

January 2023



#### The MSB Journal

#### ISSN 1913-6943

#### January 2023

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Published by www.modelshipbuilder.com

On the cover 1:60 scale Mantua Spanart Lynx Privateer

by Mal MacDonald

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# Editorial



Happy New Year and Welcome to 2023!!! Hope you are looking as forward to another year of modeling as I am. Some great projects coming up. Problem with time is that you can only do so much in the run of a day and there are so many projects waiting in the wings. I'm not normally one for making new years resolutions but this yet I plan on making one! To build the next model I build to the best of my ability and improving over all I have done it the past! I know, kind of corny as this is the goal of most every modeler from model to model. That being said, I should be successful with my next model. :-)

Some nice articles in this issue, starting with Planking Decks by Robert Hunt over at Lauck Street Shipyards. You could almost call it a mini-mini course on deck planking. I'm sure most will find it helpful. Next is the second part of Donnie Driskell's two part article on Lathes. Donnie takes you through the process of making some parts. And last but not least is an introduction to Makerspace by Mike Shanks, a new regular column you'll see in upcoming issues of The MSB Journal. This article provides Mike Shanks a chance to introduce himself you, his experience both modeling related and non-related but relevant and his plans for the future. This looks to be a very interesting new column and we hope you like it.

Last but certainly not least I just want to send out a special word of thanks to a few people that have been very helpful to ModelShipBuilder over the past year and hopefully for many years to come. First Arthur Wallis, your assistance and tireless work on both the MSB site and our facebook group (NavyBoardModels). It's a pure pleasure to have someone you can rely on daily and I cannot thank you enough for. Don Farr, thank you for your support and constant encouragement and helping maintain our facebook group. Look forward to seeing you in the forums. Dave Stevens, its been many years we've worked on and off projects together and I look forward to seeing some new articles for the MSB Journal. Your articles are always very informative and interesting to read. Robert Hunt, thank you for your article submissions to get the revamped MSB Journal back on the ground and off to a good start. Please don't feel overlooked if I haven't mentioned you here, but I appreciate all the help you've provided and look forward to working with you all in the future as well.

Until next time May you have fair winds and following seas Winston Scoville

### Common Phrases with a Nautical Origin by National Ocean Service



This <u>illustration by Fred Freeman</u> depicts Derby Wharf in Salem, Massachusetts, in the late 1800s. Many nautical terms derive from the Age of Sail—the period of time between the 16th and 19th centuries when masted ships ruled the seas.

Many phrases that we use today originate from maritime culture. The 10 phrases described below are just a few.

#### 1. Long Shot

An occurrence that would take a great deal of luck. Early ships' guns tended to be inaccurate. If a shot made impact from a great distance, or a "long shot," it was considered out of the ordinary.

#### 2. Flotsam and Jetsam

Odds and ends. While the words flotsam and jetsam are often used together, they have different meanings. "Flotsam" (from the word "float") describes items that weren't deliberately thrown overboard, while "jetsam" (from the word "jettison") describes items that were deliberately thrown overboard.

#### 3. Tide Over

Make a small amount last until a larger amount is available. Not to be confused with "tied over," this phrase has its origins in seafaring. When there was no wind to fill the sails, sailors would float with the tide until the wind returned. They would "tide over."

#### 4. Feeling Blue

Experiencing feelings of sadness or melancholy. If a captain or officer of a ship died while at sea, the crew would fly blue flags and paint a blue band along the ship's hull. Over time, this symbol of grieving was equated with feeling sad or melancholy.

#### 5. Taken Aback

Startled or surprised. The sails of a ship were described as "aback" when the wind blew them flat, or back, against their supporting structures.

#### 6. The Cut of His/Her Jib

A person's general appearance. A jib is a type of sail. At one time countries would display their own unique jibs, allowing outsiders to instantly know the ship's origin, and form an impression of it by the cut of its jib.

#### 7. Pipe Down

A request or command to be quiet. Ship crews received a variety of signals from the boatswain's pipe. One signal was "piping down the hammocks," which instructed the crew to go below decks and prepare for sleep.

#### 8. Toe the Line

To conform to the policies of a group. Members of the British Royal Navy were required to stand barefoot and at attention for inspection. While at attention they lined up along the seams of the planks of the deck with their toes touching the line. This became known as "toeing" the line.

#### 9. Take the Con

To take control of. To take over, or control, the navigational duties on the bridge of a ship.

#### 10. In the Doldrums

Depressed or listless. The "doldrums" refers to the belt around the Earth near the equator. Because there is often little surface wind for ships' sails to use in this geographic location, sailing ships got stuck on its windless waters. Over time, people equated the calmness of the doldrums with being listless or depressed.



## Planking Decks

#### Introduction

Most kits have more than one visible deck. The forward most deck in certain kits sits higher, above what is considered to be the main deck. This forward most deck is called the forecastle deck.

The main deck usually contains a number of cannons on a warship such as the USF Constitution, the HMS Victory, the Pride of Baltimore, or similar ships. It is interesting to note that the USF Constitution did not have a forecastle deck. It simply had one large main deck that covered the full length of the ship.

A non-warship such as the Bluenose and Bluenose II still had a main deck, but there were no cannons on these ships because they were not designed for war.

Just aft of the main deck was another smaller deck that was higher than the main deck and generally at the same height as the forecastle deck. That deck was called the quarter deck.

Above the quarter deck there was often another deck generally found on large ships such as the HMS Victory, HMS Vanguard or HMS Pegasus/HMS Fly. That deck was called the poop deck.

Also found on larger warships were additional gun decks below the main deck. These gun decks ran the full length of the hull; however, there would have been removable bulkheads at the stern to separate a small living area for officers of the ship. At the bow of the ship would have been a fenced-in area called the manger where live animals were kept.

Below the gun decks were additional decks to house workshops such as the sail shop, the wood shop, the kitchen or galley, and a storage area for food items, arms, and ammunition. Most kits do not show any of these extra decks because the hull is fully planked covering such lower details.

Planking the decks in a model ship kit might seem like an easy task. However, depending on the time period of the ship that the kit represents and the type of ship, different methods were used.

Often certain lower decks that were only visible through hatch openings in the deck above had some planking on them, but such decks are often "dummy" decks. Dummy decks are partial decks that are just large enough to be in view through the hatch in the deck above.

The planking on the decks of most kits involves laying strips of thin wood on top of a sub-deck. However, this is not always the case. Historically the planking on a ship's deck was a light color because the decks were often honed with stones to remove the grunge that would build up from the ocean water and men's bare feet. This honing turned the decks a much lighter, bleached color. Typically model ship kits use a lighter wood for the deck planking which adds contrast to the model.

