Lee H. Ehrheart
HAVORN MARINE SERVICES

P.O. Box 2082
Port Townsend, WA 98368

Accredited Marine Surveyor
Yacht Consultant
Shipwright

206.789.7043
leehavorn@gmail.com

Havorn Marine
Survey & Shipwright School

Art of Marine Survey Seminar
April 29 – May 4, 2024

Havorn Marine Survey & Shipwright School is committed to the teaching and sharing of knowledge from the marine trades through instruction and hands-on experience. We honor the contributions and experience of our students; at the same time, we honor our professional obligation to offer the depth of our expertise and wisdom. Through the school, we hope to further the awareness of our maritime heritage and pass the skills and knowledge into the future.

The **Art of Marine Survey Seminar** is sponsored by Havorn Marine Services.

Seminar will be held in Port Townsend over six days – April 29-May 4, 2024.

Contact Lee Ehrheart for more information:

Email: leehavorn@gmail.com
Phone: 206-789-7043

DESCRIPTION:

This comprehensive seminar will focus on wooden, steel, and fiberglass boats. The emphasis will be on wooden and fiberglass boats. The course will consist of 4 days of classroom study and 2 days of field work. It is designed for people with all levels of experience and will include the following subjects:

- Belonging/joining a marine surveyors' organization
- Wood technology and the weathering process in a marine environment
- Elements of shipwrighting and construction of wooden boats
- Metals, corrosion, and electrolysis
- Vessel systems and equipment
- Fiberglass construction and detail
- Hands-on hull examination, discussion of on-the-spot findings
- Tour of the boatyard and various vessels
- Theories and practices of the marine surveyor, working with clients, brokers, insurance agency representatives, and bankers
- The actual on-board survey and the writing up of the survey report

OBJECTIVES:

As a result of participating in this seminar, participants will be able to:

- Identify and demonstrate the methods used to examine a hull
- Describe the primary types of wood used in vessel construction and their uses
- Incorporate the appropriate terminology when describing the structure of various vessels
- Describe and identify different types of fastenings and their use in vessel construction
- List at least three types of processes that affect the deterioration of wood
- Identify different methods of repair and evaluate their effectiveness in each type of application
- Describe the causes, processes, and prevention of electrolysis in relation to vessels
- Describe the different types of fiberglass cloths and resins
- Describe and identify different types of rigging and their weaknesses and inherent problems
- Identify common shipboard equipment and their functions
- Describe the function and role of a marine surveyor
- List the major components of a marine survey report and how we record the vessel inventory, observations, and make recommendations

DAY ONE

Opening and introduction. Schedule of our week. General info: parking, breaks, lunch, coffee, toilet, etc.

Discussion of requirements for belonging to one of the three nationally recognized marine surveyors organizations:

- Society of Accredited Marine Surveyors
- National Association of Marine Surveyors
- Association of Certified Marine Surveyors

Participants:

- Lee Ehrheart (AMS #299)
- John Baird, CMS, National NAMS president
- Patrick Mahon (ACMS #0307)

Pizza for lunch with students and guest presenters to continue the conversation and to get to know one another.

In the afternoon, "Your Office at Home"—what is needed: computer, printer, usual office equipment. Reference books: ABYC and NFPA publications, US Government Code of Federal Regulations, Yacht Broker's Guide for used boats, price guides. Other publications and books to learn from, including US Coast Guard NVIC guidelines. Understanding the marine survey form to be filled out.

DAY TWO

Review of previous day's discussion.

Tools of the Trade explained and how we use them to gather information for the report.

Elements of Marine Surveyor subjects:

1. Hull construction for wood, fiberglass, and steel. Terminology of wood and fiberglass vessel construction and their components.
2. Wood technology. Types of wood, identification and cut of the grain. Wood deterioration causes: fungi rot, metal wastage, breakage, stray AC/DC current (with dozens of samples to feel, poke, and probe).
3. Fiberglass boat issues and modes of deterioration: delamination, osmetic blisters, encapsulated wood and coring. Understanding the repair process.

4. Understanding the weathering process, the beginning of deterioration, and its effect in the marine environment. The life cycle of materials, how long materials last because of the sun's UV rays, wind, rain (fresh water problems), the causticness of salt water.
5. Metallurgy: Kinds of metals and fastenings used on boats, alloys, strengths and weaknesses, the alloy breakdown process, compatibility and usage, corrosion and galvanic issues. Inspecting wasted metal samples and fastenings. Understanding zincs (sacrificial anodes). Electrolysis explained.

DAY THREE

Review of last day's discussion—any questions? What subjects need further understanding?

Vessel systems: Through hull fittings, mechanical and propulsion, electrical, steering, shipboard equipment, sailboat rigging terminology.

Proper hull repair procedures (wood and fiberglass).
Caulking demonstration, mallets, irons, oakum and cotton explained.
Practices, behavior, and observations in the boatyard.

DAY FOUR

Meet at Port Townsend Shipwrights Co-op in Boat Haven. Tour their buildings, including the sail loft, and look at boats around their facilities.

Lunch across the street at the Blue Moose Café.

In the afternoon tour Boat Haven, looking at dozens of boats. Learn the art of percussion tapping (the light hammer tapping process of sounding a hull and listening to the sounds that return), learn visual techniques, careful and selective probing, and the use of a moisture content meter. All good skills a surveyor needs to know in the boatyard. Learn proper and selective use of inspection tools. Discussion of "on-the-spot" findings and deficiencies.

DAY FIVE

Morning: Practice surveys onboard boats at Boat Haven. Review the major components of a survey report. Learn how we record our gathered information and observations.

After lunch: In school reading older and newer survey reports from other surveyors. Practice writing up our findings from the morning. The survey report is considered a legal document, read by bankers, insurance agents and underwriters, lawyers, and sometimes a judge in a court of law. Learn appropriate wordsmithing and correct verbiage.

DAY SIX

Review of week's activities and final recap of what we learned. Other topics of discussion we may not have mentioned, or specialized topics one is curious about. Knowing what we know with confidence, appreciating what we know less about.

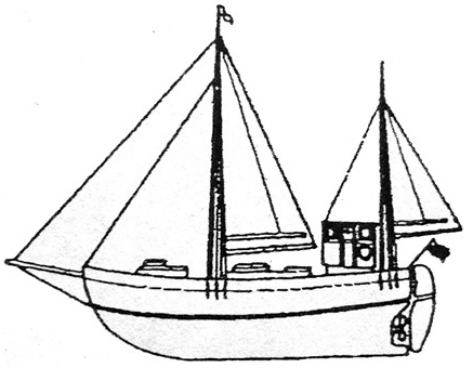
Finish our work writing up past findings and observations and reviewing survey reports. Adding new words to our nautical vocabulary and choosing the right words to fit into the report. A survey will ultimately be judged by the quality and accuracy of the report, presented in a timely manner.

Graduation.

Respectfully submitted,

Lee H. Ehrheart

Lee H. Ehrheart, President
Havorn Marine Services
Accredited Marine Surveyor since 1994



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