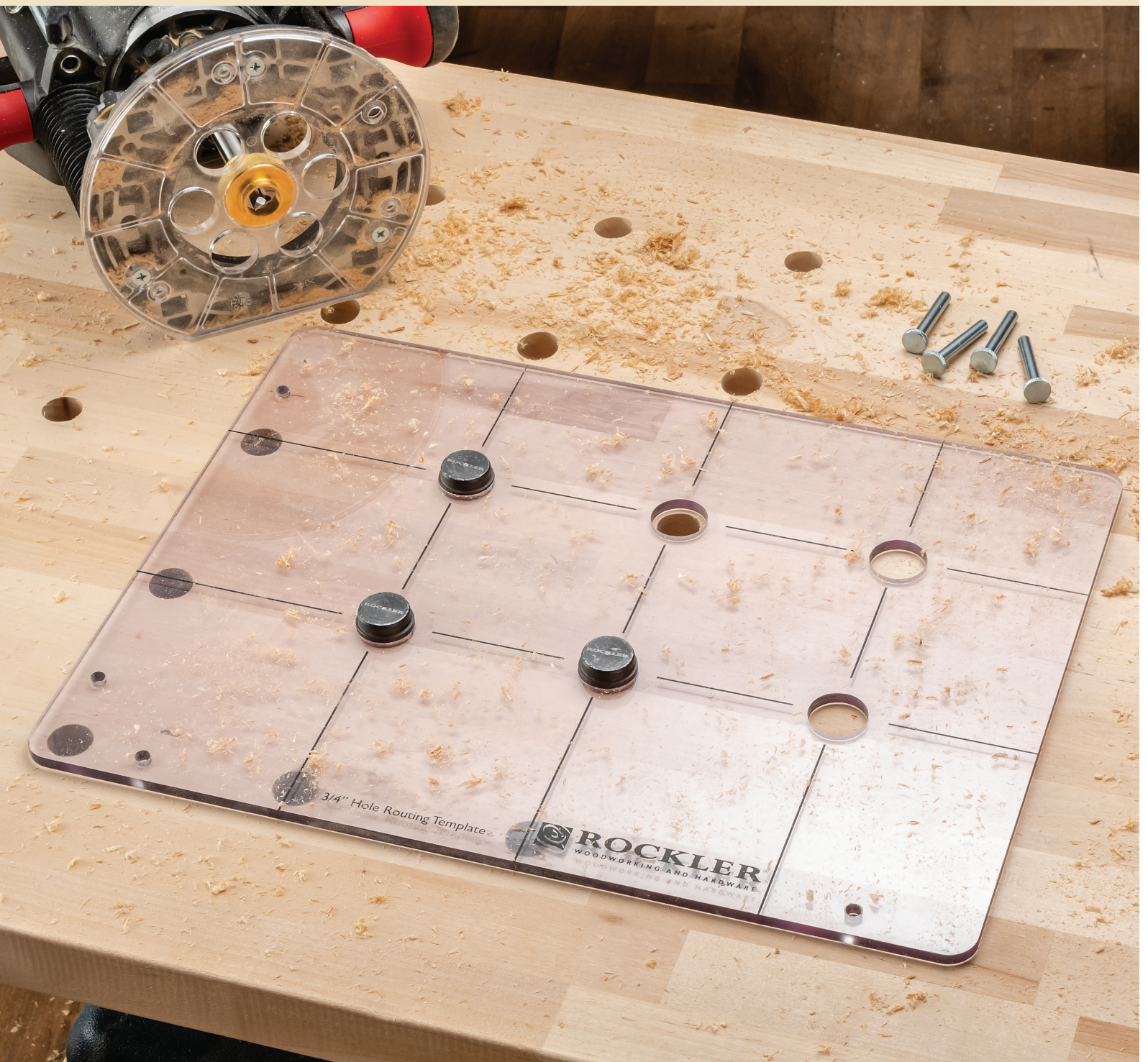


Bench Dog Hole Routing Template Instructions

Effective January 2022



GENERAL SAFETY WARNINGS

This product is designed only for specific applications as defined in the instructions and should not be modified or used for any manner not described in these instructions. Use only recommended accessories. Before using the Bench Dog Hole Routing Template: **READ, UNDERSTAND** and **FOLLOW ALL INSTRUCTIONS AND SAFETY WARNINGS. KEEP THESE INSTRUCTIONS READILY AVAILABLE FOR FUTURE REFERENCE.**

