

Reimagining the USS Arizona, 1916

By Gene Berger



When most people picture the USS Arizona, Pearl Harbor comes to mind. Her tragic fate in 1941 defines nearly every kit on the market, which faithfully depicts her final appearance before the attack. Yet like people, ships have histories that stretch back long before their most famous moments.

I wanted to capture Arizona as she first entered service in 1916, a brand-new Pennsylvania-class battleship. That meant taking Trumpeter's 1/200 kit, designed for the 1941 version, and turning it into something it was never equipped to be. The project became equal parts research, engineering, and imagination, culminating in a model that restored Arizona to her earliest form.

The Starting Point

Trumpeter's 1/200 Arizona is an imposing kit, packed with fine detail—but nearly all of it belongs to 1941. After opening the box, I quickly realized only the hull and a handful of parts would survive. The rest of the sprues went into the spares bin. Most of the ship would need to be fabricated from scratch.

Because Arizona was a sister to USS Pennsylvania, I worked from both sets of drawings, constantly

cross-checking them against period photographs. The photos often proved more reliable than blueprints, since shipyard drawings don't always reflect the finished vessel.

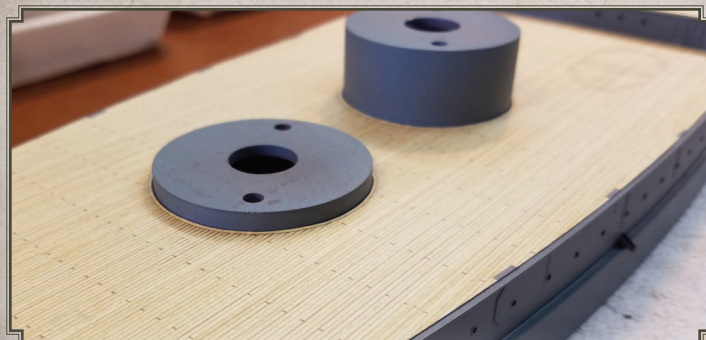
The first modification was dramatic: filling in every deck and hull opening designed for the 1941 kit. Most visibly, the 5-inch gun casemates had to be lowered a full deck to match the 1916 configuration. Once the hull was reshaped, I painted it Navy Gray, chosen from written accounts of the era's color scheme. No color photographs exist, so this—and many later choices—rested on informed judgment.



In-progress view of the 5-inch gun casemates which were lowered a full deck to match the 1916 configuration.



The new resin porthole frames were then glued to the hull.

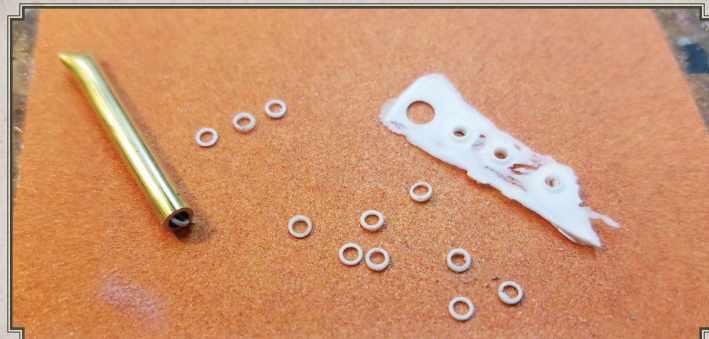


The 1916 deck was then printed on heavy artist paper and glued to the hull.

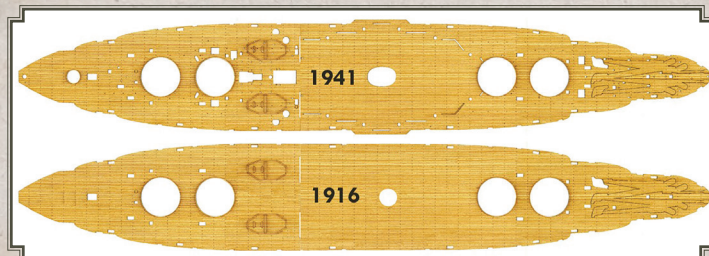
Recreating the Deck

On any battleship model, the deck plays a crucial role in establishing the overall tone and historical accuracy of the build. In the case of the USS Arizona, her 1916 deck layout differed significantly from the configuration she bore at the time of the Pearl Harbor attack in 1941. Because most commercially available kits reflect the later wartime version, I had to begin from scratch to accurately represent the earlier period. I chose to use the KA Models wood deck as a starting point. Although designed for the 1941 layout, it provided a solid base for modification. I digitally scanned the wood deck into Photoshop, where I meticulously erased all the anachronistic 1941-era cutouts and digitally reconstructed the missing sections based on historical reference materials and shipyard plans to match the 1916 configuration.

Rather than using delicate wood veneer, which can be fragile and difficult to work with at this scale, I opted to



Additional porthole frames were punched from resin using a homemade punch.



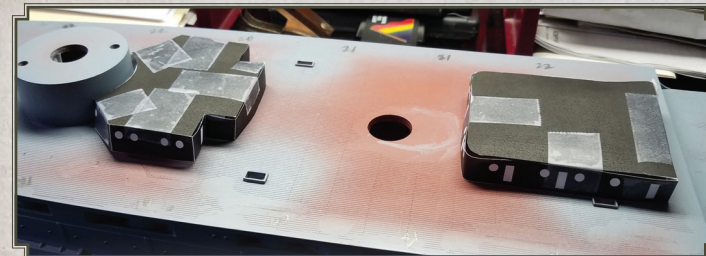
The KA Models wooden deck was scanned and digitally backdated to represent the Arizona's original 1916 deck plan.



