

Rainbow Wood Magnetic Knife Strip

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Intro: Rainbow Wood Magnetic Knife Strip

This is a magnetic knife strip that is made from cut-offs of fine hardwoods that I had lying around the shop. Glue them all together and you get something I'm calling rainbow wood. It also has a line of rare earth magnets embedded in it so it's got surprisingly strong knife-holding power.

My issue with conventional knife holders is that they're often covered in metal, which means that there's the potential for the blade edge to get a nicked or damaged. That's just simply not a possibility with this wooden one. Furthermore, the ones that are made of wood are often cheaply made with weak magnets that don't sufficiently hold large 8" or 9" chefs knives. This knife holder does double duty as being both uniquely decorative, and is a step up from what's commercially available.



Step 1: Make stock material and cut off a strip

This knife hanging strip was made from a piece of scrap, scrap wood material. First, make a bunch of scrap wood material as described in this instructable here . Then, cutting across the board and using a sled so that the wood doesn't bind, cut a strip of scrap material off of the end. For a very long knife strip, or if your scrap wood blank is particularly short, cut two and glue them together.

Other tools this Instructable will require are basic wood working tools like:

- miter saw
- table saw
- router and router table
- palm sander
- various clamps

Other materials this Instructable will require are

- Elmer's® Carpenter's® Wood Glue
- rare earth magnets (.5"x.5"x.125")
- two part epoxy
- scrap wood
- food safe wood finish
- keyhole hangers

Quantities of these materials depends on the scale of the project.



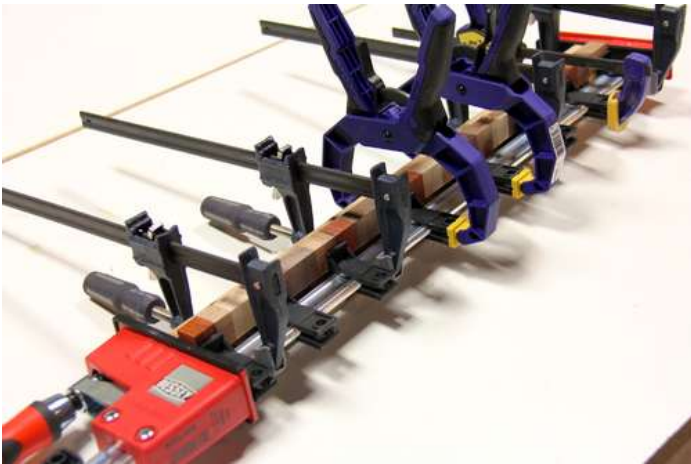
Step 2: Miter saw edges to prepare for gluing

I made a large knife rack that uses two strips glued together. Before gluing the two strips end to end to make one long one, I chopped the edge to be glued on the miter saw to make sure it was absolutely square.



Step 3: Glue two strips together (if necessary)

Glue the ends of the two strips together and clamp them well using another strip of wood to act as a caul opposite the clamp.



Step 4: Sand off the glue

Using 80 and 120 grit sanding discs, sand the strip and remove any glue marks. There's no need to go much higher in grit since the finishing sanding can be done just before applying the finish.



Step 5: Cut a groove

Cut a groove or rabbet in the strip using a router and a 1/2" straight bit. I used a router table to do this and set the fence so that the bit would round down the middle of the strip. The feather boards help to make sure that thin strip of wood is held securely in place as it is run through.

Make multiple passes, cutting deeper with the router on each one. Remove material until you come within a comfortable distance of the top of the strip. The goal is to leave as little material as possible in place, as this will be the barrier between your magnets and your knives. Less material = more holding power. I came to within a 1/8th or so of the top of the strip and my magnets have plenty of holding power on the knives.



Step 6: Cut a spline that fits

With the groove cut, it's time to cut a spline that will fill that space once the magnets have been inserted. With a few test magnets in place for thickness, measure the length, width and depth of your channel. Then, using some scrap material and a table saw, cut a spline that fits those dimensions. I cut the length on the spline on the chop saw. The spline should fit in place smoothly and easily. It should not be a tight, pressure fit, as it's held in place with epoxy in a later step.



