

Chapter 1 : Lines, Lofting and Half Block Models: Lofting Services

Once you understand the half models and the two-dimensional lines derived from them, lofting is no longer intimidating. The lofting section takes you the rest of the way, covering the entire process, explaining how to make the seemingly unavoidable corrections, and how to make use of your lofting, once completed.

When you are done reading, you may want to view our current vintage and antique half hull models. There are a number of different types of authentic half hulls, all of which had different uses and applications. It is helpful in evaluating a half hull to be aware of their use so they may be compared to others of the same type and to contemporary reproductions. Many pictures of the models in this section, unless otherwise noted, have been sold. This type model was made for the purpose of establishing the shape of the vessel, and was constructed out of a series of planks called "lifts" which were joined together using dowels prior to or by screws afterwards. When disassembled, the individual lifts were laid on the floor and expanded to full size in a process called "lofting". From these shapes timbers were cut, and frames and strakes were assembled to build the full size vessel. They are one off, large rather than medium to small size, and they always can be taken apart. If the name of the vessel is known, their value is greater. The varnished wood has generally mellowed with age and has a rich dark patina. Their value increases with the prominence of the vessel if known, the size of the hull, and of course, most important, its condition. It was made by its master builder and handed down in his family in an unfinished state. After much deliberation, our shop finished it as he would have done. Block and half block models became more common after and builders made these to illustrate the designs provided to them by engineering firms. For ease of use they were held together by dowels. By the middle of the 19th century half block models were common in commercial shipyards, and the use of wood screws had replaced dowel. If you come across a model held together with dowels you know you have something worthwhile. They were used as aids for framing, planking and plating ships. They are usually made using multiple layers of wood, stacked one on top of each other on a horizontal plane, called lifts. The lifts were made to be taken apart, and were used as a template to lay off the lines on the floor. When translated into an elevation drawing, the buttocks appear as curved lines and the stations and waterlines appear as straight vertical lines. Both types of modeling are shown in the diagram below. This half model of the Royal Yacht Squadron schooner Titania is an example of a "buttocks model". If you have a lot of wall area, you want a large model to carry it. The opposite is also true. Also consider how much you really want to spend.

Chapter 2 : Lofting wooden boat plans.

Lines, Lofting, and Half Models At it's most basic level, lofting is the process of rendering the three views of the hull the actual size of the boat to be built. But there is a lot more to it than that, and books on lofting that really cover the subject are scarce-and good ones are scarcer still.