Deck planking on a real ship had tarred rope or horse hair caulking between the rows, so that water would not seep through to the lower decks. This detail is generally duplicated on a model ship by darkening the edges of the planks before they are installed. I will show you an easy method of darkening the edges, which I have used for many years.

Many ships had special planks along the outer edges of the deck, especially in warships where cannons were involved. I will be covering these special planks and how to make them, where applicable.

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Many modelers like to simulate the treenails used to hold the deck planking to the deck beams. There are several methods to simulate these wooden nails which I will also cover in this article.

#### Kits with Sub-decks

The first decks I will cover will be decks found in kits that have one or more sub-decks. There is little difference in how these decks are planked. Forecastle, main deck, quarter deck, poop deck or lower decks are all planked using the same methods.

It is best to start your first plank straight down the center. This means that you will need to take some measurements from each side to mark a centerline on the sub-deck. First, measure the full width of the sub-deck with a small ruler. Then, divide that measurement in half.

Often hatch openings will aid in creating this centerline. The object is to lay the first plank straight down the center of the sub-deck so that the same number of planks on each side of it results in symmetry, especially on each side of the hatch opening.

The first deck you should plank on your model is the one that is the lowest of your decks. This might be a dummy deck that is only seen through the opening of a hatch. Depending on the length of that deck, you might want to break the planking up into smaller strips.

There are certain rules that were followed when planking the deck of a real ship. This is also true about planking the hull. Planks were generally no longer than 24'. The plank width was generally 9" to 12". In a 1/4" scale model, that means that the length of the plank would be no more than 6" and the width would be 3/16" to 1/4".

Of course, most kits do not pay attention to such details. Typically, deck planks are in millimeters rather than inches because most kits are made in Europe. The typical width will be 4 or 5 mm, and the typical thickness will be .5 to 1 mm.

To find the proper length of the planks for your particular model, first take the scale of your kit and divide the large number by 12. Then divide 1 by the answer. For example, a model in 1:48 scale would be 48/12 = 4, and 1 divided by 4 equals .250". For a scale of 1:87, 87/12 = 7.25, so 1/7.25 = .139". A model with a scale of 1:64 would be 64/12 = 5.333, and 1/5.333 = .187".

Once you have this result, you have the length of one scale foot on your model. Multiply that by 24 to get the length of a 24' plank. If your kit is in 1/64'' scale (or 3/16'' = 1') then  $24' = .187 \times 24$ . This means the plank would be  $24 \times 3/16''$  or 4.488''. You could round that off to 4-1/2'' in length.

The butt joints, where two plank ends butt against each other, were generally offset from adjacent rows by five scale feet. There were always three rows of planking between any rows where the butt joints ended on the same beam.

Photo 1 shows a good example of deck planking that follows these two basic rules.

First, notice that the two black arrows point to butt joints that end on the same deck beam (or simulated deck beam in this case). There are three rows of planks between them.

Second, the blue arrow that points to a butt joint on a row adjacent to the row above it is five scale feet aft of the butt joint on the row above it. The same holds true for the next two rows where each one's butt joint is five scale feet aft of the row above it. That makes up the three rows between the two rows that have their butt joints on the same deck beam.

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#### Photo 1

By repeating this pattern and making each plank 24 scale feet in length, a pattern emerges as can be seen in this photo.

Getting back to the subject of planking the lowest sub-deck first, if that deck is long enough to break it down into its individual planks, then by all means do so. Start with the center plank first and then add planks outward on one side, staggering them by five scale feet, until you have added three additional rows adjacent to the center row of planking. Then, align the butt joint of the fourth additional row with the butt joint of the center row of planking.

This method of aligning the planks using the five scale feet offset and aligned butt joints every 4th row is typical for any deck which is long enough to use planks that are 24 scale feet long.

As you can see by the arrows, there are three rows of planking between rows that have their butt joints on the same simulated deck beam.

For longer decks, you will need to make marks the full length of your sub-deck so that a straight edge can be used to connect the marks creating a guideline down the center of the sub-deck. Photo 3 shows the first plank laid on the Bluenose II deck. This plank was centered on the centerline so that half of the plank width was on the port side and half was on the starboard side. Notice that the plank covers the mast hole. I'll talk about that in a moment.



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Photo 2

This photo and the previous photo show the blackened edges on the plank that simulate the tarred horse hair. Over the years, I have tried different techniques to blacken the edges of deck planks. The technique I like best is to use an artist charcoal stick that can be found in most arts and craft stores such as Michaels or Hobby Lobby.



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The stick will have a smooth surface that you will need to scrape off with your X-acto knife, so the charcoal under this smooth skin is exposed. Then, simply rub the stick across the edges of the plank before you glue the plank to the deck.

I prefer to use Weldbond, Gorilla Glue (the yellow kind) or Titebond on my deck planks because it gives you a chance to move the plank, if needed before the glue sets up. I use a toothpick to spread the glue across the bottom surface of the plank. After adding a plank on one side of the center plank at the mast hole area, use a #11 X-acto to trim that center plank where it covers the mast hole and trim the edge of the added plank so that the mast hole reappears with its rounded edges. After you add planking to the other side of the center plank you can trim the remaining covered area of the mast hole.

You will notice that the plank in the photo above has not been cut into individual planks. This is another trick ive learned over the years. You can simulate the butt joints by laying a full length plank first. Then establish a starting point for your butt joints such at the end of the deck. Measure 24 scale feet from that starting point. Then using a #22 X-acto blade, press the pointed end of the blade into the plank at the tip and roll the blade across the plank creating a cut that does not go all the way through the wood.

By starting at the center and planking outward, you can position the tip of the blade right at the point where the edge of the plank meets the plank before it. Using this method, you won't roll the blade over the previous row of planking when you make the cut.

After making the cut, take a soft lead pencil with a sharp point on it and go over the cut with the pencil, simulating the caulking at this butt joint. Photo 4 shows a typical deck where I created the butt joints using the procedure just outlined. I did, however, add these butt joints after all of my planks had been laid. If you are careful, you can first plank the deck, then come back and add the butt joints as I have done here.

You will notice in the photo 4, that there is a special plank along the outer edges of the deck shown by the blue arrow. This special plank is called the nibbing strake.



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The purpose of the nibbing strake was to prevent the deck planks that meet at the edge of the deck from coming to a sharp point. You will notice in this photo that each plank has a blunt end where it meets the nibbing strake. Planks like this are commonly referred to as nibbed planks.

You will have to check your kit's plans to see if your kit uses nibbed planks. The nibbing strake is installed before the deck planking reaches the outer edge of the deck.

