

# LEGO® Shipbuilding

## World War II 1/350 scale replicas

By Paulo Castanho

Photos by Paulo Castanho and Lucilia Nunes

My name is Paulo Castanho, from Portugal, I'm 46 years old and one of the founders of PLUG – the Portuguese LEGO® User Group.

In my youth I build some scale models and I thought it was a good idea to build some models in LEGO at a specific scale. But I had really never tried this before. Normally my LEGO constructions are about imaginary vehicles, Adventurers Dioramas or Sci-Fi MOC'S. I had never ever built a ship with LEGO.

I choose the 1/350 scale because it is a scale used in naval models and it allows me to build big ships with some details. Ships are large, huge constructions and I wondered what they would look like using LEGO.

So, I started using LDD (LEGO Digital Designer), because it allowed me to see how to build the ships, what pieces I would need and, taking the results in consideration, it seems it was the best way to do it. And really worked out, taking an LDD project and turn it into a real object.

One of the challenges was to gather information regarding the ships. The Internet is full of data, but sometimes specific info is hard to find, especially specific dimensions.

I started with overall dimensions and the general shape of the ship. After that I build the details with the help of photos. Since the ships are from the U.S. Navy, they have some elements in common, like guns, life boats, etc. so some elements are portrayed on all the ships.

The 5 Inches guns, the 40mm Anti-aircraft guns and the 20 mm machine guns

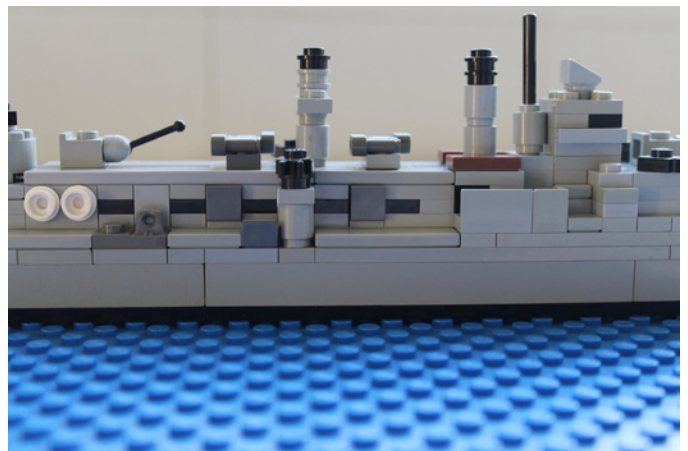
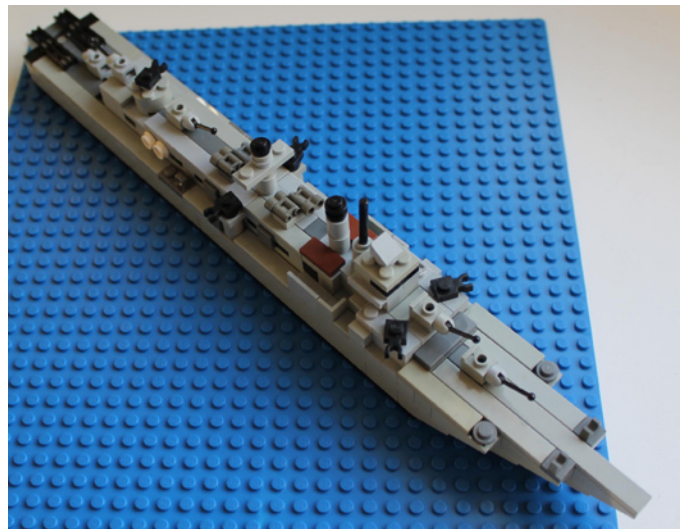


Another challenge was to build airplanes that were in scale. In this case it wasn't possible to build with too much detail or with a big difference between them, for example a carried airplane F4U Corsair has a length of 10,1 m and a wingspan of 12,5 m. This dimensions at 1/350 scale in LEGO represents 3,6 x 4,4 studs.



I will present them here, in the order I created them and then a diorama that honours the real ships, the human spirit that created them and a part of human history.

