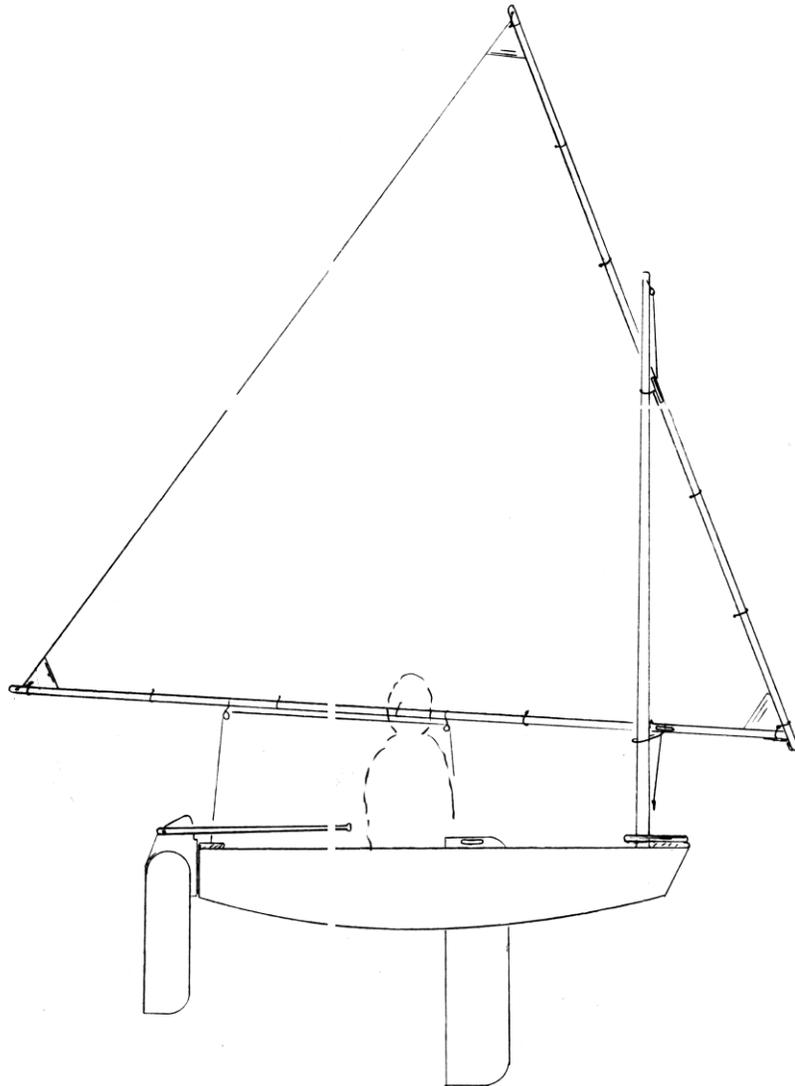


CATBOX



A Puddle Duck Racer

By Jim Michalak

CAT BOX HULL SPECIFICATIONS

1. Bow transom from 1/4" plywood. Top and bottom edges framed with 3/4" x 1-1/2" lumber with bevels as shown. Mark centerlines boldly.
2. Stern transom from 1/4" plywood. Top and bottom edges framed with 3/4" x 1-1/2" lumber. Bottom stick is beveled as shown. Mark centerlines boldly.
3. Sides from 1/4" plywood to pattern shown. Top and end edges framed with 3/4" x 1-1/2" lumber as shown. Bottom edge to be framed with 3/4" x 1" lumber hoping it will take the curve without breaking. Make a lefty and a righty.
4. Inner walls from 1/4" plywood to pattern shown. Same framing as with 3. Make a lefty and a righty. These are identical with the sides except that they will need large openings to allow for airing in storage. The openings must be closed with deck plates during sailing to provide emergency buoyancy.

Preferred assembly will be upside down. Notch the ends of the sides and inner walls to match the framing sticks on the transoms. Prop the sides and inner walls upright and attach the transoms with glue and nails, use thickened epoxy if you need to since gaps here might result in leaks later. Check that all is straight and untwisted and walk away until the glue cures.

