

NATIONAL NAVAL AVIATION MUSEUM

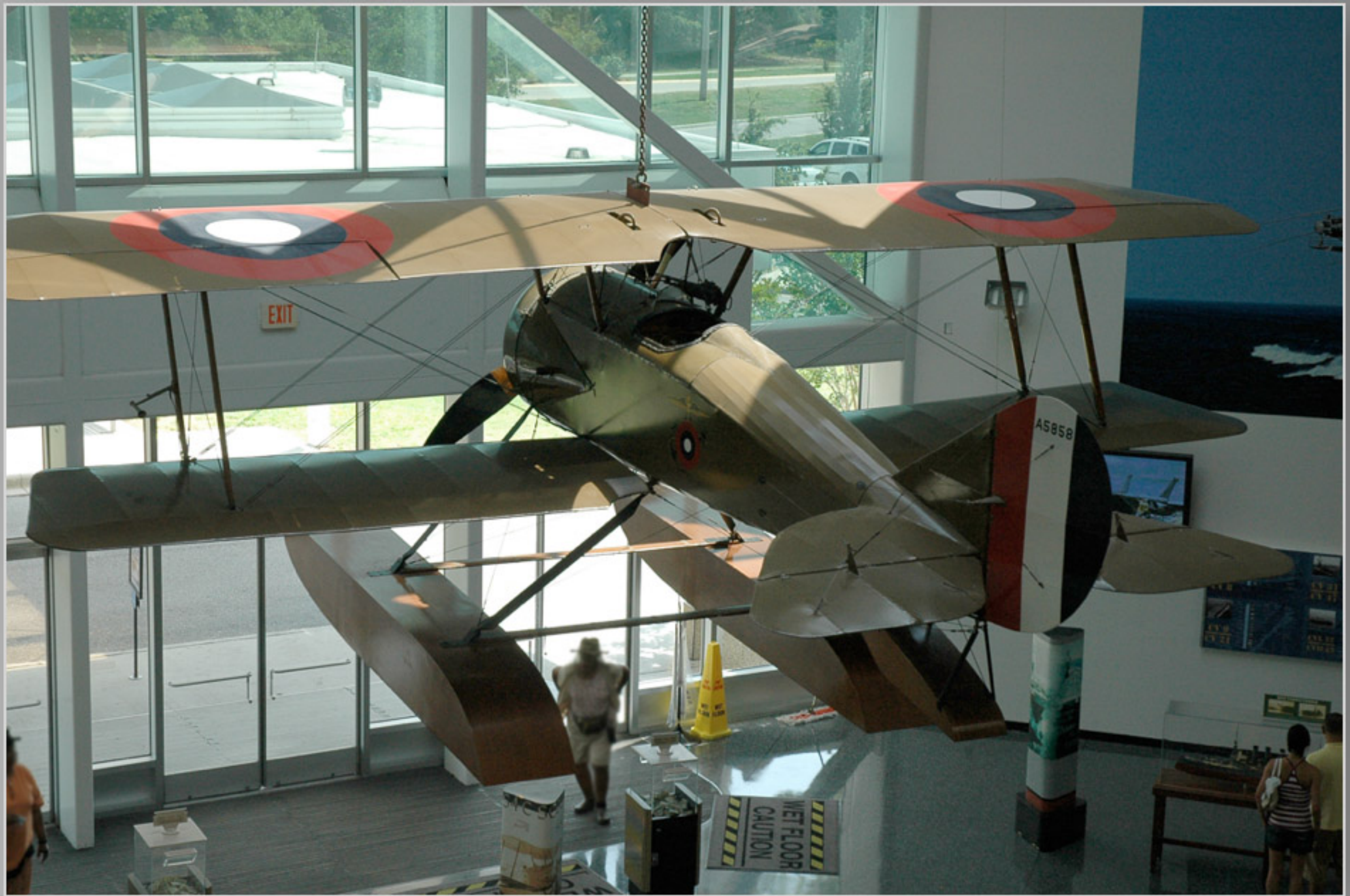
Pensacola Naval Air Station

