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A Special Notices To Our Loyal Readers (Pages 4 & 5)

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SUMMER 2018

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HMCS *Chicoutimi*

Canadian Flower-Class Corvette (Part 1)

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HMCS Chicoutimi

Part 1

By Bruce LeCren

I have long been fascinated by the World War II history of the Royal Canadian Navy; how it grew from a small fleet of, basically, six destroyers in 1939, into the third largest navy in the world by the end of WW II. That growth and the RCN's coming of age was due largely to the Flower Class corvette, 121 of those ships being constructed in yards up and down the St. Lawrence and Great Lakes as well as on both coasts.

Before the war, the RCN decided that an auxiliary vessel would be needed for jobs such as coastal convoy escort, minesweeping, port defense, and other duties. In 1939 the Royal Navy provided plans for their 'patrol vessel of whaler type' to Canada. The RCN placed an initial order for 54 vessels of the type, with a further ten ordered by the RN from Canadian yards. The Canadians made several changes to the RN plans due to their differing requirements for a general purpose auxiliary vessel. One was the addition of minesweeping capability. Canadian corvettes were built with a squared off stern to allow for both minesweeping fairleads and depth charge chutes. The

Photo 1. The Fleetscale hull, 51-1/4" long. The bulwark has been cut away, and in the foreground are the specialty tools that speeded up the work.

galley was moved from the aft end of the engine room casing to give more room on the quarterdeck for the large cranes and winch needed to handle the Oropesa minesweeping equipment. The re-positioned galley was placed aft of the midship house above #1 boiler, creating a rise in the casing so the galley would clear the boiler. Canadian corvettes also had their primary AA armament; a 2pdr mounted in a tub, located at the aft end of the casing to improve the arc of fire as opposed to the British design which placed that weapon ahead of the main mast.

The first batch of Canadian corvettes were built with a short fo'c's'le having a well deck between the seamen's mess and the captain's cabin. By 1944 most of this first production batch had their fo'c's'les lengthened to aft of the funnel to improve seakeeping and to make them more suitable as ocean-going escort vessels. This modernization happened at a much slower pace than with RN corvettes due to a shortage of dockyard space. The ships could not return to the Great Lakes' yards that built them because they were too deep in draft once fitted out for wartime service. East coast yards were tied up with other orders and repair work, so in the event, 21 Canadian corvettes were modernized in U.S. shipyards while 11 went the entire war without having their fo'c's'les lengthened, including the subject of my model, HMCS *Chicoutimi*.

I chose Chicoutimi as my subject because she was the ship on which my father-in-law served. She well represents the little ships that turned thousands of landsmen into professional seamen. It was those first corvettes, hurriedly built and with untried crews, which were the stopgap that was necessary to protect the Atlantic convoys in the first years of WW II. I decided to build *Chicoutimi* as she appeared in 1943 at the time my father-in-law served in her. By then no two corvettes looked exactly alike, and all had received at least one major refit or modification, so good references and photos would be essential.

My primary reference was the Anatomy of the Ship series book *The Flower Class Corvette Agassiz* by John McKay and John Harland. As with others in the Anatomy of the Ship series, it is incredibly detailed and includes complete plans of the ship, its fittings, and armament. My other main reference was *Corvettes of the Royal Canadian Navy 1939-1945* by Ken McPherson and Marc Milner, an excellent historical treatise on these ships. Other photos of the ship and detailed plans of fittings were gleaned from the internet. Each book also includes a clear photo of *Chicoutimi*. She was built by Canadian Vickers Ltd of Montreal, whose archives are now held by the Maritime Museum of the Great Lakes at Kingston, Ontario. A visit to their facility and the tremendous help given by their staff turned up the original builder's contract for the ship which gave a wealth of detail as to how the ship was constructed and fitted out. This cleared up many niggling details because builders were allowed a great deal of latitude in construction methods and fitting out of their corvettes. I am also indebted to the Canadian Naval Memorial Trust, custodians of HMCS *Sackville*, the last of the Flowers preserved as a museum ship in Halifax, NS. Her crew allowed me unrestricted access during two visits and, were very patient in answering my innumerable questions.

