Build Log 10: USS Iowa Conversion

Figure 1. USS Missouri Anchored in Sagami Wan, Japan on August 30, 1945.

Start Date: November 30, 2021

Stop Date: Model Transferred to JD Hobbies on May 26, 2022

Restart Date: July 16, 2022

End Date: December 5, 2022

Manhours: 304

Table of Contents

List of Figures

Introduction

This project began as a discussion with my friend Louis Lee, the owner of JD Hobbies in San Pedro, California.

A customer of his had passed away at the age of 95. He built models to keep is brain, eyes and hands working. He didn't paint them, do anything with the photo-etched (PE) brass or even follow the directions very closely. His widow gave his models to Louis.

Louis asked me to look at the customer's 1/200 scale USS Missouri model (Missouri-1) by Trumpeter and determine what it would take to restore and complete it properly.

Figure 2. This Model is Really Messed Up.

I told Louis that it would be possible, but difficult and I needed the PE set and the instruction booklet. Also, we would have to replace/rebuild all the 40mm and 20mm gun mounts.

About a week later, Luis remembered he had another Trumpeter 1/200-scale Missouri model in storage at his shop—if you've ever been there, you know that's not too surprising, the place has all kinds of stuff in it on two floors. This kit had been started, but not completed. The owner had bought the kit with a detail kit from Louis and had done some of the work. However, his wife became ill, and his time was consumed with being a care giver, so he gave the model back to Louis. This man obviously has some model building skill.

I did a survey of the "new" kit (Missouri-2) and found that many critical parts were missing, including virtually all the 40mm and 20mm gun mounts, parts of the superstructure and several

platforms. Fortunately, many of the missing platforms and superstructure parts are available on the "completed" model. I will cannibalize Missouri-1 as needed to complete the Missouri-2.

Figure 3. The Two Missouri's

Other missing parts will be provisioned from various online 3D-printing services. In addition, three detail kits with photo-etched brass (PE) will be used to detail the model and replace the plastic catapults and crane with PE assemblies.

The following paints will be used during construction:

Color	Supplier
Hull red	Mission Models
Navy blue	Tru Color
Deck blue	AK Interactive
USN/USMC sea blue	Mission Models
Haze gray	Mission Models
Tire black	Mission Models
Metallic bronze	AK Interactive
Metallic brass	AK Interactive
Flat Black	Tamiya
Insignia red	Mission Models
Green	Italeri
Flat wood tan	Italeri
Yellow	Tamiya

Flat white	Tamiya

Note: All paints are acrylic

After discussions with Louis, we decided to complete the model as the USS Iowa (BB-61). In the main, the conversion into the Iowa will entail the following:

- Replacement of the 40mm gun mount on 16-inch gun turret number two with three 20mm guns in a tub.
- Addition of view ports for the flag level conning tower
- Replacement of the SK-2 air search radar with a SK-1 radar
- Replacing the hull numbers

There are other slight differences between the ships' rig in 1945, but those would only be apparent to an expert.

Hull Restoration

The hull is not painted correctly in the Measure 22 camouflage worn by the Iowa at the end of World War II. Measure 22 consisted of navy blue on the upper hull to the sheer line of the hull, haze gray above the sheer line, and haze gray on all vertical surfaces, see Figure 1. Horizontal surfaces were painted deck blue. Some of the paint is damaged. In addition, the previous builder had painted some structures with deck tan which should be deck blue or haze gray.

I am going to attempt to preserve the wood veneer but will replace it if necessary. Measure 22 called for the decks to be stained with deck blue, but I'm sure the First Lieutenant had the deck crews holy stoning the decks when word of the Japanese surrender was announced.

The first step was to carefully remove all the various deck fittings and gun tubs on the main deck.

I lightly sanded the lower hull where the paint was damaged to smooth out the surface and carefully drilled holes in the bottom for the display pedestals.

The rudders and propeller V-struts were glued into position. The wing shafts and propellers were painted separately and then installed.

The platforms for the 40mm gun tubs on the stern are missing and instead of cannibalizing them from Missouri-1, I made them from plastic sheet stock and glued into place.

Figure 4. Dry Fit of the Pedestals.

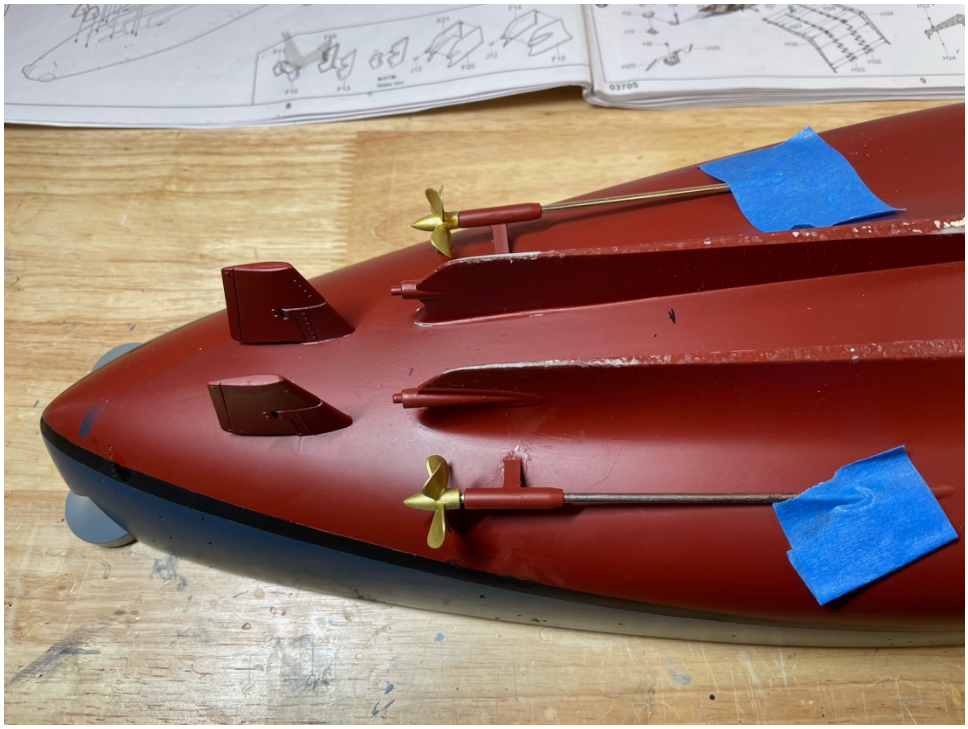

Figure 5. The Rudders and V-Struts, As Built.

Figure 6. The Platforms for the Stern 40mm Gun Tubs

The black boot topping, and the upper hull were masked, and the lower hull was airbrushed with Mission Model's hull red acrylic. I used a wide area air brush for this job.

Figure 7. The Lower Hull After Painting.

Once the paint had cured overnight, the haze gray wedge on the bow was masked off and airbrushed with Mission Model's haze gray. After the haze gray had cured, the upper hull was airbrushed with Tru Color's navy blue.

Unfortunately, while working on the hull, I managed to break off both rudders. There was very little left of the attachment pins, but I attempted to glue them back in place. However, this effort failed, and I messed up some of the hull red paint. To clean up this mess, I sanded the paint with 800 grit sandpaper, cleaned up the glue residue and drilled 2mm holes in the rudders and hull. I then made pins out of 2mm diameter plastic rod and glued the pins to the hull. The rudders were then glued to the hull and the pin. Once the glue had dried, I touched up the hull red.

The propellers were airbrushed with bronze acrylic paint and the shafts were airbrushed with hull red. Once the paint had cured, the propellers and shafts were glued in place.

I then touched up the black boot topping by hand to take care of the usual leaks—a bane of my existence.

Unfortunately, I was not able to preserve the deck veneers and they were removed from all pieces of the kit. I bought a detail kit from E-Bay which included the deck veneers, paint masks and photo-etch brass for the aircraft crane and catapults.

Presentation Stand

At this point, I needed to get the model on its stand to avoid breaking the propellers and rudders. The model is so big, I won't put it on a working stand and will instead, go ahead and put it on the presentation stand.

My good friend Len Kasang once again provided the wood working shop and skills to prepare the wood presentation stand. I bought a large piece of Bubinga Wood from Hudson & West Hardwoods in Torrance, CA.

We squared the wood and cut it to size and trimmed the rough-cut long edges.

After determining which was the best side of the board, we marked the length and width center lines on the bottom side of the stand. The pedestals were inserted into the hull and the bottoms were marked with black paint. The hull was carefully aligned with the center lines and placed on the board. By applying slight pressure, we now had exact marks to drill a pilot hole for each pedestal.

The hull was set aside and after using a center punch to provide a starting location for the drill bit, we drilled the pilot holes. The board was then flipped over and the holes for pedestal bolts were drilled using a vertical drill guide to keep the drill straight.

Finally, we turned the board over and counter sunk each hole to allow for the pan head pedestal bolts.

The top and sides of the presentation stand were sanded with 80, 180 and 220 grit sandpaper. Once the stand was smooth, I cleaned it with a soft and slightly damp rag.

I rubbed a light coat of Varathane's "Natural" stain on a section of the stand and quickly wiped it off. This process was repeated until all the wood had been stained. The stain really brings out the grain of the Bubinga Wood.

Figure 8. The Stand has Been Stained.

Once the stain was dry, the stand was hit with five coats of gloss urethane. After the fifth coat, the whole stand was rubbed down with 0000 steel wool and I applied another three coats of urethane.

Finally, the pedestals were screwed in place using M6-1.0x25 mm panhead Phillips screws and the hull was carefully pressed down on the pedestals. The tops of the pedestals were glued to the hull with thick super glue applied from inside the hull.

Figure 9. The Presentation Stand, As Built.

Fitting Out

When the Iowa was building and once the hull was complete, it was launched and towed to a fitting out quay to complete the ship. My practice is that once I have the hull complete and, on the stand, I've entered the fitting out stage. The dialog below is sequential, but the actual construction occurred with much of the work being done in parallel.

The overall work plan is to complete the hull up to the main deck in all respects. Once the hull is done, I will complete the superstructure and then the 16-inch gun turrets and 5-inch gun mounts. Finally, the main deck life rails will be installed as will the floatplanes.

<u>Main deck Fittings</u>

The various chocks, bitts, winches, hatches, etc. were sent to the paint queue. Once painted, they were airbrushed with semi-gloss clear acrylic. I intend to follow the instruction book and Eduard detail kit to install these components after the new deck veneer was installed.

I applied the new main deck veneers per the rather primitive instructions that came with the detail kit. The veneers went down with very little problems and look great.

Figure 10. The Main Deck Veneers are in Place.

The PE scuppers and other detail parts for the decks were primed and airbrushed with deck blue. Once the paint had cured, the scuppers were installed.

I did a bit of gap management with white glue where the main deck was not been installed correctly by the first builder. After addressing the gaps, the paint was touched up.

The main deck fittings and gun tubs were carefully glued in place as were the PE detail parts. Some of the sockets for the bits required a bit of engineering to get the parts to fit correctly.

The stern life rafts were assembled and detailed with Eduard PE parts. The rafts were then primed, painted with haze gray, and a final coat of semi-gloss clear. Once the clear coat had cured, the rafts were glued to the main deck per the instructions. Some of the mounting holes needed a little bit of reaming so the mounting pins would fit correctly.

The kit was missing one of the two deck winches, so I replaced them with 3D-printed parts from Shipways.com. The winches were cleaned and detailed using Eduard PE parts. The winches were then primed and painted with haze gray. A semi-gloss clear coat was applied, and the winches are ready for installation. I found out the winches sit a bit low on the deck, so I added a small piece of .020 x .188-inch plastic strip, painted deck blue, to the socket. The winches were glued in place along with their controls. Some of the control pieces were missing, but I was able to install a matching set for each winch.

The various vents were built, and the cylinder vents were detailed with Eduard PE parts. The PE mesh was passed through the flame of a cigarette lighter to remove the temper from the brass. Removing the temper allows the brass part to be more easily wrapped around the cylinder and glued in place. Many of the Eduard PE parts were too short and did not completely go around the cylinder.

I punched two small disks for the tops of the two mushroom vents from scrap brass.

One of the vents was missing the bottom part, so a bit of kit-bashing was required. I traced an outline of the vent on sheet plastic stock and cut out the part. I shaped the part to conform to the vent's shape and super glued it in place. Small pieces of plastic tubing were cut and glued into position to act as the "legs" of the vent.

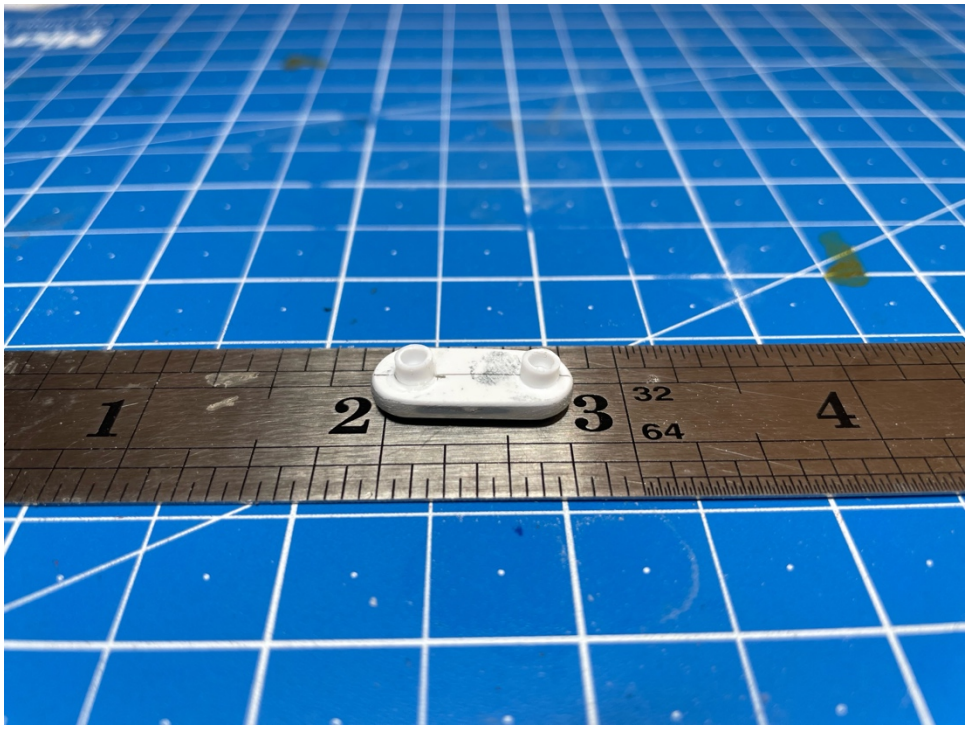

Figure 11. Kit-bashing a Vent.

The vents were then primed and airbrushed with haze gray. Once the haze gray was dry, I masked the top of each vent and airbrushed the tops with deck blue. The brass tops for the mushroom vents were also sprayed with deck blue. Once the paint had cured, each vent was installed in its appropriate location.

