

Down East style cruising outboard boat.

<b>Specifications:</b>		
<b>LOA:</b>	22' 10"	6,96 m
<b>Max. Beam:</b>	8' 2 "	2,49 m
<b>Hull Draft at DWL:</b>	8"	203 mm
<b>Hull weight:</b>	1,500 lbs.	680 kg
<b>Displacement:</b>	2,500 lbs.	1140 liters
<b>PPI at DWL:</b>	560 lbs.	255 kg
<b>Recommended HP</b>	50-100	35-75 Kw
<b>Material:</b>	Stitch & Glue	composite



The DE23 is the long cabin version of our NV23. She combines traditional styling with an efficient, easy to build planing hull. She is not a true lobster boat of the double wedge type or a pure fast planing hull. The hull type is similar to what is now frequently called a picnic boat; a seaworthy planing boat but the topsides are more in the Down East cruising boat style. We kept the deep forefoot of the modern fast lobster boat hull but the underbody is a true monohedron. This means that the transition to planing speeds will be smooth without any excessive change of trim and without the wasteful suction of warped bottoms running at an  $S/L$  higher than 2.

*(S/L ratio is speed in knots divided by square root of WL in feet. Displacement boats are the ones with an  $S/L < 1.3$ , planing boats have  $S/L > 2$ )*

The Down East 23 will perform well at displacement speeds in bad weather and run efficiently at moderate planing speeds with relatively small engines.



The Down East 23 has an enormous capacity: she can be loaded with up to 2,000 lbs of passengers, engine and gear.

To provide 6' 2" (185 cm) of standing headroom in the pilot house, the sole is lower than in our NV23. However, the cockpit floor is still well above the waterline and self-bailing.

**Performance:**

The calculated top speeds with moderate load (displacement 2,600 lbs) are as follow:

50 HP: 25 mph

70 HP: 29.5 mph

100 HP: 35 mph



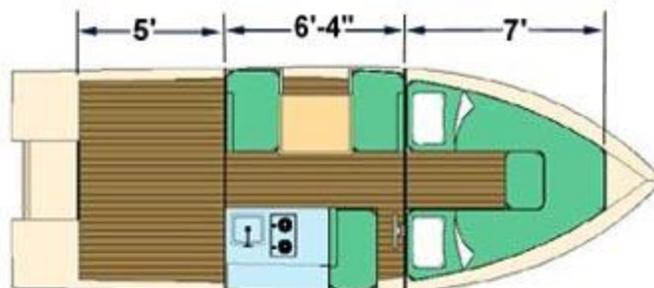
Compared to traditional lobster boat types, the Down East 23 hard-chine vee bottom hull will not only be faster than the typical round bilge type but also deflects spray more efficiently. The reduced deadrise aft increases stability at slow speed or rest. Compared to our HM19, the vee hull will pound less and give much better tracking when running off a steep sea. The soft riding vee hull requires more labor and materials to build but this hull shape is required for more exposed waters. She also differs from our faster planing hulls through her deeper forefoot and generous skeg for stability and tracking. This boat's transom is designed for a standard 20" shaft. The transom can easily be modified to accept other shaft lengths.

New, August 2004: we added a closed transom version of the plans package. This allows to install the engine on a bracket and frees a lot of room in the cockpit.



**Layout:**

The safe self-bailing cockpit is deep and wide: 5' long (1,5 m), 8' wide (2,40 m) and 28" deep (71 cm). The full height motor well bulkhead provides excellent protection from following seas. The cockpit is self-bailing but the cabin sole is lower than the cockpit. To keep the inside floor dry, there is a small step between pilot house and cabin, see the options paragraph. The pilothouse offers standing headroom: 6' 2" in the middle (185 cm), the forward cabin with two bunks has sitting headroom.



There is room for a portable head under the vee berth. The dinette is can be lowered to make a 34" (86 cm) wide berth.



The backrest of the steering seat can be hinged to extend the galley working surface when lowered.



A sturdy samson post is welded to the forward bulkhead.

#### **Building method:**

The Down East 23 is a composite epoxy-fiberglass-plywood boat. The hull is built around a simple plywood core sandwiched between layers of directional fiberglass in epoxy. This method produces a high-quality fiberglass boat using methods within the reach of any amateur builder. The hull is assembled on a simple jig made from the bulkheads, frames and some temporary molds. The plans show all necessary dimensions: all bulkheads, frames, molds and transom dimensions plus accurate expanded plates dimensions for all hull panels. No lofting, no need to measure from the jig as in plywood on frame construction. We did all the calculations for you. The egg-crate structure is stronger than traditional framing and the space under the sole, between the stringers, can be filled with flotation foam to make the boat unsinkable.

