Tourism 12- Miss Ashley- Module 2-Boating Basics: Terminology and Equipment

p.16-The Basics

1. Who is an Operator?

An “operator” is considered to be the person who is in effective control of the pleasure craft and who is

responsible for it’s operation

2. What is a pleasure craft?

A “pleasure craft” is any vessel, ship, boat or other type of watercraft that is used exclusively for pleasure or

recreation.

3. What is a power driven craft?

Any vessel propelled by a motor or propelling machinery is considered to be a power-driven craft. This definition

includes pleasure sailing craft operating under the power of a motor.

4. Why is it important to know the difference between power driven craft and sail powered craft?

Different navigation and equipment rules apply for each type of craft.

p.17-The Basics cont.

5. What is a Sailing Vessel?

any vessel that is under the power of sail

6. When does a Sailing vessel become a power driven craft?

Sailboats operating with an engine or propelling machinery

7. What is a personal watercraft?

Personal Watercraft (PWCs) are equipped with an inboard engine and are propelled by an internal

jet-propulsion system

8. What is unique about personal water crafts?

Handling characteristics- For example, PWCs cannot steer unless throttle power is applied by the operator.

9. What is the hull?

The “hull” of a boat is the portion of the craft that rides in, or on top of the water. The hull does not include any

masts, sails, rigging, machinery or equipment.

10. Describe each of the following three types of hulls:

Planing Hull- designed to lift (or plane) onto the top of the water as the boat gains speed. Most small powerboats utilize planing type hulls

Displacement Hull- designed to travel through the water using an efficient amount of propulsion. Larger vessels are typically designed with displacement hulls because of their large size and drafts

Pontoon Hull- utilizes two or more pontoons to create lift and flotation. Pontoon hulls typically have flat decks and may be fitted with or without a cabin

p.18-Definitions

11. Why is knowing the configuration of the hull important for an operator?

The shape or configuration of a boat’s hull greatly affects its performance

12. What are the four types of hull bottoms and how do they handle differently?

Round-Bottom: Typical to sailboats, round-bottom hulls are not as stable and tend to roll in waves and

rough water conditions

Flat-Bottom: Typical to some ski-boats or smaller craft like rowboats, flat-bottom hulls offer a more stable platform but tend to “bounce” or “slap” the water in rough conditions

Vee-Bottom: The most common type of power-boat hull, a vee-bottom hull is shaped like a “v” and can cut through rough water

Multi-Chine Hull: Multi-hull craft, such as catamarans, are very stable but can be more difficult to manoeuvre

13. Define each of the following terms:

Bow-The forward part or front section of a pleasure craft

Stern-The rearward part or rear section of a pleasure craft

TransomThe stern cross-section of a boat. The transom forms the back of the boat.

Draft

Draft -the depth of water that a boat needs in order to float freely. A boat’s draft is measured as the

distance from the vessel’s waterline to the lowest point of the hull. If a vessel is equipped with an outboard

motor or stern drive, the draft is the distance from the waterline to the lowest point on the engine.

Freeboard- the distance from the top of the deck to the waterline.

p.19-definitions cont.

14. Define the following terms:

Length-the distance from the tip of the bow to the farthest point on the stern (measured in a straight line). If the boat is equipped with a swim platform it is not considered as part of the boat’s overall length.

Beam- the width of a boat at its widest point.

Outboard engine- fixed to the transom (stern) of a boat. The operator steers the craft by moving the entire engine and drive assembly.

Inboard/outboard engine- mounted within the hull of the craft. The lower unit, which consists of the propeller and drive assembly, is mounted on the transom at the stern of the craft. In an inboard/outboard configuration, the operator steers the craft by moving the lower unit left or right.

Inboard engine- one where the motor and a ignificant portion of the drive assembly are mounted within the hull of the craft. In an inboard engine configuration, only the propeller and propeller shaft extend outside the hull. The operator steers the craft by moving a rudder which is affixed at the stern of the craft behind the propeller.

p. 20 Definitions cont.