The davits for the accommodation ladders were detailed with an Eduard PE part which represents the hook, pullies, and line to lower/lift the accommodation ladders. The line was hand painted with tan paint and the pullies and hook were hand painted with brass. The davits will not be installed until the hull construction is essentially complete.

Figure 12. All 22 Main Deck Vents are Ready for Paint.

The main deck and the forward O-1 superstructure have eight cable reels for mooring lines. The cable reels were assembled from the Eduard PE set and 2.5 mm Long by 2.5mm diameter plastic rod. I messed up a couple of them and used parts from the kit to complete the eight cable reels. Once the reels were complete, they were airbrushed haze gray. Once the haze gray acrylic had cured, a piece of beading string was wrapped around the center shaft to simulate mooring lines and glued in place. The mooring lines were painted with Italeri natural wood tan. Once the paint had cured, the completed cable reels main deck cable reels were glued in place. The two superstructure cable reels were set aside and will be installed during superstructure assembly.

Grounding Tackle

The anchors were missing so 3D-printed parts were ordered from Model Monkey, LLC. The anchors were assembled and then primed and airbrushed with haze gray.

The anchor chain was carefully installed and super glued in place. Finally, the anchors were glued in their respective hawse holes. Parts from the Eduard detail set were added, and the grounding tackle is complete.

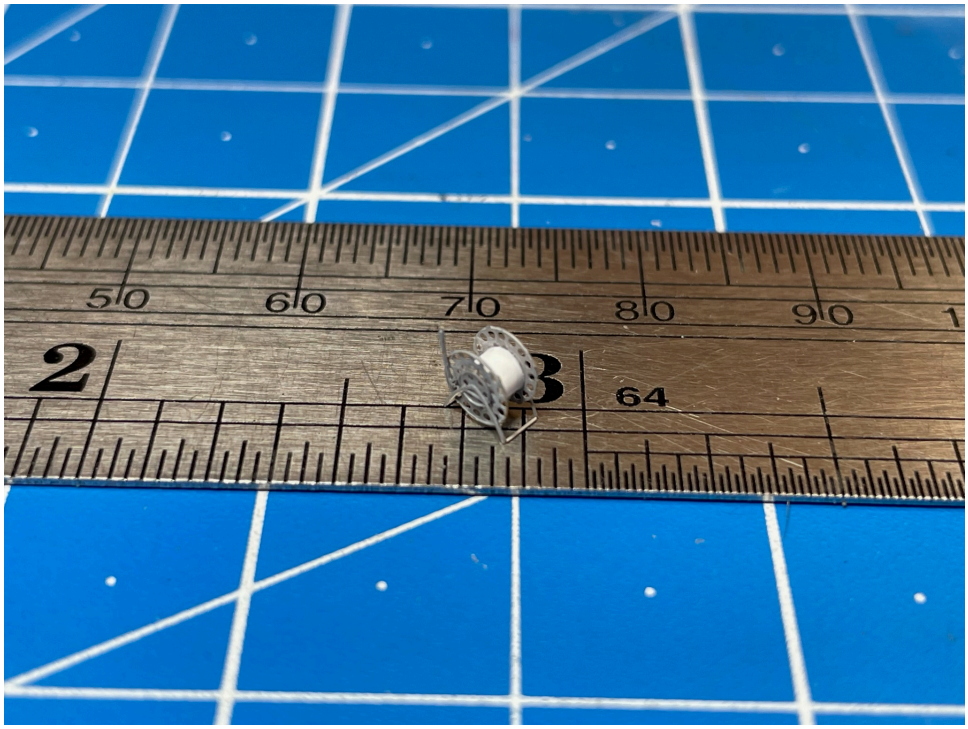

Figure 13. A Cable Reel, Ready for Paint.

Catapults

I replaced the kit's catapults with PE parts. The PE catapults look much better than the plastic parts.

The catapults were easy to assemble. The catapult rail and frames were bent into shape using my large bending brake and taped in the correct position. Thin super glue was run along the seams and capillary action sucked into the joint. Each glued segment was sprayed with super glue accelerator. A side benefit of the accelerator is it dissolves the tape adhesive, so it is easy to remove.

Figure 14. The catapult Frame and Rail.

Figure 15. The Catapults are Ready for Paint.

The life rails were bent into position and circular frame was glued to the catapult. The four vertical braces were added to the catapult and circular frame. Finally, the kit's gas generator tube and the base were glued into position.

The catapult cars were assembled and will be installed once catapults are painted.

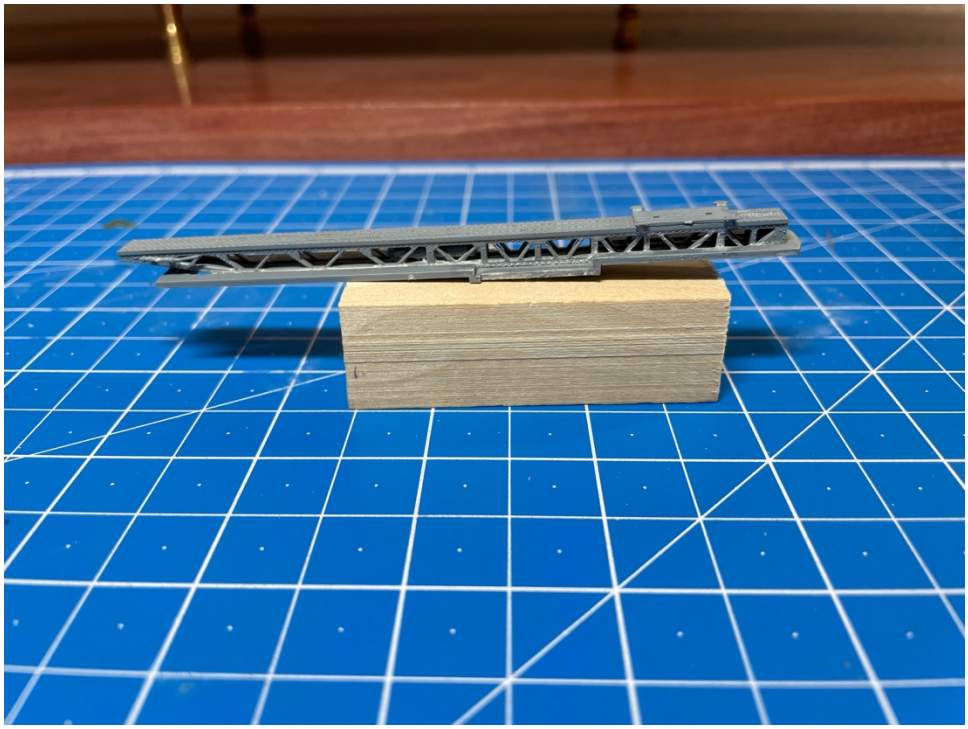

Figure 16. The Kit's Catapult Frame and Car.

Aircraft Handling Crane

The crane was one of the most difficult PE assemblies I've ever done. The frame was laid down on wax paper so super glue wouldn't glue it to the working surface.

The internal braces were carefully glued in place and once the super glue had cured, the frame was carefully bent into shape. The frame had little slots in it to align with tabs on the internal bracing.

Once the frame was complete, the controls, hooks, cables, and pullies were assembled. Pieces were pinned together using 0.5 mm plastic rod.

The completed crane is top heavy, so I glued a piece of plastic rod to the bottom of the crane's base to ensure a good joint with the hull.

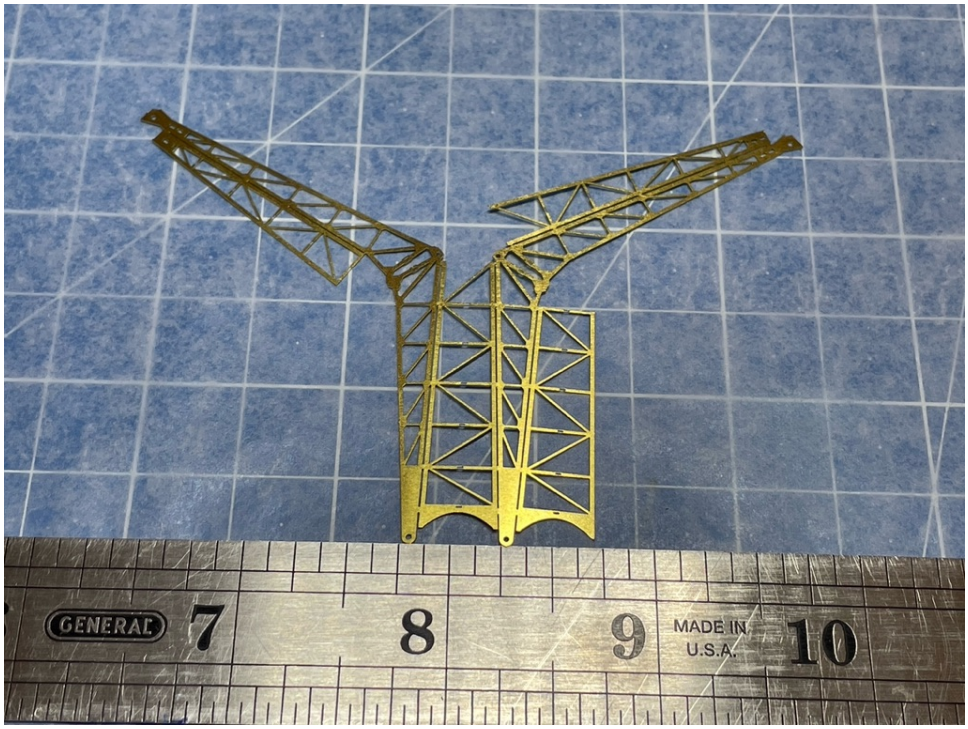

Figure 17. The Crane Frame, Note the Alignment Slots.

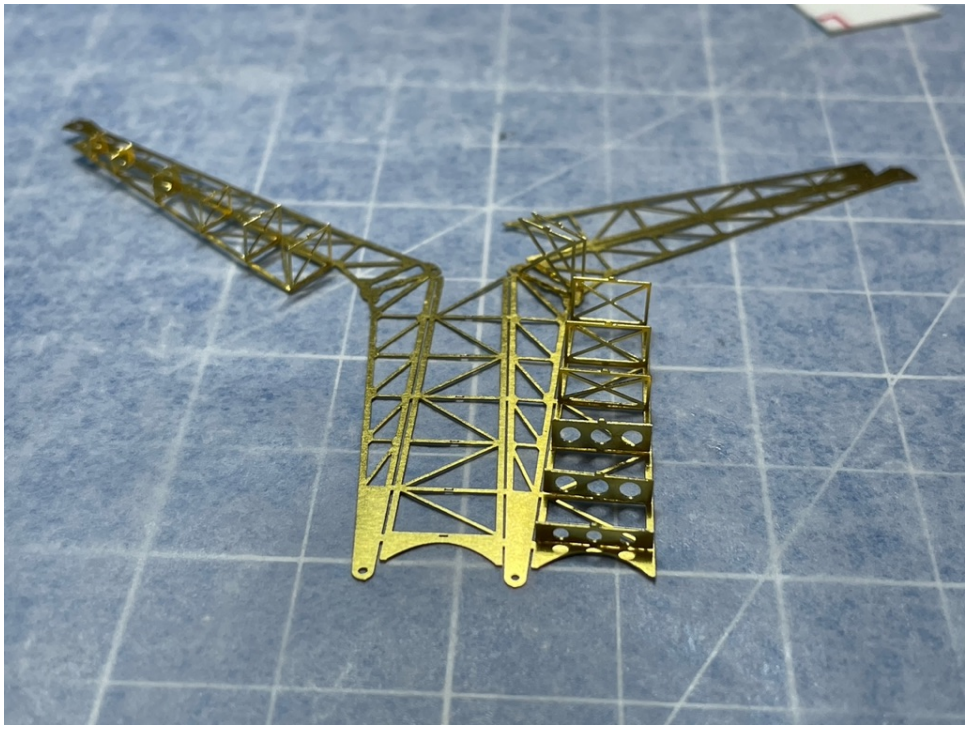
Figure 18. The Internal Braces are Installed.

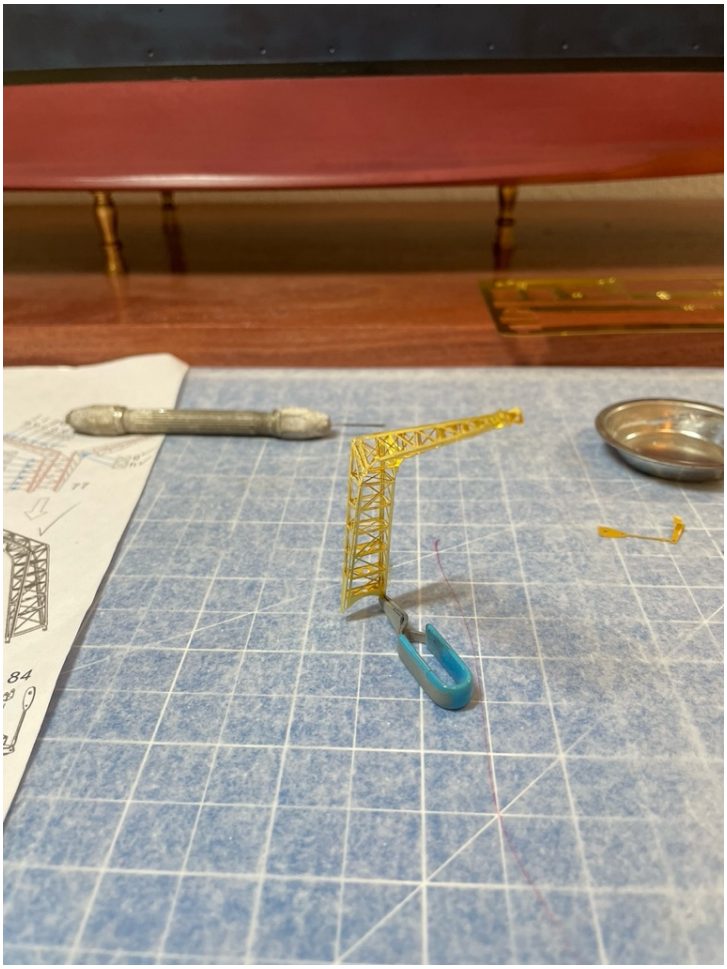

Figure 19. The Frame is Complete.

