Outboard details at the bow…

Pictured above you can see an iron strap along the outside edge of the stem. This strap begins along the top of the stem and runs down the front edge. It runs all the way down the front edge and down towards the keel near the scarf joint that joins the stem to the keel. It narrows part way down the stem to match the stem shape.

This strap has been laser cut for you. It is made from laserboard which is a resin impregnated paper. It is quite strong and is already blackened. There are three pieces. One longer piece meant for the outside edge of the stem. This is cut a bit longer on the wider end so you have some flexibility based on how you shaped your stem. Trim it at the top of the stem because there are two shorter lengths that you can use for the top and inboard edge of the stem. You can also trim these to fit. You can fill the seams between each length so it looks like one continuous strap. The laserboard is strong and you can sand it after you fill any gaps between each section.

You will notice that the strap has many small holes laser cut down the center of the strap. This was both decorative and functional for protection. Glue this strap into position and insert small lengths of 22 gauge black wire into each hole. Trim the wire so it stands proud of the metal strap which will simulate the bolts used to secure it to the stem. File the ends that stand proud flat and blacken them or paint them to suit. I even applied some rust brown weathering powder to the strip which helped make it look more like metal. You can see the results in the photos provided above.

Resin castings at the bow…

The same photos above show the resin castings in position. These carvings were often very elaborate on these period barges. For our model, you can paint the castings to look like wood or even gild them with gold leaf. I decided to try a new technique which will simulate the look of carved boxwood. Rather than paint them I would try to just use various colors of weathering powder. I chose Gritty yellow, Dirty Brown and Highlight White. These three colors were taken from a set of weathering powders I ordered from MicroMark. I was very happy with the results.

I washed the resin castings first to remove any residue. I used dish soap and warm water. They must be thoroughly dry before you apply the weathering powders. I applied the powders with a clean brush. First the gritty yellow. Then the highlight white

followed by some dirty brown in a few areas. I repeated this process until the entire piece was covered and looked like a good match for boxwood. Then I sprayed the casting with some Krylon Fixative spray. I sprayed it lightly but gave it two coats. What happens when you spray it is the fixative starts to mix with the powdered pigment and turn it into a liquid like paint….a sort of melting for lack of a better word.

Make sure you don't touch the castings at this point until the fixative is completely dry or you will ruin the piece. When dry, the castings don't show any brush strokes as if you painted them. Because the powder goes on thin, it really preserved the details as well. If for any reason you are not happy with the color after it dries, then you can simply repeat the process, or add highlights and lowlights. Then spray it again etc. On the previous page you can see that the two castings on the top have been colored to look like carved boxwood in comparison to the two below it which have no paint or color applied.

You can see what this casting looks like above. Before it was glued into position the molding strips along the shear had to be cut away. This was done carefully making tiny adjustments so the gap wasn't made too wide. The fit was adjusted until the casting fit tightly. One of the benefits to using a resin casting is that the carved piece has flexibility and can be bent to shape so it fits the shape at the bow. I also notched the clinker part of the plank that the carving sat on so it would sit flat against the planks.

A quick word about the carved decorations…

This kit was designed as a teaching tool which could hopefully introduce model builders to some new techniques and styles. For example, the kit was designed to allow people who never imagined building a true plank on frame kit to give it a try. I used the technology available to laser cut all of the elements for each frame to make it easier and interesting to build. With that same philosophy in mind, I also wanted to develop a kit that introduces the art of wood carving. Many ship models have elaborate carvings yet most kits only supply white metal castings which are sub-par to say the least.

With the barge however, the decorative carvings are presented in two ways. First, there are seven resin castings which have been supplied for the more rounded and structurally complex carvings. This may well be your first experience using resin carvings on a model.

In addition, there are seven other decorative carvings. These designs have less depth and are perfectly suited for the first-time wood carver. So rather than simply provide these as additional resin castings, I have decided to provide these as laser cut boxwood carving blanks. You can see them below.

These are the carvings for the sides of the barge and Queen Anne's cypher on the inside of the flying transom. I do understand that some of you may not want to even attempt to carve these, but I urge you to give it a try. What is the worst thing that could happen? But if this is absolutely not something you wish to try out…even just as a passing curiosity…you can purchase these seven carved pieces cast in resin as a "kit accessory". They are available in the Syren online store. Having said this, please do give it a try. A thorough tutorial introduction to carving such details will be provided.

The remaining resin castings…

There are five remaining resin castings. These can be glued into position at this time. The two carvings on

each side of the barge should be glued into position first. The *syren* mermaid is an interesting carving. This casting will be somewhat flexible and can be bent to fit properly. You will probably notice that the head of the mermaid will project slightly above the cap rail. This is OK. In fact this is supposed to be the case.

But because the casting is flat on the reverse side, you may want to further round off the back of her head. I did this by gluing the smallest piece of scrap wood to the back of her head AFTER the casting was positioned. Then I carefully shaped it until it looked good. I also used some wood filler to fill any gaps between the casting and this element. I also used some wood filler to fill the gaps between the hair of the mermaid and the cap for the flying transom. Although you may have to trim back the cap somewhat for the best fit.

In addition, the decorative molding on the side of the barge should be trimmed back so the casting fits snug in position. But again, you can fill any gaps with wood filler. The surface of the carving can be painted as described earlier and any of the gaps you filled touched up with the same technique so they blend in.

Once completed on both sides, the bust of Queen Anne can be glued to the outboard side of the flying transom as well.

Finally, you can glue the last resin carvings into position. This will create a defined space where the three acanthus leaf carvings will be added. As with the other castings, you will need to trim back the molding so these castings fit properly as shown above right.

An Intro to Carving…

Time to break out the seven laser cut carving blanks. Don't forget, these are also available as resin castings and can be purchased in the Syren online store. But go ahead and give carving a try. It's very addictive, rewarding and enjoyable.

You don't need any fancy carving chisels. In fact, all of the pieces shown were hand carved using just a sharp #11 blade. Make sure you have a bunch at hand before you start. In addition, if this is something you enjoy and you want to purchase additional carving blanks, they are available as well.

The carving blanks are very fragile!! They are laser cut from a 1/32" thick boxwood sheet. Handle them with care. One of the secrets to successfully carving pieces this fragile and tiny is how you stage your carving blanks before you even put blade to wood. To try and carve one of these "as-is" would certainly result in splitting and breaking your wood blank. To prepare you must mount your carving blank first.

