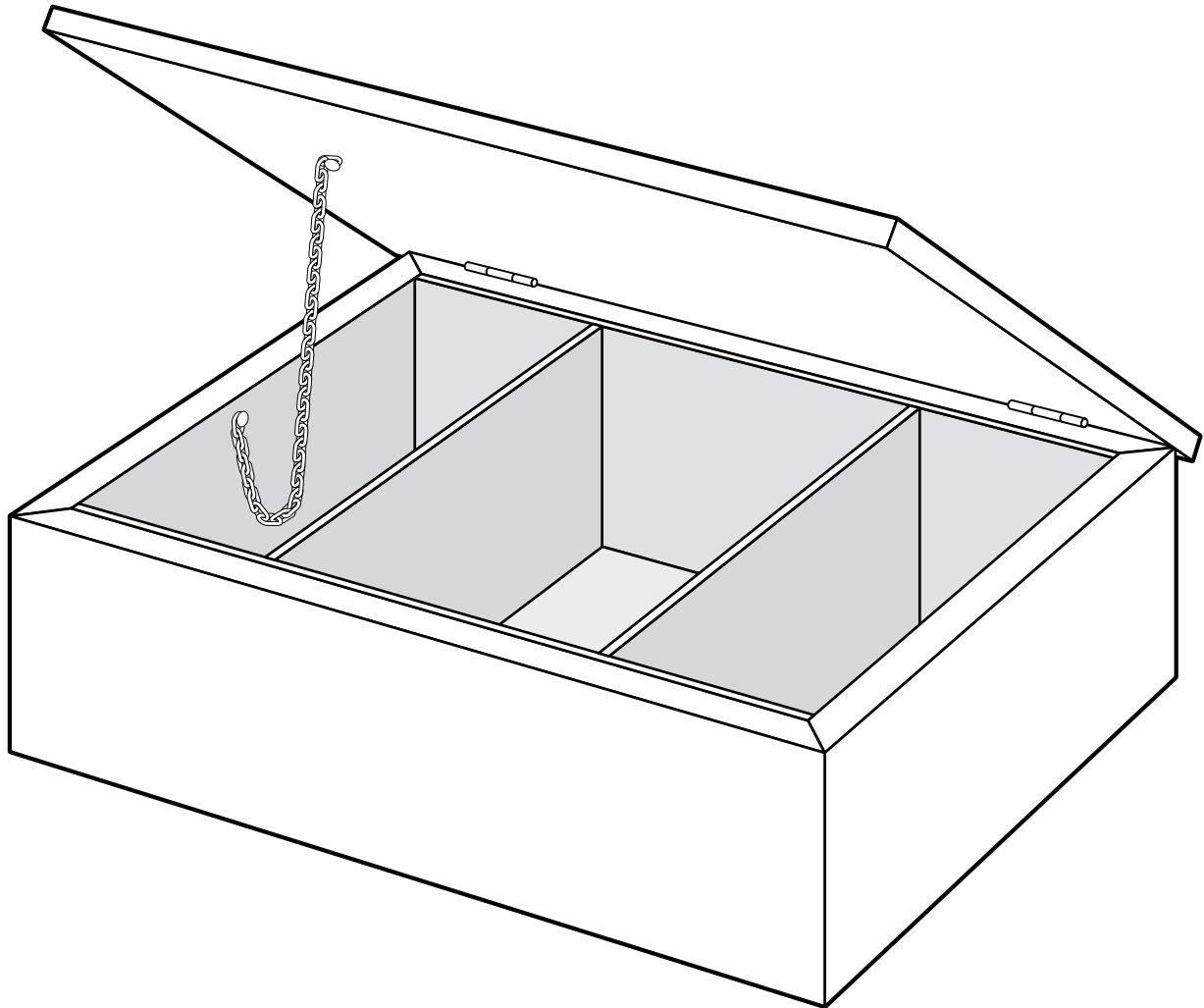




WOODWORKS: BEGINNER PROJECT 2009-2010
JEWELRY BOX



This felt-lined jewelry box makes a great place to keep your watches and other jewelry. Perfect for beginning woodworkers, this project will give you practice in making miter cuts, doing biscuit joinery and applying the felt liner. And when it's all assembled, you'll learn more about applying and using stains and finishes to protect the wood and keep it looking beautiful.