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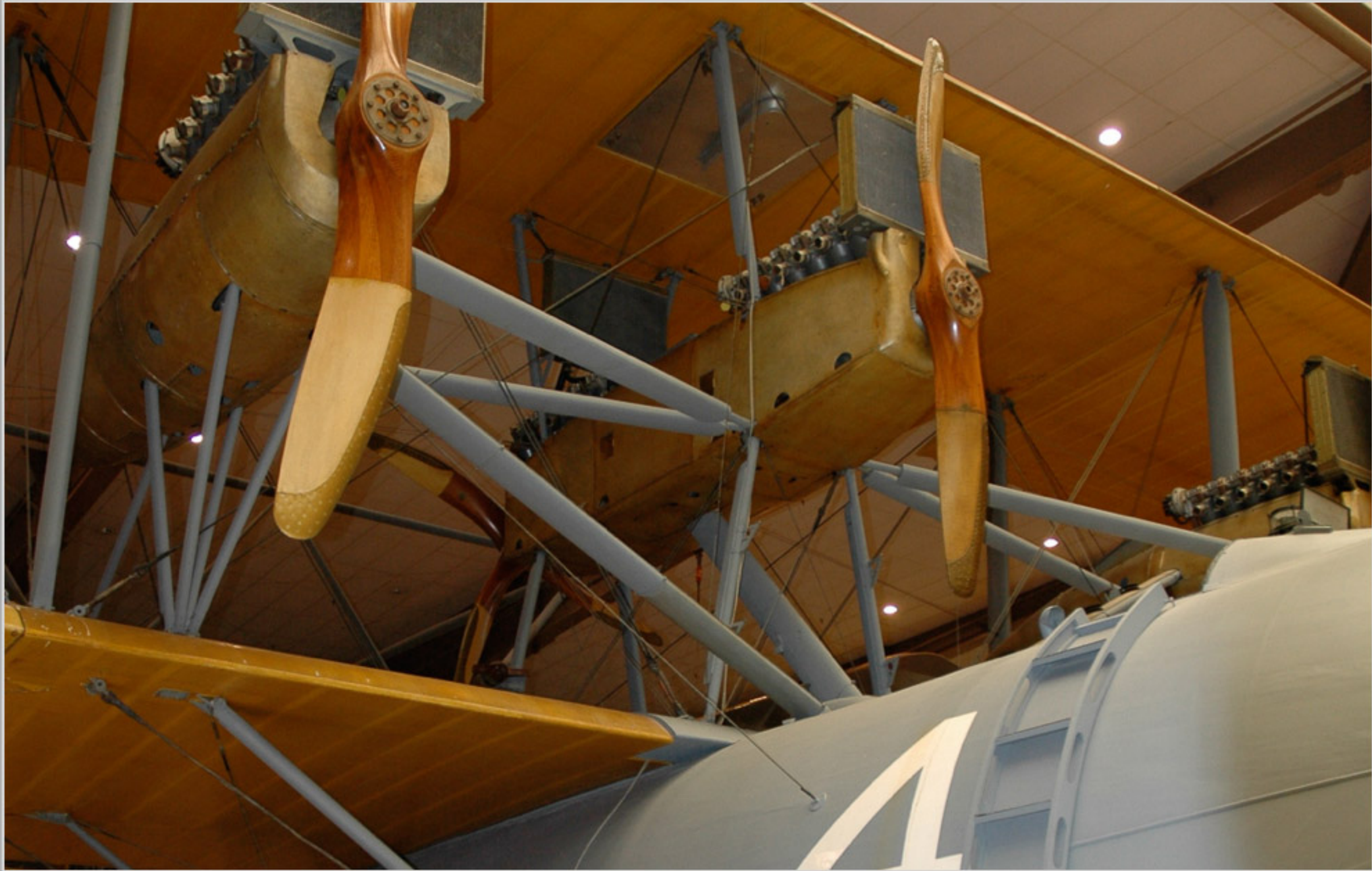