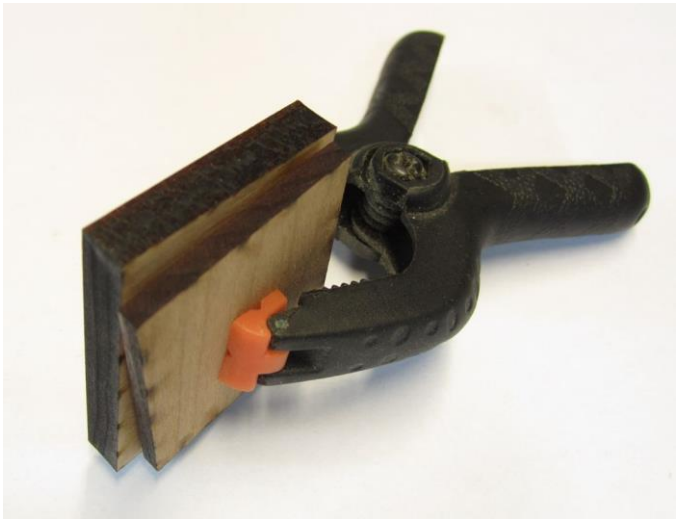
Mounting your carving blanks…

To mount your seven carving blanks you will need several small scrap pieces of wood. I used small 1/8” thick squares of cherry. These shouldn’t be too large. They only need to be slightly larger than the blank you are carving so you can turn the piece in any direction as you carve it.

It’s cherry and is hard enough to take a beating. I would imagine that softer woods are probably not the best to use and should be avoided. It was glued on with a child’s glue stick. This glue is easy to remove and cures permanent and strong....but will easily be treated with rubbing alcohol when the time comes to remove it after you are done carving.

Dont be shy with how much you use. You want this piece secure. These are fragile pieces at 1/32" thick. Take special care with the areas that would be prone to breaking like the bottom tails for the letters. The glue will dry hard but also flatter. If some squished out, it’s not a problem because you can easily scrape it away while carving. See above.

Because the designs are so thin they will have a tendency to curl when in contact with glue. To solve this problem, I sandwiched them with another small scrap piece and clamped them to dry. I let them dry overnight before starting to carve them.



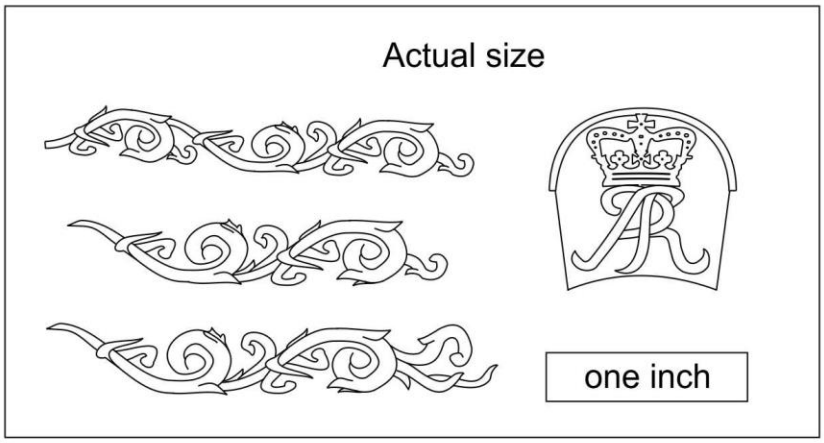
To remove the piece after you are done carving...I literally just filled a small plastic container with 90% rubbing alcohol and dropped it in. I let it fully submerge in a 1" deep bath for about 3 hours. It actually fell right off the base without any trouble. But more on this later.

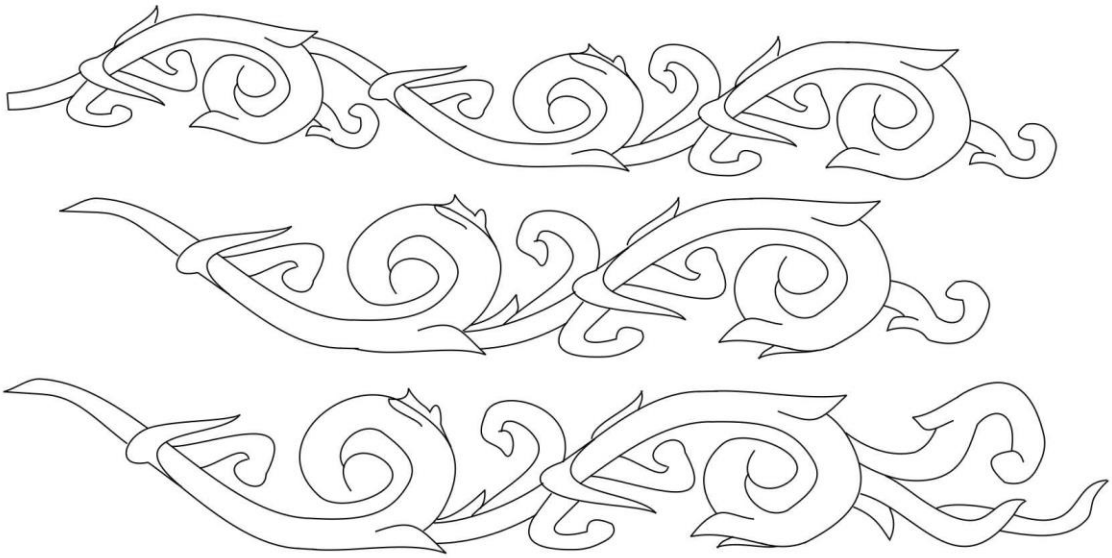
Creating a plan before you start carving…

