



WOODWORKS: BEGINNER PROJECT COUNTRY FLAG TRAY

(with optional instructions for Coat & Hat Rack)



This handsome tray is an excellent choice for a first project for beginning woodworkers for several reasons.

- Its construction, while presenting several challenges, is actually basic. By carefully reading and following these plans and directions and discussing anything you may not understand with your instructor, you will be able to successfully complete the project.
- The finished project is both functional and decorative. It can be used as a serving tray or as a creative wall hanging.
- A bonus: This is an excellent craft project to make for a school fundraising effort. The tray can be created production-style because it is easy to make six or more at a time. Then, for variety and sales appeal, you can finish them using different techniques. (See Finishing Products for several suggestions.) Building this tray presents beginning woodworking students with the opportunity to learn a number of important, basic woodworking skills. These include measuring, marking, cutting, cutting miters and, how to effectively apply and use finishes to help protect your projects and keep the wood looking beautiful.

TOOLS AND MATERIALS REQUIRED:

Hand Tools

- Pencil
- Ruler (zigzag or tape measure)
- Square (combination or try)
- Saw (Hand or power)
- Phillips screwdriver (medium)

Power Tools

- Miter box w/ back saw
- Electric drill - Assorted dia. drill bits
- Biscuit joiner - Motor tool
- Miter (chop) saw, if available

Miscellaneous

- Safety glasses
- Sandpaper (80 through 220 grit)
- Bar clamps
- Sharp utility or razor knife

Materials

Item	Pcs.	Size	For	Stock	Cut From (buy)
A	1	3/4" x 12" x 17 3/8"	Field	Pine	1/3, 1 x 8"
B	2	7/16" x 1 1/8" x 19 3/8"	Frame	Pine	1/4, 1/2 x 2"
C	3	7/16" x 1 1/8" x 14 1/8"	Legs	Pine	1/3, 1/2 x 2"

*Nominal 1X stock is 3/4" thick actual: nominal 1/2" stock is 7/16" actual

Misc.: No. 20 biscuits; 1-1/4 and 1-1/2" brads; a professional strength wood glue; sandpaper assorted grits from 100 to 220.

*four 3/8" dia. Tack Bumpers by Brainerd Mfg. Co.; 2 wooden handles (if to be used as a tray): SKUNo. 222333701, Laurey Hardware.

If you plan on using your flag tray as a wall hanging you will also need a sawtooth picture hanger; (we used model # 47777 picture hanger by Anchor Wire Corp., Goodlettsville, TN 37072)

*Bumpers are small dia. nylon furniture glides.

FINISHING PRODUCTS:

(Choose one, or create your own combination)

Stains to use for an "antique" look:

Prep

Minwax® Water Based Pre-Stain Wood Conditioner

Stains

Minwax® Water Based Wood Stains,
Antique Red, Deep Ocean, and White Tint Base

Finish

Minwax® Polycrylic®, Satin

Stains to use for a "country" look:

Prep

Minwax® Pre-Stain Wood Conditioner

Stains

Minwax® Wood Finish™, Ipswich Pine
Minwax® Wood Finish™, Dark Walnut
Minwax® Wood Finish™, Pickled Oak

Finish

Minwax® Fast-Drying Polyurethane, Satin

Miscellaneous

Tack cloth
Clean, lint-free rags
Paint thinner, if necessary
Water-filled metal container with lid
Wide masking tape
Transfer paper
Minwax® Wood Finish™
Stain Brush and Polyurethane Brush

Optional Items

Table saw, planer,
random orbit sander

BEFORE YOU BEGIN

As a woodworker, you should be aware that fine craftsmanship begins and ends with good work habits. Always carefully and completely review the plans and instructions for any project you plan to build – before ever picking up a tool or purchasing any of the materials for the job.

Other important work shop habits:

- Before you start, review any questions you may have in regard to the plan or directions with your instructor. This will avoid future frustration and wasted materials.
- At the end of each work session, always return tools to their storage locations and thoroughly clean the work area. This assures starting the next session in both comfort and safety.