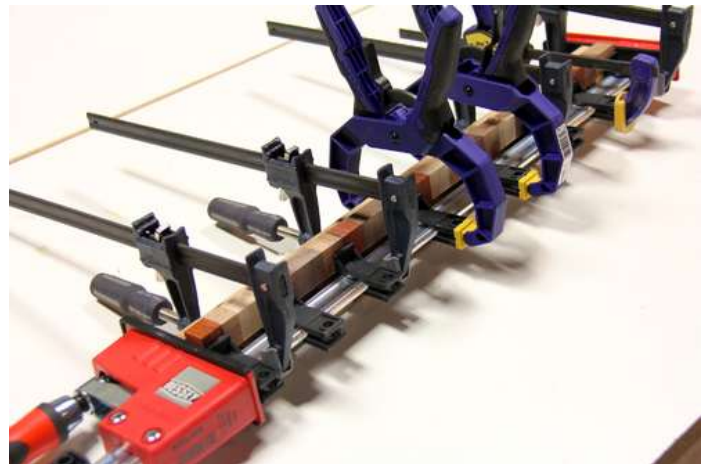


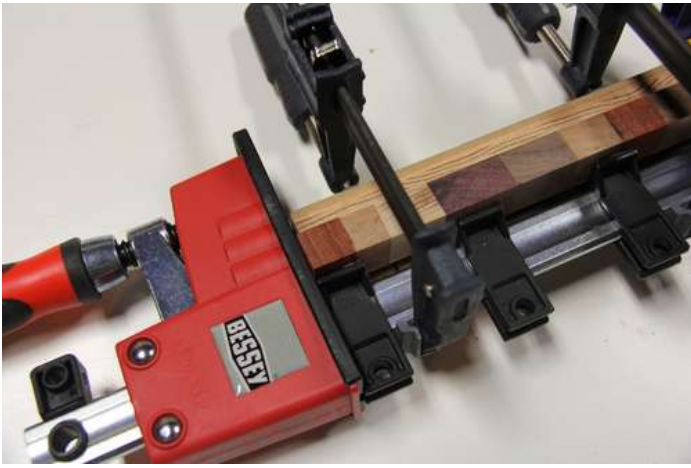
Step 7: Cap with more scrap material

Grab two more short pieces of scrap material that are cut to size and cap the ends of the strip. Use a caul along the back of the strip to make sure that the (3) pieces you are now gluing together are well aligned and true.

Sand off of any glue marks after the clamps have been removed and the glue has set.

You can avoid this step by cutting your groove with a router and plunge base, and not routing out material all the way to the end of your strip. Gluing on end caps wasn't too big of a chore for me, so I just quickly zipped it through the router table in step 5.

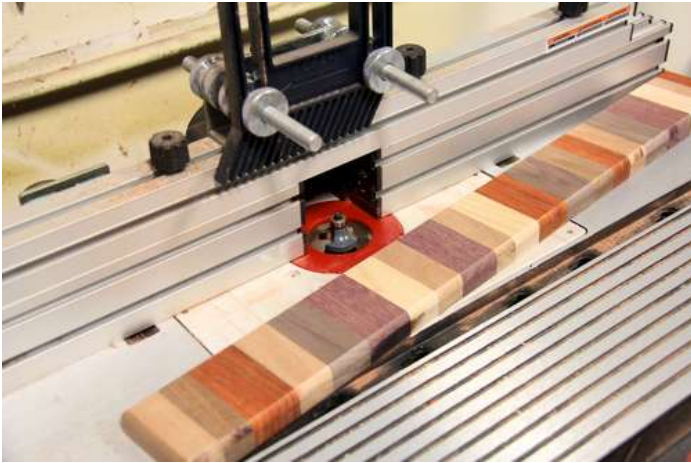




Step 8: Round over the edges

Using a round over bit, a router, and a router table, pick the nicest side of the wood strip and round over the edges on that side. The round over bit I used has a bearing that controls the cut, however I used the fence set to the same depth as the bearing for added stability. Since the bit was removing such a small material, I did this in one pass, without the use of feather boards since the wood is easy to control my hand.

