

The **Micro Fence® Micro Plunge Base** brings machine-tool precision and measurement to high-speed rotary tools.

Depth-of-cut adjustment is calibrated in thousandths-of-an-inch, (or twentieth-of-a-millimeter with our metric version).

Used with the **Micro Fence®** Edge Guide or Circle Jig, you'll have all the elements of a precision milling machine, both vertically and horizontally for straight-line and circular work requirements..

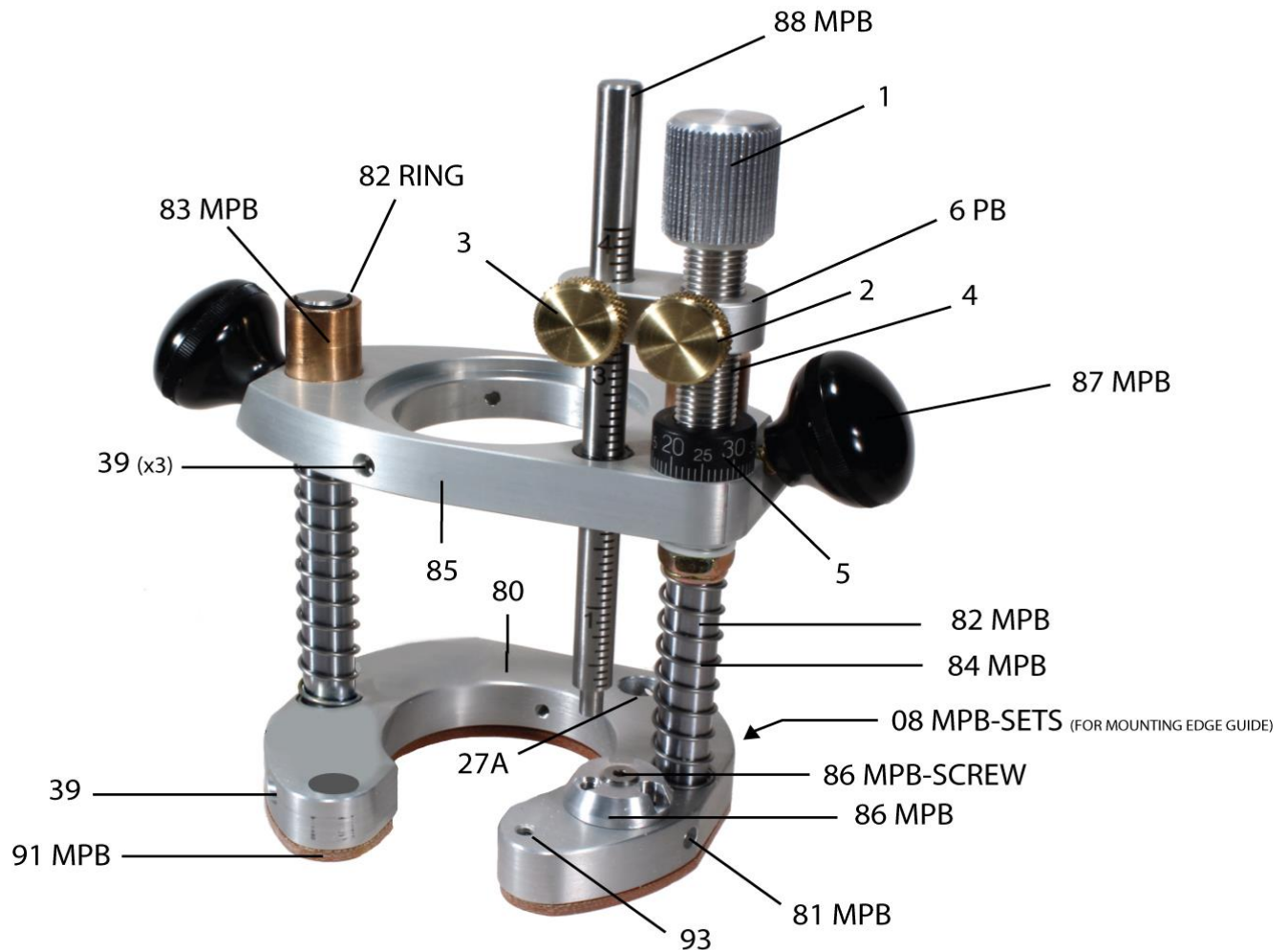
The **Micro Plunge Base** is compatible with all existing **Micro Fence®** products and accepts several brands of rotary tool motors, including **Dremel** and **Proxxon**.

