

Cutter *Cheerful* from the Rogers Collection in Annapolis MD. This model actually represents another cutter and is incorrectly named. But it is a good example of a cutter from *Cheerful*'s time period.

## Chapter Four

### ***External Planking...Below the Wales the first belt***

To plank below the wales it is best to develop a strategy first. I have compiled a list of tasks that are shown in the order I decided to complete them in. You can create your own or simply follow the same path I decided to use. This chapter covers parts 1 through 3.

1. Create and install drop planks on both sides.
2. Line off the hull into planking belts and strakes
3. Plank the first belt. (Remaining 8 strakes)
4. Frame and plank the square tuck. (Chapter 5)

5. Complete the second belt of planking (ten strakes) Chapter 5

6. Treenail all the planks. Chapter 5

### ***Create and install the drop planks...***

There will be 20 strakes below the wales. This follows the external planking draft for the *Cheerful* class exactly. Shown on that draft there was one drop plank towards the bow and your plans copy that arrangement. I found it easier to add these first two strakes before attempting to line off the

hull. I will be using 3/16" wide boxwood strips to plank the hull. This is the measurement at mid-ship and the strakes will taper at the bow and in some instances get even wider along the stern post and square tuck. But you will see this more later after you line off the hull.



For now, I just added the first strake under the wales. It terminates at bulkhead "J" as shown on the plans. Forward of this strake will be the drop plank. This strip was added below the wales and remained a constant 3/16" wide until it reached bulkhead "b". From here until it terminated at bulkhead "J" is gradually tapered to 5/64" wide. You can actually follow the plan very closely here.

All of the planks are 3/64" thick. The drop plank was shaped and added next. I started with a slightly thicker 1/16" thick sheet and cut my drop plank from it. You won't be able to use a small strip. You will need to cut it from a wider sheet and later sand it down to 3/64" so it matches the other plank thickness. Unless of course you have a 3/64" thick sheet...then yes, you can use it.



The shape of the drop plank is unusual. Rather than try to create it from wood right away, I used some stiff card stock to find its shape first. Basically trial and error and after making many tweaks to the template it was finally done. Then it was laid atop the sheet and traced. Above you can see the final drop plank ready for installation.

Note the use of a pencil on one plank edge to simulate the tar between strakes. It was pre-bent to shape before installing. The aft edge "drops" to become the start of the second strake of planking.

If I may mention one other thing, remember to follow the planking plan from sheet one to locate the butt shift patterns for your strakes. The lengths of each plank were also copied from the original planking draft and are a very close interpretation. I have planked the hull according to this "butt shift" pattern. Run your planks right off the square tuck and file them back flush. Complete the second strake before moving ahead to lining off your hull.



## Lining off your hull...

Before I even attempt to start planking any model hull, I will line off the hull so I know the width of each strake at every bulkhead. It's a good practice to make a habit of.

We know that after adding the first two strakes below the wales that we have eighteen more to go. They will be  $\frac{3}{16}$ " wide at mid ship (bulkhead "0").

Begin by dividing up the remaining space on bulkhead "0" into eighteen  $\frac{3}{16}$ " segments. This is best done using a tick strip. In fact, you will need many tick strips to line off the hull so I recommend cutting a whole bunch now. I cut some card stock into  $\frac{1}{8}$ " wide strips to use for this purpose. Below is an image from another project showing how I used a tick strip to divide the mid-ship bulkhead evenly.