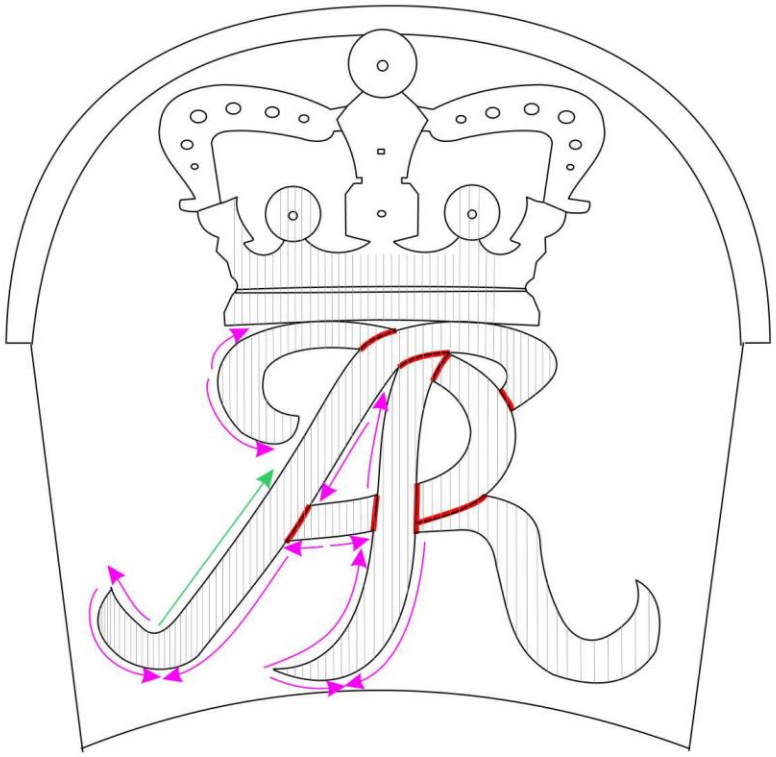
I recommend that you start carving the Queen Anne cypher first. It is the easiest to carve and contains all of the elements to practice the carving techniques described below. But before you begin, use the designs on your plan sheets to create a plan of attack. Make note of the grain of the wood. Indicate where your design will have a change in depth (where you need to use a stop-cut). Also indicate what direction you will be carving in which will be extremely important.

To make this easier, print out the next page. It contains an outline for all of the decorative carvings in a larger scale. You can indicate the direction of the grain and other features right on print out. I have already taken the liberty of indicating some of these features to the cypher design.

Note the very light vertical lines added to the cypher. This indicates the direction of the grain. You can also see some heavy short red lines. These lines show where I want to create extra depth and it is where I intend to use a technique called a “stop-cut”.


Actual size
one inch





Finally, I also added some arrows. Based on the grain direction, these arrows show me what direction I should be slicing and shaving the wood with my sharp #11 blade. The light green arrow will be my first cut. Use this to get started but also complete the plan by filling out the other areas with more arrows. You would be surprised how helpful this is when you get immersed in the carving process. It is so easy to forget what direction you should be carving in and ruin the piece.

The photos, left, show a blank before beginning to carve it along with another that has been completed. Below that photo is a close up of the finished carving and a second example that has been gold leafed. Some of you may want to gild your carvings as this was typical on the contemporary examples. Below you can see the contemporary example that the monogram was based on. It is taken from the Queen Anne barge model in the Kreigstein collection. Notice how crudely it has been carved. One only needs to round off the blanks a bit and add some depth to make the carvings at this scale look really terrific.

I am only using the typical Xacto #11 blades to carve these pieces but you could also use the surgical scalpels and or chisels if you are lucky enough to own some good examples of these. But it isn't really necessary.

As an introduction to carving with just a couple of basic techniques, only two basic carving methods need to be used. These two types of "cuts" will be more than enough to allow you to get good results with your carving. In fact, I have only used these two basic cut techniques to carve mine.

The easiest way to describe these two basic cut techniques is to use some clay. Children's play-doh to be exact.

So grab your printout with the arrows on it and let us begin. These are much larger clay examples. I have

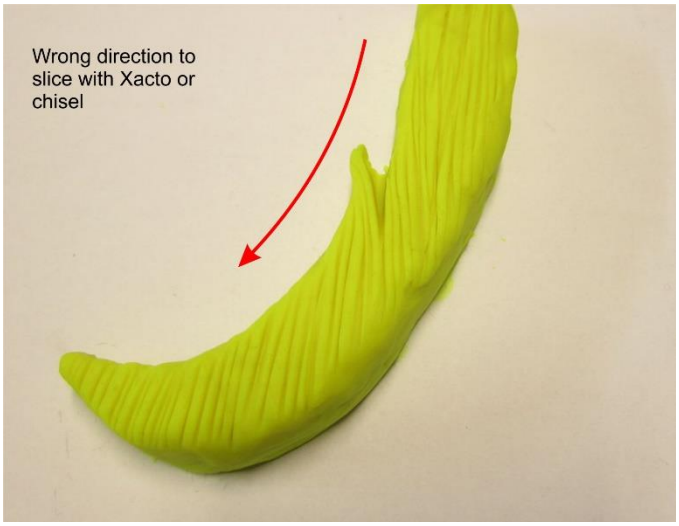
indicated the grain direction with some shallow grooves to make them easier to see.

The simple slice cut…or shave to be exact…

Above you can see what looks like the lower left leg of the Queen Anne Cypher. I have indicated the grain which is visible.

Typically when slicing with your chisel or blade....I watched everyone in my local club group begin carving. It is logical that everyone would start with the design right side up.....and start with this leg of the design. The goal when starting is just to slice away the laser char from the sides of the piece. Most started slicing off small shavings in the direction shown below. I did this also.

Its seems like the obvious way to do it. But guess what happened?

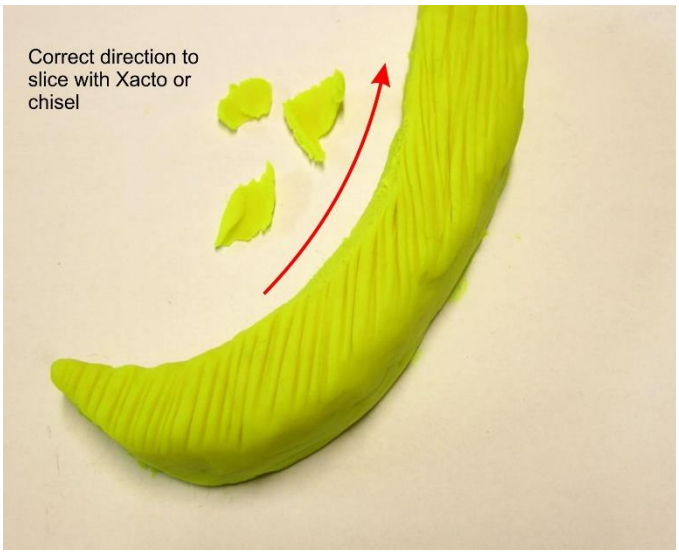


The blade caught on the grain and either split the leg off entirely or creating a large chip along the grain direction which ruined the piece.....time to start again. Can you see how this would happen?

