

**Important!** Revised Instructions. Do not tint Resin when using maple pockets. See section 2 C iii

# Ron Brown's Best, LLC Laser Cut Glue-Up Kits©

Thank you for your purchase! Laser Cut Glue-up Kits© are perfect for making fancy Christmas ornaments, turned lidded boxes, pendants, segmented work, bowl inserts, etc.



## Instruction Sheet

Terms:



Figure 1: Typical Pockets

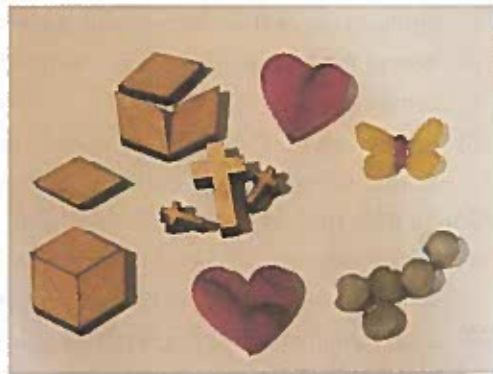


Figure 2: Typical Object Pieces

- 1) Layout and the pockets and object pieces
  - a) We have found that the glue up process yields much better results if done in two distinct steps.
  - b) Layout the pockets on a clean sheet of waxed paper or plastic.
  - c) Locate and organize all object pieces. Some objects have only one piece while others may have many pieces.
  - d) Dry fit all of the object pieces into their respective pockets. If any minute trimming is needed to remove material left over from the cutting process do it at this time.
  - e) When everything fits correctly, you are ready to begin the first glue up process.

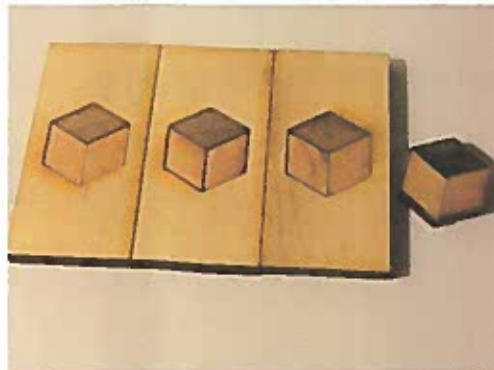


Figure 3: Dry Fitting

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2) Pocket glue up – Chose Your Glue

- a) The CA method – This is my preferred method because the thin CA tends to flow everywhere between the object pieces and I usually don't experience "Dry Glue Joints" and it is instant – No waiting.
  - i) Flip the pocket assemblies over face down on the waxed paper/plastic and make sure the object pieces are pressed clear to the bottom. This will eliminate object pieces not flush with the surface of the pocket and will result in less turning and the largest possible vignette.
  - ii) Apply thin CA to all areas of each pocket and apply accelerator.
  - iii) Repeat the thin CA process one more time.
  - iv) Carefully flip the pocket assembly back over and apply accelerator once more to what was the bottom side to make sure the CA is set.
  - v) If you notice any areas with voids or gaps, consider applying medium CA now to fill any voids. Most of the time you will have to apply a touch of medium CA to fill small voids during the turning process no matter how careful you are. This is a normal part of the process.
  - vi) It is important that the back of each pocket be flat for the next step. I use a stationary belt sander to remove any material on the back of the pocket.
- b) Gorilla Glue (polyurethane – Water Cure)
  - i) Polyurethane glues need moisture to cure. Moisten the inside of the pockets and the edges of the object pieces just before applying the gorilla glue.
  - ii) Use a small brush to apply gorilla glue sparingly to all of the edges (this glue will expand). Apply this glue to the edges of the pocket as well as the edges of the object pieces.
  - iii) Set aside to cure.
  - iv) After the glue has cured, make sure the backside of the pocket is sanded smooth for the next step.
- c) Epoxy adhesive
  - i) If you choose to use epoxy, I recommend at least a one hour set time as you may need extra time to properly arrange your object pieces.
  - ii) Proceed as before using waxed paper/plastic.
  - ~~iii) Note: you may add color (most often black) to the epoxy if you wish. Adding Acrylic craft paint works well, but accelerates the setting time dramatically shortening your open time. If you wish to add color, think about a 4-6 hour setting time epoxy.~~
  - iv) Apply epoxy with a small brush to all sides of the pocket and the object pieces and assemble them as before.
  - v) When you're assemblies have cured, make sure the back is flat.
- d) Carpenters glue
  - i) You may add color to this glue if you wish, just as you did with the epoxy.
  - ii) Use a small brush to apply Carpenters glue sparingly to all of the edges. Apply this glue to the edges of the pocket as well as the edges of the object pieces.
  - iii) Set aside to cure.

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iv) After the glue has cured, make sure the backside of the pocket is sanded smooth for the next step.

