Route-a-Pocket

Plug Cutter

User Manual

White Oak Tools, LLC
User Manual # 108005-01

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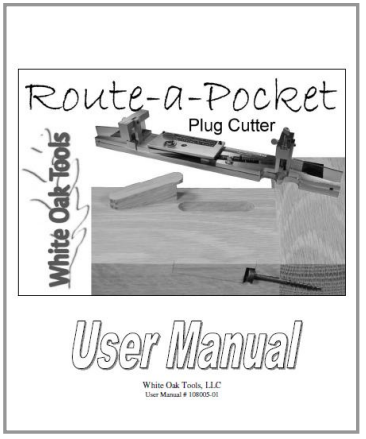
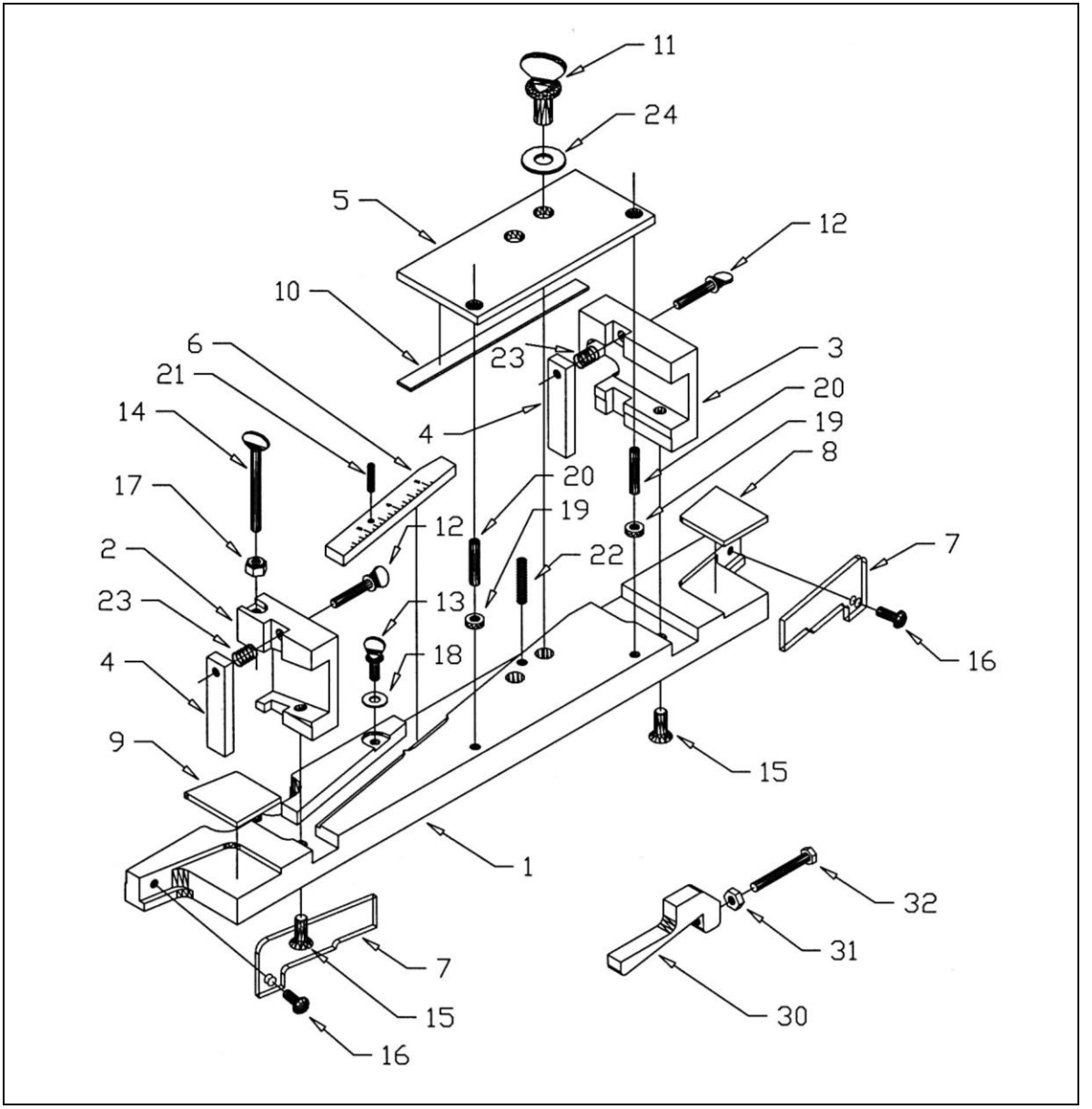
Patent Pending



Route-a-Pocket™ Plug Cutter	**Component**	**Part #**
	Route-a-Pocket™ Plug Cutter assembly	101040
	Double rounding wedge assembly	101041
	Flush trim router bit with upper bearing	104040
	User Manual	108005

Route-a-Pocket™ Plug Cutter Components



Exploded View of Plug Cutter

Item #	Part Name	Part #
1	Body	106040
2	Upright – station A	106041
3	Upright – station C	106042
4	Clamping bar (set of 2)	106043
5	Clamping plate	106044
6	Adjustment bar	106045
7	Finger guard (set of 2)	106046
8	Finger pad - right	106047
9	Finger pad - left	106048
10	Clamping pad	106049
11	Thumb screw	102040
12	Thumb screw (set of 2)	102041
13	Thumb screw	102042
14	Thumb screw	102043
15	Machine screw (set of 2)	102044
16	Machine screw (set of 2)	102045
17	Lock nut	102046
18	Washer	104041
19	Spacer (set of 2)	104042
20	Roll pin (set of 2)	104043
21	Roll pin	104044
22	Compression spring	104045
23	Compression spring (set of 2)	104046
24	Washer	104047
30	Double rounding wedge	106050
31	Jam nut	102047
32	Machine screw	102048

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Introduction:

Route-a-Pocket™ plugs can be made from virtually any natural or manmade wood product. They can also have nearly any grain direction. This flexibility gives you the freedom to make your Route-a-Pocket™ joinery invisible by matching the color and figure of the plug with the pocket workpiece, or celebrated by purposefully making and installing plugs with contrasting color and/or figure.