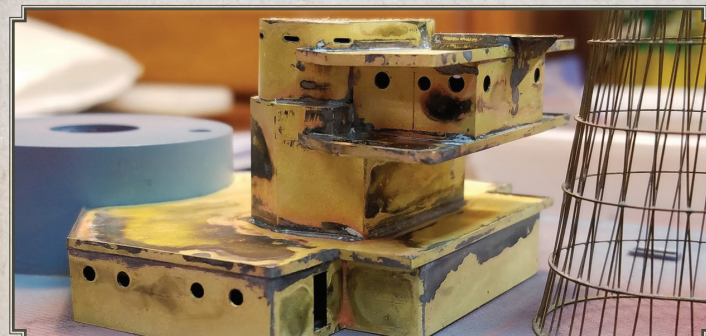
The surface fittings were modified and used as masters to create silicone molds.

print the revised deck onto heavy artist-grade paper. This material retained the appearance of real wood planking thanks to the high-resolution print, while offering greater durability and ease of handling during installation. To prepare the kit's plastic deck for the paper overlay, I removed all molded-in surface details using sanding tools, creating a smooth, clean base. I then carefully applied the printed deck using contact cement, ensuring it adhered uniformly to the hull with no bubbles or wrinkles.

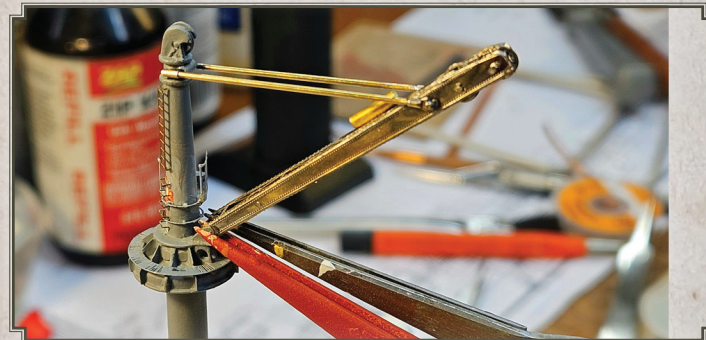
Once the new deck was securely in place, I turned my attention to the original surface fittings. These had previously been removed, molded, and cast in resin for reusability. With the updated deck installed, I reattached each fitting in its historically accurate position, guided by archival photos and plans. The result is a convincing representation of a real wooden deck, visually consistent with Arizona's early service years. I also conducted a series of tests with various finishing products on sample paper sections to determine the most authentic appearance and ensure the final tone and sheen matched my vision for the model.



The correct proportions of the superstructure were worked out as paper mock-ups before making the photo-etch patterns.



The brass photo-etch parts are then carefully soldered together to create the basic forms of the superstructure.

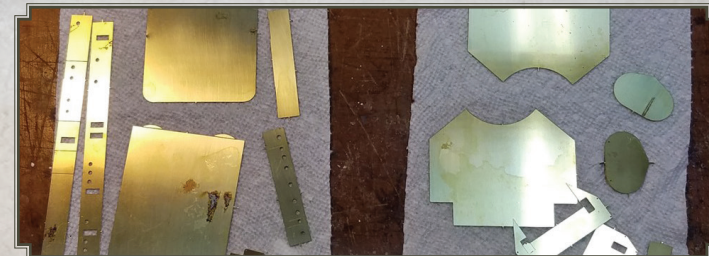


Various brass details were then fixed to the resin core support castings to complete each crane.

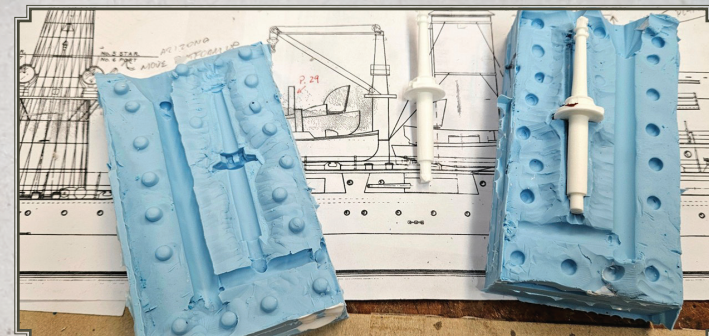
Superstructure and Cranes

With the deck corrected and in place, attention naturally shifted to the ship's superstructure. The USS Arizona underwent numerous modifications between her commissioning and the outbreak of World War II, acquiring new platforms, cranes, gun mounts, and structural elements that significantly altered her profile. Since my goal was to portray the ship as she appeared in 1916, all these later additions had to be omitted or reversed. Unfortunately, the Trumpeter kit—and even available aftermarket options—offered no usable components that matched the early configuration. This left scratch-building as the only viable path forward.

