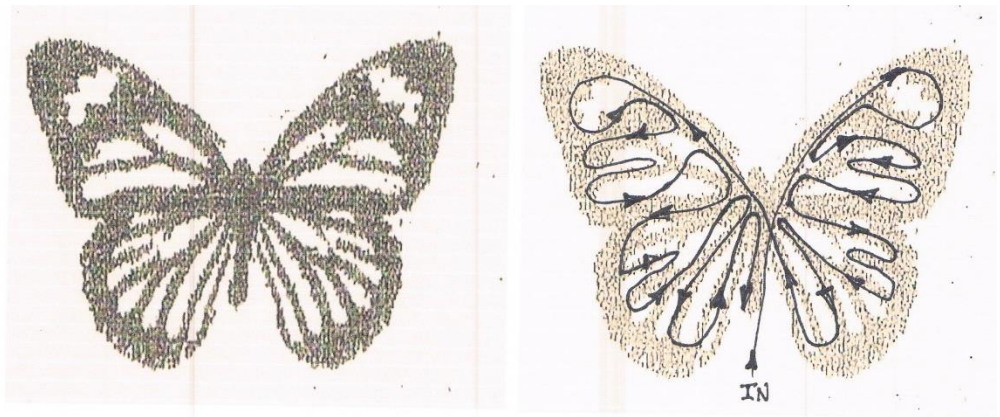


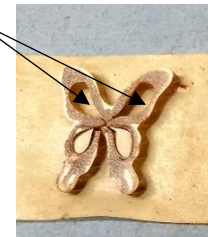
Making and Inlaying Wood Butterflies



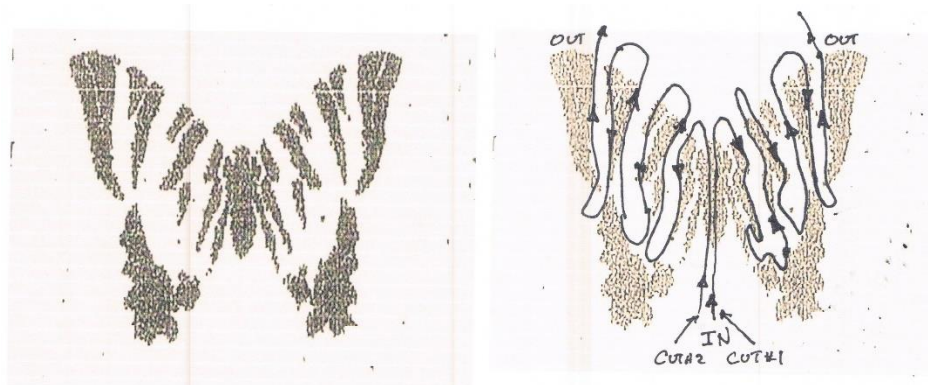
1. Make a Stack
 - a. Select 2 to 3 contrasting woods: Osage Orange, Walnut, Cherry or Maple, Walnut, Cherry, etc.
 - b. Mill each wood species down to about 1/8" thick
 - c. Cut small rectangles, approximately 2" x 4" out of each species
 - d. Glue them together in one stack, using Tight Bond I (water soluble) gluing paper (or newsprint) between each piece.
 - e. On the top piece, glue your butterfly patterns
 - f. Let dry for 10-15 minutes under clamp pressure
2. Cut Out A Butterfly
 - a. Make sure the scroll saw blade is at 90 degrees.
 - b. When cutting the butterfly pattern, simplify it. Don't try to follow every line or pattern. Also don't worry about exactly matching both left and right sides. Small differences make it look real. Do not drill holes, round holes aren't in nature.
 - c. Make sure you have a place to put the small cutouts as they are cut free.
 - d. Butterflies with all cutouts inside the wing edges



- i. Enter at the bottom and where and make the cutouts, using the entry cut to move from area to area.
- ii. Once the inside is finished, cut out the butterfly, following the outside edge of the wing profile.
- iii. When complete, separate the wing frames and internal cuts by running a knife blade into the paper separator. The parts should easily come apart.
- iv. Put the wing base on some face up masking tape. Insert a contrasting internal cutout into each of the correct areas of the wing base.
- v. Make sure you double check to make sure that left and right internal pieces are the same wood species. It's easy to end up with unbalanced left and right wings if not careful.
- vi. You can also fill some of the voids with colored, powder wood. Fill the area with a contrasting color while the body is on the masking tape. (see page 4 on how to make powdered wood)
- vii. Once set, flood each internal insert with CA glue. The masking tape should act as a barrier to keep the glue around the insert.



e. Butterflies where the cutouts extend to the wing edges ...



- i. Use a stack where there is a light and dark wood glued together using paper.
- ii. Enter at the bottom and cut well beyond the wing edge, exiting at the top of the wing.
- iii. For the second wing, re-enter at the bottom and cut beyond the wing edge, again exiting at the top of the wing.
- iv. Fit the light wood cutouts into the corresponding dark wood cutouts and glue them together with CA glue.
- v. Trace the butterfly wing profile on the glue-up, making sure the strips are positioned properly within the wing profiles.

vi. Cut out the butterfly, following the outside edges of the wings.

