

Coastal Navigation Standard

OBJECTIVES

To be able to demonstrate the navigational theory required to safely navigate a sailing cruiser in coastal or inland waters. The concepts are practically introduced in the Intermediate standard and practically tested in the Advanced standard. The standard is recommended to be completed prior to the Intermediate standard.

PREREQUISITES

None.

This is one of the standards required by CYA as a prerequisite to taking the [Advanced Cruising Standard](#). You can attain this standard by passing the CYA Coastal Navigation Examination.

ASHORE KNOWLEDGE

1. Explain the chart symbols and conventions on Canadian Hydrographic charts, in accordance with the terminology of Chart #1;
2. Identify a source of official Canadian government navigation publications;
3. List the publications required for prudent navigation in the local area, including the following minimum requirements:
 - a) Large scale charts of the area and Chart #1, Symbols & Abbreviations,
 - b) *Sailing Directions*,
 - c) *Tide and Current Tables*,
 - d) *Collision Regulations*,
 - e) Local rules and regulations,
 - f) *List of Lights, Buoys, and Fog Signals*,
 - g) *Radio Aids to Marine Navigation* (if using electronic navigation)
 - h) *DOT Safe Boating Guide*;
4. List the instruments required for prudent navigation in the local area, including the following minimum requirements:
 - a) Steering compass and deviation table,
 - b) Handbearing compass,
 - c) Dividers,
 - d) Protractor, plotter or parallel rule,
 - e) Watch or clock,
 - f) Depth sounder or lead line
 - g) Log/knotmeter,
 - h) Pencil/eraser/note book;
5. Describe the purpose of Notices to Mariners;
6. Use the Tide and Current Tables to find:
 - a) Times and heights of tides at reference and secondary ports,
 - b) Direction and rate of current at reference and secondary stations;

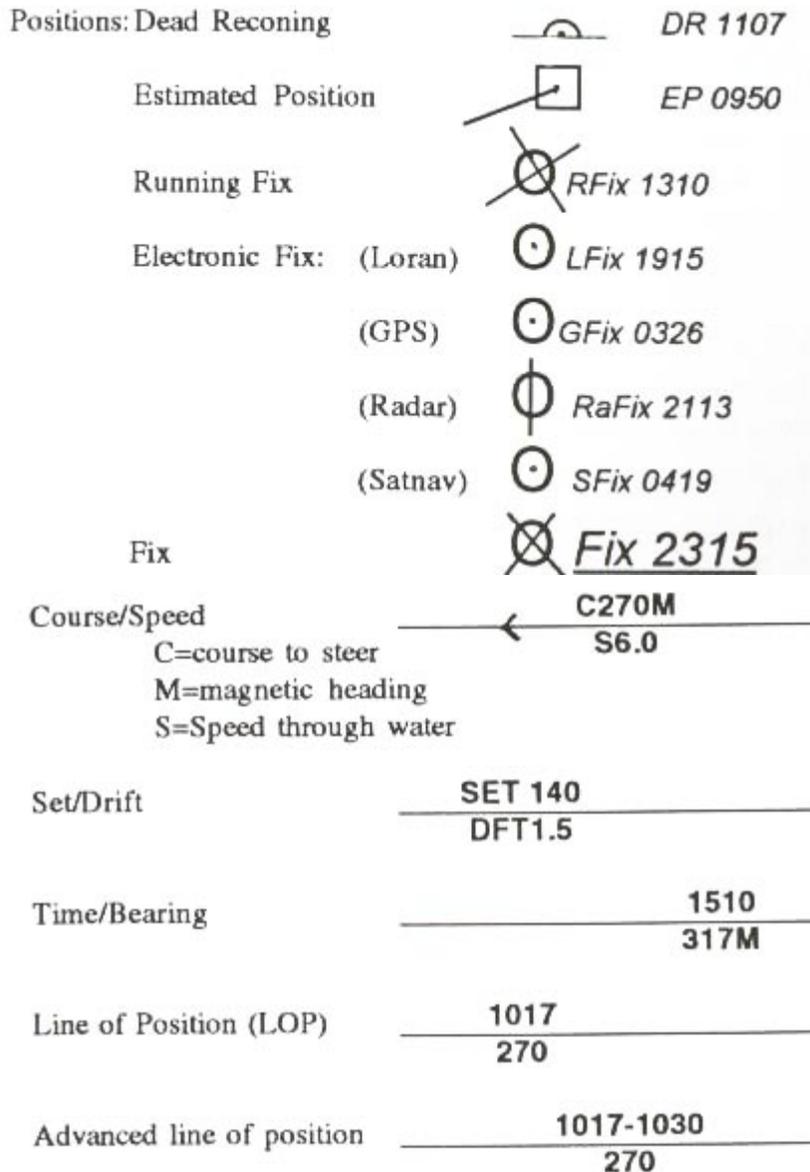
7. Convert courses, headings and bearings between true, magnetic, and compass;
8. Check compass deviation by means of a transit bearing;
9. Plot:
 - a) A dead reckoning position on a chart, using speed, time, and course through water,
 - b) The estimated position allowing for the effect of current and leeway;
10. Determine a heading that counteracts:
 - a) Known current,
 - b) Leeway;
11. Given the course through water and speed, and two observed positions, determine the current;
12. Determine:
 - a) Estimated Time of Arrival (ETA),
 - b) Revised ETA;
13. Plot a chart position from terrestrial objects, using:
 - a) Two or more bearings on different objects taken at one time
 - b) A running fix on one or two objects
 - c) One bearing and a transit range
 - d) One distance (i.e. a sounding, or dipping a light) and one bearing;
14. Use correct plotting and labeling procedures as outlined below;
15. Demonstrate knowledge of passage planning by:
 - a) Prepare a plan of a coastal passage of at least 20 miles in three stages: Overall plan on a small scale chart, a detailed plan on a large scale chart and a departure or arrival plan including tide and current information.
 - b) Use transits, lead marks, stern marks and clearing bearings in passage planning;
 - c) Describe safety criteria for coastal passages regarding dangers buoys and depths;
 - d) Transfer positions between charts using nearest compass rose and measuring distances;
 - e) Demonstrate a working knowledge of the Canadian Buoyage System.

CYA Uniform Navigation Terminology:

1. **Course:** The direction in which a vessel is steered or is intended to be steered (direction through the water).
2. **Course to steer:** Course to steer to counteract current and leeway
3. **Heading (HDG):** The direction in which the boat is pointing in any instant.
4. **Course To Make Good (CTMG):** The course for planning purposes that indicates the intended track from departure to destination.
5. **Course Made Good (CMG):** The single resultant direction from the point of departure to the point of arrival at any given time.
6. **Speed (S):** The speed of the boat through the water.
7. **Speed Made Good (SMG):** The speed of the boat achieved over the CMG line.

- 8. **Set (Set):** The direction in which the current is flowing.
- 9. **Drift (DFT):** The speed (in knots) of the current.
- 10. **Total Drift:** Distance between the DR position and Fix for the same time.
- 11. **Symbols, Abbreviations & Labeling:**
 - a) Headings/ directions: always 3 numbers followed by:
T= True (default), M= Magnetic, C= Compass
 - b) Time: 24 hour clock, ship time used

12.



Example:

A-B = Course to make good (CTMG)

A-C = DR track - Course (C), Speed (S)

C-D = anticipated current and leeway

C-E = Set and total Drift