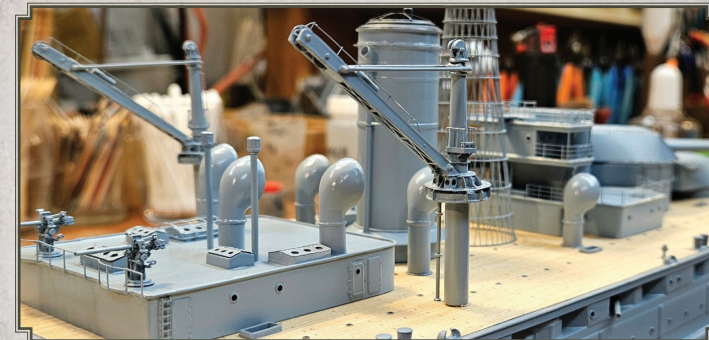
I began by creating detailed paper mock-ups of the superstructure components, based on original shipyard blueprints, reference photos, and historical documentation. These mock-ups served two purposes: they helped confirm the dimensions and proportions, and they also



A representative sample of the photo-etched parts Gene made to recreate the Arizona's superstructure.



This is the silicone two part mold used to make the resin core supports for the Arizona's pair of midship cranes.



All of the various deck sub-assemblies being test fitted to the model.

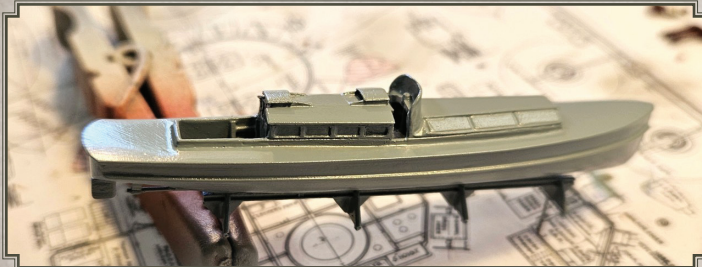
acted as guides for producing custom photo-etched brass components. Once the brass sheets were etched, I soldered and assembled the various superstructure elements, carefully layering and reinforcing them to replicate the robust yet elegant architecture of the ship's early layout.

Every element, from the bridge wings to the signal platforms, was built from scratch, with no contribution from the kit's original parts—none of which were suitable for this version of the ship. Additional details such as watertight doors, portholes, railings, grates, and other fittings were added using a mix of photo-etched parts and custom-fabricated pieces. Once completed, these sub-assemblies were carefully set aside until they could be integrated into the hull later in the build.

Particular attention was paid to the distinctive boat cranes that framed Arizona's 1916 silhouette. These were constructed using a combination of resin-cast



The large steam launch was carved from a solid resin block and detailed with photo-etched parts.



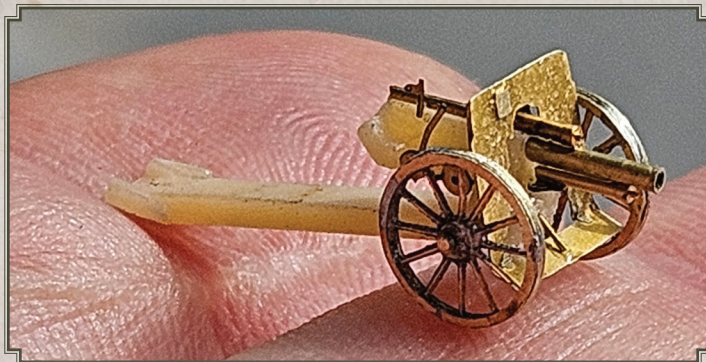
The finished steam launch now primed and ready for paint.



A view showing the amount of detail that went into making Arizona's many lifeboats.

components, soldered brass arms, and intricate photo-etched details, all engineered to capture their period-correct form and function. One of the more intricate components was a 3-inch Naval Landing Gun, a prominent feature during her early years. I fabricated this entirely from brass tubing, photo-etched parts and resin, matching its proportions and mounting precisely to period references.

The ship's complement of small boats added another layer of complexity. These ranged from partial conversions of kit-supplied hulls to completely scratch-built launches. One notable example—a large steam launch—had to be carved from a solid resin block, then painstakingly detailed with etched brass parts, oar racks, and seating arrangements. Each of these custom components contributed to a broader goal: this wasn't simply a kit modification, it was a complete historical reconstruction. Every added detail brought the model closer to what it truly was: the creation of an entirely new ship, not a re-assembled version of a familiar kit.



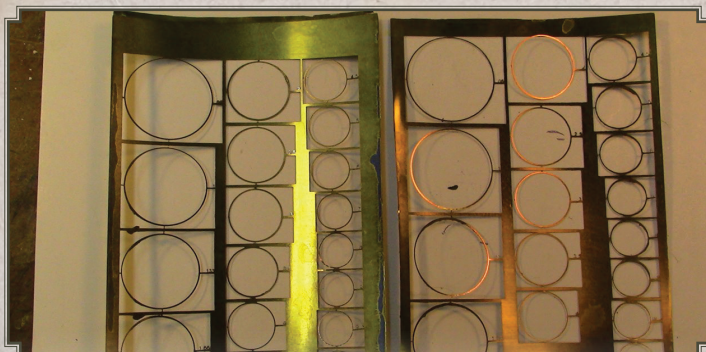
The lilliputian 3-inch Naval Landing Gun was completely scratch-built from resin, brass rod and photo-etched parts.