I have tried different methods for creating the nibbing strake and the corresponding notches in it. I have found that the most accurate and best way to create this plank is to start by gluing a regular, uncut piece of planking along the outer edges of the deck. If the deck has a sharp curve in it, you may have to soak the nibbing strake plank in water for 30 minutes or so because it might break when you try to bend it edge to edge.

Typically, there was another special plank that met the bulwarks planking at the edge of the deck. It was called the waterway plank. The waterway plank was thicker than the deck planking. It had a sloped or beveled upper surface that sloped down and outward to meet the deck planking.

Photo 5 came from my Armed Virginia Sloop practicum, so you can ignore the measurements shown. It does, however, show the layout of the bulwarks planking as well as the waterway plank which has the beveled surface

sloping outward to the deck planking. The plank that the waterway plank first meets is the nibbing strake and next to the nibbing strake is the regular deck planking. You can also see the spirketing plank (sometimes called the planksheer) above the waterway plank and the regular bulwarks planking. This setup is very typical of a warship of the 1700's and 1800's.

Photo 5 shows a cross section that helps to explain this.

This photo shows that the next plank to be laid on the starboard side will intersect the nibbing strake plank. A notch has been cut into the nibbing strake for the nibbed



Photo 5

plank to fit into. I have enhanced this photo with some black lines to show that the notched area has a slight

angle to it.

To determine where the nibbing strake should be cut, first lay the nibbed plank next to the previous row of deck





planking and set the end of this new plank to cross the nibbing strake at a point where the notch you will cut is half the width of the new plank. Mark the nibbing strake with a pencil at the end point of the new plank. Then make a second mark on the nibbing strake where the new plank no longer intersects it. The length of this plank should be 24 scale feet.

Photo 7 shows the new nibbed plank after trimming it on the two marks I just described. The edges have not been blackened yet.



#### Photo 7

As you can see, the end of the plank has the same shape as the notched cutout of the nibbing strake. The edges of the plank are then blackened, and the plank is glued to the sub-deck into the notch made in the nibbing strake. NOTE: I like to use a #22 X-acto blade to cut out the notch in the nibbing strake. In Photo 8 on the next page, you can see that a second plank has been installed which has been fitted into the nibbing strake. A third plank is being held in position for marking so that it can be trimmed and the nibbing strake can be notched. Notice the mark that crosses both the new nibbed plank and the nibbing strake where the new plank no longer intersects it (blue arrow). The black arrow shows where the new plank meets the uncut edge of the plank before it. I've also enhanced the edge of the new plank to make it more visible in this photo.



#### Photo 8

Photo 9 shows the same deck after all of the deck planks have been installed. As you can see, the notches in the nibbing strake can grow longer as the curvature of the hull becomes less pronounced. The notches on the port side of the deck should match the notches on the starboard side for a symmetrical look.



Photo 9

Nibbed planks were used quite often on model ships not only because it is a more historically correct way to plank the deck but also because it adds a bit of detail to the model, which shows off the craftsmanship of the modeler. Once you've learned the technique of notching the nibbing strake and making the nibbed planks, you will want to add this detail to all of your decks.

The reason planks were nibbed is because they were tree nailed to the deck, and a pointed plank is prone to splitting when drilling holes and adding treenails. I'll talk about treenails later in this article.

The waterway plank was a special plank at the side of the deck. In warships particularly, this plank was thicker than the deck planking and had a sloped surface. This sloped surface was designed to stop the trucks or wheels of the cannon from banging into the bulwarks planks when the cannon was fired.

The other reason for the waterway plank was to provide a transition point where the scuppers exited the hull. Scuppers were special holes lined with lead that went from the deck, through the bulwarks and exited the ship's hull on the outside so water could drain from the decks. (Think of a drain in a bathtub.)

If your kit has a waterway plank, this will be the first plank you must make and install along the edges of the deck before the nibbing strake and deck planking can be added. The waterway plank will butt up against the inside edge of any bulkhead extension pieces that often form the bulwarks of the model.

Bulwarks Planking Waterway Planksheer

Photo 10 shows the planking at the side of the deck on the USF Constitution kit by Model Shipways.

Photo 10

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In Photo 11 on the next page, you see the spirketing or planksheer plank and the waterway plank at the bow of the USF Constitution model. I have drawn black lines to help show the profile of these planks. Notice that the edge of the waterway plank where it will meet the deck planking is the same thickness that the deck planking will be. The waterway plank then has a sloped surface where it meets the top, flat surface that the planksheer plank sits on. The planksheer is thicker than the bulwarks planking that will sit on top and above it so it's outside edge is curved.



Photo 11

The waterway plank will usually have this shape. What I have found in many kits of large warships is that they do not properly show the shape of the waterway plank, and they often do not even include a waterway plank. That is why it is important to check your kit's plans before proceeding with the planking of the decks. Even though the waterway plank may not be shown in your kit, you can easily make one using some of the stripwood in your kit.

Photo 12, on the next page, shows the waterway plank I made on my kit-bashed Rattlesnake model from Mamoli.

scale that they are usually just holes drilled through the waterway plank with a pin vise. I checked the thousands



Photo 12

of photos that I have taken over the years and could not find a single model where I bothered to drill the scuppers. I guess this is a detail that most modelers overlook. Your kit plans may show them, but kit instructions seldom mention how to properly make them other than to drill a hole where they exist.

If the scale of the model is large enough, the scuppers can be lined with aluminum tubing which you can buy online or in a hobby shop. Micro Mark sells such tubing in different diameters.

#### Kits Without a Sub-Deck

Many of the kits you can purchase today come without sub-decks. These kits are normally planked by simply gluing the planks directly to the top of the bulkheads. Before you can do this, you need to sand the tops of the bulkheads to fair them out. Fairing is the process of evening the edges of of the bulkheads so that planks flow smoothly from one bulkhead to the next. The planks need to lie flat against the top of each bulkhead. It is also important to remove the char on the top of the bulkheads, which is caused by the laser cutting so that the glued planks will adhere to the wood of the bulkheads and not the char itself.

The key to planking a deck without sub-decks is to place butt joints in the center of the bulkheads. This doesn't leave much wood for the butted planks to be glued so careful cutting of the planks to length is very important.

Bulkheads are generally not spaced properly to allow for historically correct butt joints, as described earlier. If you are seeking a much more historical correctness in your build, you can add your own sub-deck using 1/64" thick birch plywood, which is often sold in hobby shops and arts and crafts stores. In this case, you should use card stock to create a template that will fit the bulkhead tops with notches that must fit around the outer edges of the bulkheads where extensions are added to form the upper bulwarks.