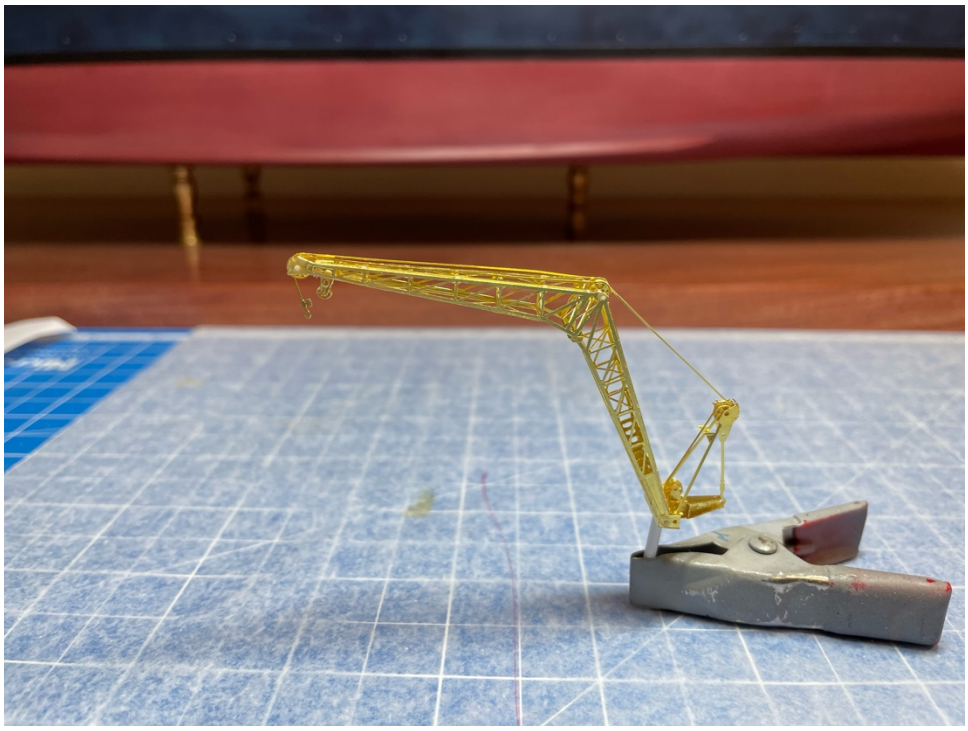

Figure 20. The Crane is Ready for Paint.

Figure 21. Catapults and Crane, as Built.

Main Deck 20mm Gun Battery

The 20mm guns are on a 3D printing raft with six guns per raft. The guns were primed and airbrushed with haze gray. There are24 20mm gun mounts on the main deck with 10 forward and 14 aft.

Each gun mount was carefully cut off the raft and the printing attachments were carefully clipped. Each mounting hole was bored out slightly with a drill and the mounts were super glued in place.

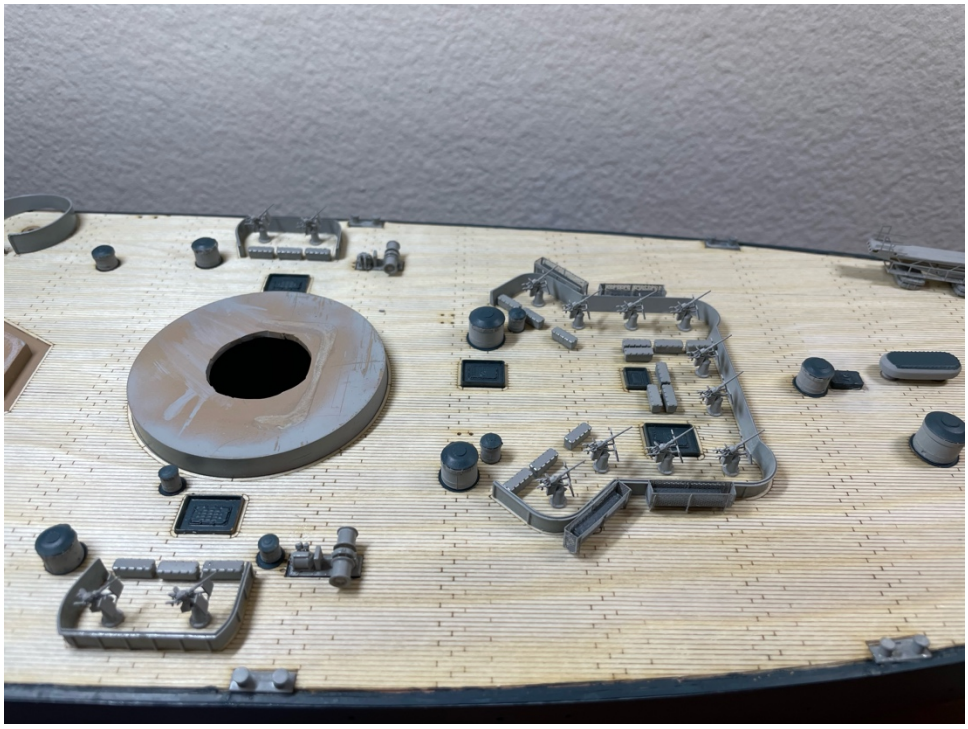

Figure 22. Aft Main Deck 20mm Gun Battery.

Main Deck 40mm Gun Battery

The main deck has six quad 40mm gun mounts with two forward and four aft. Since most of the 40mm mounts are missing, I replaced them with 3D printed parts from JD Hobbies. The aft railing for each gun mount and the Mk-51 directors were from Veteran Models PE parts.

Each gun mount was carefully constructed and then primed. After the primer had cured, each mount was airbrushed with haze gray acrylic. Once the paint had cured, each main deck 40mm gun mount was glued into position.

Figure 23. Forward Main Deck AA Gun Battery.

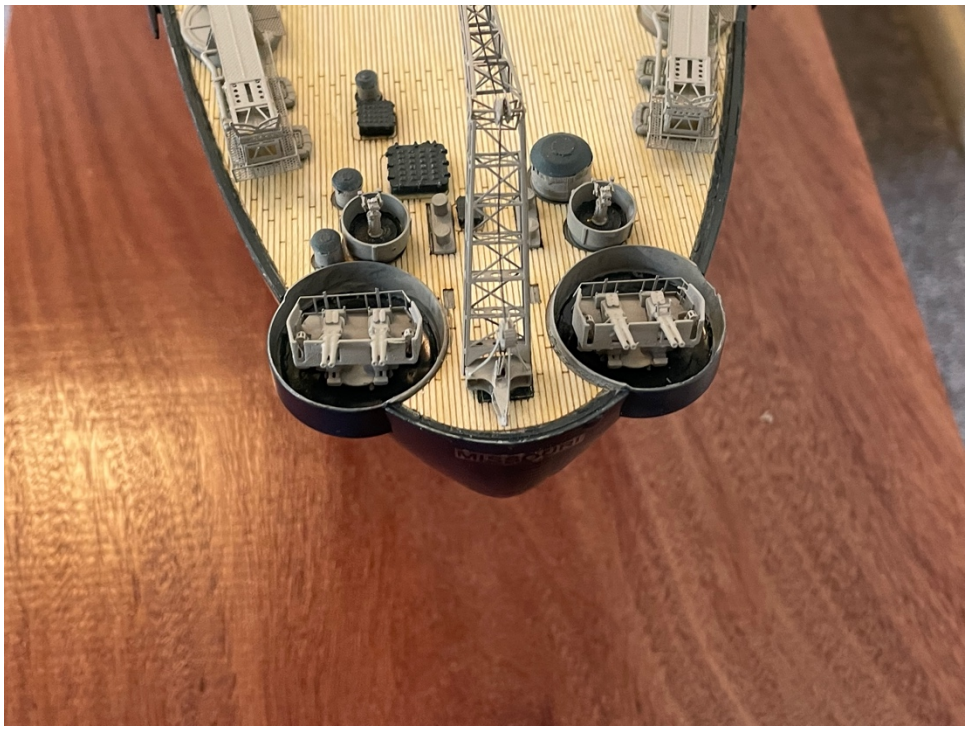

Figure 24. Stern 40mm Gun Mounts.

Superstructure Build Out

I removed the wood veneer from the O-2 superstructure piece and detailed it with PE parts from the kit and from the Eduard detail set.

Once the PE was in place, the structure was airbrushed with haze gray acrylic. After the haze gray had cured, the various gas tanks were painted with green representing oxygen, red representing carbon dioxide and yellow representing acetylene.

The life rings were painted orange, and the fire hoses were painted white.

The haze gray was touched up and the entire structure was airbrushed with semi-gloss clear acrylic.

Once the clear coat had cured, the new wood veneers were carefully applied to the decks.

The superstructure scuppers, which had previously been airbrushed with deck blue, were installed.

The rest of the superstructure construction followed the kit's instruction booklet, as modified by the Eduard PE detail sets. For example, the Eduard PE set provided screens for all the intakes. The molded intake was carefully colored black with a fine felt tip pin and the brass screen was glued on top of the intake. This makes for a much more realistic intake.

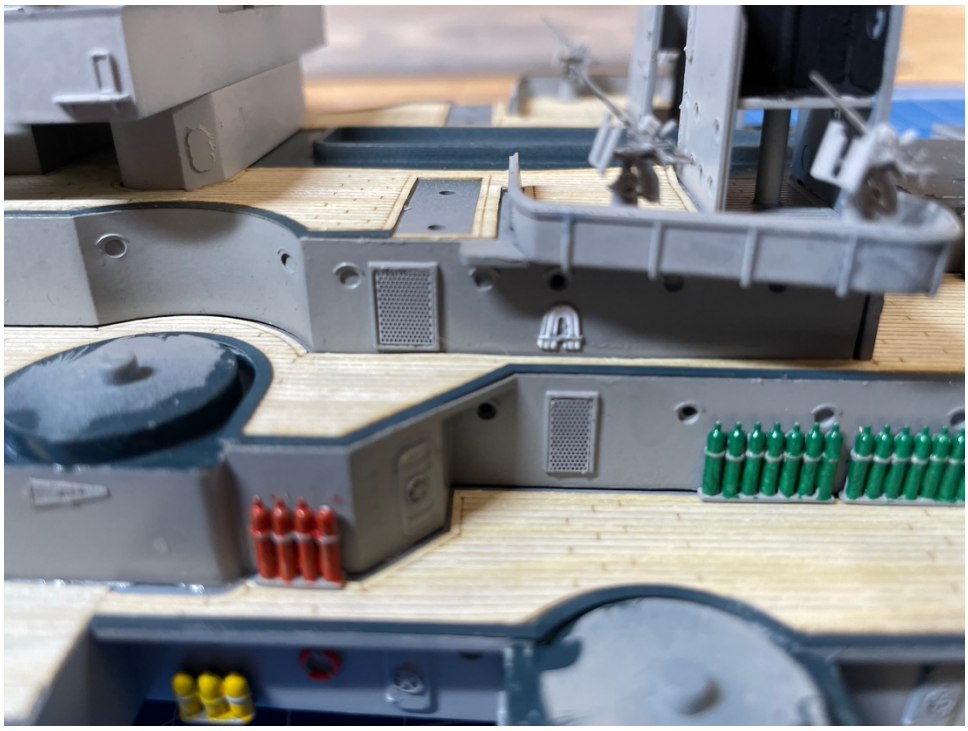

Figure 25. Note the Air Intakes.

Running lights were added to both bridge wings using plastic rod and strips.

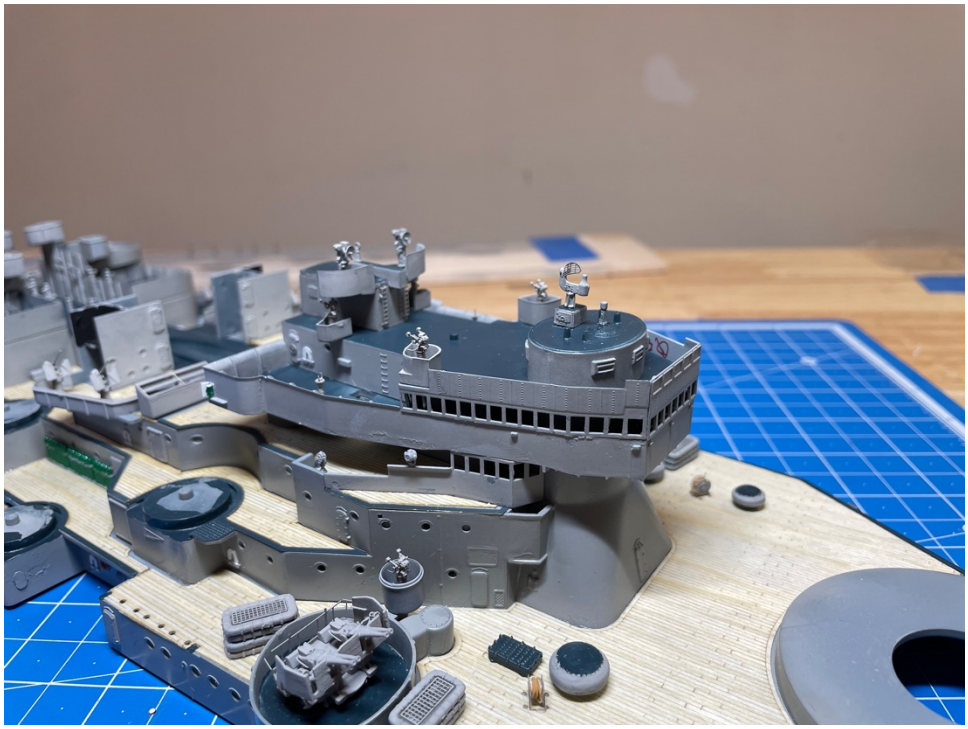

Figure 26. The O-5 Level has Been Detailed.

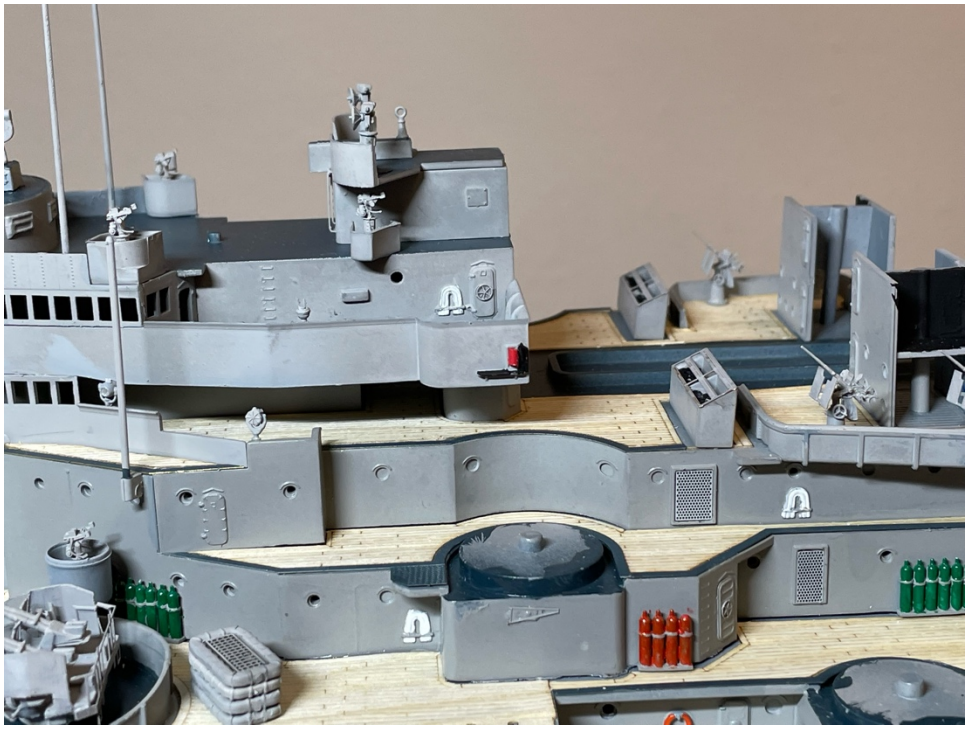

Figure 27. Note the Port Running Light.