The Cage Masts

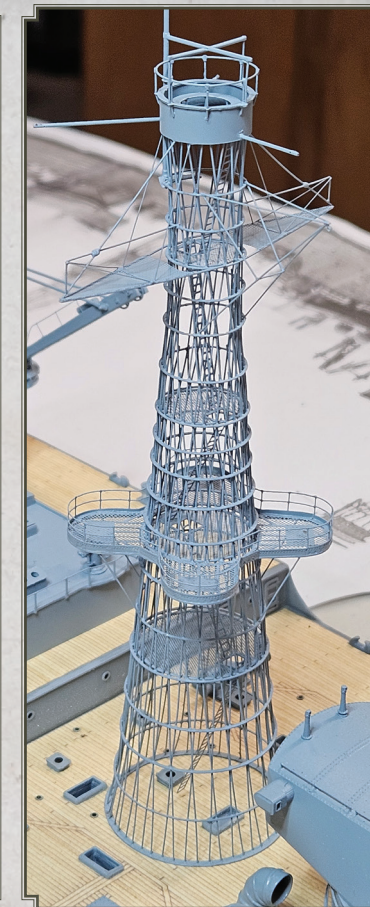
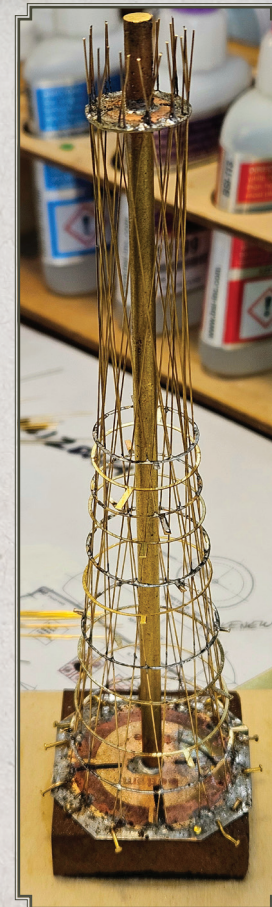
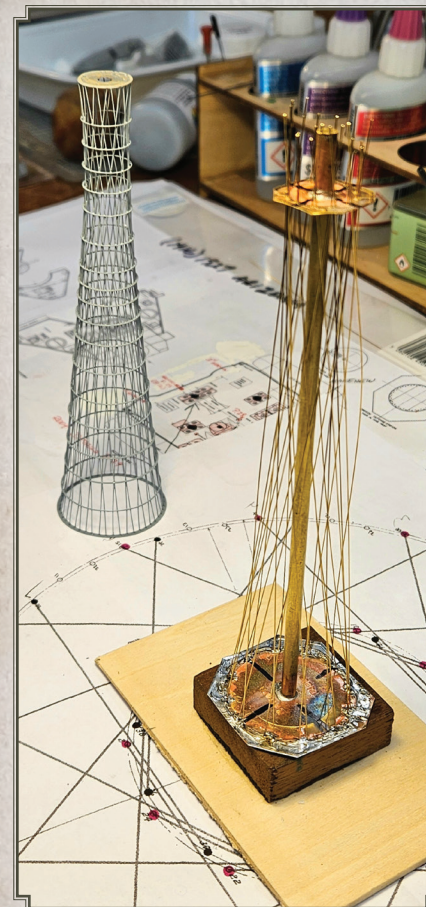
The most distinctive—and arguably the most daunting—challenge of the entire build was constructing the cage masts. These intricate lattice towers were defining features of early American battleships like the Arizona, instantly recognizable and visually striking. However, their extreme delicacy and geometric complexity have made them a rare sight in scale modeling. Few builders attempt them, and even fewer achieve convincing results. Nevertheless, to stay faithful to Arizona's 1916 appearance, the cage masts were essential—and I was determined to tackle them head-on.

Planning began with the most critical structural elements: the circular rings that tie the lattice together and give the mast its iconic taper and rigidity. I designed these rings in Photoshop and photo-etched them in brass. Alongside these, I created parts for a custom mast jig—an indispensable tool that would ensure precise alignment and spacing of the lattice rods throughout construction. All components were fabricated in advance, with the intention of soldering the entire assembly as the mast's progress.

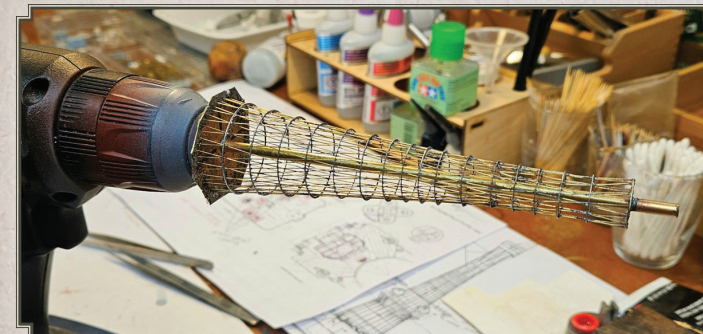
The mast's framework was constructed from .020-inch brass rod, following the official Navy lacing diagram for the period. This ensured accurate spacing, angularity,



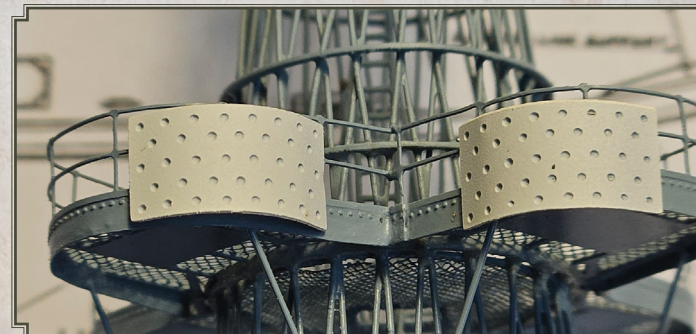
A representative view of the custom photo-etched rings needed to construct the Arizona's distinctive cage masts.