TOOLS REQUIRED

Hand Tools

- Combination or try square
- Block plane
- Hand screw clamp
- Bar clamps

Power Tools

- Table saw
- Jointer
- Biscuit joiner
- Stationary and portable belt sanders
- Random-orbit sander

Miscellaneous

- Pencil
- Tape measure
- Safety glasses
- Carpenter's glue
- 120-, 150- and 220-grit sandpaper
- Clean, lint-free cloths
- Respirator
- Rubber tubing (available at a medical supply or sporting goods store)
- Gloves for finishing
- Mineral spirits (for oil-based stains and finishes)
- Water-filled metal container with tight-fitting lid (for oil-based stains and finishes)
- Minwax® Wood Finish™ Stain Brush or other good quality, natural-bristle brush (for oil-based stains and finishes)

SHOPPING LIST

Wood Recommendation: White Oak

Alternate Wood: Mahogany

Part	Qty.	Th. x W x L
A, B, C	1	1/2" x 8" x 24"
D, E, F	1	1/8" x 12" x 12" plywood or hardboard
Hinges	2	1" x 3/4" brass butt
Screws	10	3/8" x #4 roundhead
Chain	1	7" brass
Felt	1	About 2 sq. ft.
Felt pads	4	Round, self-adhesive

CUTTING LIST

Overall Dimensions: 3" H x 10-1/4" W x 7-7/8" D			
Part	Name	Qty.	Th. x W x L
A	Lid	1	1/2" x 7-7/8" x 10-1/4"
B	Front, back	2	1/2" x 2-1/2" x 10"
C	Side	2	1/2" x 2-1/2" x 7-5/8"
D	Bottom	1	1/8" x 7-1/16" x 9-7/16"
E	Long divider	2	1/8" x 2" x 9"
F	Short divider	2	1/8" x 2" x 6-5/8"

WOOD FINISHING PRODUCTS

Recommended Finish

Prep: Minwax® Pre-Stain Wood Conditioner
 Stain/Finish: Minwax® PolyShades® Classic Oak (Satin)

Alternate Finish

Prep: Minwax® Pre-Stain Wood Conditioner
 Stain: Minwax® Wood Finish™ Red Mahogany
 Finish: Minwax® Fast-Drying Polyurethane (Satin)

BEFORE YOU BEGIN

Good craftsmanship begins and ends with good work habits, so make the following steps part of your routine workshop practice. If you have any doubts or questions about how to proceed with a project, always discuss them with your shop instructor.

- Carefully and fully review plans and instructions before putting a tool to the project lumber.
- Work sensibly and safely. Wear safety goggles when doing work that creates flying chips and sawdust; wear the appropriate respirator whenever making sawdust or working with thinners or other solvents.
- At the end of every work session, clean up your shop area and put away all portable tools.

CUTTING AND ASSEMBLY PROCEDURE

Make the Sides and Lid

1. You can vary the size of the box as you wish. These plans are for a relatively small box with 1/2" sides and lid (see Fig. 1). The lid (A) can also be glued from two or more pieces. If you're planing the wood to the final thickness, glue it together first, then take it down to 1/2" with a drum sander.

2. The sides (B and C) must be straight and flat in order to make accurate miters. Mill this wood to 9/16" thick and 1/4" wider than the final width. Let it sit for a few days to give the wood time to acclimate and possibly distort a little. Then joint the faces again and plane, crosscut and rip the pieces to their final dimensions.