- > Always confirm that you are using the most recent version of the Instructions and safety warnings for your product (see the Instructions link on the product page at Rockler.com).
- > Before using another tool with this product, always read, understand and follow the instructions and safety warnings in the owner's manual for that tool. If you do not have the owner's manual, obtain one from the tool's manufacturer before using it with this product.
- > Before using any chemical with this product, always read, understand and follow all safety warnings and guidelines in the manufacturer's Safety Data Sheet (SDS; formerly called "MSDS"), especially regarding:
 - How to safely use the chemical, including potential hazards and recommended first aid measures;
 - Personal safety equipment required to safely use the chemical (e.g. gloves, eye protection, mask/respirator, etc.);
 - Proper and safe handling, storage and disposal of the chemical.
- > Before using this product, review and verify that all tools to be used with it have safety equipment installed and are in proper working order as defined by the tool's owner's manual.
- > Do not use this product until you have read and are confident you understand:
 - Product Specific Safety Warnings (p. 3);
 - Preparation and Setup (p. 4);
 - First, Rout Along the Worktop Edges (pp. 4 - 6);
 - Then Rout the Interior of the Worktop (pp. 6 - 7).
- > The user assumes all risk and responsibility for the proper and safe use of this product and for ensuring product suitability for the intended application.
- > It is the sole responsibility of the purchaser of this product to ensure that anyone you allow to use this product reads and complies with all instructions and safety precautions outlined in this manual prior to use.
- > Follow all standard shop safety practices, including:
 - Keep children and bystanders away from the tool operating area;
 - Do **NOT** use power tools in explosive environments, or in the presence of flammable liquids, fumes or dust;
 - **TURN OFF AND UNPLUG** all power tools **BEFORE** making any adjustments or changing accessories;
 - Remain alert and use good judgment. Do not use this product if you are in any way impaired by medications, alcohol, drugs or fatigue;
 - Keep your work area well lit and clean;
 - Dress appropriately. Secure loose clothing, remove all jewelry and tie up long hair before using this product;
 - **ALWAYS** wear safety glasses, hearing protection and respiratory protection that complies with NIOSH/OSHA/ANSI safety standards;
 - Use dust collection tools and dust face masks to reduce exposure to dust;
 - Use safety equipment such as featherboards, push sticks and push blocks, etc., when appropriate;
 - Maintain proper footing at all times and do not overreach;
 - Do **NOT** force woodworking tools.
- > These warnings and instructions do **NOT** represent the total of all information available regarding tool safety, use and technique. Always seek out opportunities to learn more and improve your skills and knowledge.

⚠ WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

⚠ DANGER

Danger indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ WARNING

Warning indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION

Caution indicates a hazardous situation that, if not avoided, may result in minor or moderate injury or property damage.

NOTICE

Notice indicates important or helpful information and/or user tips.

PRODUCT SPECIFIC SAFETY WARNINGS



⚠ DANGER

- > To avoid serious injury, keep hands and fingers away from spinning router bit. Maintain awareness of the bit at all times.

⚠ WARNING

- > In addition to these instructions, be sure to read, understand and follow the user's manual that came with your router, including all safe-operating instructions.
- > Use only with a plunge router that has at least a 2¼ HP motor, a 1/2" collet and a baseplate that can accept a standard guide bushing.
- > Use only with a 1/2" diameter straight or up-cut spiral router bit with a 1/2" shank.
- > Unplug your router before installing or adjusting the router bit or guide bushing.
- > Make sure the worktop into which you will be routing the holes is stable and secure and will not shift during the routing process.
- > Because it's not possible to clamp the template when routing holes in the interior of the worktop, you **MUST** secure the template to the worktop with three indexing dog pins pressed fully through the template and into dog holes already routed.

⚠ CAUTION

- > Do **NOT** attempt to cut the full depth in a single pass. Cut no more than 1/4" deep in each pass. Make multiple passes to achieve final depth.
- > Use of dust collection is strongly recommended. When routing holes, remove router from template between passes and vacuum residual dust from holes to ensure guide bushing can maintain contact with template. Dust buildup could prevent router from cutting uniform 3/4" diameter holes.