Half Ship Hull Models Half ship hull models are part of maritime history and played an important role in the design and manufacture of wooden boats and ships. Because hulls are symmetrical, it was deemed that all the important elements could be viewed in this half hull format. The shape is carved from a series of strips cut to varying thicknesses and temporarily put together. This method required less material to be removed in the carving process. Lift models, could be later separated and the pieces traced around to create a scale drawing. These drawings were used to create a plan for the construction of the boat. In the case of block models, lead strips were bent over the model where the ribs were to be positioned or they would be cut along vertical lines. These shaped pieces would be drawn and then expanded to make larger templates for the boatbuilder to follow. At the completion of the project, the half hull model would be presented to the owner as a memento, it was often attached to a board so it could be displayed. Original models are collectors items and can be valuable. Some designer were known to destroy them to avoid others from copying their work. This is a great project to make and it uses very little material. Half hull models are evocative pieces that have a timeless character. Instructions for Making a Half Ship Hull Model Well, here is a novel project that blends in equal parts, machine and hand tool practices. The half model is a highlight of my woodworking experience and has long been a source for relaxing hours spent carving and shaping timber. More often than not I will start with 19mm thick boards with a width of about mm and about mm in length. I start by ripping the boards in half on the table saw and then sending them through the benchtop thicknesser until they match the dimensions of the drawing, usually pretty close to 6mm. Multiple Xerox copies of the plan allow for cutting and maintaining an original for checking the dimensions as the slices are being shaped. Use all the standard techniques for orienting the grain patterns as you might when laminating a bread board for example. That means alternating the grain direction for each slice. Transfer the loft lines of the boat one at a time along the straight edge and flip every other one so they sit bow to bow and stern to stern along the length of the boards. Now we are ready to cut the loft lines out in timber. A handheld jigsaw works just fine as does a bandsaw. Cut wide of the pencil lines to avoid tear out and bring the cuttings up close to the line with an oscillating spindle sander or sanding block. I like the bandsaw and spindle sander combination for most curved work as it is very quick. Clamp each slice in a vise and go back and forth to an original copy of the drawing as the shape of each curve is finished carefully. When each timber slice is fitted to the drawing it is very important to mark the centerlines. This will give you a reference mark when it is time to laminate them together. With thirteen slices ready to laminate it is time to prepare for the glue up. I start by milling up two sticks of uniform dimension ,10 to 12mm square by mm, is ideal to hold the model up off the bench. Spread out some plastic or wax paper and lay the two sticks parallel above the covering. It is very important to keep the centerlines in line. With the backs in line and the centres in line the clamping can begin. I like spring clamps with plastic feet or pads. Take care not to upset the quality of the outer faces as they are the next surfaces to be laminated. Just a few hours in the clamps then the next set of joints can be approached. Four sets of three slices now turn into two sets of six then one set of twelve all of which can be done in a single day. If you include a waterline in contrasting timber the actual count for this drawing is thirteen slices. A good presentation for the half model is a lighter timber for the boat hulls and a darker timber for the waterlines and backboards. Each different species has different carving qualities. With sharp tools however any species can be tackled with minimal effort. Working from the centerline outward the carving of the timber is pretty straightforward. Start with a block plane or spokeshave for the outside curves above the waterline and switch to carving gouges for the inside curves below the waterline. Fishtail gouges in the 7 radius work very well for this though most any radius gouge works just fine. I use a side to side sweeping motion for a sheer cut with the chisels controlled by sideways pressure exerted by my thumb towards the bow when working forward of the centerline and towards the stern when

working aft of the centerline. Start by knocking down the high and sharp stepped corners along each curve and use two or three slices to guide you evenly to the glue lines. As you approach the true hull shape stop and check the definition of the perimeter. Cut the outline of the perimeter of the boat from the line drawing and align the centerline and waterline before taping it to the back of the model. Take an engineering pencil and carefully trace the outline to the back of the model. Then move to the bandsaw and cut wide of the line again and bring it in close with the spindle sander. A block plane and a sanding block is used to define the outline of the perimeter. The sheer line or the curvature defined by the deck is shaped using the spindle sander. This is a long shallow curve which is perfectly perpendicular to the back of the model along its length. This can be difficult to do as the scribe line for the sheer is marked on the back of the model and is face down on the table of the spindle sander. If you flip the model and tilt it five degrees or so and work up to the line along the length you can then turn it back over and finish up to the line carefully. Check the sheer line frequently with an engineers square. When the sheer line is fair and square to the back of the model finalize the curve with a sanding block. With the outline well defined I go back to the front of the model and finish the shaping with block plane and chisel. Now I will work right up to the glue lines until they start to disappear evenly. With careful chisel work I am usually okay to switch to grit sand paper for the final shaping. A combination of flat and round sanding blocks are used for this. When I am satisfied with the shape of the hull I will switch to finer paper in the to grit range. With all of the visible scratches removed I switch to grit for a final polish. Next I will prepare a suitable backboard on which to hang the model and a rudder. Cut the rudder from the drawing and transfer it to a matching piece of timber of a thickness matching the thickness of the keel. Drill and countersink two holes for screws to mount the model to the backboard and dry fit the model to the backboard. Just a bit of epoxy to attach the rudder in place and you can remove the model and proceed with the finishing process. This gives a better seal on each component. I use a series of coats of oils and then finish with wax. Pure tung oil is excellent as is the finishing oil by Liberon. Both of these dry hard and lend themselves well to a final wax buff. After a few coats of oil over the course of a few days I will take the backboard and the hull model to the slow speed bench grinder fitted out with felt polishing mops and dressed with cutting wax on the one side and pure carnauba wax polish on the other side. I like to centre the two mounting screws on the slice just above the waterline as this is the thickest portion of the model. Avoid placing the screws on a glue line. Centre them carefully mid slice and wax the threads of the screws before the final tightening. Face grain plugs over the screws cut flush and the model is complete. A couple of 10mm buttons installed in the lower corners behind the backboard make the model hang a little straighter. So pull out those old boating books and magazines or revisit your local maritime museum and have another look at half hull models. Examples are easy to find and the methods of construction are many. We hope this example will get you under way with another quality woodworking project.