Photo 13 shows the deck of the Fair American kit from Model Shipways. You can see the waterway plank installed along the side of the deck area (blue arrow).



Photo 13

As you can see, the planks are still darkened on the edges using an artist charcoal. The hatches on this particular model presented a small problem in that the ends of the center rows of planking did not land on anything at all due to the false deck underneath the open hatch. In situations such as this, edge gluing the planks will help to stabilize the unsupported ends. You can also come along once the hatch opening is formed and add a plank underneath the fore and aft ends of the hatch opening.

Personally I prefer to use a sub-deck even if the kit does not include one. The reason is that it gives the deck planking additional support. It also comes in handy when deck hatch combings are added because there are two ways to handle the hatch combings, depending on the design of the kit. A hatch combing is that thick wood frame around the hatch that looks like a picture frame

Some kits make the hatch combings thick enough that they are to be placed on the sub-deck and the deck planking is fitted around them. This is actually more historically correct. Other kits are designed so that the hatch combings are to sit on top of the planking. The wood provided for such hatch combings is not as thick as it should be if the hatch combing were placed on top of the sub-deck with the planking around it.

Another situation arises when there is no sub-deck and the hatch combings are designed to sit on top of the bulkheads with the deck planking flowing around the hatch combing. The problem with such a design is that the planks that surround the hatch combing have nothing to lie on when the combing extends beyond the bulkhead. The USF Constitution kit from Model Shipways is such a model. Photo 14 shows how to handle such a situation.



Photo 14

As you can see in this photo, I have added scrap pieces of basswood between the bulkheads (blue arrows) taken from leftover wood in the kit. These pieces provide support for the deck planking that extends around the hatch combings.

Photo 15 shows this same deck after more deck planking was added.



#### Photo 15

As you can see, the support pieces of basswood give the forward hatches something to sit on and provide support for the endsof the deck planking where the planking did not end on a bulkhead. If I had added a sub-deck to this model, the sub-deck would have provided the support for the planking. The large hatch in the center shows that I added additional support pieces between several of the bulkheads to ensure that the deck planking had good support and did not get any gaps in it when it was glued down and around the hatch.

#### Treenails

Each modeler must decide how much detail he or she wishes to add to their model. Kits do not include treenails; and few, if any will even mention treenails in the decks. This is a detail that must be added by the modeler.

There are many different types of material that can be used as a treenail. In my early days of learning how to build model ships, I used broom straw. I even used uncooked spaghetti noodles for treenails on one large model I built.

As I gained experience and began building from scratch, I learned that more accurate looking treenails had to be made by handusing a drawplate and either bamboo, boxwood, or swiss pear wood. Byrnes Model Machines sells a very nice drawplate which can be seenat this web address:

#### http://www.byrnesmodelmachines.com/drawplate5.html

Another trick I learned in my early days was to take a small hypodermic needle and cut off the pointed tip with a cutoff wheel and the Dremel tool. The flattened needle could then be filed around the edges to give it a bit of a cutting edge. Then the needle was used to burn small circles into the deck that gave it the look of a treenail.

To use this method, I used a piece of scrap wood that I super glued into the plastic end of the needle to serve as a handle. I heated the tip with a candle each time I burned the treenail shape into the planking. You can now purchase blunt tipped dispensing needles on Amazon which come in various diameters. This method is excellent to simulate a treenail if the wood is basswood. Most kits these days use basswood for the deck planking or a very thin, light colored wood which will work also.

Another method I've used is to drill the holes for the treenails but rather than fill them with wood like a treenail, I filled them with

wood filler. When sanded and finished, the wood filler looks very much like a real treenail. It helps to use a darker colored filler than the color of the deck planking itself.

The problem with treenails in a deck is that the wood in the deck is generally very white such as basswood, while the treenail is a much darker color. The contrast creates a somewhat freckled look which may not be what you were hoping for. Choose your treenail material's color wisely.

When applying treenails to a model, I use pinstripe tape laid across the hull or deck where one edge of the tape is aligned with the locations that I will drill holes for the treenails. Then using a Dremel tool with the correct diameter bit in it, I drill all the holes along that line. All that is needed afterwards is to insert the treenails, clip the tops off and sand them flush. Photo 16 shows a deck that I planked using holly, a very white wood. The treenails were Swiss pear wood which gave a lot of contrast between the two woods.





Of course there were rules about the number of treenails used in each plank depending on the width of the plank. My golden rule is if the plank is wide enough for the material you wish to use, then two treenails can be used; otherwise use one. When two treenails were used in each plank, generally the pattern has an offset look with one treenail near the left edge of the deck beam and the other near the right edge. I've added an example to the photo for demonstration purposes only (black circles).

The trick I use to get my treenails in a straight line is to lay thin strips of pinstripe tape or Tamaya masking tape along the line where I will drill the holes for the treenails. Then using a pinvise or a Dremel tool with a small drill bit, I drill the holes right next to the edge of the tape. This produces a fairly straight line, depending on how steady your hand is when placing the bit on the deck and holding it steady while the hole is drilled.

Of course, where butt joints exist, a treenail must be placed in the end of each of the planks, as shown in Photo 16. If you are installing

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two treenails in each plank, the butt joint would have two treenails in each side instead of one.

#### Finishing the Decks

Finishing the decks involves bringing all of the planks into surface alignment first. To do this, I use a combination of sanding and scraping, depending on the wood used in the deck planking and its thickness. For thicker planks, which are often found in kits where there is no sub-deck, scraping will help fair out the planking so that no part of any given plank is higher than the rest of the planking. The advantage of scraping the deck is that you can better isolate the area you are trying to remove wood from. Scraping also removes chalk and glue from the surface of the deck.

Sanding, on the other hand, covers a much broader area. If you have a plank that sticks up higher than the rest of the planking around it, and you try to sand it down to the same level of the surrounding planking, you will never achieve the proper surface alignment because you are removing material not just from the plank that is too thick but also from the surrounding planks as well. That is why I prefer to scrape the affected planked areas.

The #22 X-acto is my goto tool for scraping. The curved tip is perfect for isolating the scraping passes I make to the plank. Hold the blade perpendicular to the deck surface as well as perpendicular to the run of the deck planking. Then, push the blade across the plank maintaining the orientation so the edge of the blade doesn't cut the wood but scrapes it. Depending on the run of the grain in the wood, you may need to reverse the direction of the scraping from time to time.

Don't expect a smooth finish when you are scraping the wood. The scraping will cause the grain of the wood to be raised, producing a rough finish. After the raised area of the plank has been scraped away, follow up with sandpaper to remove the roughness and achieve a smooth surface for finishing.

