

SPECIALTY TOOLS FOR SHIPBUILDING

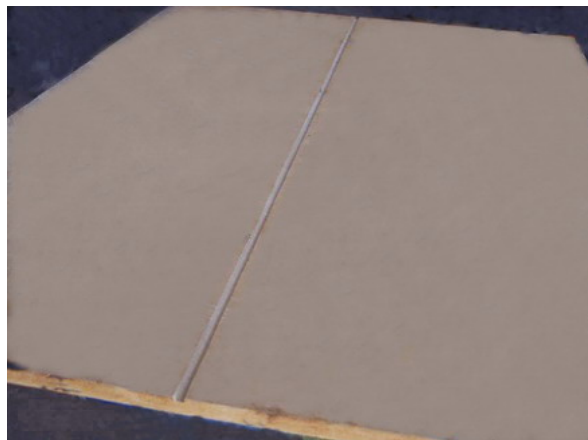
There are many tools available to assist you in the construction of your ship models. Some of them are of little use for anything else as they have been specially designed with the model shipwright in mind. While not all of the tools on this list are necessary there are some which definitely belong in your toolbox. Without them the task of building a model ship while not impossible will be just that bit more difficult.

Building boards and keel clamps.

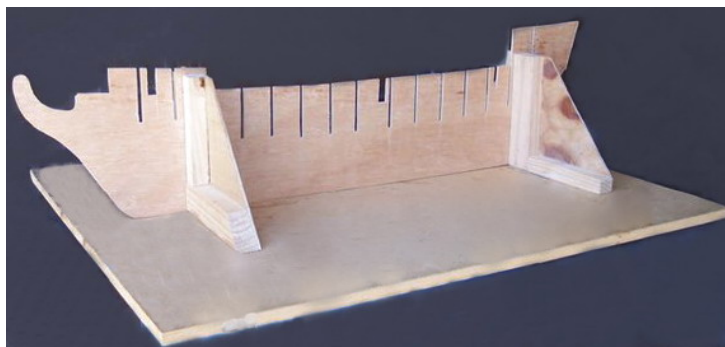
For any building to take place you are going to need some sort of building board or keel clamp to hold the keel assembly while the bulkheads are glued in place.

Building boards are a home made thing and a basic building board is adequate. The one pictured below (a & b) consists of an accurately cut groove of some 4 to 5mm deep where the ply keel is held firmly in the slot. This type needs to be a firm fit to prevent undue movement of the keel itself and prevent warping as bulkheads are glued into place. This groove board is only suitable for deep keels. Check to see if there is adequate clearance between the board and the bottom of the bulkheads. If the bulkheads foul the board then you will have problems with keel and bulkhead alignment. It may be possible to shim up the keel to overcome this problem just ensure there is sufficient grip of the keel to prevent the model falling over. To build this board you need a saw bench or a hand held electric saw and some method to guide the saw to keep the slot perfectly straight. You also need to check for twist and / or warp to ensure the board is dead flat before you start building.

When the glue has dried on the keel assembly this board should be retained as a protective cover for the building bench. The slot is handy to hold the hull in the upright position during all phases of the building operation including rigging.

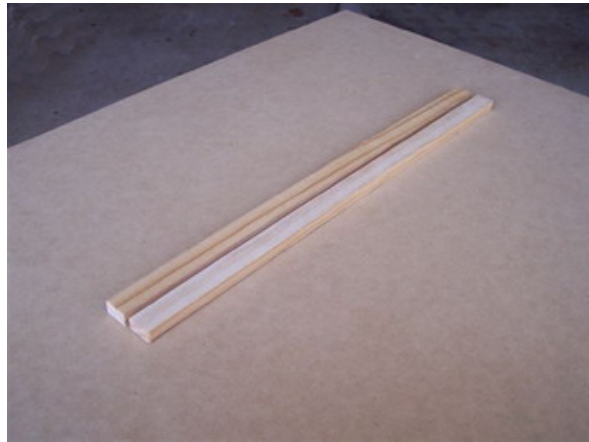


(a)