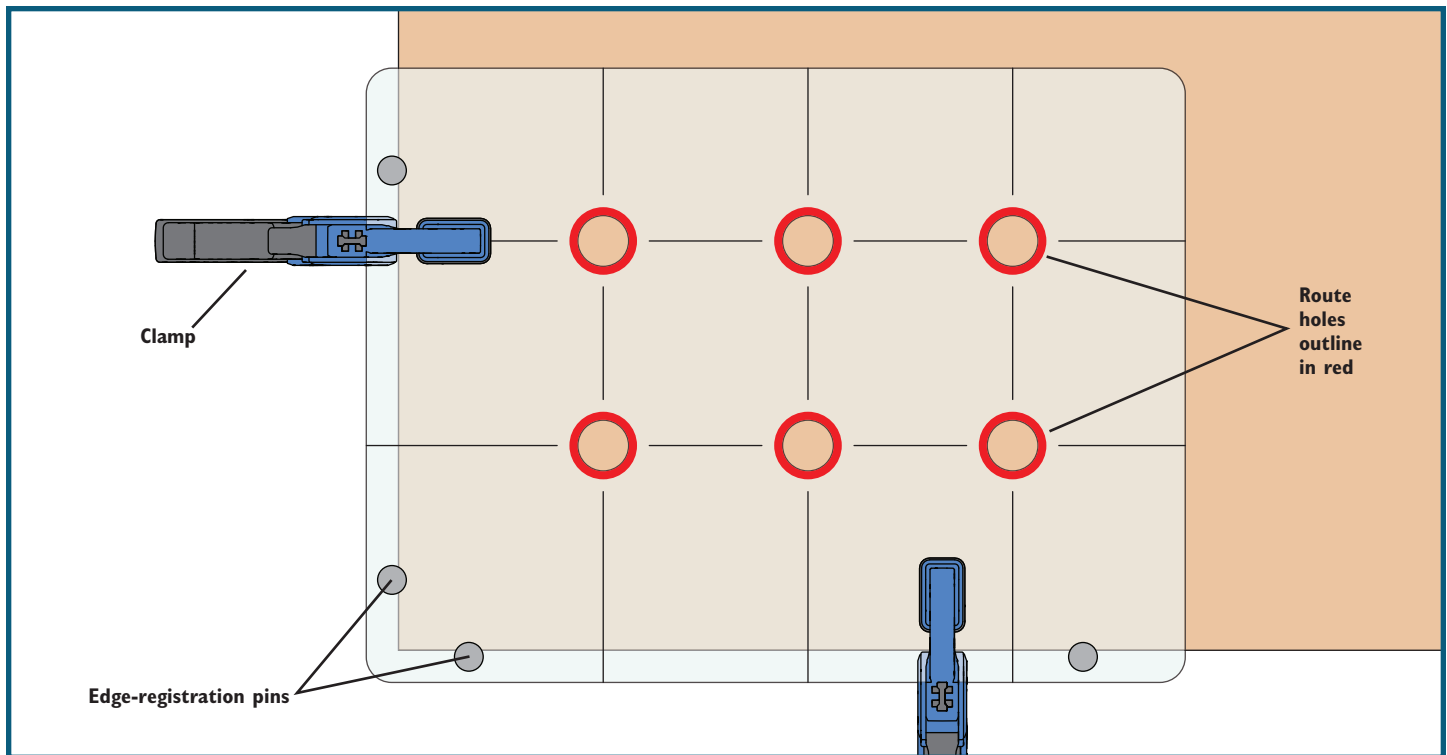


Fig. 1

Preparation and Setup

NOTICE

Routing the dog holes all the way through your worktop will require several deepening passes with your router while the template is secured in the same location. You can do this by routing all holes to the same initial depth; stopping and increasing the router's plunge depth by 1/4"; routing all holes with the new setting; stopping and increasing the plunge depth by an additional 1/4"; routing all holes with the new setting; and repeating this process until the hole goes through the entire thickness of your worktop. Or you can make all passes on one hole to cut all the way through and then move to the next hole and make all passes and so on. These instructions will use the first method, as it requires fewer total adjustments and therefore is likely to be faster.

To help make this process easier, Rockler offers a 1/2" Shank Router Baseplate Centering Guide (80548, sold separately).

1. Make sure that the baseplate of your plunge router is perfectly centered in relation to the collet. If you're uncertain about this, follow the manual that came with your router to center the baseplate.