I start with 100 grit sandpaper to remove black smudges from the artist charcoal. Then I switch to 150 grit and finally to a finer grit such as 220 or 300 grit sandpaper.

After your deck has been scraped and sanded, wipe it off with a tack rag. This will remove any remaining dust. I follow up with several coats of Minwax Wipe-on Polyurethane (satin finish).

Decks on real ships were not shiny so I try to give the Minwax finish a final sanding of 300 grit sandpaper after the last coat has dried. This will dull the look of the polyurethane finish. Typically no hatch combings or deck furniture should be installed until the deck has

been scraped, sanded, and finished.

#### **Tapered Decks**

Some ships did not have straight planking on the decks. Even though a nibbing strake was used along the sides of the deck, the planks were tapered and curved to fit in the space between the port and starboard bulwarks. The Model Shipways kit, Bluenose is a typical example. It's stern deck planking can be seen in Photo 17.

Notice that the planks on each side of the centerline curve inwards and are tapered on one edge. It is never a good idea to have any planking come to a sharp point, which is why this model still shows a nibbing strake.



Photo 17

#### **Other Planking Situations**

There will be times and kits that simply do not fit the situations I have described. The HMS Pegasus/HMS Fly by Amati is one example.

This kit has a forecastle and a quarterdeck that sit over the main deck. Because the areas beneath these decks cannot be seenonce the model is finished, the deck planking at the

sides is not complete. The deck planking at the have a nibbing strake and in some areas, no planking at all has been added.

Photo 18 shows the main deck of the HMS Pegasus model.

If you look closely at the planking near the bow, you can see that some areas were left un-planked (black arrows). This area will be covered by the forecastle deck and will be hidden from view.



Photo 18

The same holds true at the aft end of the deck. You can see some missing deck pieces just aft of the large deck beam forward of the capstan. This area will be covered by the quarterdeck.

The point I want to make is that it's okay to leave such areas un-planked to a certain extent when the area will not be visible in the end. The areas most important are those that are visible when the model is viewed in its completed state.

There's one other deck area that is a bit unconventional. On large ships like the HMS Victory, there is a small deck in front of the bulkhead at the bow where the forecastle deck ends. This can be seen in Photo 19.

This photo shows that small deck. As you can see, the deck has a gentle curve on each side of the centerline. There is no nibbing strake because the planks still have sufficient wood for treenails (even though I did not install them.) Planking like this is still historically correct without a nibbing strake and would not normally use one because the planks do not come to a sharp point. I have seen ships with this small forward deck that had another planked with the curve of this small deck placed over the ends of the small deck planks

Normally, your kit's plans will show when to use a nibbing strake on the decks of your particular model. The time to become suspicious is when the kits plans show planks that come to a sharp point. This simply



Photo 19

would not be historically correct on any ship because a pointed plank is a very weak plank that could break easily and has little wood to support a treenail for securing it to the deck beams.

This completes my discussion on Planking a Deck on a model ship. I hope you find the information useful in your modeling.



## What's in the Tool Chest?



A good quality tool is worth its weight in gold. These compact planes are useful for working on a variety of model tasks from leveling home cut wood to shaping masts and spars.

These particular planes, which can be purchased as a set can be obtained from one of my favorite on/offline tools stores, Lee Valley tools. They are made from Indonesian ebony and brass, each plane has an adjustable high-speed steel (Rc62-64) blade. The block plane footprint is just 3 1/8" × 13/16" and the chisel plane just 2 15/16" × 1/2". Blades are 1/2" wide by 1/16" thick.



# **CARING FOR SHIP MODELS: A Narrative of Thought and Application**

Text and illustrations by Rob Napier



**Dob Napier** is back with an excellent book with ship modeling. Part Two offers perspectives One, a prologue, introduces Rob and his involvement examine influential and interesting projects.

 $\blacksquare$  on his life's work that is both a revealing look on various aspects and philosophies of the ship into his professional career and also a treatise on modeling experience. Part Three focuses on physical how to care for your models to last for generations. processes Rob has used during his career. Part Four Caring for Ship Models is delivered in four parts: Part reviews what might be called case studies that

This book is one you will absolutely want in your collection and will be a valuable reference for years to come.







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## The Ship Builders Machines- Lathes Part II

### A practical guide

By Donald B. Driskell

Welcome to this second part in this series on Lathes. As I mentioned in the first article, it is nearly impossible to cover all aspects of machining and woodworking in any single article and that is not the intention of this article. This article is not a study or a course on machining but rather is intended to help enhance your model building experience. It will cover some basic how-to's for common parts you can make, just to show you how to take advantage of the capabilities of a Lathe.

You can use your lathe for about any hobby that requires such work, and most all shipbuilding will be made from wood and or possibly some plastic parts too. Now we can discuss lathe work for ship models only. So, lets get started !!!

I suggest highly that you if have not read the first "Lathe Basics Part I" to please read this first as it is vital to understand the equipment that you are working with. There are mentions of safety items that you need to be aware of. Just in case, I wish to repeat some of them here because it is very important to always be aware with little or no distractions if you can.

It should go without saying—no jewelry, long sleaves, or for the ladies, any length of hair to get caught into the rotating lathe. This could prove to be very dangerous. When you are working with the lathe, I want to encourage you to keep the surrounding work area free of any clutter that something could fall or somehow move into the working lathe. After most operations are done, please take time to removing or vacuuming the immediate cutting area of debris. It is easy for debris to get caught up into the spinning chuck and sling metal or wood shavings into your face or eyes. Please just use common sense as you only have two eyes. Being in a hurry is also a recipe for something unpleasant. I can tell you of a few experiences I had that I am not proud of to mention. I am not a safely nut, but I just approach things with common sense. However, there are a few things that I always practice.

When you take a break and walk away for a while, I always make sure the headstock motor is set to off. On my lathe, the motor RPM (speed) has a knob that I can adjust the speed to "0" RPM and has a switch that turns the power off.

If you get distracted, when you step back up to your lathe, just take a few seconds to refresh what you were doing and especially if you were in the middle of adjusting or using the Tommy Bar. 23

There are several things you can accomplish with your lathe making parts for your ship. Just to name a few:

1.	Stanctions	9. Spindles
2.	Cannon Barrels	10. Ships Wheel and parts
3.	Carriage Wheels	11. Galley Funnels
4.	Mast (Tapering)	12. Belaying Pins
5.	Yards (Tapering)	13. Capstan and parts
6.	Pulleys (for the Bitts)	14. Pumps
7.	Parrels	15. Oars

8. Dead Eyes

As you can see, really, you are only limited by your imagination and your ability (and practice of course).

