



marine & architectural
rigging solutions

Rigging Condition Report

Vessel Name: A Yacht
Vessel Type: Elan 410
HIN: S1-ELA41E01A2013

Spars

Mast: Selden NMP C242
Boom: Selden SLR B171

Configuration

Conventional fractional keelstepped rig with 2 sets of spreaders and a tapered top section.

Furling System

Furlex 208s

Standing Rigging

V1: 10mm
V2/D3: 10mm
D1: 10mm
D2: 7mm
Backstay: 7mm to Holmatro Hydraulic Tensioner
All standing rigging is 'Dyform' with the exception of the backstay bridle which is of 7x7 construction.

Age

5 years

Note: Whilst a thorough visual inspection was given from mast head to deck level of all spars, standing and running rigging and all observations given in good faith, this report by no means constitutes a guarantee against unseen damage or potential weaknesses within the materials and swage compressions themselves.

The above mast was inspected on 25/02/2013 and after some remedial works, reinspected on 14/03/2013

The mast was inspected for any sign of crevice corrosion, fatigue, backing plate stress cracks, sheave operation, excessive play in spreader roots, poorly seated or damaged

fittings, swage terminal deformation and cracking, stress witnessing in anodising, relevant split pins and retaining fittings being in place and clevis pin wear.

Standing rigging was checked for ferrous oxide witnessing, strand and terminal deformation, bottle screw thread deformation, tension and security.

Running rigging was checked for abrasive damage, shackle wear and deformation.

All of the above aspects with the exception of the below points, are to be taken to be in excellent condition and working order.

Observations

1. There appears to be wear on the top extrusion of the furling system due to contact with the genoa halyard exit box. This is causing damage to both the sheave box and the furling extrusion -as seen in *Fig.1.1*- along with damage to the Jib halyard.



Fig. 1.1

This may be due to a lack of backstay tension during the furling operation along with an inherent lack of tolerance in the build specification of the mast.

2. It was noted that the 'gooseneck' casting is slightly damaged in the area of the toggle clevis pin - as can be seen i. *Fig 2.1 and 2.2* - and most likely caused by frequent heavy tacks and gybes associated with a vessel of this type.

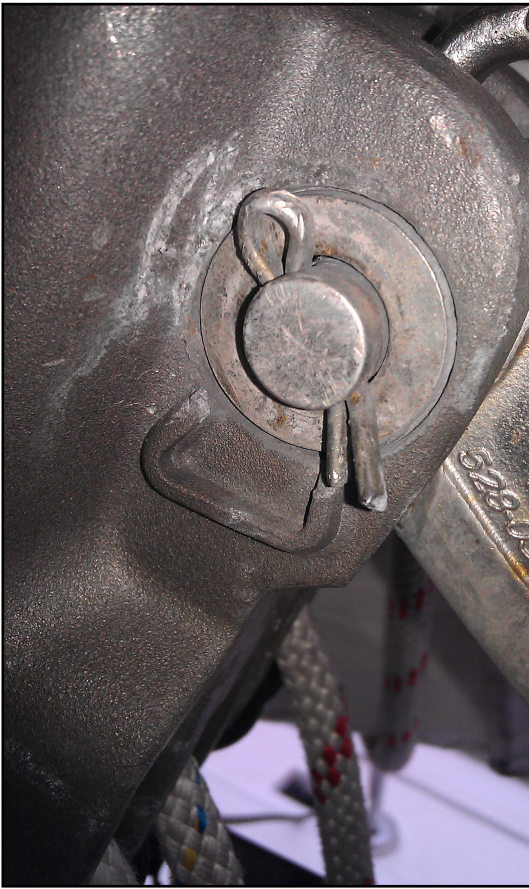


Fig. 2.1



Fig. 2.2

3. Heavy wear from the outhaul shackle and mainsail clew arrangement is evident at the aft end of the boom top side as seen in *Fig 3.1*. If this were to go unchecked it would only be a matter of time before the structural integrity of the boom would be compromised.



Fig. 3.1

Recommendations

While furling and unfurling the headsail, ensure sufficient tension is maintained on the forestay via the backstay tensioner. Check regularly for any increase in damage to the foil or halyard. Should this not suffice then a more permanent solution will need to be sought.

Regular inspection -before, during and after each sail- of the casting around the gooseneck clevis pin would be prudent. Failure in this area can potentially cause far greater associated damage to both vessel and crew.

With regards to the aft end of the boom, the damage being caused is inherent in the system that is being utilised to tension the sail foot. To avoid having to replace the boom prematurely it is recommended that a 'racing' style outhaul is used, where velcro, Dyneema and soft shackles are used in place of stainless steel fittings.

Summary

The spars, standing rigging and running rigging are, with the few exceptions above, all in excellent condition. The spinnaker pole is in good condition with all aspects of the dip pole system working as they should.

The rig tension is good and the mast is true and straight. Rake and bend were not checked against sail makers recommendations but looked to be adequate to generate sufficient compressive stability and longitudinal rigidity.

All mast head fixtures are attached securely as are any mast mounted fixtures such as deck/steaming lights.

All winches and clutches are deemed to be in good working order and the guardrails have been recently replaced in their entirety.