The ship is covered with various life rails and inclined and vertical ladders. These parts were primed and airbrushed in the PE fret. Each part was cut from the fret when I was ready to install it and carefully bent into shape and glued into position.

The five-inch loading machines that came with the kit were disfigured and were unusable. I replaced them with 3D printed parts from Shapeways.com. After going through the prime and paint queue, they were glued in place, and I added a couple of PE pieces from the Eduard detail set.

The PE parts that finish the platforms and bracing that support the port and starboard Mark 37 directors do not fit well with the plastic parts. To take care of the gaps, I covered them with strips of .30-inch half round plastic stock. Once the strips are painted and the rest of the model is built, they will look like a design feature.

Five-Inch Director Assembly

The Iowa Class battleships carried four Mk-37 directors called out as Sky-1 through Sky-4.

Sky-1 was mounted on the centerline forward, with Sky-2 and Sky-3 to port and starboard, respectively and Sky-4 on the centerline aft.

Most of the parts for the directors themselves were missing, so I replaced them with 3D printed parts from ModelMonkey.com. Grab rails were added to each director base. Sky-1 has a

searchlight platform on its front. The platform was assembled, and tiny pieces of .020 x .020-inch plastic strip were added to the bottom to reinforce the platform.

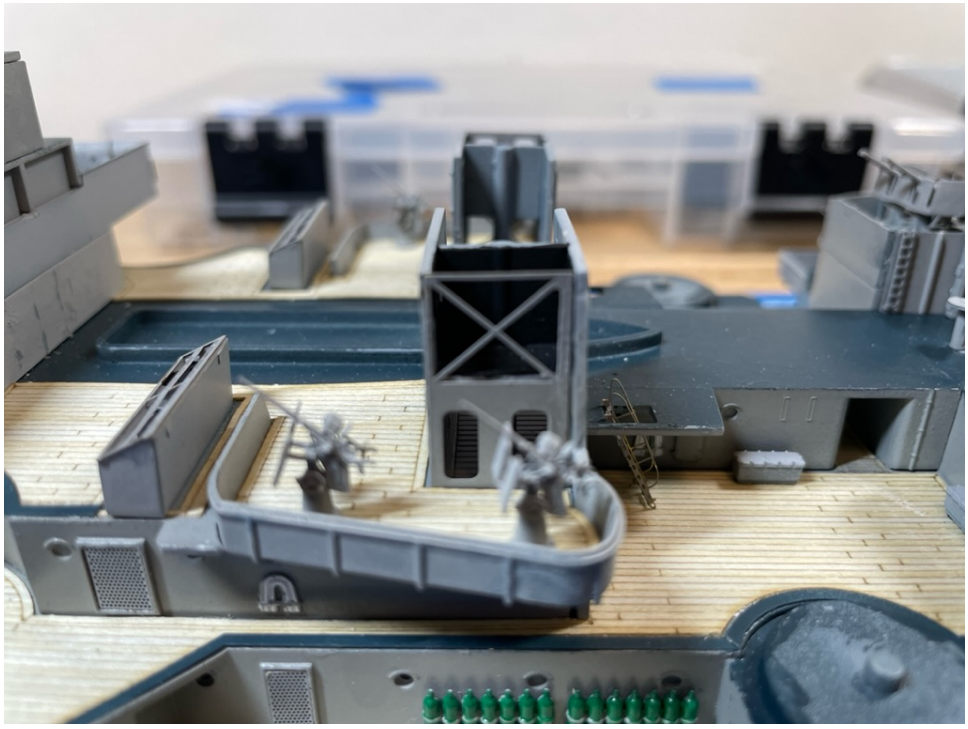

Figure 28. Note the Gap and Poor Alignment of the Support/Bracing.

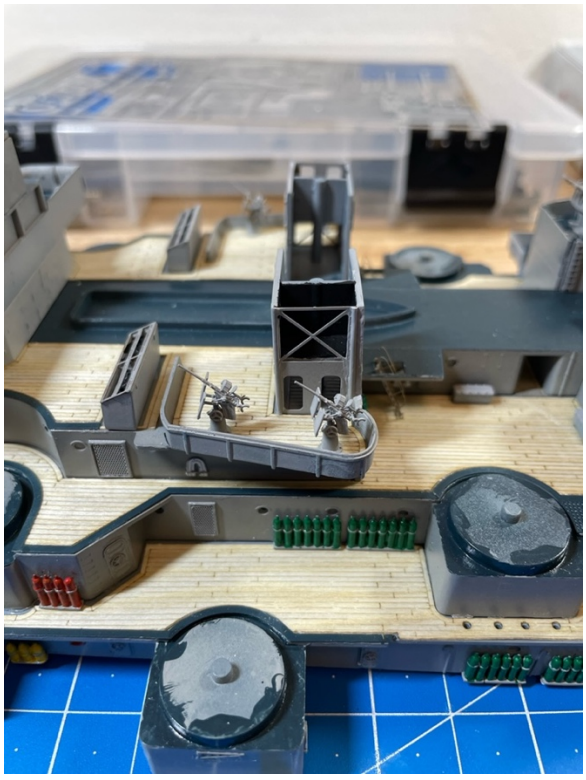

Figure 29. Same Bracing After Half Round Stock was Used.

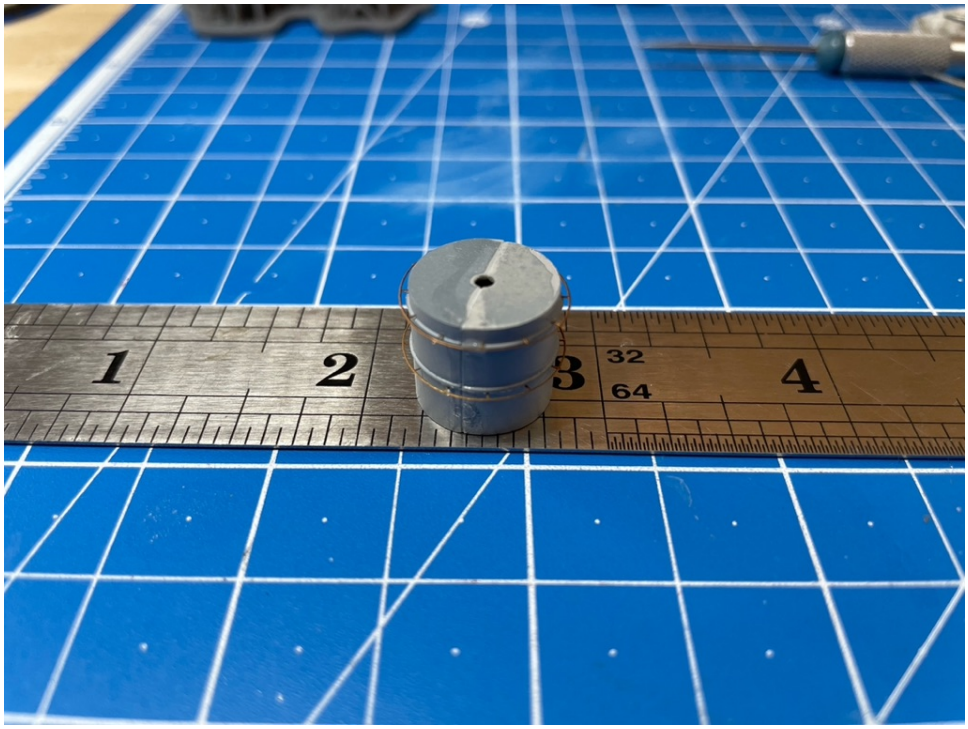

Figure 30. Sky-1's Base with Grab Rails.

Figure 31. The Reinforcing Plastic Strips.

Figure 32. Sky-1 is Ready for its Director.

The Model Monkey directors provide excellent detail and were enhanced with PE pieces from the kit and the Eduard detail set. The Mark 22 and Mark 12 fire control radars and associated mounts were all built using Eduard and kit photo-etched parts.

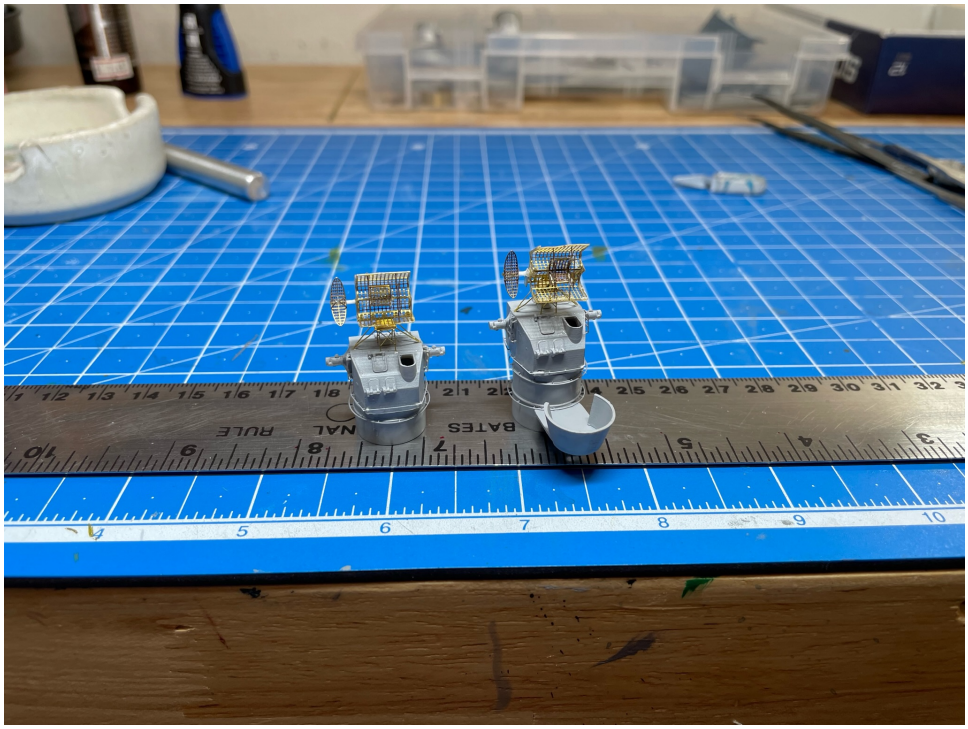

Figure 33. Sky-1 and Sky-4 are Ready for Painting.

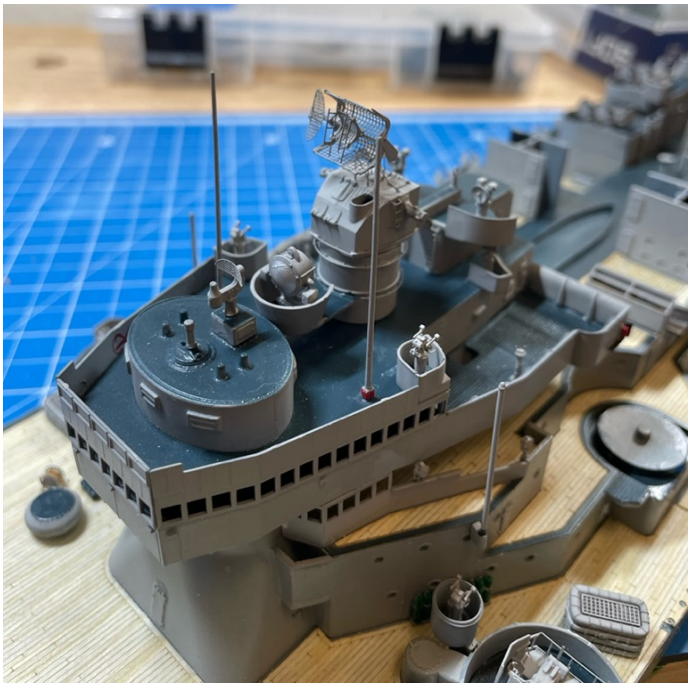

Figure 34. Sky-1, as Built.

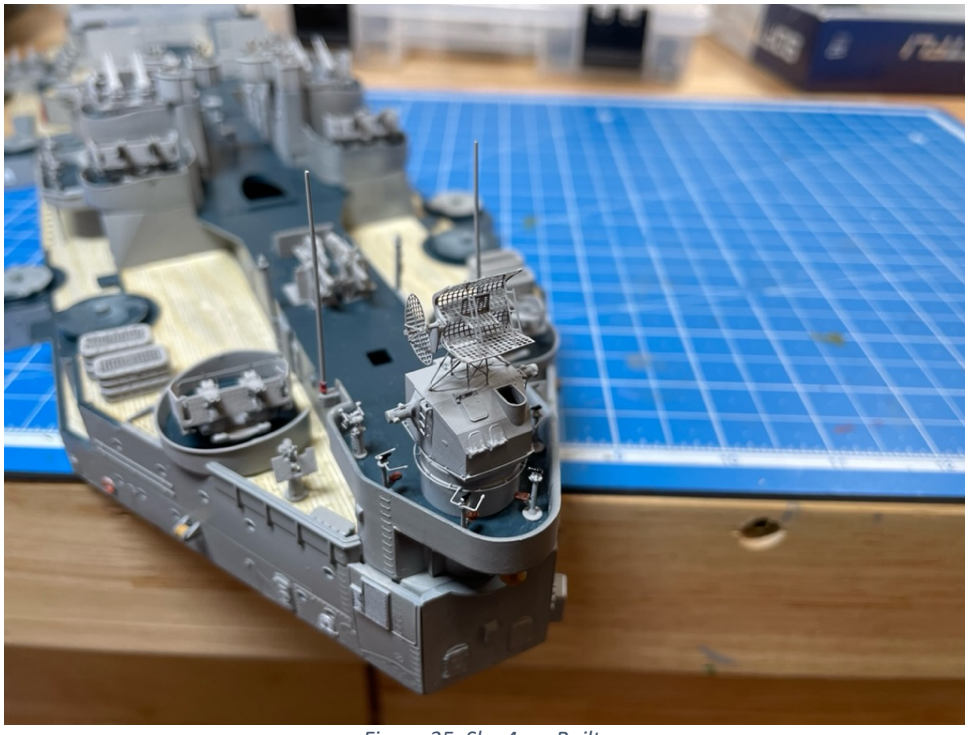

Figure 35. Sky-4, as Built.

36-inch Search Light Assembly

The Iowa carried five 36-inch search lights with one on the forward superstructure and two on each smokestack. I assembled the kit parts and primed them. Once the primer was dry, I airbrushed them with them with haze gray. To simulate the search light lenses, I cut 7/32-inch

diameter holes in pieces of masking tape and put the mask over each searchlight. The lenses were then airbrushed with silver acrylic paint.

Figure 36. 36-inch Search Lights Ready for Installation.