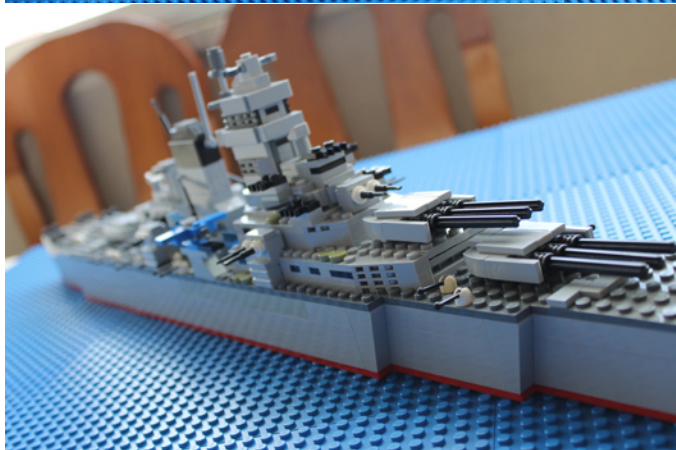
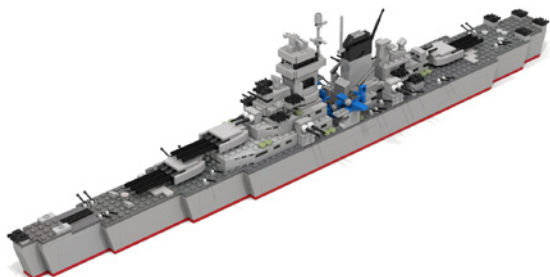
The first one was the destroyer. It is a Fletcher-class destroyer, the first generation of destroyers to be designed for the long range required in operations in the Pacific Ocean. Compared to earlier designs, the Fletchers were the largest class of destroyer and also one of the most popular, carrying a significant increase in anti-aircraft weapons and other weaponry. The project in LDD of this model took me about 2 to 3 week to finish. Since it was also the first time that I used LDD for a project of this magnitude I had to learn how to use it. The model have 42 x 5 studs and 300 pieces.



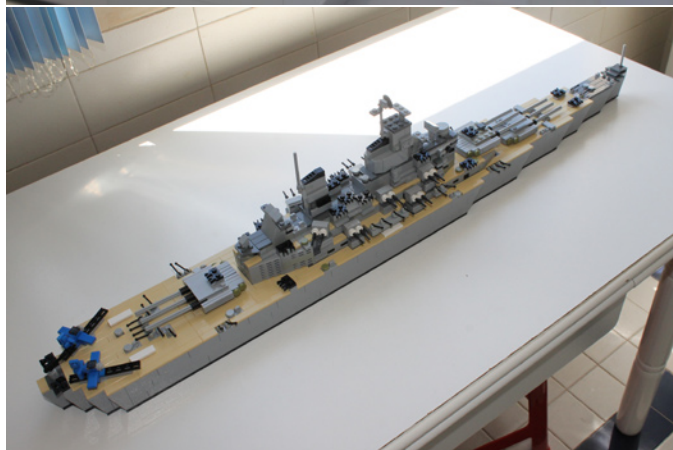
Next, I had to build a larger ship, so I decided to build the heavy cruiser Alaska. Alaska was the third vessel of the US Navy to be named, laid down on 17 December 1941, ten days after the outbreak of war, and launched in August 1943. Armed with a main battery of nine 12In (300 mm) guns in

three triple turrets. It took part in operations like Iwo Jima and Okinawa in 1945, also escorting the carriers Saratoga and Enterprise as they conducted night bombing missions against Tokyo. After the war, Alaska served in China and Korea, being decommissioned in February 1947 and placed in reserve, ending up being sold for scrapping in 1960.

The Alaska model took me about one week, and it consists of 750 pieces with a size of 92 x 10 studs.



The major challenge was to replicate the small details and make them recognizable to those who look at the construction. The battleship USS Iowa, Iowa-class, really fulfilled these requirements, because when I exhibited it, most of the people recognized it as being the Iowa or its twin, the Missouri. Built in 1940, it served for over 50 years, named as "World's Greatest Naval Ship" due to her big guns, heavy armour, fast speed, longevity and modernization. No other battleship has been host to more U.S. Presidents than the IOWA. Launched to the sea in 27 of August 1942, it is now in a museum, since October, 1990, in the Los Angeles harbour docks. The project of the Iowa took me about 1 to 2 weeks. The model is 100 x 12 studs and has 1300 pieces.