Some also decided not to slice or chisel away the char as they were shaping the edges. They decided to scrape it off with the edge of the #11 blade. Not only did this make a horrible sound...I wouldn't recommend this approach. It leaves a dirty and rough surface that wont take a finish well. It just doesn't look good. Since we are trying to learn carving its best to try cutting/slicing or chiseling. Very tiny thin shavings....don't try to remove too much. This takes time to do. It's very delicate work.

Instead…

Slice in the other direction as shown below as indicated by the green arrow I added to the carving plan.



This may seem obvious to most but it is well worth mentioning. This completes the first type of basic cut used on these pieces. Its real beginner stuff but you can achieve quite a bit by just shaving with the correct direction of the grain. Analyze your piece for the wood grain and its direction and pre-plan the direction of your cuts to avoid splitting and ruining your piece.

You can do this ahead of time by drawing arrows on your printed design sheet.

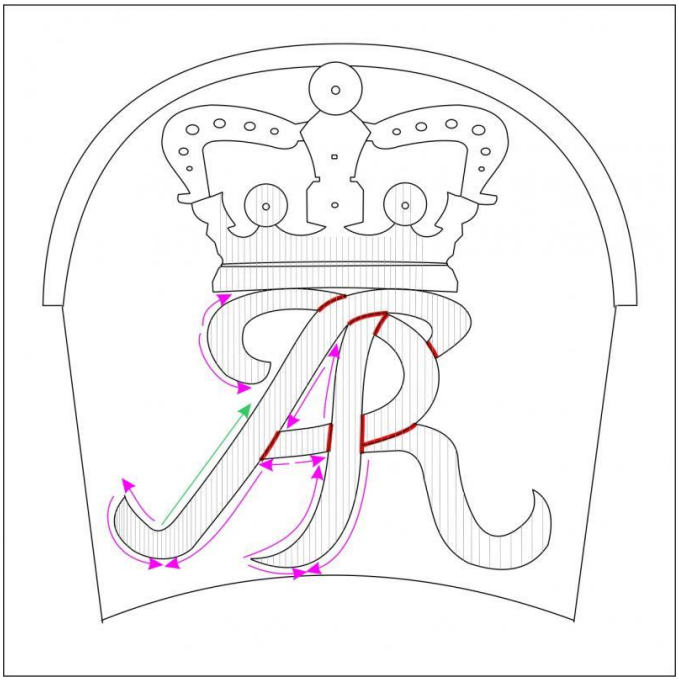
God I love the smell of playdoh!!!!!! Remember to use the slice technique to round off the edges and remove all of the laser char. Use it to alter the depth and

thickness of your piece to make each “leg” look almost ribbon-like.

Carving technique #2…the stop cut…

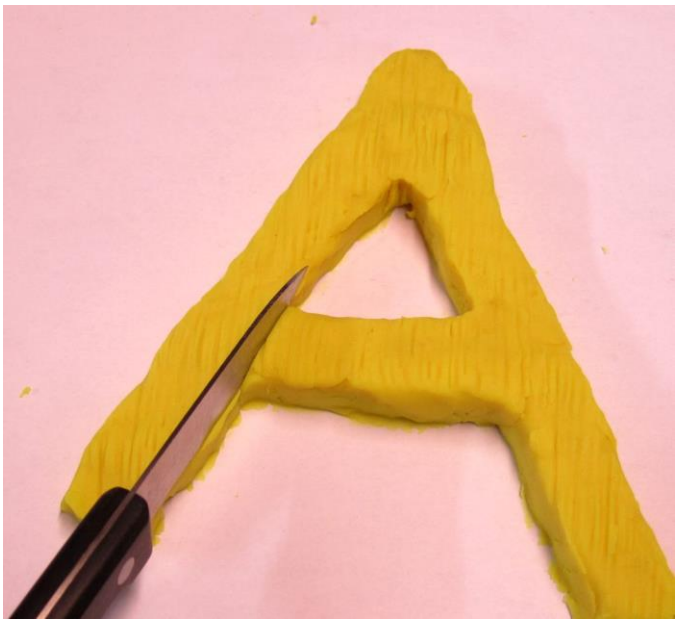
The stop cut (or safety cut) is very important in relief carving. It is a two stroke cut that is used to create depth and relief.

If you look at the crown design, you can see the cross piece of the letters. I have indicated a stop cut on each side of the cross piece in red.



To replicate this in my crude play-doh demo.....I have created the letter A. Note the wood grain added.

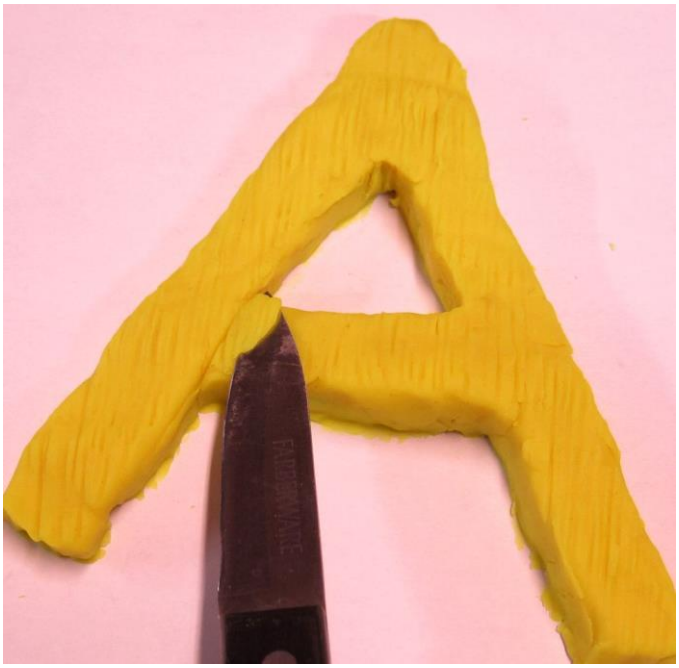
The first stroke in a stop cut is to slice very carefully to the depth you want. In this case, I am creating a cut straight down. Remember not to try and go too deep on the first try but rather make a series of stop cuts until you reach the desired depth and shape. So this first stroke should be very shallow and only just begin creating depth. I am using a steak knife in my larger demo in place of the Xacto. Below.