Aft Stack Assembly

The aft stack is a stand-alone structure while the forward stack is integrated into parts of the forward superstructure. The stack was detailed with both kit PE parts and Eduard PE parts.

The first step was to replace the grid on the stack cap with the Eduard PE parts. The plastic grid was carefully cut out and the supports for the grid were installed. Once the super glue had set, the remaining parts of the grid were added. The PE parts are much more realistic than the plastic grid.

The smokestack parts were assembled and then I started adding PE parts from the Eduard detail kit.

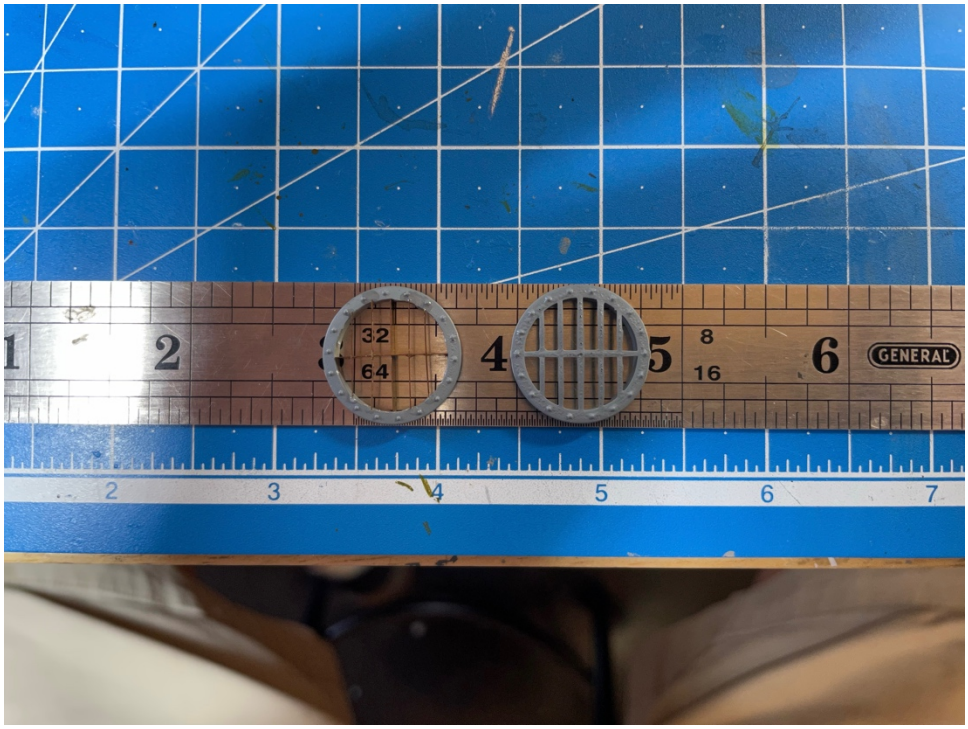

Figure 37. Aft Stack Cap as Modified.

Figure 38. Installing the Catwalk Around the Aft Stack.

The mast and yard arm were assembled and detailed with PE parts from the kit and the Eduard set. I decided to add most of the ladders after the smokestack is painted and ready for installation. I keep bumping them while working on the assembly.

The SG radar was assembled, and I found it very difficult to glue into place. It is top heavy, and the mast has a lot of springiness to it. I ended up gluing small pieces of half-round plastic to the mast to create a "socket" for the radar. One the radar was installed; I added the various antennas to the SG platform.

After the yardarm was detailed with Eduard PE parts, the smokestack was ready for paint. The assembly was airbrushed with black primer and allowed to cure overnight. I used the black primer because the interior of the smokestack should be painted black due to soot from the stack gases. The rest of the stack was airbrushed with haze gray. After the haze gray had cured, I added the non-skid rings for the Mark 51 directors and painted the search light tub decks with deck blue. I then added the Mark-51 directors, the Mark-57 directors, and the 36-inch search lights.

Figure 39. The Aft Stack Being Detailed.

After a final touch up and a coat of semi-gloss clear, the aft smokestack was glued to the superstructure.

Figure 40. Aft Stack, as Built.

Spot 2 Assembly

The aft main battery director was called Spot 2. The control tower structure had been partially assembled by the previous builder. I cleaned up some of the joints and added some grab rails from the Eduard PE set. After working on the Mark-38 main battery director, I realized the PE for the Mark-8 radar polyrods (radiating elements) was, for one of the radars, damaged beyond repair. To resolve this problem, I replaced the entire Mark-38 director/Mark-8 radar assembly with a 3D-printed part from Shipways.com.

Once I had the 3D-printed director/radar assembly in hand, PE detail parts were added and then I primed it with a primer specifically designed to smooth the surface of 3D-printed parts. The printing process consists of depositing very thin layers of material upon the previous layers and the surface can be somewhat rough.

Once the director assembly was painted haze gray, it was glued on top of the control tower.

The antennas which should be mounted to the front of the Mark-51 director tubs were missing, so I replaced them with whip antennas from my spare parts bin.

As a final step, the assembly was airbrushed with semigloss clear and glued to the superstructure.

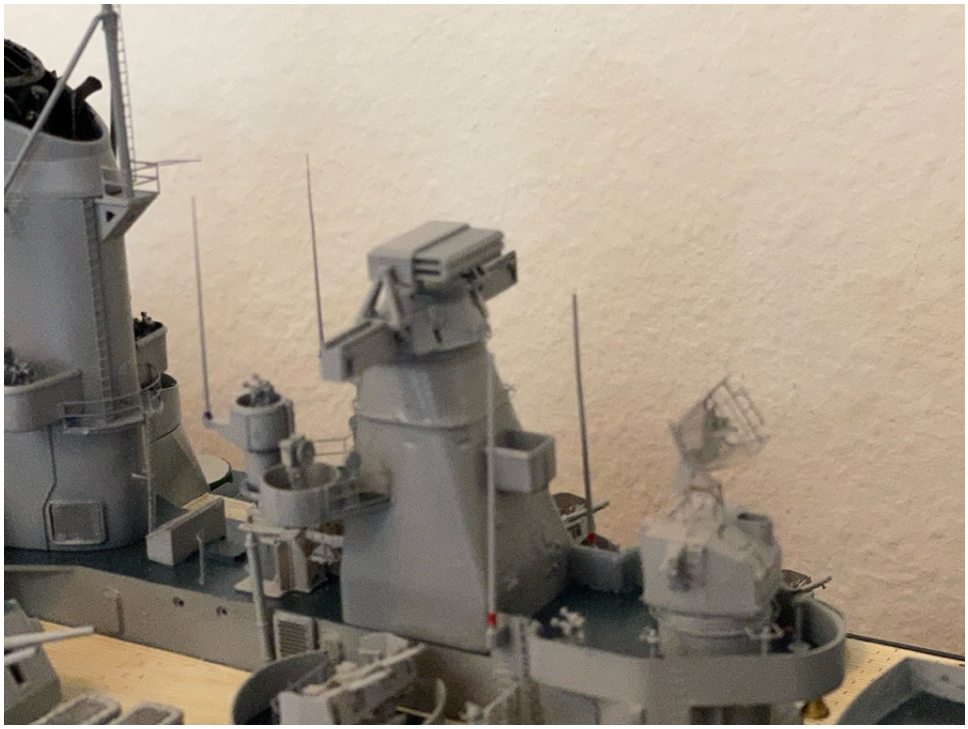

Figure 41. Spot 2, as Built.

After I glued Spot 2 to the superstructure, I realized I should've roved the aft signal halyards before installing it. These signal halyards will be tricky to install.

Spot 1 and Forward Smokestack Assembly

The first thing I did was to clean the parts, since I was using both kit parts and parts salvaged off Missouri-1. I found out I was missing the starboard 40mm gun tub. I didn't realize that the parts were symmetric with a specific tub for each side. I was able to order a replacement for the entire parts sprue from Trumpeter.

After I glued the two largest pieces together, I did a tape up and dry fit on the forward superstructure. I needed to bevel the mating surface a bit to ensure a good fit on the superstructure deck.

I discovered the stack cap doesn't fit properly, so I ground down the plastic mounting surface to ensure a proper fit. I suspect the original builder confused the forward stack cap with the aft cap. The emergency diesel generator exhaust vent was missing so I made a replacement from plastic rod. The rod was put in boiling water and bent. Once the bend was correct, I quenched the part in cold water. The vent was cut to size and the tip was carefully heated with a cigarette lighter and then quickly pushed against a hard surface. This gave the tip a bit of a flair. Once painted and the rest of the structure is finished, the replacement part won't be noticeable.

Figure 42. Dry Fit for Spot 1 and the Forward Stack. The Discolored Parts are Salvaged from Missiouri-1.

I added the four Mk-51 gun director tubs (two to starboard and two to port) to the structure. The parts are now ready for prime and paint. I also prepared the sky lookout stations, magnetic compass binnacle, two peloruses and three target data transmitters for priming and painting.

After priming, the decks were airbrushed with deck blue. Once the deck blue had cured, the paint masks were applied, and the structures were airbrushed with haze gray.

I began adding the various equipment such as the magnetic compass, peloruses, Mk-51 directors, and search lights. This work was followed by the HF-DF antenna and its platform as well as the TDY jammer platform.

I managed to assemble the HF-DF antenna without any problems and then promptly crushed it by being clumsy. I was able to somewhat repair it, but it ends up being one of the blemishes on the model. I replaced the ship antenna on the HF-DF platform with a spare from my parts bin.

The various ladders and life rails were added before the five-inch gun director assemblies to give me more working room.

Louis Lee and his wife Natalie, the owners of JD Hobbies, were visiting and I put all the various components on the hull so they could see the progress on their model. Louis was quite impressed. I took a “morale” picture of the work to date.

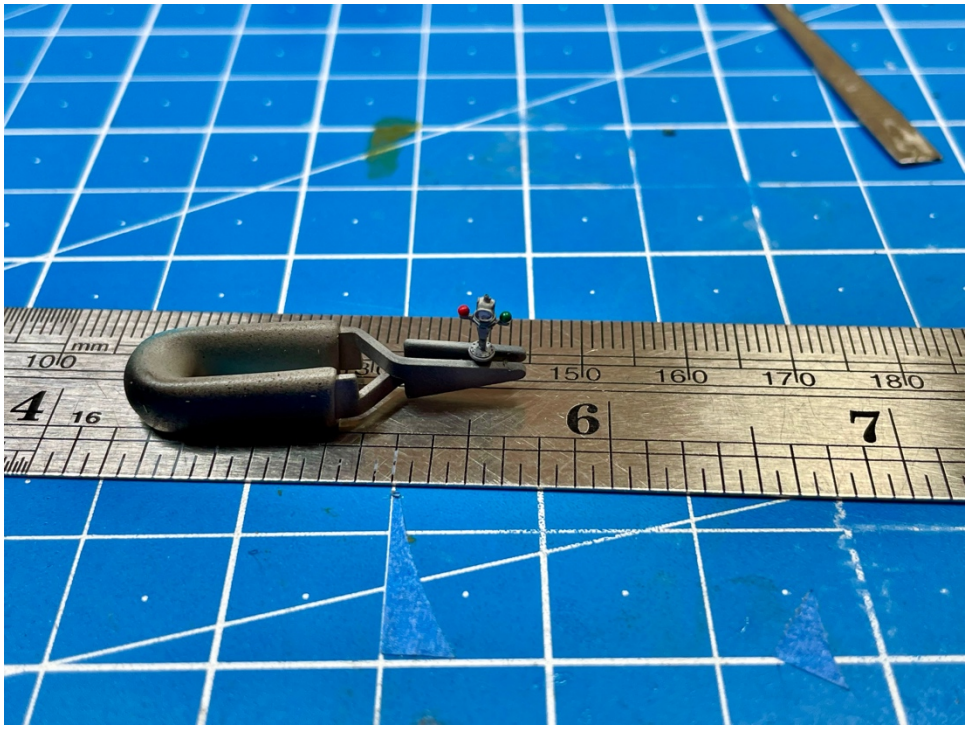

Figure 43. The Magnetic Compass Binnacle Has Been Detailed.

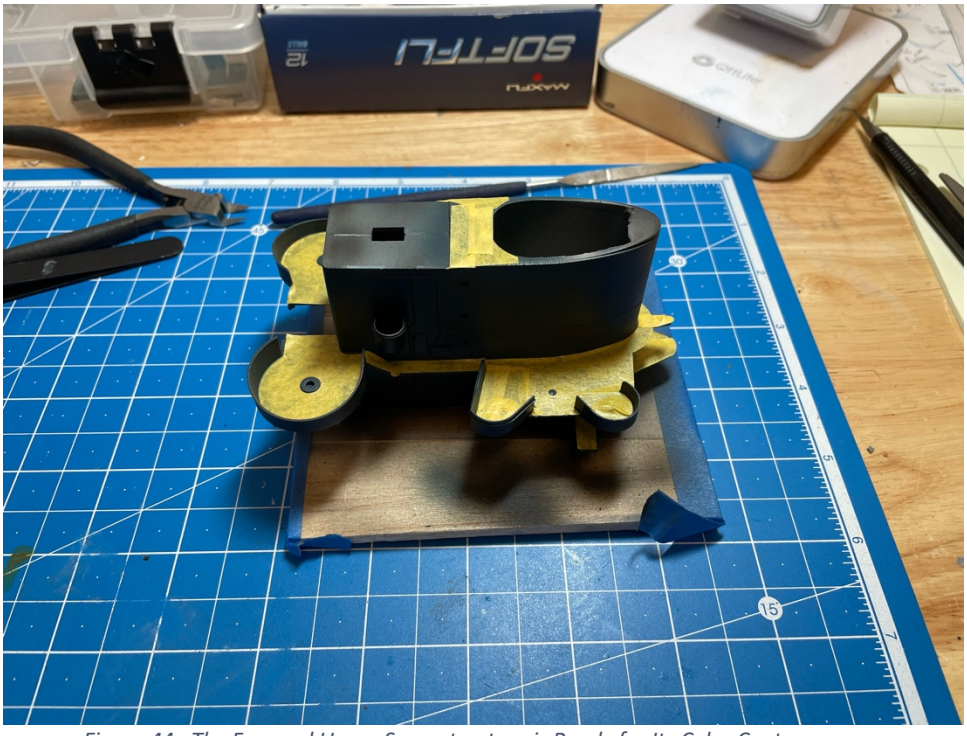

Figure 44. The Forward Upper Superstructure is Ready for Its Color Coat.

Figure 45. It's Looking Like a Ship!

I customized the foremast yardarm with parts from the Eduard detail set. I think it looks nice. Once I had primed and painted it, I glued it in position on the forward control tower.