Chapter 3 : Lines, Lofting, & Half Models

Called a "must have" addition to every boatbuilding library by reviewers, this is the only lofting book you will ever need. Lines work begins with half models, and so does this book.

Contact Making a half model Half model making is the precursor to lofting. In a sense one is lofting in a different medium. Boat builders were obviously familiar with wood and the tools required to shape wood, and probably less familiar with working out a design starting with a blank sheet of paper and a pencil and some battens. They could carve a model and, working by eye, eventually arrive at a shape that, to their experience and aesthetics, would work. In I built a foot sharpie yacht. I made a block that conformed to the dimensions for length, breadth and depth that I had, and then carved a model. Essentially I was fairing the lines between the known points, using my spokshave and block plane instead of a batten and pencil. When I was done and the model looked right, I drew station on the model, scaled the dimensions, and laid down the lines for my moulds. The result was this boat: We made Xerox copies of the lines drawings and then, lining those up carefully on a block of pine laminations on a reference mark, he used a push pin to make marks along the lines, which he then connected using a pencil and batten later. You will notice on the block the layer of paper I glued between two lifts. I had once used veneer glued in the block to form the waterline of the boat, but even a very thin veneer is too thick, so now I use a sheet of paper in a contrasting color, and when the model is done and the builder has correctly lined up the paper with the boats waterline it makes for a perfect fine line in the model. The block is then sawn out on the bandsaw, and this can take some contortions as the sawing proceeds. In a round hulled boat the waterline lifts are of various beams and basically automatically rough out the shape of the hull. With a hard chine hull you are forced to start with one large block of wood. You can tape these offcuts back to the model and give yourself a larger, steadier base to rest on the table of the saw. If you do cut at an angle be careful when pushing a model through the blade on tilted table. Using the sections on the plans I extended the line of the planking out to a point corresponding with the outer edges of the block, therefore letting us make marks corresponding to the plane of the planking. Connecting these marks at each station gave us a close approximation of where we had to saw. Also, when shaping the model, one can use templates made from these station sections to check the shape. We checked often by using a bevel gauge, taking angles from the section shapes and checking those same spots on the model. Even the offcut from cutting the bow comes in handy later. Here I lay the offcut on the plans and transfer the end points of the plank laps, or chines. I can make some other reference marks to make sure I line it up correctly on the model You can also use masking tape to fasten offcuts back to the model blank to provide a flat surface for resting the blank on the bandsaw for additional cutting. I never throw out any of my offcuts until the model is completely finished. The tools needed to shape the model itself are basic: On a hard chine hull it can be tricky to keep the faces FLAT. You have to be careful to resist the tendency to work these facets into a curve. The same is true when sanding, but using a sanding block can save the situation. One trick used by designers was placing the model on a polished sheet of metal. Here I am using a mirror to give an idea of the shape of the actual boat. Metal was used because you can see the gap created by the thickness of the glass in the mirror, which creates a slight inaccuracy in viewing the design. This model was a great success, as it convinced Tom that he wanted to build this boat , so we got to work on a very part-time basis last winter. By the way, these models can still be very useful to builders. Douglas Brooks August Douglas Brooks www. He lives with his wife Catherine in Vergennes, Vermont.

Chapter 4 : Lines, Lofting and Half Models

This book deals with lines and lofting, and does so thoroughly, but what sets it apart from others on the subject is that its first section deals with half models. This is the way Walt learned, and the way he has taught lofting for years.