One thing I do recommend is to use a sacrificial piece of wood as a followthrough to reduce tear out when you get to the end of a pass.



Step 9: Sand the strip with random orbital sander

Now it's time to do the finishing sanding. Using 120, 180 and then 220 grit sanding discs, sand the entire strip and remove any marks from the clamping, gluing and routing.



Step 10: Insert magnets

The hardest part of making this knife strip was working with the rare earth magnets. They have a surprising affinity to stick to one another and will *snap* together unexpectedly. That being said, they do attract to one another end to end, so they can be carefully laid out.

Lay the magnets out into strips making sure to keep all the poles going in the same direction. You can tell this easily because if the poles are misaligned, the magnet will repel the one adjacent to it. If it attracts, you know the poles are good to go.

The magnets I'm using are 1/2" W x 1/2" L x 1/8" thick rare earth magnets.

I wanted to make registration points for certain large knives that I own and make sure that there would be no chance of knocking one knife into another when placing them on the strip. To do this I made sections, or small clusters of magnets that were separated by short sections 1/8" acrylic material. The acrylic spacers allow me to control the groups of magnets. See 3rd photo and photo notes below for more detail.

Lay out the strip of magnets and then gently transfer them into the bottom of the groove. Insert spacers (optional) as you see fit to create knife groupings or clusters.

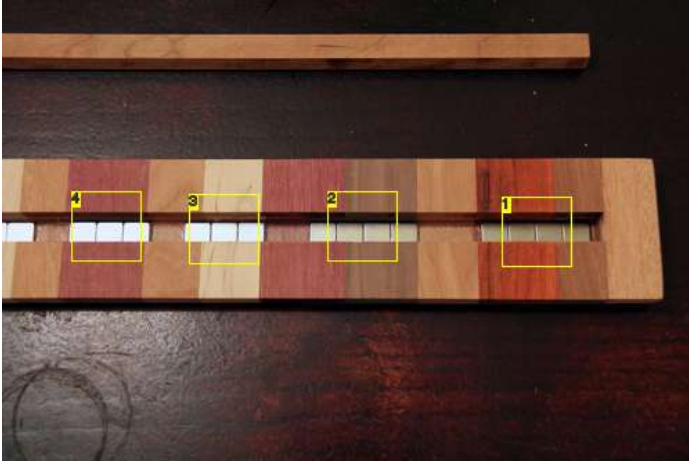


Image Notes

1. One knife
2. Two knife
3. Three knife
4. Four knife



Step 11: Epoxy magnets in place

Using a quick set 2-part epoxy, glue the magnets into place inside the knife strip.



Step 12: Glue spline in place

Using more of the same epoxy, glue the spline into position on top of the magnets. This will hold all the magnets in position forever.

Apply clamps and let the epoxy set. I used masking tape to protect my clamp heads so that they wouldn't become epoxied in place from any squeeze out that might occur.

Once the epoxy has set, remove the clamps and sand off any glue marks.





Step 13: Apply food safe finish

Apply a food safe finish, such as mineral oil or butcher block oil. I'm using a gel varnish here that's FDA approved called "Good Stuff" which I quite like since it's easy to work with, doesn't drip, and results in a nice satin finish.

Let your finish dry and repeat for a second coat if necessary.