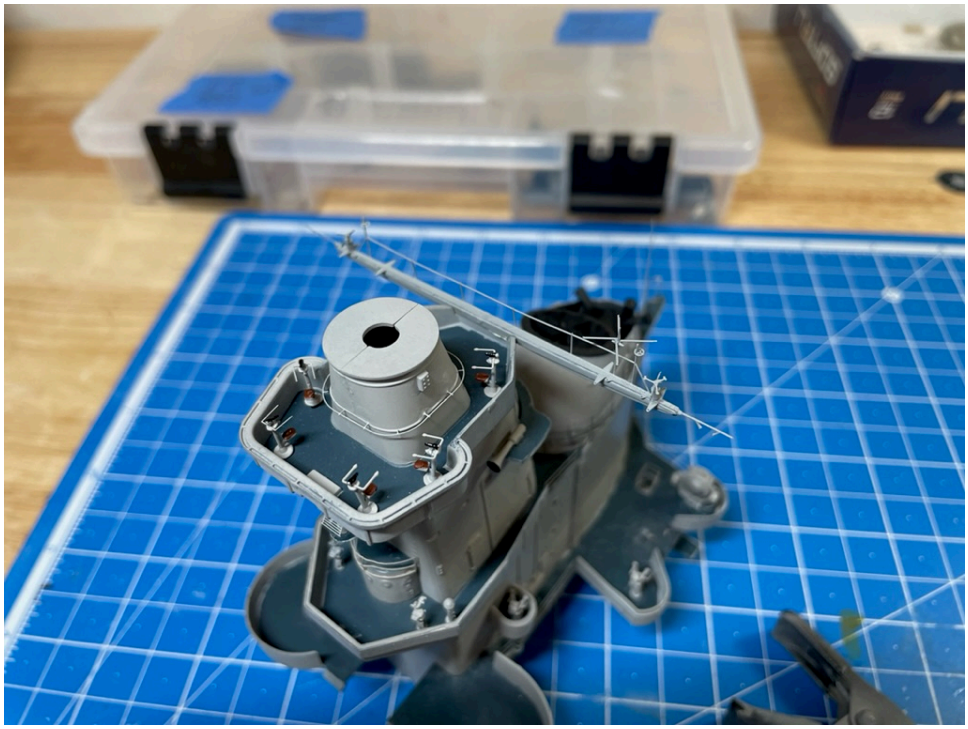

Figure 46. Foremast Yardarm, as Built.

I painted the recognition or “fighting” lights on the forward control tower with a very fine paint brush. These lights are arranged vertically and are colored red, green and white from top to bottom. Various combinations of these lights were used to recognize other ships of your task element at night. However, they did make a convenient aiming point for an enemy surface force.

While working on the forward control tower/stack assembly, I managed to knock off the wind screen on the upper bridge. I made a replacement wind screen from a left-over brass PE part.

Foremast Construction

Except for the pole mast, the foremast is virtually 100% Eduard pieces or custom-made parts. I started by gluing the support structure to the bottom side of the radar platform and then began adding the intricate web of bracing underneath the radar platform. It came out decent.

Figure 47. Foremast Radar Platform Bracing, as Built.

I added the two electronic support measures (ESM) antennas to each side of the radar platform. The forward SG radar mast didn’t work with one of the Eduard parts, so I made a replacement mast out of brass rod. I glued the platforms in place, followed by the ladder and a TBS antenna array. I used a brass rod to shape the SG radar screen and glued the screen to its base. Once the glue had cured, I glued the radar to the platform and added the SG mast to the radar platform.

As I believe I mentioned earlier, the Iowa was fitted with a SK-1 radar during World War II instead of the SK-2 radar that the Missouri carried. The SK-1 radar was 3D printed by

Shapeways.com. I primed the radar and once the primer had cured, I airbrushed it with haze gray.

I glued the SK-1 radar in place and added the appropriate ladder. Finally, the foremast was glued to the forward control tower.

Figure 48. The Forward SG Radar Mast is Ready for Paint.

Rigging and Miscellaneous Work

I added the view ports for the admiral's conning tower level using parts from the Eduard detail kit.

I rigged the forward signal halyards using white lycra thread, with "Tare Victor George" flying from the Port outboard halyard. TVG, or "Tare Victor George" using the phonetic alphabet in use in World War II, means well done. TVG was replaced with BZ (Bravo Zulu) in 1949.

I then added a halyard and national ensign to the foremast, see Figure 1.

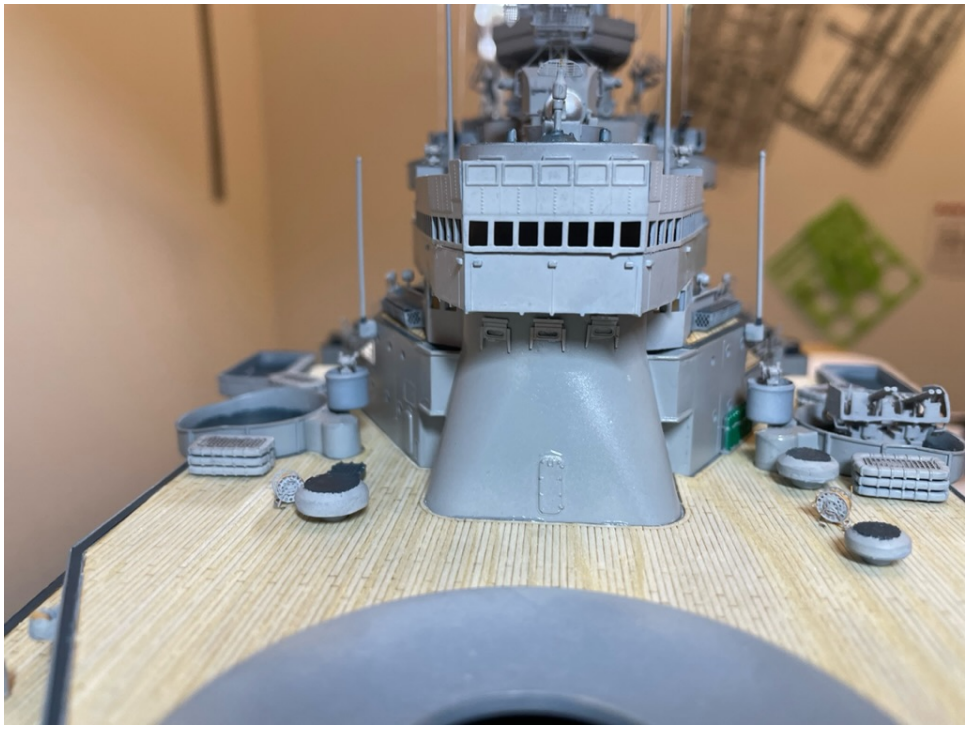

Figure 49. The Flag Level Conning Tower View Ports.

The signal halyards were carefully added fore and aft using white lycra thread. Once the signal halyards were done, I added a halyard and four-star admiral's flag to the main mast. USS Iowa was Admiral Halsey's flagship when the Japanese surrendered.

I rove the HF antenna array between the masts and mast support stays using black lycra thread.

With the rigging done, I added the O-2 and O-3 level life rails and floater net baskets to the superstructure. I then glued the superstructure assembly to the main deck and added the missing vertical ladders from the main deck to the O-1 level of the superstructure.

With the superstructure in place, I had to move my work bench away from the wall, so I could work on both sides of the model. I shimmed the workbench to make it level. I also modified by airbrush station to be a single unit instead of a double unit. The extra space gives me another work area to prepare parts.

I added the O-1 level 20mm gun galleries. One of the 20mm gun galleries didn't fit properly—a salvaged part--so I added a shim to the bottom before gluing it into position. Once the glue had set, I added the 20mm cannons to each gallery.

I assembled the two whale boats and built the davits. One of PE propellers was missing, so I used apart from my spare parts bin. One of the cradles that support the whale boats was also missing. I made a replacement from plastic strip and rod. Once painted, I doubt anybody will notice.

Once the whale boats, cradles and davits were painted, I glued them into position. As a final touch, I added PE monkey ropes from the Eduard detail kit.

Figure 50. The Rigging is Complete.

Figure 51. Gluing the Superstructure to the Hull.

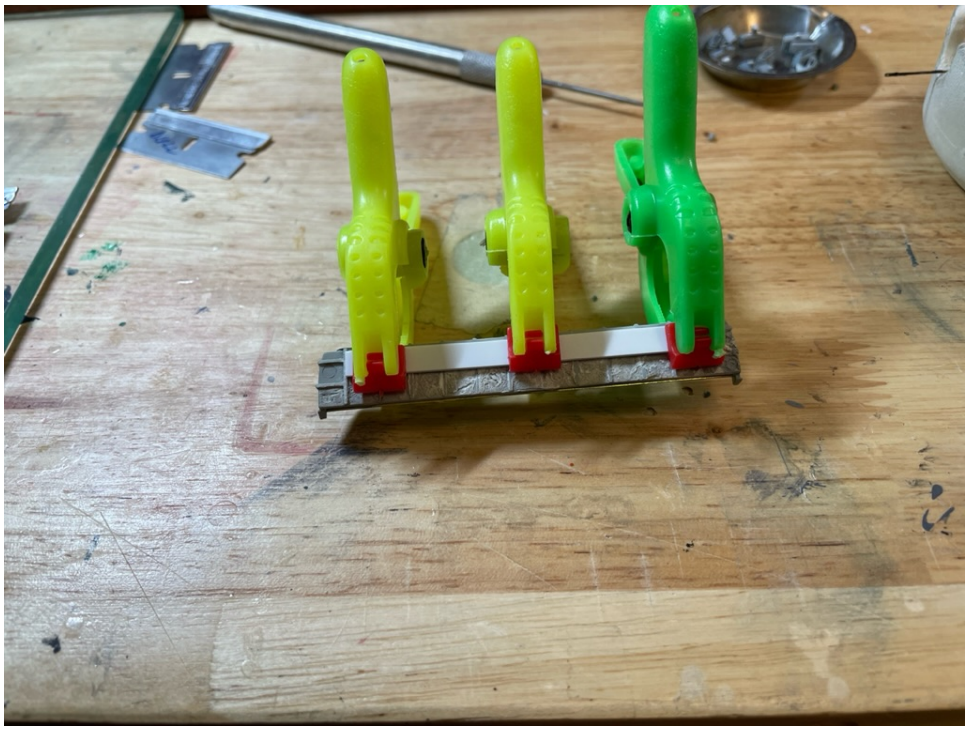

Figure 52. Shimming a 20mm Gun Gallery.

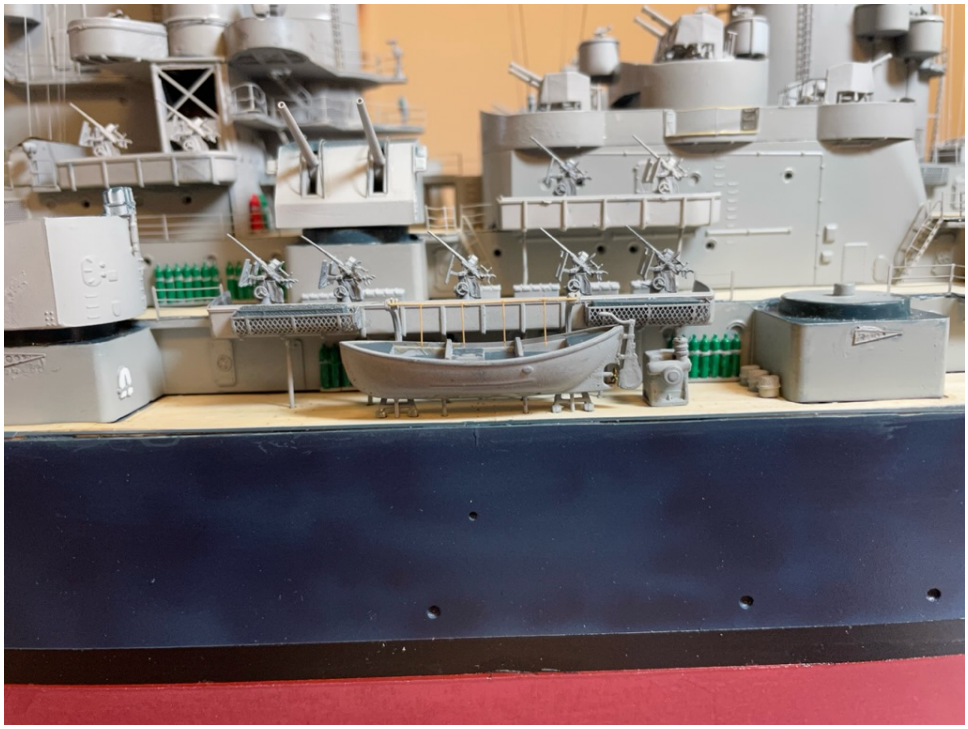

Figure 53. The Port-side Davit and Whale Boat, as Built.

I added the O-1 level ladders, life rails and floater net baskets to the superstructure.

Except for paint touch up and replacing parts I broke adding the life rails, the superstructure is now complete in all respects.

5-Inch Gun Mount Completion

The previous builder had partially completed the 5-inch gun mounts.

Unfortunately, one of the mount captain blast hoods and one of the pointer/trainer sights were missing and none of them were on Missouri-1. To take care of this, I will complete two of the gun mounts without blast hoods and installed all the sights I had. The hoodless gun mounts will be installed in the same location, port and starboard, so it will look like a design feature.

The gun barrels were glued at a specific elevation; the gun mounts are now ready for paint.

The tops of the gun mounts were airbrushed with deck blue and once the paint had dried for three days, the appropriate masks were applied. I then airbrushed each gun mount with haze gray. Once the haze gray was dry, the masks were removed.

The "guards" on each side of each barrel were added to the gun mounts. I'm not sure what these guards were for, and if the term guard is even correct. I surmise they served to keep powder cans and expended 40mm cartridges from getting into the gun port.

As a final step, each gun mount was airbrushed with semi-gloss clear acrylic. Once the semi-gloss clear had cured, I glued each gun mount into position.

16-Inch Gun Turret Completion

To fix the gun turrets, I need to take them apart. After doing this with one turret, I found I had distorted the parts and they no longer fit well. To resolve this, I ordered Model Monkey 3D printed parts which will look much better than the kit parts even before I took one apart. I will use some of the kit parts and some of the Eduard photo-etch set to detail the gun houses.

The original detail set blast bags do not fit properly, so I will make blast bags with Blue Tack.

Turret 2, as previously discussed, does not have a quad 40mm gun mount like the other Iowa Class battleships. The Iowa had three 20mm guns in a tub on top of turret 2. I made the tub out of salvaged 20mm gun tub pieces and .20 x 1.88-inch styrene plastic stock. Once the tub was built and passed a dry fit test, it was primed and airbrushed with haze gray.