15. Define the fellowing terms:

Astern- Directly behind the stern of the boat.

Abaft- The direction towards the stern or near the back of the boa

Port- left side of boat when looking forward

Starboard- Right side of boat when looking forward

P. 21-Definitions cont.

16. Define the following terms and/or indicate their use/importance.

Handlebars and Throttle- Steer the PWC by turning the handlebars and applying throttle

Safety lanyard and on/off switch- The safety lanyard is attached to the on/off switch at one end and to the operator at the other end. If you fall of the PWC, the lanyard will release and the engine will shut down immediately.

Seat- The driver and passengers should be seated at all times.

Jet Intake- Water enters the Jet Intake where it passes through a high-speed impeller to propel the PWC. Use caution when near the intake - Loose items such as clothing and hair can be ingested through the intake by the force of the water and rotating impeller.

Jet thrust nozzle= High-powered water propels the PWC through the Jet Thrust Nozzle. Never start the engine or operate the PWC if a passenger is positioned behind the nozzle.

p. 22- Personal safety equipment

17. What regulation requires that certain safety equipment be carried onboard at all times?

Small vessel regulations

18. What else do these regulations require?

That the equipment be maintained and stored in a location readily accessible to passengers.

19. What are the 4 types of equipment required for operation on Canadian waterways?

1) Personal Safety Equipment 2) Boat Safety Equipment 3) Distress Equipment 4) Navigation Equipment

20. What personal safety equipment is required on board at all times?

- Personal Flotation Devices / Lifejackets - Buoyant Heaving Line- Emergency Kit

21. What is an approved flotation device and why is it recommended?

Wearing an approved, properly fitted flotation device greatly reduces the risk of accidental drowning. In fact,

Canadian Coast Guard statistics show that boaters wearing an approved flotation device are 5.5 times less

likely to drown. Pleasure craft operators and their passengers should wear an approved personal flotation

device or lifejacket at all times while onboard a boat.

22. What are the 3 main types of flotation devices approved for use in Canada?

1) Lifejackets 2) Personal Flotation Devices (PFDs) 3) Inflatable PFDs

23. How can you tell if a flotation device is approved?

Lifejackets or PFDs bear a label or stamp indicating approval by the Department of Transport, Canada. PFDs

can also bear approval by the Canadian Coast Guard. If damaged, altered or repaired label is invalid.

p. 23-Personal safety equipment cont.

24. What are the different types of lifejacket?

Standard Lifejackets feature a high degree of

buoyancy and turning ability but are typically uncom-

fortable. Similar in design, Small Vessel Lifejackets

are also designed to turn an unconscious person but are not as buoyant and have less turning ability.

25. What colour should lifejackets be and how should they fit?

Red, orange or yellow- should fit snugly but not restrict free movement of arms and legs

26. How is a personal flotation device different from a lifejacket?

Personal Flotation Devices (PFDs) offer a more comfortable and less restrictive fit than Lifejackets. However, PFDs are designed only to keep you afloat while in the water and do not provide turning ability. As such, they are not as safe as Lifejackets.

27. Who are inflatable pfd’s approved for?

Inflatable PFDs are only approved for use by persons 16 years or older that weigh more than 36 kilograms

28. In order to meet small vessel regulations what must you do with inflatable pfd’s?

Must be worn at all times while on deck or in the cockpit of an open vessel

29. Are inflatable PFD’s approved for use on PWC’s?

No.

p. 24.-Personal safety equipment cont.

30. What 5 things should a child’s pfd or lifejacket have?

- A label or stamp indicating that it has been approved for use in Canada - An extra large collar to support the child’s head- A safety strap that fastens between the legs to prevent the jacket from slipping over the child’s head

- A grab strap located on the collar- Reflective material and safety whistle

p. 25-Personal safety equipment cont.