NOTICE

If the shank of the guide bushing is deeper than the thickness of the template, sand the bottom of the guide bushing shank until it's just less than 1/4" deep. Test it in the hole of the template to make sure it doesn't extend beyond the template.

2. With your plunge router turned off and unplugged, install the included guide bushing on the baseplate of the router and secure by tightening the retaining ring.

3. Chuck a 1/2"-diameter straight or up-cut spiral bit in your router. Set the plunge depth to go 1/4" beyond the bottom of the lip on the guide bushing. You will need to increase the plunge depth by 1/4" after each pass until you're able to cut through the full depth of your worktop material. (Many plunge routers allow you to set multiple plunge depths with a built-in depth stop and turret mechanism. Refer to the user's manual to see whether your router has this capability.)
4. Map out the pattern of bench dog holes you want to rout into your worktop. This is very important, because the pattern will affect which holes in the template you use and the sequence in which you rout the holes in the worktop. The process will be different if you're routing a single row of holes around the perimeter of the worktop than it will be if you're routing a full grid across the entire surface.
5. Insert the four edge-registration pins in the small holes along two edges of the template, making sure the heads of the pins are seated in the template.

First, Rout Along the Worktop Edges

NOTICE

These instructions cover use of the template to rout 3/4" diameter bench dog holes spaced 4" apart on center.

If you're only looking to rout dog holes along the edge of your worktop, it's a good idea to place painter's tape over the top three holes on the template so you don't mistakenly rout those holes, too.

1. Position the template in the lower left corner of your worktop, with the edge-registration pins tight against the top's edges.