I was almost ready to begin hull construction when I chanced upon Fleetscale's web site (www.fleetscale.com). This UK firm specializes in fiberglass hulls and accessories for model ship builders, intended mainly for RC modelers as that is a large segment of our hobby in that country. They offer a one-piece fiberglass hull of a Canadian pattern corvette with the square stern and short fo'c's'le, in 1:48 scale, based on the plans in the 'Agassiz' book. Considering the amount of time to be saved I immediately fired off an order. Some two weeks later a large cardboard box arrived at my local post office. Upon opening it, I found the 51-1/4" fiberglass hull correct to scale and an enlarged set of deck plans taken from the Aggasiz book. That was all. I had embarked on a project, not for the faint of heart!

After a study of the hull, I realized that while the shell plating and rivet details were correct, some of the molded in portholes were in the wrong locations for *Chicoutimi*, and the molded-in bulwarks were far too thick to be used in the static model I had planned. Accordingly, the first order of business was to get out the Dremel drill and cutting discs and go to work removing the strake of plating that formed the bulwarks above the main deck. Fortunately, this was facilitated by the accurate hull detail, so it was a matter of following the line of the bulwark strake. It was summer so the work could be done comfortably outside on the patio where the wind dispersed the dust. It was still a dirty job, so a smock, safety glasses, and breathing mask were the order of the day (**Photo 1**)!

The Dremel was also employed to cut a rectangular hole into the

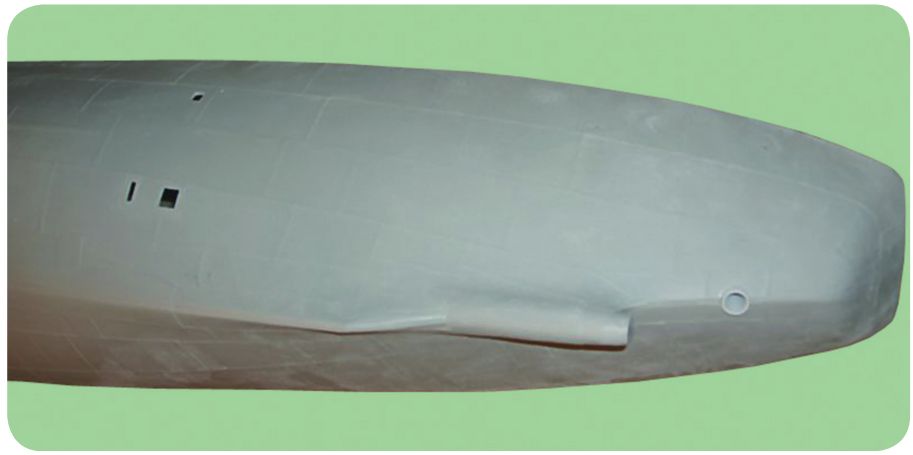

Photo 2. The aft hull showing the rudder post and seawater inlet and discharge box holes.