The cabin and pilothouse can be built from a sandwich composite if the builders chooses that option. There are several advantages to a foam sandwich superstructure. Lighter topsides mean better performance, improved stability and easier towing on the road. The plans show specifications for the two methods: cabin made of regular plywood and epoxy and our sandwich panels. We can supply all the materials for either method.



#### **Required Skills:**

The DE23 is easy to build: a plywood shell assembled the stitch and glue way but fiberglassed on each side. No woodworking skills or special tools are required. The plans include all dimensions and patterns to cut all the hull parts flat on the shop floor. No lofting, no beveling, no scarfing: the sides and bottom are cut from standard 4x8 plywood (122x244cm), joined with a simple fiberglass seam. All seams are taped with fiberglass and epoxy, see our "How To" section for details. These epoxy seams are much stronger than the plywood. The DE23 is a large boat. She

is not difficult to build but we recommend to build a small boat first if only to become familiar with the material and technique



### Options:

There are so many possible options that we cannot list them all.

- The outboard can be mounted as shown in a motor well or on a transom bracket.
- We show an open cockpit, but the builder can easily add all kind of benches, seats and other boxes.
- The pilothouse door can be modified to use a high drop-down board and shorter doors. This will allow to safely leave the doors open offshore in bad weather.
- There is room for a small emergency outboard (kicker) on the transom.
- The plans show wide scuppers in the side but through transom scupper are an option.
- The companionway can be left open or closed with doors.
- The pilothouse rear bulkhead can be left open and fitted with a roll up canvas curtain bulkhead.
- The windshield can be hinged and lift.
- Hatches and portholes are optional.
- Access to the chain locker is shown from inside through a cut in the forward bulkhead but the builder can also cut a deck hatch if he prefers.
- Fuel capacity is ample with 34 gallons in one tank but there is room for a second fuel tank.
- The DE23 can be made unsinkable with expandable buoyancy foam under the sole and foam sheets glued under the gunwales for upright flotation.
- New August 2004: we added a closed transom version.

### Bill Of Materials:

*(Excerpts from our BOM)*

The BOM list materials based on our standard layout and includes a 15% waste factor for fiberglass. For plywood, we use standard sheets 4' x 8' (122 x 244 cm). Please read the building notes and see the plans for detailed specifications. Okoume or Meranti marine is preferred and cost starts at \$ around 40.00 a sheet (1/4"). If the boat is fitted with an engine larger than 50 HP, the builder must use marine plywood exclusively. The plywood or foam for the pilothouse is not included in this BOM: add 4 to 6 sheets.

<b>Plywood 4x8' (122x244cm)</b>		
1/4" (6mm)	15	
3/8" (10mm)	13	
1/2" (12mm)	8	
<b>Fiberglass (totals)</b>		
Biaxial tape	518 yards	466 m
Woven tape	50 yards	45 m
Biaxial fabric	77 yards	69 m
<b>Resin</b>		
Epoxy, total	26 gallons	104 liters

**Labor:**

The hull can be built in 80 hours, but a finished boat will require 250 hours or more depending on the level of detail and the skills of the builder.

**More:**

Visit our message board, help pages, tutorial pages and read our FAQ: most questions are answered there.

**Plans packing List:**

- 12 Detailed drawings with all dimensions required to cut the sides, bottom, bulkheads, deck, floors and all parts from flat plywood sheets: no lofting, no templates required.
- Nesting drawings for the best plywood layout with numbered parts.
- Construction drawings showing assembly and parts numbers for small hardware.
- Drawings list:
  - B239\_1 Plan and Profile
  - D239\_2 Nesting
  - E239\_3 Construction
  - E239\_4 Stations
  - E239\_5 Frames
  - E239\_6 Expanded Plates
  - D239\_7 Expanded Plates
  - B239\_8 Frames Details
  - B239\_9 Lamination Schedule
  - B239\_10 Details
  - E239\_11 Full Size Pattern - Side Panel Tip
- B221 Typical Small Boat Electrical
- Specific building notes for this boat.
- Help files reference list and more.