

DIY: WOODEN FLY BOXES



A HOW-TO GUIDE FOR BUILDING WOODEN FLY BOXES WITH A ROUTER.

Version: 14.11.19

A copy of this book in PDF format is available from me for free.
Just email me at gdis46@gmail.com and I will send you a copy.

By Gary D. Salisbury
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DEDICATION

I want to dedicate this book to my wife Marie who has always been supportive of my hobbies despite the trials and tribulations life has given her - me included.

CREDITS

I want to thank all those who have contributed, both knowingly and unknowingly, to my documenting the process for a hobbyist woodworker to build a custom wooden fly box using a router and the templates I have designed within.

And a special thanks to Stone Fly Studios and Pontillo Furniture Concepts for serving as inspiration for building fly boxes. Their work is truly spectacular. If you don't want to take the time to build a wooden fly box, then I urge you to consider one of these fine manufacturers for a purchase. Their products are well built, their prices are fair, and each bring something different to the market with their boxes. This document is no way intended to compete with them but only to show a hobbyist wood worker the path if he wants to do it himself.

COPYRIGHT

This document is copyrighted 2008 by Gary D. Salisbury. It can be freely copied and redistributed but not charged for. It is a voluntary work of love that I produced for the common good, in hopes that I can teach someone something about woodworking and that they will in turn do the same.

DONATIONS

If you would like to make a voluntary contribution to further support this effort, please see page 13 for contact information. Thank you very much for your anticipated support.

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DIY: WOODEN FLY BOXES, Introduction

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Congratulations! You are about to embark on a very rewarding woodworking experience - one that will make you burst with pride and be the envy of all your fly fishing buddies. This document will show you my simplified method of how to make a custom wooden fly box using a router. It requires that you make a set of MDF templates with the included instructions. It is easy and fun to do. These boxes can be used for more than storing flies and they make great gifts!

Please email me to let me know if you use my templates and how they work. Also, send me some pictures of your finished fly boxes and contact me if you have any questions, corrections, or suggestions for improvement. Remember that this document is only a guideline for the project. It is not intended to teach a novice how to use a router, how to do finish work, or how to be a good woodworker. Be careful and be safe when using power tools.

Thanks, Gary Salisbury



Picture by Pontillo Furniture Concepts

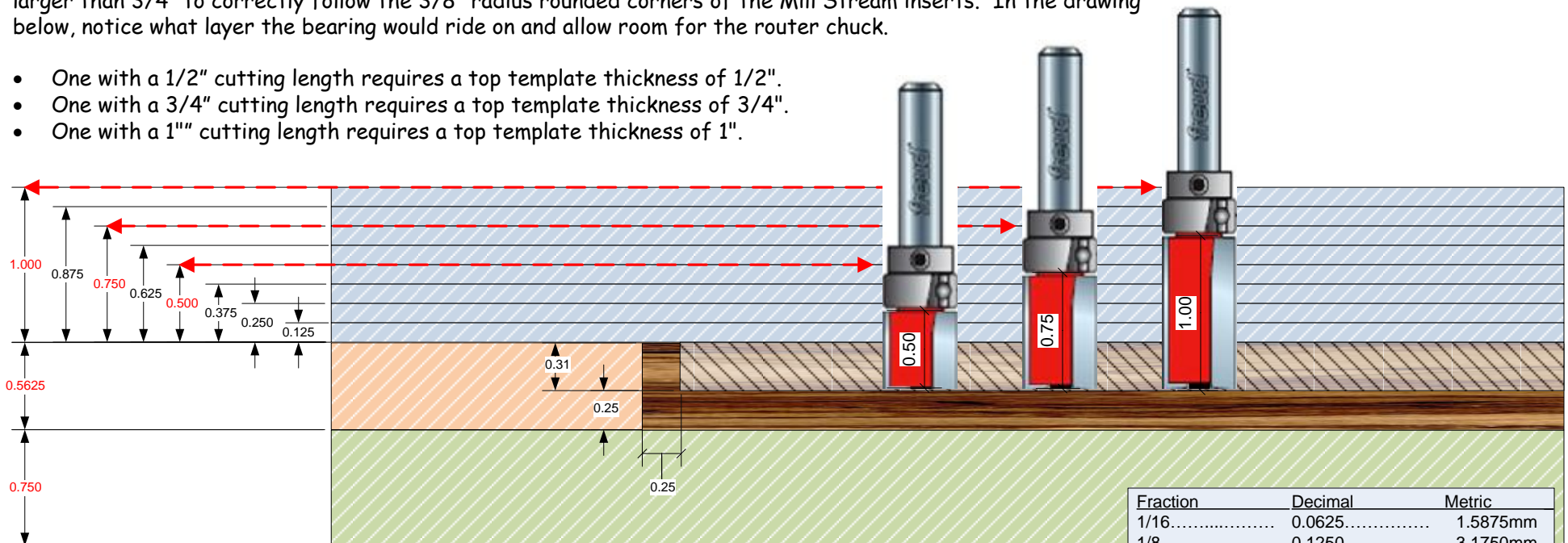
DIY: WOODEN FLY BOXES, Instructions, Template Design Considerations

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TEMPLATE DESIGN CONSIDERATIONS:

The enclosed template sets are for Mill Stream Small, Medium and Large inserts. Choose what size you are going to use then print that template set at a 1:1 ratio. The top template thickness is governed by the size router bit you use. Use a 1/4" Top Bearing Flush-Trim Router Bit with a in a plunge router. (These are also known as Pattern Bits.) See page 3.0-3.2 for some router bit choices. The bit should have a bearing and cutting diameter no larger than 3/4" to correctly follow the 3/8" radius rounded corners of the Mill Stream inserts. In the drawing below, notice what layer the bearing would ride on and allow room for the router chuck.

- One with a 1/2" cutting length requires a top template thickness of 1/2".
- One with a 3/4" cutting length requires a top template thickness of 3/4".
- One with a 1" cutting length requires a top template thickness of 1".



MAKING THE TEMPATES:

- Cut templates blanks out of MDF:
 - MDF Template #1-----1/2" or 3/4" or 1" thick X 8-1/2" x 11"---Pattern Template
 - MDF Template #2-----9/16" thick X 8-1/2" x 11"-----Stock Holding Template
 - MDF Template #3-----3/4" thick X 8-1/2" x 11"-----Base Template
- Align and then glue the paper templates #1, #2, and #3 to their respective MDF blanks.
- Drill the corners, cut out the blackened area, drill any other required holes, remove the paper, and sand.
- Insert threaded brass inserts in the bottom of template #3
- Label each template (i.e. - Template #1L for Mill Stream Large Insert).

Fraction	Decimal	Metric
1/16.....	0.0625.....	1.5875mm
1/8.....	0.1250.....	3.1750mm
3/16.....	0.1875.....	4.7625mm
1/4.....	0.2500.....	6.3500mm
5/16.....	0.3125.....	7.9475mm
3/8.....	0.3750.....	9.5250mm
7/16.....	0.4375.....	11.1125mm
1/2.....	0.5000.....	12.7000mm
9/16.....	0.5625.....	14.2875mm
5/8.....	0.6250.....	15.8800mm
11/16.....	0.6875.....	17.4625mm
3/4.....	0.7500.....	19.0500mm
13/16.....	0.8125.....	20.6375mm
7/8.....	0.8750.....	22.2250mm
15/16.....	0.9375.....	23.8125mm
1.....	1.0000.....	25.4000mm

DIY: WOODEN FLY BOXES, Instructions for Mill Stream Inserts (Small, Medium, & Large)

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BOX DESIGN CONSIDERATIONS:

You need to make some choices before embarking upon this project.