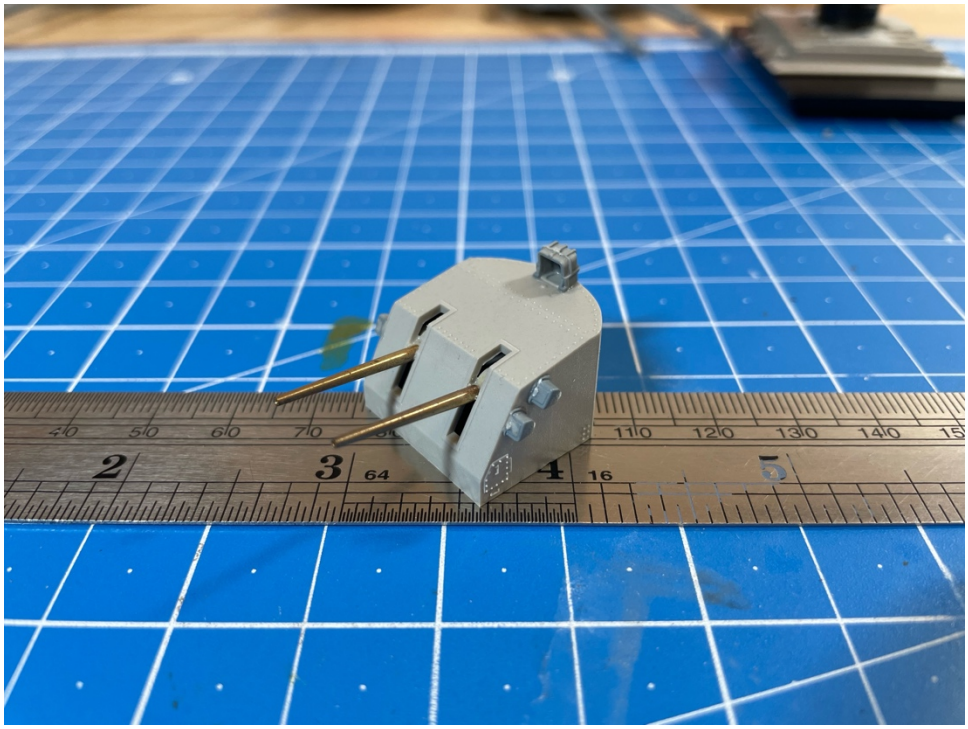

Figure 54. One of the 5-inch Gun Mounts, Ready for Paint.

Figure 55. Port-side 5-inch Gun Mounts, as Built.

The PE mesh for the life rafts were glued in place and the life rafts were primed. The sides of each turret and the life rafts were airbrushed with haze gray. After the haze gray had cured overnight, I masked the sides and airbrushed the top of the turret with deck blue. Once the paint had cured, I removed the masking tape and glued the life rafts to the side of each turret.

The 20mm gun tub was glued in place on turret 2 and three 20mm guns and four ready service ammo boxes were installed in the tub.

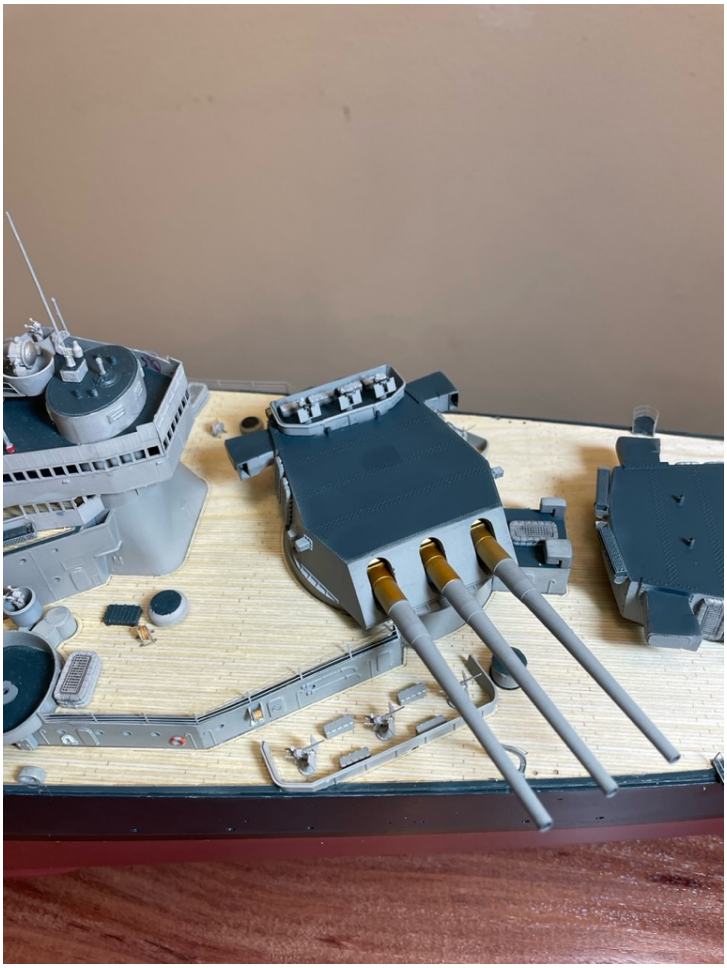

Figure 56. The 20mm Gun Tub, as Built.

The 40mm gun tub, quad 40mm gun mount, Mk-51 director station, and Mk-51 director were all added to turret number three.

I made the blast bags out of Blue Tack and once they were installed on all three turrets, they were painted with tire black acrylic.

The various PE ladders, floater net baskets, and loading cranes were airbrushed with haze gray and after the paint had cured, I glued them in place.

The paint on each turret was touched up and then airbrushed with semi-gloss clear acrylic.

Finally, each turret was glued to the appropriate barbette.

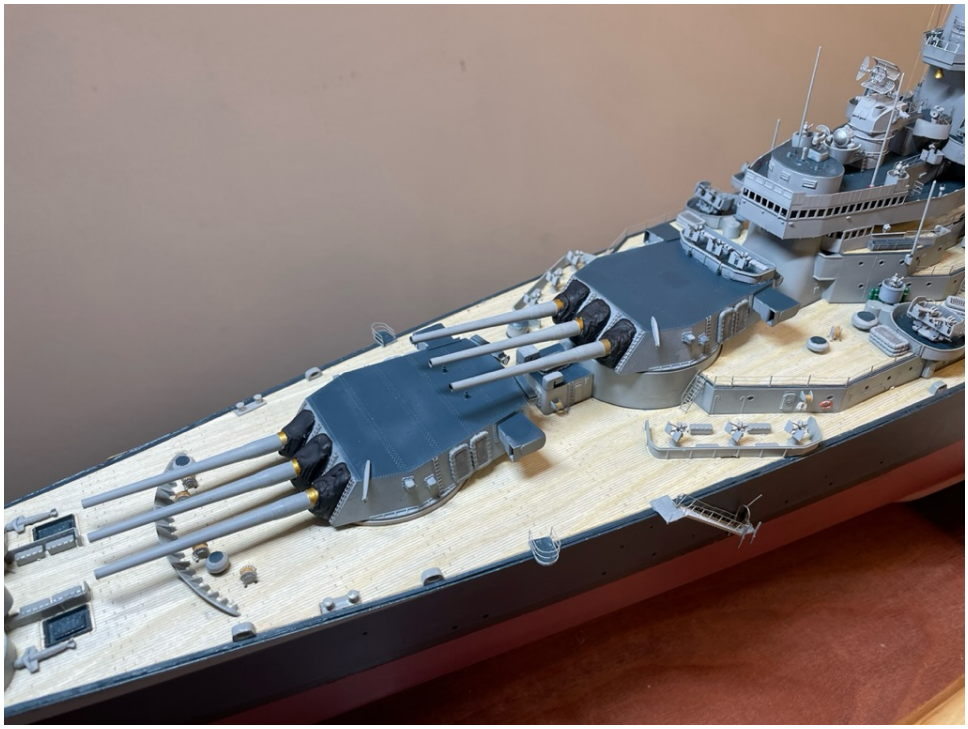

Figure 57. Turrets One and Two, as Built.

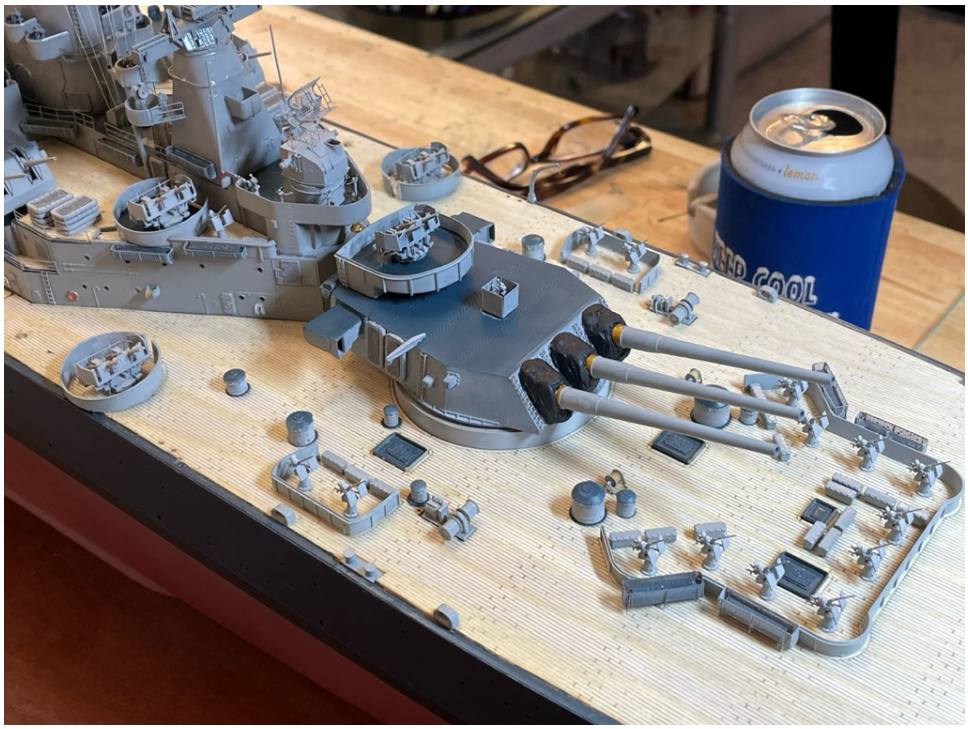

Figure 58. Turret Three, as Built.

Float Plane Construction

The SC-1 Seahawk float planes were easy to assemble. Some industrial engineering genius put the attachment point to the sprue between the mounting pins for the wings and horizontal stabilizers, but a careful trim and sanding took care of this problem.

Once I had assembled the airframe and centerline float, all the parts were prepped for painting. My intention is to paint the various components and then do the final assembly.

The Seahawks are painted in a tri-color scheme with the upper fuselage and horizontal surfaces USN/USMC sea blue, the vertical stabilizer, lower fuselage, and the float tops are intermediate sea blue, and the bottom surfaces are insignia white.

Once the parts were painted, I assembled the float planes. One plane is configured with wheels for deck movement and the other plane is configured for mounting on a catapult. Once the glue had cured, the paint was touched up and I installed the canopy.

I started to apply the decals, but found the water was dissolving the paint. Very strange since the paint has cured more than 24 hours. I stopped applying the decals and will let the paint cure another 24 hours.

I found that even after another 24 hours, the paint was still dissolving when water was applied with the decal. I guess I didn't shake one of the paints enough; I noticed that even when the color coats ran, the primer didn't. Regardless, I went ahead and finished with the decals and once I was finished with the decals, I touched up the paint runs. Once the paint appeared to be dry, I airbrushed each plane with semi-gloss clear.

A technical note: The white pods under the wings, which look like drop tanks, are rescue pods which contained a life raft and survival gear. The float planes in an aircraft carrier task force performed the same search and rescue tasks that the U.S. Navy currently provides with helicopters.

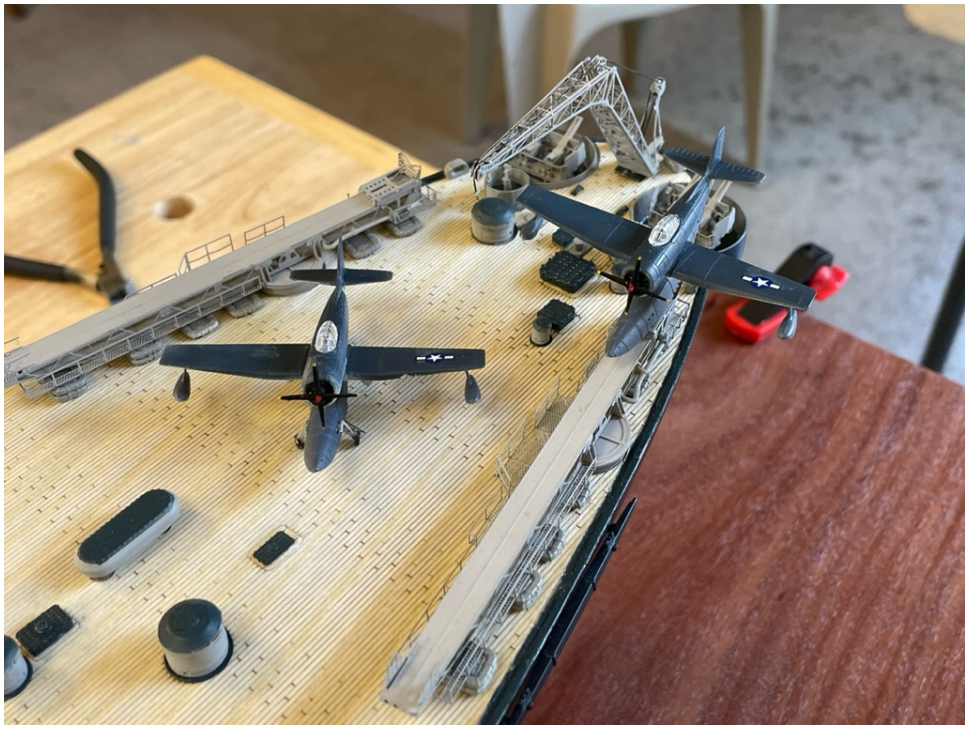

Figure 59. SC-1 Seahawk Float Planes, Dry Fit.

Final Assembly and Touch UP

The model has accumulated a bit of dust and debris, so I carefully blew it clean using my airbrush with no paint.

I had custom hull number decals made by a contact in Louisiana named Kenny "Gator" Loup. He has printers that print white. A technical fact: White on virtually all printers is the absence of applied color on a white background. It takes a special printer equipped with white toner to print white. I normally make my own decals, but to print white hull numbers means that I must color match the haze gray and navy blue backgrounds and then print the decals on white decal paper. I found the color matching too difficult.

All but one of the four PE accommodation ladders were damaged. The instructions had the accommodation ladders running aft to forward. This is incorrect, accommodation ladders run forward to aft. I believe the kit manufacturer didn't want to build two versions of the same parts. In any case, I built the accommodation ladder "backwards" and installed it on the portside, forward.

To install the main deck life rails, I taped each segment into position and glued them down with thin super glue. Capillary action pulled the glue under the life rail. Once a section was glued, I sprayed it with super glue accelerator. The accelerator dissolves the tape's glue.

Figure 60. Accommodation Ladder, as Built.

Figure 61. Starboard-side Life Rails Installation.

With the rails in place, I glued the float planes into position. I touched up the paint and applied semi-gloss clear as appropriate.

I had the nameplate made by University Trophies and Awards in Long Beach and once it was done, I glued it into position.

