



Zenith Maritime LLC
Seattle, Washington USA

30 June 200X

Mr. XXXXXXXX
XXXXXXXXXXXXX
XXXXXXXX, Washington 98XXX

Re: ZM 09-XXXX - Marine Survey of 1983 Hinckley OC 42 Auxiliary Sloop for Condition and Valuation

Acting on the request of Mr. XXXXXXXX, the undersigned marine surveyor inspected the SV XXXXX in the water and lifted out of the water on XXX June 20XX at Dockside, Port Orchard, Washington. The vessel is USCG documented as hull number XXXXXX and carries builder's HIN XXXXXXXX. The purpose of this marine survey was to determine the condition of the vessel's structure – systems and estimate her fair market value prior to purchase. At the time of survey, the undersigned surveyor did view the limited operation of the vessel's machinery, attached accessories-systems. No sails were pulled – examined. No sea-trial was executed. From the examination of all accessible areas, the vessel appears to be sound with no evidence of structural damage or system failure(s) not with standing the exceptions of items noted below under Recommendations, Observations, and Non-Standard Conditions.

The undersigned wishes to disclose that USCG NVIC 8-87 *Notes on Design, Construction, Inspection, and Repair of Fiber Reinforced Plastic (FRP) Vessels* was used in the survey process and report herein.

The services rendered herein and the report furnished herewith are done with the specific understanding that the undersigned is not liable and will not be held responsible under any and all circumstances for any and all errors, omissions, or failure to properly perform the requested services as set forth above. As it concerns the vessel described herein, all matters and statements contained herewith constitute statements of opinion only and not to be construed as representations, warranties, or guarantees and that, any and all statements made herein or in connection herewith will not be used for the basis of any claim, demand, or action against the undersigned. The request for services and the report herewith shall be construed to be an acceptance of the above conditions.

The vessel is as follows:

The subject vessel was designed is an auxiliary sailing vessel with a masthead sloop sail-plan. The vessel was built at the Hank Hinckley Yard in Bar Harbor, Maine. The single skin hull is of molded fiberglass (FRP) laminate with reverse stern. A spray hood and cockpit canvas system covers the companion way hatch and aft cockpit area. The balance of the vessel is comprised of molded fiberglass and tradition marine-grade wood construction. Internal bulkheads are of marine-grade plywood tabbed to the FRP hull. The cast lead ballast is stepped at the vessel's keel structure.

The extruded aluminum mast is securely keel-stepped and features stainless steel wire rope shrouds, double aluminum spreaders with fabricated spar sockets and single stainless steel wire rope back and forestay. The vessel is generally sloop rigged but can be sailed as a cutter sail plan. Sail inventory is detailed herein. Deck equipment consists of deck and mast mounted winches plus ground tackle.

Most forward in the forepeak is the chain locker followed aft by a sleeping compartment with athwartship convertible bench seating with drop leaf table. Aft and amidships is an enclosed marine toilet compartment (portside to), modern galley (starboard to), navigation station and quarter berths most aft. At the cabin's after bulkhead, a ladder goes up and out to an open, self-bailing cockpit having helm pedestal, navigation equipment, and engine controls – instrumentation. The companion way hatch is secured by drop doors.

Fresh water cooled auxiliary diesel reduction propulsion is fitted. Wet exhaust is provided. Machinery and electrical systems are accessible through hatches under the companionway ladder, lazarette, and in quarter berth.

Vessel is equipped with 12 volt DC and 120 volt AC electrical systems. The electrical wiring is well secured – supported insulated marine-grade copper stranded wire with adequate distribution panels, proper over-current protection, and battery isolation switching.

Decks are non-skip fiberglass and self-bailing. An emergency escape/ventilation hatch is provided in the cabin's over head. Stainless steel safety railing - lifelines is provided at foredeck, side-decks, and stern areas.

The following areas - items had minimal or no-access:

- Beneath and outboard of all tankage (hull structure).
- Behind all ceilings, bulkheads, and headliner in overheads (deck beams and other structural members).
- Areas hidden behind secured paneling or flooring or cabinetry.
- Beneath cabin sole.
- Beneath engine, machinery, and other fixed components within the machinery space and bilge area (keel, deck beams, and frames).
- All spaces and compartments inaccessible due to stowage of equipment/personal belongings and non-removable structures.
- All electrical wiring - components and or fuel lines, tankage, piping and related components.
- All helm control cables or linkage.
- All hull fastenings.
- All structural framing or hull members.

