



Details, Details, Details...

## GREYHOUND

BY DAVID CRANK, PRODUCTION DESIGNER

### Cold, Grey and Wet

**A.** CIC SET BUILT ON STAGE AT CELTIC STUDIOS, BASED ON CIC ON THE *USS KIDD* WITH MODIFICATIONS FOR FILMING.

**B.** GORDON LACO, NAVAL CONSULTANT, SHOWING ACTOR STEPHEN GRAHAM HOW TO USE THE TRACKING/MAPPING EQUIPMENT.

PHOTOS COURTESY OF APPLE.

That was an apt bit of research I ran across early on that stuck hard in my mind while preparing for the design of *Greyhound*. Between 1939 and 1945, maritime convoys, each comprised of upward to one hundred sixty-five military and supply ships, ferried troops and cargo primarily from the US to England and Russia. This was part of the largest ongoing operation of WWII, referred to as the Battle of the North Atlantic. These convoys, accompanied by US naval destroyers and others drawn from Allied forces, were anything but a pleasure cruise as they were conducted through the treacherously cold and rough northern waters

of the ocean. They were constantly trailed and attacked by groups of German U-boats, known as Wolf Packs, especially in the mid-Atlantic when they were unable to get help from either coast. *Greyhound* is based on *The Good Shepard* by C.S. Forester, which was inspired by these convoys. The original book was published in 1955 to reviews calling it one of the best novels of the year. Its story follows one Captain Ernest Krause, played by Tom Hanks, as he commands, for the first time, the main destroyer leading a supply convoy to Ireland. This situation brings about the drama of the story as the tension comes not only from

the encounters with the enemy, but also from the conflict and uncertainty within himself. The novel was first passed to Hanks about a decade ago by friend Nora Ephron, who suggested he adapt it into a film project.

Aaron Schneider and Playtone first spoke with me in the late summer of 2017 about the film which director Schneider had been preparing for several months. A meticulous researcher, former cinematographer, and problem solver, Aaron passed on his “bible” to me which contained not only a wealth of pictorial images, but also a 3D





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**A.** USS KIDD BEFORE ALERTIONS, MOORED ON THE MISSISSPPI IN DOWNTOWN BATON ROUGE.

**B.** ACTORS ON THE USS KIDD MANNING POSITIONS ON TOP OF THE NAVIGATIONAL BRIDGE. PHOTO COURTESY OF APPLE.

**C.** PRELIMINARY WHITE MODEL USED FOR DETERMINING THE LAYOUT OF THE NAVIGATION BRIDGE.

**D.** THE BRIDGE SET ON ITS GIMBAL. SET PHOTO.

**E.** SONAR ROOM ADJACENT TO NAVIGATION BRIDGE. UNDER CONSTRUCTION. SET PHOTO.

**F.** PILOT HOUSE BULKHEAD ELEVATIONS DRAWN BY TRISTAN BOURNE.

**G.** EXTERIOR OF THE NAVIGATION BRIDGE SET UNDER CONSTRUCTION BEFORE AGING. SET PHOTO.

model he had created of an existing destroyer, the USS Kidd, located in Baton Rouge. The ship codenamed *Greyhound* in the book was an earlier destroyer of the Mahan Class, of which unfortunately, none exist today. The *USS Kidd*, a Fletcher-style destroyer also used extensively during the war, is moored on the Mississippi and is the only ship of that class that has been returned to its WWII configuration. The first production plan the producers described to me involved building the needed ship interiors on stage in Montreal, and then spending a week or so in Baton Rouge for exteriors on the *Kidd*. That plan was to change as often as the weather.

Most of the story's action takes place in and around the bridge (the room from which the captain commands the ship), as well as below deck in the CIC (the Combat Information Center). There are also a few short scenes in the Captain's quarters, in the wardroom (the officers' mess hall) and on various decks of the ship. One early scene is set in a San Francisco hotel which helps establish the character of Krause. It was a tight script that pitted the cramped, claustrophobic quarters of the ship against the wide expansive ocean which held dangers both above and below its surface. Cold, grey and wet was all making sense. The sections onboard the *Greyhound* were to be filmed as realistically

as possible, with the ocean and other ships being added in post. I had never worked on an action film where the digital effects were so integral to the final look, so it was an interesting project. I had worked with Gary Goetzman and Playtone on *John Adams* earlier in my career, so I knew their commitment to always trying to get things right and not taking unnecessary shortcuts. By the time we began, the production plan had moved entirely to Baton Rouge, allowing us a freedom to alternate filming onboard the *USS Kidd* and on our set pieces at Celtic Studios. As the project proceeded, it became clear that it also meant that some scenes could (and would) be shot in both places, meaning all the set finishes and dressing would need to match that of the ship rather precisely. These tight quarters meant the textures and details would play in sharp relief. Some might call it a challenge, and some might call it a case of heartburn. More often it

is both, it just depends on what moment of the day you are in.