5. Bottom from 1/4" plywood. Attach with nails and glue. I think I would do this by attaching first to the stern transom and working forward. You might dry fit it with sheetrock screws first to get a feel for it. After glue cures radius the edges and armor the bottom with a layer of 6 ounce fiberglass set in epoxy with a double layer around the chine edges say working up about 3" above the chine. No reason to glass the rest. Turn the hull upright. Put a fillet of thickened epoxy around all inner corners along the bottom to prevent water seepage there. Paint the areas which will be sealed up when the decks are installed.

AT THIS POINT BE SURE TO ADVANCE TO THE SAIL RIG SPECIFICATIONS AND INSTALL THE DAGGERBOARD WELL.

6. Decks from 1/4" plywood. I would install these with latex caulk and screws to allow for future removal.
7. Bow plate from 3.4" x 6-1/2" lumber. Attach with caulk and large screws.
8. Stern plate from 3/4" x 5" lumber. Attach with caulk and large screws.

CATBOX SAIL RIG SPECIFICATIONS.

- A. Rudder from three laminations of 1/4" plywood to finish 3/4" thick. Streamline well. Sink weight is about 3 pounds. Note a slot for your toes to give you a boost to reenter the boat from the water. Run a light lanyard from the trailing edge through a small hole on the aft edge of the tiller and then forward to a cleat on the tiller so you can raise the rudder as require from the helm position.

B. Rudder cheek from three laminations of 1/4" plywood. Use gudgeons and pintles strong enough to support your weight if you ever need to reboard using the toe slot in the rudder.

C. Tiller from 1-1/2" x 3-1/2" lumber. Best to put a small through bolt just ahead of the slot for the rudder to prevent splitting.

D. Daggerboard from three laminations of 1/4" plywood. Streamline edges. In use it will be best to hold this down with a bungee cord since it will at times try to float up. The well for the daggerboard is wider at the top with the idea you can swing the board fore and aft while sailing to get the best trim.

E. Daggerboard well with side from 1/4" plywood. End stick from 3/4" x 1" width so that the well is at least 1/8" wider than the daggerboard to prevent jamming. The top edge is 1-1/2" square trough bolted to the top of the side box. Bottom edge framed with 3/4" x 1-1/2" lumber. The slot in the bottom for the daggerboard might be just large enough to prevent jamming due to wood swelling, say 1/8" larger than the board and would cut that before installing the well structure.

F. Mast step from 1-1/2" thick lumber as shown on top of a piece of 3/4" lumber that will take any downthrust of the mast (the halyard usually pulls down on the mast).

G. Mast partner from four layers of 1/4" plywood to finish 1" thick. Bolt in place and tinker with this to trim the helm if you need to.

Sail rig is supposed to be the same as the old Sunfish, not sure if I got the dimensions right. Anyway, Sunfish sails are still being made if you don't want to make your own.