The following Observations and or Non-Standard Conditions were noted at the time of survey:

1. The vessel is in very good condition, well maintained, and very presentable at the time of survey with the following Observations and Recommendations made herein.
2. The vessel is a USCG documented and endorsed as recreational. The vessel's USCG issued documentation number was properly affixed to the vessel's structure as per 46 CFR 67.121
3. The following repairs – maintenance was being undertaken while hauled and blocked:
 - Re-coating of the vessel's underbody anti-fouling paint.
 - Replace zinc anodes.
4. Vessel's hull, keel, underbody, systems, and underwater hardware were inspected. Standing and running rigging was inspected at eye-level only while on deck – the undersigned did not go aloft.
 - The vessel described herein is a manufactured model therefore the undersigned has made no opinion herein as to the design, scantlings, and or material selection except as to finish – fit work, modifications and or repairs.
 - The sheer appears fair to the eye. Hull top-sides, foredeck, and interior appear to be good condition with no signs of scuffing – impact marks or other damage except as follows:
 - The hull is fair with no hard spots or abrasion. The hull is laid up using polyester resin infused fiberglass cloth – woven mats with conventional gelcoat. Some small gelcoat blisters were observed at the hull underbody (less than 1/2" in diameter) and were judged to be cosmetic.
 - The gelcoat at the waterline on the starboard side near the boot has been worn by fenders and will be repaired as found necessary.
 - Some slight scuff marks (dock strikes) were observed at the topsides near the starboard bow.
 - The hull – deck joint is of the flange-type fastened with 1/4" stainless steel bolts and nuts approximately 8" OC.
 - The keel is stepped at the underbody and appears to be well secured. The fairing compound at the joint between the ballast keel and (its) step is in need of renewing. The keel bolts were generally precluded from examination due to fixed tankage and other fixtures.
 - Weather decks, house and framing structure were visually inspected and percussion sounded (were accessible) and found to be in serviceable condition with no rot fungi, damaged coring, or softness. An electronic moisture meter was employed with no material change in relative moisture readings was detected in the deck or house

structure except at the bow, just aft of the cast stainless steel breast hook where some slight rust staining was observed at hull-deck fasteners bungs.

- The house and deck are fitted with portlights, searails, lifelines, scuppers, and cleats.
 - At the vessel's interior plywood bulkheads – structural tabbing was observed to be well secured and stable.
 - At the interior mahogany panels, adjacent to the portlights – water ingress has damaged the wood surface. Previous repairs have been made to remove and replace soft wood. A small pocket of soft wood was observed just below the most aft portlight on the starboard side and should be frequently monitored and repaired as found necessary.
 - The poly-carbonate (plexiglass) portlights are crazed due to age and should be monitored for water leakage and serviceability. Plexiglass should be replaced to prevent accidental down flooding and resultant loss of stability.
 - Engine bed and mounts were visually inspected on a very limited basis due to the lack of accessibility.
5. The vessel's standing and running sail rig was visually inspected from vessel's deck at eye-level only. No inspection of the mast head, spars - spreaders, and sails was made. The standing rig appears to be in good - serviceable condition. The running rig is comprised of winches, blocks, and yacht braid line. All lines should be inspected for wear and replaced as required. All blocks and clutches should be regularly inspected for proper operation and wear. All fastenings should be checked frequently.
6. A complete rig inspection should be performed by a competent rig surveyor prior to commencing any and all racing activities, off shore, protracted cruising, and or heavy weather voyages. The following comments are made:
- The rig is a double spreader sloop sail plan and was reportedly replaced – refitted in 1999. The mast, spars, and boom are aluminum. The main mast is equipped with a Hood-brand 12-volt DC electric roller furling. A roller furling is provided for the head sail.
 - The reported sail inventory includes a Dacron mainsail, 115% Genoa, staysail, and gennaker with dousing sock. Some – but not all sails were visually examined.
 - The boom, goose-neck, travelers, hanks, and related components visually appear to be in good, serviceable condition.
 - The aluminum mast and keel step was visually inspected and found to be in serviceable condition. The mast partners were inspected and found to be serviceable with the mast boot weather tight and well secured. Some paint bubbling (corrosion) was observed at the junction of dissimilar metals and should be frequently monitored – repaired as found necessary.
 - Wire rope, fittings, and turnbuckles were visually inspected and found to be in serviceable condition. The turnbuckles and shackles appeared to be properly seized. There are three (3) 3/8" 1X19 stainless steel wire rope shrouds per side. The wire rope (Stay-Loc) fittings have been sealed with an epoxy like compound - precluding proper oxidation of the stainless steel rope which could cause (possible) crevice corrosion and

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damage. This situation should be monitored and repaired as required. No comment is made as to the overall tune of the rig.