In the following examples, I will show you some basic examples. All of which is just to help you have an understanding of the principles. *Oh, and did I mention eye-wear? Well, lets grab some eye protection while we are at it.* Nothing worse than trying to get fragments of wood out of your eyes or even worse, a trip to the doctor or emergency room !!

So, the first thing we can make are some simple Carriage Wheels for your Armament. You can see from the photo that I have a piece of 3/8 inches or 9.5mm. The stock is dowel from a hobby shop and is only used for demonstration. It is clear that a much better wood should be used. However, this stock was used for not only demonstration but for practicing the basic fundamentals. When you are comfortable with the lathe and tools, then you can or should graduate to better lumber, such as Cherry, Pear, Boxwood, or whatever your choice is for a very fine hard grain.

The first thing is to insert the stock so that only a fraction of the part that you are going to be working with is extended from the Chuck. The less amount that you have protruding, the better your finish will be—and the reason is because of "flexure". Flexure happens when the perpendicular forces of your tool is pushing inwards to your stock which will make the stock bow or flex in or out. However, this also depends on how thick of stock you have chucked up in your lathe. It is clear that the thicker the bar stock you have, the more stock you can have protruding from the end of the Chuck. i.e. more mass is less likely to deflect (flex), whereas, the smaller diameter the stock, the more likely it will flex or deflect and therefore should only protrude out from the chuck as little as you can perform your task safely.

#### Example #1: Making a Cannon Carriage Wheel.

**In figure 1,** for this demonstration only, you will see that I have a piece of 3/8 inch or 9.5mm plain hobby dowel that you can purchase at your local hobby shop, or hardware store in the Chuck. On the Tail Stock end (*see part I on lathe parts*), you will see I have mounted a Jacobs Chuck with a 1/8 inch or about a 3mm drill bit. The bit that I am using called a "*machine screw bit*" because it is much shorter than what is normally referred to as a



Fig. 1

"jobbers drill bit" which is longer. Talking about Flexture again, the longer the bit is, then it is likely to wander or flex. But there are ways around this. Even though it is not shown here, it is always best to use a self centering drill bit to establish the center of dowel and for the main drill bit to "find" where to start its drilling process.

Also, in this picture, I do not show the entire Tail Stock, but this Tail Stock like all the other brands will have a knob on the end that will allow you to turn which will *"advance"* the bit into the dowel. You will notice that with the lathe is not turned on yet, I have the drill bit somewhat close to the dowel. This is so that I do not have to drill far. I have not mentioned this, but it should be obvious that the lathe is going to turn the dowel and the drill bit will remain *stationary*. This is one of the good things about a lathe for more than just turning things.

In **figure 2**, you will that the lathe is now turned on with an RPM of about 700 RPM, I am now *"advancing"* the drill bit into the rotating dowel. It is always a good practice if you are working with (especially metal) and wood that you slowly advance and withdraw the drill bit and then repeat until your depth is obtained. This way, you will not heat up the bit. There is no need at all for any lubricant for wood. If this were metal stock, then yes, there are different types of lubricant to use for metal turning which I am not going to address at the moment.



However, lets just say that if the only thing you have at the moment is WD-40 then that can be used for metal until you find the lubricant as needed for the job.

In this case of making a few wheels, I am opting for about 30mm or 3/4 inch of depth. I will be using a cut-off tool to remove the finished part.



In **figure 3**, you will see that I have loosened the Tail Stock and moved it back towards the end of the lathe. You can see the nicely drilled hole for the Axle of the Carriage. Next, we will "part -off" the wheel depending on the width you need.

Fig. 2



In **figure 4**, I am using a Parting Tool to remove the finished wheel from the dowel stock.



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**Figure 5** now shows the final Wheel. From this example, it is clear that this opens up many different possibilities.

Note: any sanding and finishing can be done while on the lathe.



#### Example #2: Making a Yard.

Next, in **figure 6**., I would like to introduce you to some Carving tools or Lathe wood turning tools. Even though these are not listed as a "wood turning tool", they can still be used as such. As of this writing,

www.micromark.com offers these (however, I noticed that they have these listed as a close out item). If they still continue to carry these, this is the item number #25104, 5 Piece Micro Carving set.



As micro-mark website states: Carvers have lacquered hardwood handles and includes one each: 7/64" and 5/64" gouges, 5/64" V-shape parting tool, 1/8" single bevel chisel, and 1/8" skew chisel. Approximately 4-1/4 inches long.

Fig. 6

Now, with the Carving Tools, lets make a "Tapered Yard". In **figure 7**., see that I have 5 tick marks, one on each end, and three in the middle. You should leave about 1 inch or 20-30mm on each end for the Chuck to tighten on the stock as well as the same amount for the Tail Stock. I am using a "Live Center". This accessory is necessary as the Center "turns" with the stock. The reason to leave extra wood stock at the right hand end to allow clearance for the tools and shaping. The wood stock needs to be secured well via the Chuck. It would not hurt even if the Chuck Jaws were to crimp the wood. This is the purpose of having extra length.





Figure 8 shows the "Live Center" pressed into the wood stock.







Figure 10. Please be careful. With this step, turn on the lathe very slowly, (or rotate by hand), and while lathe is rotating slowly, REST a pencil on the part to draw a thin line to mark locations (per plans).



**Figure 11.** This shows the Mini Carving Tool mentioned earlier. This tool has an angle to it. I have experimented and found that moving the tool from RIGHT to LEFT produces the best finish and keeps the tool from gouging into the stock. However, your results and experience might be different. There are also flat tipped carving tools. This of course is only showing for my demonstration.



Fig. 11

Figure 12. Starting the process at the Tail Stock end and moving towards the center.



Fig. 12

Figure 13 shows one end finished .



Fig. 13

#### Example #3: Making a Pulley.

This next example will demonstrate a simple pulley. The pulley can also be made of steel or brass. If you decide on a metal pulley, brass is the softest, the Carbon Steel 12L14 grade is considered free machining, having excellent machinability being softer and more forgiving.



The tool that you want to use is really the same tool you would use to make threads with. Therefore, you will use a cutting tool that has a 60° tip. Note, that I am not referring to a Tap and Die set. This tool is used on a lathe to cut a custom threaded bar.

In figure 14, take note of the 60 ° tip.

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This process is a little more involved, but it is worth it. The first thing you really should do is make sure your tool is exactly square with the Chuck. Looking at **figure 15**, there is a parallel bar that is mounted in the 4-jaw chuck. It will become obvious how it is used. You can use this technique anytime you need to make your cutting tool be square with the Chuck.