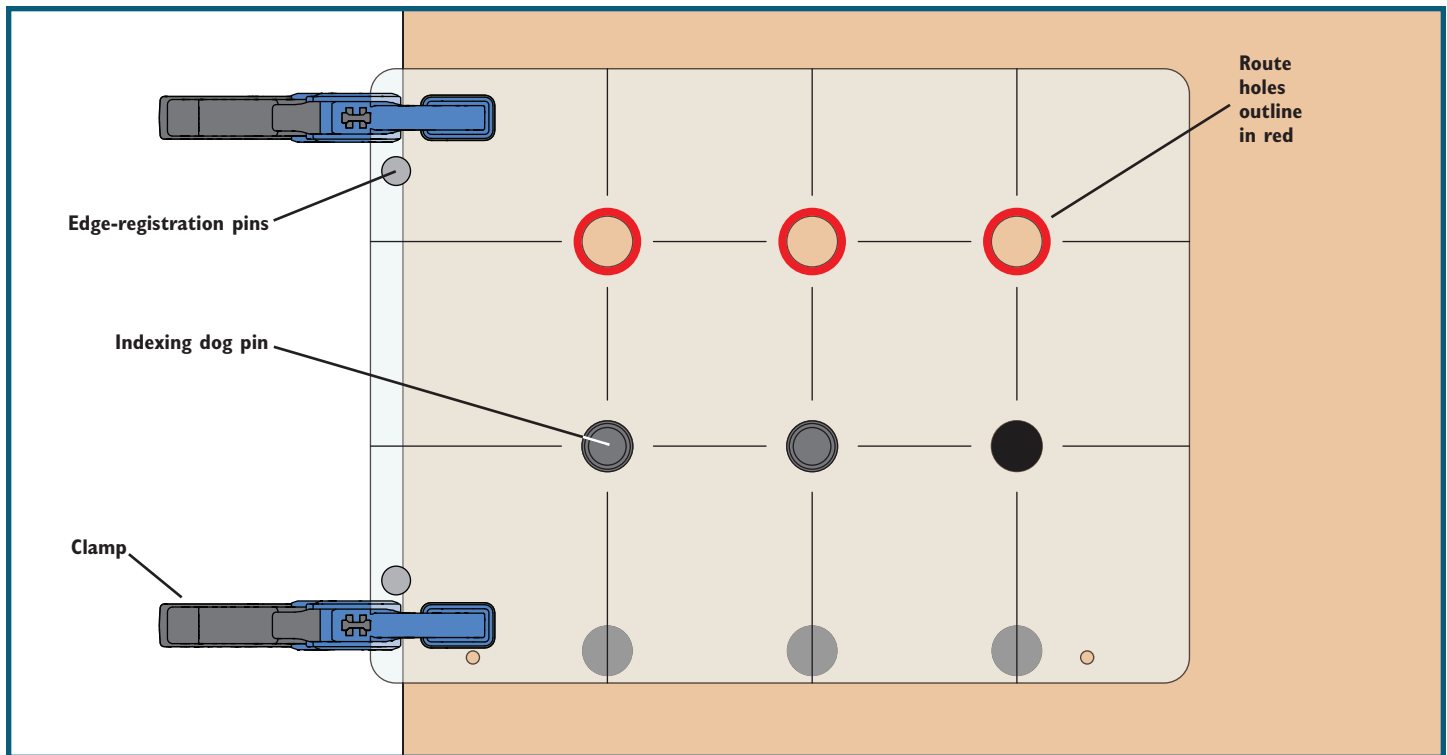


Fig. 2

Clamp the template in place (two clamps recommended). Position the clamps so they won't obstruct the router base during routing. **Fig. 1.**

2. With the router unplugged and the plunge mechanism released (in the up position), place the router on the template and fit the guide bushing in the bottom left hole, nearest the corner of the worktop. Practice the motion you will use to rout the holes: Keeping the guide bushing tight against the edge of the template hole, move the router in a clockwise direction until you have completed a full circle. Do this in all template holes you plan to use. Verify that the router will not contact the clamps at any point.
3. Return the router to the bottom left hole of the template, with the guide bushing in the hole and tight against the edge.
4. Turn on the router and slowly plunge the bit 1/4" into the worktop surface. Keeping the guide bushing tight against the edge of the template hole, move the router in a clockwise direction until you have completed a full circle.
5. Release the plunge mechanism, turn off the router and allow the bit to come to a full stop. Remove the router from the template.
6. Check the hole you just routed for sawdust or chips, and vacuum out any buildup. Dust buildup could prevent the guide bushing from maintaining contact with the template, resulting in small or misshapen dog holes. You **MUST** check for dust and vacuum out any buildup between every deepening pass with the router.
7. Move to the next hole you want to rout and repeat Steps 4-6. Follow this process until you have made the first pass in all holes you want with the template in that location.
8. With the router turned off and unplugged, increase the cutting depth by 1/4" and rout the second pass in all holes. Keep increasing the cutting depth by 1/4" and make additional passes until you've cut through the entire thickness of your worktop at all hole locations. Remember to vacuum out any dust buildup between every deepening pass with the router. To make sure the holes have been routed adequately, insert an indexing dog pin in each hole in the template to make sure the pin seats correctly.
9. Determine whether you want to shift the template up or to the right to continue routing the hole pattern. (You will need to do both before moving to the center of the worktop. This is necessary to help ensure uniform hole spacing.) For the purposes of these instructions, we'll shift the template up first to address the holes along the left edge of the worktop and then move to the holes along the bottom edge.
10. Release the clamps holding the template to the worktop, and remove the two edge-registration pins along the bottom edge of the template.
11. Keeping the edge-registration pins tight against the left edge of the worktop, shift the template upward until the lower set of holes in the template aligns with the upper set of dog holes you just routed.

NOTICE

Once you have routed the hole pattern in your worktop, the indexing dog pins can be used as low-profile bench dogs in the finished bench.

12. Press two indexing dog pins tightly into the overlapping holes to perfectly position the template, and then secure the template further with clamps. **Fig. 2.**