3. Sand/ Flatten

- a. Using the masking tape to hold the butterfly on a belt sander, sand the face opposite of the masking tape, flat.
- b. Place masking tape on the just sanded surface and flatten the other side.

4. Separate the Wings

- a. Inserting the butterfly is easier by working individually with each wing. This is especially important when inserting butterflies in a curved surface like a bowl. Position the wings so the length of the wing is somewhat parallel to the flattest profile of the bowl



Circumference has greatest curvature, radius is least curvature.

5. Cut Each Wing Into The Base

- a. Place one wing on the board or bowl where you want it.
- b. Hold it down and using a sharp pencil, mark the wing outline.
- c. Rough out the interior area of the wing, keeping well inside the lines. (using a rotary tool or Forestry drill bit) Depth should match the thickness of the butterfly.
- d. Switch to the rotary tool with a 1/16" grout bit or a 1/8" flat end mill to finish the recess.
- e. Slowly approach the lines, using a "hand steady-rest" or your little finger to help with accuracy and stability.
- f. Go slow and check fit often. As a suggestion, start the fit using the upper edge of the wing. It also helps sanding off the original pencil lines, inserting the wing into the upper edge and re-drawing the profile.
- g. Stop when very close. The wing should not drop into the recess.

6. Glue the Wing In

- a. Relieve the lower edge of the wing so it is slightly smaller than the top edge.
- b. Put a light amount of glue in the recess.
- c. Use clamps (C-clamps work great) to force the wing into the recess. By compressing the wing into the recess, the fit will be very clean and tight. The wing may break, but as long as it goes into the recess, that's OK. The glue will become invisible.
- d. Keep the wing proud of the surrounding surface.
- e. Using the same process as the first wing, position, carve out and glue in the second wing.

7. Insert the Body

- a. Use the rotary tool to cut a straight line between the wings for the body. The recess should start below the bottom edge of the wings and extend slightly beyond the top edges.
- b. Cut a small piece of contrasting wood, taper the sides and round the ends. Use a clamp to force the body into the recess that as a small amount of glue in it.

8. Sand and Seal

- a. Sand the butterfly flush with the surrounding surface.
 - b. Seal the butterfly and surrounding surface with the finish you will be using (poly, lacquer, etc.).
 - c. This is a must prior to adding the antennas. Sealing the area where the antennas go will allow the paint to be wiped off and leave only color in the cut lines.
9. Add Antennas
- a. Using a small sharp knife, cut two sweeping lines starting at the top of the body, up and outward.
 - b. Rub black latex or acrylic paint into the cuts.
 - c. Wipe off the excess, leaving paint only in the cut lines.

Alternative Method of inserting color in the wings

1. Make colored wood powder
 - a. Collect lite colored wood dust, the finer the better
 - b. Sift it through a fine screen or mesh to collect just fine powder saw dust.
 - c. Use thin acrylic or latex paint and mix the fine power into the paint.
 - d. Spread the mixture on newspaper or paper towels and let dry.
 - e. Once dry the mixture may be hard so take a mallet and pulverize it.
 - f. Sift the pulverized powder, keeping on the fine colored wood dust.
2. Inlay the colored wood powder
 - a. Place the wing on the adhesive side of some masking tape to block the cutout bottoms.
 - b. Use a small blade or screw driver and fill each cutout that you want to inlay color into about half full.
 - c. Use a toothpick to pack the powder into the cutout.
 - d. Add a little CA glue into the cutout.
 - e. Add more colored wood powder and pack it in.
 - f. Add more CA glue then add a little more colored powder so the cutout is over filled.
 - g. Sand the completed wing using masking tape to hold it against a belt sander.
 - h. Refill any holes that show up with additional colored powder and add CA glue.

A second, easy way to insert a butterfly with cutouts inside the wing edges.....

1. Glue up a stack for a butterfly as above and cut out just the interior of the butterfly.
2. Cut out a circle with a hole saw that is larger than the butterfly profile and matches the exact diameter of a large Forestner bit.
3. Position the butterfly stack, less the interior cutout so that the butterfly is positioned in the center of the disk.
4. Glue the stack to the circle using paper.
5. Thread the scroll saw blade through the hole in the circle and the stack.
6. Cut the exterior wing profile of the stack.
7. Remove the stack from the scroll saw. There will be an exact profile cut out in the center of the circle.

8. Assemble the butterfly and sand, as above.
9. Fit the assembled butterfly in the circle and glue it with CA glue.
10. Finish the disk and butterfly as above (insert the body, seal and add the antennae)
11. Now the butterfly and disk can be inserted into the receiving board or bowl bottom by drill a hole that matches the disc.

Butterfly Patterns

Copy and resize to fit work:

For patterns A, B and C, first cut out the interior elements, next the body outline, glue interiors into contrasting body and sand.

For pattern D, cut out each interior half (cut 1 and cut 2), glue both interior sides into a contrasting body. Next cut out the body outline (cut 3) and sand.