H. Mast, square, from three laminations of 3/4" lumber, then tapered, with radiused corners.

I. Yard and boom from two laminations of 3/4" lumber to finish 1-1/2" square.

J. Sail is supposed to be same pattern as Sunfish. From 4 ounce Dacron sailcloth but could be lighter.

CATBOX DRAWINGS

General Arrangements

Plan View

Side Elevation - Stern transom and sidebox details

Bow Transom Details

Side Layout

Plywood Panel Layout

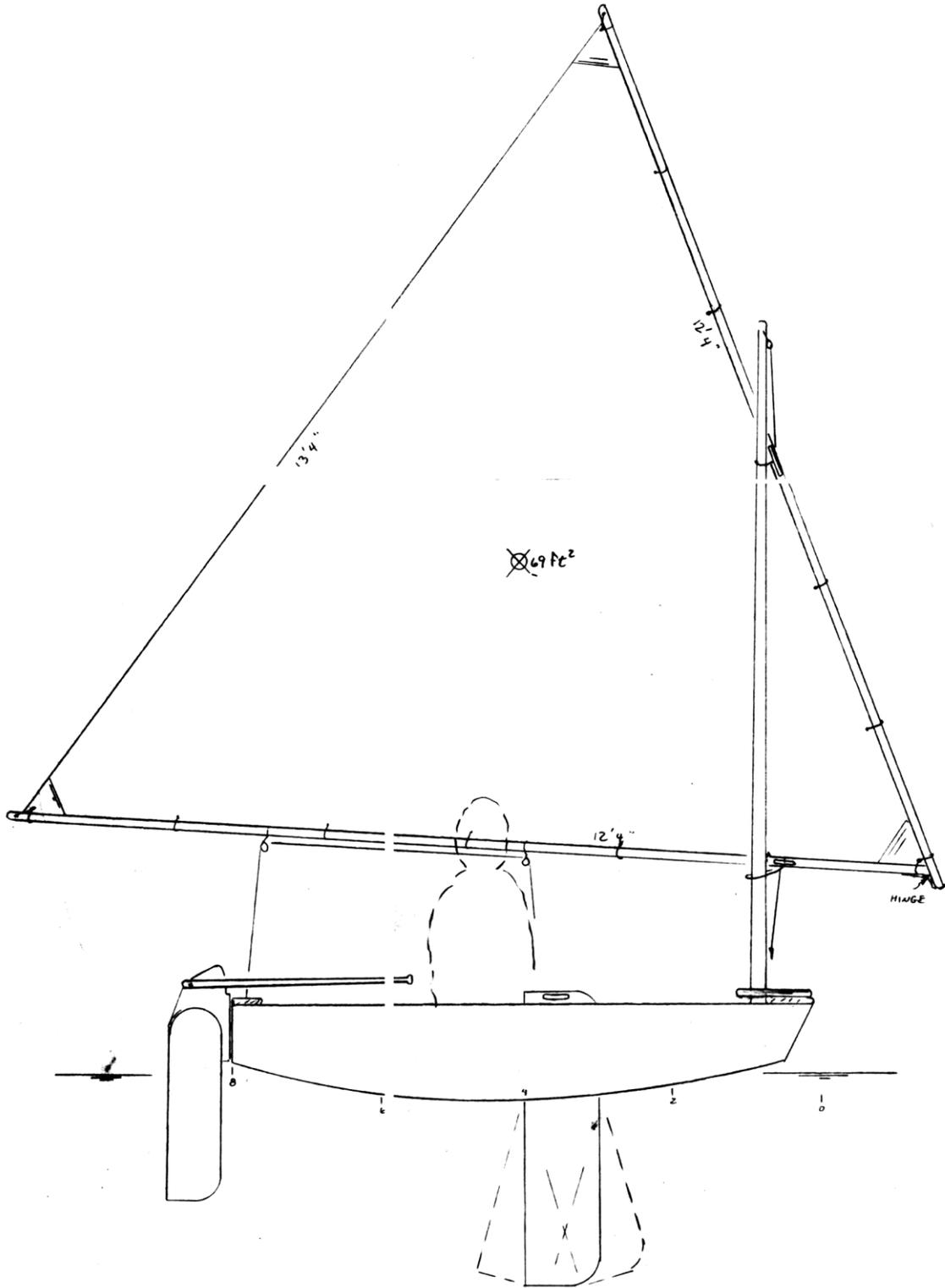
Daggerboard Case Front and Side Views and mast step/partner details