This sequence of images show the process of how the cage masts were constructed after a careful study of the ships plans. A jig was made to insure all the .020 brass rods would be correctly aligned with the center support and rings when soldered together.



A "spin test" was performed to make sure that the cage masts were true.



Test fitting two of the many canvas windbreaks.

and realism in the final shape. Despite the complexity, once all the joints were soldered and the structure removed from the jig, the finished mast proved surprisingly strong and rigid—far more than I initially expected. The lattice held its shape beautifully.

Before final installations, I conducted a "spin test" by chucking the mast into a handheld drill. Slowly rotating it, I looked for any wobble or asymmetry—an essential check to confirm the precision of the construction. The mast spun true, and I moved on to final detailing.

With the basic structure in place, I added the platforms, rangefinders, and splinter shields using photo-etched

brass parts—another medium I particularly enjoy working with. I fabricate all my photo-etch components at home, allowing me to match the scale and detail exactly to my reference material. Each platform was reinforced with interior ladders, bracing struts, and delicate railings, all designed to reflect the mast's functional complexity. The intricate layers and levels brought the mast to life.

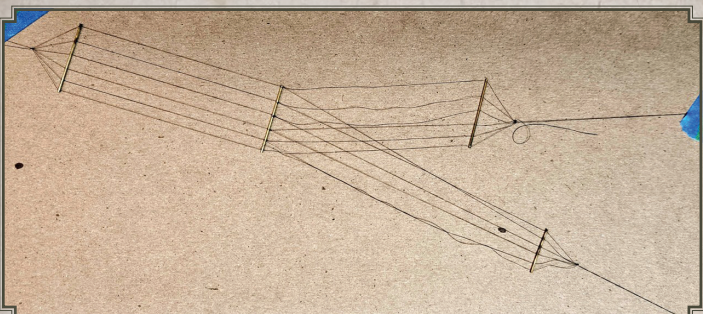
For the canvas windbreaks that shielded the crew from the elements, I used fine cloth material stiffened with CA glue. Once painted and trimmed, it captured the correct weight and texture, hanging naturally around the platforms just as it would on the real ship.



Detail view of the brass stock used to replicate the Arizona's antenna arrays.



The rigging of the arrays were correctly sized by building them on 1:1 guides penciled on a sheet of wood.



This image shows the complexity of the antenna arrays rigging.

Rigging

Rigging was the next critical phase, and it played a dual role—both in enhancing the model's realism and in contributing to the structural integrity of the masts. For the delicate radio aerials and signal lines, I used Uschi line in a range of sizes, from ultra-fine .001" to more robust .005" outer diameter. These varying thicknesses allowed me to replicate the different types of rigging used on the actual ship with convincing accuracy. For the heavier stays and bracing to the cage masts, I employed fine steel cable purchased from PSME some years ago, chosen for both its strength and its realistic scale appearance.

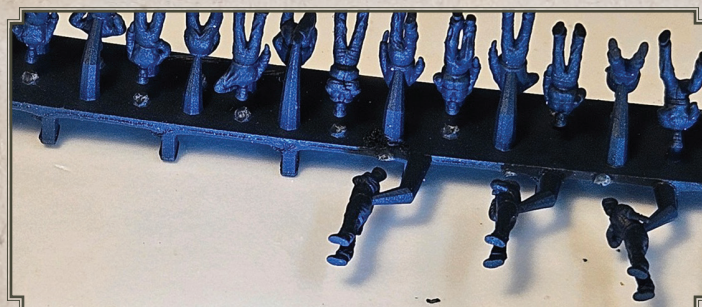
To ensure precision and consistency in the rigging layout, I used custom-made jigs to fabricate the antenna

arrays. These jigs helped maintain proper spacing and alignment while allowing me to handle the fine rigging lines with care. I also conducted a detailed photo analysis of the Arizona during her pre-war configuration, carefully cross-referencing archival images to confirm the correct placement and tension of every line. This level of scrutiny ensured that the rigging wasn't just decorative, it was functionally and historically accurate.

By the time the rigging was complete and the last of the searchlights and rangefinders had been installed, the cage masts stood tall and lifelike—graceful yet imposing, exactly as they had appeared aboard Arizona in 1916. These intricate towers now dominated the ship's silhouette, serving as the unmistakable focal point of the model and a testament to the complexity and craftsmanship of early U.S. naval design.

Bringing the Ship to Life

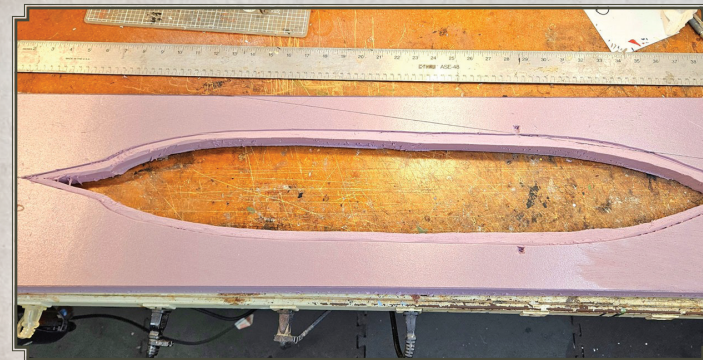
Ships have a soul when they're depicted in action, not in sterile isolation. To breathe life into my model of the USS Arizona, I added a complement of 1/200 scale ION 3D-printed crew figures, posed in a variety of natural, purposeful stances—some standing at ease, others working, walking, or conversing. I painted each figure in period uniforms, giving the model not only a sense of scale, but a palpable sense of movement and human presence across the decks. These tiny details help tell the story of the ship, transforming it from a static object into a living, working vessel frozen in time.



