2014

JY1553 – Inspection Report

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1 Introduction

This inspection was carried out at the request of Mr Piers Baker on Monday 21st July 2014. JY1553 was surveyed in Gallichan Marine's workshop, The Bulwarks, St Aubin, Jersey. The vessel has been in the workshop since Friday 18th July. The vessel was involved in an incident on Thursday 17th July 2014 whilst on charter. The engine is reported to have stalled followed by the vessel taking on water between Gorey and St Catherines. The St Catherines lifeboat then towed the boat to Rozel harbour. Further details of the incident are recorded in the accident report. The coastguard was notified of the incident at 1158 BST and the St Catherines inshore lifeboat was launched at 1211 BST.

1.1 Purpose

This is an inspection survey and its purpose is to establish the structural and general condition of the vessel and the equipment installed so that a reason for the engine stalling and the vessel taking on water may be reached.

1.2 Scope

- Please note that where reference is made to the condition in all cases this must be considered in relation to the vessel's age, for example 'very good condition' should not be taken to mean 'new condition'.
- The hull and all accessible space were inspected where practical to do so.
- The vessel was ashore at the time of the inspection.
- A general inspection of the engine and installation was made.
- Only the basic functions of electrical equipment were tested.

1.3 Limitations

- Where access is restricted by fixed panels, lining; glued or secured by concealed fasteners, it was not possible to examine and I cannot say those areas are free from defects. No liability will be accepted for the poor condition of such areas should it later become evident.
- This report has been prepared for the use of commissioning client and no liability is extended to others who may see it.
- In some cases it is not possible to detect latent and hidden defects without destructive testing, this is not possible without the owner's consent.

2 Vessel Particulars

JY 1553 is a Fletcher 150 Arrowsport sports boat fitted with a Yamaha V4 115 outboard motor.

3 Inspection Findings

3.1 Hull Deck & Structure

The hull is of GRP construction.

The gelcoat has worn along the keel and in one place the fibres have been penetrated; in all probability beaching the vessel has caused this. The hull has not been punctured. The gelcoat along the chines has also been damaged and in a number of areas there are gelcoat repairs.

The topsides were found to be in reasonable condition. At the bow there would normally be a D ring; there are two holes where this should be and damage to the gelcoat exposing the GRP fibres. The D ring failed whilst the vessel was undertow, this has been confirmed by the RNLI; on the deck there are two snapped stainless steel bolts, in all probability these were a part of the D ring, the rest of the D is missing. Around the holes and in the fibres there is green marine growth indicating these holes may have been wet and leaking for some time.

The hull to deck join at the transom was found to be in poor condition. There is a split in the gelcoat on the underside of the flange for the hull to deck join on the port side just where the black rubber covering begins. From the inside of the hull it is possible to see daylight coming through in this area; I wasn't able to establish if the light was coming from the join or the split in the gelcoat. The hull to deck join on the port side of the transom, next to the engine, was exposed and in poor condition. The GRP has become delaminated on both the hull and deck at the join in this area.

The engine mounting bolts are compressing the transom. The upper engine mounting bolt on the starboard side is ¾ drilled through a metal plate (only ¾ of the washer is in contact with the plate) within the transom well. The metal plate does not extend across far enough across the transom for the upper engine bolt on the port side to pass through it. A 4 – 6mm diameter hole has been drilled in the transom above the upper port engine mount bolt; I could not see if the hole went all the way through the transom.

The transom well drainage hole was found in poor condition. A poor repair has been carried out to the gelcoat around the drainage pipe. The seal between the pipe and transom does not appear to be good.

At the base of the transom there is drain hole to drain the hull; there was no bung found for this drainage hole, it has been reported by the owner that the bung was removed whilst the vessel was on the beach at Rozel, prior to being trailered to Gallichan Marine.

The GRP rib in the bow section is split all the way through. There are splits in the floor at the forward corners of the cockpit.

3.2 Skin Fittings & Other Through Hull Apertures

On the transom there are two drainage holes previously described.