You first need to choose how big of a fly box you want (Small, Medium, or Large), then order the inserts for that box.

You will need to choose what hinge you want to use as there are some design consideration for the various sizes.

You may also decide to use a different fastening system than my choice of 3/16" magnets so you will have to adjust accordingly.

I like to make my wood fly boxes as light as possible yet retain maximum strength therefore, a minimum 1/4" wall thickness is required.

By having the walls this thin, you will need to install landing pads if using 8 or 10mm barrel hinges. And if landing pads are installed, then you will need to trim the foam insert to allow for them.

A 5mm barrel hinge will fit within the 1/4" wall thickness, not requiring a landing pad and therefore not trimming the insert, but will require a 45 degree clearance cut which detracts from the overall appearance in my opinion. See page 2.4 for instructions for installing 5mm barrel hinges.

You could use miniature butt hinges but they aren't as clean as barrel hinges and will have to be mortised in unless you surface mount them. You could redesign the templates to make thicker walls which will allow you to use 8 or 10mm barrel hinges without landing pads but your boxes will be much heavier. I usually carry 3-4 of these boxes with me when fishing and find that excess weight is undesirable.

I use 3/16" Neodymium magnets for box fasteners because they will fit within the 1/4" wood wall with no problem and have 1.2 pounds pull - which is substantial. If you use a larger magnets, you will need to install a landing pad for it too.

You may also choose to install a surface mounted clasp instead.

See page 10.0 for examples of boxes using different hardware and see what you like best.

WOOD SELECTION:

Each of my boxes start out as a piece of select dried exotic hardwood 1-1/4" thick. I then test for a 6-8% moisture content before proceeding. The blank is then rip sawn so I wind up with two pieces that are each 9/16" thick each. I do this so the grain in the wood grain is consistent when the box is stored in a closed position.

Your choice of what you want on top of the box for a design will impact your choice of wood. An engraved pattern, such as a map, would not stand out on a piece of dark wood. See page 9.0 for examples of different woods.

DIY: WOODEN FLY BOXES, Instructions for Routing the Fly Box

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ROUTING THE FLY BOX:

Note: You should install a 12" x 12" clear Lexan base on your router first. It will make routing of the templates much easier.

- Place template #2 (*Stock Holding Template*) on top of template #3 (*Base Template*).
- Place the appropriate hardwood blank into the hole of template #2. It should fit snugly in the hole.
 - Small Blank = 3-1/4" x 4-5/8" x 9/16"
 - Medium Blank = 4-1/8" x 6" x 9/16"
 - Large Blank = 4-1/2" x 8-1/2" x 9/16"
- Place template #1 (*Pattern Template*) on top of the assembly (see page 7.0 for assembly details).
- Screw the MDF template assembly snugly together using 1/4"-20 tapered-head machine screws. (length depends upon thickness of template #1)
- Place template assembly on a router mat or secure it to the top of a workbench so it is stability when routing.
- Use a 1/4" Top Bearing Flush Trim Router Bit in a plunge router. (These are also known as Pattern Bits.) See page 3.0 to 3.2 for router bit choices.
- Set the depth of cut to 5/16". The resulting box's sides, back, and top will be 1/4" thick after routing.
- Route out all the material in a *clockwise* direction around template #1 creating a 5/16" deep hole that your fly box insert will fit into.
- Remove the 4 screws and remove the finished blank.
- Note: If you made template #1 with the optional landing pads but do not want to use them on this blank, just rotate the blank 180 degrees in the template, reassemble, and route off the landing pads.
- Repeat the process for the other half of the box.
- Round the corners and edges with a round-over bit on a router table for safety See page 8.0 for best choice. You can mix round-over bits.
 - (For example: use a 3/4" round-over for vertical edges and 3/8" for horizontal edges. Experiment on scrap wood to find what you like best.)
- Option: You could also route finger grooves to aid in opening the box at this point.
- Option: It is also possible to route a channel in the lid to accept an O-ring seal to make the box water proof if dropped in the stream.
- Sand both halves, inside and out starting with 180, then 240, and finally 320 grit sand paper. I usually finish with Liberon 0000 steel wool.
- Latch: 3/16" x 1/8" disc magnets are the best choice for fasteners. Drill a 3/16" hole 1/16" deep and super-glue or epoxy them in.
- Hinges: I highly recommend using 8mm barrel hinges as they hide extremely well. Drill 8mm holes on the landing area and super-glue them in place. You can also use 5mm barrel hinges which don't require landing pads but you will need to chamfer the edge at 45 degrees impacting the side profile of the box. See page 2.4 for 5mm installation instructions.
 - You can also use miniature butt hinges, surface mounted or recessed. Avoid ones that use nails. Instead select one that uses #2 wood screws.
- Drill the holes for the magnets and barrel hinges carefully on a drill press with a sharp Brad Point wood cutting bit.
- Option: Carve or laser etch a design on top. Do this before finishing.
- Option: Carve or laser etch your name and address on the back of the box so it can find its way home if it ever gets lost.



DIY: WOODEN FLY BOXES, Instructions, Finishing Process, Foam Inserts, Sources

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FINISHING PROCESS:

I use Pontillo Furniture Concepts finishing process. The finishing process is a multiple step process. A mixture of Tung oil, polyurethane and thinners is brushed onto the boxes and left to sit for thirty minutes. This is then wiped off and left to dry overnight. This combination is used to make the grain of the wood stand out as the oil soaks into the wood. This step is repeated four times over a four day period and left to dry for 48 hours. The final topcoat is a combination of Tung oil, boiled linseed oil and shredded beeswax. This mixture is applied to the boxes and vigorously rubbed to create a sheen on the wood. This step is repeated three times over a three day period. The finish is not as durable as a straight polyurethane, varnish, or lacquer, but it eliminates the sometimes plastic look of multiple coats of finish that sit on top of the wood. Any paste wax or wax based furniture polish can completely renew the finish if fading does occur with use.

FOAM INSERTS:

- The ripple and flat foam inserts are self-adhesive but I always secure them with contact cement.
- These inserts are a standard size and sold by Cabela's (plus numerous other sources) and can be replaced if necessary. (See pages 12.0-12.3)
- If you are using landing pads for the latch or hinges, you will need to trim the insert. Use Template #1 as a guide on the insert.
- You can also make a stash box with a felt lining only. The foam inserts can be replaced with felt inserts or flocking in the color of your choice (with a foam ring bar) to make a traveling jewelry box.
- Don't use an insert and call it a cigar or pencil box.