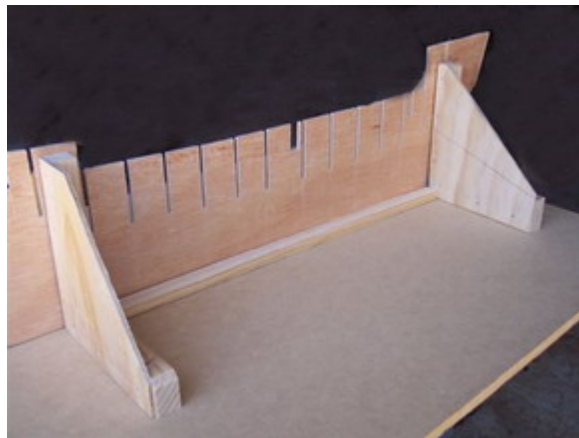


(b)

Another building board is basically the same but with two thin strips of wood screwed down along either side the keel to securely hold it in place (a & b). These strips need to be reasonably thin so as not to foul the bulkheads when they are glued into position. Spacer blocks can be used to raise the keel somewhat to eliminate this problem. To build this board all you need is two strips of thin wood for the keel clamps, the board itself and a few wood screws. Again the board must be flat and free of warp or twisting. The strips of wood are screwed to the board in a temporary fashion, don't glue them down. When one is screwed down, the keel is placed against the strip of wood. The other strip is then held / pushed firmly against the keel and then screwed down to securely hold the keel in place. As in the above paragraph; after the keel/bulkhead assembly operation has been carried out and the glue has fully dried the board can be retained as protective cover for your workbench and to hold the hull upright during most building phases.



(a)

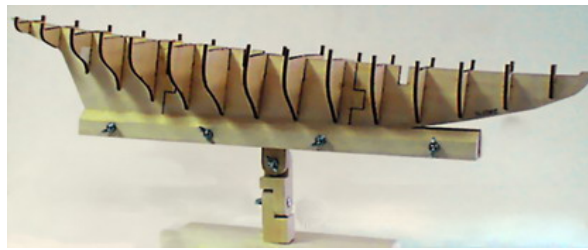


(b)

Various keel clamps are available on the market and they vary somewhat in price as well as quality. Home made clamps can be built for a fraction of the cost of bought clamps. Anything with a swivel base is an enormous help whether it be a commercial clamp or a home made version. All the pictured clamps are handy and carry out the required function. Examples of keel clamps; expensive (a), cheap (b), home made (c), home made using a modified swivel vice and extended soft jaws (d).



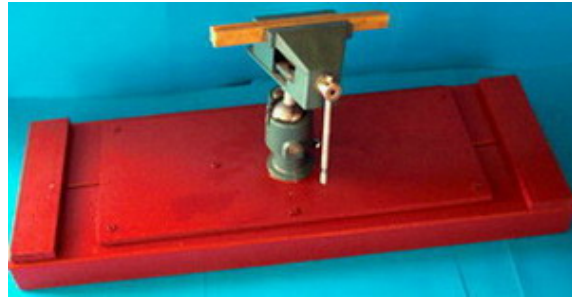
(a)



(b)



(c)



(d)

A distinct advantage of having a movable building board or keel clamp rather than using the bench top is the ability to safely store your ship out of harms way. Keeping ships out of the way of little hands and animals is a very big advantage. It causes a lot less drama in the household.

Any of the two boards (or variations of) mentioned above or the keel clamps can be used, it's a personal choice thing.

There are quite a few other building boards and platforms out there for specialized building method. Some of them are great ideas and others not so great. These different designs can be seen on the various web sites dealing with the construction of a particular ship. It's your decision but you will need something to build your ship on.

Plan holder; great for holding the vital plans where you can always see and refer to them. Designs for home made plan holders are available on the net. Even a piece of appropriate sized dowel and a couple of paper clips as shown in the photo is an adequate plan holder. Unfolding and re-folding plans will in a short period of time cause severe tear and wear on the plans.



