A man wearing a blue shirt, light-colored pants, and a hat is rowing a yellow and white dory on a river. A dog is sitting in the boat with him. The river is surrounded by trees, and the scene is reflected in the water. The text is overlaid on the top half of the image.

Photo Essay
How to Build an
Alaskan
Grand Banks Dory

Plans for this boat may be found at:
<http://www.spirainternational.com/>

How to Build an Alaskan Grand Banks Dory

The Alaskan is an easy to build Spira International framed boat. It is an 19' Grand Banks style dory suitable for many lake, river and coastal ocean conditions. It is typical of the Spira International framed hull boats. Construction grade lumber is all that is required to complete this rugged, handsome boat.

Like all Spira International framed hulls, you begin by building the frames. These are constructed of commercial grade 2x4s using a simple lap joint bonded using epoxy glue. They are screwed together to ensure the epoxy is held in close contact with the parts until the adhesive cures.



You could also use one of the new polyurethane adhesives, or any good waterproof construction adhesive such as Liquid Nails.



Note how the frames are notched in the center for the keelson to be installed at a later time. A hole is drilled in the corner then the material cut out using a jigsaw or bandsaw. Note also that all frames are straight. There is no need for curves in dory style hull frames, making them very simple to construct.



Next, a strongback jig is constructed. This is a sturdy beam on which your boat will be constructed upside down. Some builders elect to put this on wheels so that the project may more easily be rolled into an out of a storage area to make it easier to work on.



The frames are then assembled to the strongback jig and temporarily attached in-place.

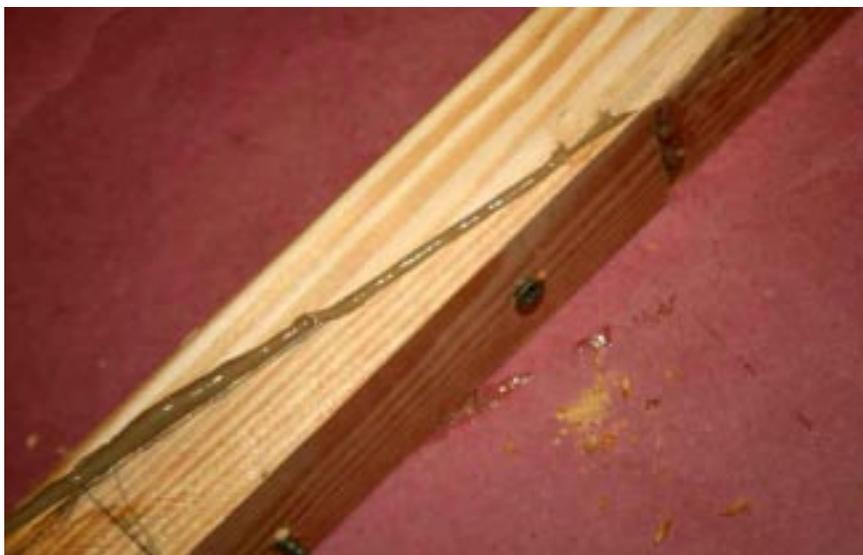


At this stage, everything is squared up to get ready to accept the longitudinal elements. Here you can see the slot for the keelson, cut wider than the actual lumber that makes it up. This leaves space on either side called "Lumber Holes" to allow water to travel between frames and not collect in one spot.



Here the keelson is being fitted to the frames. It is either screwed or bolted to the frames as well as glued using either epoxy or a high-strength, waterproof construction adhesive.

Notches are cut into the frames to accept the longitudinal elements, the chine log and sheer clamp that bend around the frames. A short piece of the material for these longitudinals is used to mark and hand cut the notches, so they are the correct shape and angle to accept the actual pieces.



Simple scarf joints are used to make the sheer clamp and chine log lumber long enough to stretch the full length of the boat. This joint is stronger than the surrounding wood.



Here the chine log is fitted into the notches in the frames. Once it is fitted in-place, it is glued and screwed in position to form a unitized structure, much stronger than old fashioned wooden boats only held together with screws. In fact, in these boats, you could remove all of the fasteners and it would still be just as strong.

The hull is then “faired.” This means cutting the frame elements to the correct angle so that they meet the plywood planking flush. This is accomplished with a different techniques on different locations.





Now, it really starts looking like a boat



The plywood planking is temporarily clamped to the framing so that the frames can be used as a pattern to trace out the plywood shapes. This is a much more accurate way of cutting out the plywood than any pre-measuring method.



Some designers insist that the plywood joints be scarf jointed together, but this is a precise and complicated process. On Spira International boats, you need only join the plywood using a butt block



on the inside of the hull. This is simply a 6" wide block of the same thickness as the planking glued and screwed to the inside of the hull to form the joint. Here the side planking has been completed and is ground smooth to get ready to attach the bottom planking. All of the plywood planking is glued and screwed in-place.

Like the side planking, the bottom planking is cut out using the boat framing as a guide.

It is then glued and screwed in-place and butt blocks added on the inside to reinforce the joints.





The fully planked hull is sanded smooth and the corners radiused to get ready to fiberglass.



Next you fill the seams and screw holes so that the outside of the hull is smooth and the surface prepared for the fiberglass covering to be added later. The epoxy resin recommended for all Spira International boats, has a strong adhesive property on plywood, unlike the older, less strong polyester resin. There is no need to staple down the fiberglass to the plywood when using epoxy, unlike the methods used for polyester resin fiberglassing.

Using fiberglass tape to cover the seams ensures a really robust construction. It's a simple step but results in a far sturdier boat





Now the fiberglassing begins. The trick is to only use enough resin to fully saturate the glass cloth without building up excess layers. You can tell when there's enough resin because the opaque cloth disappears and turns transparent. It starts to look like a layer of varnish.

Now comes the least fun of all of the boat building process - sanding. Wear safety glasses and face respirator filters to keep the dust out of your lungs and eyes, and get to work smoothing it as much as you can. The quality of the finish depends on how well you do this step.





The rub rails are added next. These go on top of the fiberglass because they're there to deflect bumps and may need to be occasionally replaced.



Time to flip over the hull and remove the strongback. After this, you just need to saturate the inside with epoxy resin to seal it and build out seats, center consoles, decking, sail rigging or whatever other accessories you wish.