The production began in Louisiana in early January of 2018 with the construction of the interior sets, as they were slated to film first. The work on the *USS Kidd* would follow later in the schedule. Preproduction was rather fast considering what had to be accomplished, and filming was only to last about thirty-five days. Construction was overseen by Tom Frohling, Supervising Art Director, along with Richard Blankenship, the construction coordinator, and Camile Kelsey, the lead Scenic Artist. Their talented crew of carpenters and painters were mostly local. Lauren Rosenbloom, the Art Director, after assisting with the basic layout of the sets, was tasked with working with the quiet and dogged set decorator, Leonard Spears, to organize, track and integrate all the equipment with the structure of the sets. Tristan Bourne and Cosmas Demetriou, the overloaded draftsmen, were given the job of organizing a million and one measurements into workable plans for the crew.

While we worked in Celtic Studios from the beginning, the *USS Kidd* is a functioning museum, so access to it for actual construction and shooting would be somewhat limited. That aside, Tim NesSmith, the museum's ship superintendent and most ardent supporter, allowed the Art Department much time aboard the ship for research. He became a valuable daily resource since we all had a huge learning curve to contend with concerning destroyers. His passion and helpfulness are contagious, and his knowledge saved us from many trips down the wrong rabbit



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hole of research. In addition to NesSmith, the Art Department counted on the wisdom of Gordon Lacko, the production's naval technical advisor. A retired officer of the Canadian Royal Navy, he knew the ins and outs of naval protocol and more importantly, he knew how all the mapping and tracking equipment should work. He has an infectious enthusiasm and always greeted a question with a smile. Yves De Bono was brought on to oversee special effects, including the elevated gimbal platform for the main set of the bridge. At one point, there were two gimbals considered, with one to hold the CIC, but that grew beyond the budget and time limitations, as did a single larger gimbal that might hold both sets. In the end we settled on a 28-foot by 35-foot platform for the one interior bridge set with its exterior wraparound walkway, raised ten feet above the floor with a large surround of muslin drops to act as backings and as a containment of the weather effects. The CIC and the captain's quarters were also built on stage, though not on a gimbal. The movement in those had to be created in camera.

Matching and building a ship for a historically based story ultimately becomes, in a sense, as

much a math problem as a design challenge. The world of the Navy is dictated by rules, manuals, and, of course, the inevitable official color charts of every grey and green you could want. Combining the film's sets with a location curtailed wild deviation from what existed since everything in the end ultimately came back to matching the *Kidd*, on some level. That is not really a limitation though, just a different focus. For the stage sets, the interior plans of the ship did need to be quietly reconfigured to accommodate the camera and certain script requirements. This called for constant diligence to proportions and equipment arrangement since scenes might start on stage and overlap into the same spaces on the *Kidd*. It often boiled down to inches just to make these differences work. The two rooms of the bridge set were built as a steel frame box which carried the wilding wall and ceiling panels. Since the actual ship is made of large steel plates, there are few actual existing breaks to replicate and use to hide the wilding pattern on the exterior walls. Hence, welding beads were cast from polymer and used to cover the breaks, and then duplicates were added to the *Kidd* for continuity. The steel walls of the ship are all surprisingly far from flat. The structure

and the guts are exposed throughout, and the ship has layers and layers of additions added over time as needs evolved. The ship rarely received a total new paint job at once, but instead was redone piecemeal with colors which almost, but not quite, matched. It was all these variations that needed to be captured. The director liked to refer to them as the specularity of the set.

The set wall panels were created in layers of Masonite with shims between to reproduce these irregularities and add to the interest of the walls. These were sealed, textured, painted, overpainted and aged. There was a form of a primitive insulation covered in painted canvas on portions of the interior walls. Hardware and all types and sizes of piping and couplings were gathered and sent through the same painting process before being installed. For the ceilings, there were thousands of feet of wire-covered "electrical cabling" made using various diameters of plastic tubing as a base to reduce weight and save on costs. They too went through all the texturing and painting processes before installation. The matching porthole windows were cast from one of the *Kidd*'s originals. Spears sourced amazing period equipment from local collectors,

rental houses, other ship museums, as well as from the *Kidd*'s own storage. He did a remarkable job of finding matches to almost all the major pieces. What he was not able to obtain was built. All this structure and original equipment was very heavy and as the gimbal had a weight limit, everything was constantly assessed so as to not throw off the balance of the gimbal. Though complicated, all this would not have been as difficult had there not also been the addition of weather effects.

