

**Summary of Changes:** Terminology, legislative updates, re-formatting  
Changes in **RED**.

## BASIC POWERBOAT STANDARD

(Day Skipper – Power)

### Objective

To be able to operate safely in local waters as skipper of craft over 6 metres and powered by an engine over 55 kW (10 hp).

### Prerequisites

None.

### Ashore Knowledge

#### Section I: Types of Boats

The candidate must be able to:

1. Describe the difference between:
  - a) Displacement hull and planning hull,
  - b) Outboard, inboard/outboard, and inboard engines.

#### Section II: Parts of the Boat and Terminology

The candidate must be able to:

2. Identify and describe the following parts of a boat:
 

Bow	Beam	Rudder
Breastlines	Fenders	Spring lines
Chine	Hatch	Ventilation System
Cleats	Gunwale	Deck
Hull	Keel	Transom
Head	Freeboard	Engine well
Stanchions	Bow line	Skeg
Lifelines	VHF Radio	Stern line
<b>Cabin</b>	<b>Companion Way</b>	
3. Define the following terms:
 

Aft	Making way	Ahead
Draft	No way	Astern
Port	Underway	Leeway
Starboard	Forward	Wash
Wake		

#### Section III: The Engine and the Propulsion Unit

The candidate must be able to:

4. Identify the following parts used in the operation of an outboard, inboard/outboard, or inboard engine:
  - a) Common engine parts -
 

Engine cover	Gear shift lever	Choke Starter
Throttle Propeller	Exhaust outlet	Fuel line connectors
Fuel line	Fuel level gauge	Fuel tank
  - b) Outboard and inboard/outboard engine parts -
 

Tilt/trim buttons	Drive unit	
Transom mount bolts	Antiventilation plate	
  - c) Inboard/outboard and inboard engine parts -
 

Engine bed	Propeller shaft	
Cooling water intake	Seacock	

- d) Inboard engine parts -
  - Rudder post                      Cutlass bearing
  - Fluid measuring sticks        Rudder
  - Stuffing box                      Flange coupling;

Name and describe the use of the following:

- a) Fuel system: fuel tank, fuel line, fuel filter,
  - b) Ignition system: spark plugs, distributor, ignition wires and coil,
  - c) Cooling system: water pump, cooling water intake valve and discharge, thermostat control;
5. Describe the importance of selecting the correct propeller and the significance of pitch and diameter;
6. Describe how to check and maintain the following:
- Sea water strainer              Propeller shaft
  - Steering components        Spark plugs
  - Fluid levels                      Alternator belt
  - Water pump belt                Electric starter and battery
  - Fuel tanks                        Power controls and linkages;
7. Describe probable causes and troubleshooting for the following situations:
- a) Engine will not start or is difficult to start,
  - b) Engine overheats,
  - c) Engine seems to be running well but then slows down and knocks,
  - d) Engine spits, coughs or slows,
  - e) Engine knocks excessively,
  - f) Engine stops suddenly,
  - g) Engine is running well but boat is not moving well,
  - h) Excessive vibration;
8. List and describe the required steps to winterize an outboard, inboard/outboard, and inboard engine.

#### **Section IV: Safety**

The candidate must be able to:

9. List from memory:
- a) Transport Canada (TC) required items for the candidate's boat (6 to 9m OR 9 to 12m) (*Safe Boating Guide*),
  - b) The rules for care of PFDs and life jackets,
  - c) The recommended method of testing for buoyancy in a PFD;
10. Describe the importance of the Transport Canada information plate attached to the hull of power boats;
11. Define what hypothermia is including:
- a) The signs and symptoms and the major areas of heat loss to the body,
  - b) Steps for prevention,
  - c) Treatment for mild and severe hypothermia,
  - d) The actions to be taken by one or more individuals in cold water to increase survival time;
12. Define what cold shock is including:
- a) The signs and symptoms,
  - b) Steps for prevention,
  - c) Treatment for;
14. Define what carbon monoxide poisoning is including:
- a) The signs and symptoms,
  - b) Steps for prevention,
  - c) Treatment for;
15. Describe the purpose of a safety harness in rough weather conditions;
16. Describe:
- a) The common sources of fire and/or explosion on a powerboat and methods of prevention,
  - b) The danger involved and the precautions to take when recharging batteries;
17. Describe as stated in the *Safe Boating Guide*:
- a) Safe refueling procedures,
  - b) The use of each of the different types of flares their proper storage, and the method and safety precautions in using them;