ION's 1/200 3d-printed crew.



Finished crew members give a sense of scale and human presence to the model.



The water for the base starts out as a section of insulation foam with a cutout for the hull of the model.



The first layer of water color applied is the darkest, followed by progressively lighter translucent ones.

A well-crafted model deserves a fitting display, and presentation is just as important as construction when it comes to telling a story. Rather than mount the Arizona on pedestals, I chose to portray her anchored in calm harbor waters—a peaceful, yet poignant setting that adds realism and narrative depth.

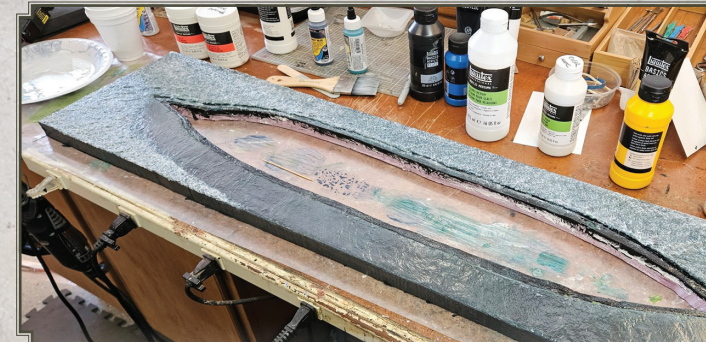
The base construction began with a sheet of foam insulation board, laminated securely onto a plywood backing for strength and stability. I first applied a coat of plaster over the foam to create a textured surface, giving the subsequent layers something to grip onto.

To simulate the water's surface, I layered strips of tissue paper soaked in thinned white glue, pressing and manipulating them into place. Using a stiff-bristled brush and a stippling technique, I created subtle waves and ripples—small but effective details that mimic the gentle movement of harbor waters. Once dry, the glue hardened to form a durable, paintable surface.

Painting the water required multiple translucent layers to convey depth and realism. I applied coats of acrylic paint, beginning with darker blues and greens to suggest deeper water, then progressively lighter tones for areas nearer the ship or reflecting more ambient light. Gesso added texture and variation, while clear acrylic gels enhanced the illusion of movement on the surface. Finally, I sealed the water with repeated applications of clear varnish, which gave the base a glossy, wet sheen. This final touch brought everything together, light reflecting off the surface transformed the base into a con-



The gentle ripples of the water's surface are recreated by laying down tissue paper soaked with thinned white glue.



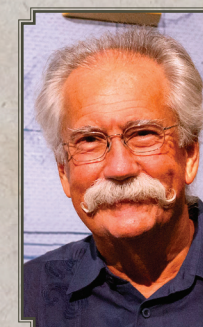
Additional layers of progressively thinned and lightened blue paint, are added to create the illusion of depth of the water.

vincing representation of calm harbor water, perfectly complementing the presence of the Arizona at anchor. As time went on, this build became far more than a modeling exercise. It was a journey into naval history, a rediscovery of forgotten details, and a test of creativity and persistence.