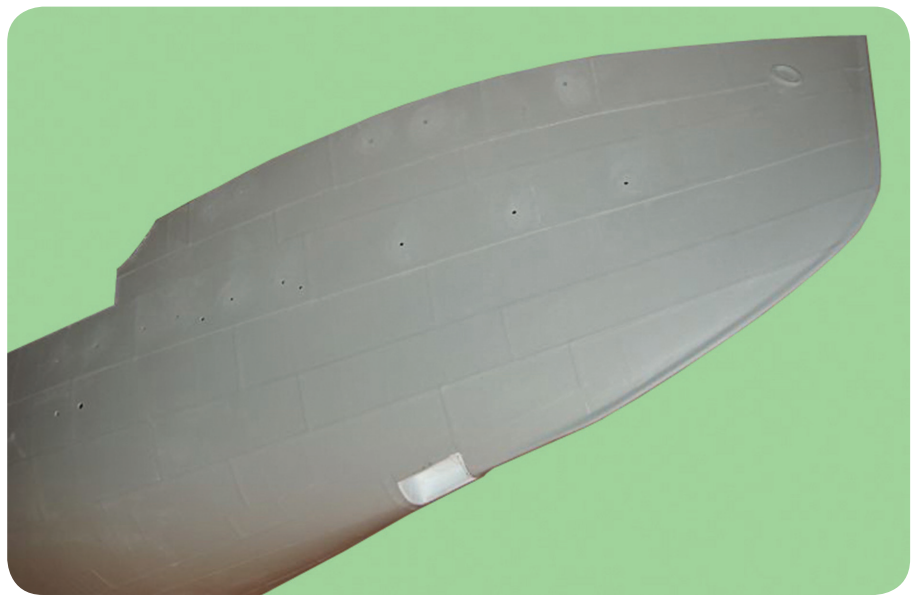

Photo 3. The forward hull showing porthole locations correctly pilot drilled and the well for the Asdic dome.

Photo 4. Asdic well detail.

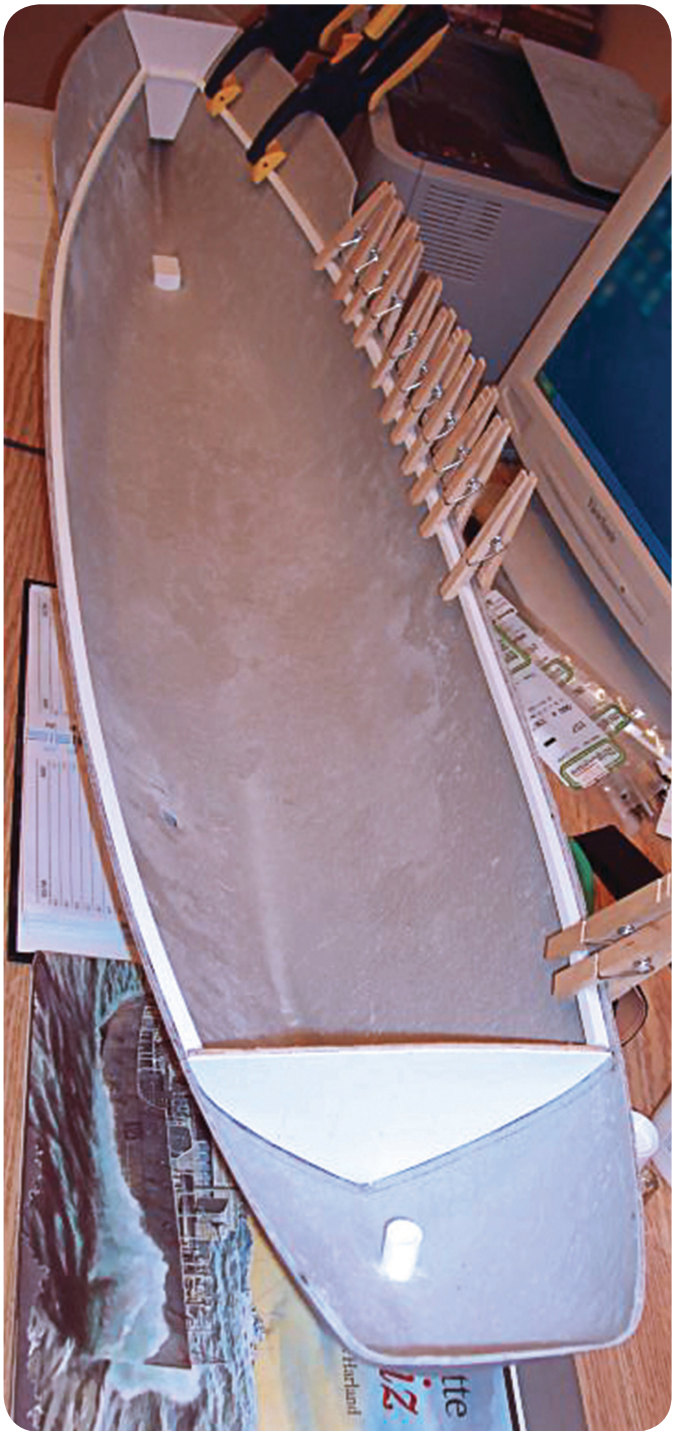

Photo 5. Main deck ledges being installed.

bottom of the hull forward, which would become the well for the Asdic dome. This was the British version of sonar, the echo ranging system used to detect a submerged U-Boat. It is very prominent, especially with the dome lowered below the ship while at sea, so it boggles my mind that no kit builder of escort vessels has, to my knowledge, included this device in their models.