18. List the main responsibilities of the skipper and crew as listed below:

Skipper

- a) Safety of crew and boat,
- b) Briefing on location and operation of lifesaving and other safety equipment prior to getting underway,
- c) Assigning duties,
- d) Instruction in the safe use of the boat's equipment while underway,
- e) Obligations on observing an accident or vessel in distress,
- f) Actions to demonstrate respect for other boaters and other's property;

Crew

- a) Obey skipper,
- b) Assist skipper;

19. Describe:

- a) The reasons for keeping gear and equipment stowed in assigned places on a vessel and the principles for proper stowage of extra gear and equipment,
- b) The frequency of maintenance of a recreational boat and its equipment so that it is capable of functioning at all times,
- c) The minimum items recommended for a waterproof emergency kit,
- d) Use and maintenance of a marine head and holding tank system.

**Section V: Seamanship**

The candidate must be able to:

20. Describe one use of each for the following knots and hitches:

- a) Figure Eight,
- b) Reef Knot,
- c) Double Sheet Bend,
- d) Bowline,
- e) Clove Hitch,
- f) Round Turn & Two Half Hitches;

21. Describe the use of the following:

- Boat hook          Painter          Shackles
- Grapple            Swivel          Towing Bridle;

22. Describe the danger of a lee shore;

23. Describe:

- a) The features of a secure anchorage,
- b) The holding characteristics of commonly used anchors,
- c) Suitable rode makeup and handling,
- d) Scope requirements when anchoring for lunch, overnight and in rough weather;

24. List some precautions that should be taken in preparation for heavy weather;

25. Describe the action to be taken in the following situations:

- a) Springing a leak,
- b) Steering fails,
- c) Dragging anchor,
- d) Collision with another boat,
- e) Fire,
- f) Capsizing your boat,
- g) Running aground,
- h) Fouling the propeller,
- i) Engine failure.

**Section VI: Weather**

The candidate must be able to:

26. List three sources of marine weather information;

27. Describe local weather hazards, the warning expected, and the identification of both the warning and the hazard. Provide suitable action to be taken to reduce or avoid their effects;

28. Interpret the marine weather forecast applicable to the area of operation and apply that information:

- a) Determine whether it is safe to go boating,
- b) Decide how forecast changes in the weather may influence the day's planned activities,
- c) Identify the wind speeds associated with:
  - Light winds                  Moderate winds                  Strong winds
  - Strong wind warning**      Gale warning                  Storm warning

**Section VII: Navigation**

The candidate must be able to:

29. Describe the importance of having a compass on board and list the precautions needed to ensure that the compass receives no undue magnetic influences;
30. Understand the use of a Canadian Hydrographic chart of the local area as follows:  
**Describe:**
  - a) A chart,
  - b) Aids to Navigation,**Read:**
  - a) Depth of water,
  - b) Distance scale,
  - c) Buoys and their significance,
  - d) Types of bottom (sand, rock, mud and clay),
  - e) Under water/surface hazards: kelp, cable, rock, shoals, cribs, wrecks, currents,
  - f) Light symbols,
  - g) Beacons;
31. State the principles of operating a small boat around large ships;
32. Use the Tide and Current Tables to find:
  - a) Times and heights of tides at reference ports,
  - b) Direction and rate of current at reference stations.

**Section VIII: Boating Regulations and Rules of the Road**

The candidate must be able to:

33. Describe the types of boating accidents which need to be reported and which authority is responsible;
34. Apply Collision Regulations Rules 13 to 21 by means of diagrams;
35. State the name, colour and angle of visibility of lights required by:
  - a) A vessel under power, under sail, under or giving a tow, and at anchor,
  - b) An unpowered vessel less than 6 meters;
36. List six internationally recognized distress signals as stated in the *Safe Boating Guide*;
37. Identify and describe the following:

Pleasure craft	Power driven vessel
Sailing vessel	Recommended gross load capacity
<b>Compliance notice / Capacity plate</b>	Recommended safe limit of engine power
38. Demonstrate knowledge of regulations applying to boaters:
  - a) Identify the minimum required publications for operating a 10 meter pleasure vessel in unfamiliar waters,
  - b) Describe the process and guidelines for licensing a vessel and how a license number must be marked on a vessel;
  - c) Identify the principal acts / legislation that a pleasure craft operator should be knowledgeable about, and the areas covered by each including:

<i>Canada Shipping Act (2001)</i>	<i>Small Vessel Regulations</i>	<i>Contraventions Act</i>
<i>Vessel Operation Restriction Regulations</i>	<i>The Criminal Code of Canada</i>	<i>Collision Regulations</i>
<i>Competency of Operators of Pleasure Craft Regulations;</i>		
39. Identify:
  - a) Four considerations in determining the safe speed to operate a vessel,
  - b) The actions and precautions to be taken in reduced visibility,
  - c) Your responsibilities when operating in a commercial traffic lane,
  - d) The proper courtesies for operating in restricted passages and in harbours,
40. Describe the installation, use, capabilities and limitations of a radar reflector.