SOURCES:

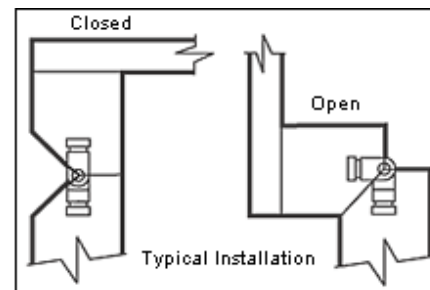
- 5mm (3/16" x 1/16") Magnets: (http://www.amazon.com/gp/product/B004RUEGC2/ref=oh_details_o00_s00_i00?ie=UTF8&psc=1)
- 5mm (3/16") Barrel Hinges: (<http://www.woodworkingparts.com/barrel-hinge-solid-brass/>)
(<http://www.leevalley.com/US/hardware/page.aspx?p=46693&cat=3,41241>)
- 8mm Barrel Hinges: (<http://www.amazon.com/SOSS-BH084-Solid-Brass-Barrel/dp/B00869MUA0>)
- 10mm Barrel Hinges (<http://www.leevalley.com/US/hardware/page.aspx?p=64335&cat=3,41241,41265>)
- Miniature Butt Hinges: (<http://www.micromark.com/solid-brass-miniature-butt-hinges-pkg-of-4,6697.html>)
(<http://www.woodworkingparts.com/1-2x1-2-brass-plated-hinge/>)
- Mill Stream Inserts: (<http://www.cabelas.com/product/Cabelas-Foam-Fly-Box-Refills>)
- 1/4-20 Brass Threaded Inserts (<http://www.mcfeelys.com/product.aspx?id=719497>)
- Driver Bit for 1/4-20 Threaded Insert (<http://www.mcfeelys.com/product.aspx?id=719500>)

DIY: WOODEN FLY BOXES, Instructions, How To Install 5mm (3/16") Brass Barrel Hinges

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How To Install 5mm (3/16") Brass Barrel Hinges:

- Make a scrap piece of wood at least 2 inches longer than the distance the hinge will be located from the end of the box you are installing the barrel hinge. This piece of wood should be as thick as the box sides material and perfectly square on one end. Also the scrap piece wood can't be thicker than your 5 mm drill bit can completely drill through.
- From the square end of the scrap wood, mark the distance you want the hinge from the end and another mark for the offset the hinge requires for opening. In thin stock only inset the hinge an 1/8" or so.
- Next carefully align these marks with the point of your drill bit and align your drill press fence or straight edge so that it serves as a reference. Butt this end against another straight piece of scrap and clamp it in place while firmly holding your reference piece against the fence. Mark the front face so you will remember which it is.
- Now drill all the way through your scrap piece of wood. Go slow and carefully watch that the drill straight and true. Also put a scrap piece of wood underneath to prevent chip out.
- Now you're ready to drill for the hinges in the box.
- Remove the wood piece you drilled completely through. Butt one corner of the box bottom or top, it does not matter which you do first against the stop clamped to the fence. Drill your hole for the hinge a hair deeper than 1/2 of the hinge. This allows room for glue.
- Put the opposite corner of the lid against the stop and drill the hole as you just did above.
- Now you have one hole in the box bottom and one in the lid but they are at opposite ends of the box.
- Take the piece of scrap that you drilled the 5 mm hole all the way through and rotate it end for end. Align the drill bit and insert it in the hole all the way through and clamp the block to your fence. Make sure the mark you made identifying the front is visible.
- Clamp your stop block tightly against the drilled scrap and now you located the drill bit precisely in the same location on the opposite end of your box.
- Drill your remaining two holes and your hinge holes will align perfectly.
- Now 45 degree Chamfer the back edge of the box so that the chamfer passes through the centerline of the hinge holes, allowing the box to open to 90 degrees.
- Use a small amount of glue. A good way to do this is with the end of a small piece of wood or a tooth pick to glue the hinges in. Insert the hinges carefully aligning them so that they open in the right direction. Now apply a little glue to the other holes and press the two halves together. Make sure the box opens and closes before the glue cures.
- You are now done with the installation. Practice makes it easier every time you do it.



Document from: <http://www.woodworkingparts.com/>

DIY: WOODEN FLY BOXES, Instructions, Pictures of various methods at work.

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Inserting magnets into recessed holes.
-Stonefly Studio



Super gluing in the magnets.
-Stonefly Studio



Using the router table method.
-Stonefly Studio



Routed case prior to hinge & magnet assy.
-Pontillo Furniture Concepts



Finger groove and magnet hole.
-Pontillo Furniture Concepts



Attaching barrel hinges.
-Stonefly Studio



Using the router table method.
-Stonefly Studio



Assembled boxes ready for finishing.
-Pontillo Furniture Concepts

DIY: WOODEN FLY BOXES, Router Bit Selection (Freud)

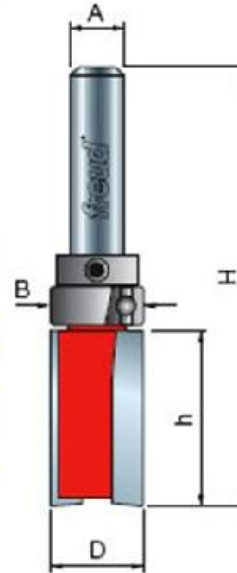
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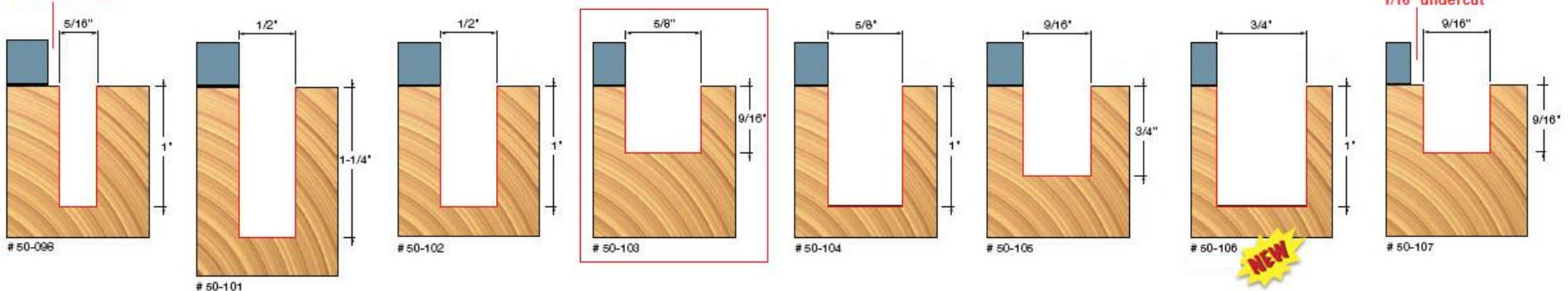
1/4" Top Bearing Flush Trim Bits

Item #	Overall Dia.(D)	Bearing Dia. (B)	Carbide Height(h)	Shank Dia.(A)	Overall Length(H)
50-098*	5/16"	1/2"	1"	1/4"	2-23/32"
50-101	1/2"	1/2"	1-1/4"	1/4"	2-1/2"
50-102	1/2"	1/2"	1"	1/4"	2-5/8"
50-103	5/8"	5/8"	9/16"	1/4"	2-1/4"
50-104	5/8"	5/8"	1"	1/4"	2-5/8"
50-105	9/16"	9/16"	3/4"	1/4"	2-5/16"
50-106	3/4"	3/4"	1"	1/4"	2-5/8"
50-107*	9/16"	5/8"	9/16"	1/4"	2-5/16"

*This bit has an oversized bearing to work for various jigs.



1/16" undercut



Note: My personal choice is to use a freud #50-107 for the first pass which will give you a 1/16" undercut, then use a freud #50-103 for the final finish cut. This will result in a smoother interior wall surface inside your fly box. This is not critical, just me being a bit anal about the quality of my work.

Information from Freud's web site: <http://www.freudtools.com>



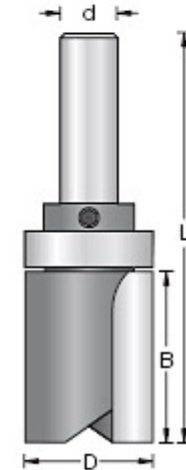
Flush Trim Template / Pattern Plunge Router Bits

2 Flute

This bit is essentially a plunge-cutting straight with a shank-mounted ball-bearing pilot. It is a versatile bit, useful for template/pattern routing of parts, joints, and internal cuts, and can be used in handheld and table-mounted routers. The template is attached to the workpiece, and the pilot bearing rides along its edge as the cutting edges rout the workpiece, forming an exact duplicate of the template. With a handheld router, the pattern is on top of the work; with a table-mounted router, the pattern is underneath the work.