The original discussions centered around occasional rain and mist to be used in filming. Various methods to repel water were discussed and tested, and all the layers were waterproofed as they were built. In the end, the mist turned into an almost constant rain, quite heavy at times. The irony is that most of what is built for filming is really a prototype which gets pushed into service early with little time for improvement. Only afterward does one so clearly see what should have been done. Water will find your Achilles heel faster than you can blink your eyes. Fortunately, the crew was able to keep the problems in check, and usually had enough time in the schedule with company moves to repair any problems and keep things moving ahead.

**A.** SCENE IN NAVIGATION BRIDGE BEING SHOT WITH FRONT WALL REMOVED. PHOTO COURTESY OF APPLE.

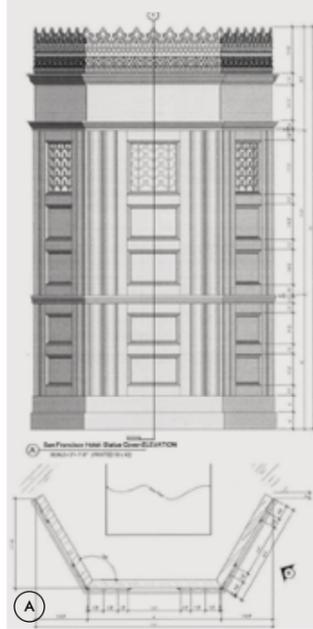
**B.** CAPTAIN'S QUARTERS BUILT ON STAGE. PHOTO COURTESY OF APPLE.

**C.** NAVIGATION BRIDGE SET BEING FILMED ONSTAGE. SET PHOTO.

**D.** MUSLIN SURROUND LIT FOR FILMING. PHOTO COURTESY OF APPLE.

**E.** NAVIGATIONAL BRIDGE SET COMPLETED. PHOTO COURTESY OF APPLE.





**A.** SAN FRANCISCO HOTEL LOBBY STATUE COVER. CONSTRUCTION DETAIL DRAWN IN RHINO BY COSMAS DEMETRIOU.

**B.** SAN FRANCISCO HOTEL LOBBY. WATERCOLOR AND INK SKETCH BY DAVID CRANK.

**C.** STATUE COVER FINISHED IN SHOP BEFORE INSTALLATION IN LOUISIANA STATE CAPITOL.

**D.** HOTEL BAR BEING DRESSED WITH ONE OF FOUR STATUE COVERS IN BACKGROUND. SET PHOTO.

The *USS Kidd* held its own issues that needed solutions. Most of it was spot-on for filming since it had already been returned to its WWII look. Though unable to leave its mooring, the ship was to be shot extensively from all angles for use in the CGI portions which would place the ship on the open sea, so the production tried to correct as much on deck as made sense for this purpose. There were the usual suspects to remove such as modern museum signage and modern safety equipment. The warships of that time had very elaborate patterns of anti-skid tape added to the decks which created long walkways for safety, the entire length of the ship. Most of these pathways were missing, so we reapplied them. Their addition

seemed a small touch until they were in place again. The museum recognized the importance of their look and purpose and kept them after filming.

The *Kidd*'s wardroom was in the process of being renovated as preproduction started, so we assisted the volunteer crew in finishing it, repainting and aging the room after all the structural repairs were done. This room often doubled as a temporary operating room, and they are fortunate to still have the original long table and lighting instruments which mirror that of a medical setup. It became clear while doing the painting samples for the exterior set walls of

the bridge on stage, that the painted exterior of the ship was now so etched from weather that the surface reacted to rain in a very different way than could be simulated with new paint. As the painters had matched the existing color, the museum staff let us repaint and age the exterior of the actual bridge to bring it in line with the set. This ensured no drastic differences when shooting jumped between the two locations. One important feature of the ship that was needed badly but which had not been completely restored by the museum, were all the anti-aircraft and 5-inch guns. Special effects worked with the ship's crew on a number of these to get their mechanisms moving, so that even though there would be no munitions flying out at the Baton Rouge Convention Center off the starboard side, at least with the addition of CGI, they would look to be operating convincingly in battle. Ed Borasch, the prop master, provided all the reproduction depth charges and many munition casings that the sailors would be handling during the action sequences. In conjunction with Graphic Artist Ben Wolcott, he also provided all the charts and paperwork seen throughout the story, not to mention the innumerable sandwiches delivered to Krause but left uneaten as he attended to some new emergency. I was assured it was not always the same sandwich.