In the transom well there are fittings for the fuel, oil, electrics, throttle and steering for the outboard engine. The rubber on the port aft fitting in the well is badly split, the forward fitting on the port side of the well is not seated properly. The starboard forward fitting in the well is split and cracked. The starboard aft fitting in the well is open and has nothing passing through the gland. Should the transom well flood all of these fittings are likely to allow water to fill into the bilge.

3.3 Other Deck Gear and Fittings

The fixings for the cleat on the port side of the deck have ripped through the deck; it is currently held to the deck by one screw only.

The windscreen is split on the starboard side in front of the helm station.

3.4 Bilge Pumps

A single electric bilge pump was aboard. It was not secured in place. The pump is rated to pump 800 gallons per hour. There are no hose clips on the pipe attached to the pump. The pump has a built in strum box. The pump was tested and the motor was heard; it sounded weak but the reason for this was not established, it could have been due to a poor battery. There was no water in the boat to test that the pump could pump water.

3.5 Engine & Installation

A Yamaha V4 115 2 stroke outboard motor is fitted to the transom. The plate on the engine mounting bracket is marked Yamaha 115CETO 6E5 L 393904 B. The cover had been removed and the some parts removed to prevent the engine from seizing after submersion. This type of engine is commonly installed on this class of vessel. The manufactures weight for this engine is 163kg. The 2001 Fletcher brochure for the Fletcher Yamaha Arrowflash 15 GTO (a similar vessel) states that the max power rating for the craft is 90hp. The engine fitted can produce 115hp. Fletcher Boats UK confirmed via phone that the 150 Arrowsport had a maximum power rating of 90 hp for a two stroke engine, the power rating would be less for a four stroke. The maximum weight of the outboard recommended by the manufacturer is 139kg.

The three bladed propeller was in poor condition. One of the blades has been bent on the tip and is fractured, another of the blades is missing the tip; the cause of this damage was not determined.

The fuel tank was not securely installed, it was free to move around the cockpit. In the transom well there is a join in the fuel hose. The hose is disconnected from the join fitting, there is no jubilee clip on the disconnected hose but there are marks on the hose to indicate that a jubilee clip has been in place at some point in the past. The end of the hose was in poor condition.

A separate tank for the two stroke oil was not securely installed; there was still two stroke oil in the tank.

3.6 Electrical Installation

Two batteries were aboard – neither of them were connected or secured in place. The battery cables were heavily corroded at the terminals. The only electric equipment aboard was the bilge

pump, this was not fused but is switched from the dashboard. The second battery had been put aboard by Gallichan Marine to run the engine.

4 Summary

JY1553 was found to be in poor structural condition; the condition of the gelcoat below the water line, the fittings on the transom and overall condition indicates it has been poorly maintained. It is possible that the defects identified around the transom contributed to the speed at which the vessel filled with water.

The engine fitted to the transom provides more horsepower and it weight more than the manufactures recommendation. For a two-stroke outboard the maximum horsepower suggested by the manufacturer is 90hp and the maximum weight is 139kg. The engine fitted can provide 115hp and has a manufacturers weight of 163kg.

The sequence of events that were described to me are as follows: the engine stalled and subsequently the vessel began taking on water, the vessel was then abandoned and towed to Rozel harbour.

It is possible that wash from the boat stopping swamped the transom well, as the fittings in the transom well are in poor condition they would have allowed water to enter the bilge. This could have put the stern low in the water allowing more water to enter the bilge; the stern may have been low enough for the hull to deck join to be submerged and this would have allowed more water to fill the boat.

It is possible that the bow fitting was allowing water to enter the hull so that when at rest the weight of the water in the vessel caused the stern to be low in the water.

The sea conditions at the time of the incident, reported by the skipper of JY1553, were moderate to rough and the wind is reported to have 'blown up'; by 1400, approximately two hours after the incident, the wind speed recorded at St Helier Pier Heads was gusting to 21 knots. The actual wind speed and direction at the time of the incident has not been established.

JY1553 Survey

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