INCREASE YOUR PRODUCTIVITY WITH OUR

PATTERN ROUTER BITS



D	B	d	L	Replacement Bearing	Replacement Collar	Tool No.
3/16	1/2	1/8	2	47775	---	47220*
3/16	1/2	1/4	2	47775	---	47222*
1/4	3/4	1/4	2-7/16	47723	---	47224*
3/8	1/2	1/4	2	47751(2)	47724	45475†
3/8	1	1/2	3-1/4	47751	---	47226
1/2	3/8	1/4	2-1/4	47701	47724	45481**
1/2	1/2	1/4	2	47701	47724	45487
1/2	3/4	1/4	2-1/4	47701	47724	45491
1/2	1	1/4	2-1/2	47701	47724	45460
5/8	1	1/4	2-3/4	47712	47724	45462
5/8	1/2	1/4	2-1/4	47712	47724	45482
5/8	3/4	1/4	2-1/2	47712	47724	45483
3/4	3/4	1/4	2-3/8	47714	47724	45485
3/4	1	1/4	2-1/2	47714	47724	45464

Information from Amana Tool's website: <http://www.amanatool.com/routerbits/pattern-template-routerbits-45481.html>

DIY: WOODEN FLY BOXES, Router Bit Selection (MLCS)

November 19, 2014



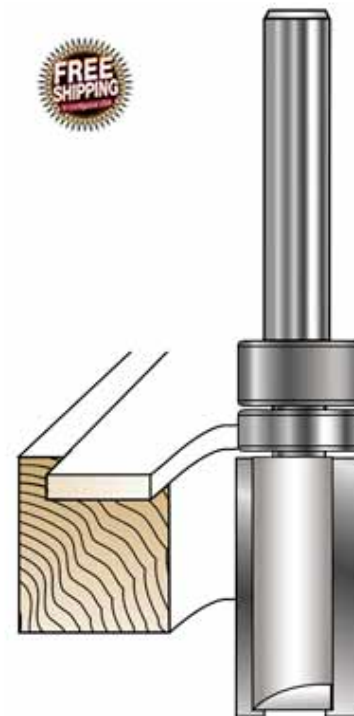
Pattern / Flush Trim Router Bits

Ideal for template routing

2 flute, carbide tipped with totally enclosed ball bearing guides. The top mounted bearing is ideal for template routing. In addition to template routing these bits are convenient for flush trimming in many applications where a bottom mounted bearing is not practical.

*Pattern / Overhang Router Bit				
Item	Large Diam.	Cutting Length	Shank Size	Price
#6504	5/16"	1"	1/4"	\$13.00

Pattern / Flush Trim Router Bits				
Item	Large Diam.	Cutting Length	Shank Size	Price
#6500	1/2"	1/4"	1/4"	\$13.00
#6501	1/2"	3/8"	1/4"	\$13.00
#6509	1/2"	1/2"	1/4"	\$13.00
#6502	1/2"	3/4"	1/4"	\$13.00
#6506	1/2"	1"	1/4"	\$13.00
#6507	5/8"	1"	1/4"	\$13.00
#6508	3/4"	1"	1/4"	\$14.00
#8806	3/4"	1/2"	1/2"	\$16.00
#8808	3/4"	1"	1/2"	\$16.00
#8804	3/4"	1-1/2"	1/2"	\$20.00
#8803	3/4"	2"	1/2"	\$24.00



Pattern / Flush Trim #6506 shown



*Pattern / Overhang Profile

Rated: ★★★★★

Information from MLCS's website: <http://www.mlcswoodworking.com/>

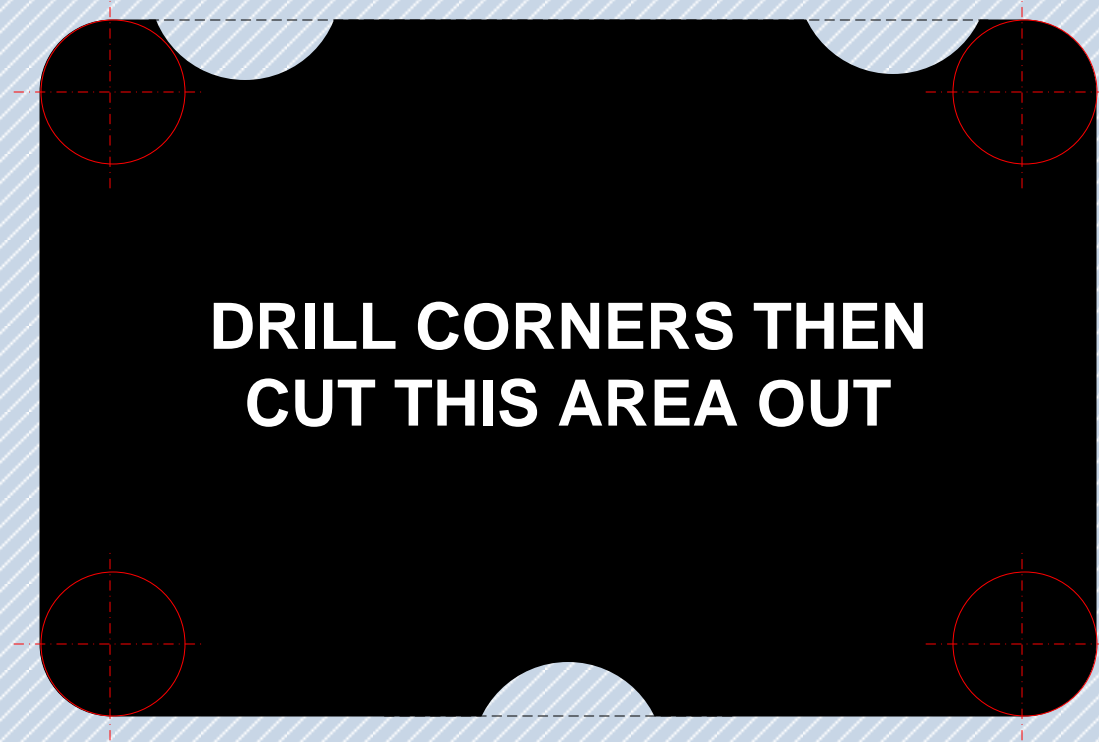


**DRILL CORNERS THEN
CUT THIS AREA OUT**



Template #1 = 8-1/2" x 11" x either 1/2" or 3/4" or 1" MDF (See page 2.0 for design considerations)
Center and glue this paper template to the MDF. Use a 3/4" drill bit and drill out the corners of the cut-out area.
Use a jig saw to cut a rectangular hole 2-3/4" x 4-1/8" connecting the 3/8" radius rounded corners.
If you want landing pads for barrel hinges and magnetic latches, cut out around them. If not, then remove them.
Drill four 1/4" holes 1" from both edges and countersink for 1/4-20 tapered head machine screws.
Option: I install recessed brass cup washers so my templates last longer.

Sand the template smooth and label: **Routing Template #1S for Mill Stream Small Inserts.**



Template #1 = $8\text{-}1/2'' \times 11''$ x either $1/2''$ or $3/4''$ or $1''$ MDF (See page 2.0 for design considerations)
Center and glue this paper template to the MDF. Use a $3/4''$ drill bit and drill out the corners of the cut-out area.
Use a jig saw to cut a rectangular hole $3\text{-}5/8'' \times 5\text{-}1/2''$ connecting the $3/8''$ radius rounded corners.
If you want landing pads for barrel hinges and magnetic latches, cut out around them. If not, then remove them.