- The stainless steel chain plates are internally landed which precludes a complete examination of the fixtures and fasteners from inside the cabin. It is suggested by the undersigned that the fasteners be checked for proper tightness before extended sailing or racing activities.
 - The forestay and backstay were visually inspected and found to be serviceable.
7. The undersigned did not perform a mechanical survey. The auxiliary engine and related tankage was inspected and found to be free of oil, fuel, and or water leakage with exception noted herein. Machinery, steering, and engine controls were inspected but NOT tested for proper operation.
 - The fuel hoses could not be determined as to be marked as 'USCG approved' but were observed to be in serviceable – leak free condition.
 - The deck mounted fuel fill fitting was observed for leakage but due to the construction and installation of the fuel tanks – no test was conducted to confirm electrical bounding of the deck fitting and tank.
 - Diesel fuel was observed to be leaking from the fuel tank into the bilge area. An illuminated Boroscope inspection of the area beneath the tank was made and no conclusive evidence of the source of the leak was determined. The undersigned **strongly advises** that the offending fuel tank be opened up and examined to determine the nature of the leak and repaired as found necessary to prevent raw fuel from being delivered into the bilge which could potentially cause fire(s) - explosion and or be accidentally discharged onto the waters of the United States in violation of 33 CFR.
 - The vessel is equipped with stern discharge wet exhaust and was visually checked for evidence of coolant and or exhaust gas leakage and found serviceable. Muffler hose connections were properly secured with two (2) stainless steel clamps.
 8. Vessel's de-watering devices were found to be in serviceable condition 33 CFR 175.110.
 9. Vessel is fitted with a high water alarm.
 10. Underwater through-hull fittings and sea-cocks (valves) were inspected for proper operation, external condition, leakage, and wastage.
 - At all the below-the-waterline through-hull and seacock fittings (including engine raw water cooling intake and other fittings) were serviceable and properly secured at each connection with all stainless steel hose clamps.
 - Regarding the good marine practice of double clamping hoses raw water hoses found below the water line - marine surveyors will typically recommend that he attached hose be secured with two (2) all stainless steel hose clamps. The undersigned marine surveyor has frequently advocated this practice although ABYC only recommends that exhaust and stern tubes be double clamped to prevent accidental flooding. The only reference to double clamped hoses (other than exhaust and stern tubes) that the undersigned can cite is a reference is in the Code of Federal Regulations which relate to other than

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recreational vessels. Marine grade hose clamps should be manufactured with an all stainless steel strap and worm screw. If the hose barb is of sufficient length to land a second hose clamp – then double clamping raw water hoses is strongly advised. Unfortunately, some hose barbs are too short to accommodate two clamps. If the second clamp lands just past the end of the barb the potential exists that it *might* pull the attached hose partially off the fitting. Therefore, be extremely careful about double clamping. The installation of an additional clamp is only advised if the hose barb is of sufficient length to accept a second clamp. A reasonable alternative is to place a second clamp loosely on the hose so that it's immediately available should the attached securing clamp fails. It is also suggested that properly sized tapered wooden plug be readily available in the event of failure.

- The bronze prop shaft log is of conventional flax design and appears serviceable. No inspection of the hanger bolts was made. The stuffing box for the rudder stock was observed to be leaking water (slight) and should be monitored for excessive leakage. Rudder tube was properly secured with two (2) stainless steel clamps.
 - Sacrificial zinc anodes were observed to be wasted and in need of replacement.
 - Tapered wood plugs are provided at the vessel's through-hull fittings and seacocks for emergency repairs.
11. The vessel's electrical system (both 12-volt DC and 120-volt AC) was inspected and found in serviceable condition with marine-grade, copper stranded wiring with proper distribution panel(s), BIS (12-volt DC) and over-current protection. Lead acid batteries were found to properly contained, secured but without properly protected terminals.
 - The vessel was connected to 120-volt AC shorepower at the time of survey and proper polarity was observed at the AC outlets. GFCI protected 120-volt AC outlets were observed but not tested. Double pole main disconnects at the main panel were also observed.
 - Two (2) shorepower cords were found in the aft lazarette – both had heat damaged male connector ends which should be either discarded or properly repaired as found necessary.
 12. Flares found aboard were currently dated. The undersigned will trust the vessel's owner will always provide for adequate quantities of required Coast Guard approved and current issue visual distress devices as required in 33 CFR 175.110.
 13. Vessel was equipped the required number of portable USCG approved dry-chemical Type B:C Size I portable dry chemical fire extinguishers. All devices are not currently inspected.
 14. The vessel's ACR 406 Mhz EPIRB requires battery replacement. The USCG requires position indicator batteries to be replaced every five (5) years – the expiration date is indicated on the EPIRB's case.
 15. The vessel's Swit-Lik 6-person liferaft should be inspected and repacked by a factory authorized service center to ensure proper and safe operation. The hydrostatic release and weak-link should be inspected as well and replaced as found necessary to provide proper and safe operation.

