

Junior Navigation On-The-Water Teaching Aid Guide

06 Feb 2012

The Sight folder requirement for Junior Navigation is for two sun sights, with a resulting running fix. The student can take these sun sights either independently or with a group of other students. Perhaps valuable benefits are achieved when a group of students gets together when taking sights, to exchange information, knowledge, experience and equipment. An interesting and realistic experience is when the sights are taken from a moving boat. The purpose of this guide is to outline, for Course Instructors and Assistants, their preparation to help students take the required sights on the water. It must be emphasized that while an instructor organized on the water exercise may be convenient and helpful for the student, the individual student has the responsibility for the sights. If the on the water experience accomplishes only part, or none of the requirements, the individual student must still fulfill the course's sight folder requirements.

With the exception of the safety elements and briefing which are mandatory, instructors may choose those elements from this guide that apply to their situation and previous demonstrations in the classroom and pick those elements that will work with a group of students in a time frame normally lasting not longer than 4-6 hours. This includes both "on-the-dock" and "on-the-water" demonstrations and discussions. Obviously, the type of boat and locale available will have an effect on the elements used and the method of instruction. Depending on the type of boat and size of the boat and size of class, some of the elements may be combined as is logical. The instructor should encourage students to be as involved as they feel comfortable and can do safely. Always keep the safety of the boat and the students in mind. It is not the instructor's responsibility to provide the student an opportunity to fulfill all the sight folder requirements.

This is an optional part of the Junior Navigation Course and participation will not affect the credit given for the course. It does not provide any certification or credential to the student except it may provide a convenient and fun time to fulfill the requirements for the sight folder. At minimum it will provide the experience of taking sights from a moving boat.

This time together with the students on the vessel provides a good environment for sharing the "Boating is FUN...We'll show YOU how" part of USPS and answers questions about the value of membership in the Squadron and organization. Other courses and seminars should be shared as a way to show how the student can gain additional boating knowledge and skill even if they do not become a member.

For general safety considerations:

Weather:

- The activity should be in good weather with moderate seas, with the sun visible enough for sights.
- Winds and waves not to exceed the capabilities of the boat and crew, and calm enough for safe taking of the sights
- Review wind, tide, and current conditions affecting boat operation.

Navigation Limits:

The cruise area needs to be where there is either a natural or usable dip-short horizon, with enough distance to determine a running fix.

Note: For the purposes of the running fix requirement, in lieu of dead reckoning positions, GPS positions at the times of the two sights can be used (in this case the intercepts are sight error). The straight line between the two positions would be the advance.

- Within range of a cell phone (10 miles) or VHF shore station—not farther than 20 miles offshore.
- Limited to daylight hours
- No nighttime activity is to be included in this OTW experience. Only the sun is used for these exercises.

Vessel:

- The vessel must have a current VSC sticker
- The vessel must be insured. USPS insurance becomes primary when the first participant comes on board for the activity, not when moving the boat to the activity location. The vessel should be in good condition with no significant problems (all vessels have problems, but not significant ones).
- The vessel must have sufficient fuel for the activity.
- The vessel must have a VHF radio, cell phone, or appropriate communication device.
- Conduct engine room/bilge visual and sniff check before operating machinery.
- Allow engine to warm up to operating temperature as precaution to heating problems.
- Knowledge and Expectations: For larger more complicated vessels the boat owners should be aboard even if not participating in the subject Teaching Aid Activity. (Not necessary for runabouts).
- The squadron teaching aid activity must be documented. The Squadron Executive Committee must approve this activity in advance.
- It is Mandatory that every person must be wearing a PFD when entering the dock area and while on board the vessel unless below deck. (If the PFD is kept on at all times there is not a concern about coming up on deck without it).

- Participants should be told what to bring and what not to bring.
- Appropriate clothing should be recommended to participants.
- USPS float plan issued and check list on float plan completed. (It is a tri-fold in the USPS materials catalog under [Public Boating Courses, Miscellaneous](#) - #09-66-111-N/C, or is available for download at http://www.usps.org/o_stuff/fp_form.html).
- Check for any medical condition of participants.

There is to be an appropriate safety briefing about the boat, relevant to the activity:

1. Weather check
2. Thru-hulls
3. Battery switches/electrical panel
4. Engine controls
5. Head usage
6. Trash disposal
7. Location of First Aid kit
8. Warning about sitting down or holding on during maneuvers
9. Location of throwable devices for MOB
10. Location of VHF/DSC radio and usage
11. Location of flares and other visual distress signals
12. Location of fire extinguishers and extinguisher ports to engine compartment (if applicable)
13. Anything relevant about the particular vessel being used

REMINDER: All OTW programs must be pre-approved by the Squadron or District to comply with insurance coverage requirements.

This Junior Navigation On-The-Water Teaching Aid Guide has been approved by the Boat Operator Certification and On-The-Water Training Committee as required and no additional approvals are necessary unless modifications are made to intent and contents.

Feedback comments should be directed to the [Offshore Navigation Committee Chair](#) to assist in making this Teaching Aid Guide the best possible.

Teaching Aid Activities:

ACTIVITY	TOPIC	DETAIL	INSTRUCTOR NOTES	COURSE REFERENCE
Pre-Departure Discussion at dockside <u>(should apply to all OTW lessons)</u>	Briefing by instructor and skipper (if different person)	Location of Life Jackets (PFDS) and throwable devices for MOB	Insure proper fit. All students and instructors must be wearing them at all times	
		Location of Fire Extinguishers, flares and other Visual Distress Signals	Proper operation of available types discussed	
		Location of VHF radio	Proper use discussed including DSC and AIS if available	
		Location of Marine Sanitation Device	Proper use discussed and demonstrated	
		Location and operation of through-hull valves	Have each of the guests on board put their hand on at least one of the valves, and assure that all of the valves are operable	
		Rules for overboard discharge and trash	Placards and stickers pointed out and discussed	
		Location of on-board electronics (GPS etc)	Proper use and function discussed and demonstration of interfaces if applicable	
		Weather forecast	Discussion and source (VHF radio, TV, Phone)	
		Float Plan USPS Materials Catalog #09-66-111-N/C or http://www.usps.org/o_stuff/fp_form.html	File approved USPS float plan	
		Characteristics of fuel	Discussion of fuel used aboard as well as dangers of	

			fuel and fueling	
		Visual tour of engine/engines	Proper operating procedures discussed and, if possible demonstrated. Visual tour should include through-hulls.	
		Demonstration of Electrical panel	Demonstrate types of lights and proper switches for operation of all electrical systems	
		Tour of boat	Location of storage—spare parts, safety equipment i.e. flares, VDS, and First Aid kit.	
		Boat and Marina Courtesy	Discussion of expectations of crew on the boat and proper conduct in Marinas	
While at the Dock, on the boat, or off				
	Determine watch error	Take Time Tick (WWV or WWVH) or access www.time.gov		Chapter 2
	Determine sextant errors	Including index and side error.	Optional: instructor to demonstrate removal of sextant errors (adjustment).	Chapter 2
	Set up paperwork and forms for recording sights	Calculate time of Local Apparent Noon (LAN)		Chapter 2
	Demonstrating and practicing sight taking techniques	Demonstrate if 'Right' or 'Left' eyed Demonstrate use of shade glasses.		Chapter 2

		advance MT to the afternoon UL sight for PM RFix, or advance the morning sight to the afternoon sight for PM RFix.	rarely taken at sea; emphasize lower limb sights.	
	Weather	Log barometer reading, wind direction and velocity as well as wave and swell height and direction if possible.		