

Survey Supplement

This article goes hand in hand with my survey reports and should be reviewed in advance of the process so one can be informed of items that will be scrutinized during their survey process and learn some things about the process.

The day(s) of your survey will be very busy and generally a number of interested parties will be present depending on its purpose. If the purpose of your survey is for insurance underwriting it will likely be you, me and your boat. For a prepurchase inspection it will be you, me, and possibly others including your friends, your broker, the seller's broker, a mechanic, possibly a captain, and boatyard guys and so on...

As you may surmise the purpose of your survey determines how the day should be organized. An insurance survey will be relatively relaxed since we do not have others to answer to. It is a relatively quiet process without others sitting, standing or otherwise milling about. It is good if you can be present but in most cases I will find what I need and typically end with a short list of questions for which you will usually have the answer. If you have a chance to visit at some point during the inspection that is always good so I can review my findings with you and collect my payment. **You should always check with your agent or underwriter in advance to see if they want an out of water inspection included in your survey.**

Prepurchase surveys are another matter. The schedule must suit all the interested participants and everyone wants to get done and on their way as soon as possible. It is important to know when and where the survey will be done, where the haul-out is located and how far must be traveled to perform the trial-run so an adequate plan can be developed to accomplish the inspection. If great distances must be traveled to get to the various places much of a survey can be done while underway conditions permitting.

In most cases a survey begins in the water. Prior to a trial run the vessel should be hauled and cleaned if necessary so it can be properly inspected and prepared to perform at its best. After launch the trial run will usually proceed straight away and upon return of the vessel to its slip the remainder of the inspection will be completed.

My survey process begins with walking around or walking through depending on how much the interested parties know about a vessel. If it is the first visit for all parties then it is advisable to look at as much as possible straight away before diving too deeply into significant detail. If a proverbial "showstopper" doesn't rear its head and an overall favorable impression is obtained then the detailed inspection should begin.

I work off a checklist that outlines all the systems found aboard boats. I developed this checklist based on ABYC standards and it continues to evolve over time based on what I perceive clients need to know about boats they own or interested to purchase. Basically my checklist is a failsafe. The survey is complete when all the items on the list have been accounted for by one means or another.

The following are some of the highlights from my checklist. Each item is examined for its condition, cosmetic appearance if applicable, serviceability or functionality:

Hull above waterline and related:

- Hull structure inside and out where accessible using hammers, moisture meters and visual inspection

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- Hull below rub rail
- Deck drainage (of particular interest is whether water is captive on deck and drained via fittings and in-hull piping due to downflooding potential)
- Mooring gear, exterior hardware & soft goods
- Sailing rigging – inspect keel, mast and spars, standing and running rigging and sails from deck level with binoculars and high resolution photos unless specified otherwise
- Anchoring gear
- Hatches, portlights and exterior doors (verify emergency escape fixtures are installed)
- Glazing

Hull below the waterline and related

- Hull below the waterline
- Propellers and shafting
- Rudders and linkages
- Trim tabs
- Seacocks, thru-hull fittings and transducers

Accommodations, household systems and comfort systems

- Interior spaces
- Entertainment equipment (condition and function of basic features)
- Galley equipment and appliances
- Sanitary system (toilets and related)
- Air-conditioning and heating (operate heat and cool programs and measure temperature differentials)

Tanks and piping section:

- Fuel, potable water, gray water, waste, LPG, lube oil, etc – Tank locations, capacities, piping, filters, pumps, level gauges, etc and **leak test LPG systems**

Engines, engine controls and vessel controls:

- Propulsion engines
- Propulsion engine exhaust systems
- Engine ventilation
- Engine controls
- Engine instrumentation
- Engine alarms
- Steering

Equipment:

- Air compressor
- Bow and stern thrusters
- Hydraulics
- Pumps dewatering and utility

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- Rigging utility (davits, etc)
- Stabilizers
- Windlass/capstans

Electrical:

- Galvanic corrosion protection
- AC & DC electrical systems
- AC and DC engine driven generators
- Battery charging devices (mechanical, wind and solar)
- DC to AC inverters
- Storage batteries

Electronics & navigation equipment

- Condition and function of basic features

Accessories

- What, where, condition and function or serviceability

Safety equipment

- Fixed and portable fire systems
- Gas detection systems
- Emergency dewatering pumps and excess water alarms
- Visual distress signals
- Sound signaling devices
- Navigation lights
- Epirb
- Liferaft
- Lifejackets & throwable devices
- Ground tackle

Code of Federal regulation requirements

- Placards – Oil discharge and waste
- Written trash disposal plan
- Navigation rules
- Vessel identification – HIN, documentation, registration and name

What should you as a client do with this list? If it is an insurance survey then you already own the boat and don't need me to point out every last detail since it is likely already known by you. You should check to see that your safety systems and gear are up to date, you are in compliance with Federal Regulations and that your underwater hardware such as seacocks, strainers and hoses are in good condition. I will be inspecting the whole vessel with emphasis on things that may burn or sink your boat or hurt somebody. Some of these risk items fly effectively under the average boat owner's radar...

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If we are going to do a prepurchase inspection let me know if you have special concerns about the particular make, model and year of vessel you are interested. I know a lot but not everything and am all ears when someone can help me learn something I need to know to improve the value of their survey report and comfort level with their purchase decision. Review the checklist and see if there are particular systems that are of greater interest or value to you so we can cover them in greater detail if necessary.

The following items from the checklist are difficult to cover in detail without advance notice. The scope of their inspection is as follows. Please advise in advance if more in depth analysis is desired:

- Rigging:
 - Sailing vessels – Examined visually from deck level and functionality limited to raising and lowering sails (or furling as it may be) and observation of related gear as presented for survey.
 - Lifting equipment – Visual examination of block and tackles, operation of electric and mechanical winches out and back several cycles avoiding unlaying the winch drum with weight if available.
- Main engines/trial run – Visual external inspection, cold start, warm-up inspection, cruise to establish general condition and function of engine, wide open throttle runs time determined by engine age, performance and prevailing conditions, oil analysis on request
- AC generator – Run normal house load during trial run. Apply all available loads up to generator's rated capacity for some portion of test period.
- Inverter systems – Shutdown all electrical sources and verify it produces AC current at proper voltage
- Watermaker – Visual inspection only. Operational test must be discussed with vessel owner or representative in advance to insure the equipment is prepared to run then proper lay-up procedure accomplished upon completion of testing. Operational test observations will rely on equipment's own monitoring system
- Tenders – Inspected where they rest, engines uncovered and verified to turn over by hand. Operational tests of tenders need to be scheduled in advance to insure engine is serviced and clean fuel supply is available. All rigging and unrigging of tender accomplished by owner or their representative
- Electronics and navigation equipment – Observed while in operation in slip and underway. Detailed functions advertised should be demonstrated by owner or their representative
- Entertainment equipment – Powered up and observed in mode found. Detailed functions advertised should be demonstrated by owner or their representative
- Safety equipment – Expiration dates verified. Tests performed using equipment's installed features such as test buttons and charge condition according to installed gauges

What happens when the survey is complete? Insurance surveys are relatively easy since it is just the two of us. We talk about the survey, my findings, vessel valuation and other significant details. I send you a completed report and respond to any questions or comments you may have, and that is the end of the process.

Prepurchase surveys are another matter. Since there are many interested parties discussions regarding the survey will be limited to the one who is paying my bill. Discussions with others will be limited to those approved by that person/party or for gathering of relevant facts from those who know them.

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When a prepurchase survey is complete it is usually constructive to review findings with all interested parties related to what has been found that is unexpected. Those are usually the items that will require attention or some form of redress before a deal can be consummated. In most cases quick attention is the order of the day since purchase agreements are not open ended with regard to time allowed. No deal should be consummated until the completed report and all findings are reviewed. I take many photos and notes and in the quiet of the office other findings may reveal themselves.