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HULL CONDITION SURVEY & OPINION OF VALUE

For Broads Motor Cruiser ……..

This is to Certify that I the undersigned carried out a Hull Survey on the above vessel at ……..Norfolk, England on the …….. at the request of Mr. ……..... for the purpose of reporting on the vessels Hull Condition subject to the limitations below. This Hull Condition Survey is carried out on the understanding that I am legally liable to the above client only and not to any subsequent holder of the said report. Such liability must be constructed as a contract under British law and any dispute arising hereunder shall be submitted to the exclusive jurisdiction of the courts of England and Wales.

THE REASON FOR THE SURVEY

The Survey was requested in order to establish the vessels hull condition for Pre-purchase and insurance reasons, which as part includes internal structures, superstructure and deck, bulkheads, bilge pumping systems, skin fitting installations, valves, stern gear and any cathodic protection systems.

CONDITIONS/FACTORS LIMITING THE SURVEY

- **The vessel was ashore and supported on chocks at the above site. This allowing access to the hull bottom, apart from the chocking/sling positions.**
- **The Motor Cruiser had been well prepared for Survey by removal of the majority of the floor boards.**
- **Machinery installations, auxiliary and ancillary equipment, gas and other service systems, electronic equipment, pumping and plumbing, sanitation systems, navigational aids and other sundry items were not inspected as part of this Hull Survey, nor commented on or guaranteed.**
- **Windows hatches and external doors have not been tested for water tightness.**
- **Skin fittings and valves have not been dismantled.**
- **No liability whatsoever is accepted for any injury, death or damages arising from those parts of the vessel to which access could not be gained at the time of the survey and on the strength of which I am unable to comment.**
- **This survey is not undertaken with any intention to ascertain that the vessel would comply with any rule or code of practice as may be required by any**

authority under whose jurisdiction the vessel may be operated. Due to over coatings joiner work, installations alike, access to certain parts of the vessel were difficult or impossible and therefore no responsibility can therefore be accepted for failure to discover or report on these defects which may exist in these areas.

- Ÿ **The vessel was not tested for transverse or longitudinal metacentric stability or buoyancy and this report must not be taken to imply that the vessel has sufficient stability or buoyancy for the intended purpose. In this respect, it cannot be confirmed that the vessel meets the Essential Safety Requirements of the Eu Recreational Craft Directive 94/25/CE. It was not possible to ascertain the maximum allowable load of the vessel. It is the owners responsibility to ensure that basic stability information is placed on board the vessel and understood and that she is never overloaded.**
- Ÿ **Matters of design were not considered to be part of the brief.**
- Ÿ **The weather at the time of the survey was warm and dry.**

DEFINITION OF TERMS AND RATINGS

1. **The use of the word *appears/appeared* indicates that a very close inspection of that component/system/area was not possible due to constraints imposed upon the surveyor (e.g. no power available, inability to remove panels).**
2. **The use of the word *serviceable/adequate* indicates that particular system, component or item is sufficient for a specific requirement.**
3. **The use of the word *good condition* indicates that the component /system is nearly new with only minor cosmetic or structural discrepancies noted.**
4. **The use of the word *fair* indicates that the component/system is functional as is with minor repairs and should be monitored often to see if its condition deteriorates.**
5. **The use of the word *poor* indicates that the component/system is unsuitable as is and will need to be replaced or repaired for it to be considered functional.**
6. ***Readily accessible* means cable of being reached for operation, inspection or maintenance without removal of any craft structure or use of any tools or removal of any item.**
7. ***Urgent Recommendation* must be done urgently, preferably before re-floating and certainly before any use is made of the vessel.**
8. ***Recommendation* should be done at the earlier of next docking or within six months or such other time scale as may be specified.**
9. ***Suggestion / advisory comment* for information and consideration, or may be necessary to comply with BSS waterways standards or regulations on inland waterways, but not of particular significance to safety or insurability at this stage.**

<u>This work was carried out in accordance with the following</u>:

a) Our Standard Contract of Employment.
b) The code of Practice for Small Craft Surveys published by the <u>International Institute of Marine Surveying.</u>

VESSEL PARTICULARS

Name of vessel: ……...
Hail Port: Norfolk, England.
Hull ID Number: None observed.
Documentation Number: Reg No: Broads Index: ……...
Intended use: Recreational / private.
Navigation Limits: Inland waterways. (category D).
Type: Broads River Cruiser.
Style: Hinged canopy. The smaller of the Powles original wooden fleet.
Construction: Wooden hull.
Model Year: Star Class.
Builder: Jack Powles & Co, Wroxham, Norfolk, England.
Year of Built: 1953 Circ
LOA: 34'0" Beam: 9'3" Draft: 2' 6"
Engine: Electric.
Colours: Varnished hull with black boot.
Displacement: 5 tons approximated.
Boat Safety Certificate: New installations not yet completed. (see page 8).