3. Cut miters using a crosscut blade in a miter saw or on the table saw.

4. Make a simple jig to cut biscuit slots into the miters (see Fig. 2). To make slots for #0 biscuits you may need to nail shims to the base of the jig in order to place the slot 1/16" below the miter's inside corner. Experiment with scrap wood before you cut slots in the real pieces. If the biscuit slots are too close to the point of the miter they will penetrate through to the outside face of the pieces.

5. Saw grooves for the bottom (D). Set the fence 1/8" from the blade and saw each piece once, then move the fence about 1/64" farther from the blade and make a second pass. The plywood for the bottom should easily slip into the groove, but test it to make sure.

Glue the Box

6. Cut the bottom (D) to size. When you figure out the bottom's exact size, leave 1/32" of play all the way around, so the miters are sure to draw up tight. Sand the plywood's edges to make them easier to insert into the grooves.

7. Apply glue to all the miters and slots, insert the biscuits, assemble three sides of the box, slip in the bottom, put the fourth side in place and clamp the four corners with rubber tubing (available at a medical supply or sporting goods store). Tie the knot beforehand to make a loop that stretches taut around the box. One good thing about tubing: glue won't stick to it.

8. After the glue is dry, sand the outside faces and top edges. Round over the corners slightly so they aren't sharp. Now you can proceed to the steps for staining and finishing, (see "STAINING AND FINISHING" below). Then you'll complete the box by adding felt lining, the felt-covered dividers, the hinges and the chain in steps 9 through 16.

Add Felt Lining

9. Cut a piece of felt, with notches, so its center section fits exactly inside the box. Scissors work better than a knife. Dribble some glue on the box's bottom. Use a wooden spatula with a tapered end to spread the glue. Make sure the glue is spread thin, or it will soak through the felt.

10. Place the felt inside the box. Smooth it out on the bottom, making sure the cut corners line up correctly. Then glue the sides, one at a time. A pointed stick with rounded edges is an invaluable tool for smoothing the felt into each corner.

11. Cut the excess felt flush (see Fig. 3). The cutting tool has to be extremely sharp. Use a double-sided razor blade.

Make the Dividers

12. Cut the dividers (E and F) to width and length. It's important that their lengths are just right to make a snug fit. Check the fit and then cut the notches on the short dividers (F). Make these by placing a stop block right next to the blade. Then move the stop block and cut notches in the long dividers (E) (see Fig. 4).

13. Glue felt on the dividers, wrapping it around the dividers' top edges. Trim off the excess and cut around each notch. Assemble the dividers and insert them into the box. The assembly should fit tight, but not so tight that you'd have to hammer it in place.

Add the Lid

14. Screw hinges to the box (see Fig. 1). These hinges use delicate brass screws, so be sure to predrill the holes. Place four pieces of paper on top of the box on the hinge side to hold the lid slightly off the top of the box. This helps prevent the hinges from binding. Place the lid on the box, flush with the back. Mark the screw holes with a felt-tip pen or awl. Predrill holes in the lid and attach it to the hinges.

15. Install a chain. On this box, it's about 6-1/2" long. Locate the screw on the box's side 3-3/4" from the inside edge of the back, 1/4" down from the top edge. Stretch the chain tight and lean back the lid a few degrees past vertical to locate the other screw. This screw should be 1-1/4" away from the lid's edge so the chain falls inside the box as it's closed.

16. Add self-adhesive round felt feet under each corner of the box.

STAINING AND FINISHING

Woodworker's Tip: *Though you may be tempted to cut short your sanding, preparation and application time, don't do it. These tasks are very important steps in obtaining a high-quality finish. Remember, it is the finish, just as much as the fit and smoothness of the parts that will have great bearing on how people judge your craftsmanship. To ensure an excellent result, follow the steps listed in this section and also the instructions the finish manufacturer puts on its products.*

FINISHING TIPS

- Test the stains and finishes you are planning to use on scraps of wood. On the back of the scrap, mark the stain/finish combination and the type of wood. Allow all samples to dry thoroughly before making your final finish selection. Save your samples for quick reference on future projects.
- All stains and finishes must be allowed to dry thoroughly between coats. Remember that drying times can vary due to humidity and other climatic conditions.
- If you have some leftover stain or finish, wipe the can rim so that stain or finish in the rim won't dry out and prevent the lid from forming a tight seal.
- Brushes used for oil-based finishes must be cleaned with mineral spirits.