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## Parts Diagram

We suggest that you take a few moments to familiarize yourself with the names of our parts by referring to the drawing below. We'll be referring to these numbers throughout these instructions.

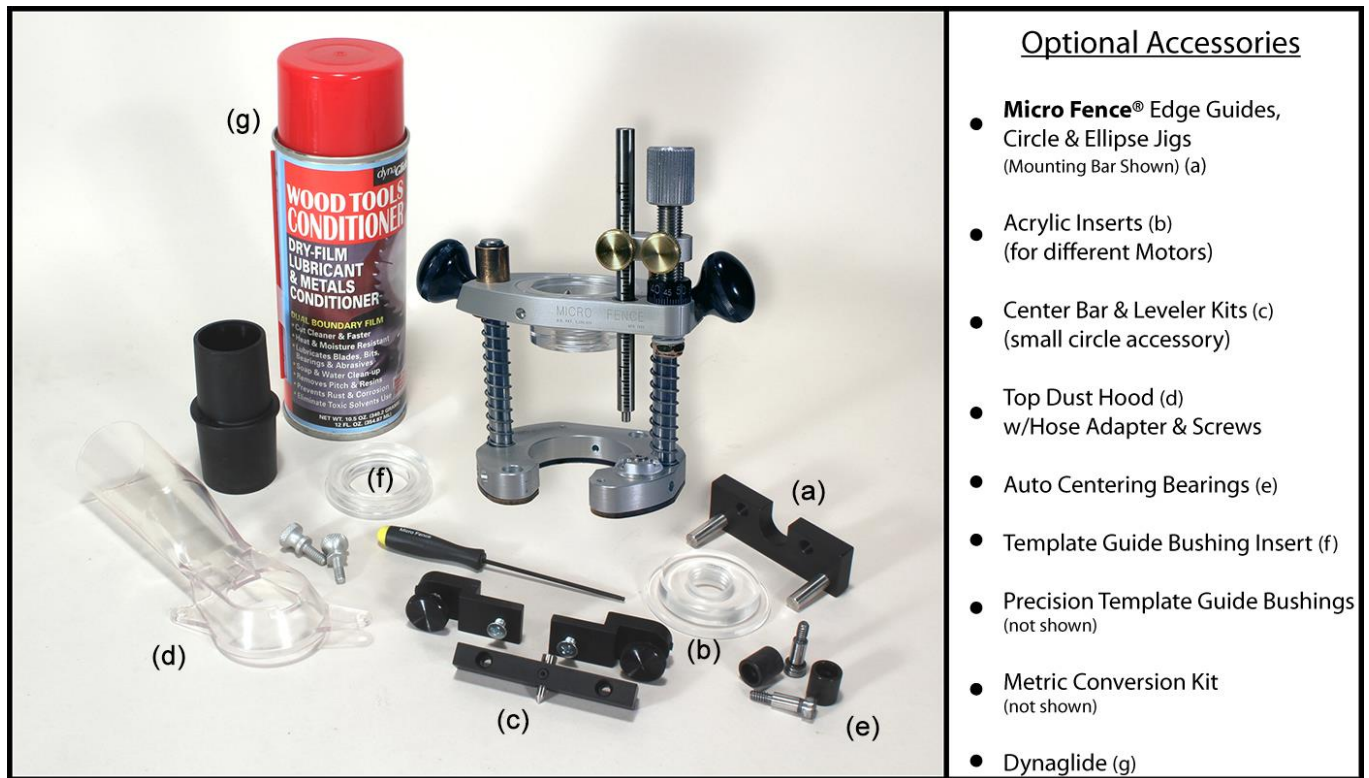


1	Aluminum Knob	82 MPB	Stainless Post (2)
2	Brass Thumbscrew (Long)	82 RING	Retaining Ring (2)
3	Brass Thumbscrew (Short)	83 MPB	Bronze Bushing (2)
4	Lead Screw	84 MPB	Plunge Springs (2)
5	Dial (Mach)	85	Motor Carriage
6PB	Plunge Spindle Bar	86 MPB	Plunge Base Turret
08 MPB -SETS	8-32 X 1/4" Brass-Tipped Set Screw (For Edge Guide)	86-SCREW	Turret Center Screw
27A	8-32 X 1/8" Nylon-Tipped Set Screw (1)	87 MPB	Plunge Locking Handle (Right Side)
39	8-32 X 1/4" Nylon-Tipped Set Screw (4)	88 MPB	5/16" Plunge Stop Rod
80	Plunge Base Lower Plate	91 MPB	Phenolic 4" Horseshoe Sub-Base
81 MPB	8-32 X 5/8" Brass-Tipped Set Screw (3)	93	Alum Dust Hood Thumbscrew Hole

## Available Accessories

Included with every **Micro Plunge Base**: one 5/64" Ball-Tipped Maintenance Screwdriver. The photo below includes all the optional accessories that are available.

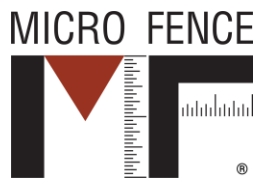
If you already own one of our edge guides, you will need the Micro Plunge Base mounting bar to use your **Micro Fence®** with the Plunge Base. If you are new to our system and just now purchasing your **Edge Guide** to fit the **Micro Plunge Base**, the mounting bar will be included with it.



