



DurAlloy Repairs Oversize Tapered Pintle Housing (Gudgeon) Without Machining

NOTE: The conventional approach would have required up to a ½ inch of weld build-up on the inside of the gudgeon followed by line-boring of the tapered housing. This would have required up to two weeks of additional dry dock time and would cost over \$150,000. The ENECON approach cost only \$19,000 which included the DurAlloy plus technical field engineering support charges.

This Military Sealift Command (MSC) ship is a large roll on/roll off (RO/RO) vessel. She is 954 ft. long with a 106 ft. beam (width).

She was dry-docked at a shipyard in the southeastern U.S. The rudder was removed along with the associated hardware (pintle/pivot pins) and then refloated since dry-dock time is very expensive. While the ship was at pier side the pintle was clad-welded and machined. This was done 'blind' since the gudgeon (pintle housing) was submerged.

Once the ship was returned to the dry dock, scaffolding was erected 30 feet in the air and a couple of bucket truck man-lifts were also brought in. After a few 'dry fits' to make sure the pintle fit properly in the housing, the housing was grit blasted and cleaned with MEK.

A release agent was then applied to the pintle and a repair team of 8 men plus the local ENECON Field Engineer mixed 62 kgs. of DurAlloy which was then applied to the inside of the gudgeon and over the previously applied release agent on the pintle. The pintle was hoisted into position and any excess DurAlloy exuded out of the bottom. This entire process took about 30 minutes.

After about 18 hours the 8.5 ton pintle was removed from the housing using a large hydraulic jack. The housing was then thoroughly inspected and was found to be in perfect condition. The port engineers and the ABS inspectors were very pleased with the results and intend to recommend this high profile repair for many other ships.



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