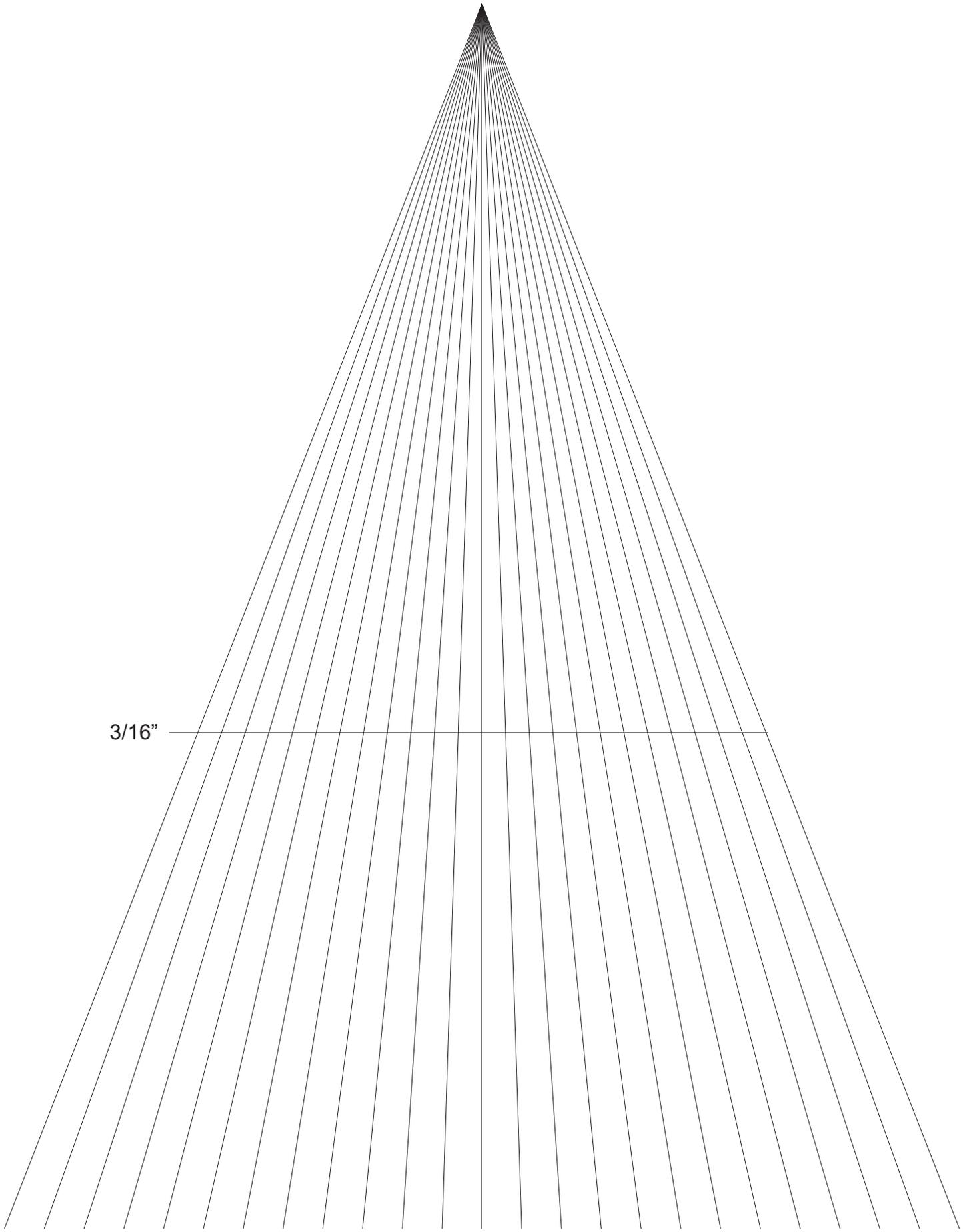
I find using a planking fan another good technique for quickly dividing a tick strip equally into segments of any width. I have provided one for you on the next page. Just lay the strip on top of the planking fan which has equally spaced radiating lines. Moving the strip evenly up and down will give you perfectly spaced segments. I have already marked a center line where the segments are  $\frac{3}{16}$ " wide. Just lay your tick strip across the

fan and transfer the measurements to your tick strip.

You may find that the last segment against the keel is slightly larger than  $\frac{3}{16}$ " wide. This is OK as this last strake, the garboard was indeed wider. The garboard on my model was nearly  $\frac{1}{4}$ " wide at bulkhead "0".



I will be dividing up the hull into two belts. The first belt below the drop plank will have eight more strakes. Use some pinstripe tape to break the hull up into two belts. One edge of the tape can be adhered at bulkhead "0" along the correct tick mark. Then run the pinstripe tape to the stern and to the bow. As shown in the photos. At the stern it is easy to find where the tape should terminate. The eighth plank will end with its edge in line with the bottom of the square tuck. Examine the plans carefully for this. At the bow, it's a bit trickier. To find where the belt should be divided, count "down" from the bottom of the wales to find the appropriate strake. Remember you used a drop plank so its actually just 9 strakes of counting. Then transfer this location to your model as best you can, using various measurements and reference points.

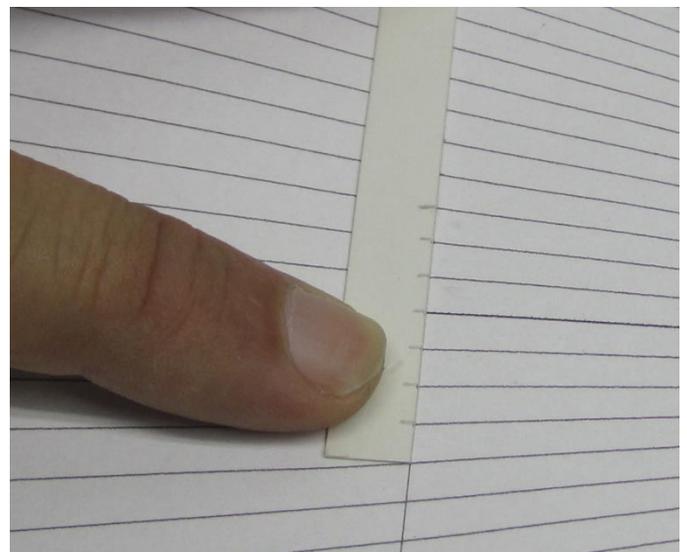




The pinstripe tape is self adhesive so once you have the locations at the bow and stern, you should adjust it at every bulkhead edge until you have a smooth run. Take your time examining the run of your tape as it will become the run of your planks. Make tiny adjustments until its smooth and true when viewing it from every angle. I do this on both sides of the hull to ensure it is the same.