The misaligned portholes were now sanded off, and the correct locations marked by reference to the photographs. I used brad point bits to drill the portholes to size; these woodworking bits will not chip the surrounding fiberglass as a twist drill will. A combination of the Dremel cutters and smaller sized drills were used to make suitably sized holes for the rudder post and various seawater inlets and discharges as shown on the Agassiz plans. The propeller shaft and hawse holes will be drilled later.

Scraps of styrene sheet and 0.060 angle, embossed with the correct rivet pattern using my NWSL 'Riveter' tool, were used to make the well for the asdic dome, and the main seawater intake and discharge boxes. Various sizes of copper or brass tube from the hobby shop were used to line the smaller discharge holes in the fiberglass; they were all crimped over inside the hull and painted rust to look like pipes passing through the shell plating. The rudder post is a length of 1/2" styrene tubing epoxied securely into the lower hull (**Photos 2, 3 & 4**).

Now that I had a fiberglass hull that was correct for HMCS *Chicoutimi* it was time to install ledges to support the decks and internal bulkheads to stiffen the hull. I had decided to take advantage of the scale to open hatches and doors to model parts of the interior. I, therefore, needed bulkheads at the forward and after ends of the seamen's mess and engine room as well as the after steering room.

I had a large supply of 1/4"-square Evergreen styrene, so I epoxied this along the line of the main deck and then used more to make beams as required at the forward and after ends of the hull. The bulkheads were made of 1/8" model-aircraft plywood from my stash. A woodworker's profile gauge gave me the inside shape of the hull, this was then transferred to the wood, and each bulkhead cut out slightly oversize, remembering to include the correct deck camber. Fitting, sanding, and repeating then brought the bulkheads down to their final shapes, whence they were epoxied into the hull. Where I intended the bulkheads to be visible, they

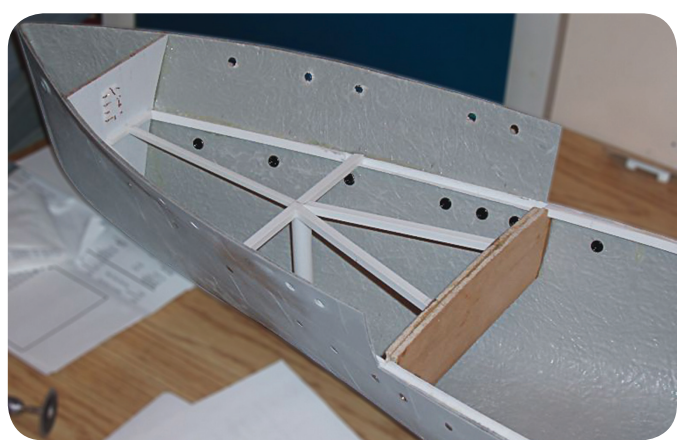

Photo 6. Mess deck stiffeners and after bulkhead. Note the lower portholes installed and blacked out.

Photo 7. The RB Models brass portholes and acrylic glazing inserts.

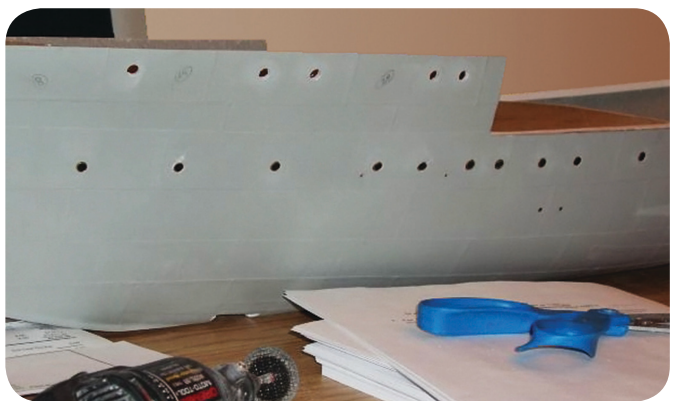

Photo 8. Forward portholes installed, lower deck only. Note the smaller holes from various discharges.