The correct term for one who lofts is a loftsmen. This person is defined as one who creates patterns or frames. For the purposes of this document, so as not to alienate all of the very capable woman in my life, I will refer to this person as a loftier. I admit that lofting is something that I take for granted, simply because I know how. What seems simple to me now was once a mystery and a frustrating one at that. It seemed like every book I read left just enough out to keep me scratching my head. Like any good puzzle, if you look at enough pieces the picture starts to come into focus. I loft for fun. The basic problem with getting information on lofting seems to me to be an issue of the times. When I purchase a modern boat building book, the section on lofting seems to be a bit light on information as to the specifics of their lofting technique. The omitted baseline information or stem configuration or any other number of small details seem to be the norm. It is also a sign of the times that most of the boat building books of the day are written and distributed by people who have business that sell plans and patterns for the same boats in the book. My cynical mind tells me that one has something to do with the other. On the other hand, there are some excellent boat building books which have chapters on lofting, however most of them are going on 60 or so years old and few but us hard core boat building junkies still read them. These books go back to the golden age of wooden boat building when seeing a home built boat on the water was at least as prevalent as a "store bought boat". The only issue that I find with these books is that some of the examples given within the text is typically more involved than the home builder will get involved with. Becoming competent at lofting will open up an entire world of boat designs that would not otherwise be available to you. The best example I can give of this is boat building magazines of the last hundred years or so where it seems like countless tables of offsets also called lofting tables for historic and geographically specific boats were given. Most of these boats excellent in both form and function and as good in many cases better than the boats you find today. There is absolutely nothing wrong with taking an older design and making it new by lofting it and converting the building method to use new methods. Good boat designs were made to be built. Though I am not sure who invented epoxy, without a doubt, the Gougeon Brothers founders of West System did more to advance its use in the boat building world than anyone else I can think of. The onslaught of epoxy changed everything about boat building. Options for building a boat are now plentiful and at times confusing for the home builder. For example, a small rowing craft can be built in wood strip, stitch and glue, lapstrake, carvel planked or cloth over frame. Each boat coming from the same original design. The one thing they all have in common is they need to be lofted by somebody. The History of Lofting you need to know this There are a couple of things to know about lofting before you learn to loft. One fun fact is the origin of the term lofting. In days gone by before computers , lofting needed to be done near the boat building effort as the builders needed to frequently check lines and measurements. Because the building site was both busy and dirty, lofting the boat on the building floor was far from perfect. Most of these boat shops did however have lofts in them where the drawing typically took place. You can probably see where we are going with this. The term of lofting originates from the location it was practiced. The next thing you need to know is how the numbers are represented in a table of offsets. In the table of offsets you will typically see entries for half breadths, depths, profiles and sheers and they are represented by numbers that look something like this. Typically it depended on the size of the boat as to whether or not feet were used and each designer has their own preference, both methods yield the same result. If you are wondering how this method of lofting was settled on, it is simpler than you think. First, when boats began to be lofted, the imperial numbering system was most prevalent. The metric system, though invented in the late 17th century, was not adopted as a standard unit of measure by any country until when France adopted it as their standard measuring system. By that time many a boat had been designed, lofted and recorded and there is little urgency to change a system which has so much history and works so well. Remember that boat designs are not meant for one geographic area so unless someone gets the urge to re-loft and re-publish the thousands of boat plans already published,