17. Finish-sand any remaining rough spots with 220-grit sandpaper. Dust off the piece and wipe it carefully with a clean, lint-free cloth lightly dampened with mineral spirits.

Recommended Finish

18. Before applying Minwax® PolyShades®, apply Minwax® Pre-Stain Wood Conditioner following the directions on the can.

19. Apply Minwax® PolyShades® following the directions on the can. Use a good quality, natural-bristle brush suitable for use with polyurethane. Stir the can contents thoroughly before starting and periodically repeat stirring during your work session. Allow the first coat to dry overnight.

20. The next day, sand all surfaces lightly with 220-grit sandpaper or very fine (000) steel wool using with-the-grain strokes. Dust off and wipe all surfaces with a cloth dampened with mineral spirits. Apply a second coat of PolyShades® and set the rack aside to cure overnight. To achieve a deeper color, you may apply a third coat after 4–6 hours, repeating the application directions. Allow the jewelry box to cure for several days before using it.

Woodworker's Tip: *If you achieve the desired color on the first or second coats of PolyShades®, apply a clear coat of Minwax® Fast-Drying Polyurethane or Minwax® Wipe-On Poly for added protection.*

Alternate Finish

21. Before applying Minwax® Wood Finish™, apply Minwax® Pre-Stain Wood Conditioner following the directions on the can.

22. Apply the Minwax® Wood Finish™ you've chosen using a natural-bristle brush and a clean, lint-free cloth following the directions on the can. The brush will help you get the stain into the inside corners. Allow the Wood Finish™ to set for about 5 to 15 minutes, then wipe off any excess. To achieve a deeper color, you may apply a second coat after 4–6 hours, repeating the application directions for the first coat. Allow the stain to dry for 24 hours before applying the protective clear finish.

Woodworker's Tip: *When wiping off stain, make certain that your last wipe with the cloth goes with the grain of the wood. This way, any stain you might miss during wipe-off will be visually minimized by the wood grain.*

Applying Fast-Drying Polyurethane

23. Apply Minwax® Fast-Drying Polyurethane following the directions on the can. Use a good quality, natural-bristle brush. Allow the first coat to dry overnight.

24. The next day, sand all surfaces lightly with 220-grit or finer sandpaper using with-the-grain strokes. Dust off and wipe all surfaces with a cloth lightly dampened with mineral spirits. Apply a second coat of polyurethane and set the piece aside to cure overnight.

25. The following day, sand all surfaces lightly with 220-grit sandpaper. Dust off and wipe the piece with a cloth lightly dampened with mineral spirits and apply the third and final coat of polyurethane.

PRODUCT SAFETY

For your safety and the safety of those you work with, always read the safety warnings, which manufacturers print on their labels, and follow them to the letter. Typical safety advice and instructions will contain information such as the following:

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in U.S.) or contact your local health authority.

When using oil-based wood finishing products:

CAUTIONS: CONTAINS ALIPHATIC HYDROCARBONS.

Contents are COMBUSTIBLE. Keep away from heat and open flame. **VAPOR HARMFUL.** Use Only With Adequate Ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (NIOSH approved), or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

FIRST AID: In case of eye contact, flush thoroughly with large amounts of water for 15 minutes and get medical attention. For skin contact, wash thoroughly with soap and water. In case of respiratory difficulty, provide fresh air and call physician. If swallowed, call Poison Control Center, hospital emergency room, or physician immediately.