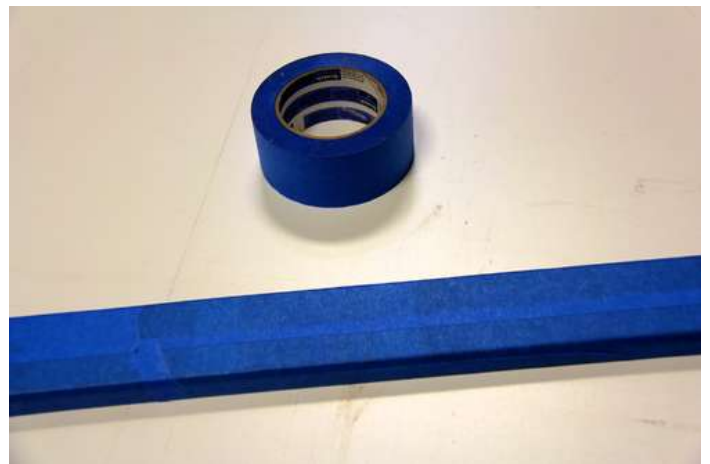


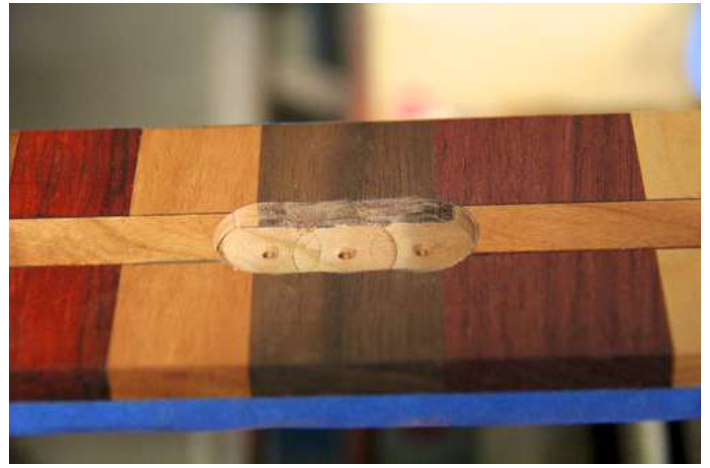
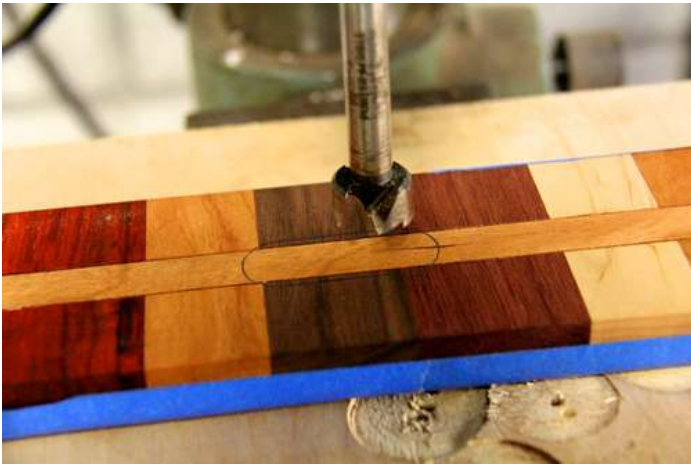
Step 14: Drill cut outs for flush mount hanging bracket

I didn't want to interrupt the face of my knife rack with mounting hardware, so I opted for keyhole hangers, also called keyhole brackets, which slide and lock into place on any screw head. These hangers need to be mounted flush to the back of the knife strip so used the drill press with a forstner bit to remove the bulk of the material, and then did a cleaning up of the recess with a hand chisel. I used two of them mounted at either ends of the wooden strip.

Apply blue painters tape to any at-risk surface to avoid scratching the strip in these final few processes.

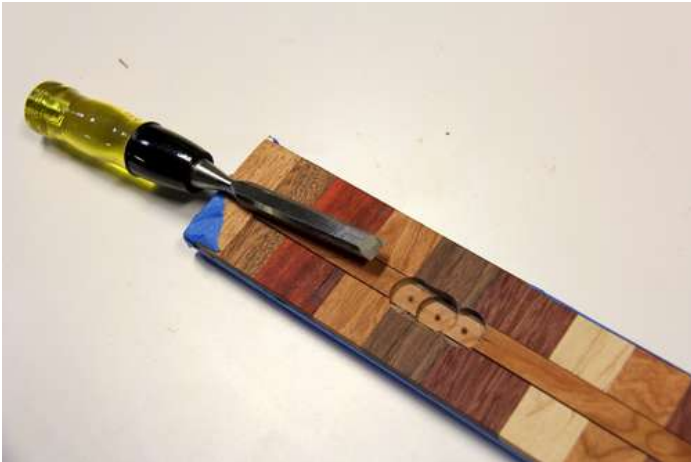
Drill three holes with a forstner bit that matches the exact outer radius of your keyhole hanger, making the center hole a touch deeper to allow for the screw head.