The "show" surface of the plug stock is not altered during the plug making process. This makes it easy to pre-select stock that will give the desired effect after plugging. It also makes it possible to retain the stock's "show" surface on the plug's "show" surface when using laminated or pre-finished stock. And because the plug size is easily and precisely adjustable, flush fitting plugs are a reality.

Route-a-Pocket™ is changing the way woodworkers use pocket screw joinery. Starting with clean cut pockets, screws can now be concealed with precision, ending the backside banishment of pocket screw joinery.

Table 1 - Route-a-Pocket™ Plug Cutter Specifications	
Plug Width	3/8”
Plug Length	Single Rounded: 1.5” to 5.0” Double Rounded: 1.5” to 2.5”
Flush Trim Router Bit with Upper Bearing	1/2” cutting dia. · 1” cutting length 1/4" dia. shank · 1/2" dia. bearing

Safety:
Read and understand this user manual in its entirety before using the Route-a-Pocket™ Plug Cutter. It is also imperative that you follow all safety and operating instructions that came with your router and router table.

Figure 1 illustrates the proper hand placement when using the Route-a-Pocket™ Plug Cutter. Always keep the finger guards between your fingers and the router bit.

Figure 1 – Proper Hand Placement

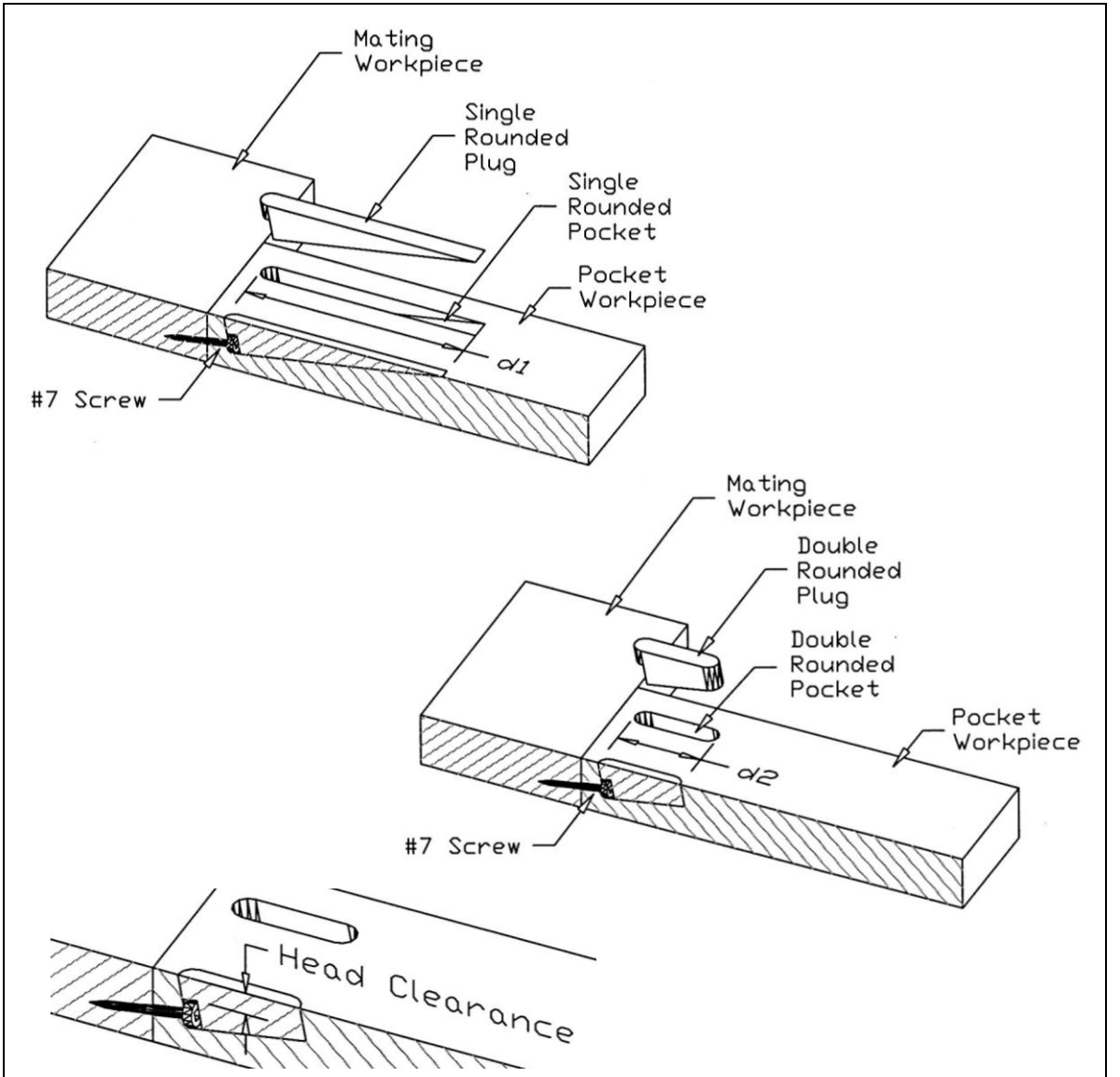


Figure 2 – Single and Double Rounded Joint Anatomy

Prepare the pocket and pilot hole by following the instruction in the Route-a-Pocket™ User Manual.