the system is in little danger of being toppled. More importantly, you would be doing yourself a disservice by not learning the measuring scheme as there are so many boat designs published using the system. You cannot loft a boat without knowing something about boat building and you cannot build a boat unless someone has lofted it out first. Little wonder why pretty much all small craft lofters are also small boat builders. We will use some boatbuilding terms as we go, however the essential terms for lofting are actually very few. We should start with the views. Boats are lofted in 3 dimensions, 2 dimensions at a time. There are 3 views, each view giving two dimensions. Each of these views could be mapped to the Cartesian coordinate system, however historically neither the X,Y or Z axis has been assigned to any view. In using newer CAD systems, however it is required to assign a planes to each view and I imagine that different designers assign different planes. Plan view - This is the view of the boat looking down from the sky. On one side you will see the lines of the boat. On the other side of the plans view you will see what is basically a sketch of the boat. This is where you will see the deck layout, seating, engine well or other materially important items the designer or lofter deems necessary to give the builder a perspective of the boat. The Profile view - The profile is exactly what it sounds like. If the boat was suspended in mid air and you were looking at it from the side, you would be looking at the profile. In the profile view you will typically see the sheer line, the profile line which is the line describing the bottom from the transom to the stem tip , and buttock lines. The frames view - This is sometimes called the forms view. This view is the view of each sectional frame as viewed from the front or the rear of the boat. If the same boat were suspended in mid air and you were looking from the transom forward or the transom back you would be looking at the frame view. It is called the frame view as this is the view that is used to "pick" the frames from. That is to say it is the view which you can create patterns for the frames or building forms for your boat. If you know the size of the stock of the building frames which should be on the boat plans , and you have the outline of the frames from the frames view, it becomes an easy task to create patterns for your frames. Each view has specific lines which need to be lofted in order to create an accurate view of the boat. Assuming we are lofting a round bilged boat, the profile view needs to have 5 items lofted. The buttock lines, the sheer line, the profile line, the transom line and the stem line. Some designers combine the profile line and the stem line, however they are typically not integrated as the stem of the boat needs to be transformed into a frame member unless you are building a stitch and glue hull. The sheer line shown in green is the line which describes the point at which the hull ends. At this line either the boat is terminated with a gunwale or the deck begins. If there is a deck it is also lofted out as it will need support members. The profile line shown in blue is the bottom of the boat hull. There is a distinction between the bottom of the hull and the bottom of the boat. There are items which extend past the hull bottom such as skegs and keels. Though these need to be lofted out for the building process, they are not technically part of the hull lofting. These parts of the boats need not be described in the lofting table, though you may see them there as part of the designers convenience. Typically they are described in the boat plans. The stem line also shown in blue from first frame forward is the curve described in the table of offsets which specifies the curve of the stem from some given point on the profile line to the sheer line. The designer will give enough points in the table of offsets to accurately manufacture a stem frame or what is more commonly simply called the stem. The buttock lines shown in Red are lines which when viewed from the profile view appear to be slices of the hull which are parallel to the centerline of the hull. These points in conjunction with the waterlines give enough information to fair all the curves. The Transom line shown in Yellow shows you the rake of the transom as well as a perspective which allows you to "extend" the transom if it does not mount parallel to the rest of the boats frames. This also assumes that your boat is not a double ender or a boat with two stems. Because the plan view is a different perspective, it stands to reason that we will be lofting different lines or in some cases, the same lines from a different perspective. Consider the sheer line. The sheer line is viewed in all three perspectives, the plan view, profile view and the form view. However, because we are observing the boat from three different planes of view, the information given from the sheer plotting in each perspective will give us different information. In the Plan view, the plot of the sheer line will show us how wide the boat is at the sheer line, in the profile view, the sheer line will show us how deep the boat is from the gunwales to the profile or the bottom of the boat. Finally, in the frames view we will see the compound curve from the stem to the

transom or far stem. The lines of the plans view are as follows: The water lines, the water lines shown in the graphic in purple act much as the buttock lines only in a different perspective. The waterlines slice the boat from the bottom to the top. Lofting the waterlines allows you to ensure that the hull has no bulges or hollows at any intersection of the hull from the gunwale lines to the bottom of the boat. Using the term water line is a bit misleading. In reality, an actual waterline will depend on the amount of displacement not only of the hull but the weight of the items in the boat at the time. As for them being parallel, that again will depend on the dispersment of weight within the boat. For the purpose of lofting, it is important to have measurement from some controlled and imovable base line, so in lofting, the waterlines are actually lines moving up or down if the boat is being lofted upside down the hull from the baseline. As discussed, the sheer line is lofted which will give you the breadth of the hull at any given point. Finally, if your boat has a transom, the transom lines will also be lofted in this view showing the length of the hull at both the sheer line and bottom of the hull as well as the transom breadth at any given waterline.