Proportional dividers; an expensive tool that is not really essential but if you have them they are one of those very handy tools. They quickly and accurately calculate on a sliding arm the average plank widths required. The same end result but a slower method is to use a paper tick strip and average out the measurement. While not strictly a tool for ship builders only they are popular amongst the modelling fraternity.



Planking screws; very useful for holding hull planks in position while measurements are taken or while glue dries. Available in both plastic (a) and metal (b) construction and while the metal screws are of a higher quality their price is nearly ten times greater than the plastic variety. These planking screws don't work as well when the bulkheads are less than 4mm thick, as there isn't enough material for the screw threads to grip and splitting may result. Plastic headed push pins are the answer for the thin ply. In bulkheads made of 5mm ply or thicker these planking screws are marvellous.



(a)

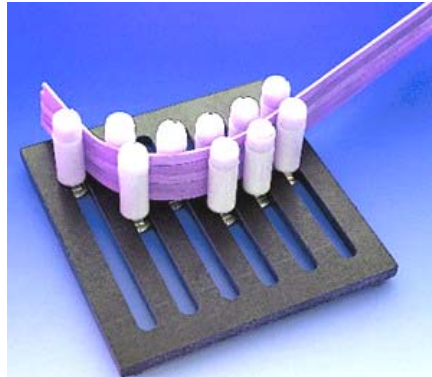


(b)

Strip former; to aid in the bending and shaping of planks. Used to put small score marks in wet planking strips so as to aid in bending the strip. These tools have a varied reputation, some modellers swear by them while others hate them. Make the score marks very close together (3mm to 4mm) if made wider apart flat spots can occur. These flats show up on the outside bend as a series of flat sections and are very noticeable in the finished hull. These tools are unsuitable for internal curves as the scores show up on the material.



Plank bending jigs; cheap but also easily made. Great idea for the shaping of planks. Wet planks are held in the position of the required shape until dry. Great tool but a cheaper version can be made in the form of a “cribbage board”. Numerous holes are drilled in a piece of board where the planks are held by long stout removable nails. (75mm nails are sufficient). If rust marks on the timber are going to be of concern plastic tubing or masking tape on the shaft of the nails overcomes this problem.



Electric plank bender; this style of plank bender is really no more than a low wattage soldering iron with a modified tip. Considered by many to be vital for the steam bending of planks, the heat of the iron dries the planks as they are formed into position by either doing it on the ship or pre forming the planks around the iron. Good idea as an inexpensive and very popular tool.



Plank tapering vice; for the accurate cutting and sanding of planks. The pre marked plank is clamped between the jaws of this device and the excess material trimmed or sanded away. One problem with this tool is when the wood to be trimmed slips in the jaws. This can be overcome by gluing strips of very fine sandpaper to the jaws. Yet again this is a tool which some find handy while others deem it next to useless for its intended purpose.



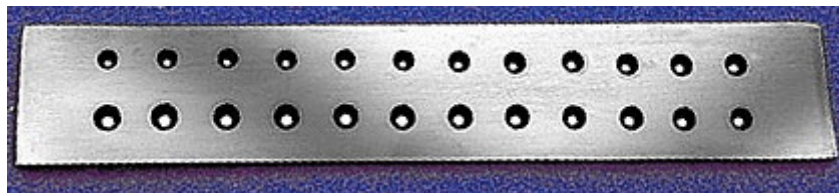
Mitre cutter; we strongly suggest that if you purchase one of these that you do so carefully as manufacturers quality is important to the longevity of the cutting blade and surface.



Nailer pusher; good for installing the nails required to hold the first planking timbers in position. Handy but not essential, a hammer works just as well. With this type of tool specially designed nails are required as not all modelling nails fit these gadgets so its use can be limited.