All **Micro Fence®** System components can be used with your **Micro Plunge Base**. Given the appropriate Mounting Bar, the **Micro Fence®** Edge Guide, Circle Jig, Ellipse Jigs, and all other accessories are completely compatible. Consult of website for details and pricing at [www.microfence.com](http://www.microfence.com).

## Specifications:

- 4" Diameter Open Horseshoe Style Base
- Wt: 1.5lbs, Approx. 3lbs w/Edge Guide
- Overall Vertical Travel 2"
- Vertical Adjustment to .001"
- Interchangeable Inserts for Different Motors
- One-hand In-handle Plunge Lock
- Compatible w/PC Temp. Guide Bushings
- Reversible (Front & Rear) Dust Extraction
- Two (Front & Rear) LED Mounting Positions
- Imperial or Metric Versions Available



# The Micro Plunge Base

12970 Branford St. Unit M, Arleta CA 91331 Phone 1-800-480-6427  
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## Getting Started

Your **Micro Plunge Base** has been thoroughly tested at our factory for all pertinent tolerances and operation. You can simply install your choice of high-speed rotary tool, optional dust collection hood, LED light source, and you'll be ready to start routing.

Use the MF 5/64" Ball-Tip Allen driver to secure the motor in the Motor Carriage (#85). Once squarely seated, the nylon-tipped allen locking screws can be firmly tightened to secure the motor and acrylic inserts from three directions. Position the motor in a posture that will prevent contact between any portion of the motor's housing and the stainless posts during the plunge action.

Your LED Light Source (#90) can also be installed with the 5/64" driver. Here we use nylon-tip set screws to resist vibration and protect the housing of the light. There are two LED mounting locations.