Top View - Mast Partner and Daggerboard Case

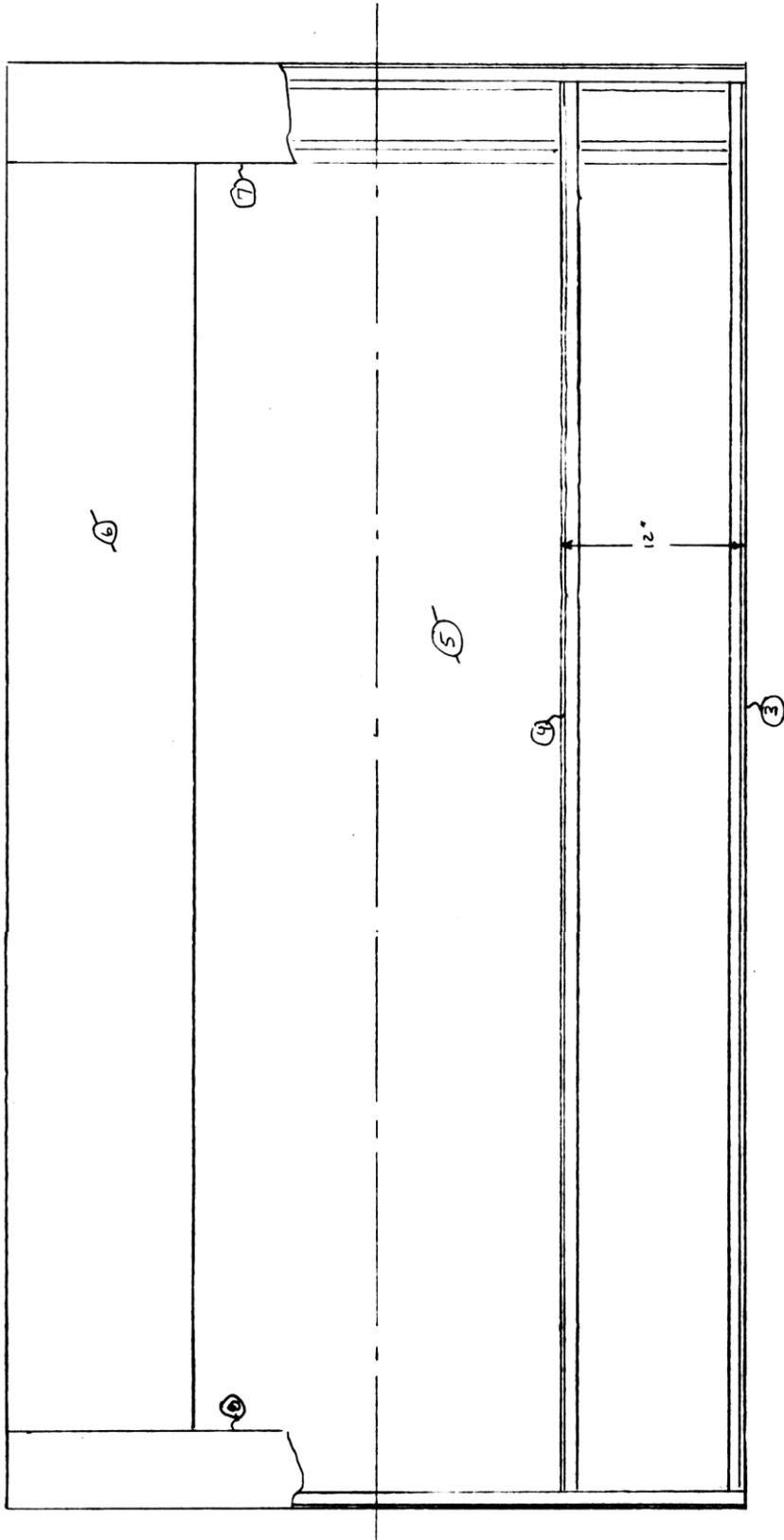
Rudder and Tiller

Sail and Spars

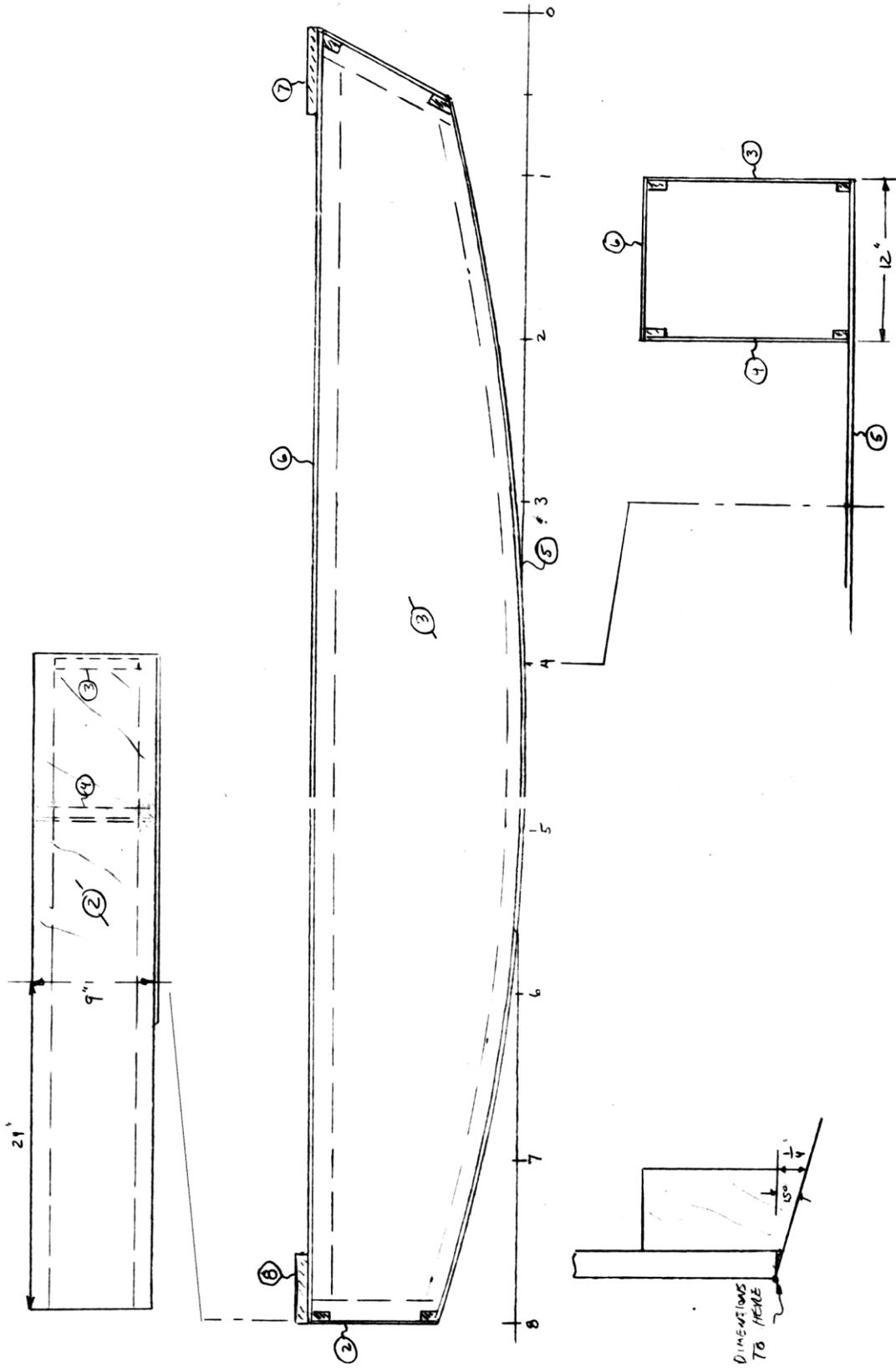
General Arrangements