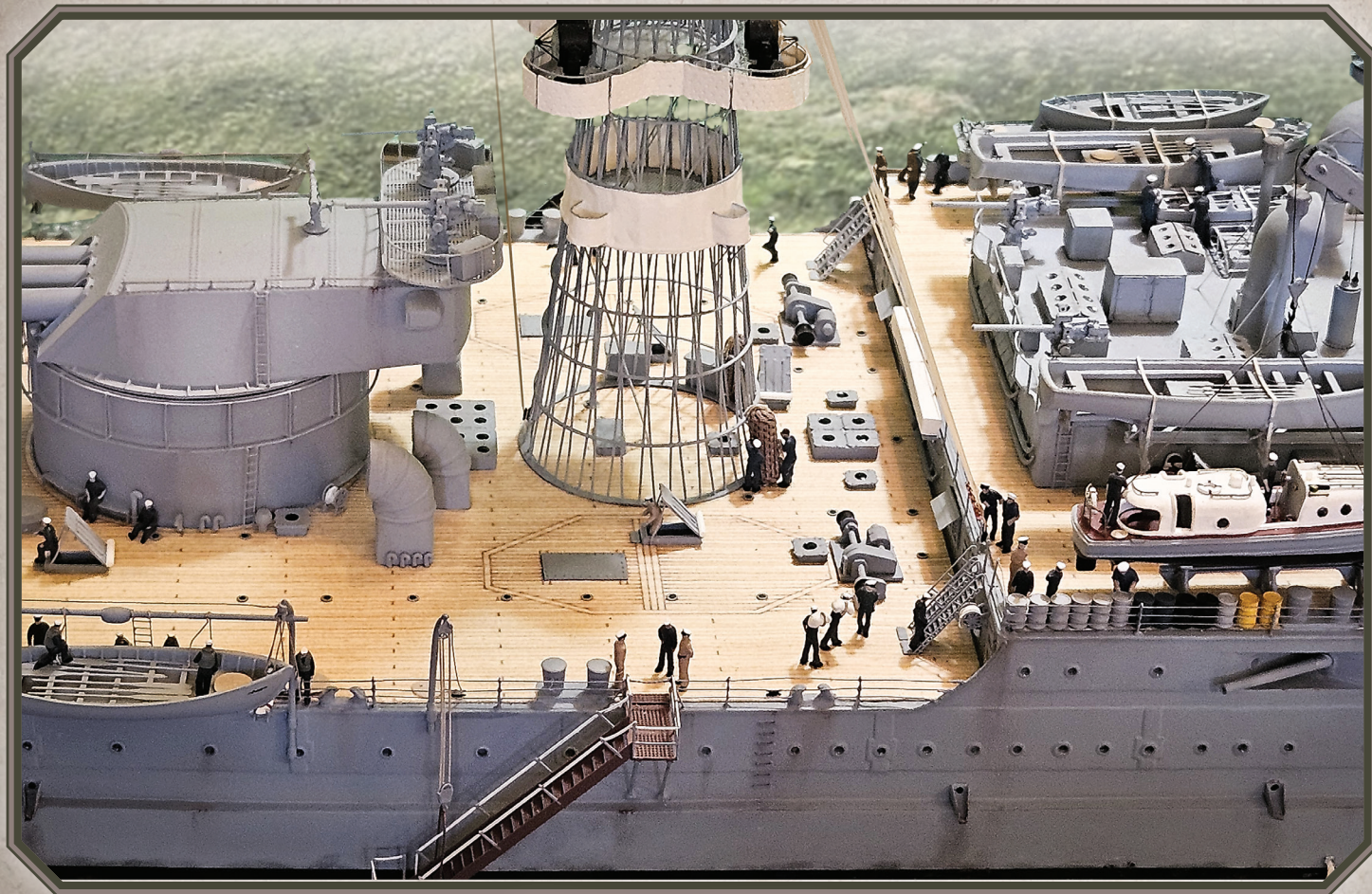
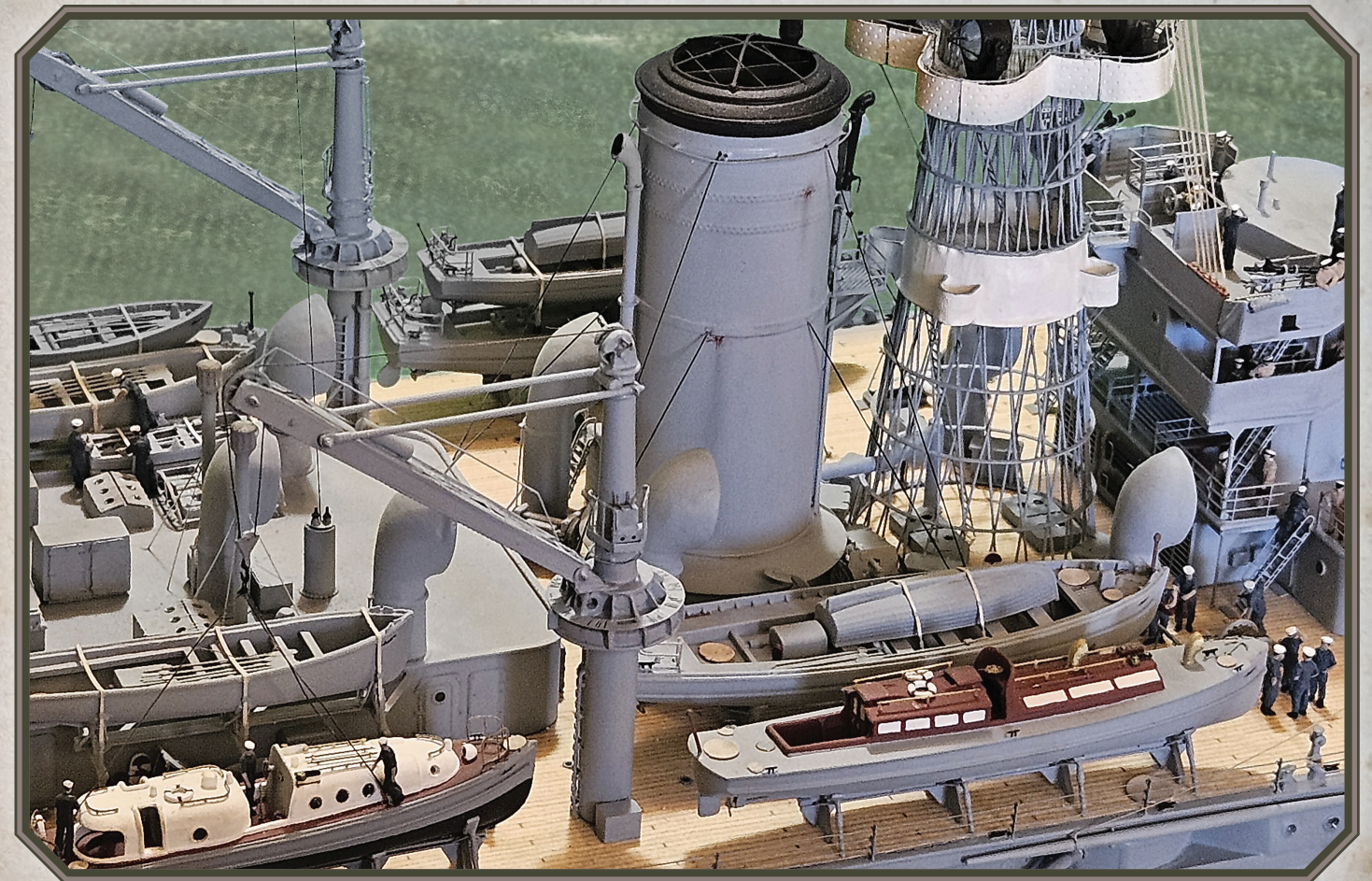
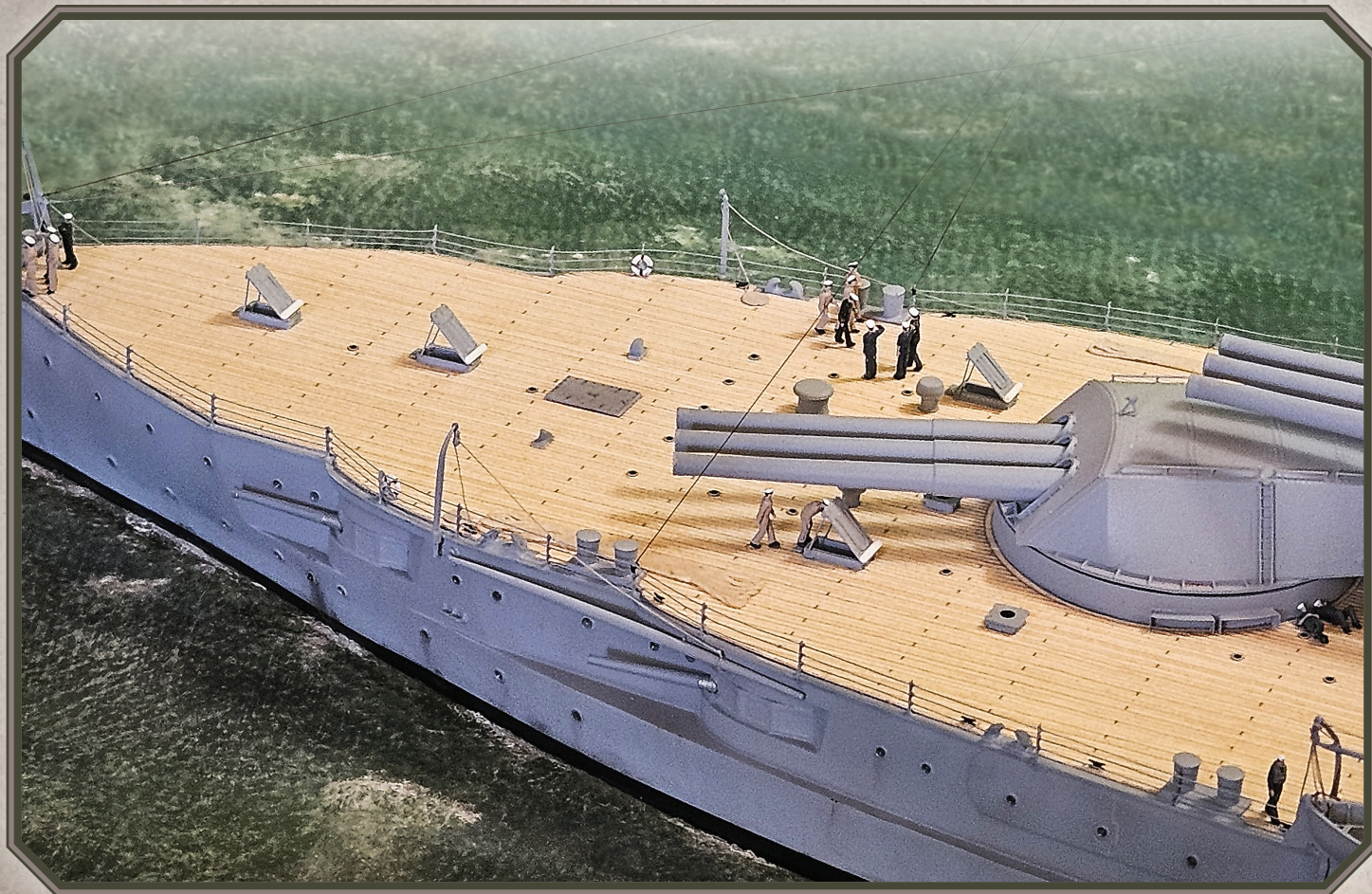
The finished model now stands as both a tribute to the USS Arizona and a reminder of why I built it in the first place. It challenged me to push beyond the kit; to re-imagine a ship most known only for her ending, and to honor the beginning of her story.

For me, the lesson was simple: "anything worth doing is worth overdoing."

Gene Berger, of Hampton, VA, is a lifelong ship model builder and retired airline pilot. A self-taught hobbyist, he's progressed from model kits to intricate scratch-built projects using advanced modeling techniques. He's an active member of the Hampton Roads Ship Model Society, NRG, IPMS, and The Mariners' Museum community. These connections continue to inspire and challenge him as a modeler, learning and sharing with fellow modelers. Gene remains deeply engaged in the hobby, with a growing backlog of projects that keep his workshop full and his passion alive.



For more of Gene's his amazing work visit:
<https://geneberger-models.com>



USS Arizona 1916 Gallery

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