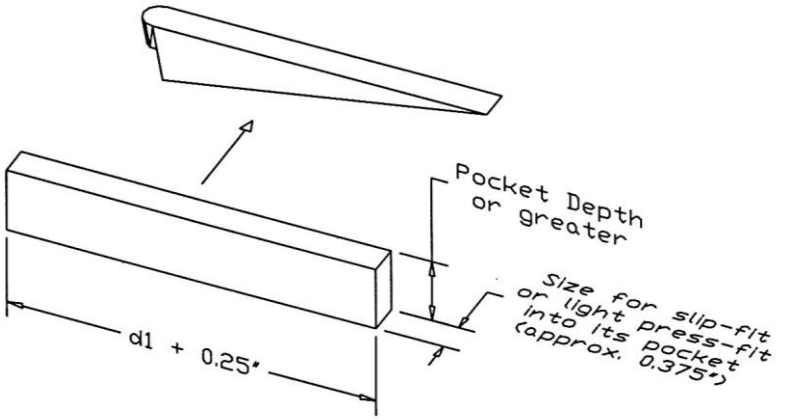
The pocket may be single or double rounded.

Single rounded pockets are machined with the Route-a-Pocket's upper stop positioned at 12C.

If machining a double rounded pocket, determine "d1" by relocating the upper stop to 12C and cut a single rounded pocket in scrap material. "d1" is needed later in **Machining the Plug – Step 2**.

The suggested single and double rounded settings are listed on the back cover of this User Manual.

Note:
"d1" and "d2" are defined in Figure 2.



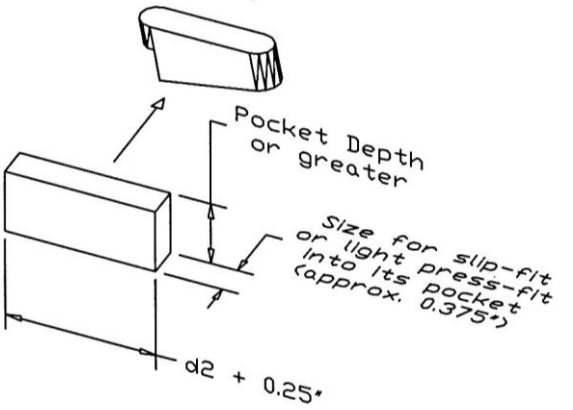


Figure 3 – Single & Double Rounded Blank Dimensions

Route-a-Pocket™ plugs begin as simple rectangular blocks called blanks. The blanks are made using common woodworking techniques and equipment.

Route-a-Pocket™ plugs may be single or double rounded.

Layout and machine the blanks from stock that will give the desired effect.

The width of the blank is sized to provide a slip fit or light press fit when inserted into its pocket. The blank width is typically slightly less than 3/8" (0.375").

The blank height is not critical but must be greater than the pocket depth. The blank height is typically equal to the thickness of the pocket workpiece.

When making a single rounded plug, the blank length should be approximately 1/4" longer than pocket length "d1" (see Figure 2).

When making a double rounded plug, the blank length should be approximately 1/4" longer than pocket length "d2" (see Figure 2).

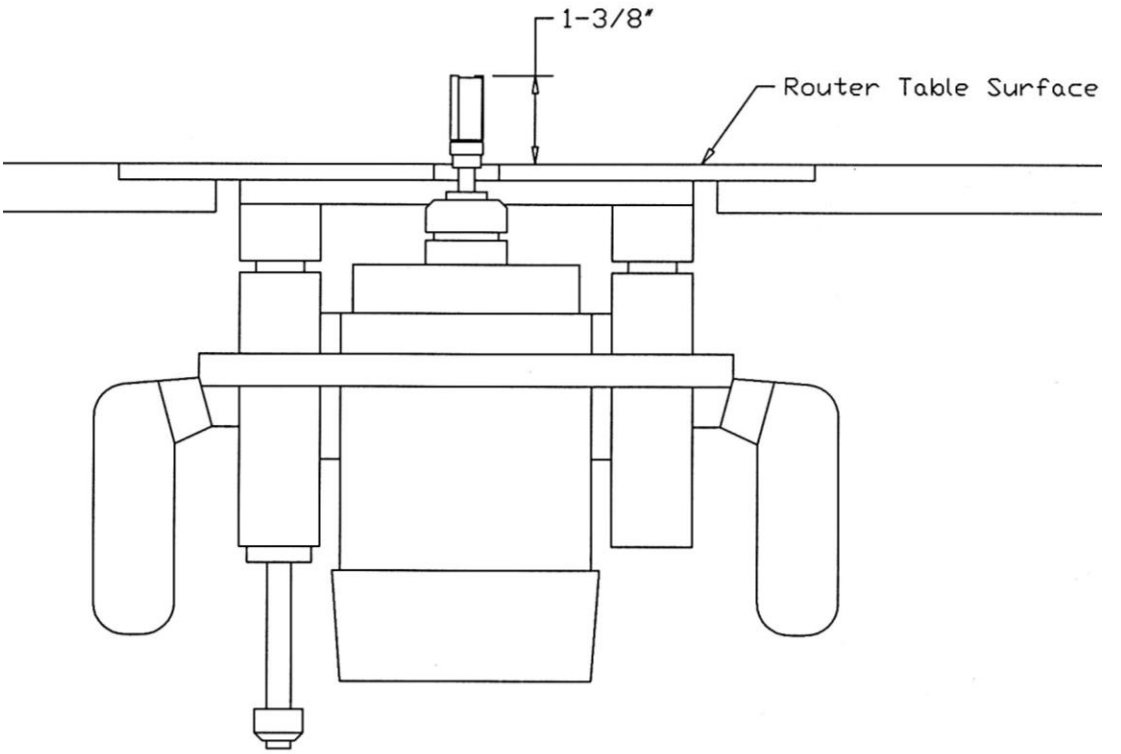


Figure 4a – Setting the Router Bit Height

Set the height of the supplied flush trim router bit 1-3/8” above the surface of the router table.

Confirm Station “C” clears the tip of the router bit by approximately 0.030” (the thickness of a credit card).