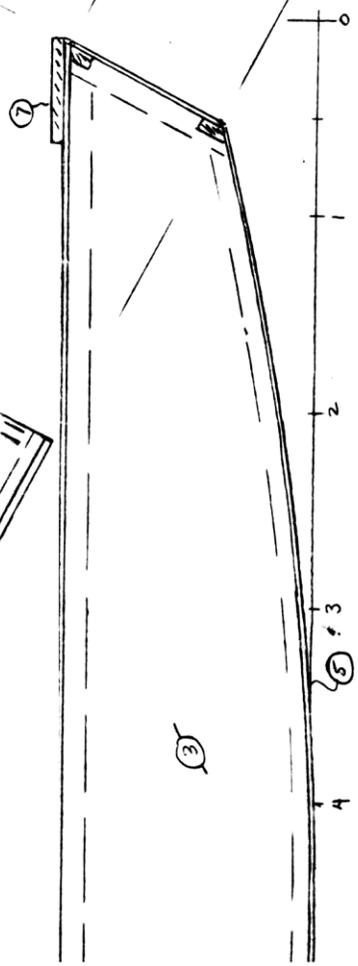
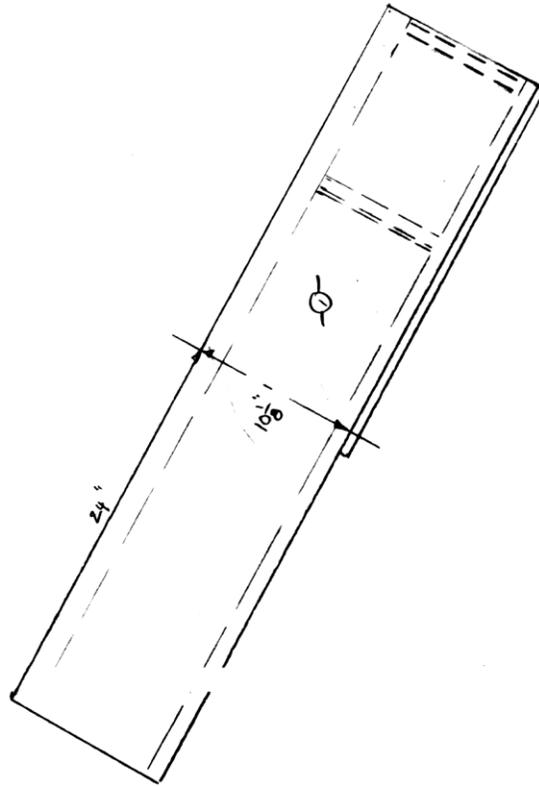
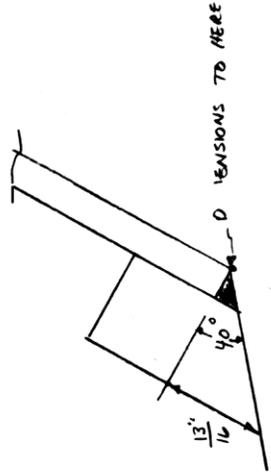
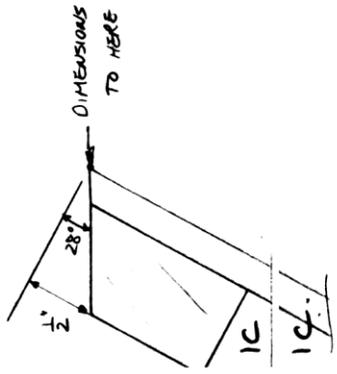
Plan View



