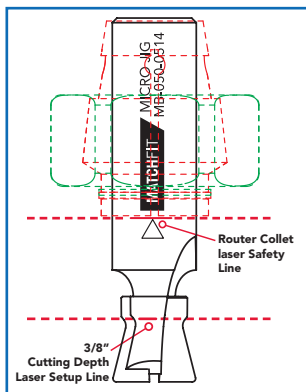
## FEATURES CONT.

- The 1/16" roundover with flare edge automatically rounds over the top edge of the dovetail track in one pass. This virtually eliminates the need to sand, and prevents material from binding in the tracks. The flare edge creates a depth tolerance range. The narrowest point of the dovetail track remains constant, within .365-.395" depth.
- A deeper cut will produce a more pronounced roundover. Refer to the adiagram below.



# MATCHFIT DOVETAIL ROUTER BIT

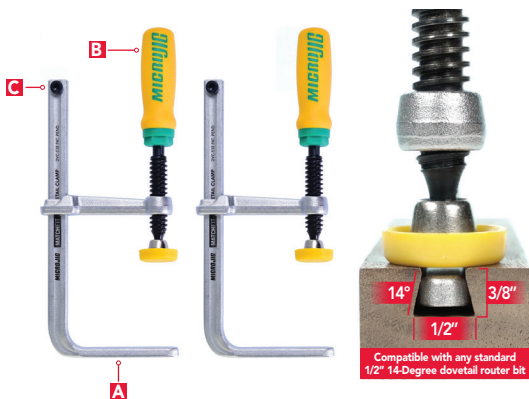
## OPERATION



- Insert the **MATCHFIT** Dovetail Router Bit into the router's 1/2" collet, aligning the router collet safety line with the top of the collet jaws, and tighten collet.
- Set cutting depth to 3/8" with the included Setup Gauge, or anywhere between .365-.395" using another measurement gauge if desired.
- Router speed should not exceed 24,000 RPM. We recommend 18,000 RPM. Adjust speed if necessary.
- If using a router with less than 2-1/2 horsepower, or routing dovetail tracks into dense hardwood, cutting 1/4" relief grooves beforehand is strongly recommended.
- When routing dovetail tracks in an intersecting grid formation, route across the grain before routing along the grain to reduce tear-out at the intersections.
- To maintain flatness and structural integrity, a minimum material thickness of 3/4" is required.
- If using a plunge router, plunge the bit off the edge of the material, then advance the router to cut the dovetail track. Plunging directly into the material will create a 1/2" hole at the start of your track.
- If using a router table, always use a fence and any additional accessories (push block, featherboard, etc...) to ensure that the tracks are cut straight. Dovetail Clamps and Dovetail Hardware may bind in the track if it is not cut straight.
- Refer to the router manufacturer's user manual for maintenance and safety information.

# MATCHFIT DOVETAIL CLAMPS

**MATCHFIT** Dovetail Clamps offer the functionality of traditional track clamps without the expensive T-track. Its head is forged into a standard dovetail profile, allowing you to put a track anywhere you need one and secure material anywhere along the track, with just a router bit.



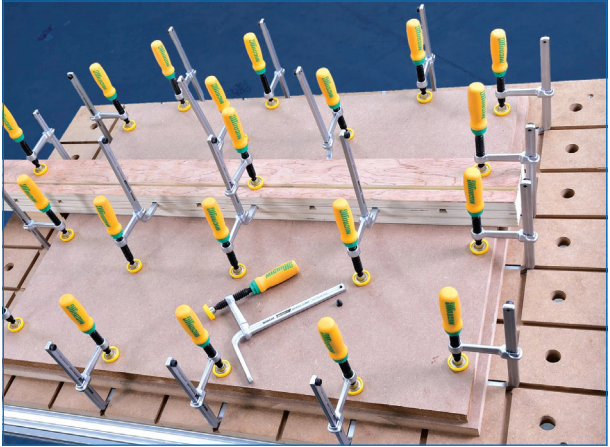
## FEATURES

- A** Standard 1/2" 14-degree dovetail profile forged steel jaw
- B** Ergonomic rubberized soft grip handle
- C** Reversible arm feature unique to MATCHFIT Dovetail Clamps
- 2-3/8" throat depth
- 5-1/4" clamping capacity
- 595 pound clamping pressure