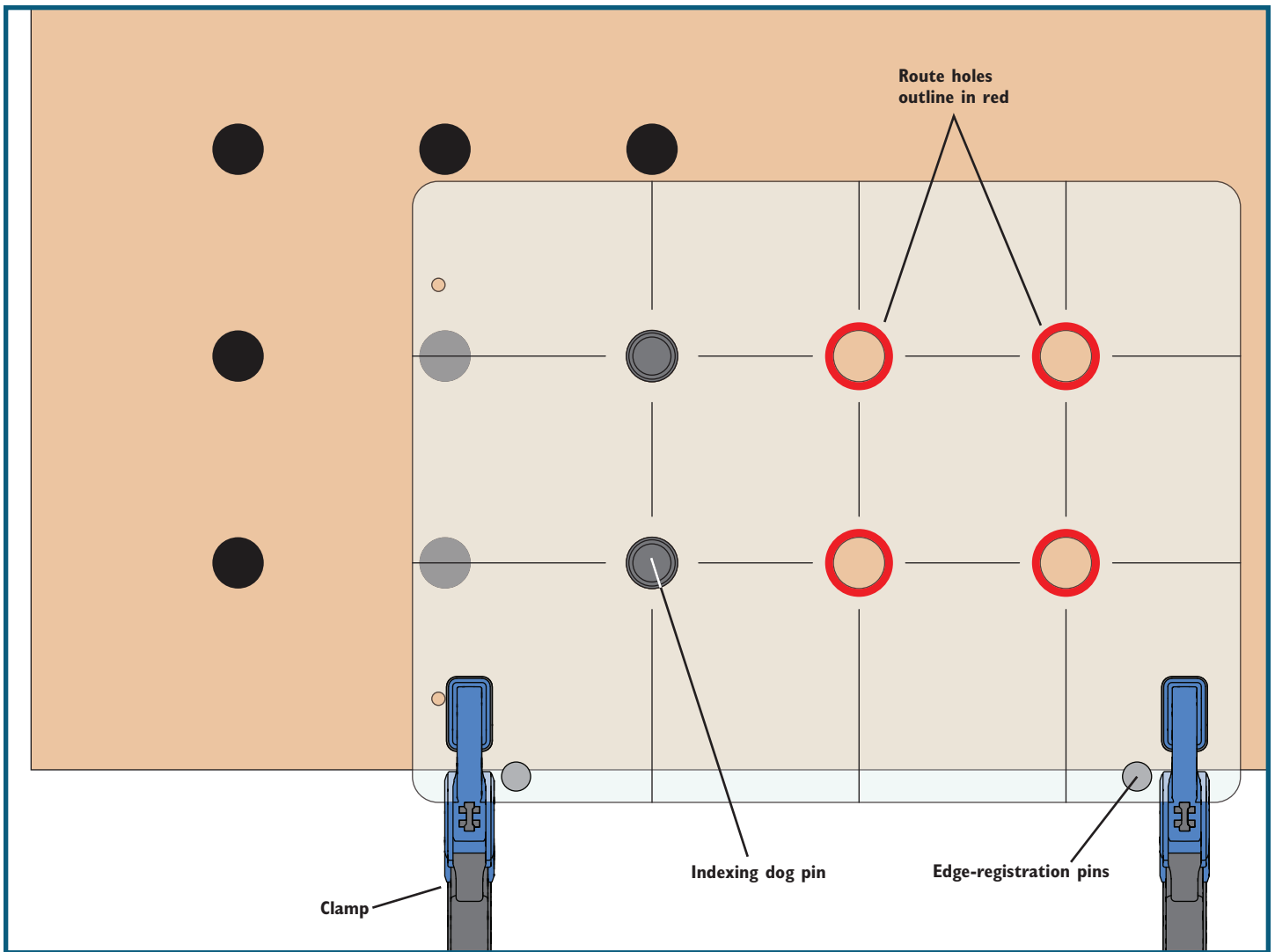


Fig. 3

13. Place the router on the template, with the guide bushing in the next hole you intend to rout.
14. Follow the process detailed in Steps 4-8 until you have routed all holes you want with the template in this location. Again, remember to vacuum out any dust buildup between every deepening pass with the router.
15. Continue to shift the template upward, securing it as described in Steps 11 and 12 at each location, until you have completed routing the dog holes along that edge of the worktop.
16. Move the two edge-registration pins from the side of the template to the two holes along the bottom edge of the template.
17. Reposition the template so that the edge-registration pins are tight against the bottom edge of the worktop, and slide it until the left column of two holes in the template is centered on the rightmost set of dog holes you initially routed.
18. Press two indexing dog pins tightly into the overlapping holes to perfectly position the template, and then secure the template further with clamps. **Fig. 3.**

19. Follow the same process you did when routing the dog holes along the left edge of your worktop to rout holes along the bottom edge, shifting the template as you go and vacuuming out debris between deepening passes.

Then Rout the Interior of the Worktop

⚠WARNING

> Because it's not possible to clamp the template when routing holes in the interior of the worktop, you **MUST** secure the template to the worktop with three indexing dog pins pressed fully through the template and into dog holes already routed.

1. Remove all edge-registration pins from the template.
2. Position the template in the interior of the worktop so at least three of its holes overlap three holes you've already routed in the worktop.

