

### RUDDER MODIFICATION ON PLEASURE YACHT LEADS TO LOSS OF VESSEL

REGIONAL MANAGERS, PRINCIPAL OFFICERS, SMALL VESSEL SURVEYORS, SMALL VESSEL OWNERS AND OTHER INTERESTED AND AFFECTED PARTIES

<b>ISSUE DATE</b>	20 June 2021	<b>EXPIRY DATE</b>	Indefinitely or unless withdrawn	<b>REFERENCE</b>	SM6/5/2/1/MA
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#### Marine Alert's and/or Marine Notice's and/or Marine Information Notice's affected

<i>Cancelled or superseded:</i>	None	<i>Read in conjunction with:</i>	MN13 of 2011, MN9 of 2016, MN6 of 2002
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#### SUMMARY

This Marine Alert is to provide an overview of a recent accident investigation where the complete loss of a vessel (with potential loss of life) occurred after a pleasure yacht was abandoned in heavy seas near coastal waters. The vessel lost its rudder and upon inspection of the wreck a modification was found on the rudderstock.

#### LESSONS LEARNED

<b>Casualty Event Severity</b>	Very Serious Marine Casualty (Total loss of ship with loss of life potential)
<b>Casualty Type</b>	Loss of control
<b>Casualty Event</b>	Loss of directional control
<b>Date/Time</b>	10h15 on 21.05.2021

#### Incident Description

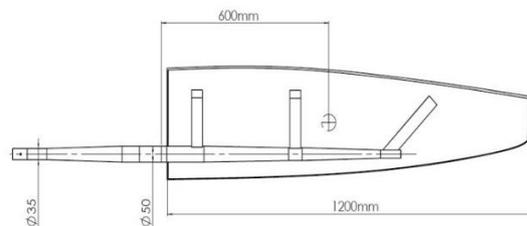
On 21.05.2021 the East London NSRI were activated by a yacht off Morgan point after it had lost its rudder and was drifting towards a lee shore in a 40+ knot South Westly wind with 5-7m swell. The 5 crew members abandoned the vessel and were evacuated to East London safely that evening after attempts at towing the yacht failed. The yacht was driven onto a beach just North of Kobonqaba river over-night and found wrecked on 22.05.2021. An investigation into the circumstances of the abandonment and the root causes of the rudder failure and ultimate grounding was undertaken. Two directives were also issued by SAMSA with regards to the wreck removal plan and removal of the harmful substances aboard directing that the owner or their representative provide the authority with a plan within 72 hours of the issue of the directive.

#### Potential Outcome

The incident had the potential outcome of multiple fatalities had the vessel not been abandoned in time due to the high seas and strong winds. The actions of the skipper of the yacht to abandon the vessel had been critical to the survival of the crew; and the actions of the NSRI coxswain to abandon the tow had similarly been considered prudent given the circumstances.

#### Causes (Immediate, root causes)

The rudderstock had been modified at an undetermined time in the past and the weld modification was insufficient to withstand the forces experienced during the heavy weather after exiting the port of East London. Rudderstocks are usually solid tapered stainless steel as per the diagram, from a uniform material, with no welds or joints. If a joint or weld was introduced at a later stage, the preferred methods of modification would be either a keyed flange / keyed taper flange arrangement, or a fully welded flange, all of which should be of sufficient, calculated dimensions to withstand effects of the transmitted torque. This modification should be evaluated by a competent Engineer and a suitable signed document attesting to this must be provided. The owner and SAS surveyor had been aware of the modification, but because it was not visible at the time of survey, no defect had been suspected or detected.



#### Corrective Actions/Preventative actions

SAMSA wishes to advise all owners of vessels with similar modifications to rudderstock to have the stock checked if in doubt. The original design of having a solid rudderstock is the best solution should a rudder need replacement.

#### Lessons Learned

1. Modifications on rudderstocks are not advisable.
2. If a modification on a rudderstock is required, alternative methods should be considered to allow for strength.
3. Abandoning a vessel should not be done lightly but can be critical in saving the lives of the crew.

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