# MATCHFIT DOVETAIL CLAMPS

## OPERATION

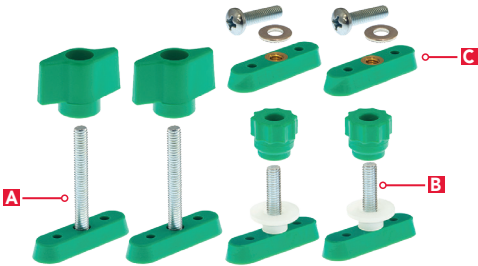


□ Insert the **MATCHFIT** Dovetail Clamps into 1/2" 14-degree, 3/8" deep dovetail track, and turn handle clockwise to tighten the clamp.

□ To reverse the clamp arm, loosen the screw with a 4mm or 5/32" allen key.

# MATCHFIT DOVETAIL HARDWARE

**MATCHFIT** Dovetail Hardware uses the same standard 1/2" 14-degree dovetail profile as the Dovetail Clamps and Router Bit. Its low-profile design makes Dovetail Hardware ideal for fences, stops and hold-downs when strong clamping pressure is not needed. When used in dovetail tracks cut in a grid formation, jigs can be set to any angle and locked in place, fast.

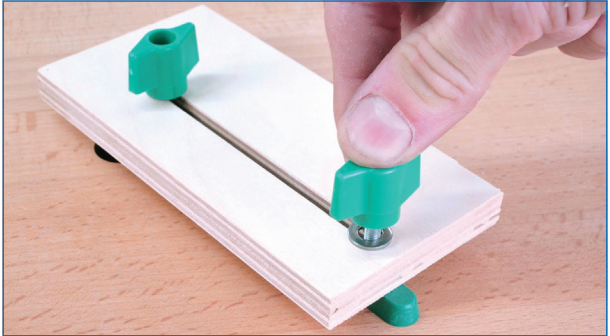


## FEATURES

- A** (2) 1-1/2" long 10-32 Dovetail Track Screws with wing knobs
- B** (2) 1" long 10-32 Dovetail Track Screws with round knobs and nylon shoulder washers
- C** (2) Dovetail Track Nuts with 10-32 threaded brass inserts
- Compatible with 1/2" 14-degree dovetail profile
- Green dovetail anchor is 1-1/2" long to avoid binding in track intersections

# MATCHFIT DOVETAIL HARDWARE

## OPERATION



Jigs require 3/16" or 1/4" diameter hole or slot to accommodate the Dovetail Hardware's 10-32 screws.



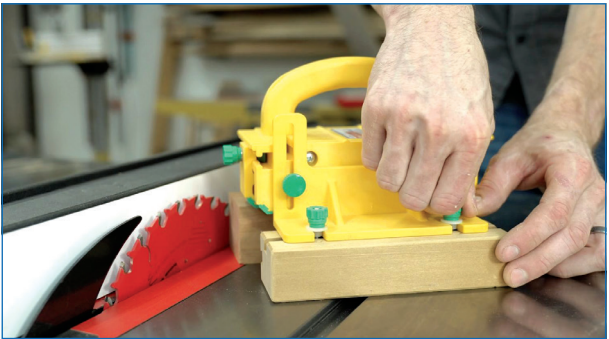
For Dovetail Track Nuts, insert 10-32 screw into a counterbored hole from the top of the material. Thread into the track nut before inserting the Dovetail Track Nut into a dovetail track.

# MATCHFIT DOVETAIL HARDWARE

## OPERATION



Once in position, tighten the screws to lock the Dovetail track nuts in place.