PROCEDURE

1. Lay out and cut the boards to exact size for the field. Align the boards and make tick marks where biscuits will be placed. Plough the biscuit grooves with the tool set to create the grooves for the no. 20 biscuits.

Cabinetmaker's Tip: *The rule-of-thumb for biscuit selection is to use the largest size possible; this provides maximum joint strength.*

2. Join the boards using glue and biscuits. Make sure edges are flush and apply a pair of clamps with light pressure – remember that excessive clamp pressure will cause the clamped boards to buckle. Put the clamped setup aside and allow to dry overnight.

3. Next, rip the pine strips to width for the frame. Then, using the miter gauge on the table saw, carefully cut the mitered corners. (Or, if a miter saw is available in your shop, use it to make the frame miter cuts.) Cut the miter on one end of the first strip and hold it against the flag field to accurately mark the miter cut on the other end. After making the second cut, temporarily tack the frame strip in place on the flag. Use two partially driven 1-1/4" brads.

4. Cut the miter on one end of the second frame strip. Then, hold the member in place against one end of the strip tacked to the flag. Carefully mark its other end for precise cutting. Then temporarily tack it to the frame. Proceed in this fashion until all four of the frame members have been cut and fitted.

5. Make mating matchmarks on the back edge of each frame member and on the back of the flag where it abuts. For example, first strip removed might be 1, next strip 2, and so on. Mark lightly with a soft pencil on the back edges of frame members and flag. This way you will be able to quickly return all parts to perfect position when making final, permanent assembly. Then remove the four frame members.

6. Before assembly, sand all members smooth: start with 100-grit paper, move up to 120-grit and finish smoothing the raw wood with 150-grit abrasive paper. Make sure you do all sanding in a with-the-grain direction to avoid scratch marks.

7. At this time you can lay out for the handle on the frame's end strips and bore the holes for the screws which will hold them. Note that, depending upon the hardware you select, the screws may be concealed by the "flag" when the tray is assembled after finishing. If such is the case with your tray, make sure you install the handles after the finishing step is completed and before final assembly.

8. Lay out and install the four "feet"; these are positioned approximately 1" in from each edge, for all four corners. You can use small-dia nylon furniture glides.

9. Proceed to the Staining and Finishing section.

Recommended Finishing

1. Before applying Minwax® Water Based Stain to hardwood or softwood, apply Minwax® Water Base Pre-Stain Wood Conditioner following the directions on the can.

2. Lay out the flag's blue field and three stripes using a ruler and a sharp, soft pencil. With a combination square, transfer light lines across the face of the board.

3. Next, make a star template (pattern) of 1/4" plywood or hardboard. If you want to save your paper plan, start by transferring the actual-size star in the drawing to the wood; use transfer or carbon paper. If you don't have carbon paper, you can transfer the star design by rubbing a soft black pencil on the backside of the paper, behind the star. Tape the paper pattern on the wood (pencil side down) so it will not move, and trace over the lines.

4. Cut out the star using either a coping or scroll saw. Sand edges smooth to avoid splinters and to ensure straight edges on the star.

5. Hold the template in position on the blue field, as indicated in the illustration, and trace it with a sharp, pointed pencil. Move the star to the second location and repeat.

6. Mask the star areas with masking tape, trimming necessary with a razor-sharp utility knife to retain a neat star shape. Then, mask off the blue field to protect that portion of the red and white stripes.

7. Apply Minwax® Water Based Wood Stain Deep Ocean to the blue field, following instructions on the can. Set aside to dry overnight.

8. Next session, remove the masking tape between the blue field (over the stripes) and apply tape so you can stain the two red stripes. Repeat staining procedure using Minwax® Water Based Wood Stain Antique Red Stain.

9. Finally, in the third session, repeat all steps so you can apply the Minwax® Water Based Wood Stain White Tint Base to the third and last stripe.