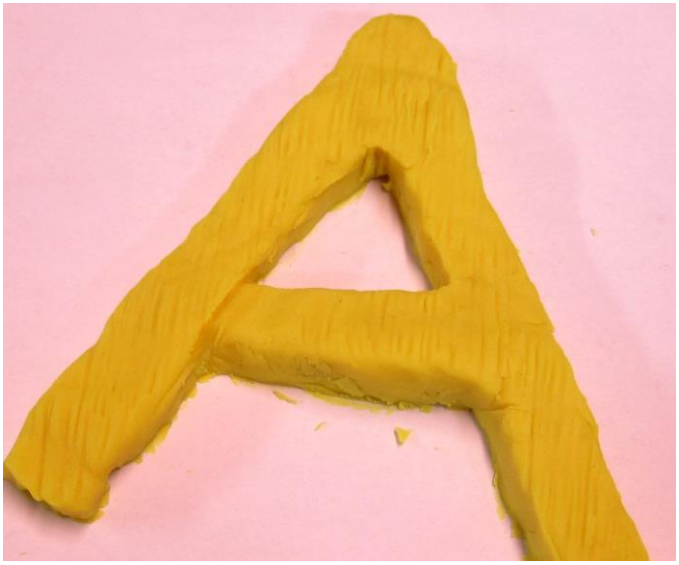
Here is what it looks like in play-doh.

The second stroke of the stop cut is to slice a very thin sliver off. Slice with your blade or chisel towards the stop cut. A small sliver should pop free creating depth.

See the photo on the next page.

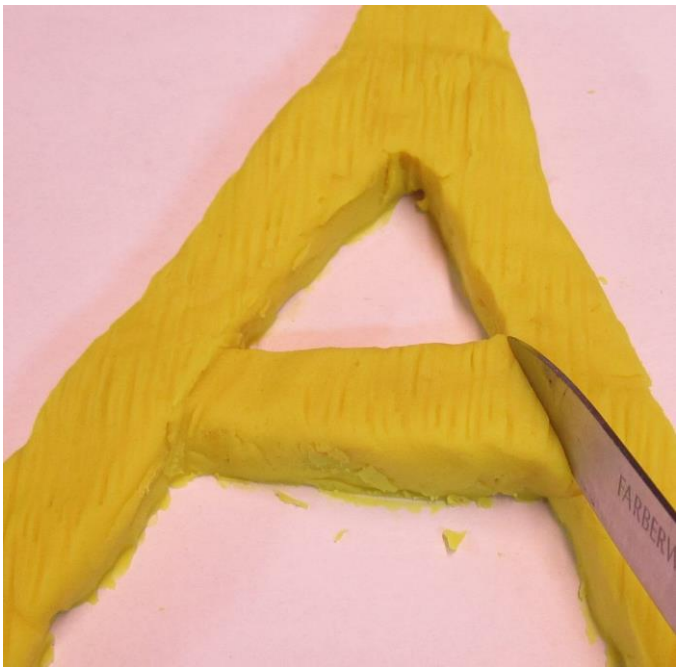


Repeat this process until you reach a depth and shape you want....yes I know it doesn't look great in play-doh but you get the idea. I am using a small kitchen knife to represent my micro chisel or #11 blade. Remember that the piece is just 1/32" thick so you will be taking it down at microscopic intervals as you repeat the two stroke, stop cut many times on each side of the cross piece.



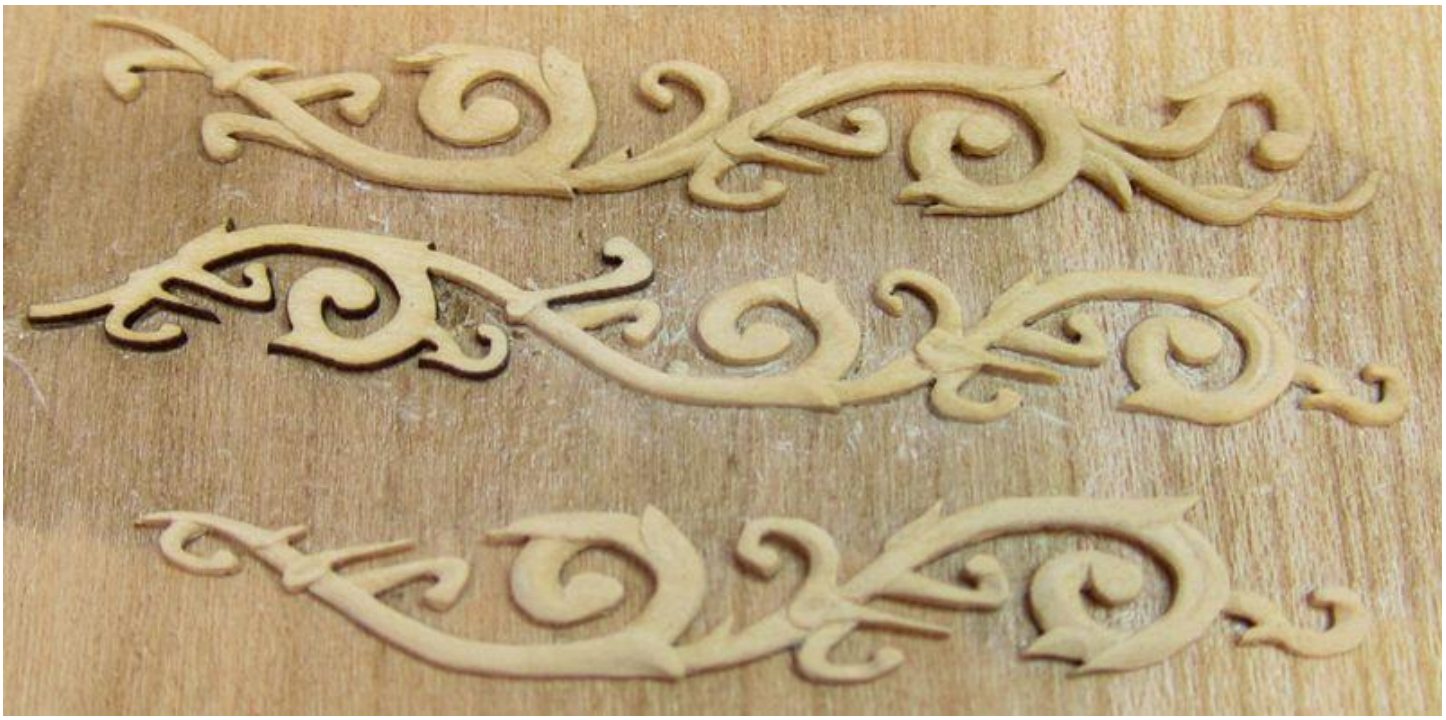
Then start the process on the other side of the cross bar...