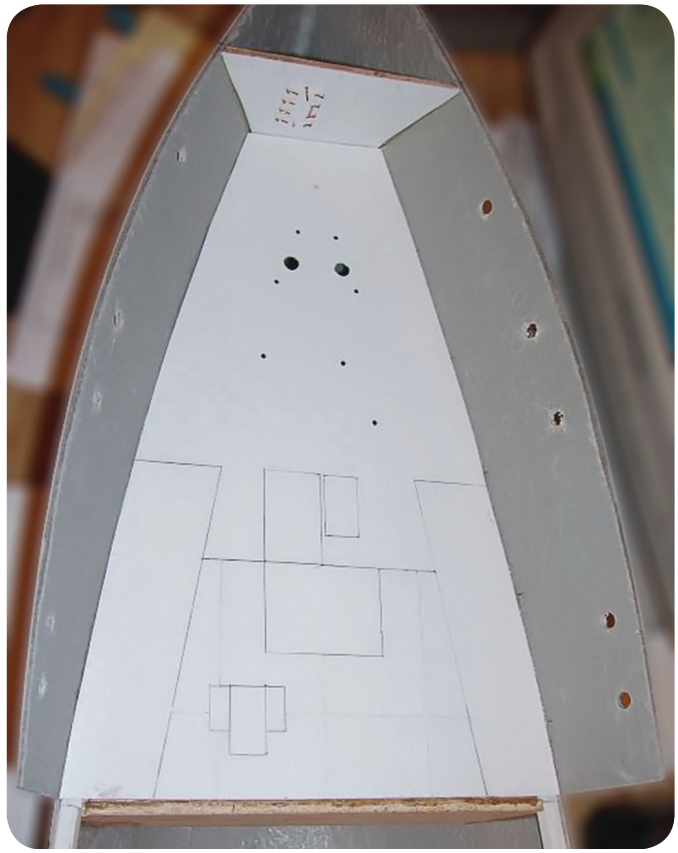

Photo 9. Seamen's mess deck, plating scribed, fittings and bulkheads located and holes drilled for chain pipes and pillars.