NOTICE: Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. **DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN.**

WARNING: Contains Alkyl propanols, ethylene glycol, n-methyl pyrrolidone. **VAPOR HARMFUL.** Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (NIOSH approved), or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

DELAYED EFFECTS FROM LONG-TERM OVEREXPOSURE.

Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. **KEEP OUT OF REACH OF CHILDREN.**

SAFE DISPOSAL OF RAGS AND WASTE.

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled metal container. Dispose of in accordance with local fire regulations.

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FIG 1.

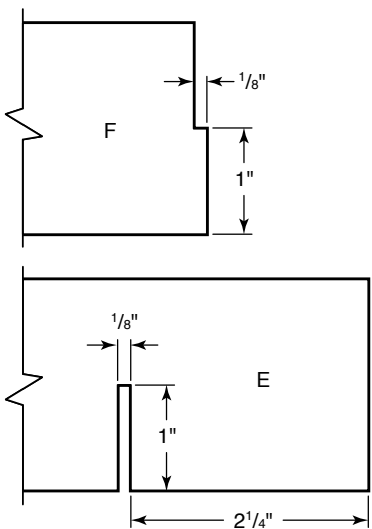
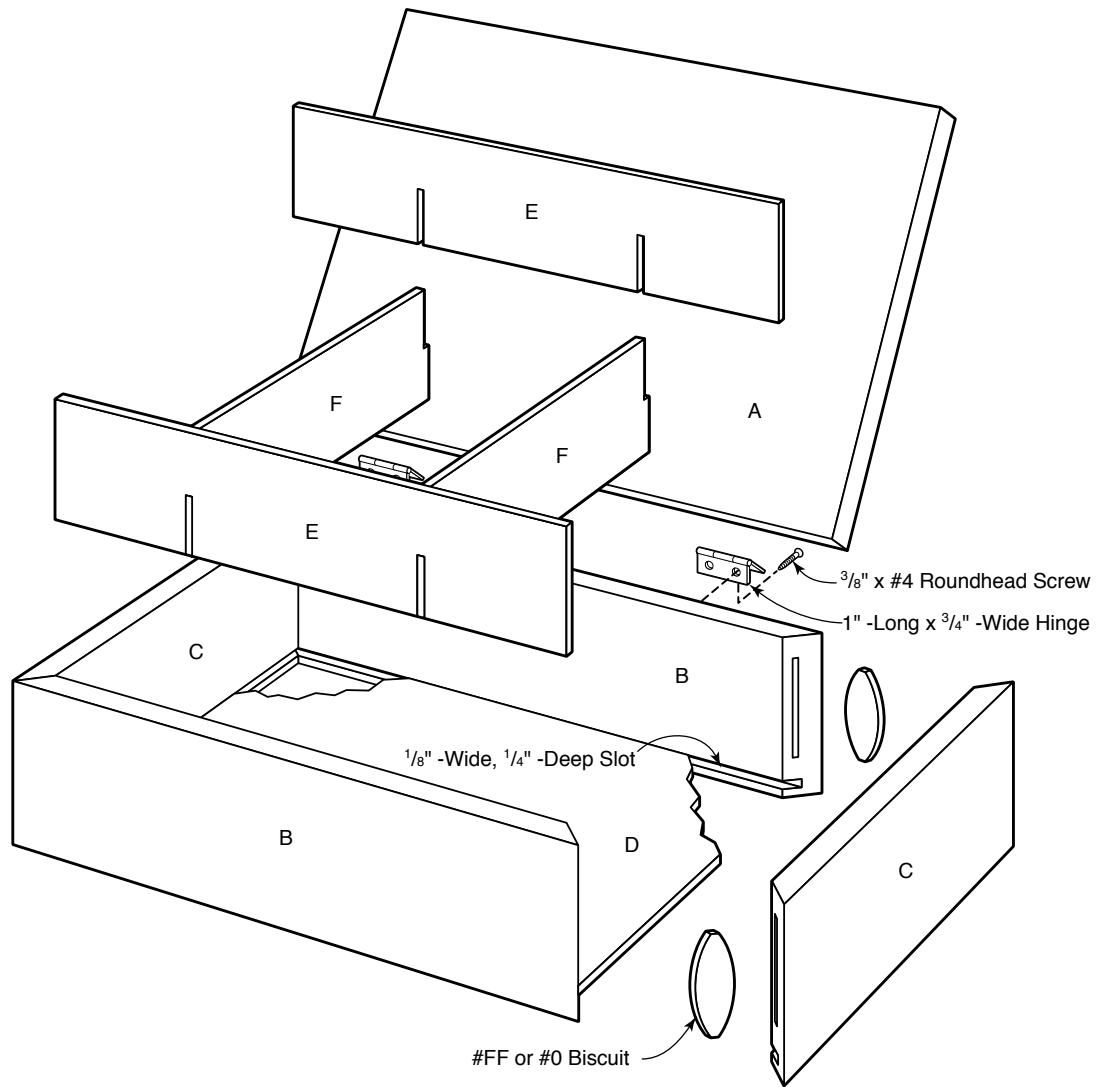