31. How should you test pfd’s and lifejackets?

1) Put on and properly fit the PFD or Lifejacket 2) Wade into chest deep water 3) Bend your knees and float onto your back 4) Ensure the PFD or Lifejacket keeps your chin above the water and permits proper breathing

32. What should you do to care for and maintain your pfd’s and lifejackets?

- PFDs/Lifejackets should never be used as cushions or fenders - They may become damaged and less

effective, thus voiding their approved status

- PFDs/Lifejackets should be air dried out of direct sunlight and away from a direct heat source

- When not in use PFDs/Lifejackets should be stowed onboard your craft in a dry, well ventilated area

- Ensure the storage location is readily accessible by both the operator and passengers on the craft and

never in the proximity of gasoline or chemicals

- Inspect regularly. If ripped or damaged,PFDs/Lifejackets should be replaced immediately

33. How do you clean pfd’s and lifejackets?

1) Use mild soap and water 2) Rinse thoroughly 3) Never dry-clean or use strong detergents, gasoline, or chemicals/solvents 4) Air dry out of direct sunlight and away from direct heat sources

p. 26Personal safety equipment cont-

34. How do you put on a flotation device in the water?

1) Find a supervised area to practice the procedure 2) Spread the flotation device open with the inside facing up and out of the water and the neck facing towards you 3) Extend your arms through the arm openings 4) Lift your arms above your head 5) Lie backwards and pull the flotation device around your upper body 6) Fasten the zipper, straps, buckles and/or ties to ensure a snug fit

35. What is a buoyant haaving line and what is it used for?

A buoyant heaving line is equipped with a buoy or float at one end. It is designed to be thrown to a person in the water who is in need of assistance:

36. What are 3 things you should know about buoyant heaving lines?

The Small Vessel Regulations require that heaving lines be at least 15 m in length

- Some heaving lines are light and therefore can be difficult to throw longer distances. You should practice throwing a heaving line before an emergency situation arises

- Using a heaving line equipped with a throw bag (a weighted canvas or nylon bag at one end) will enable you to throw the bag with less difficulty and ensure the line does not become tangled

37. What should an emergency kit include?

 Emergency rations- Drinking water- A First Aid kit- Waterproof matches- A waterproof flashlight

- A knife- A whistle- Dry clothing

p. 27- Boat Safety equipment

38. What does boat safety equipment include:

- Bailing Devices- Manual and Electric Bilge Pumps- Anchor- Manual Propelling Devices (Oars / Paddles)

- Axe- Repair Kit- Life Ring- Fire Extinguisher- Re-boarding Device

39. What is a bailing device and what are the requirements regarding bailing devices?

A bailing device is used to remove water from inside a boat:- The Small Vessel Regulations require that bailers

must have a volume of at least 750 ml and an opening that is at least 65 cm 2 in area

40. What is a manual bilge pump?

utilizes a pumping chamber, a water intake hose (or chamber) and a discharge hose to dispel water

41. What is an electric bilge pump?

designed to remove water from the hull of a vessel with an engine

p. 28-Boat safety equipment cont.

42. When are you required to carry an anchor and why?

If operating a pleasure craft 8 m in length or greater you are required to carry an anchor. An anchor can be

used to secure your boat in case of a breakdown or non-operation due to poor weather.

43. What are the requirements for anchors according to small vessel regulations?

an anchor be fitted with at least 15, 30 or 50 m of cable, rope or chain in any combination. The length depends on the

size of your vessel.

46. What is a manual propelling device and what are the rules regarding them for pleasure crafts?

Manual propelling devices, such as oars or paddles, can be used to manoeuvre your craft in the case of a break-

down. Most vessels are required to carry paddles or oars with oar locks. If operating a vessel less than 8 m

in length you may use an anchor with a minimum of 15 m of rope, cable or chain in place of a manual

propelling device.

47. What vessels must carry an axe?

Those operating large vessels (over 12 m in length) must carry at least one axe onboard at all times.

p. 29-Boat safety equipment cont.