The above information is gathered from various sources, and neither confirmed nor guaranteed.

GENERAL DESCRIPTION / DETAILS:

…… is a Norfolk Broads Built Motor Cruiser providing four/ six berths in three cabins, constructed to a design relevant to the 1950's. She is of hard bilge timber construction with a shallow tapering keel, flat transom, and straight stem. She is a product of the era of the tall sided majestic looking wooden Broadland Motor Cruisers designed specifically for inland water ways use.

Findings: Any items of defect and other relevant comments.

a) HULL (Below waterline).

The hull construction below the waterline was carvel planked (butted edgewise with beveled & fitted edges) horizontally in what appeared to be a mixture of Mahogony hardwood and Deal timber over a mixture of sawn frames and steamed oak timbers and fastened with a mixture of copper boat nails and steel screws. NB. I can give no guarantee on the durability of the new planking observed below the waterline.

The vessels bottom was clean of weed, crustaceans and other marine growth and the antifouling paint coating was in a good condition and was adhering well to the timbers suggesting compatible paints had been used.

The hull surface remained fair when viewed from a distance with no significant

hogging or sagging identified. The hull surface was lightly impact tested with a small hammer at close intervals below the waterline and occasionally spike tested. Generally, 90% of the underbody planking showed no evidence of any significant planking damage or timber deterioration below the waterline externally and the majority of the caulked and payed plank seams remained tight. However, there were a number of areas of timber deterioration found requiring repairs and listed as follows.

Urgent Recommendations

1. **Planks around the waterline forward and aft on both sides and chalk marked by the Surveyor, were showing signs of timber deterioration. Remove degraded timber by cutting back to sound wood, or renew planks to existing butt joints.**
2. **Various soft spots to planking found forward, amidships and aft and chalk marked by the Surveyor. Remove degraded timber by cutting back to sound wood, or renew plank to existing butt joints.**
3. **Renew plank seams where necessary, dry out carefully, re-caulk and re-stop seams where required.**

It must be stresses that further defects may be found during the course of opening up for restoration. The opinions expressed therein are given in good faith. I look forward to being of assistance should the boat repairer require clarification of any of the areas of degraded timber, and/ or points contained in this report.

Various copper tingles were observed over plank seams below the waterline. The adjacent timber was lightly spike tested to see if there was any evidence of degraded timber, with no significant defects found, and I see no reason to remove them.

Two plank screw fastenings were removed for examination. There was signs of corrosion and dezincification to the metal screws seen. This is a serious omission and should not be overlooked. Steel fasteners, whether galvanized or not, are a very poor way to fasten a vessel if you want it to last a long time.

Note: It was not practicable to remove any of the original dump nail copper fastenings as this would have been destructive to the surrounding timber.

Recommendation

1. **It appeared that large areas of new planking below the waterline had been fastened using mild steel screws. This is a very poor way to fasten a vessel. Employ a qualified Boat Builder to remove and inspect the plank fasteners, thus to provide a reasonable degree of certainty as to the planking soundness. Screws should be replaced with either bronze or stainless steel fasteners.**

b) HULL (Topsides).

The topsides above the waterline were carvel planked parallel to the keelson in what appeared to be Mahogony hardwood timber over steamed bent frames and copper fastened.

The topsides remained fair when viewed from a distance with the varnish work adhering well to the timbers. The hull surface was lightly impact tested with a small hammer at close intervals above the waterline and occasionally spike tested. No evidence of any significant areas of planking decay or planking damage was found.

INTERNAL STRUCTURE / BULKHEADS AND STRINGERS

The internal hull structure consisted of solid hardwood bulkheads, oak wood beam shelf's, floors, and bilge stringers. All of which were visibly inspected where accessible and tested by sounding and/or pricking of doubtful parts, with no signs of any significant timber deterioration found.

The frames and timbers above the waterline were typical of this type of construction and were securely fastened with copper boat nails and there was no evidence of any significant movement between the internal framework and the hull planking.

All frames, where accessible, were visibly inspected and tested by sounding and/or pricking of doubtful parts with no significant defects or significant degrading of the timbers observed.

<u>Recommendation</u>

1. **New planking surfaces in the bilge areas were in need of routine paint maintenance in order to protect the timber.**

STEM / HOODENDS/ TRANSOM

A straight oak wood stem with internal apron support and deadwood section below was considered fair and sound. The hood end planking remained tight. The mahogany planked and screwed transom was visually inspected and was found to be in a good condition with no evidence of any timber deterioration.