Fig. 15

In **figure 16**, you will see that the Quick Change Tool Post (QCTP) that is holding the Parting Tool is not in alignment (RED LINES). There is an allen screw to loosen that will allow the QCTP to rotate.



Fig. 16

Figure 17 shows a different view of the parts aligned.



Now looking at **figure 17**, you will see that the QCTP is now square and remember to tighten all the tools, holders, and other items. After removing the parallel bar, you are ready to insert your 60 ° cutting tool in the QCTP Tool Holder.

Fig. 17



Now looking at figure 18, you will see that the round stock has a nice flat "face" to it. I also cover this technique in Part I. In this picture is also showing the Parting Tool. It will be removed from the QCTP and the 60 ° cutting tool will be used for the pulley.

Fig. 18

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Fig. 19

**Figure 20** shows the 60 ° cutting tool in the correct position—notice the offset of the tool from the wood stock face end.

Figure 19 shows the 60 ° cutting tool that will be used for the pulley.

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Fig. 20



**Figure 21** shows the result of moving the cross slide INTO the wood stock 3 mm.





**Figure 22** is now using a Parting Tool to cut off the Pulley.





**Figure 25** is the final product. The result will be determined by the stock you use.

Fig. 23

In conclusion, I hope that the Part I and Part II has been helpful to you. When I first started using a lathe, I have to admit, it was a little intimidating. The best thing to do is to read as much as you can about lathes and the tools they use and how to use them before you get started. Maybe this short guide will be a small step in that direction.

There are many brands of lathes and just too many to list. But, I did pick out a few as an example. The unit I use (Sherline) is listed last and I bought it as a complete package that comes with everything to get started. I am not endorsing any product. These are probably most commonly known. My opinion is to suggest a unit that carries all the accessories that fit that particular machine. For example, Little Machine Shop, Micro-mark, Proxxon, Sherline, and Precision Matthews I know of carries accessories that fit that particular machine. There is no guarantee when it comes to mixing and trying to match tools and things that might not fit well. If you do not see your favorite lathe mentioned here is was not intentional. The reason I do not mention any "wood turning" lathes is that in my opinion, the Machine Lathe can do metal *and* wood. Whereas the wood turning lathe, you are pretty much confined to wood only.



Harbor Freight



Grizzly



Little Machine Shop



Micro Mark



Precision Matthews



Proxxon



Shop Fox



TAIGTurn 3019 CNC



Sherline

## **The College of Model Shipbuilding**

by Robert E. Hunt @ www.lauckstreetshipyard.com



Hello, my name is Bob Hunt. I own a small business called Lauck Street Shipyard. I specialize in providing very detailed instruction on how to build model ships from kits or from scratch. Other subjects are also covered in detail as well, which are all part of my College of Model Ship Building

The college of Model Shipbuilding has courses for all levels of experience. For beginners, we have Prep School Courses. These are based on kits that are easier to plank, such as Artesania Latina kit, Bluenose II.





Our Freshman Courses are also a good place to start if you are a beginner. We have a number of these courses to choose from including our most recent Golden Hind, which is based on the Ocre kit. It also has an optional masting and rigging course.

Our Sophomore Courses are designed for modelers with some experience who want to advance their skills and Techniques. One of the most popular Sophomore Courses is the Pride of Baltimore which is based on the Model Shipways kit.





Our Junior Courses are for modelers with much more experience who want to start learning kit bashing and scratch building. These courses include the Mamoli kit Rattlesnake and the Panart kit HMS Victory.

I hope you'll check out my website today to see all of the course I offer. Just go to <u>https://www.lauckstreetshipyard.com</u>. We also have video Practicums, and other very detailed Practicums on special subjects as learning CAD, learning different planking techniques, and how to rig a model ship. I also provide a private support forum for those who purchase one of my courses. If you have any questions please send me an email at lauckstreet@gmail.com

Lauuck Street Shipyard is a division of LSS Enterprises Inc. (A West Virginia S Corp)

## Makerspace

By Mike Shanks



Scale models and motorcycles top the list of things I spend most of my free time and money on. After an exciting US Air Force career, I was fortunate to had learned considerable computer skills which propelled me into a lucrative second career in Information Technology. A few years ago, I retired yet again only to start a small business with my wife laser etching custom wooden and glass giftware. The idea was to use the business as a way to fund some expensive shop tools and technology not typically available to model builders. Our business exceeded expectations with our shop and associated skills growing in capability every year. Over the past 6 years, I have evolved from being a model builder into more of a fabricator also known as a Maker.

Located near Charlotte, North Carolina, USA we live and work on a 50 acre farm. My primary shop houses two top of the line Epilog lasers, a ShopBot CNC machine, Peopoly 4K 3D resin printer, Paasche airbrush booth, ultrasonic cleaner, air filtration system, miniature power tools, and a full suite of computer hardware and CAD tools. Next door is my wife's full-sized wood shop complete with giant bandsaw, thickness sander, planer, SawStop table saw, vacs, and more. In another area, we have material storage for the massive amount of hardwood used by our business: maple, walnut, sapele, and cherry.



1500 sq ft shop with office, latrine, upstairs storage, running water and air conditioning



36" x 24", Bosch 1hp high-speed-spindle, 3-axis CNC machine



80 watt, 48"x36", 1200dpi etch, 1/2" hardwood cut, auto-focus, vacuum table, remote video monitor, full registration 2-sided capable laser from Epilog

I have built hundreds of models during my life of many different types both from kits and scratch. Plastic, wood, paper, resin, metal materials for models of many genres to include: ships, aircraft, military vehicles, motorcycles, automobiles, spacecraft, robots, and architecture. I spent several years racing radio controlled model cars both nitro and electric. I have built and flown model rockets and airplanes. To go with my huge collection of built models I also have over 300 unbuilt kits on the shelf.



1:32 AVS Patrick Henry. Built from the Bob Hunt Lauck Street Shipyard kit



Over 300 kits waiting to be built. Some are quite rare.

Learning to apply my technology knowledge to model building was empowering. I never had the artistic ability to manually carve a figurehead or statue by hand. But, if I could render a statue in the computer and then carve or print it in full 3D it would really open the door to creating models outside of the normal kit arena. CAD

(Computer Aided Design) software, especially for 3D modeling is very complicated and can have a steep learning curve. Having learned drafting in high school and worked in IT my whole life, getting up to speed with CAD was not as bad as it could have been. I spend as much time on the computer as I do at the workbench.



Creating a 3D CAD model from a photograph of Harold Hahn's Oliver Cromwell.