When you are satisfied, place a tick mark on every bulkhead edge to reference the dividing point between your two belts. Use a nice sharp pencil. Now you now the area in each belt at every bulkhead!!! In the first belt this is the space that will fit eight more strakes. Remove the tape at this point. Now it is time to divide up that space at every bulkhead into eight equal segments. Any guesses as to the best way to accomplish this?

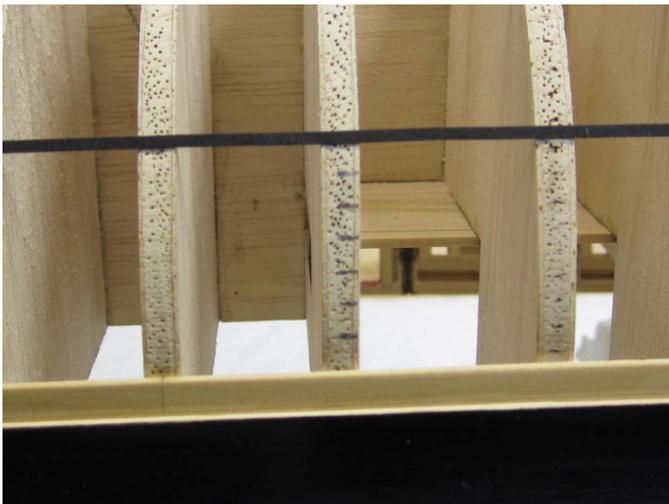
Take a blank tick strip and hold it against every bulkhead edge one at a time. Mark the width of the first belt. Then take the strip over to your planking fan and slide it across the radiating lines. Remember to keep it straight. The initial line I provided for the 3/16" reference is a great way to



visualize if your tick strip lies straight across your fan.

You can slide the tick strip across the fan until you find where eight segments fills up that space. Then transfer those points to your tick strip. Its that easy. Your tick strip is now divided up equally into eight segments to fit the space at that bulkhead edge.

Take the tick strip back to your model and place it on the bulkhead edge. Transfer these tick marks to your bulkhead. You can see me doing this below on another modeling project. In this instance there were seven strakes in each belt. You need to do this for every bulkhead edge in that first belt.



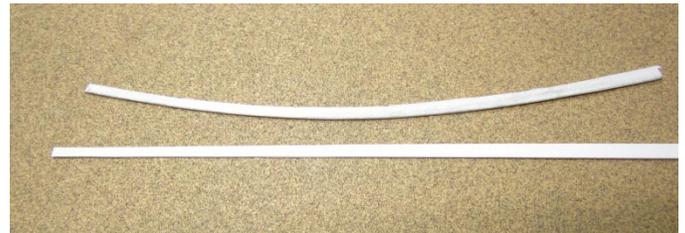
What you will find is that the plank segments will get narrower at the bow where they must be tapered. At the stern along the square tuck, you will see that the planks remain pretty much 3/16" wide all across the hull. No tapering or widening is required in this belt. I did not have to adjust any of the planks at all in this first belt except for the first 4 or 5 bulkheads at the bow. That is where some tapering is required.

I did not divide the bulkhead edges into strakes for the second belt yet. I decided to wait until after the first belt was completely planked. You can now stat planking the first belt with actual wood!!!

## ***Planking the first Belt...Spiling***

Planking below the wales will require some spiling. I didn't intend for this monograph to become a treatise on planking and there are many books and articles written about it. There many methods and techniques and I recommend trying them all. I will try and describe the method I used for planking the Cheerful.

Normally when you buy a kit, you are given many wood strips that are all the same width. This is not ideal as in many cases you will need wider planks at the stern. Tapering them narrower at the bow isn't a problem but many planking tutorials will tell you that you must use a wider sheet to cut those planks. This is because the planking at the bow needs to be spiled to a curve in order to lay flat against the bulkheads. But I will try and explain how I achieve that curve without having to cut the bow planking from a wide sheet. See the image below that shows a card template of a curved plank and a straight one for demonstration purposes.



If you use a straight cardboard plank at the bow it results in the bottom of the strake lifting off the bulkhead edges as seen below. This happens when you try to force bend it against the strake already glued to the hull. No amount of forcing will help this plank sit nicely in position. This image is from another project I was planking. Has this ever happened to you?