A Creative Touch

When you mask off an area with masking tape, you must press down firmly along the edges to minimize the chance of stain "bleeding" through. Chances are, however, you will have some stain "bleeding" onto an adjacent surface where it's not wanted. You can remove any such ragged edges by carefully gouging every "line" where different colors or stains meet. This effectively removes the ragged line of stain that bled beneath the tape.

Here's How to “Antique” Your Project With a Gouge

- Using a v-shaped carving knife, carefully and slowly follow the line where two different stains meet. To avoid going off the line you are following, bear down lightly on your first pass. Then, on the second pass with the tool, press harder to remove additional stock. If you have access to a Motor Tool, you can accurately gouge this with an appropriate cutter.
- When all desired edges have been slightly carved in this fashion, smooth the entire piece using a piece of heavy brown paper (i.e., a shopping bag) as you would a piece of sandpaper, to remove “whiskers.” If any parts of the gouged areas are still rough, smooth them further by careful sanding with a piece of 120-grit sandpaper. Fold it so you have a sharp corner which will allow you to sand in the gouged (exposed wood) areas only.
- After a final light sanding, dust off the piece and apply a light stain (such as Minwax® Wood Finish™ in Ipswich Pine or Minwax® Wood Finish™ Pickled Oak). This eliminates the look of the exposed, raw wood (where you have just carved). Allow this stain to dry overnight before proceeding with the finishing.
- To protect your project, use a minimum of three applications of Minwax® Polycrylic® Satin Finish. This will give your project extra durability and protection.

FINISHER'S TIPS

- *Use scraps of wood to test the stains and finishes you are planning to use. Label the stain/finish used and the type of wood on each test sample chip. Allow all samples to dry thoroughly before making your final finish selection. Save samples for quick reference on future projects.*
- *Remember to pretreat soft woods like pine with Minwax® Pre-Stain Wood Conditioner before staining to help ensure the even absorption of the stain.*
- *For a clean, sharp finish, all final passes with the brush or cloth should be made in the same direction as the wood grain.*
- *It is critical that all stains and finishes be allowed to dry thoroughly between coats. Remember, drying times can vary due to humidity and other climatic conditions.*

Safe Disposal of Rags & Waste

Please be mindful of the safe way to dispose of used rags and other waste. Rags, steel wool and other waste soaked with oil finishes, mineral spirits or the like may spontaneously catch fire if improperly discarded. Place all finishing rags, steel wool and waste immediately after use in a water-filled, metal container. Tightly seal and then dispose of such by-products in accordance with local regulations. Be sure to keep the container out of reach of children.

Product Safety

CAUTION: ALWAYS BE SURE TO READ ALL LABEL INSTRUCTIONS AND PRECAUTIONS BEFORE USING PRODUCT.

DANGER! HARMFUL OR FATAL IF SWALLOWED. SKIN IRRITANT. COMBUSTIBLE. KEEP OUT OF REACH OF CHILDREN.

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.

DANGER: Contains mineral spirits. Do not take internally. Avoid contact with skin and eyes. Wear rubber gloves and safety glasses when handling. Do not use or store near heat, sparks, flame or other source of ignition. Close container after each use. Avoid inhalation and use only with adequate ventilation. If using indoors, open all windows and doors to make sure there is fresh air movement. If you experience lightheadedness, dizziness or headaches, increase fresh air movement or leave the area. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

FIRST AID: If swallowed: Do not induce vomiting. Call physician immediately.

FOR SKIN CONTACT: Wash thoroughly with soap and water. If irritation persists, get medical attention.

FOR EYE CONTACT: IMMEDIATELY flush eyes thoroughly with water, then remove any contact lenses. Continue to flush eyes with water for at least 15 minutes. If irritation persists, get medical attention.

IF AFFECTED BY INHALATION: Immediately remove to fresh air. If symptoms persist, call physician.