48. What types of things should operators carry in a repair kit?

Tapered wooden plugs, underwater sealing compounds, patch kits and duct tape can all be used to stop hull leaks. A basic toolset including wrenches, sockets and driver, spare nuts and bolts, cotter-pins, and spare spark plugs should be

carried onboard at all times.

49. What is a life ring? What are the requirements?

a circular shaped device that can be used to rescue a person who has fallen overboard.

Requirements- must be circular in shape, have an outside diameter of either 610 mm or 762 mm, and carry a

sticker indicating that it has been approved for use by the Department of Transport, Canada. A life ring must

be attached to a line of at least 15 m in length.

50. What is reboarding equipment? What vessels must have reboarding equipment according to the small vessels regulations?

designed to allow easy re-boarding of the vessel from the water.

Small vessel regulations require that all craft greater than 6 m in length must carry an appropriate re-boarding device if the freeboard of the craft is greater than 0.5 m.

51. What are suitable re-boarding devices?

 A portable ladder- A built-in transom or swim platform ladder- A sling- A rope

p. 30-Distress equipment

52. What is the requirement for carrying a fire extinguisher on board based on?

(depending on the size and type of craft being operated)

53. What are the 3 ratings of fire extinguishers?

- Class A: Designed for use on combustible solid materials such as wood and paper

- Class B: Designed for use on combustible liquid fires including gas, oil and grease

- Class C: Designed for use on electrical fires

56. What type of class of fire extinguishers are required on pleasure craft in Canada?

Class BC

57. What are flares and pyrotechnic devices used for?

used to signal distress and/or need of assistance.

58. Are you required to carry flares?

Possibly-depending on the size and type of craft and the body of water in which you are operating

59. What are the requirements for carrying flares?

required to carry flares if operating in any ocean or if operating in a waterway where you may operate at any distance farther than 1 mile from shore. Vessels that are 6 m to 12 m in length are not required to carry flares if they are operating in a river, canal, or lake within 1 mile of the shore

60. How should flares be stored and located?

in a watertight container and located in a cool, dry area easily accessible

p.31-Distress equipment cont.

61. How long are flares and pyrotechnic distress signals valid for?

4 years

62. Can flares be tested or discharged?

It is illegal to test or discharge a flare if not used for an emergency situation.

63. What are the 4 types of approved flares for signal distress?

1) Type A: Parachute Flare - Easily seen from water, land and air- Must emit a red light

2) Type B: Multi-Star Flare- Easily seen from water, land and air- Must emit a red light

3) Type C: Hand-Held Flare- Not as easily seen from afar but effective for marking your position- Must emit a red light

4) Type D: Smoke Flare - Highly visible during daylight hours- Must give off orange smoke

64. What type of flashlight are most vessels required to carry on board at all times?

watertight flashlight

65. What is a flashing SOS signal using a flashlight?

three short flashes, then three long flashes, followed by three short flashes.

p. 31 Navigation equipment

66. What are the three important functions of sound signaling devices?

- To signal distress or need of assistance

- To alert other boats of your position in poor visibility

- For navigation purposes

67. What do small vessel regulations require for all vessels related to sound signaling devices?

that all vessels carry some form of sound-signalling device and/or appliance. Approved sound-signalling devices and

appliances must be audible for a minimum of 0.93 km.

68. What are some examples of sound signaling devices?

- Mechanical (floatless) whistle- Horn- Portable compressed-air horns- Bell

69. What are pleasure craft vehicales less than 12 m in length required to carry for sound signaling devices?

at least one sound-signalling device or other means of making an efficient sound signal

70. If a vessel is over 12 meters how many sound signaling devices do they have to carry? 2

71. What is good practice to attach to your pfd or lifejacket? A whistle

72. What are navigation lights and why are they essential?

Navigation lights are essential for operating during periods of restricted visibility or at night. Navigation lights make your craft visible from all angles

73. When must navigation lights be used?

Must be displayed one hour prior to sunset and remain on until one hour after sunrise

74. If you are unable to display navigation lights and are operating during nighttime or periods of low visibility, what must you use instead?

you must have a watertight flashlight, lantern, or spotlight emitting a white light to prevent a collision

p. 33 Navigation equipment cont.