Drill four $1/4''$ holes $1''$ from both edges and countersink for $1/4\text{-}20$ tapered head machine screws.

Option: I install recessed brass cup washers so my templates last longer.

Sand the template smooth and label: **Routing Template #1M for Mill Stream Medium Inserts.**

DIY: WOODEN FLY BOXES, Routing Template #1L for Mill Stream Large Inserts

November 19, 2014



**DRILL CORNERS THEN
CUT THIS AREA OUT**

Template #1 = $8\text{-}1/2'' \times 11'' \times$ either $1/2''$ or $3/4''$ or $1''$ MDF (See page 2.0 for design considerations)
Center and glue this paper template to the MDF. Use a $3/4''$ drill bit and drill out the corners of the cut-out area.

Use a jig saw to cut a rectangular hole $4'' \times 8''$ connecting the $3/8''$ radius rounded corners.

If you want landing pads for barrel hinges and magnetic latches, cut out around them. If not, then remove them.

Drill four $1/4''$ holes $1''$ from both edges and countersink for $1/4\text{-}20$ tapered head machine screws.

Option: I install recessed brass cup washers so my templates last longer.

Sand the template smooth and label: **Routing Template #1L for Mill Stream Large Inserts.**

DIY: WOODEN FLY BOXES, Routing Template #2S for Mill Stream Small Inserts

November 19, 2014

2 5/8"

CUT THIS AREA OUT

3 3/16"

3 3/16"

2 5/8"

Template #2 is made from 9/16" MDF Size= 8-1/2" x 11"

Suggestion: Use 5/8" MDF and surface plane off 1/16" to get a 9/16" thickness.

Cut a rectangular hole 3-1/4" x 4-5/8" with square corners. Center the hole on the MDF.

Drill four 1/4" holes through 1" on-center from edges.

Sand the template smooth and label: **Routing Template #2S for Mill Stream Small Inserts.**

DIY: WOODEN FLY BOXES, Routing Template #2M for Mill Stream Medium Inserts

November 19, 2014

2 3/16"

CUT THIS AREA OUT

2 1/2"

2 1/2"

2 3/16"

Template #2 is made from 9/16" MDF Size= 8-1/2" x 11"
Suggestion: Use 5/8" MDF and surface plane off 1/16" to get a 9/16" thickness.
Cut a rectangular hole 4-1/8" x 6" with square corners Center the hole on the MDF.
Drill four 1/4" holes through 1" on-center from edges.

Sand the template smooth and label: **Routing Template #1M for Mill Stream Medium Inserts.**

DIY: WOODEN FLY BOXES, Routing Template #2L for Mill Stream Large Inserts

November 19, 2014

CUT THIS AREA OUT

Template #2 is made from 9/16" MDF Size= 8-1/2" x 11"

Suggestion: Use 5/8" MDF and surface plane off 1/16" to get a 9/16" thickness.

Cut a rectangular hole 4-1/2" x 8-1/2" with square corners Center the hole on the MDF.

Drill four 1/4" holes through 1" on-center from edges.

Sand the template smooth and label: **Routing Template #1L for Mill Stream Large Inserts.**

DIY: WOODEN FLY BOXES, Routing Template #3 for all Mill Stream Inserts.

November 19, 2014

1/4-20 Brass Threaded Insert - GID 1 9EC26 - Box of 25



Need to assemble and disassemble something frequently? Square Drive screws will do the job once or twice, but the threads in the wood will eventually fail. You need these Solid Brass threaded inserts. Drill a hole the same diameter as the body of the insert and simply thread in the insert using a screw driver or an installation wrench. Drill a clearance hole in the piece to be joined and assemble with the appropriate machine screw. Best when used in side or face grain. Made in the USA.

Threaded Insert Driver Sold Separately

See Available Machine Screws [Here](#).

Internal Threads: 1/4-20

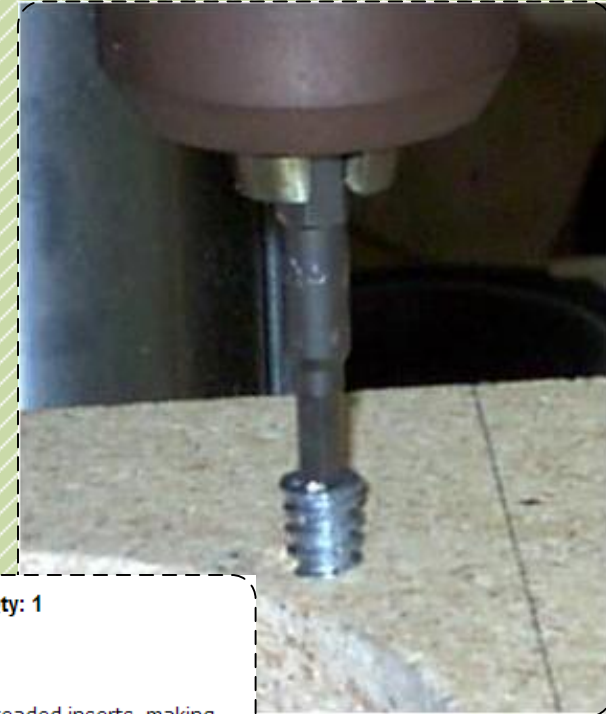
Requires Drill Size: 3/8"

Body Diameter: 3/8"

External Thread Diameter: 15/32"

Overall Length: 1/2"

Drive Type: Slotted (use special insert driver or make your own).



Driver Bit for 1/4-20 Threaded Insert - GID 1 4ZE54 - Qty: 1



If you are only driving a few of our threaded inserts, making your own driver is quick, easy, and works fairly well. But when it is time to install even as few as a dozen or so, you'll appreciate the speed and convenience these factory made tools provide. Just slip the pilot shaft into the insert, seat the drive wings in the insert's drive slot, and power them in! When the insert is fully driven, just pull the pilot shaft out, and you are ready for the next one - no need to unthread the insert and potentially loosen its grip on the wood as sometimes happens with shop made drivers.

SKU #:

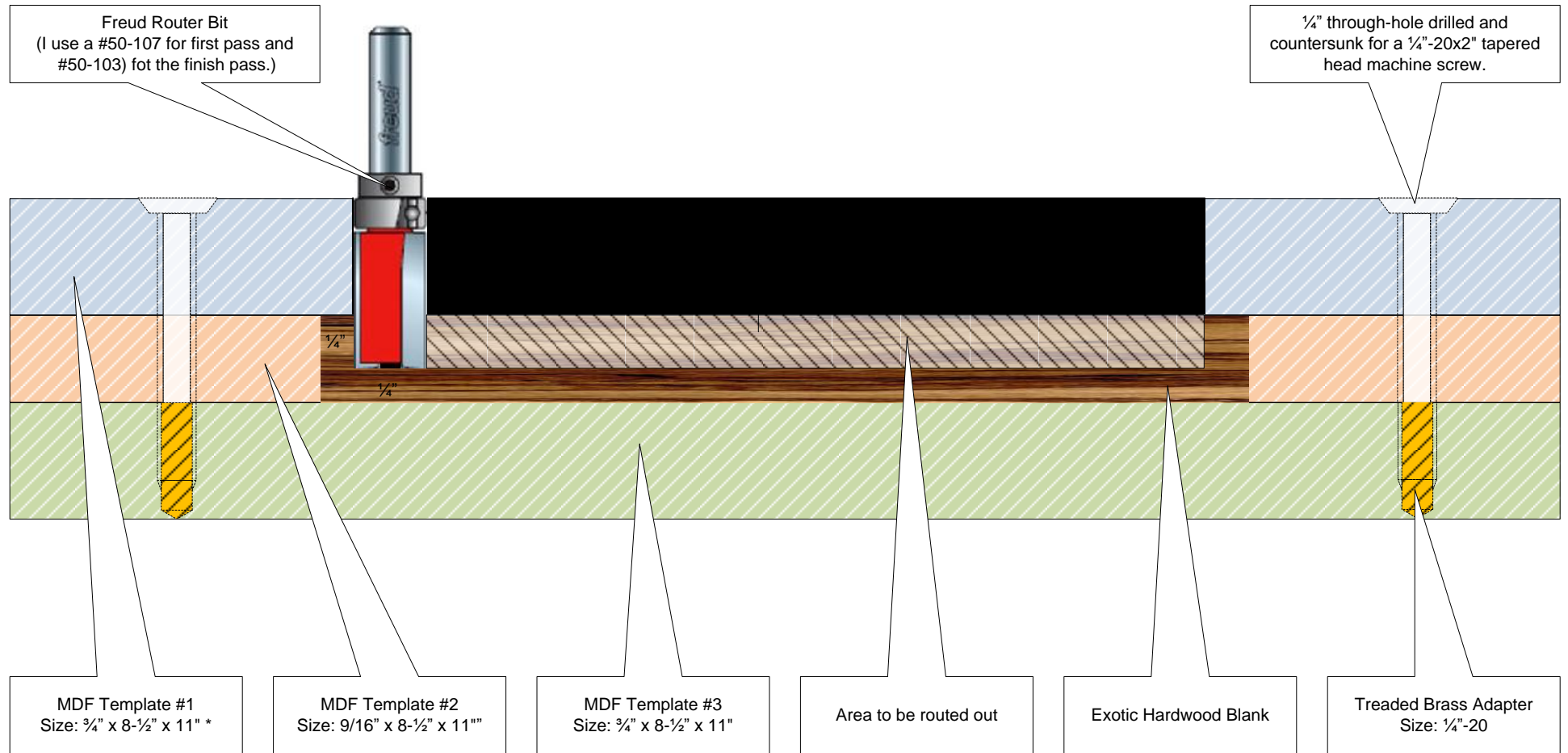
3606-PD

Template #3 = 8-1/2" x 11" and 3/4" thick.

Drill and tap four holes in the corners to accept a threaded insert for 1/4"-20 machine screw.
Option: Glue a rubber router mat to the bottom and trim. It will prevent slipping during routing.
Sand the template smooth and label: **Routing Template #3ALL for All Mill Stream Inserts.**

DIY: WOODEN FLY BOXES, Routing Templates #1-3, Side View Visualization

November 19, 2014



* See page 2.0 for design considerations regarding thickness.

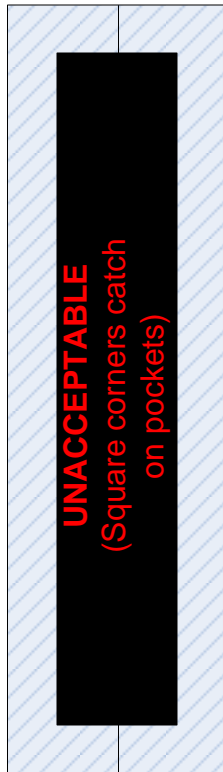
Note: Drawing not to scale

DIY: WOODEN FLY BOXES, Examples of Different Edge Round-over profiles

November 19, 2014

End View of 4" x 6" Boxes showing various round-overs in relationship to interior space

Radius: .000"



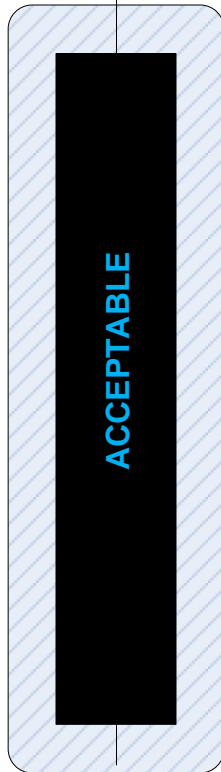
Router Bit: none

.0625"



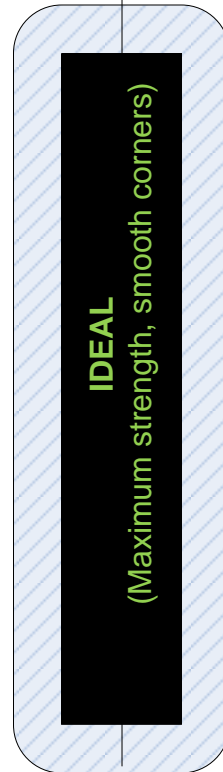
1/8"

.125"



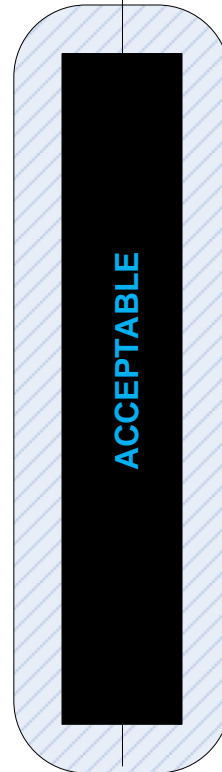
1/4"

.250"



1/2"

.375"



3/4"

.500"



1"

.625"



1-1/4"

DIY: WOODEN FLY BOXES, Examples of different woods

November 19, 2014



African Mahogany



Bubinga



Zebrawood



Black Limba



Lacewood



Birds Eye Maple



Black Walnut



Gummy Cherry



Quartersawn White Oak

Beautiful boxes sold by Pontillo Furniture Concepts

DIY: WOODEN FLY BOXES, Examples of different hinges & latches

November 19, 2014



Hidden Butt Hinges /Magnetic Latch



Hidden Barrel Hinge / Magnetic Latch



Hidden Butt Hinges / Exposed Clasp



Exposed Butt Hinges / Pin Latch



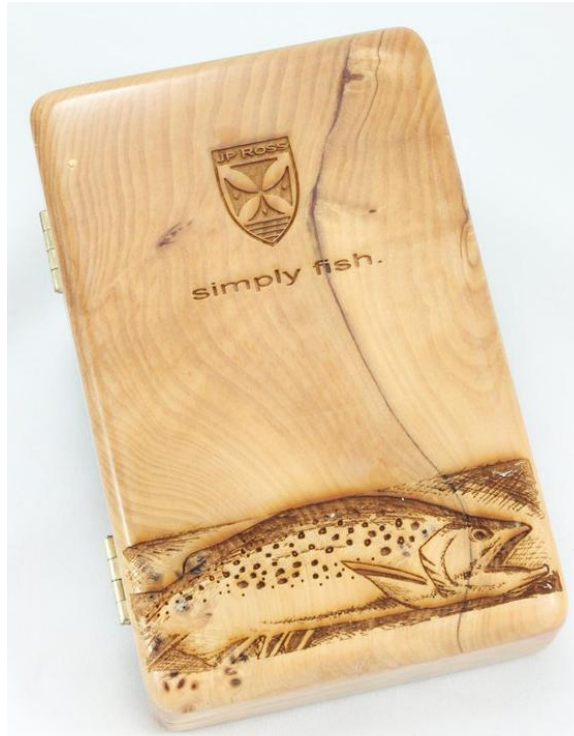
Hidden Barrel Hinge / Magnetic Latch



Exposed Butt Hinges / Exposed Clasp

DIY: WOODEN FLY BOXES, Examples of different surface treatments

November 19, 2014



DIY: WOODEN FLY BOXES, Examples of different surface treatments, Laser Etching Samples