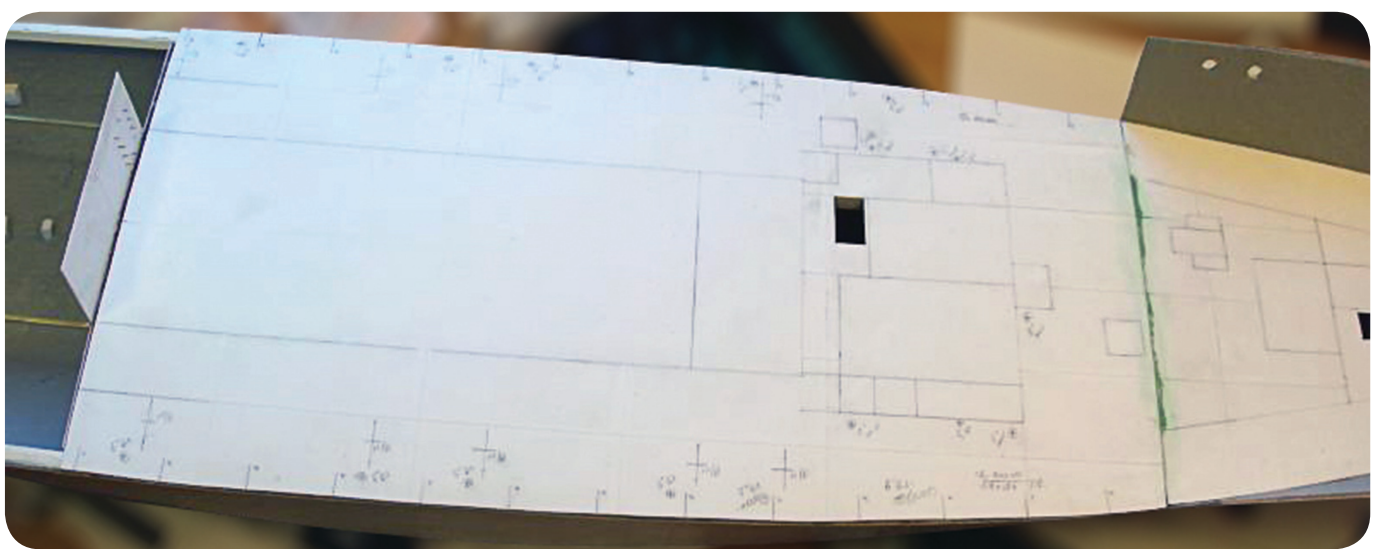

Photo 10. The main deck as far as the engine room. All plating has been scribed and fitting and bulkhead locations marked.

were faced with 0.020" styrene sheet. The 'Riveter' tool embossed rivet lines as required and joggled panels were simulated with 0.100"-wide styrene strips.

Watertight doors were modeled using styrene sheet and 24ga. copper wire from old telecom cable to represent the latches. All the sizes were checked against the plans in the Agassiz book, and enough made at the same time, assembly line fashion, for the entire ship (**Photos 9, 11 & 12**).

It was necessary at this point to install the portholes. RB Models makes a brass glazed porthole, 6 mm diameter, which turns out to be perfect for my needs. I installed them backwards since I wanted only the brass rim to be visible, not the flange. Those installed below the main

deck had the interior of the glazing painted gloss black to simulate a closed deadlight. If this is not done then it is possible to look through the ship (**Photos 9, 11 & 12**).

The upper deck was made in four parts from 0.040" sheet styrene. The forward part will be the seamen's mess. The profile tool came out again to create the shape of the hull interior, which was transferred to the plastic sheet and then cut out. I drew a center line down the deck and then used my plans to lay out the plating lines and locations of all bulkheads and fittings. The plating lines were scribed into the plastic, centerline marks were made on the bulkheads so the deck would properly line up, and then the deck was glued to the ledges and beams using Tamiya plastic cement (**Photo 9**). The remainder of the main deck was installed in the same way, from the mess deck back to the engine room (**Photo 10**), then either side of the engine room which is left as an open space, and lastly the quarterdeck. The profile gauge was not necessary because the deck at these locations comes to the outside of the hull. I used 1/16"-square brass tubing epoxied to the open sides of the main deck at the engine room. This smaller size was necessary to stiffen the deck while simulating the engine room casing framework (**Photos 11 & 12**).

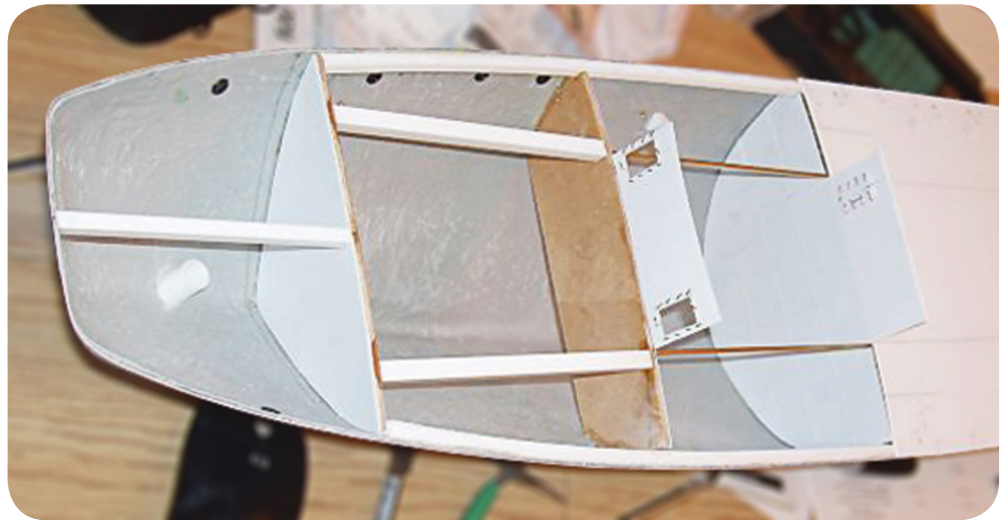

Photo 11. Rear main deck stiffeners and engine room bulkheads. Note the square brass tubes along the engine room opening.