*Wooden raiser block with dovetail track*

The Nylon Shoulder Washers included are compatible with the accessory notches found throughout the **GRR-RIPPER** line of products. Simply add shoulder washers to the Dovetail Track Screws before the knobs, attach to the **GRR-RIPPER**, and tighten.



# COMBO TALL FENCE / JOINTING SLED PLANS

## FREE PLANS

Start using your Dovetail Clamp Pro kit today with this simple plan that will show you how to build a Combo Tall Fence / Jointing Sled. This jig makes it easy to add height to your table saw, band saw, and router table fence, or use as a jointing sled to cut a straight edge on rough or live edge stock.

### STEP 1

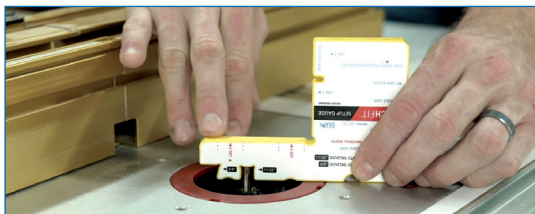
#### STEP 1- CUT STOCK TO SIZE

Cut a piece of good quality plywood (void-free birch is best) to 10" wide. Then, crosscut the piece to the length of your rip fence.

### STEP 2 (IF YOUR ROUTER IS UNDER 2-1/2 HP)

#### STEP 2A - CUT RELIEF GROOVES

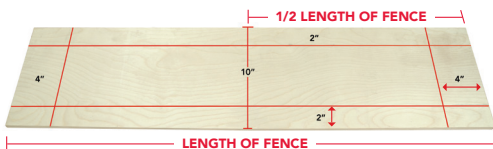
Using a 1/4" straight router bit, set the cutting depth to 11/32". Route grooves 2" in from each side longwise, and 4" in from each end.



### STEP 2

#### STEP 2B - CUT RELIEF GROOVES - CONTINUED

Then, route a relief groove in the center. Location will depend on the length of your fence. For example, if your fence measures 40" in length, route a relief groove at 20".



# COMBO TALL FENCE / JOINTING SLED PLANS

## FREE PLANS

### STEP 3

#### STEP 3 - ROUTE DOVETAIL TRACKS

Using the MATCHFIT Dovetail Router Bit provided, set the cutting depth to desired depth between .365" and .395". Refer to the cutting depth guide on page 10 of this manual.



Route dovetail tracks in the same locations as the relief grooves.

## USING AS A TALL FENCE



Set the tall fence on the blade side of your fence with the bottom edge flat on the table top. Insert the MATCHFIT Dovetail Clamps into the vertical tracks and tighten them to the back of the fence.

# COMBO TALL FENCE / JOINTING SLED PLANS

## USING AS A JOINTING SLED



- Lay the sled flat on the table surface and set your rip fence to 10-1/8", leaving a small gap between the sled and the blade.
- Clamp your workpiece to the sled. Make sure that your clamps are spread out in the tracks available in order to secure the entire workpiece.
- Once the Dovetail Clamps are tightened, the bars can be used as handles to advance the sled and workpiece through the cut.

There's no limit to what you can build with the MATCHFIT System. The only question is, "Where to start?" Visit [microjig.com/matchfitprojects](http://microjig.com/matchfitprojects) to access our library of free jig plans and tutorial videos.



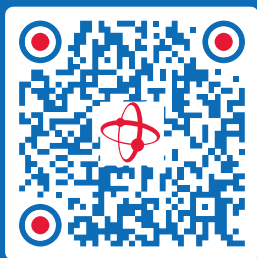
## FREE DOWNLOADABLE JIG PLANS

Scan this QR code for access to our library of free jig plans and for more information about the MATCHFIT 360 System.  
[www.microjig.com/matchfitprojects](http://www.microjig.com/matchfitprojects)

## WORK SAFER. WORK SMARTER.

We hope that you enjoy these project plans and learn a few new tricks to use in your shop. Share photos of your completed project with us on Facebook, Twitter and Instagram with hashtag [#worksmarter](https://www.instagram.com/explore/tags/worksmarter)

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