FIG 2.

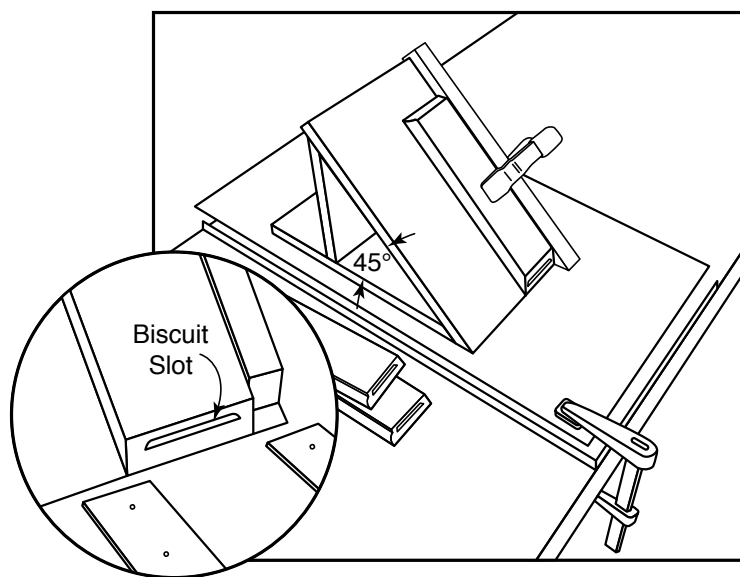


FIG 3.

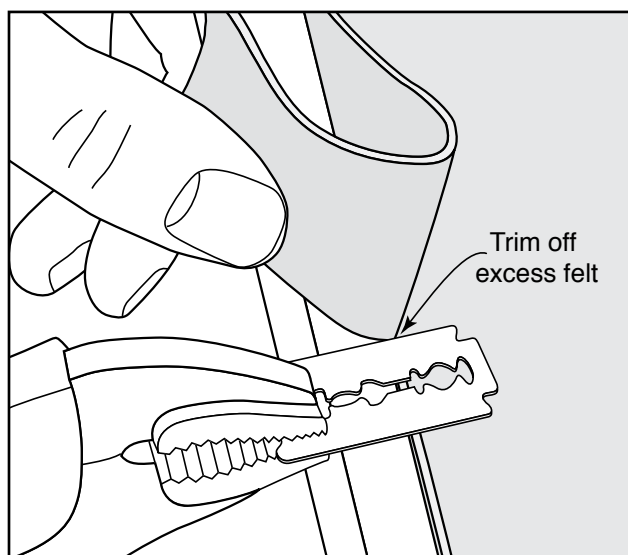


FIG 4.