Eventually you will have created some depth in the piece and then you could further shape it by rounding off the edges and cleaning it up....see the next series of photos below.



Again ...take a look at my first attempt and how the cross piece of the letters look after applying stop cuts to each side....then after cleaning it up. I am sure the more experienced carvers can do a much better job with it, but this particular cut is used throughout relief carving for ship model carvings. You will use it a lot. As I did on my paper design...you can mark where you want your stop cuts in advance....they are shown in red on the drawing. You can see the other carving designs and probably pick out where I used the stop cut. I like to plan ahead and mark them out on my drawing and on the carving blank. I like to pencil where all of the overlaps will be and depth is created. It's easy to lose track when you lose yourself in the carving process and seeing the pencil marks on the carving blank helps avoid a mistake where you will have to start over.

To remove the finished carving from the backing piece, just flip it upside down and submerge it in a tub of 90% rubbing alcohol. I filled up a small tub just large enough to fit the carving to about 1" deep with alcohol. Keep it submerged for at least 3 hours and the carving should drop from the backing board. Carefully fish it out BUT don't force it off of the backer if it isn't ready to simply fall off. Patience….or you will end up carving another!!



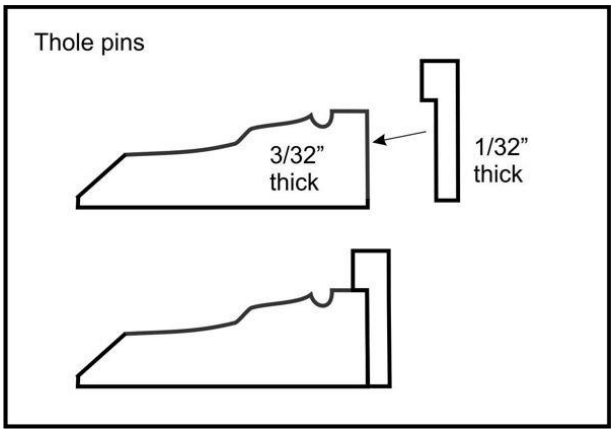
Glue the carvings into position. The carvings for the side of barge are made in three pieces. Start with the forward section and work your way towards the transom. You will need to cut the last piece to fit nicely against the mermaid carving. Glue the cypher to the inside of the flying transom.

Making the thole pins…

You are in the home stretch!!! To make the thole pins or oar locks, there are tiny laser cut pieces. Each pin assembly is made in two parts. You will find small parts that are 3/32” thick and some others that are only 1/32” thick. These two pieces need to be glued together and sanded to clean up the laser char a bit.

Don't go crazy with the laser char removal because these pins will ultimately be painted red.

The diagram below shows their assembly.