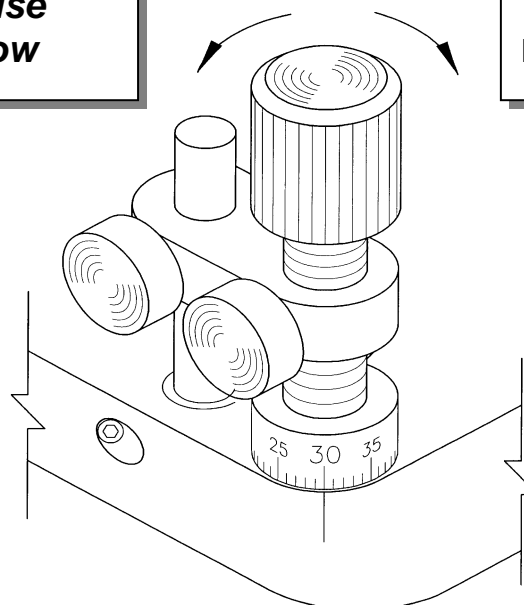
## Operation

We assume, since you have purchased this tool, you probably already have considerable background information regarding routing and/or plunge routing. Though we won't be discussing much routing technique or method in these instructions, we have compiled a reading list, comprised mostly by authors that are friends of ours and **Micro Fence®** users themselves. See our "Recommended Reading" bibliography (on page 10), where you'll find a wealth of knowledge on routing and related subjects.

There are a few general rules specific to this particular plunge base that we think you'll find useful. First and foremost, the micrometer dial will affect the depth-of-cut in the following manner. Please memorize this.

Turning **Counter-Clockwise**  
Makes the Cut More **Shallow**

Turning **Clockwise**  
Makes the Cut **Deeper**



## The Turret

The three-position turret indexes on a spring-loaded ball. Once the router bit is “zeroed” at the work surface, the flats offer precision 1/32”, 1/16” and 1/8” increments ( $\pm 0.0015$ ). A laser-etched stop rod (marked to 4”), limits your depth of cut as it contacts the milled turret flats. Quick and coarser depth measurements can be set with this rod. Remember that the first 1” mark *includes* the 1/4” turned-down portion of the rod as seen in the photo below.

## Example of rough depth-of-cut setting:



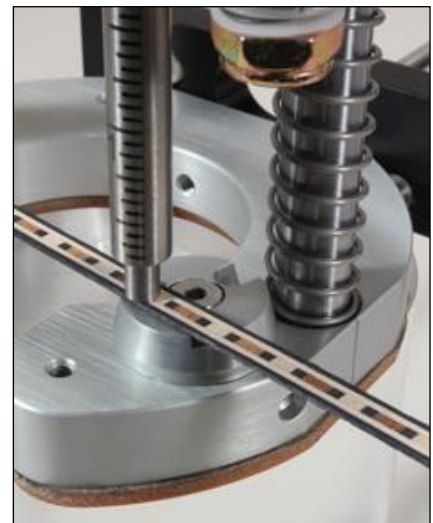
If you wanted to set a depth of cut that was 1/16” deep, start by “zeroing” the micrometer dial (#5) at 50 and loosening the stop rod thumbscrew (#3). Bring the motor carriage (#85) down via plunge, until the cutter contacts the work surface, then lock the motor carriage using the right locking handle.

Bring the stop rod down to rest on the top surface of the turret and tighten the brass locking screw. Release the right locking handle and turn the turret to the 1/16<sup>th</sup> deep flat and you’re ready to ‘take the plunge’.

**If you wish to further fine-tune**, measure the result of the initial cut in your work piece with a dial caliper and determine what alteration is needed in thousandths-of-an-inch (or in millimeters). The micrometer lead-screw can be used to adjust in the appropriate direction (deeper or more shallow), to any tolerance you prefer...be sure to allow sufficient clearance for expansion, contraction, or glue.