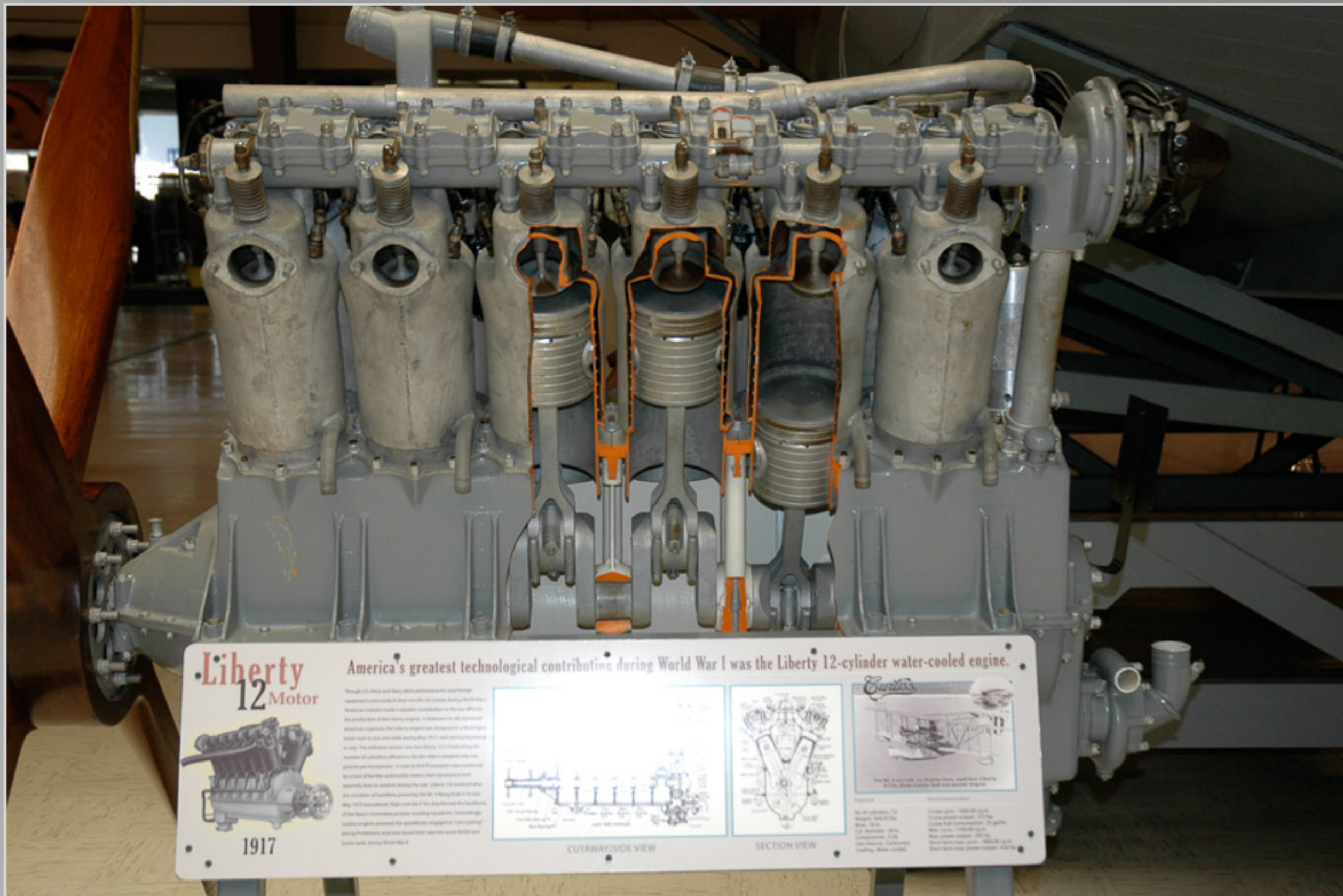












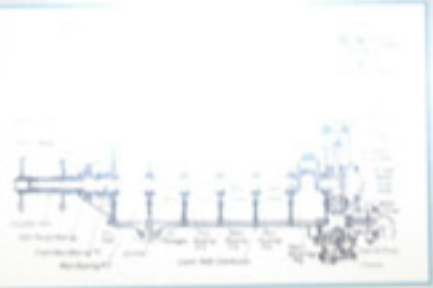
Liberty 12 Motor



1917

America's greatest technological contribution during World War I was the Liberty 12-cylinder water-cooled engine.

Though it's long and thin, this governmentally developed engine was actually a star in its own right. During World War I, American industry made a valuable contribution to the war effort in the production of the Liberty engine. It is believed to be the most successful American engine ever designed or built. The Liberty engine was designed in Washington and was in full-scale production by May 1917, with design engineering in July. The Liberty engine was the first 12-cylinder engine ever produced in America. A total of 28,770 engines were produced by a team of Liberty engine builders during the war. Liberty 12s were used for the construction of battleships, including the USS Oregon, in May 1919. Thousands of Liberty 12s also formed the backbone of the Navy's merchant marine, including the USS Oregon, including the USS Oregon, and were used for the construction of Liberty ships during World War II.



CUTAWAY/SIDE VIEW



SECTION VIEW



The USS Carrick, an auxiliary transport ship, used two Liberty 12s, one in the bow and one in the stern.