16. Navigation equipment is extensive and includes a magnetic steering compass, depth finder, GPS, RADAR, VHF marine radiotelephone, and horn.
17. Vessel is equipped with operational 72 COLREGS navigation and anchor lights (33 CFR 84).
18. The marine toilet is a USCG approved MSD Type III (33 CFR 159).
19. The vessel's propane cylinder is properly contained, drained (overboard), and is equipped with a fuel shut-off valve within the vicinity of the appliance as required as per ABYC and NFPA 302. The propane fuel system is fitted with a feeder hose for the BBQ grill that should be properly capped when not in use.
20. Vessel is equipped with MARPOL and Oil Pollution placards as required in 33 CFR. In addition, the vessel should have a written waste management plan as required for ocean going vessels greater than forty (40) feet in length.
21. The vessel should be equipped with a single station smoke detector as per NFPA 302.
22. The undersigned will trust the vessel's owner will always provide for adequate quantities of required, serviceable, and readily accessible USCG approved personal floatation devices.
23. The undersigned will trust the vessel's owner to regularly inspect all electrical wiring – system, fuel system(s), and all other vessel systems - components and or structure(s) for continued reliability, serviceability, safety, seaworthiness, and compliance with all applicable USCG regulations and those standards – recommendations made by either ABYC or NFPA 302. The execution and findings of this marine survey does not relieve the vessel's ownership and or operator from the failure to regularly inspect, upgrade, and to maintain the subject vessel in accordance with all applicable rules and regulations and or make claims against the undersigned for any temporal or future deficiencies or related damage - liability not discovered during the survey process.

The following Findings and Recommendations are made:

1. **FOUND:** In the aft lazarette – resistance heat damaged 120-volt AC shorepower cords. **RECOMMEND:** Supply and install new approved, marine-grade electrical fittings and or cords - and thoroughly inspect (and replace as found necessary) attached electrical wiring as required as per NFPA and ABYC to prevent accidental short-circuiting and risk of fire.
2. **FOUND:** In the aft lazarette – portable plastic fuel cans containing gasoline which could accidentally explode or catch fire with diesel machinery (not ignition protected devices). **RECOMMEND:** Remove and stow outboard motor fuel in such a manner not to create a risk of fire or explosion.
3. **FOUND:** As found in cabin and other interior compartments, non-currently inspected and tagged USCG approved portable fire extinguishers aboard vessel. **RECOMMEND:** Have all USCG required onboard fire protection equipment inspected and tagged by a qualified service and provide proof of service in accordance with NFPA 302 standards. Replace non-serviceable units as needed.

4. **FOUND:** As found diesel fuel tank leaking contents into the bilge which creates an unsafe condition and potentially could be discharged onto the waters of the United States in violation of 33 CFR. **RECOMMEND:** Open-up and examine fuel tank for source of leakage – replace / repair as required to provide for safe tankage of diesel fuel.

VALUATION

Estimated Fair Market Value: The undersigned wishes to disclose other sources of market information used in this valuation process to include, but not limited to, extensive internet and print research (Soldboats.com, Boat Trader Online, BUC, Yachtworld.com), consulting with maritime trade professionals including marine surveyor(s), insurance agent(s), and yacht broker(s). The undersigned researched market value for sisterships which was found to be between USD \$XXXXXXX and USD \$XXXXXX. **Therefore, considering the overall very good and serviceable condition of the subject vessel, attached equipment, and discovered deficiencies, the Estimated Fair Market Value for this vessel is between USD \$XXXXXX and USD \$XXXXXXX (not including Washington State sales tax or license fees).**

Estimated Replacement Value: USD \$XXXXXXX (model not in current production)

Survey Inspection and Report Limitations:

The report herein details the overall condition of the above described vessel at the time of survey to the best of the undersigned's ability by examining and testing the vessel's accessible areas, systems, and accessories by percussion testing, probing, and visual inspection: without taking borings, removing hull fastenings, testing for water leakage inside the hull or at through-hull fittings, or operating machinery. It is the opinion of the undersigned, that her hull, machinery, and on-board equipment are in satisfactory condition for cruising the inland protected waters of the Pacific Northwest after the above recommendations are complied with and when good seamanship and the ordinary practice of seamen is observed - practiced in the navigation, operation, and maintenance of the vessel described herein.