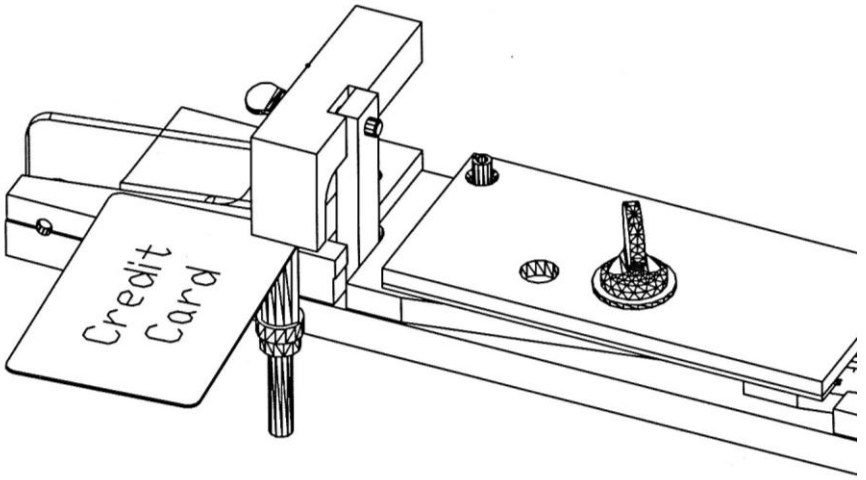


Figure 4b – Confirming Station “C” Clearance

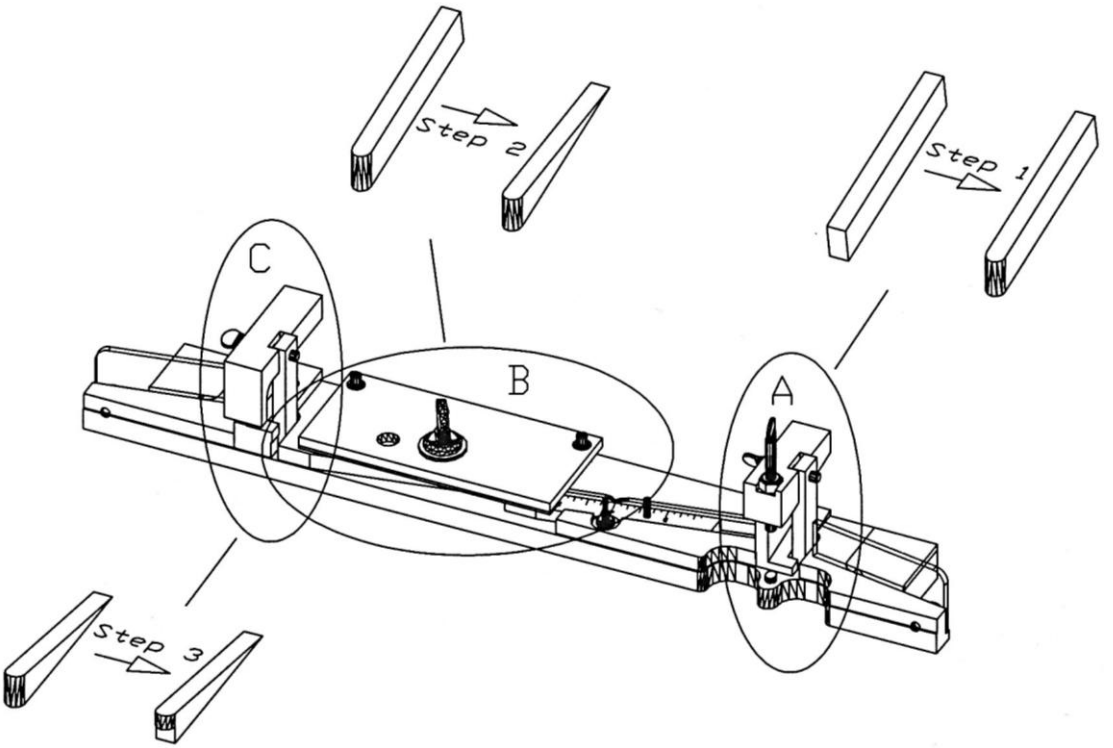


Figure 5a – Single Rounded Plugs (Steps 1 – 3)

Route-a-Pocket™ plugs are made using either a 3 or 4 step process.

Single rounded plugs are made in 3 steps, whereas, double rounded plugs require one additional step.

Step 1 is accomplished in Station "A", Steps 2 and 3 are accomplished in Stations "B" and "C" respectively, and Step 4 is accomplished in Station "A" using the double rounding wedge.