Drawplate; Making treenails without some type of drawplate is difficult due the need to reduce the chosen material to very small diameters. Price is certainly a guide here. Byrnes makes a good quality draw plate.



Waterline marker; Essential and relatively cheap (a) but home made versions are easy to make and adapt from the third hand helper (b). Just secure a pencil to the arm. Another is simply a block of wood of a suitable height, prop the hull up on blocks to level it out and tape a pencil to the block of wood.



(a)



(b)

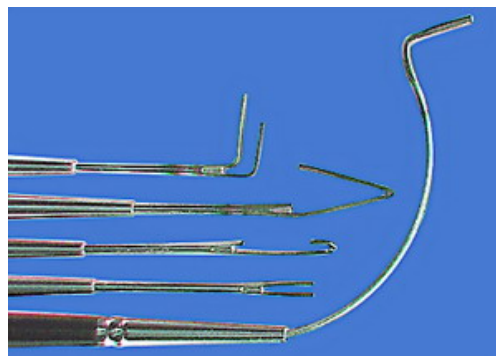
Rope walks are cheap to buy but also are easy to make. Many designs and plans are freely available on the net including motorised types which make the whole process of producing ropes much quicker. Essential for the ship building enthusiast and a lot of fun to use. Hawser and cable made ropes can be made up on this little machine.



Lockable forceps are an essential tool for rigging when two hands are just not enough. These forceps can be used to keep rigging under tension by locking the forceps to the rigging rope. You will probably need at least two of these forceps.



Rigging tools; every modeller has a collection of these gadgets and other odd shaped rigging tools. These are something you adapt, acquire, and invent as you progress along. Imagination is the key here but something that you can use to push (small fork shape), pull (small hooked shape), twist (fine slotted shape), is going to be needed from the start. Just make sure there are no sharp edges or burrs that are going to cut or damage the rigging ropes.

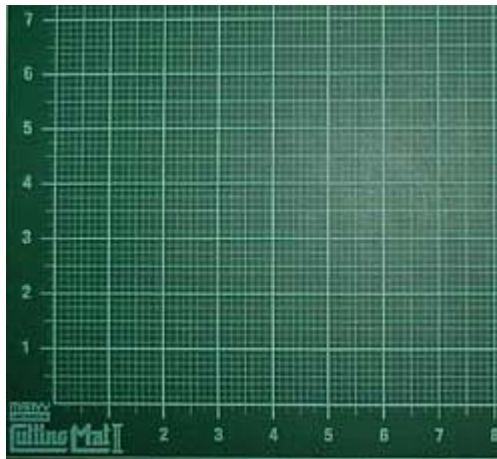


Lathes: Wood verses metal, price is certainly a factor here. There are many good wood and metal lathes on the market. By the same token there is also a lot of rubbish. The machine pictured below is promoted as being especially for ship modellers but many doubt its true value as a serious wood turning device. Do your research carefully and get something that suits your work. You can turn wood on a metal lathe but you can't turn metal on a wood lathe accurately. Think ahead as to where you might be in years to come, do the research and buy a quality machine. Seek the advice of others and hear of their experiences. A good quality lathe lasts a life time.



There are also a few things we would like to include as items of interest even though they are not specifically for ship modelling.

Self healing cutting mats; these are great for protecting the work bench surface and as the name suggests they appear to heal themselves.



Magnifiers; when working on rigging or any of the multitude of small and delicate parts which make up a ship model the strain on the eyes can be severe. This is when you may find a magnifier to be of great help. Magnifiers come in a variety of shapes and sizes from bench mounted types (a), to adjustable headband styles (b). A magnifier with an installed lighting system is a good investment.



(a)



(b)

Lighting; in addition to room lighting which should be stronger than normal it is useful to have a light which can be directed accurately at any particular item being worked on. There is no point in building a beautiful model if doing so is going to strain your eyesight.



****Written and prepared by Dirk De Bakker (kelvin12) & Greg Brooker (Southlander) for the exclusive use of the "Model Ship World" website.**