The model is now complete in all respects.

I delivered the completed model to JD Hobbies on December 7, 2021.

I found this project to be interesting and challenging. Missing parts was my biggest problem, but I got to practice my kit bashing skills. While I am pleased with the results, it probably would've been easier to build one of these magnificent models from a new kit.

Figure 62. As Built, Port Quarter Looking Aft.

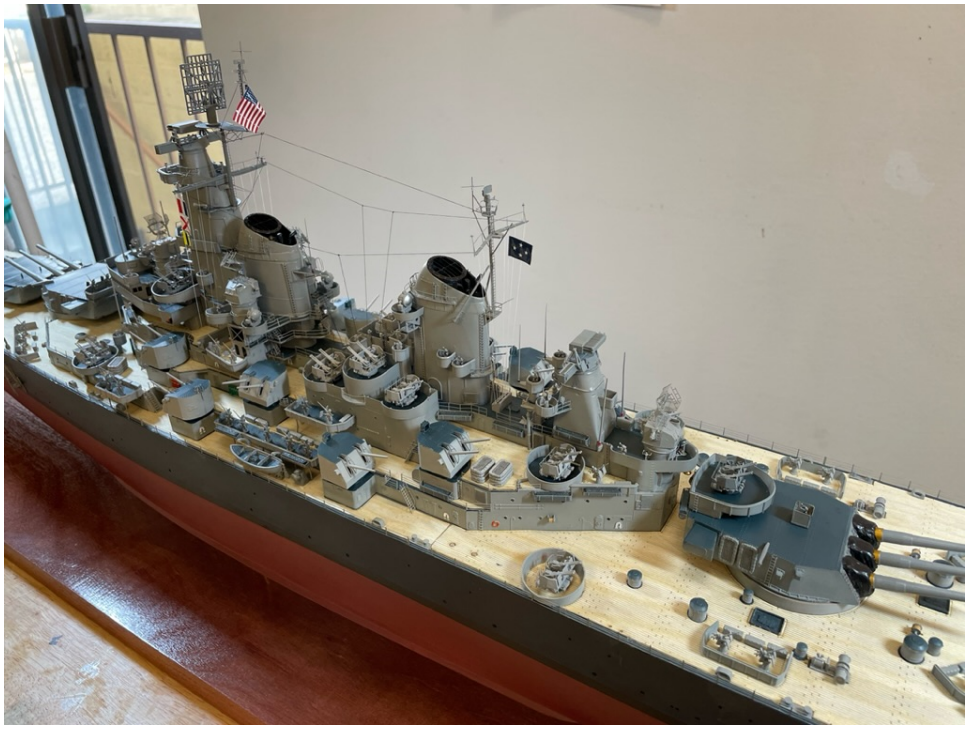

Figure 63. As Built, Port Quarter Looking Forward.

Figure 64. As Built, Port Side.

Figure 65. As Built, Stern and Float Planes.

USS Iowa (BB-61) Characteristics

Namesake:	The state of Iowa
Ordered:	July 1, 1939
Builder:	New York Naval Yard
Laid Down:	June 27, 1940
Launched:	August 27, 1942
Sponsored by:	IIo Wallace, Second Lady of the United States
Commissioned:	February 22, 1943
Decommissioned:	March 24, 1949
Recommissioned:	August 25, 1941
Decommissioned:	February 24, 1958
Recommissioned:	April 28, 1984
Decommissioned:	October 26, 1990
Stricken:	March 17, 2006
Fate:	Museum ship in San Pedro, California
Motto:	“Our Liberties We Prize; Our Rights We Will Maintain”
Nicknames:	“The Big Stick” “The Gray Ghost” “The Battleship of Presidents”

<u>General Characteristics</u>

Class and type:	Iowa Class Battleship
Displacement:	45,000 long tons, Standard 57,500 long tons, Full Load
Length:	887 feet-3 inches

Beam:	108 feet-2 inches
Draft:	37 feet-2 inches, Full Load
Installed Power:	212,000 SHP
Propulsion:	Eight Babcock & Wilcox M-type 600 PSI dual furnace controlled super heat boilers, in four boiler rooms each containing two boilers Four engine rooms each with one engine set consisting of a high-pressure turbine, low-pressure turbine, and reduction gear, driving one shaft with a propeller.
Speed:	33 knots
Crew:	151 officers and 2,637 enlisted (WWII)
Armament:	9 x 16-inch/50 caliber Mark 7 guns in three triple turrets 20 x 5-inch/38 caliber Mark 12 dual purpose guns in 10 twin gun mounts 76 x 40mm/56 caliber anti-aircraft cannons in 19 quadruple mounts 51 x 20mm/70 caliber anti-aircraft cannons in single mounts
Armor:	Belt: 12.1 inches Bulkheads: 11.3 inches Barbettes: 11.6 inches to 17.3 inches
Aircraft:	2 SC-1 Seahawk Float Planes

History of the USS Iowa in World War II

Shakedown and Service with the Atlantic Fleet

On 24 February 1943, *Iowa* put to sea for a shakedown cruise in the Chesapeake Bay and along the Atlantic coast. She got underway on 27 August for Argentia, Newfoundland, to counter the threat of the German battleship *Tirpitz,* which was reportedly operating in Norwegian waters, before returning to the United States on 25 October for two weeks of maintenance at the Norfolk Navy Yard.

When *Iowa* was selected to ferry President Franklin D. Roosevelt to the Cairo and Tehran Conferences, she was outfitted with a bathtub for Roosevelt's convenience in the captain's day cabin head. Roosevelt, who had been paralyzed in 1921, would have been unable to make effective use of a shower facility. *Iowa* is the only US warship to have a bathtub.

In November 1943, *Iowa* carried President Roosevelt, Secretary of State Cordell Hull, Roosevelt's Chief of Staff Admiral William D. Leahy, Chief of Staff of the Army General George C. Marshall, Chief of Naval Operations Ernest King, Commanding General of the US Army Air Forces Henry "Hap" Arnold, Harry Hopkins, and other military leaders to Mers El Kébir, Algeria, on the first leg of the journey to the Tehran Conference. Among the vessels escorting *Iowa* on this trip was the destroyer *William D. Porter* which was involved in several mishaps, the most serious of which involved a torpedo drill which went awry when a torpedo from *William D. Porter* discharged from its tube and headed toward *Iowa.* On being warned, *Iowa* turned hard to avoid being hit by the torpedo and the torpedo detonated in the ship's wake. *Iowa* was undamaged and trained her main guns on *William D. Porter*, concerned that the smaller ship may have been involved in some sort of assassination plot.

Iowa completed her presidential escort mission on 16 December by returning the President to the United States.[8] Roosevelt addressed the crew of *Iowa* prior to leaving by stating, "... from all I have seen and all I have heard, the *Iowa* is a "happy ship," and having served with the Navy for many years, I know—and you know—what that means." He also touched on the progress made at the conference before concluding his address with "... good luck, and remember that I am with you in spirit, each and every one of you."

Figure 66. The Captain's Bathtub.

Service with Battleship Division 7, Admiral Lee

As flagship of Battleship Division 7 (BatDiv 7), *Iowa* departed the United States on 2 January 1944 for the Pacific Ocean, transiting the Panama Canal on 7 January in advance of her combat debut in the campaign for the Marshall Islands. From 29 January to 3 February, she supported carrier air strikes made by Rear Admiral Frederick C. Sherman's Task Group 58.3 (TG 58.3) against Kwajalein and Eniwetok atolls. Her next assignment was to support air strikes against the major Japanese naval and logistics base at Truk, Caroline Islands. *Iowa*, in company with other ships, was detached from the support group on 16 February 1944 to conduct an anti-shipping sweep around Truk, with the objective of destroying enemy naval vessels escaping to the north. During this action, *Iowa*, along with her sister *New Jersey*, sank the Japanese light cruiser *Katori*, the cruiser having escaped Truk the day before following Operation Hailstone, the US air attack on Truk.

On 21 February, she was underway with the Fast Carrier Task Force (alternatively designated TF 38 while with 3rd Fleet and TF 58 while with 5th Fleet) while it conducted the first strikes against Saipan, Tinian, Rota, and Guam in the Mariana Islands. On 18 March 1944, *Iowa*, flying the flag of Vice Admiral Willis A. Lee (Commander, Battleships, Pacific), joined in the bombardment of Mili Atoll in the Marshall Islands. Although struck by two Japanese 4.7 in (120 mm) projectiles, *Iowa* suffered negligible damage. She then rejoined TF 58 on 30 March and supported air strikes against the Palau Islands and Woleai of the Carolines for several days.

From 22 to 28 April, *Iowa* supported air raids on Hollandia (now known as Jayapura), Aitape, and Wake Islands to support Army forces on Aitape and at Tanahmerah and Humboldt Bays in New Guinea. She then joined the Task Force's second strike on Truk, on 29 and 30 April, and bombarded Japanese facilities on Ponape in the Carolines on 1 May.[3]

In the opening phases of the Mariana and Palau Islands campaign, *Iowa* protected the American carriers during air strikes on the islands of Saipan, Tinian, Guam, Rota, and Pagan Island on 12 June. *Iowa* was then detached to bombard enemy installations on Saipan and Tinian on 13–14 June, which resulted in the destruction of a Japanese ammunition dump. On 19 June, in an engagement known as the Battle of the Philippine Sea, *Iowa*, as part of the battle line of TF 58, helped repel four massive air raids launched by the Japanese Fleet. This resulted in the almost complete destruction of Japanese carrier-based air-forces, with *Iowa* claiming the destruction of three enemy aircraft. *Iowa* then joined in the pursuit of the fleeing enemy fleet, shooting down one torpedo plane, and assisting in splashing another.

Throughout July, *Iowa* remained off the Marianas supporting air strikes on the Palaus and landings on Guam. After a month's rest, *Iowa* sailed from Eniwetok as part of the Third Fleet and helped support the landings on Peleliu on 17 September. She then protected the carriers during air strikes against the Central Philippines to neutralize enemy air power for the long-awaited invasion of the Philippines. On 10 October, *Iowa* arrived off Okinawa for a series of air strikes on the Ryukyu Islands and Formosa. She then supported air strikes against Luzon on 18 October and continued this duty during General Douglas MacArthur's landing on Leyte on 20 October.

In a last-ditch attempt to halt the United States campaign to recapture the Philippines, the Imperial Japanese Navy struck back with *Shō-Gō* 1, a three-pronged attack aimed at the destruction of American amphibious forces in Leyte Gulf. The plan called for Vice-Admiral Jisaburō Ozawa to use the surviving Japanese carriers as bait to draw US carriers of TF 38 away from the Philippine beachheads, allowing Imperial Japanese Admirals Takeo Kurita, Kiyohide Shima, and Shōji Nishimura to take surface task forces through the San Bernardino Strait and Surigao Strait, where they would rendezvous and attack the US beachheads. *Iowa* accompanied TF 38 during attacks against the Japanese Central Force under the command of Admiral Kurita as it steamed through the Sibuyan Sea toward San Bernardino Strait. The reported results of these attacks and the apparent retreat of the Japanese Central Force led Admiral William "Bull" Halsey to believe that this force had been ruined as an effective fighting group; as a result, *Iowa*, with TF 38, steamed after the Japanese Northern Force off Cape Engaño, Luzon. On 25 October 1944, when the ships of the Northern Force were almost within range of *Iowa*'s guns, word arrived that the Japanese Central Force was attacking a group of American escort carriers off Samar. This threat to the American beachheads forced TF 38 to reverse course and steam to support the vulnerable escort carrier fleet, but fierce resistance by the 7th Fleet in the Battle off Samar had already caused the Japanese to retire and *Iowa* was denied a surface action. Following the Battle of Leyte Gulf, *Iowa* remained in the waters off the Philippines screening carriers during strikes against Luzon and Formosa. She sailed for the West Coast late in December 1944.

USS ABSD-2 repairing the USS *Iowa* in early 1945 at Manus, Admiralty Islands

On 18 December, the ships of TF 38 unexpectedly found themselves in a fight for their lives when Typhoon Cobra overtook the force—7 fleet carriers, 6 light carriers, 8 battleships, 15 cruisers, and about 50 destroyers—during their attempt to refuel at sea. At the time, the ships were operating about 300 mi (480 km) east of Luzon in the Philippine Sea. The carriers had just completed three days of heavy raids against Japanese airfields, suppressing enemy aircraft during the American amphibious operations against Mindoro in the Philippines. The task force rendezvoused with Captain Jasper T. Acuff and his fueling group on 17 December with the intention of refueling all ships in the task force and replacing lost aircraft.

Iowa in drydock in San Francisco, undergoing repairs and modernization after being damaged during Typhoon Cobra

Although the sea had been growing rougher all day, the nearby cyclonic disturbance gave relatively little warning of its approach. On 18 December, the small but violent typhoon overtook the task force while many of the ships were attempting to refuel. Many of the vessels were caught near the center of the storm and buffeted by extreme seas and hurricane-force winds. Three destroyers—*Hull*, *Monaghan*, and *Spence*—capsized and sank with nearly all hands, while a cruiser, five aircraft carriers, and three destroyers suffered serious damage. Approximately 790 officers and men were lost or killed, with another 80 injured. Fires

occurred in three carriers when planes broke loose in their hangars, and some 146 planes on various ships were swept overboard or damaged beyond economical repair by fires or impacts. *Iowa* reported zero injured sailors because of the typhoon but suffered a loss of one of her float planes, and damage to one of her shafts. The damaged shaft required *Iowa* to return to the US, and she arrived at San Francisco on 15 January 1945, for repairs. During the overhaul *Iowa* had her bridge area enclosed and was outfitted with new search radars and fire-control systems.

Bombardment of Japan

Iowa sailed on 19 March 1945 for Okinawa, arriving on 15 April to relieve her sister ship *New Jersey*. From 24 April, *Iowa* supported carrier operations which aimed to establish and maintain air superiority for ground forces during their struggle for the island. She then supported air strikes off southern Kyūshū from 25 May to 13 June. Afterward, she sailed toward northern Honshū and Hokkaidō, and participated in strikes on the Japanese home islands on 14–15 July by bombarding Muroran, Hokkaidō, destroying steel mills and other targets. The city of Hitachi on Honshū was shelled beginning the night of 17 July and lasting to 18 July. On 29 and 30 July, *Iowa* trained her guns on Kahoolawe for a bombardment and continued to support fast carrier strikes until the cessation of hostilities on 15 August.

On 27 August, *Iowa* and her sister ship *Missouri* entered Sagami Bay to oversee the surrender of the Yokosuka Naval Arsenal. Two days later, she entered Tokyo Bay with the occupation forces. Here, several sailors from *Missouri* were temporarily stationed on *Iowa* for the duration of the surrender ceremony which took place aboard *Missouri*. After serving as Admiral Halsey's flagship for the surrender ceremony on 2 September, *Iowa* remained in the bay as part of the occupying force. As part of the ongoing Operation Magic Carpet, she received homeward bound GIs and liberated US prisoners of war before departing Tokyo Bay on 20 September, bound for the United States.