Properties	Performance Data
No. of cylinders: 12	Stroke length: 1600-1800 mm
Weight: 2000-2500 kg	Stroke volume: 210-250 dm³
Block: 12 x 18	Stroke rate: 100-120 rpm
Cylinder diameter: 160 mm	Max. power: 1500-2000 hp
Compression: 15:1	Max. torque: 1500-2000 Nm
Oil system: Lubricator	Max. torque: 1500-2000 Nm
Cooling: Water-cooled	Max. torque: 1500-2000 Nm



























































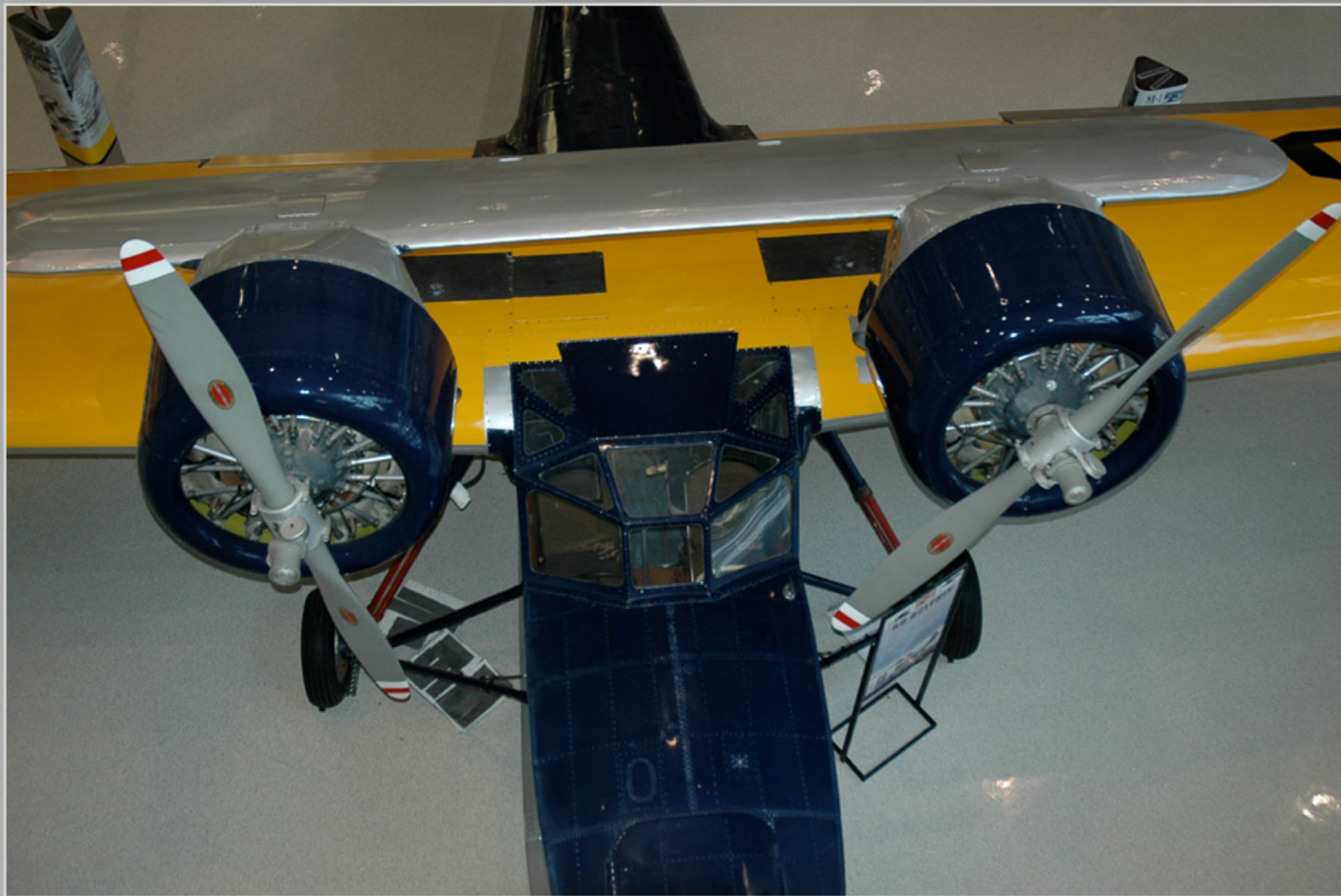












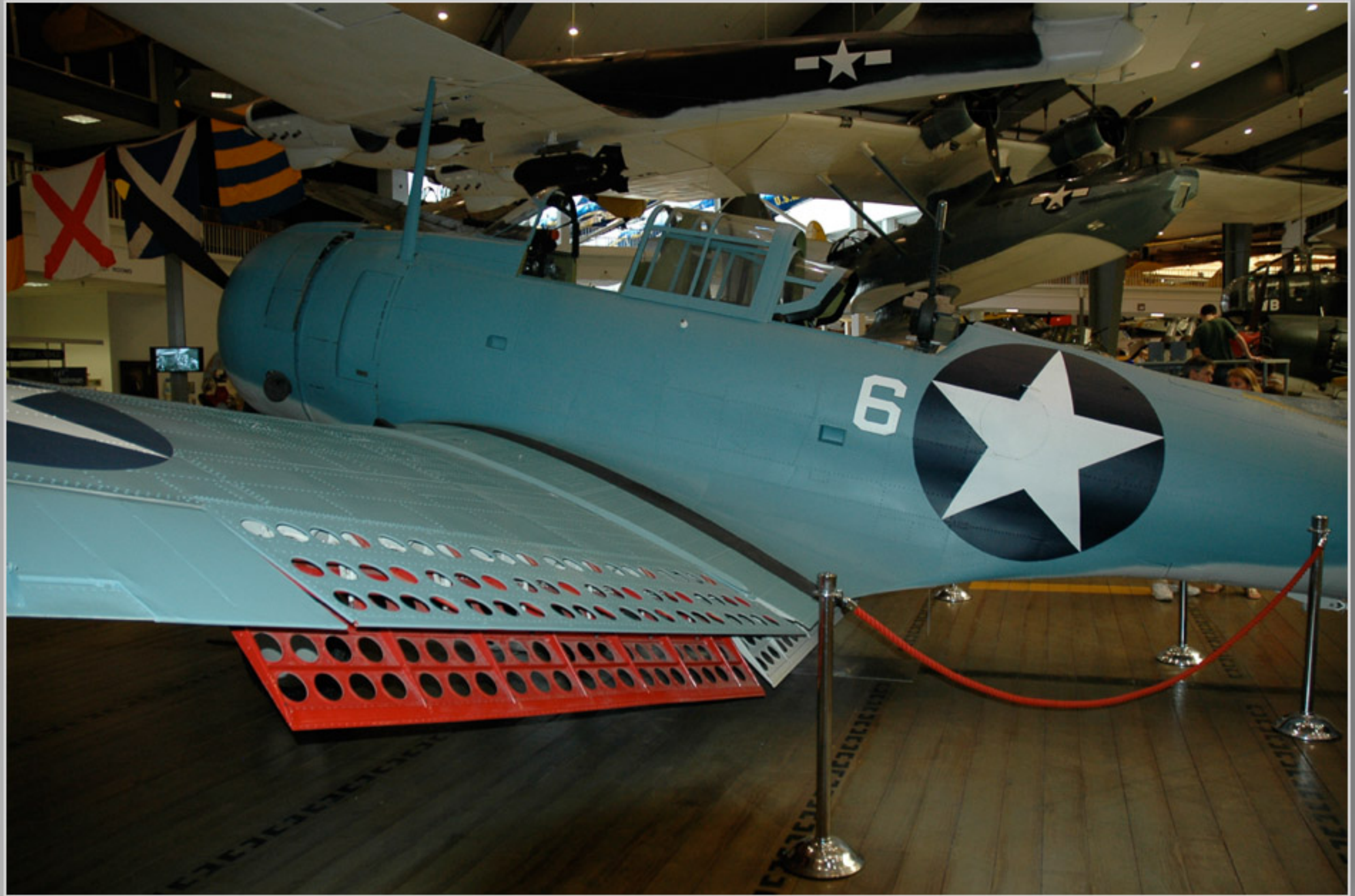
























PBV CATALINA - Flying Boat



Of the over sixty examples of the World War II-era PBV Catalina flying boat, the one on display here is the most unique in appearance. An aircraft earmarked for transfer to Great Britain under the wartime "Lend-Lease" program, PBV-38 never made it overseas, instead serving as a trainer, pounding the waves of Pensacola Bay and flying out over the Gulf of Mexico with fledgling pilots and aircrewmen aboard. It was on one such flight that Ensign M.C. Freeman and aircrewmen aboard. The accident was not serious enough to push the aircraft out of service, and with its leathers rotted, this PBV was parked on the tarmac at the air station. Given the fast pace of training activities at the station, the aircraft was damaged on the ground when another aircraft collided with it, effecting flying days. At the same time the Navy was in the process of establishing a Training Unit at Pensacola for the purpose of teaching cadets and aircrew that could mean the difference between life and death in the event they were shot down. The strikes PBV assumed an ideal prop to support the unit's mission. The strikes PBV assumed an ideal prop to support the unit's mission. The strikes PBV assumed an ideal prop to support the unit's mission.