KEEL / BALLAST

The centreline structure was constructed from what appeared to be Oak wood. This was inspected where accessible and found in a good condition with no signs of any significant timber deterioration. The caulked and payed seams remained tight, with no significant movement of the keel to hull timbers noted.

The keel bolts appeared to be in a good condition, but where not drawn for inspection. I always suggest the removal of at least two sample structural keel bolts for examination of the fastenings and adjacent timber material. This task can be approached when convenient.

SUPERSTRUCTURE / DECK AND WELL

The deck and coach roof tread areas were constructed from pine boards over substantial hardwood deck beams and beam shelves and acrylic tread covered. Visibly inspected the coverings were found to be in a good condition and free from any significant deterioration. The deck was hammer tested with soundings sharp and no signs of flexing or degrading.

The coach roofs and sidings were of Mahogany construction, stained and varnished. These were closely inspected around the discolouration on some of the structural joints, however no signs of significant timber deterioration was observed.

The oak wood beams that support the coach roofs on the interior were secure and in a good condition with no deterioration to the timbers visible. Non identified toughened glass coach roof windows and timber surrounds remain securely attached.

The collapsible wheelhouse was constructed from Mahogany hardwood. The structure was inspected, taking care to inspect below the sole and no significant timber deterioration was found.

BILGE PUMP INSTALLATION / BILGE AND ACCESS

Electric pumps: None observed.
Manual pump: Various hand pumps / not operational.

<u>Recommendation</u>

1. **The ideal bilge pump arrangement is a small (400 gph) automatic bilge pump mounted in the sump to dispense with rain and shaft-gland leakage, combined with a high capacity pump (1,500 gph) mounted higher to deal with more serious ingress.**
2. **Restore the manual bilge pumping system to its original condition.**

SKIN FITTINGS / VALVES

Material: Bronze.
Valves: None observed.
Hoses: Removed during engine change.
Emergency wood plugs: None.
Transducers: None observed.

The engine cooling water valves and skin fittings had been isolated after the removal of the original petrol combustion engine. The obsolete skin fittings were not drawn or opened for inspection but were examined in situ externally by hammer and scrape testing. The topsides and transom were fitted with a number of ferrous skin fittings, all of which appeared to be sound where examined externally and were considered to be a reasonable height above the water line.

Recommendation

1. **Note regarding the sink outlets: Skin fittings below the waterline and most within about 30cm.above the waterline should have seacocks fitted.**

STERN GEAR / RUDDERS AND STEERING GEAR

Propellers: Fixed, bronze, 3-blade.
Propeller shaft: Steel.
Struts/P bracket: Single bronze strut.
Bearing: Rubber cutlass / internal stuffing boxes.
Thru hulls: Bolted gland.
Steering mechanism: Cable & pulley thru bevel box.

The propellers dimensions were not checked for matching with the machinery power and revolution output and this cannot be confirmed.

The propeller was sighted for obvious signs of deformation and none were found. The propeller was a snug fit to the shaft and properly secured by bronze nut and steel split pin.

The stern gland and stuffing box was visibly inspected on the interior and appeared to be in a good condition. It is not known when this gland was last repacked. The bronze strut on the exterior was lightly scrape tested and no signs of corrosion or dezincification in the metal was observed, and the strut was secured.The water lubricated rubber cutlass bearing on the exterior was visibly inspected and found firm and tight.

The propeller shaft was not drawn for inspection nor the tail ends examined. However no signs of surface flaking, fatigue or fretting corrosion to the shaft could be seen.

The Electric Motor drive flange to shaft coupling was examined on the interior and the bolts hammer tested and these appeared sound and well tight. It was not practicable to 'break' the coupling and test the alignment.

The rudder was in a fair condition only with signs of some corrosion and dezincification to the metal, and I suggest it is refurbished at the vessels next haul out. The stuffing box securing the rudder stock was visibly inspected and found satisfactory and effective. The cable steering system could be rotated from stopper to stopper, and the helm was tried hard over and found to be in a good smooth operational condition.The hangings were found good without un due wear in the heel bearing. The timber skeg support section was scrape tested and found good.