### 3) Gluing Everything to the Core

Ron Brown's Best, LLC Laser Cut Glue-Up Kits© have been designed to fit a core 1.75" square by at least 3 inches long (a core 4.5" long eliminates the need for an additional waste block later when making Christmas Ornament Globes or similar)



Figure 41: At least four 3" Clamps

- a) You will need at least four 3 inch "C" clamps. Two large rubber bands can be used as temporary clamps while you position the "C" clamps. You may use any glue you like except CA. Due to the low shock resistance, CA is not recommended for this step. We recommend and prefer Carpenters glue, but you may use either epoxy or polyurethane.
  - b) It is important that all of the objects lineup with each other. We recommend that you make to marks on the edges of the pocket, one at the top of the object in one at the bottom of the object. This will make it much easier to keep everything in proper alignment during the glue up process.
  - c) Note: we have not achieved satisfactory glue ups using only rubber bands.
  - d) Although it is extremely messy, we strongly recommend that you glue up all four sides at once. If you choose just to glue up two sides, be sure to carefully clean off any glue squeeze out in order to avoid non-flat surfaces for the rest of the glue up process.
  - e) I urge you to double check your alignment and make sure that all of the elements are in line, that your pockets did not slide off to one side of the core. You may have to loosen the C clamps to make the proper adjustments. Failure to carefully align the pocket assemblies will cause the finished product to be unbalanced.
  - f) Set aside to cure. I recommend overnight.
- 4) Waste Block Versus Longer Core
- a) Waste Block
    - i) In the event your core material is expensive, exotic, in short supply, etc., you may wish to add a glue block onto your now glued up assembly in order to preserve the core material. The easiest glue block I have found is a piece 1.75 in.<sup>2</sup> X 2 inches long. When using this method, it is mandatory that the glue block be attached dead center and true. If it isn't you will end up with different sized vignettes as you turn your object. Turn an appropriate tenon on the glue block either before or after and carefully attach it to your project.

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Figure 5: Typical 4.5" Core



Figure 6: Finished Christmas Ornament Globe

- ii) Turn your project as you normally would eventually parting off and discarding the glue block.
- b) Longer Core
  - i) If you opted for the longer core, i.e. around 4.5 inches, carefully mount your assembly between centers and turn a tenon on the waste end. Mount your assembly in a standard four jaw Chuck and accurately locate the live-center in the exact center of your assembly on the tailstock end.
  - ii) Turn your project as you normally would.
- 5) Finishing choices
  - a) Ron Brown's Best, LLC Laser Cut Glue-Up Kits© may be all wood, or they may contain a combination of wood and acrylic.
    - i) All wood kits may be finished any way you choose.
    - ii) Combination kits containing both wood and acrylic require sanding with a much finer grit. We recommend these projects be sanded up through at least 1000 grit and that the acrylic be finished appropriately. We prefer CA finishes whenever practical for kits containing acrylic elements. If that is not possible, finish your project with lacquer and after it is properly cured (at least 3 days, one full week is much better), buff your project to a high luster.

For kits with many small voids, we recommend that you use Ron's "Secret Liquid Ebony"\* or tinted Epoxy both to glue the pocket panels and to fill the voids all in one easy step.

- 1) Apply masking tape to the back side of the panel
  - 2) Mix the resin/epoxy and pour a small amount into the opening
  - 3) Place your Object Parts into the opening and press down gently. The Resin should ooze up around the Object Parts completely encasing them. Make sure they are flush with the surface, or nearly so.
  - 4) Set aside to cure.
  - 5) When fully cured, sand the reverse flat to assure a good flat glue surface for your core block. You won't need to sand the front side as it will be cut away when you turn your project.
- \* Secret Liquid Ebony recipe. I use a small catsup cup from one of the fast food restaurants for a mixing cup. Any of the large box stores will have Bondo Fiberglass Resin in the quart can for about \$15.00 and it comes with hardener. I purchase additional hardener. I tint the resin with 8-10 drops of Alumilite Dye available at many hobby craft stores or on-line.

# Alternative Glue up Strategy for laser cut kits

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I am at the mercy of the big acrylic suppliers when it comes to available material thickness. Some colors I use are not as thick as others.

Whenever the insert material is not as thick as the maple pocket, but still useable, I utilize a different glue-up strategy for gluing the insert material into the maple pocket material. The **normal procedure** is to place tape on the back side of the panel working from the face side of the pocket. In other words, work from the side which you will ultimately see in the finished vessel.

My **alternate strategy** is to work with the face side down so I'm working essentially from the back side. Place tape on the face side and flip over face down on the work surface so you will be working from the back side. This allows me to push the insert material (which is thinner than the pocket material) all the way down to the bottom. I then top off the extra space with resin. The effect is that my insert cavity is completely filled and solid all of the way through. When I turn this panel, I won't "run out of my object" because it is now the same thickness as the pocket.

The benefit of this method is that I don't have to turn as much material away in order to get to round. This method has the effect of making the whole assembly just a bit thicker. The finished product is much better looking using this approach.

## ***I Love America Kits Special Instructions***

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This kit includes very small stars for the flag. Although I can successfully cut the holes out, it is not practical to cut the stars themselves out. The solution is simple, add 6 to 8 drops of white acrylic paint to the fiberglass resin mix when you glue up the pockets. When turned, the stars are beautiful and very detailed.

I hope this didn't add to the confusion. Drop me a note if you have any further questions.

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Ron Brown