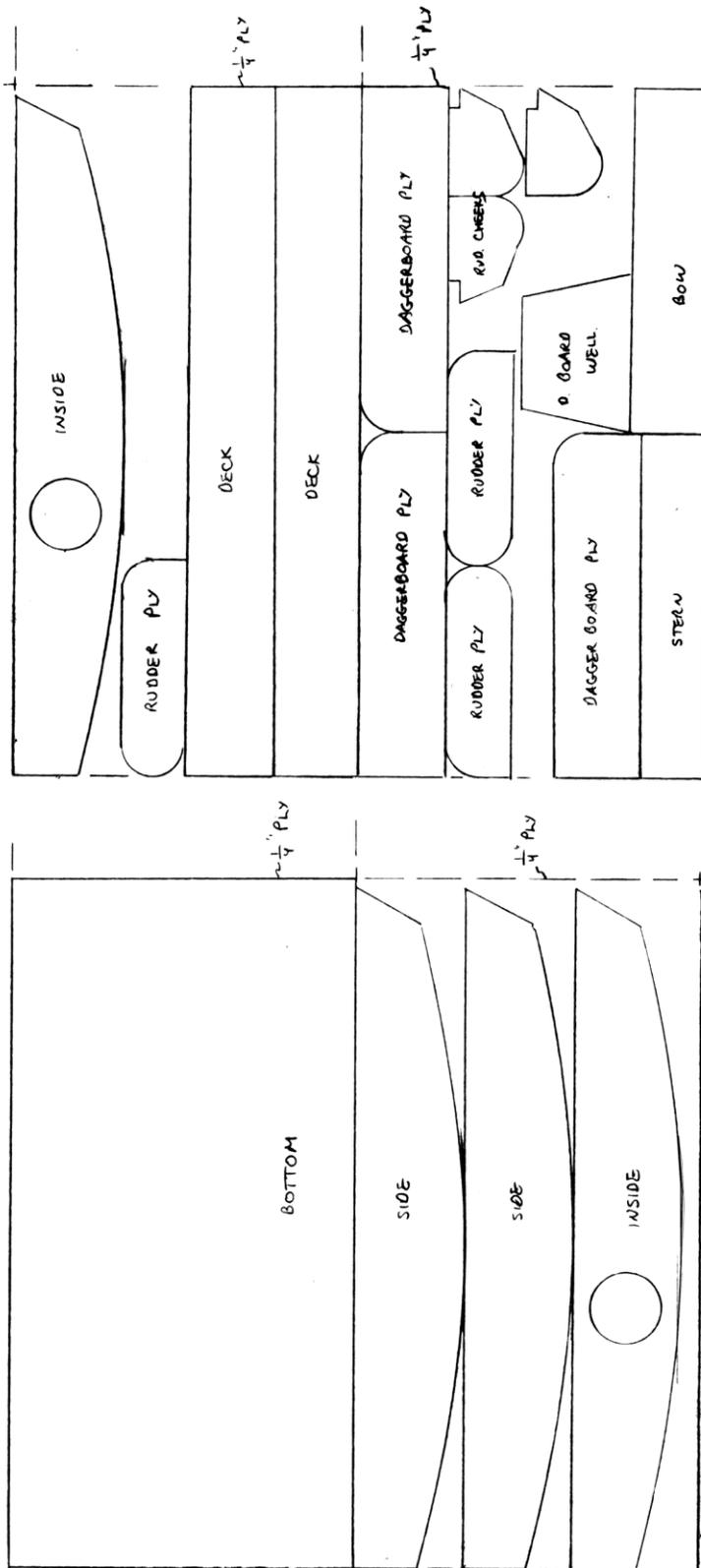
Side Elevation - Stern transom and sidebox details