## Depth-of-Cut Setting

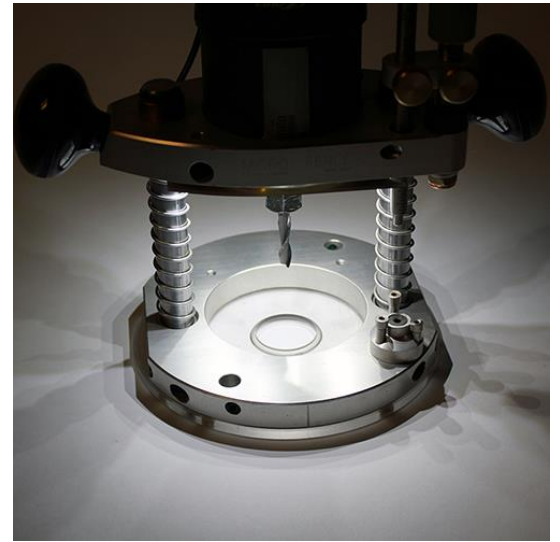
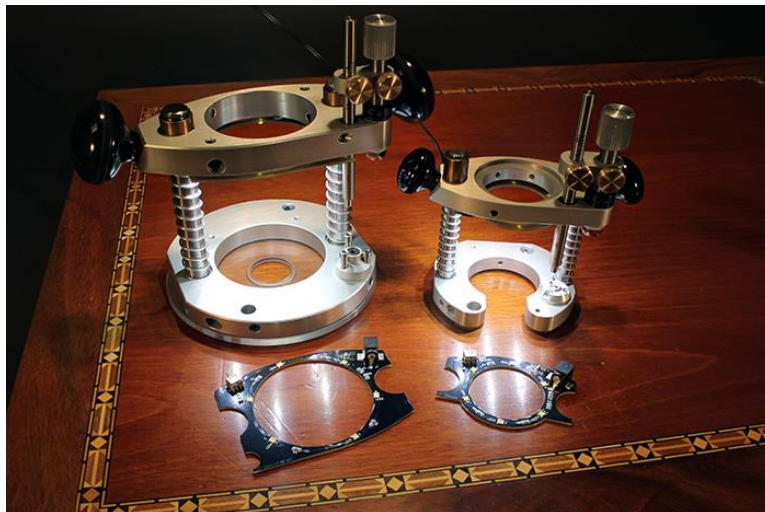
Another method of setting depth-of-cut appropriate for any type of work is to use the material itself as a gauge. In the example shown in the photo here, this technique is used to install a decorative inlay. The micrometer dial is pre-set at 50 (or zero on the metric dial), the stop rod locking thumbscrew (#3) is loosened, and the motor carriage is lowered until the router bit contacts the work surface. After locking the motor carriage in this position, a sample of the inlay (see photo), you’re working with is placed between the top surface of the turret and the lower tip of the stop rod to set the depth-of-cut. This will produce a cut equal to the thickness of the inlay. The micrometer lead screw can then be used, (in a **counter-clockwise** direction), to make the channel that will be routed .005-.010 **more shallow**. This will allow for a minimum amount of finish sanding to produce an absolutely flush installation of the inlay. (The same philosophy holds true for hinges, locks and striker plates, shelf standards, sliding door tracks, or any other job where a sample of the material being worked with is available).





## Optional 6 LED Light Ring

The Optional **Micro Fence®** LED Light Ring provides unprecedented clarity in the work area and can be easily mounted under the motor carriage. The ring utilizes six bright LED surface-mounted lights that illuminate the work area with shadow-free light. The unit comes with a 12V wall-plug converter, 10' power cord and all you'll need to install the unit. We've done considerable testing and found the light ring capable of standing up to the rigors of routing vibration and wood dust.