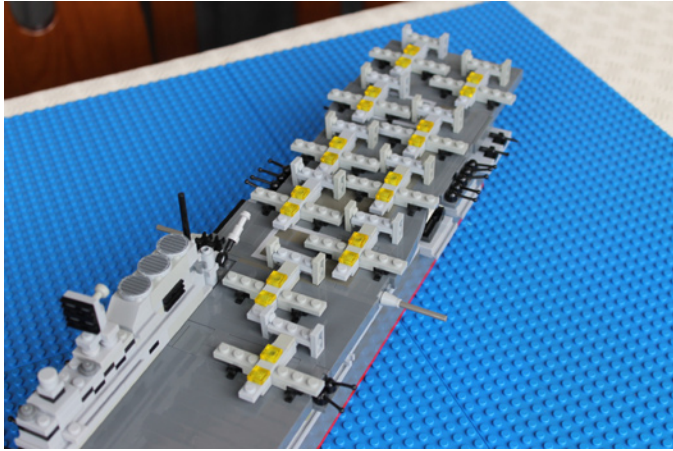


By this time, I was ready to face the challenge of building the Yorktown class aircraft carrier - the Enterprise and the Hornet. The Enterprise was assigned to the invasion of Guadalcanal and participated in the preliminary strikes. It was repaired from damage after the Battle of the Eastern Solomons in time to join the Hornet in the Battle of the Santa Cruz Islands. The Hornet was severely damaged and had to be abandoned, sunk there. The Enterprise was again damaged during the battle, but was repaired enough to participate in the Naval Battle of Guadalcanal. It was the sole survivor of its class, it became the ship to receive the most distinctions in the history of the U.S. Navy, and was scrapped in 1960. Building the deck in snot, was the only way to represent the elevators that carry the planes from the hangar to the deck. The airplanes with their wings folded to occupy less space was another challenge.

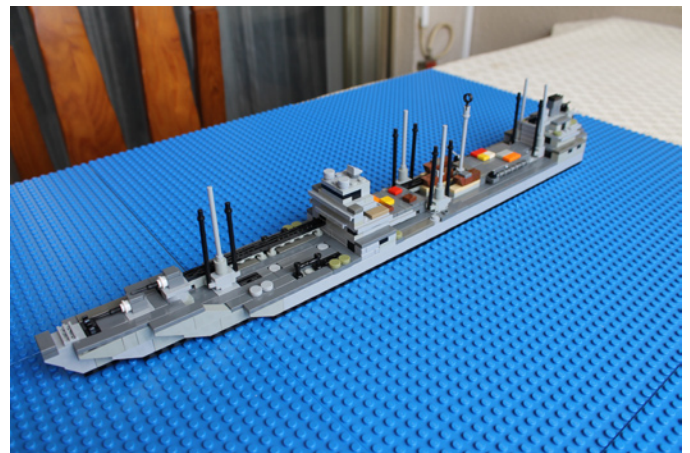
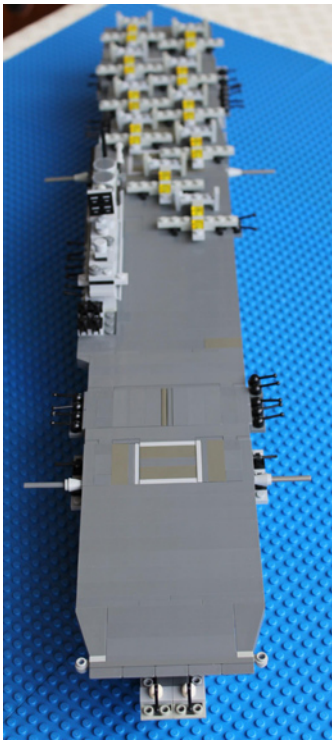


The difference between the aircraft carriers was the planes they carried on the model - the Hornet had B-25 medium bombers, used in the Doolittle Operation and the Enterprise a normal squad of carried airplanes.

The project of the model took me 2 week to complete and during the constructions some details were altered. It is 88 x 13 studs and uses 1060 pieces.



To make a diorama of a fleet, it is clear you need a fleet oil tanker – so I built the Cimarron, launched on 7 January 1939, and sold for scrap in 1969. Like the Enterprise and the Hornet, it participated in the Doolittle Operation. This model took me about 10 hours of work, and measures 66x8 studs and contains 560 pieces.



It is quite amazing when you start with an idea - like "what if"... I build some WWII ships?. And then you go to LDD designs and look (and painfully wait) for the pieces, and, slowly, you can experience the metamorphosis of a thought into a diorama.

To give some extra detail to the diorama I placed some airplanes flying over the fleet.  
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