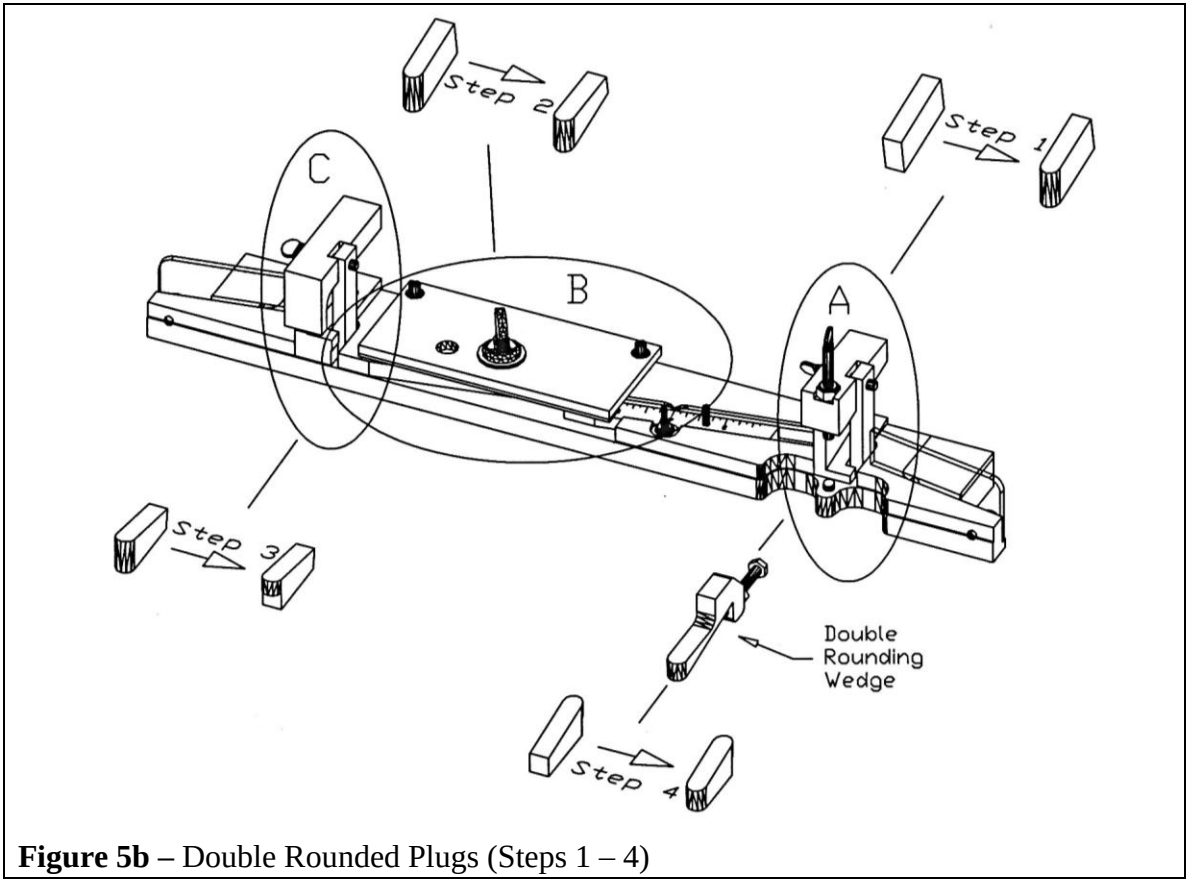


Figure 5b – Double Rounded Plugs (Steps 1 – 4)

Machining the Plug – Step 1

Note:
Plug show surface "X" is hidden from view.

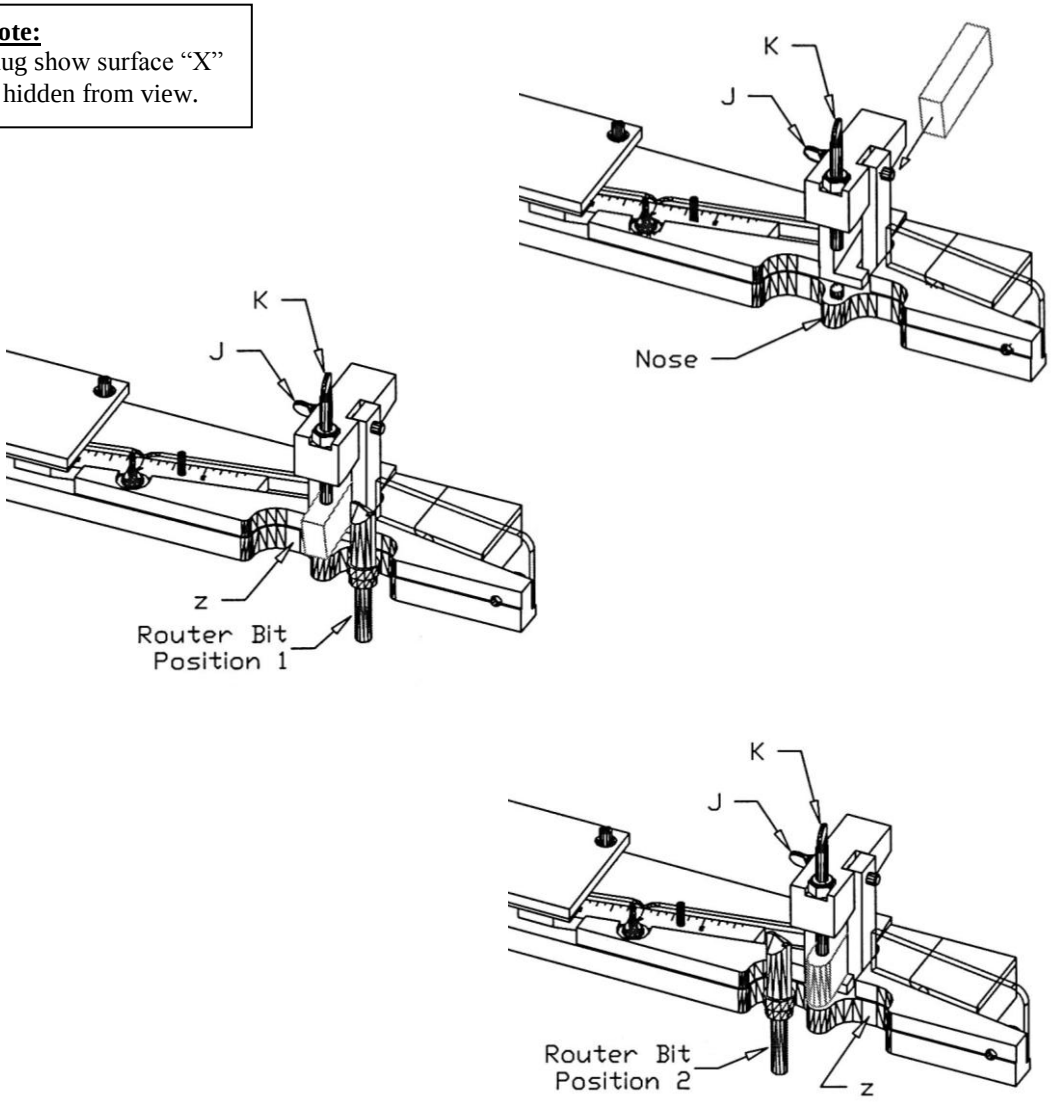


Figure 6 – Step 1

Use a pencil to draw an "X" on the surface of the blank that is to become the plug's show surface.

Load the plug workpiece (blank) into Station "A" with "X" down and the end slightly overhanging the "Nose" of the plug cutter.