Recommendation

1. **Remove loose corrosive material from the rudder, preparation and priming of metal surfaces, followed by local touch up filler and paint application, will prove effective and adequate.**

SUMMARY / OBSERVATIONS

'COPY' is a real survivor and of great charm and character and she has proved to be persistently durable. Her hull, decks and superstructure have all been particularly well maintained and she has been constructed to a high standard out of good quality materials. Jack Powles & Co un-doubtably had some good craftsmen in the post war years, who it appears constructed the Motor Cruiser as something of a prestige type hire boat. She has very few defects for a vessel of her age and type and should give good service for many years to come.

She is at present having some new installations installed, IE new sewage holding tank and toilets. Hot water and heating systems. She has already had a very impressive electrical propulsion drive unit and battery installation installed. I suggest that the boat builder maintains a record of all components replaced, upgraded and installed.

With the recommendations related to industry standards and other safety issues in this report properly implemented, the vessel should be suited for her intended purpose of inland waterways cruising. Recommendations concerning maintenance and upgrades should be considered normal maintenance or improvements to be done by a prudent owner and are not intended to detract from the vessel's overall condition or value.

The ultimate responsibility for the maintenance and safe operation of this vessel lies with the owner and master.

Valuation

The Fair Market Value given herein is defined as the highest price that can be obtained by a willing seller from a willing buyer, with neither being compelled to sell or buy, and the subject vessel having been offered on the open market for a reasonable time. With the recommendations in this report in place, and with the new toilet, hot water and heating systems competently installed. Fair Market Value: £30,000.00 (Thirty Thousand Pounds). The guidelines used for the valuation are as provided by industry pricing guides. Estimates based on currently listed asking prices, along with market conditions were also considered.

Within this report principal repair recommendations are graded for your information according to priority as follows:

1. ***Urgent Recommendation*** **must be done urgently, preferably before re-floating and certainly before any use is made of the vessel.**
2. ***Recommendation*** **should be done at the earlier of next docking or within six months or such other time scale as may be specified.**
3. ***Suggestion / advisory comment*** **for information and consideration, or may be necessary to comply with waterways standards or regulations on inland waterways, but not of particular significance to safety or insurability at this stage.**

Urgent recommendations.

1. **Planks around the waterline forward and aft on both sides and chalk marked by the Surveyor, were showing signs of timber deterioration. Remove degraded timber by cutting back to sound wood, or renew planks to existing butt joints.**
2. **Various soft spots to planking found forward, amidships and aft and chalk marked by the Surveyor. Remove degraded timber by cutting back to sound wood, or renew planks to existing butt joints. Renew plank seams where necessary, dry out carefully, re-caulk and re-stop seams where required.**

Recommendations

1. **It appeared that large areas of new planking below the waterline had been fastened using mild steel screws. This is a very poor way to fasten a vessel. Employ a qualified Boat Builder to remove and inspect the plank fasteners, thus to provide a reasonable degree of certainty as to the planking soundness. Screws should be replaced with either bronze or stainless steel fasteners.**
2. **New planking surfaces in the bilge areas were in need of routine paint maintenance in order to protect the timber.**
3. **Install a new bilge pumping installation. The ideal bilge pump arrangement is a small (400 gph) automatic bilge pump mounted in the sump to dispense with rain and shaft-gland leakage, combined with a high capacity pump (1,500 gph) mounted higher to deal with more serious ingress.**
4. **Restore the old manual bilge pumping system to its original condition.**
5. **Note regarding the sink outlets: Skin fittings below the waterline and most within about 30cm.above the waterline should have seacocks fitted.**
6. **Remove loose corrosive material from the rudder, preparation and priming of metal surfaces, followed by local touch up and paint application, should prove effective and adequate.**

SURVEY PRACTICE STATEMENT.

This survey report is for the benefit of Mr. WEB COPY NOT VERIED and is not transferable except for the named Owner's purpose and may not be used for other purposes and may not relied upon by any other person without written consent by the surveyor. The surveyor warrants that this report is a true and unbiased opinion of the vessel, based upon a visual inspection on the date of the survey. The findings, opinions and conclusions are based upon the best professional judgment of the undersigned surveyor. If this survey does not discuss a specific item, equipment or machinery, it is not covered by this survey. NB. This survey was instructed to gain an opinion of the Hull condition and structure of the vessel only. While every effort has been made to conduct a thorough hull survey, there can be no guarantee or warranty, express or implied, as to the condition or suitability of the vessel and her equipment or machinery. This survey makes no representation and does not purport to describe any condition which may have changed since the date of the survey and the recommendations herein are limited to those that, in the opinion of this surveyor, are reasonably necessary and appropriate, based upon the conditions and circumstances as they existed at the time of the survey.

Respectfully submitted, **WEB COPY NOT VERIFIED**

Signed *Steven Truss* ***SM TRUSS AssocIIMS INSIGHT***

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