Bow Transom Details

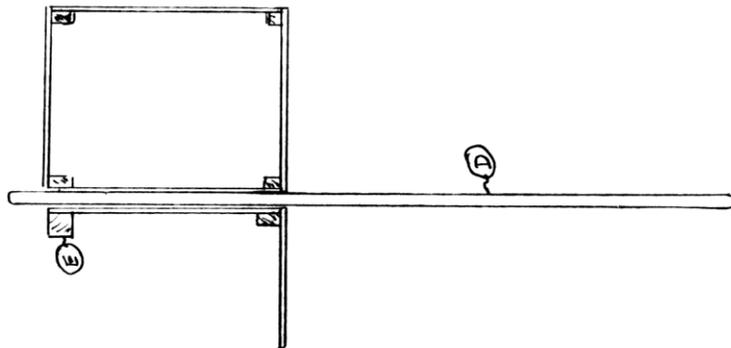
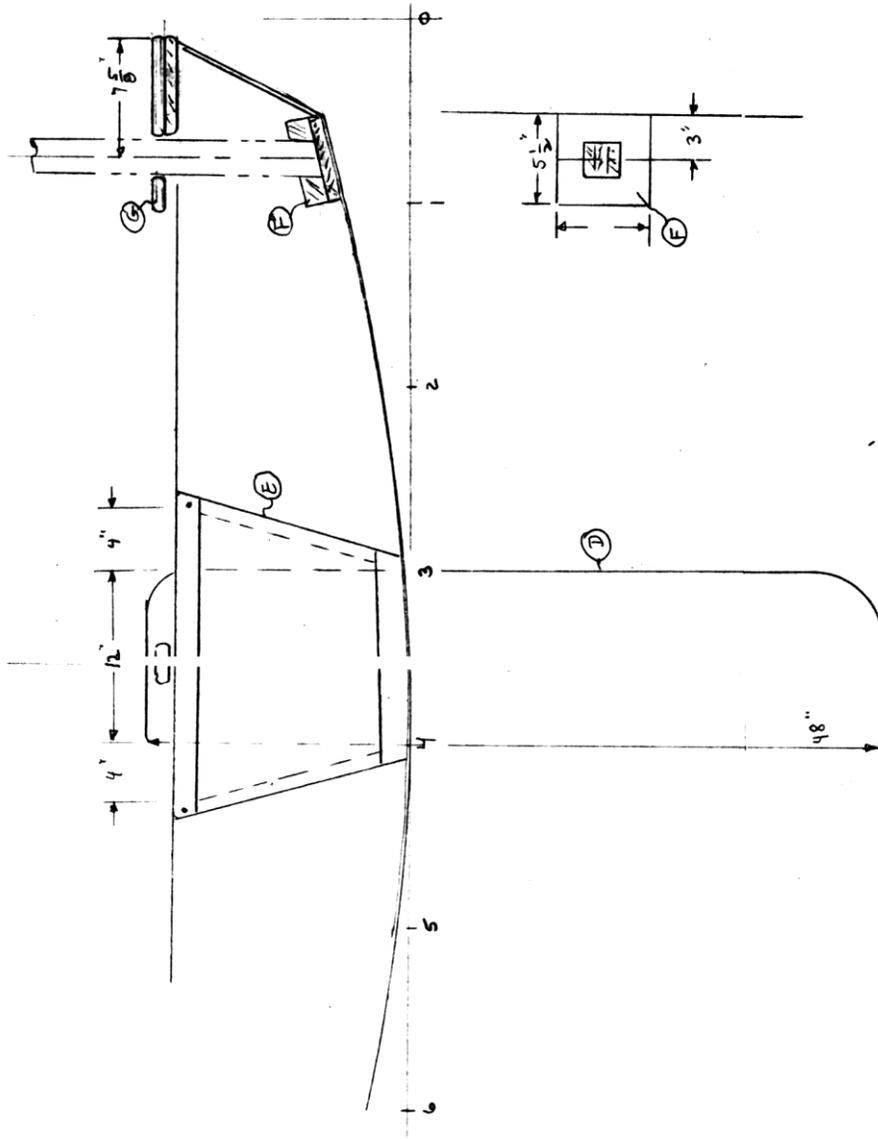


