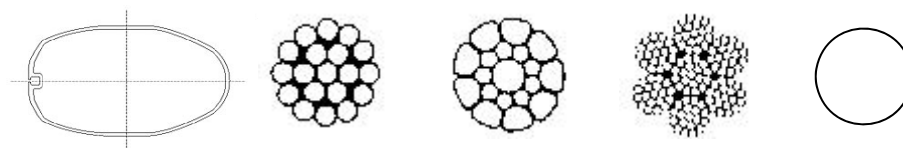


Mast and Rigging Inspection Report

A visual examination for
Mast, Wire rigging or rod rigging, running rigging.



Customer: Mr W Blair

Yacht name: Bilbo

Yacht type: Dufor 38

Date of inspection: 1/11/16 **Inspection number:** 0122/1

Items inspected: Mast, Standing rigging, Running rigging



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What is covered by this report

Standing rigging

This report is based on a thorough visual examination of the standing rigging especially where the end terminals are fitted. It also indicates a general condition of the mast and rigging, at the date of the inspection.

All components are closely checked in the areas where bending fatigue is most likely to occur:

a. Components removed from the mast:

For wire assemblies this is a visual check at the point where the stay enters the fitted end terminal. For rod assemblies this is by a visual check only for wear and corrosion to cold head *if* the end terminals can be opened.

b. Components attached to the mast in situ:

For both wire and rod, alignment checks are made and where possible freedom of movement is checked. Wire end terminals are checked as above and rigging screws and toggles are checked for alignment and security.

Running rigging

All running rigging is inspected visually. Halyard splices are checked for condition only and are not proof tested; all materials are checked for UV degradation and wear.

Determining condition

In each case the examination is a visual condition only at the time of the report. The age of the stay, its material and method of termination, and connection type, is taken into consideration when checking for its overall condition.

Bending fatigue is one of the primary causes for the failure of yacht rigging. Bending is introduced into the rigging end components through vibration, mast movement, and in some cases bad geometry where end terminal movement is restricted, preventing it from remaining in alignment with the stay. Any restriction of movement will eventually lead to failure of the wire or rod stays, or their terminals fittings, and typically at a point where bending can occur most. An example of this area for wire is shown below where the wire enters a swage terminal.



Hidden Defects

It is important to note that internal fractures are common within the wire lay in older stay assemblies. These mainly occur at locations within the terminal entry point and where wires are bent over spreader ends. It is not possible to detect these internal fractures from a visual inspection. If it is suspected that fractures may be present, we can recommend additional tests, however for wires up to 10mm it is normally more economical to replace the stay assembly. Proof testing is available at extra cost for PBO and Kevlar stays.

In rope assemblies UV degradation or internal fibre breakdown can be estimated only, the internal condition of the fibres can only be judged by the condition of the outer covers. Splice method and its integrity cannot be checked.

Remaining Life

Estimation of the remaining working life in any halyard or stay assembly, or its components, cannot be judged by this report, as in each case the amount of UV breakdown for running, or work hardening rate created by bending fatigue for standing, cannot be measured.

Masts and Spars

Masts and spars are visually checked for integrity and security of standing rigging attachments and wear of all components, including lights and electronics where attached to the mast, and for the tube's overall condition. Electrical and electronic cables are not checked for continuity. When masts are checked in-situ, it may not be possible to examine internal reinforcement, or areas through the partners and around the deck and heel, closely for corrosion or buckling.

Mast and spars condition

The overall condition of the mast and spars is assessed and any items of concern are listed in this report.

Report Findings

Guard wires worn
through stanchion



Pole stowage
bracket fastenings
unsecured



Wear to gooseneck
toggle



Vang lug securing
rivets pulling out



Furling system top
cap half missing



Slight abrasion to
wire surface on top
of furling system



Staysail stay wear to
front of spreader



Radar bracket bolt
holes
worn/elongated



Staysail wire strands
wearing in holder



Report Summary

The mast and boom are manufactured by Z Spars and appear in good structural condition. The standing rigging shows no alignment problems.

The report findings show items of wear that should be addressed to prevent component failure. The age of the standing rigging is not gauged, built if it is known to be ten years old, or older, our recommendation is to replace it. The guard wires should be renewed with uncovered 1x19 stainless steel wire.

This report is compiled following a visual check only of mast and rigging equipment. As such, assessments cannot guarantee that all components are fit for purpose and Advanced Rigging cannot be held liable for the failure of any components which are not actually inspected, or where a complete visual inspection was not possible and/or reported at the time this assessment was conducted.



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