November 19, 2014

USEFUL KNOTS TO KNOW

OVERHAND SLIP KNOT
(Attach backing to fly reel)



ALBRIGHT KNOT
(Attach fly line to backing)



NAIL KNOT
(Attach leader to fly line)



BLOOD KNOT
(Attach tippet to leader)

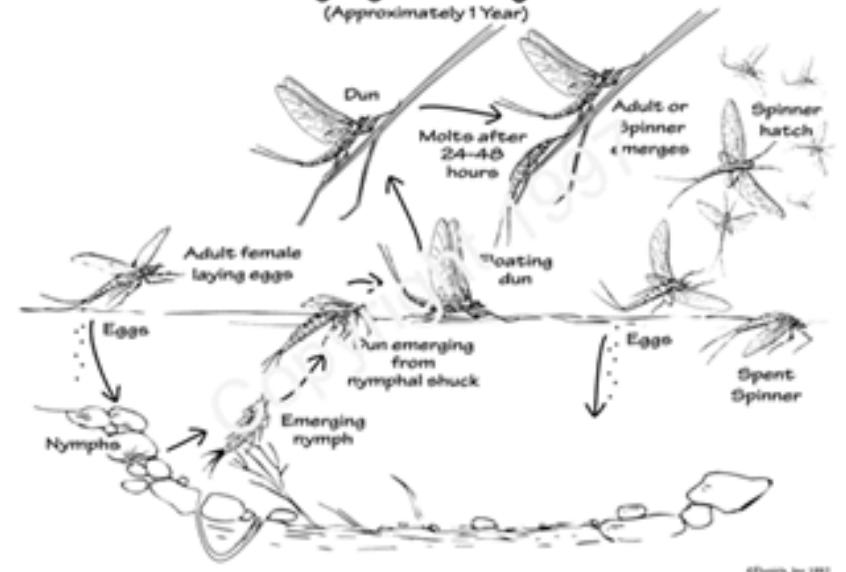


CLINCH KNOT
(Attach fly to tippet)

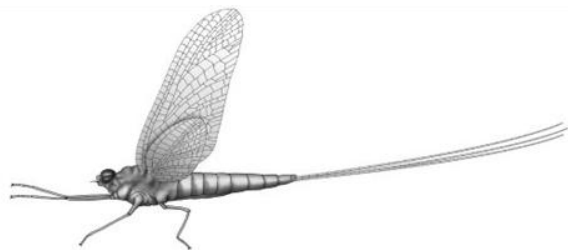


Mayfly Life Cycle

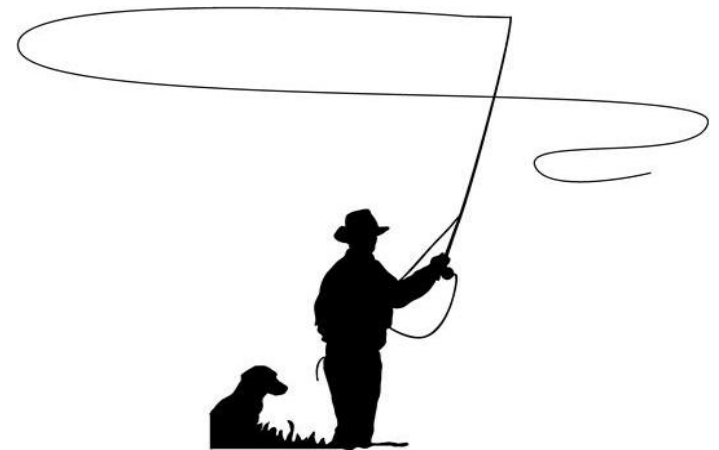
(Approximately 1 Year)



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DIY: WOODEN FLY BOXES, Examples of fly box inserts, Mill Stream, Custom, Fly&Tackle Tite, Blu-Tech

November 19, 2014

SOLD by Cabela's



Mill Stream Ripple Refills
Sold two foam sheets - one flat sheet and one ripple sheet. \$2.50RRS:
Small Ripple Refills - 4.125" x 2.75"

SOLD by Cabela's



Mill Stream Ripple Refills
Sold sets of two foam sheets - one flat sheet and one ripple sheet. \$3.50 RRM:
Medium Ripple Refills - 5.5" x 3.625"

SOLD by Cabela's



Mill Stream Ripple Refills
Sold sets of two foam sheets - one flat sheet and one ripple sheet. \$5.50 RRL:
Large Ripple/Flat Refills - 8" x 4"

SOLD by Cabela's



Mill Stream Nubby/Tack Fly Patch
The same concept as the Ripple Fly Patch, but with Mill Stream's exclusive Nubby/Tack liner. Sold as individually packaged units.

SOLD by Cabela's



Mill Stream Boat Patch
12" x 15" (30.5 cm x 38.1 cm) sheet of ripple or flat foam with an adhesive back. Great for wooden fly boxes.



Custom Fly Box Insert A
\$1.89
<http://www.theessentialfly.com/aluminium-trout-fly-boxes/custom-fly-box-insert-a.html>



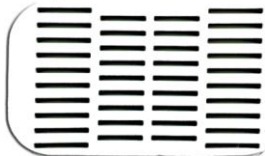
Custom Fly Box Insert B
\$1.89
<http://www.theessentialfly.com/aluminium-trout-fly-boxes/custom-fly-box-insert-a.html>



Custom Fly Box Insert E
\$1.89
<http://www.theessentialfly.com/aluminium-trout-fly-boxes/custom-fly-box-insert-a.html>



Custom Fly Box Insert F
\$1.89
<http://www.theessentialfly.com/aluminium-trout-fly-boxes/custom-fly-box-insert-a.html>



Custom Fly Box Insert (Tube Flies)
\$2.64
<http://www.theessentialfly.com/aluminium-trout-fly-boxes/custom-fly-box-insert-a.html>



Fly & Tackle Tite
Color: White
Size: 3.5 x 5.5
Price: \$14.95
Size: 4.25 x 8.25
Price: \$16.95
<http://flytite.homestead.com/FlyTite.html>



BluTech Technologies: self healing material for all sizes of fly fishing and tackle boxes. Holds hooks tightly in place, self heals after hooks are removed.
<http://cgi.ebay.com/Sell-Fly-Tackle-Box-Inserts-from-Home>

DIY: WOODEN FLY BOXES, Examples of different fly box inserts - C&F Designs

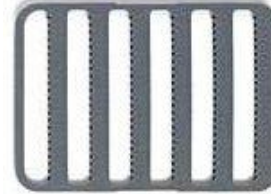
November 19, 2014



C&F Design System
Small Foam 4-Row Insert
\$11.17



C&F Design
Small System Foam 5-Row Insert
\$12.25



C&F Design
Small System Foam 6-Row Insert
\$12.25



C&F Design
Small System Foam 7-Row Insert
\$12.25



C&F Design
FSA-2500 Medium Fly Box Foam Insert New
\$13.25



C&F Design
FSA-2504 Medium Fly Box 4 Row Insert MSF
\$13.25



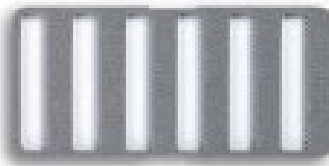
C&F Design
FSA-2505 Medium Fly Box 5 Row Insert MSF
\$13.25