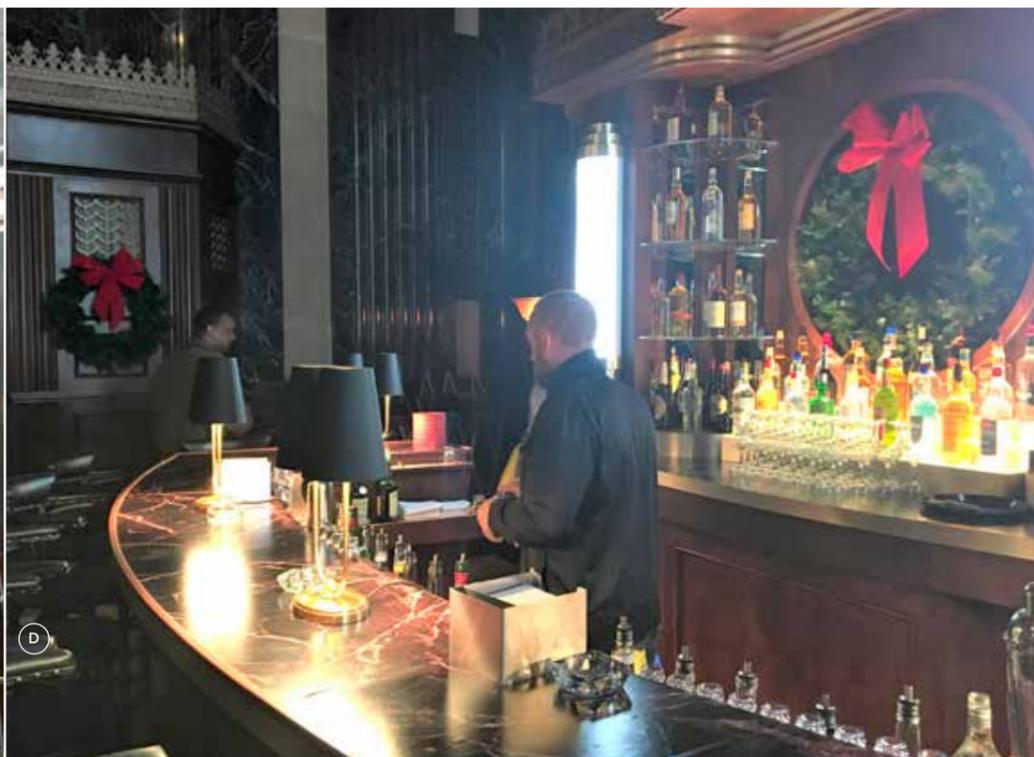
The early scene set in an upscale San Francisco hotel was one of the few moments I did not

need to stick with our grey palette. It was set at Christmas, so it gave us opportunity to have a warm scene before the contrast of all the cold ones to follow. Shot in the main lobby of the Louisiana State Capitol, it was the largest public space of the correct period in Baton Rouge. A beautiful art deco-styled hall sporting original murals on the end walls and ceiling, it had only a few incorrect elements to hide, namely four larger-than-life statues made, of course, from pure white marble. At least they were symmetrically placed, which made the covers less obtrusive in the overall scheme. A full bar and restaurant were added to one end, along with hotel desks and Christmas decorations. There are a few naval references in the layout and decoration, which are left for the audience to discover. No good location comes without a drawback though. The Louisiana Legislature was in session, so all work was reduced to a single weekend and the scenic elements had to break down into multiple units shorter than five feet and load in through one passenger-sized elevator. Details, details, details...

This project handed all involved a full plate of challenges to solve in a very short amount of time. With everyone's contributions, I think we managed to address them all successfully. In spite of being cold, wet and grey, or rather because of it being cold, wet and grey, I think it makes for a realistic, exciting film to watch. **ADG**

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Art Director  
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Set Designers  
Ben Wolcott,  
Graphic Artist  
Leonard Spears,  
Set Decorator

**E.** CAPTAIN'S QUARTERS. PHOTO COURTESY OF APPLE.



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