Tighten thumb screw "J".

When making cross-grain plugs, tighten thumb screw "K" in addition to thumb screw "J".

Note: Thumb screw "K" is used to provide additional plug workpiece support near the nose of the plug cutter. The additional support is typically needed only when making cross-grain plugs.

Turn the router on.

Hold the plug cutter as shown in Figure 1.

Using several light passes, guide the plug cutter from router bit position "1" to router bit position "2". On the final pass, keep the bearing of the router bit in contact with surface "z". Step 1 is complete when the end of the workpiece is fully rounded.

Turn the router off.

Loosen thumb screw(s) "J" and "K" (if used).

Remove the plug workpiece from Station "A".

Machining the Plug – Step 2

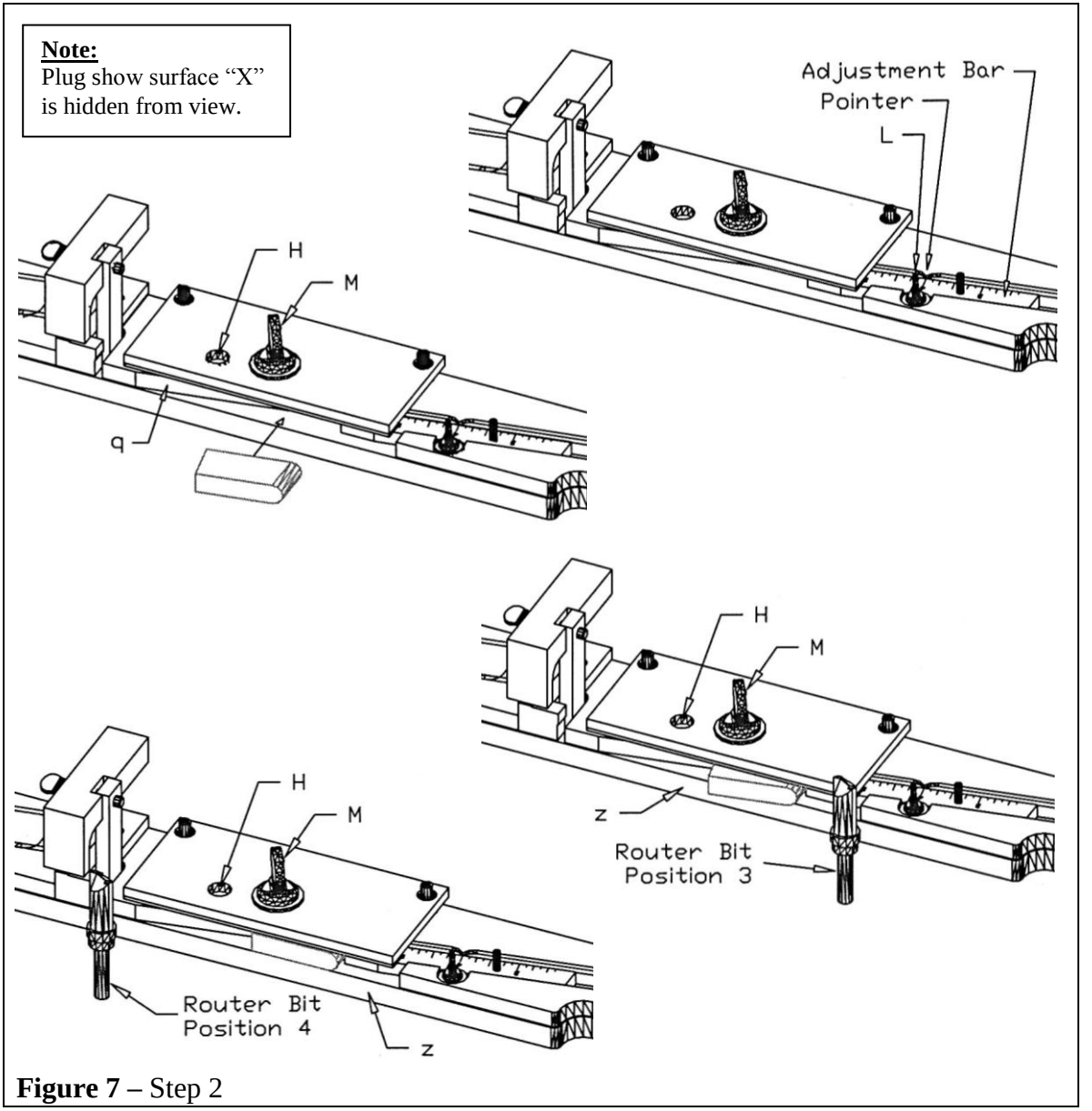


Figure 7 – Step 2

If making a single rounded plug, measure pocket length "d1" (see Figure 2). If making a double rounded plug, measure "d1" on the scrap material previously prepared and discussed in **Joint Anatomy & Preparing the Pocket**.

Loosen thumb screw "L".

Slide the adjustment bar until the pointer is aligned with length "d1".

Note: The plug can be made to fit above flush when installed into its pocket by setting the scale to a slightly longer dimension.

Tighten thumb screw "L".

Load the plug workpiece into Station "B" with "X" in contact with surface "q" and the rounded end in contact with the end of the adjustment bar.

Tighten thumb screw "M".

Note: Thumb screw "M" and its washer may be relocated to hole "H". Hole "H" may offer improved clamping under some circumstances.

Turn the router on.

Hold the plug cutter as shown in Figure 1.

Using several light passes, guide the plug cutter from router bit position "3" to router bit position "4". On the final pass, keep the bearing of the router bit in contact with surface "z". Step 2 is complete when the plug workpiece is fully tapered.

Turn the router off.

Loosen thumb screw "M".

Remove the plug workpiece from Station "B".