C&F Design
FSA-2507 Medium Fly Box 7 Row Insert MSF
\$13.25



C&F Design
Large Waterproof System Foam Insert
5 Row and 2 Compartments
\$11.87



C&F Design
Large Waterproof System Foam Insert
6 Rows
\$12.95



C&F Design
Large Waterproof System Foam Insert
8 Rows
\$12.95



C&F Design
Large Waterproof System Foam Insert
10 Rows
\$12.95

DIY: WOODEN FLY BOXES, Examples of different fly box inserts - Wheatley

November 19, 2014



Wheatley: 3" Insert: Custom Fly Box, Slotted, Foam:

3" Insert - Slotted Foam Fits all 3" Boxes - holds small to medium dries, nymphs, wet flies and streamers \$3.00



Wheatley: 3" Insert: Custom Fly Box, Easy Grip, Foam:

3" Insert - Easy Grip Slit Foam Fits all 3" Boxes - holds smaller nymphs, wet flies and parachute dries \$3.00



Wheatley: 3" Insert: Custom Fly Box, Flat, Foam:

3" Insert - Flat Foam Fits all 3" Boxes - holds all fly types except traditional-hackled dry flies \$3.00



Wheatley: 4" Insert: Custom Fly Box, Slotted, Foam



Wheatley: 4" Insert: Custom Fly Box, Easy Grip, Foam

4" Insert - EasyGrip Slit Foam Fits all 4" Boxes - holds small to medium parachute dries, nymphs, wet flies and streamers \$4.00



Wheatley: 4" Insert: Custom Fly Box, Ripple Low, Pro

4" Insert - low profile (6mm) Ripple Foam Fits all 4" Boxes - designed mainly for small dries, including traditional-hackled, but will hold all other fly styles \$4.00



Wheatley: 6" Insert: Custom Fly Box, Slotted, Foam

6" Insert - Slotted Foam Fits all 6" Boxes - designed mainly for medium to larger dries, including traditional-hackled, but will hold all other styles. \$5.00



Wheatley: 6" Insert: Custom Fly Box, Easy Grip, Foam

6" Insert - Easy Grip Slit Foam Fits all 6" Boxes - holds small to medium parachute dries, nymphs, wet flies and streamers \$5.00



Wheatley: 6" Insert: Custom Fly Box, Low Ripple, Foam

6" Insert - Low profile (6mm) Ripple Foam Fits all 6" Boxes - designed mainly for small to medium dries, including traditional-hackled, but will hold all other fly styles as well. \$5.00



Wheatley: 6" Insert: Custom Fly Box, High Ripple, Foam

6" Insert - High profile (10mm) Ripple Foam Fits all 6" Boxes - designed mainly for small to medium dries, including traditional-hackled, but will hold all other fly styles as well. \$5.00



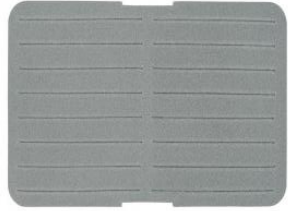
Wheatley 6" White Castle Foam Insert



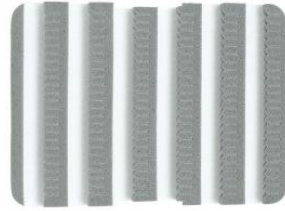
Wheatley 6" Black Castle Foam Insert

DIY: WOODEN FLY BOXES, Examples of different fly box inserts - Simms

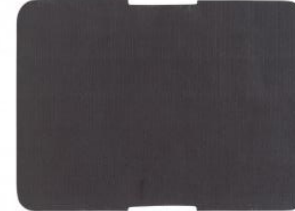
November 19, 2014



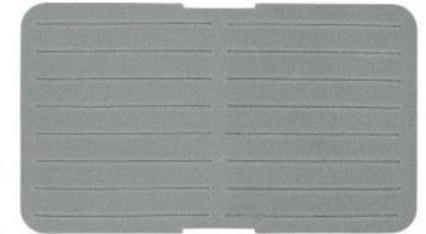
SIMMS SMALL FLY BOX INSERT
STREAMER SLIT
\$9.95



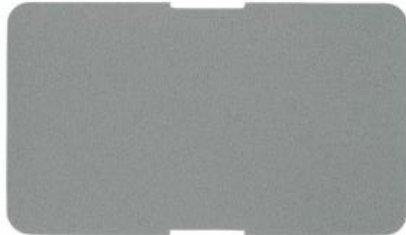
SIMMS SMALL FLY BOX INSERT
V-SLIT (6 ROW)
\$9.95



SIMMS SMALL FLY BOX INSERT
MAGNETIC
\$12.95



SIMMS MEDIUM FLY BOX INSERT
STREAMER SLIT
\$9.95



SIMMS MEDIUM FLY BOX INSERT
FLAT
\$9.95



SIMMS MEDIUM FLY BOX INSERT
WAVE
\$9.95



SIMMS MEDIUM FLY BOX INSERT
V-SLIT (4 ROW)
\$9.95



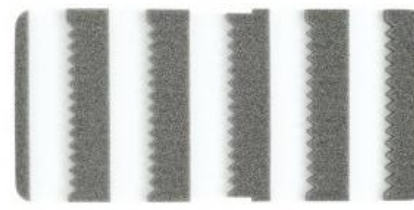
SIMMS MEDIUM FLY BOX INSERT
V-SLIT (7 ROW)
\$9.95



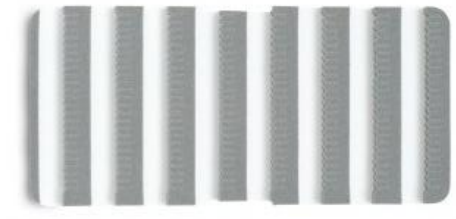
SIMMS MEDIUM FLY BOX INSERT
MAGNETIC
\$12.95



SIMMS LARGE FLY BOX INSERT
STREAMER SLIT
\$12.95



SIMMS LARGE FLY BOX INSERT
V-SLIT (5 ROW)
\$12.95



SIMMS LARGE FLY BOX INSERT
V-SLIT (8 ROW)
\$12.95

DIY: WOODEN FLY BOXES, Order Form

November 19, 2014

In the event that you do not want to produce your own templates, you can order a pre-made set from me. They are available for Small, Medium, or Large Mill Stream inserts. I also have the matching carbide router bit for them. Cash, check, money order, or PayPal accepted.

NAME:		SEND TO:	Gary Salisbury		
STREET:			5150 Espinoza Road		
CITY:			Bostonia,		
STATE/ZIP:			California 92021-2200		
PHONE:		PHONE:	619-569-6035		
ITEM			PRICE	QTY	TOTAL
Complete MDF Template Set for <u>Small</u> Mill Stream Inserts ($\frac{3}{4}$ " Top Template for $\frac{3}{4}$ " cutting length router bit)			\$36.95		
Complete MDF Template Set for <u>Medium</u> Mill Stream Inserts ($\frac{3}{4}$ " Top Template for $\frac{3}{4}$ " cutting length router bit)			\$36.95		
Complete MDF Template Set for <u>Large</u> Mill Stream Inserts ($\frac{3}{4}$ " Top Template for $\frac{3}{4}$ " cutting length router bit)			\$36.95		
$\frac{1}{4}$ " Carbide Flush Trim Router Bit ($\frac{3}{4}$ " Cutting Length x $\frac{1}{2}$ " Cutting Diameter)			\$23.95		
			SUBTOTAL:		
			9½% CALIFORNIA SALES TAX:		
SHIPPING (\$10 for the 1st set, \$5 for each additional set, \$3 per router bit):					
			TOTAL:		