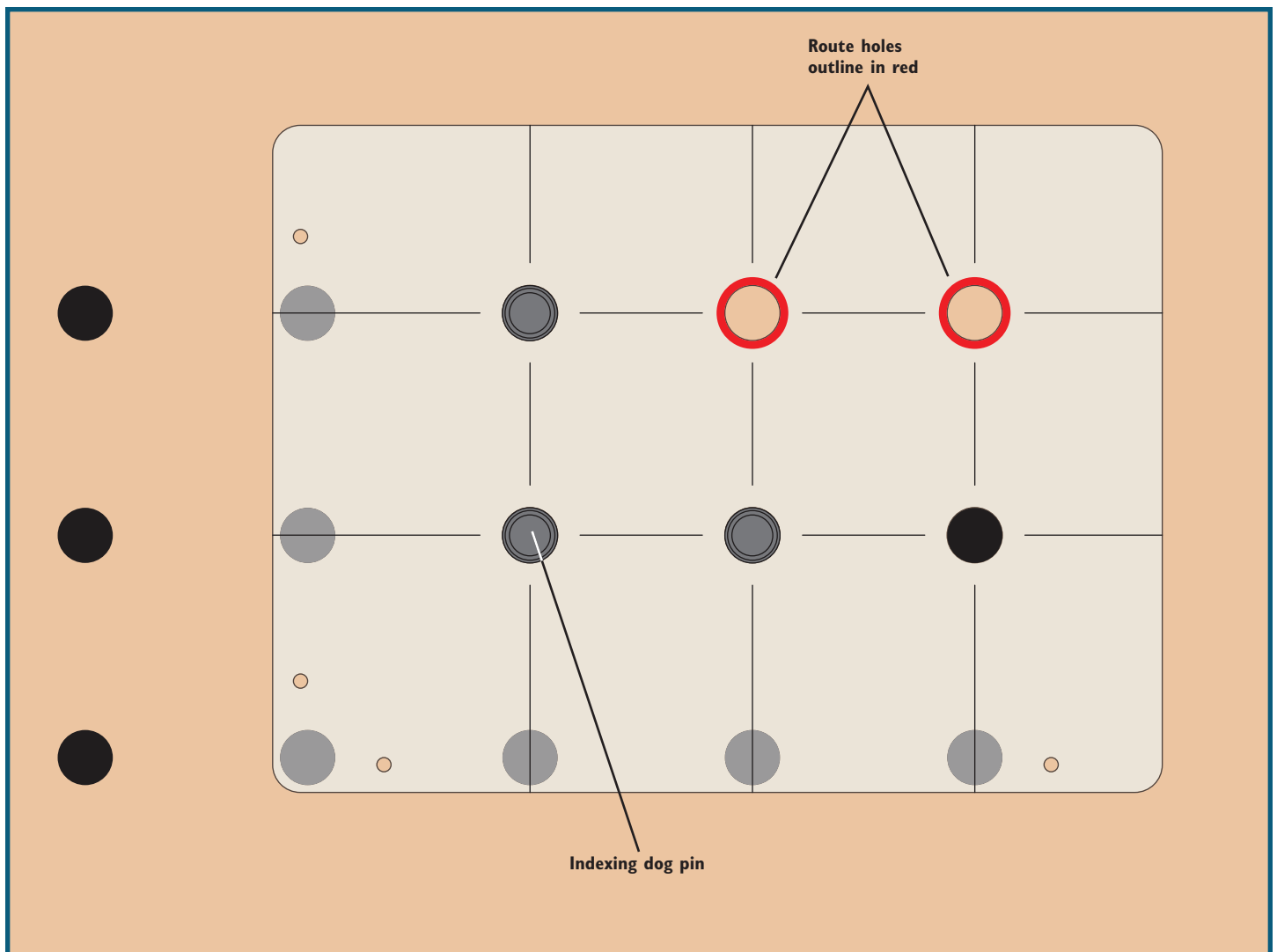


Fig. 4

3. Press three indexing dog pins tightly into the overlapping holes to perfectly position and secure the template in place. **Fig. 4.** The template should not move when the indexing dog pins are installed correctly.
4. Follow the process you used to rout holes along the edges of the worktop, making several passes of increasing depth and vacuuming out the holes between passes until you cut all the way through.
5. Once you've routed all holes at that template location, shift the template and secure with three indexing dog pins to rout the next set of holes. Proceed in this manner until you've routed all the holes you want.

Check Rockler.com for updates. If you have further questions, please contact our Technical Support Department at 1-800-260-9663 or support@rockler.com