Chapter 5 : Lines, Lofting and Half Block Models

After that, I plan to "take the lines" of the half-models: so I can share the results in drawn 2-D form, with other folks that may be interested in making accurate replicas of those two vehicles. Those of you with an interest in building boats (real or scale) should definitely pick this book up, without delay.

This is not a subject you could ever master by yourself. And I need to thank the guys on the Wooden Boat Forum who gave their time and experience. A famous designer left a line out of shape on one of his best known designs, producing a hollow in the midframe area. The lofting floor is the place to make sure the boat comes out as you hope it will. So a basic grasp of lofting is still useful. And it can help you transform a set of lines into a model. It can help you come to decide whether you want a particular boat. This is true if you are a buyer or a builder. After you have lofted a boat, you really know it, before you go get the lumber with your own money. To me, this sure beats television and bad preachers. Most everything here will be old hat to Duckworks readers. I hope the fellow who is looking at lofting for the first time will look here, as the place where he can get encouragement. So designers do the lofting for us, laying out on the plywood sheet the measurements. In a sense we do the lofting from that point on, using the tried-and-true method of establishing a point in the lower left corner of the plywood, measuring from it and cutting. But the traditional style of half-breadth, plan view and profile lives on in model ships. The basic idea of lofting is to establish a scale on the small drawing, put some lines in to measure exactly and then put the same lines in on a larger scale on a large sheet of plywood. In lofting bigger ships, the details are numerous but the principle is the same. We begin with a flat floor longer and wider than the boat. I think two feet wider on the sides and two feet longer is the minimum space. We will have to walk around the space, lay tools down, maneuver our selves around it. So for the 10 footer, 12 feet long and 10 feet wide is what we need. This might seem too much. But in traditional lofting we draw on the floor full size and then make pieces from those drawings. As a result we need the space. In these early stages of lofting, measuring perfectly is essential. It saves making up for the wrong dimension later. Nothing I hate more than going back to the lumber yard I just went to this morning. So with our level space we can put down two sheets of plywood, butted tight together on one end. Most scales on plans are 1" for 1 foot or something similar. First, below we put in two perpendiculars which I have in red and a baseline which I have in blue. Actually the baseline is the bottom of the plywood but I put it in blue anyway. The perpendiculars have to be pretty darned perfectly upright. I would check the baseline for straightness, since off of it will come other lines. When all the nails are in, we spring a batten around the curved sheer and bottom to draw the line. Then we lay the batten along the stem and stern nails to draw straight lines. That will close this profile view. I put in frames 2 and 3 to stay in the boat as seat supports, and frame 1 to take the pressure off the planks at the bow. This view also gives us the heights of each frames. But to cut the frames we need the widths also and the flare of the sides. So for that we have to put in the half-breadth view over the profile view. I have put H for the height of Frame 3 and the widths of that frame. You can see the height is taken off the profile, in blue and the width off the half-breadth in black. What we have to do is draw the frames right in the middle of our hb half-breadth and profile view. We begin with a centerline through the center of both views. We will measure off of this line. This view will be called the plan view. The distance of vertical 1 becomes horizontal 1, and when you measure from the baseline up to the sheer along that frame v2 that distance up becomes the distance out, horizontal 2. On this boat, the frames are not an equal distance apart. This is the basic stuff of lofting. When we want to graduate to a V-bottom boat, the upper chine line goes in on the profile view so we take an extra measurement with the same procedure. If we have a round bottom, then we add another line, called a diagonal to give us another point to draw our frame outline through. Here we have the frames in and a waterline. This is what traditional plans will look like. The first thing to do is draw black straight lines down from the stem and stern where the new chine begins and ends. Now I can use the same up-and-over method with one more point, the new chine. The three distances up from the baseline to the lower chine, second chine and sheer become three distances across from the centerline at the level at which the chines cross the frame. Same method, one more measurement. How far do you go up before going across?