75. What is a passive radar reflector?

A passive radar reflector is a metallic device that is used to identify the position of your boat to other

vessels equipped with radar.

76. Where should a passive radar reflector be mounted?

A radar reflector must be mounted or suspended at least 4 m above the waterline on all vessels that are less than 20 m in length and constructed of non-metallic materials.

77. When is a passive radar reflector not required? (6 things)

- You are operating on a waterway where no other vessels are using radar

- It is impractical to mount on your vessel

- Traffic conditions are limited

- Operating during daylight hours

- Operating in good weather conditions and calm waters

- If the use of radar reflector is not essential for safe operation of your craft

p. 34- required safety equipment

78. Fill in the following chart requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Sailboards | Paddleboats & Watercycles | Canoes, Kayaks, Rowboatsand Rowing Shells(not over 6 m in length) | Unpowered Pleasure Craft(not over 6 m in length) | Personal Watercraft (PWC) |
| Personal SafetyEquipment | One Canadian approved PFD orLifejacket of appropriate size foreach person onboardBuoyant Heaving Line at least 15 min length (exempt if all people onboard wear an approved flotationdevice) | One Canadian approved PFD orLifejacket of appropriate size foreach person onboardBuoyant Heaving Line at least 15 min length (exempt if all people onboard wear an approved flotationdevice) | One Canadian approved PFD orLifejacket of appropriate size foreach person onboardBuoyant Heaving Line at least 15 min length | One Canadian approved PFD orLifejacket of appropriate size foreach person onboardBuoyant Heaving Line at least 15 min length | One Canadian approved PFD orLifejacket of appropriate size foreach person onboardBuoyant Heaving Line at least 15 min length |
| Boat SafetyEquipment | Manual Propelling Device (exempt if all people on the sailboardwear an approved flotation device) | None required | Manual Propelling Device orAnchor with 15 m lineBailer or Manual Water Pump | Manual Propelling Device orAnchor with 15 m lineBailer or Manual Water Pump(not required for any multi-hull craftthat has subdivided multiple-sealedhull construction) | Manual Propelling Device orAnchor with 15 m lineBailer or Manual Water PumpOne Class 5BC Fire Extinguisher(all the above not required if all people onboard wear an approvedflotation device) |
| NavigationEquipment | Sound-Signalling Device | Sound-Signalling DeviceNavigation lights or WatertightFlashlight (if operated at night orduring periods of poor visibility) | Sound-Signalling DeviceNavigation lights or WatertightFlashlight (if operated at night orduring periods of poor visibility) | Sound-Signalling DeviceNavigation lights or WatertightFlashlight (if operated at night orduring periods of poor visibility) | Sound-Signalling Device |
| Distress Equipment | Watertight Flashlight or three Flares(Type A, B or C) (exempt if all people on the sailboardwear a PFD) | Watertight Flashlight or three Flares(Type A, B or C) (exempt if all people on the sailboardwear a PFD) | None required | None required | Watertight Flashlight or three Flares(Type A, B or C) (exempt if all people on the sailboardwear a PFD) |
|  | Powered Craft(not over 6 m in length) | Powered Craft(Over 6 m and up to 8 m in length) | Powered Craft(Over 8 m and up to 12 m in length) | Powered Craft(Over 12 m and up to 20 m in length) | Powered Craft(Over 20 m in length) |