When the curved template is used, the plank fits flat against all bulkhead edges and no forcing is needed. See below. The big question is how to determine what this curve is. There are any ways. But here is how I did it for Cheerful.



1. Don't forget to mark all the locations for your butt ends on each bulkhead. It will be easier to follow and create a consistent planking shift pattern this way.
2. Take a strip and cut the end on the appropriate angle so it will fit into the rabbet at the bow. Remember that I am using 3/64" thick planking strips. The strips all start as 3/16" wide planks.
3. Without bending the strip edgewise, mark the locations for each bulkhead on a strip. I only had to do this for the first 4 or sometimes 5 bulkheads at the bow because working aft from there all of the strakes were 3/16" wide. This part of the process is used to find the width of the strake as it

tapers at the bow. Now that you know where the bulkheads are, and you also know what the width of the strake is at each bulkhead ... thanks to lining off the hull.....you can transfer the widths at each bulkhead edge to your planking strip. Below



4. Then use a straight edge to connect the dashes which will reveal the taper you need. This is based on your lining off the hull. Below



5. Then trim the plank to that line. Finish it off using a file or sanding stick.



6. Now it is time to bend the plank edgewise. How do you determine the curve you will need. I usually hold the plank in position without bending it. I allow it to run naturally against the planks already on the hull more or less. This doesn't have to be exact. You want to reveal the gap between this plank and the one already on the hull. See below. Mark the widest point on the plank, or the apex of the curve.

You can see that I am planking lower on the hull for Cheerful in the image below. It is actually the planking for the second belt. But this doesn't matter at all. The procedure is the same for all strakes. The red "X" marks the widest part of the gap or the curves apex.



7. Using this reference point I can clamp the strip into position with an estimation of the curve needed. I always “over bend” the plank to compensate for any spring back after its bent. In this case I had to mark the apex on the other side of the plank because it needed to be flipped over to bend it in the correct direction. This will make sense once you give it a try. On the other side of the hull it isn’t necessary. I am bending it clamped to the edge of a piece of wood.



The center clamp is just used as the pivot point against the apex of the bend. Its not actually clamping down on the wood. It does however stop the plank from lifting off the wood while bending.

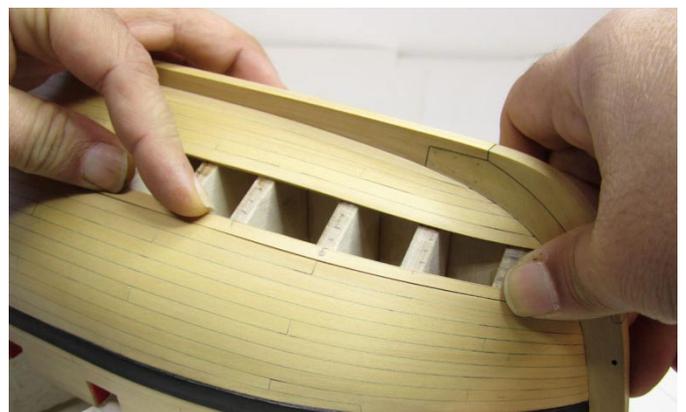
Then the two outer clamps are added to create the curve needed. OR, as I said earlier....exaggerate the curve and over bend because of the spring-back.

I don’t apply any water. You can if you want to but it isn’t really needed. Just dip your fingers into a glass of water and rub it over the plank if you wish.

Then I use a hair dryer on its highest, hottest setting to heat up the plank a lot. It will dry quickly if you wet it down. The hair dryer is only 1” away from the strip. Heat it up good. Then wait for it to cool off before removing it. Below.



8. Bending the plank edgewise is only half the fun. In order to place the plank on the model without forcing it, you will need to bend it again to fit the curve of the bow. This is easy. Just clamp the end to the table and gently bend it while applying heat with the blow dryer. Note how the finished plank is curved in both directions now and will fit nicely in position against the last strake you put on the model. No forcing at all!!!



9. I must also point out that you will have to bevel the edge that butts against the strake already on the hull. This will make it so you get a nice tight fit against the existing plank. Then I run a number 4b pencil along the edge to simulate the tarred seam. Remember to cut the plank to the proper scale



length. Then glue it into position. I will sometimes thin down the plank end that has to fit into the rabbet. It seems as though there are times where a thinner plank end fits into the rabbet nicer. Before you glue it on permanently, check that the width of the strake matches up with your lining off marks. If it doesn't, you can tweak it a bit. If you have dips or narrow spots, you can sometimes just make adjustments to the next strake so you can get back on track to match the tick marks on the bulkheads.



You can see the first belt of planking completed in the photos provided.