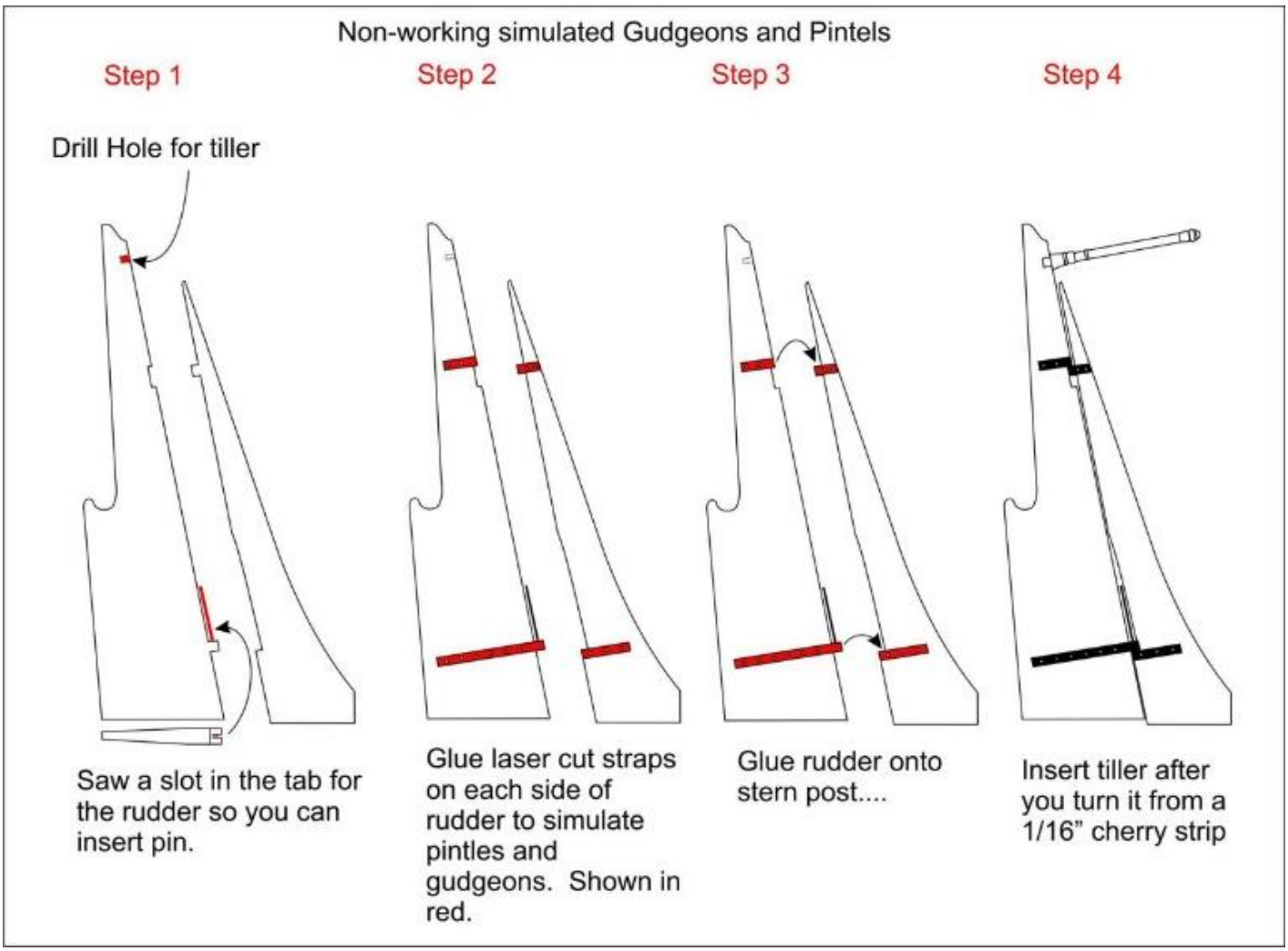


Study the plans for their placement. They will placed on top of the cap rail where you created the thicker sections along the side of the barge. Place them an equal distance apart so the space between each pair is consistent. I am referring to the space that would be needed to accommodate the sweeps. You can see the thole pins in the photo (right) atop the cap rail.

Adding the Rudder…

I have designed the rudder to be a simulated version. Its gudgeons and pintles are not working and the rudder will not move. The rudder will be fixed in position. Due to its size and thickness it would be quite a challenge to create working rudder hinges.

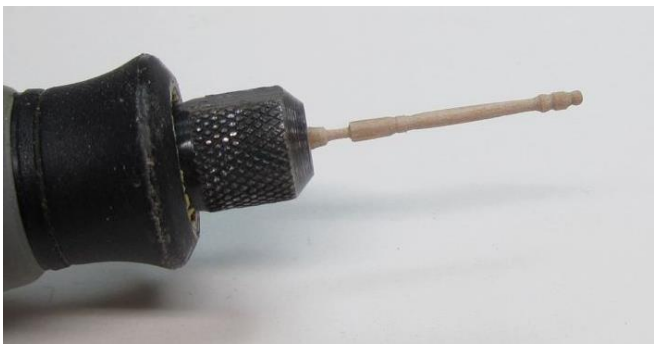
The illustration below describes the process in detail. But first, take the laser cut rudder and sand its edges free of laser char. Then taper the thickness so it gradually reduces as you work your way aft on the



rudder blade. The rudder blade will be quite thin when it's completed and you would be so surprised how thin the rudder actually was in real practice. Below you can see the rudder on the Queen Mary Shallop which is currently preserved in the NMM in England (1689). You can see the taper shown in the illustration on the previous page (step one).

Also note the small nails holding the clinker planking in place.

In Step one, also drill a small hole for the tiller. But yes, you will need to make your tiller first. To make your tiller, use a short length of 1/16" x 1/16" cherry strip. Cut it slightly longer than you will ultimately need. This will allow you to chuck it in your rotary tool as shown below. Once turning at low speed, I used a sanding stick or a nail file to round off the square strip. After it was rounded, several needle files were used to finalize its shape. This may take a few attempts if making such a turning is new to you. It doesn't take a long time so try making a few. Your finished tiller will certainly get better with each new attempt.



It is worth mentioning that the rudder and tiller were both completed separately. The tiller was painted ahead of time as was the rudder. But the tiller was not inserted into the rudder until AFTER the rudder was installed on the model.

Back to Step one…Drill a small hole for the tiller. You can form a small peg on the end of the tiller that will eventually be inserted into this hole.

In addition, the same illustration shows how you will create a vertical slot in the center of the little tab protruding from the bottom of the rudder. This is also shown in red. I used one of those Xacto razor saws to make this slot. It is very thin only needing to be the width of the blade kerf.

In this slot you will insert a small length of 28 gauge wire which will simulate the pin for the rudder hinge. Then place a drop of CA glue in the slot. When it dries it will be quite strong and hold the wire in place.

Step two…

Also shown in red, glue the laser cut straps in position to simulate the pintles and gudgeons. Actually glue the laserboard right to the rudder as shown. Note how it will cover the little tabs protruding from the rudder and the sternpost.

You can touch up the straps with black paint, including the forward face of the rudder and stern post which will further simulate these tiny hinges.

Step Three…Once completed, glue the rudder to the stern post. A small dab of CA glue on the tabs will do the trick. Carefully ensure that the rudder is straight when viewed from above the model. You will need to do this quickly before the glue sets because the rudder won't move after it dries.

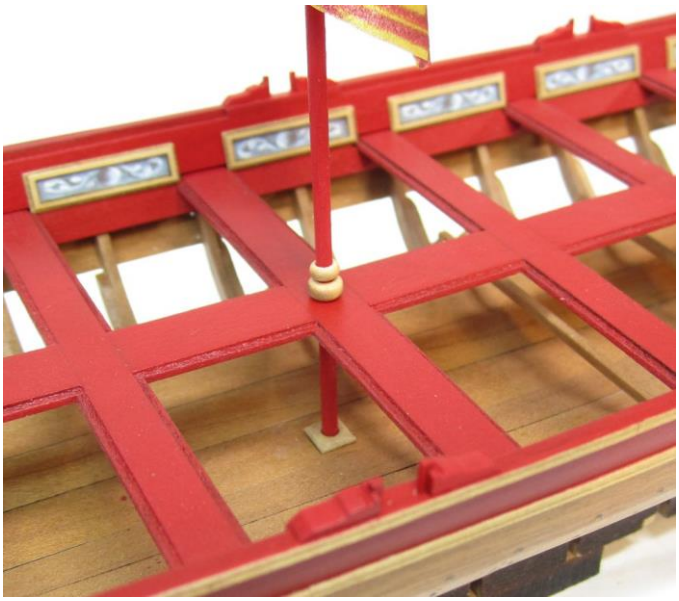
Finally to finish it off, glue the tiller into the hole you drilled into the rudder head.