Over the past 6 years I have been designing and fabricating model parts for group builds, individuals, manufacturers, and museums. My parts appear on models all over the world, multiple online forums, model contest award winners, and in one instance was published in a Greek history book. I have never charged for any of my work as I view it as a means to promote interest in the hobby. I also wish to keep my work a hobby and not make a business of it. (*cont'd pg. 39*)



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Highly customized 17th Century Battle Station scratch built based on drawings by Jeff Staudt



Only 3 copies of this model were made. The others were built by David Blake and Don Robinson



US Revenue Cutter Bear prototype in 1:64. Designed from Smithsonian drawings



Laser cut parts for scratch built Black Pearl. Drawings by Shelk

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3D resin printed deadeyes with functional stropes. Designed by Jodie Grein



17th century cannon. CNC carved in boxwood. Full 3D 2-sided

These days I rarely build models for myself other than the occasional plastic kit. Most of my model work typically consists of prototype builds and test construction of scratch built parts. I have developed several fabrication techniques not used by kit makers. Although I rarely participate in public online model forums, I collaborate with a small group of 20 other international model builders in a private group called Weasel Works. We operate loosely like a small R&D operation for scale model design and fabrication. I have also worked with and learned from many well known model builders around the world.

In future issues of MSB Journal, my goal is to bring you informative articles on how model parts are designed and fabricated. Many of the things a kit company does that the model builder never gets to see. The combination of ships, technology, tools, and model building is a complex subject. I hope to bring you the Maker's point of view. Topics on laser etching, cutting. CNC milling - both 2D and 3D. We will take a look at 3D resin printing and perhaps some stories on painting and finishing as well. Although these are technical topics, I will do my best to keep them understandable. Let the voyage begin.



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HMS Alfred 1778

• HMS King Fisher 1770

• Chaleur 1768

Rattlesnake 1781

Raleigh 1777

Authorized Dealer

Confederacy 1778

HMS Druid 1781

• HMS Pelican 1781

HMS Bounty 1787

• Hannah 1775

Halifax 1768



### The Book Nook Books of interest for the Model Ship Builder

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spritsail Topmast 1600-1720
Author: R.C. Anderson
Format: Paperback
Language: English
ISBN: 13:9780486279602
Publisher: Dover Publications
Pages: 336

The Rigging of Ships in the days of the

For ship model-makers and students and enthusiasts of historic sailing ships, this generously illustrated book is essential reading and a valuable reference. It describes and depicts in detail how seventeenth-century English, French, Dutch, and other European trading ships and warships were rigged from stem to stern throughout this colorful period in maritime history.

The book begins in 1600, the earliest date of our detailed knowledge of ships' rigging, and the earliest to which that characteristic seventeenth-century fitting, the spritsail topmast, has been traced. It ends in 1720, roughly the time when the spritsail topmast was superseded by the jib boom and other innovations of eighteenth-century rigging. The book's 12 chapters cover every aspect of the ship's rigging of the period, from the lower masts and bowsprit to the running rigging of the topsails and topgallants. Over 350 fine line drawings illustrate every item used in the rigging. Twenty-five halftones, extensively annotated, illustrate typical ships that plied the seas in the days of the bowsprit mast — English merchantmen and gun ships, French and Dutch men-of-war, and more.

In compiling this volume, R. C. Anderson consulted not only the literature of the period, listed in the extensive bibliography, but also famous ship models created throughout the seventeenth century — some with contemporary rigging in almost perfect condition. The result is an indispensable resource for model builders, maritime historians, sailing ship buffs — anyone interested in authentic documentation of ships' rigging during a crucial period in the history of sailing vessels.

Review by GoodReads.com



Genes Mautical Trivia

**TYPES OF SHIPS** 

G	Н	۷	D	Α	G	Α	L	L	Е	Y	V	Ρ	Ζ
С	X	F	R	S	V	Х	Ε	В	Е	С	Ζ	G	N
0	В	D	E	С	Ζ	1	С	Α	R	Α	V	E	L
G	Α	Α	К	В	С	N	S	С	R	R	A	F	Т
F	R	L	Α	1	А	N	W	0	Е	W	0	Ν	S
R	Q	С	R	R	Т	Т	0	L	Ν	N	С	L	R
I.	U	N	Ρ	E	В	L	Η	L	0	0	А	0	Т
G	E	0	0	М	0	R	D	L	0	E	R	N	А
A	Ν	R	0	E	Α	Т	А	E	Н	L	R	G	0
т	Т	1	L	0	Т	В	С	R	С	L	A	S	В
E	I.	G	S	С	К	N	U	J	S	Α	С	н	Ν
U	Ν	1	С	L	-	Ρ	Ρ	E	R	G	к	1	U
н	E	R	В	Н	J	К	Ε	Т	С	Н	Н	Ρ	G
Y	Ζ	В	К	N	Α	R	R	0	Т	1	N	0	М
E	С	A	N	N	1	Ρ	0	L	L	Α	Н	S	К

AVISO	BARQUENTINE	BIREME
BIRLINN	BRIG	CARAVEL
CARRACK	CATBOAT	CLIPPER
COG	COLLIER	DHOW
DREKAR	FRIGATE	GALLEON
GALLEY	GUNBOAT	IRONCLAD
JUNK	KETCH	KNARR
LONGSHIP	MONITOR	PINNACE
RAFT	SCHOONER	SHALLOP
SLOOP	SNOW	XEBEC





Genes Nautical Trivia

Match the Nautical Terms

(Match the nautical term with its description)

1. To put an item in its proper place.	a. Jacobs Ladder
2. A tool for opening the strands of a rope while splicing.	b. Fender
3. A collective term for the anchor and its associated gear.	c. Quarter
4. The weight of water displaced by a floating vessel, thus, a boat's weight.	d. Ground Tackle
5.A cushion, placed between boats, or between a boat and a pier, to pre-	e. Jetty
vent damage.	f. Displacement
6. A storage space in a boat's stern area.	g. Lubber's Line
7. A rope ladder, lowered from the deck, as when pilots or passengers come aboard.	h. Stow
8. A structure, usually masonry, projecting out from the shore	i. Marlinspike
9. A mark or permanent line on a compass indicating the direction forward	j. Lazarette
parallel to the keel when properly installed.	

10. The sides of a boat aft of amidships.



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Genes Mautical Trivia

Answers

#### Match the Nautical Terms

- 1.— a. Stow
- 2.— i. Marlinspike
- 3.— d. Ground Tackle
- 4.— f. Displacement
- 5.— b. Fender
- 6.— j. Lazarette
- 7.— h. Jacob's Ladder
- 8.— e. Jetty
- 9.— g. Lubber's Line
- 10.— c. Quarter