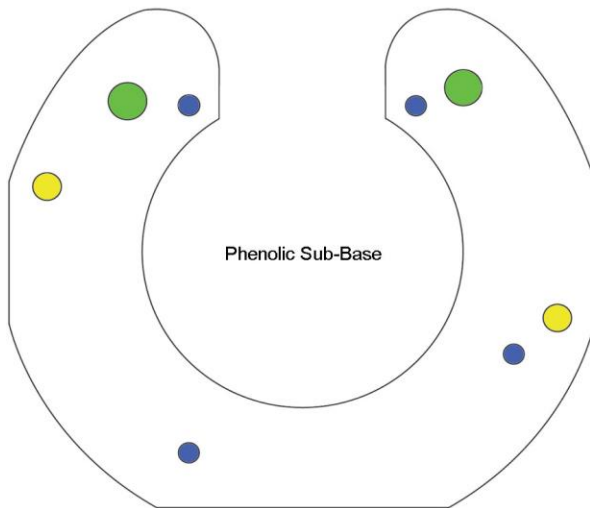





## Auto-Centering Bearings





This optional accessory comes with a pair of shoulder bolts and two black plastic sleeves that act as bearings when they are installed on the bottom of the base. The distance between the bearings allows materials up to 3" to be straddled. Simply pivot the router base until both bearings have contacted the sides of the work-piece and the router bit will be automatically centered. This is especially handy when centered mortises are required and the bit diameter is proper for the size of tenon or piece of hardware being installed. Assuming that the motor has been properly centered in the motor carriage, any 'centered' cut can be accomplished without any measurement whatsoever.

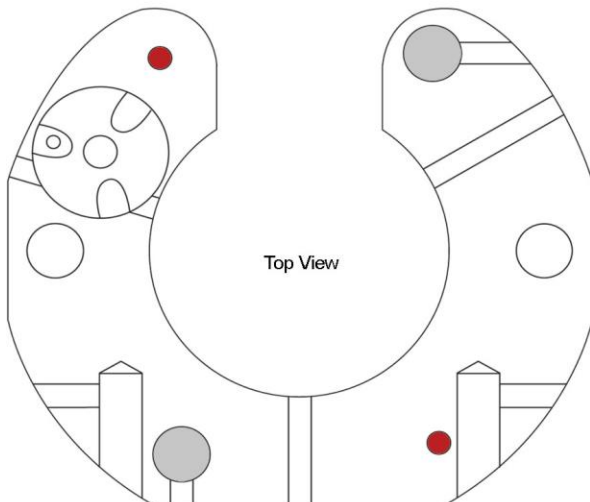
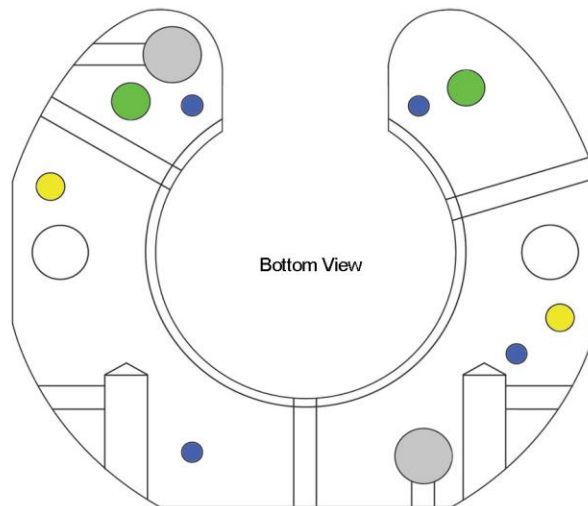




## Micro Plunge Base Hole Configuration

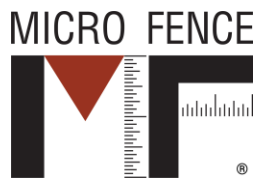


-  Counter Sunk Holes for mounting 4" Canvas Phenolic Plastic Sub Base
-  Through Holes for Outboard Levelers (Center Bar & Leveler Kits)
-  Through Holes for Auto Center Bearing Shoulder Bolts

-  6-32 Threaded Holes for 4" Canvas Phenolic Sub Base
-  1/4-20 Threaded Holes for Outboard Levelers (Center Bar & Leveler Kits)
-  10-24 Threaded Holes for Auto Center Bearing Shoulder Bolts
-  LED Light Source Position