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Now for the last set of lines. These are called buttocks. They are vertical lines through the frames parallel to the centerline. Veteran boatbuilders use them as much to look at how water flows under a boat as they do for lofting. The farther apart they look in profile the narrower the hull. The closer they look together the wider and more round the hull. The first frame off the bow has six. However, on sheets 11x16 or full sized patterns there will be more detail. The work is labor, but it is not difficult. To be continued next month

Chapter 6 : UNDERSTANDING HALF HULL MODELS

Lines, Lofting and Half Block Models Welcome to the Blog about a pretty unique new concept now open at the Historical old Sherbrooke Village, Nova Scotia Keeping the old boat/shipbuilding skills alive in a fantastic location.

The skiff page actually includes 5 boats: Esmeralda , out 18" ketch rigged double ender. We also offer plans for you to make your own oars and lap clamps. Every one of these designs can be planked traditionally. We happen to prefer Northern White Cedar, but other woods are suitable too. They can also be planked using top-grade marine plywood, fastened like traditional planking with riveted laps or glued lapstrake using epoxy in the laps. Either way, the sizes of the planks needed is a concern, so use this link to go to a page showing plank sizes. If you decide to go that route, you might want to take a look at Lines, Lofting, and Half Models. It was written to help you understand the process, and walks you through it from beginning to end. The loftings we offer are the lines of the hull drawn full size. Each is a blueline copy light background with the lines reproduced in blue. It contains all three lines views of the hull profile, halfbreadths, and body plan plus the transom expansion. Planking layouts only the Littlest Wherry and Littlest Yacht Tender plans include plank patterns , stem details, rudder shapes, and keel sections, are just some of the items included Could you just order the lofting and build your boat from it? Remember, the building plans are comprehensive. The primary function of the lofting is to provide full-scale verification of the lines and the size and shape of the moulds and backbone members. We are not licensing or offering the use of our plans for mass production, regardless of the construction method or materials used e. The terms, conditions, and royalties for building multiple boats from our designs differ significantly from those of our plans explained above, as should be expected. Contact us for details. Once plans have been stamped with your name written in, they are not returnable Contact us by email or by phone at If you prefer mail, our address is: Duck Trap Woodworking P. Box 88 Lincolnville Beach, ME

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The next job is to transfer the grid full sized in to the floor. Check the base line is straight by stretching the string along it. Then erect the center line at 90 degrees to the base. Once the first set of grid measurements have been made and checked they can be transferred to a baton which can then be slid along to mark the rest. Label all the grid lines as you go. Constantly check and re-check your measurements. All diagonals must be marked accurately as these cannot be checked for parallel against anything. Once the grid is set up you can then interpolate and draw in the frame locations and the curved shapes by joining all the relevant points using the flexible splines. Most sets of plans will also have a table of offsets. With a full set of plans these are more of a convenience than a necessity. They show the dimensions of the boat taken from fixed datum points You need to check if the dimensions have been taken to the outside or the inside of the planking. However if these have been taken from the line drawing they may contain inaccuracies. But, this is why you are drawing them full size anyway, to rule out any drawn errors. Once you have your plan lofted out full size you can now use it to make templates for many of the parts. Patterns for the keel, the stem, beams, and combings can be accurately made from stiff material such as plywood. This will make marking the timber prior to cutting much easier. The template is also a handy way to check the timber for any knots or splits which might fall in an area where a rabbet might need to go. The most accurate way to assemble molds and frames is to do it on the loft floor directly over the lines. Comment Form is loading comments Latest Borum Star Chief Nov 08, 18 I was wondering if anyone has a picture of an original boat so I can see what it was supposed to look.

Chapter 8 : Still struggling to understand how to loft

lines, lofting and half models by Walter J. Simmons. Everything you could ever need to know about creating a half model, developing lines drawings and getting ready to build a full size boat.

Chapter 9 : Duckworks - Lofting Today - Part One

A Blog about a unique new concept for you to learn about lofting, making Half Hull Models,learn about Basic Boat/Shipbuilding.