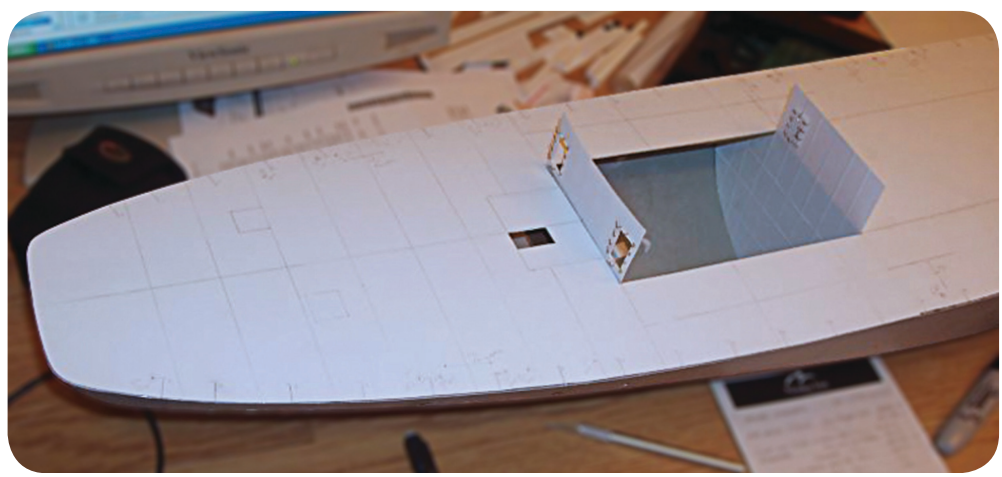

Photo 12. The balance of the main deck installed.

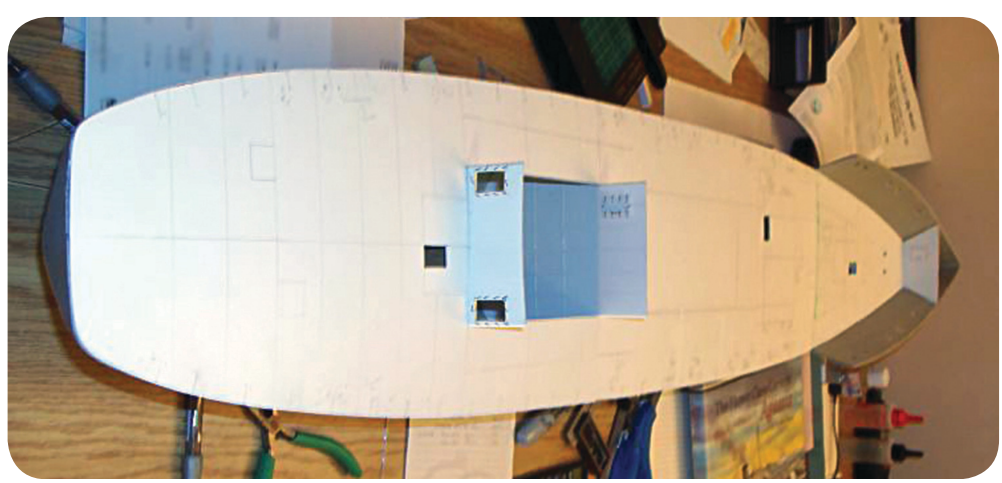

Photo 13. An overview of the fiberglass hull and main deck.

The engine build will be discussed in a future chapter of this project, but for now, I will leave you with an overview of the model at this point (**Photo 13**). Next up I will show you how I built the mess and fo'c's'le decks, and the midship house and casing.