-  8-32 Threaded Holes for Top Dust Hood
-  LED Light Source Position



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### Features

- Motor Carriage Accepts High-Speed Rotary Tool Motors:
  - Comes with one acrylic adapter ring to accommodate one of the following:  
**Dremel 8200 (Cordless), Dremel 395, 400, 3000 & 4000; Proxxon IB/E, FBS 115/E, & Micromot 50/E.**
- Precision-Ground Hard Chrome Plate & Bronze Bushing Plunge Mechanism
- 2" Vertical Travel – (Depth Adjustment to .001", or in millimeters)
- Dial available for imperial or metric measurement
- Concentric Collet-to-Base Positioning with 90° Scribed Base compatible with PC template guide bushings (with acrylic ring adapter)
- One-Handle Plunge-Lock Mechanism
- Three-Position Precision-Indexing Turret (1/32", 1/16", 1/8" depths)
- 90° Scratch Lines at Three Positions on Base
- Laser-Marked Stainless Steel Stop Rod for Gross Adjustment (1/16" increments)
- Optional Top Dust Collection Hood/Hose Adapter
- LED Light Source with Front and Rear Mounting Positions
- Auto-Center Locating Bearings for Mortising Operation (optional)
- 5/64" Ball-Tip Allen Driver for all Locking & Adjusting Screws
- 100% Non-Corrosive Material Construction
- Compatibility with all **Micro Fence®** Edge Guides, Circle Jigs, and all other accessories

### Cleaning and Maintenance

Your **Micro Plunge Base** has been thoroughly checked during its assembly for smooth and accurate operation. To insure this level of performance, a minimal maintenance program is advised.

We use **Dynaglide** Dry Lubricant to clean and lubricate the plunge posts, (as well as the guide shafts on all **Micro Fence®** Edge Guides and Circle Jigs). It's a silicone-free wax and cleaner that leaves no stain on wood, tends not to build up and is easy to apply in its aerosol or pump form. We also use it on the sub-bases to eliminate drag on the work surface. Dynaglide is available from us directly. **DO NOT** use oil on the plunge mechanism.

The micrometer dial is lubed at the time of assembly with a single drop of **Phil's Tenacious Oil**, (we've included a 5cc sample bottle), which is also available from us in 4oz. bottles. One drop every now and then helps protect the silky smooth turning feel of the spindle.

A compressed air "shower" after each and every use goes a long way to keeping the initial feel of the tool intact.

If you wish to adjust the "feel" of the micrometer dial, you can do so by increasing or relieving the compression of the wave washer located between the two delrin washers under the gold-colored lock-nut. The locknut requires a 7/16" wrench. The more tightly compressed the wave washer is, the stiffer the feel of the spindle as it turns. If excessively loosened, lateral deflection of the turret stop rod (#88) is possible. As a rule, the nylock nut should be kept as tight as possible without making the spindle uncomfortably difficult to turn with your thumb and forefinger.

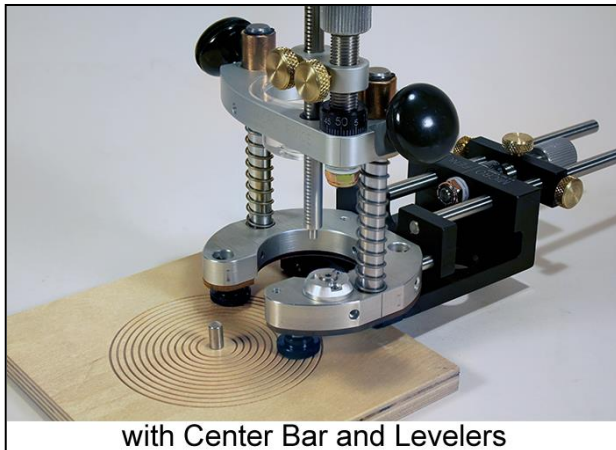


## The Ball-Tip Allen Screwdrivers

We wanted a maintenance tool that satisfied both the torque and comfort requirements we'd prefer. The 5/64" ball-tip allen screwdriver that comes with your base fits everything that needs to be tightened, removed or changed. You'll find **three nylon-tipped set screws** to hold the acrylic motor mount inserts, **four plastic sub-base flat head screws**, and two **brass-tipped set screws** for the Edge Guide/Circle Jig mounts, (included with the Edge Guide or Circle Jig). All use the same 5/64" allen drive.