Machining the Plug – Step 3

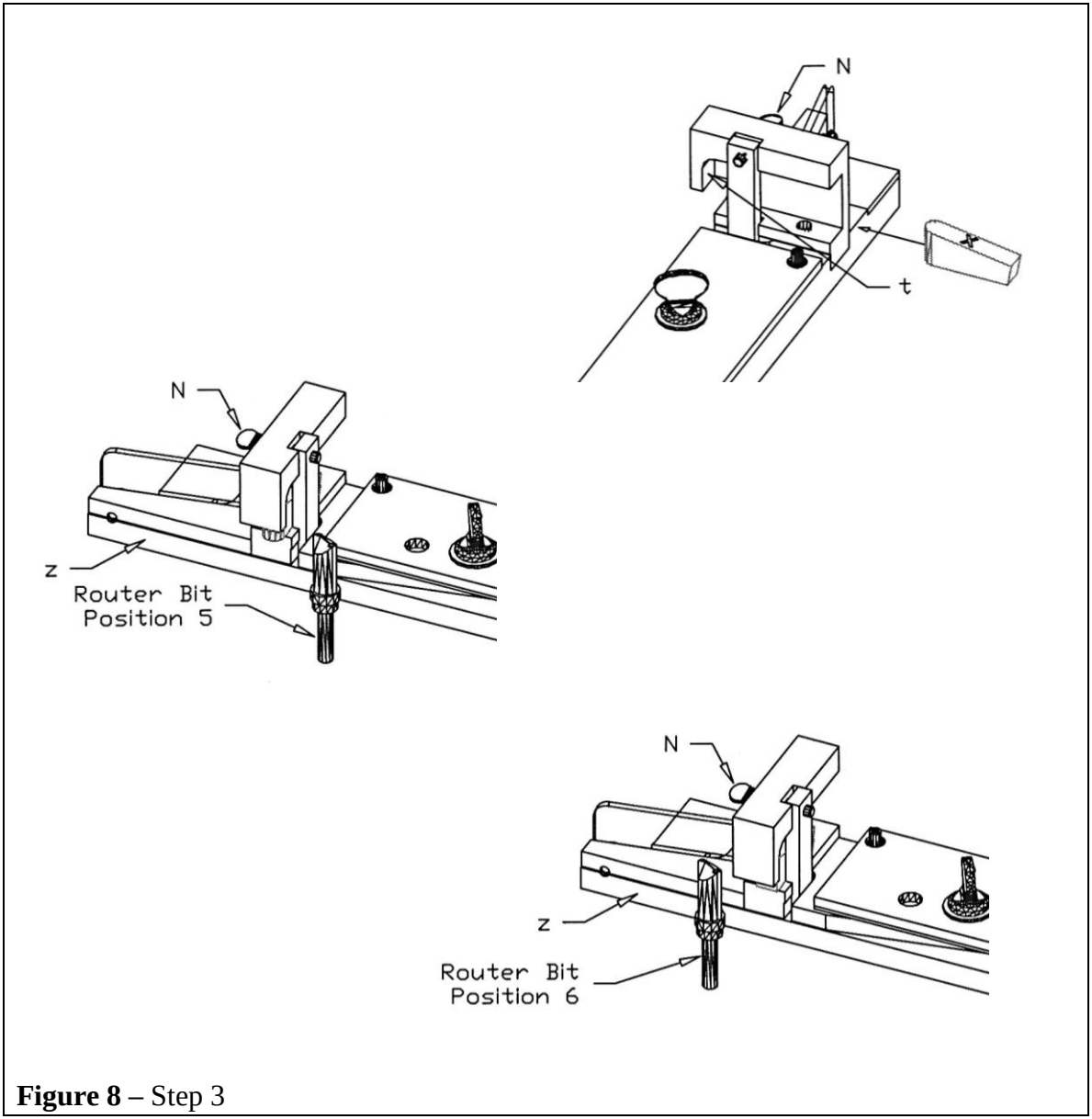


Figure 8 – Step 3

Load the plug workpiece into Station “C” with “X” up and the rounded end in contact with surface “t”.

Tighten thumb screw “N”.

Turn the router on.

Hold the plug cutter as shown in Figure 1.

Using 1 or more passes, guide the plug cutter from router bit position “5” to router bit position “6”. On the final pass, keep the bearing of the router bit in contact with surface “z”. Step 3 is complete when the plug workpiece is fully notched.

Turn the router off.

Loosen thumb screw “N”.

Remove the plug workpiece from Station “C”.

If making a single rounded plug, skip to **Installing the Plug**.

If making a double rounded plug, continue to **Machining the Plug – Step 4**.