| Personal SafetyEquipment | One Canadian approved PFD orLifejacket of appropriate size foreach person onboard (except for any infant who weighs less than 9kg or person whose chest sizeexceeds 140 cm)Buoyant Heaving Line at least 15 min length | One Canadian approved PFD orLifejacket of appropriate size foreach person onboard (except for any infant who weighs less than 9kg or person whose chest sizeexceeds 140 cm)Buoyant Heaving Line at least 15 min length or an approved Life Buoywith 15 m buoyant line | One Canadian approved PFD orLifejacket of appropriate size foreach person onboard (except for any infant who weighs less than 9kg or person whose chest sizeexceeds 140 cm)Buoyant Heaving Line at least 15 min lengthApproved Life Buoy with 15 m buoyant line | One Canadian approved PFD or Lifejacketof appropriate size for each persononboard (except for any infant whoweighs less than 9 kg or person whosechest size exceeds 140 cm)Buoyant Heaving Line at least 15 m inlengthApproved Life Buoy with 15 m buoyantline and self-igniting light | One Canadian approved PFD or Lifejacketof appropriate size for each persononboard (except for any infant whoweighs less than 9 kg or person whosechest size exceeds 140 cm)Buoyant Heaving Line at least 30 m inlengthTwo approved Life Buoys (must be of 762 mm) attached to 30 m of buoyantheaving line, one with self igniting light |
|  Boat SafetyEquipment | Manual Propelling Device or Anchorwith 15 m line Bailer or Manual Water Pump withsufficient hose One Class 5BC Fire Extinguisher(if equipped with an inboard engine,a fixed fuel tank of any size, or fuel-burning appliance) | Manual Propelling Device or Anchorwith 15 m line Bailer or Manual Water Pump withsufficient hose One Class 5 BC Fire Extinguisher ifpower drivenandOne Class 5 BC if equipped with afuel burning applianceRe-boarding Device (If the vessel’sfreeboard is greater than 0.5 m) | Anchor with a cable, rope or chain ofnot less than 30 mBailer (with an opening of 65m 2 andvolume 750 ml)Manual Water Pump with sufficienthose One Class 10 BC Fire Extinguisher ifpower drivenandOne Class 10 BC if equipped with afuel burning applianceRe-boarding Device (If the vessel’sfreeboard is greater than 0.5 m) | Anchor with 50 m lineMechanical Bilge PumpClass 10 BC Fire Extinguisher at each ofthe following:-entrance to any space where a fuel burning appliance is present-entrance to any accommodation space-entrance to the engine roomAxe2 Buckets (each with a capacity of 10L ormore)A Re-boarding Device | Anchor with 50 m lineMechanical Bilge PumpClass 10 BC Fire Extinguisher at each ofthe following:-entrance to any space where a fuel burning appliance is present-entrance to any accommodation space-entrance to the engine room2 Axes4 buckets with minimum 10L capacityFirefighting Hose, Nozzle, and Pumplocated outside mechanical areaOne lifting harness with appropriate riggingA Re-boarding Device |
| NavigationEquipment | One Sound-Signalling Device or oneSound-Signaling ApplianceNavigation Lights or WatertightFlashlight (if operated at night orduring periods of poor visibility) | One Sound-Signalling Device or oneSound-Signaling ApplianceNavigation Lights or WatertightFlashlight (if operated at night orduring periods of poor visibility) | One Sound-Signalling Device or oneSound-Signaling ApplianceNavigation Lights (as per theCollision Regulations) | Two Sound-Signalling Appliances(Bell or Mechanical Whistle)Navigation Lights (as per theCollision Regulations) | Two Sound-Signalling Appliances(Bell or Mechanical Whistle)Navigation Lights (as per theCollision Regulations) |
| Distress Equipment | Watertight Flashlight or three Flares(Type A, B or C) | Watertight Flashlight 6 Flares (Type A, B, or C) | Watertight Flashlight 12 Flares (Type A, B, C or D - maximum of 6 type D) | Watertight Flashlight 12 Flares (Type A, B, C or D - maximum of 6 type D) | Watertight Flashlight 12 Flares (Type A, B, C or D - maximum of 6 type D) |