Adapter rings are available for the various motors shown on page 8. We'll probably be adding to the list of motors we fit as we discover demand levels over time. Stay in touch! The latest developments will always be available on our website listed in the header of every page of these instructions.



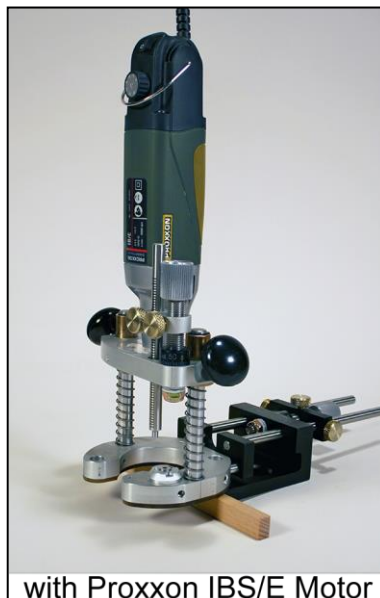
with Center Bar and Levelers



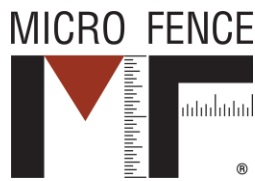
For Inlays, Hinges, Locks, and Fine Detailing



with Dremel 8220 Model



with Proxxon IBS/E Motor



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### Reading Recommendations

**Anthony, Paul**

- **Smart Workshop Solutions-** “Building Workstations, Jigs and Accessories to Improve Your Shop” –The Taunton Press” ISBN: 1-561158-578-5

**Chan, Yeung**

- **Classic Joints with Power Tools-** Foreward by Frank Klausz-ISBN: 1-57990-279-0

**Hylton, Bill**

- **Router Magic** – Paperback, 312pp. \$18.95. Reader's Digest Association; ISBN: 0762101857
- **Hylton, Bill and Matlack, Fred** – **Woodworking with the Router**, Paperback, 344pp. \$19.95. Reader's Digest Association; ISBN 0762102276

**Kirby, Ian**

- **The Accurate Router, Quick Setups and Simple Jigs**, Cambrium Press, Bethel, CT, distributed by Lyons Press, NY, NY, 1998. ISBN 0-9643999-7-0

**Warner, Pat**

- **The Router Book, “A Complete Guide to the Router and Its Accessories”** The Taunton Press, Inc., Newtown, CT, 2001. ISBN 1-56158-423-1
- **Fast, Easy & Accurate Router Jigs**, Popular Woodworking Books, an imprint of F&W Publications, Inc., Cincinnati, Ohio, 1999. ISBN 1-55870-486-8 (alk. paper)
- **The Router Joinery Handbook**, Popular Woodworking Books, an imprint of F&W Publications, Inc., Cincinnati, OH, 1998. ISBN 1-55870-444-2 (alk. Paper)
- **Getting the Very Best From Your Router**, Betterway Books, an imprint of F&W Publications, Inc., Cincinnati, OH, 1996. ISBN 1-55870-399-3 (alk. Paper)

This Micro Plunge Base project has been long and demanding, beyond any conceptions we had before we started. Without the help, support and friendships that have found their way here from the woodworking world, it might not have happened.

### **We would like to thank some friends who've helped us so much:**

Leroy Frieden who's machining skills have been instrumental in our design evolution. Many are the late hours we've spent trying out ideas, altering things and anticipating the birth.

Tracey and Andy Anderson, the brothers Legacy, have gone beyond any ordinary call to friendship. Tracey with his tireless positive energy, Andy for his unusually objective common sense, and both for their more than gracious support and generosity in all matters **Micro Fence**

Jim Stevens from Bosch who's guided us generously through the search for dust collection answers.

Pat Warner for sharing his extensive knowledge of plastics and for having his own opinion.