



UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

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Alert 07-09

SAILBOAT RIGGING DANGERS

Recently in the Florida Keys, the standing rigging of a 60' inspected passenger carrying sailing catamaran failed, causing its rotating *wing spar* mast to collapse. Evidence suggests that the port shroud parted where it exits a swageless mechanical end fitting located on the upper mast at a common shrouds/stay connection. Although there were a number of passengers onboard at the time there were no resultant injuries. A six year review of Coast Guard casualty data shows 28 similar type casualties involving inspected sailing vessels. Of those 28, nine involved the failure of mast, spars and rigging components leading to dismastings; six of those involved sailing catamarans. Two separate catamaran dismasting resulted in two fatalities.

Common among the dismasting casualties was the failure of the mast's standing rigging. While this investigation is ongoing, initial forensic metallurgical analysis of the failed cable strands showed visual corrosion and evidence of fatigue failure. The shroud cable and swageless end fitting had been installed seven years prior.

The Coast Guard **strongly reminds** all commercial vessel owners/operators, especially those of passenger carrying sailing catamaran's of similar build, of their responsibility to maintain their vessels, associated equipment, systems and components in a satisfactory condition suitable for their employed service at all times. Owner and operators should not wait until regularly scheduled Coast Guard inspections to identify problems but should be ever vigilant and implement routine inspection, maintenance, and repair procedures in accordance with good marine practice and in alignment with applicable requirements. Owners and operators should consult the vessel manufacturer or other naval architecture, marine engineering services or qualified rigger regarding any concerns they might have regarding the regular flexing and working of their vessel's standing rigging



Inspection requirements for small passenger vessels are found in 46 CFR 175-185. Additionally, Coast Guard Sector Honolulu, by consensus with their local sail vessel industry, developed Inspection Note #13 that outlines an enhanced inspection regime for sailboat rigging, masts and associated components for their inspected small passenger sailing vessel fleet consisting almost entirely of catamarans. This information is useful to both marine inspection personnel and vessel owners/operators and is available by searching the web using the key words: "Sector Honolulu Inspection Note #13". Manufacturer published guidelines on mast and rigging system maintenance can be found in "Rigging Service Guidelines" <http://www.navtec.net/docs/RiggingService.pdf> published by Navtec Rigging Solutions. Practical standing rigging inspection information from a marine surveyor's perspective is available at <http://www.dixielandmarine.com/yachts/DLrigprob.html>.

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