

SUPSALV Performs Strut Bearing Replacement on USS EISENHOWER (CVN 69) in Norfolk, VA.

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NAVSEA 00C5 is the Underwater Ship Husbandry division of the Office of Director of Ocean Engineering, Supervisor of Salvage and Diving (SUPSALV). 00C5 is tasked with developing procedures for repairing US Navy ships that would otherwise require dry-docking to repair. This February, they have taken on the in-water replacement of all four main strut bearings on USS EISENHOWER (CVN 69) during a Planned Intermediate Availability at Norfolk Naval Shipyard. After discovering damage to USS RONALD REAGAN's (CVN-76) stave bearings, NAVSEA required the waterborne bearing inspections on all aircraft carriers that were known to have had the same bearing material installed as did REAGAN. SEA 00C and contract divers from Seaward Marine, inspected all 12 bearings on the IKE (as USS EISENHOWER is affectionately named) which was already in a maintenance availability, and determined that the main strut bearings on all four shafts required replacement. On February 1, 2011, SEA 00C arrived at the pier at Norfolk Naval Shipyard with underwater repair specialists from Phoenix International and equipment from the Emergency Ship Salvage Material (ESSM) bases in Cheatham Annex, VA and Port Hueneme, CA and began the bearing removal and replacement task.



The first task was to rig work barges port and starboard off the stern of IKE to support the divers and rigging the heavy equipment and bearings from under the ship to the pier. Shown here is the starboard barge, used for rigging only. The port barge was set up the same for rigging but is also where the dive station was set up.



Tuggers were installed to aid the divers in handling heavy equipment in the water and under the ship. For example, 50-ton hydraulic chain hoists (weighing about 3,000 lbs) had to be rigged under the vessel for lifting the shaft and propeller (weighing about 100,000 lbs) enough to remove the lower half of each of the bearings.



In this image, riggers can be seen guiding the newly re-staved bottom bearing half back over the barge to be hung from the A-frame and then installed on shaft number 4 (blue structure seen to the left of the bearing).



This image shows damage to the lower half of IKE's number 3 shaft bearing. After rigging the damaged bearing ashore, a Norfolk Naval Shipyard machine shop will remove all the old staves and re-install new ones. SUPSALV will then rig them back under the ship for installation. It is anticipated the entire task will take between 4 and 5 weeks to accomplish.