Plywood Panel Layout

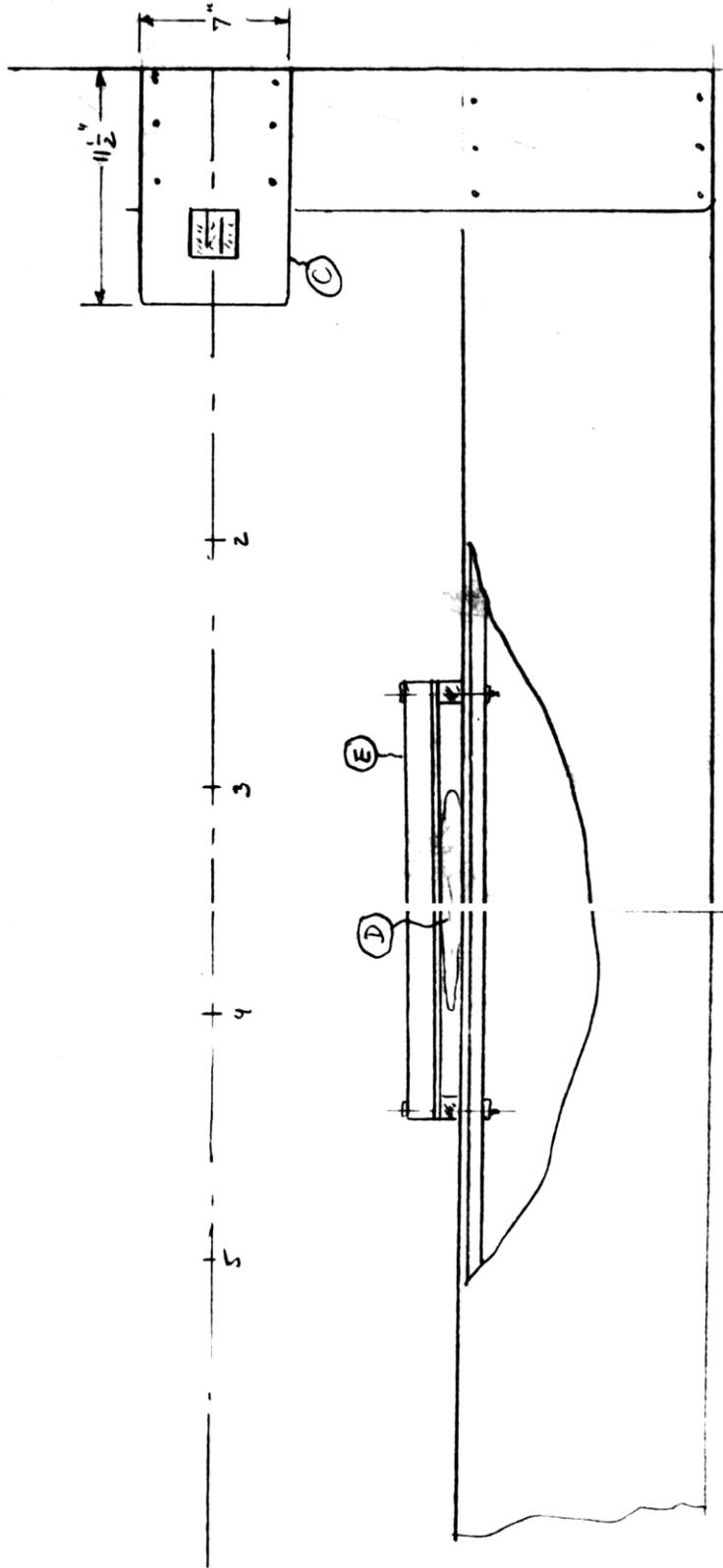


PLYWOOD PANEL LAYOUT

Daggerboard Case Front and Side Views and mast step/partner details



Top View - Mast Partner and Daggerboard Case



Rudder and Tiller