The Flags…

There are two flags provided for the barge. They will be tied to flag staffs. We will focus on the two flag staffs first. You will find two wooden dowels in the kit. Both can be cut to length using the plans as a guide. They should be tapered to a thinner top end a shown. The staffs will be painted red and have a few round boxwood "balls" at their bases. This was typical on Royal barges for the time period. Ours are quite conservative and some of the actual staffs were carved and very detailed.

The position for the carved beads can be determined by placing the staffs into position on the model temporarily. The beads are laser cut from 3/32" thick boxwood. Initially they look like small washers and you must clean them up and round them off so they look like wooden beads that can be slid onto the staffs.

The longer staff is run through hole in the thwart as shown below.



Note in the same photo that this staff is also stepped. A small laser cut step is provided for you. This should be cleaned up and glued into position so after the staff is installed it stands perfectly vertical. Take some time with this to ensure the flag staff isn't crooked.

To finish off the flag staff, a small laser cut cap can be shaped and glued onto the tip.

The shorter flag staff at the bow is made in the same way. But rather than step this flag staff, it was run through the hole in the bracket at the bow. Then it also went through a second hole through the forward platform. You will need to drill this hole. The location for this hole needs to be very exact. You need to locate and drill this hole so the flag staff is perfectly vertical after run through both of them.

See the photo provided on the bottom of the previous page.

The two flags are printed for you on tissue paper. They are very thin so be careful with them. The thin tissue paper is what keeps the look and feel of the flags to scale after you shape them.

I find it easier to shape them after they are tied to the flag staffs. For this reason, the staffs wont be glued into position yet or even at all. There is really no reason to do so.

To tie the flags to the staffs, you must first use a sharp awl to poke a really tiny hole through the inside corners of the flag. These are very tiny holes. Only large enough to use some sewing thread to tie them to the flag staff. But the tissue paper is very thin and before doing so, I fold the inside edge in order to double its thickness. There is really no need to glue this thin flap down. I literally just fold a thin flap about 1/32" wide on the inside along the inside edge to double it up. The tissue paper is so thin it usually stays flat. Then I poke the tiny holes through this doubled layer of the flag.

Use some sewing thread and after running some through the tiny holes in the flag you can tie it to the flag staff. Secure the overhand knot with a drop of CA glue.

Once dried, you can spray the flag down with Krylon fixative. Don't be shy with this. Wet the flag good. Before it dries start shaping the various folds and billows. When the fixative dries it will hold the flag to

the shape you create. You can also repeat this process many times over. Spray the flag often as you work the gentle folds into it until you are satisfied. I also use various sized dowels or paint brush handles to help shape the folds so I don't get any creases. With some patience and practice this can create very good results.

The sweeps…

The ten sweeps or oars are laser cut. Each sweep is made up of four pieces you must assemble. But before we talk about their construction in detail, you must begin thinking about how you will display your model. You must decide how you will display your sweeps. I have decided to mount the barge on some pedestals which are painted black. On each side of the barge the sweeps will be displayed on racks five per side. Because the blades of the sweeps are very decorative and have a painted frieze, I thought it would be a nice way to display the entire model. The racks are also painted black. You can see the results above where the pedestals and sweep racks are done on one side. But

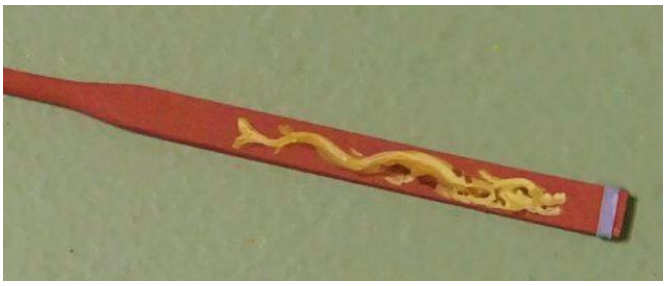
they have not been permanently glued to the baseboard yet.

Should you like the way I have chosen to display the model you can do so as well. I have included the laser cut pedestals and sweep racks in the kit. Just clean them up and assemble them. Then paint them black or whatever color you prefer.

The photo on the bottom of the previous page shows the four parts for each sweep. You can see one sweep that has been assembled. Under that one you can see the four separate elements. To begin, the long center portion must be rounded off. I did this by hand. First I shaved the long piece to an octagon and then used some sand paper to round it off. But leave the tab on the end as is because this will be inserted into the squared off section of the sweep which will remain square.

There is also a small handle which should be shaped in the same way. Please note that the long center portion is left intentionally longer so you have something to hold onto while shaping it. Cut it to length before you glue the blade onto that end.

The blade itself also needs to be shaped and sanded. The blade should be tapered so the tip is very thin. Much thinner than the end that fits into the long rounded section. You can see this in the photo and on the plans. Finally, the blade should be bent slightly. This was a common feature. I did this with heat using a hair dryer. Once assembled, the entire sweep can be painted red.



To finish off the sweeps, a sheet of printed dolphin friezes are provided in the kit. Cut these out with a very sharp blade. Cut them right up to the image edge of the painted dolphin. Don't worry about small imperfections as they wont show after they are glued to the blades of the sweeps. Glue them onto the concave side of the bent sweeps. I used that same child's glue stick to glue them into position. Just rub some glue on the reverse of the dolphin and position them. Once dry, a carefully ran a paint brush along the outside edge of the paper to conceal the white cut edge of the paper with some red paint.

You can wrap some thin tape painted blue, brown or even the color of wood around the tip of the blade to completely finish them off. This was typical and was usually made of leather and nailed to the blade for protection. Below you can see a contemporary example of a sweep blade that was used as the basis for the kit design. Keep in mind that there are port and starboard dolphin friezes. Make sure you are using five each so when you display them your dolphins wont be upside down.

Once you finish up the sweeps and mount your model you will have completed the project.

CONGRATULATIONS!!! I do hope you enjoyed building this interesting Royal Barge. Thank You very much for your support of Syren Ship Model Company.

Chuck Passaro

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