Machining the Plug – Step 4

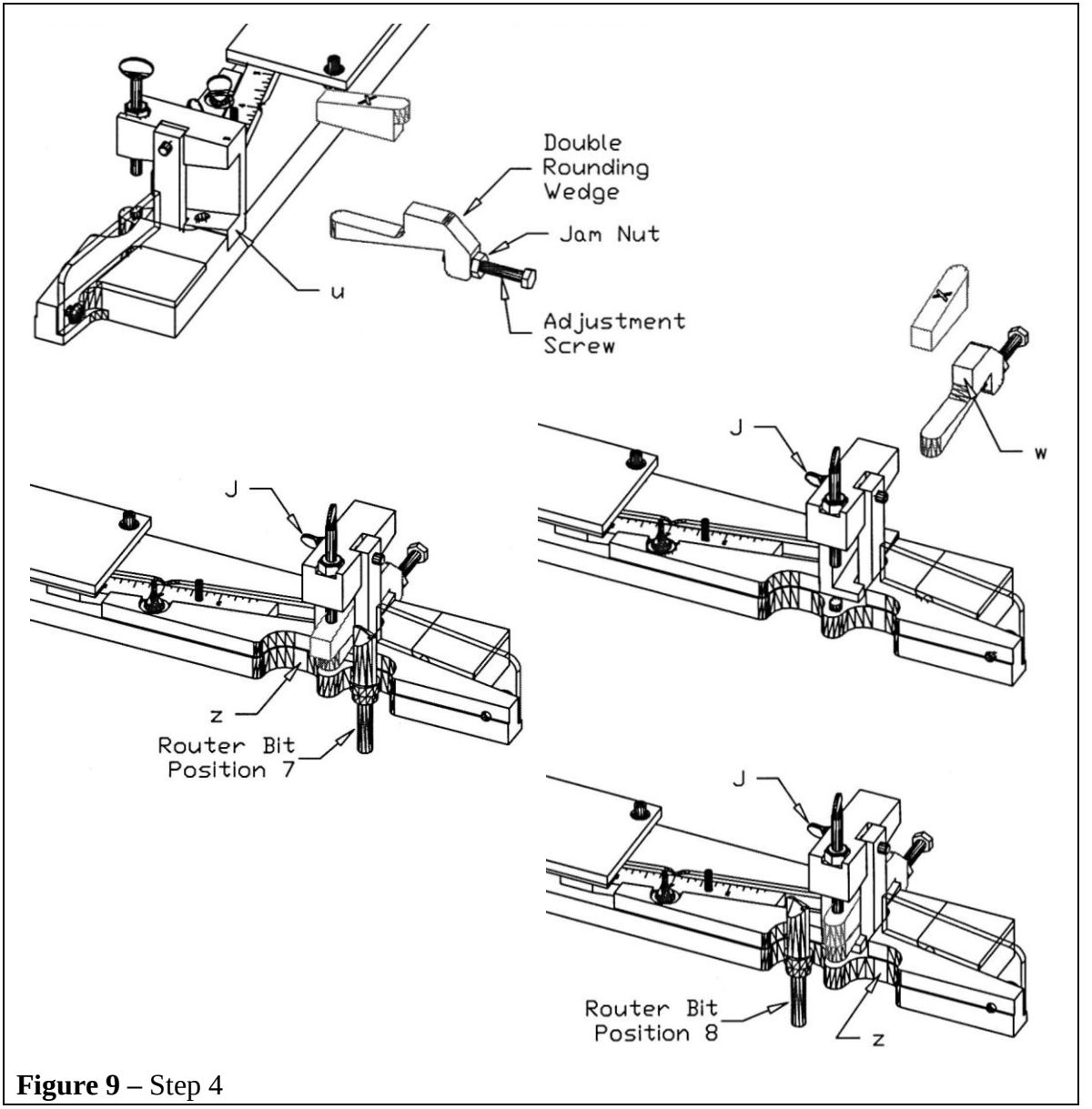


Figure 9 – Step 4

The double rounding wedge is used to properly position the plug workpiece in Station "A" during Step 4.

Rest the plug workpiece on the double rounding wedge with "X" up and the rounded end in contact with surface "w".

Load the double rounding wedge and plug workpiece into Station "A" with the end of the adjustment screw touching surface "u".

Loosen the jam nut and turn the adjustment screw to achieve plug length "d2" (see Figure 2).

Tighten the jam nut

Re-confirm that the end of the adjustment screw is in contact with surface "u" and that the rounded end of the plug workpiece is in contact with surface "w".

Tighten thumb screw "J".

Turn the router on.

Hold the plug cutter as shown in Figure 1.

Using several light passes, guide the plug cutter from router bit position "7" to router bit position "8". On the final pass, keep the bearing of the router bit in contact with surface "z". Step 4 is complete when the end of the workpiece is fully rounded.

Turn the router off.

Loosen thumb screw "J".

Remove the plug workpiece and the double rounding wedge from Station "A".

Installing the Plug

When test fitting the plug into its pocket, use one of the following techniques to facilitate plug removal:

- If test fitting prior to assembling the pocket workpiece to its mating workpiece - Remove the plug by inserting a slender object, such as a screwdriver, through the pilot hole and work the plug from its pocket.
- If test fitting after assembling the pocket workpiece to its mating workpiece - Lay strong fishing line across the pocket prior to inserting the plug - Remove the plug by simultaneously pulling on both ends of the fishing line.

If the plug is too wide, its width may be reduced using a sanding block or file. Other alterations may be accomplished by re-machining the plug in Station “A”, ”B” or “C”.

If desired, the plug may be permanently installed using glue and then sanded flush.

Small gaps or witness lines may be further concealed using one of the many available woodworking products designed to repair scratches.

To keep the Route-a-Pocket™ Plug Cutter sliding smoothly across the surface of the router table, periodically apply a coat of good quality silicone free paste wax to the bottom surface of the plug cutter.

Prior to each use, confirm that the flush trim router bit is clean and sharp. Also confirm that the router bit bearing is clean and spins smoothly and freely. If the bearing does not spin smoothly and freely, the bearing should be replaced or lubricated using one of the many available router bit bearing lubricants.

Customer Support

Feel free to contact us at:

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Email: support@whiteoaktools.com

Website: www.routeapocket.com

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Additional Route-a-Pocket™ components and accessories can be ordered from our website or by telephone.

Thank you for choosing the Route-a-Pocket™ System.

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Suggested Single and Double Rounded Plug Settings

Workpiece Thickness (in)	#7 Screw Length	Plunge Depth & Drill Guide Height	Lower Stop Position	Approximate d1 (in) **Step 2**	Single Rounded		Double Rounded		
					Upper Stop	Blank Length (in)	Upper Stop Position	Approximate d2 (in) **Step 4**	Blank Length (in)
5/8	1-1/4	3/4	35A	2-3/4	12C	3	56D	1-1/2	1-3/4
3/4	1-1/2	3/4	35A	2-3/4	12C	3	56D	1-1/2	1-3/4
1	1-1/2	1	35A	3-1/2	12C	3-5/8	56C	1-3/4	2
1-1/4	1-1/2	1-1/4	35B	4-1/4	12C	4-1/2	45D	2-1/8	2-1/2
1-1/2	1-1/2	1-1/4	35B	4-1/4	-	-	45D	2-1/8	2-1/2
1-1/2	1-1/2	1-1/2	35B	5	12C	5-1/4	-	-	-

Note: Workpieces less than 5/8" thick can not be plugged due to insufficient head clearance (see Figure 2).

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