Step 15: Use chisel to finish cut outs for hanging bracket

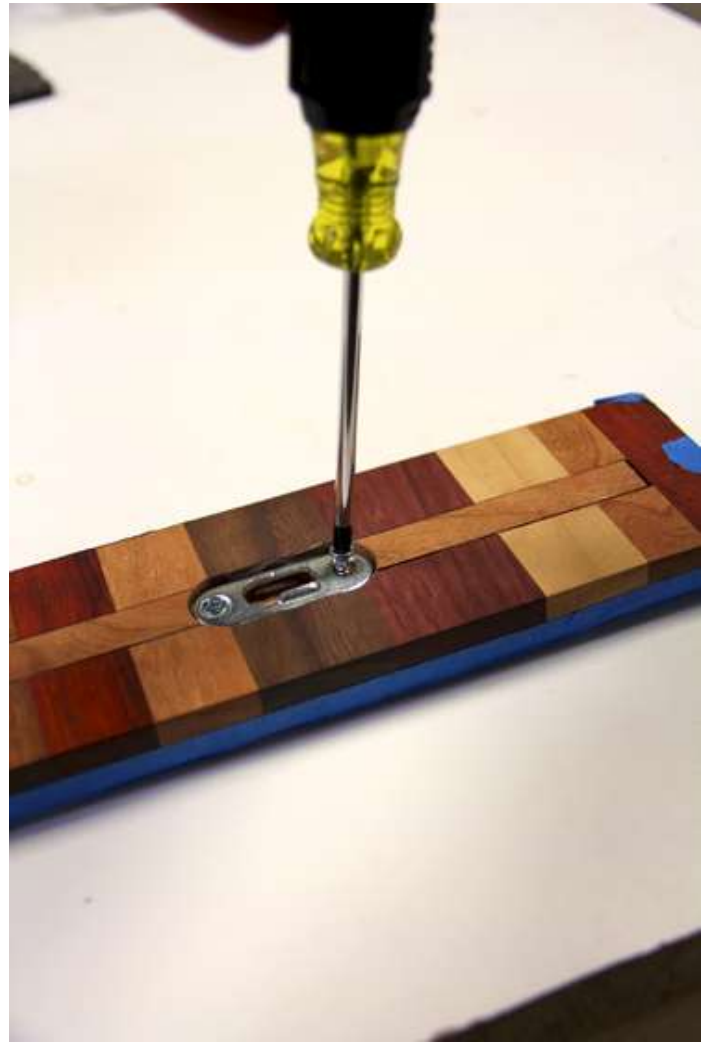
Clean up the small chunks of wood between the circles with a hand chisel. Test fit the keyhole hanger in place.



Step 16: Mount bracket

Mount the bracket using a Vix Bit, or self-centering pre-driller which will ensure that the holes for your hardware are exactly in the correct position and some short wood screws. Make sure not to drill too deep.

If you haven't used a Vix Bit before, you should give them a shot - they are perfectly designed for this application and are quite pleasing to use. They self-center!



Step 17: Set anchors in wall and hang in kitchen

The keyhole hangers simply need two screw heads to lock on to. I've got drywall in my kitchen wall so I used some plastic plugs and 1.5" screws to secure the strip in place. Use a level to make sure that the knife strip is level and hang away.

The keyhole hangers push the strip away from the wall ever so slightly and when placing or removing a knife from the strip, the strip did a little shimmy. I used the soft side of an adhesive velcro strip as a thickness pad to take up the room between the strip and the wall - worked like a charm.