**Section IX: Complementary Water Sport Guidelines**

The candidate must be able to:

41. Describe the correct techniques for the following:
  - a) Driving while towing a water skier,
  - b) Returning a towline to a fallen skier,
  - c) Picking up a fallen skier,
  - d) Observing the skier,
  - e) Water and dock starts;
42. Describe the following water ski hand signals:
  - a) Speed up or down,
  - b) Speed OK,
  - c) Head back,
  - d) Turn,
  - e) Stop,
  - f) "I'm OK" after a fall;
43. Identify the diving signal flags and appropriate vessel operation when in sight of such flags.

**Section X: Trailering a Boat**

The candidate must be able to:

44. List the main criteria for selecting a trailer;
45. Describe the importance of load distribution between the trailer and the vehicle's hitch;
46. Explain the fundamental skills needed to back a trailer attached to a vehicle;
47. List the main steps required when launching and retrieving a boat with a trailer;
48. Describe how and why to pack the wheel bearings on a trailer.

**Afloat Skills**

**Section XI: Preliminaries**

The candidate must be able to:

1. File a boating plan;
2. Demonstrate (on shore) the correct method of putting on a personal flotation device (PFD) while in the water;
3. Describe the purpose of a safety harness and dangers of improper attachment to boat;
4. Demonstrate the correct use of a heaving line;
5. Carry out a check of the vessel's gear and equipment in accordance with CYA Cruising Boat Checklist and demonstrate use and care of onboard equipment;
6. Coil a line and secure (sea coil);
7. Properly stow lines and fenders;
8. Demonstrate how to belay to a cleat (round turn, figure eight finish with a half hitch).

**Section XII: Manoeuvring Under Power**

The candidate must be able to:

9. Plan and execute an undocking using correct commands and lines with varying wind and current conditions;
10. Manoeuvre from and to a side dock correctly under the following wind and current conditions:
  - a) Wind/current parallel to dock,
  - b) Wind/current away from dock,
  - c) Wind/current towards the dock;
11. Bring the boat to a mooring buoy and successfully retrieve the lines;
12. Manoeuvre a boat under varying sea and wind conditions with the wind from the following points:  
Ahead, Astern, Abeam, Quarter;
13. Come to a full stop with bow one half boat lengths away from a buoy using reverse. [The objective of this manoeuvre is to learn how much distance is required to bring a vessel to a full stop. Vessel is to be kept on a straight course while the manoeuvre is being carried out];
14. Manoeuvre a vessel under power to a position alongside and parallel to a dock, portside to and starboard side to, not more than two feet off without the aid of lines, without the stern passing a given mark at any time during the manoeuvre;
15. Anchor the boat in water more than 3 metres deep, so as not to drag the anchor when tested under engine power at moderate throttle astern;
16. Raise anchor with boat ready and get under way;

17. Demonstrate skipper's actions/commands from the time a member of the crew falls overboard without warning, until the crew is safely recovered. Consider the crew overboard wearing a PFD and able to assist him/herself. Include the following minimum actions:
  - a) Sound alarm,
  - b) Deploy marker and buoyant object(s),
  - c) Appoint and maintain a look out,
  - d) Williamson or Anderson method of return,
  - e) Describe at least two methods of getting a person out of the water and back aboard.
18. Demonstrate the basic principles of handling a boat under adverse weather conditions such as zigzagging while heading broadside to the waves and while heading into the waves;
19. Apply Rules 5 through 18 of the Collision Regulations as applied to a vessel under power.

***Section XIII: Making Fast and Snugging Down***

The candidate must be able to:

20. Secure a vessel to a dock so as to prevent excessive movement and set out fenders correctly;
21. Demonstrate how to secure a vessel for the night using appropriate dock lines;
22. Tie each of the following knots, bends and hitches within 30 seconds:
  - a) Figure Eight,
  - b) Reef Knot,
  - c) Double Sheet Bend,
  - d) Bowline,
  - e) Clove Hitch,
  - f) Round Turn & Two Half Hitches.

***Resource Material***

CYA Basic Powerboating Skills by Donna Neff  
CYA PCOC Manual