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, Rowboats  and Rowing Shells  (not over 6 m in length) | Unpowered  Pleasure Craft  (not over 6 m in length) | Personal Watercraft  (PWC) |
| Personal Safety  Equipment | One Canadian approved PFD or  Lifejacket of appropriate size for  each person onboard  Buoyant Heaving Line at least 15 m  in length (exempt if all people on  board wear an approved flotation  device) | One Canadian approved PFD or  Lifejacket of appropriate size for  each person onboard  Buoyant Heaving Line at least 15 m  in length (exempt if all people on  board wear an approved flotation  device) | One Canadian approved PFD or  Lifejacket of appropriate size for  each person onboard  Buoyant Heaving Line at least 15 m  in length | One Canadian approved PFD or  Lifejacket of appropriate size for  each person onboard  Buoyant Heaving Line at least 15 m  in length | One Canadian approved PFD or  Lifejacket of appropriate size for  each person onboard  Buoyant Heaving Line at least 15 m  in length |
| Boat Safety  Equipment | Manual Propelling Device  (exempt if all people on the sailboard  wear an approved flotation device) | None required | Manual Propelling Device or  Anchor with 15 m line  Bailer or Manual Water Pump | Manual Propelling Device or  Anchor with 15 m line  Bailer or Manual Water Pump  (not required for any multi-hull craft  that has subdivided multiple-sealed  hull construction) | Manual Propelling Device or  Anchor with 15 m line  Bailer or Manual Water Pump  One Class 5BC Fire Extinguisher  (all the above not required if all  people onboard wear an approved  flotation device) |
| Navigation  Equipment | Sound-Signalling Device | Sound-Signalling Device  Navigation lights or Watertight  Flashlight (if operated at night or  during periods of poor visibility) | Sound-Signalling Device  Navigation lights or Watertight  Flashlight (if operated at night or  during periods of poor visibility) | Sound-Signalling Device  Navigation lights or Watertight  Flashlight (if operated at night or  during 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 sailboard  wear a PFD) | Watertight Flashlight or three Flares  (Type A, B or C)  (exempt if all people on the sailboard  wear a PFD) | None required | None required | Watertight Flashlight or three Flares  (Type A, B or C)  (exempt if all people on the sailboard  wear 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 Safety  Equipment | One Canadian approved PFD or  Lifejacket of appropriate size for  each person onboard (except for  any infant who weighs less than 9  kg or person whose chest size  exceeds 140 cm)  Buoyant Heaving Line at least 15 m  in length | One Canadian approved PFD or  Lifejacket of appropriate size for  each person onboard (except for  any infant who weighs less than 9  kg or person whose chest size  exceeds 140 cm)  Buoyant Heaving Line at least 15 m  in length or an approved Life Buoy  with 15 m buoyant line | One Canadian approved PFD or  Lifejacket of appropriate size for  each person onboard (except for  any infant who weighs less than 9  kg or person whose chest size  exceeds 140 cm)  Buoyant Heaving Line at least 15 m  in length  Approved Life Buoy with 15 m  buoyant line | One Canadian approved PFD or Lifejacket  of appropriate size for each person  onboard (except for any infant who  weighs less than 9 kg or person whose  chest size exceeds 140 cm)  Buoyant Heaving Line at least 15 m in  length  Approved Life Buoy with 15 m buoyant  line and self-igniting light | One Canadian approved PFD or Lifejacket  of appropriate size for each person  onboard (except for any infant who  weighs less than 9 kg or person whose  chest size exceeds 140 cm)  Buoyant Heaving Line at least 30 m in  length  Two approved Life Buoys (must be of  762 mm) attached to 30 m of buoyant  heaving line, one with self igniting light |
| Boat Safety  Equipment | Manual Propelling Device or Anchor  with 15 m line  Bailer or Manual Water Pump with  sufficient 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 Anchor  with 15 m line  Bailer or Manual Water Pump with  sufficient hose  One Class 5 BC Fire Extinguisher if  power driven  and  One Class 5 BC if equipped with a  fuel burning appliance  Re-boarding Device (If the vessel’s  freeboard is greater than 0.5 m) | Anchor with a cable, rope or chain of  not less than 30 m  Bailer (with an opening of 65m 2 and  volume 750 ml)  Manual Water Pump with sufficient  hose  One Class 10 BC Fire Extinguisher if  power driven  and  One Class 10 BC if equipped with a  fuel burning appliance  Re-boarding Device (If the vessel’s  freeboard is greater than 0.5 m) | Anchor with 50 m line  Mechanical Bilge Pump  Class 10 BC Fire Extinguisher at each of  the following:  -entrance to any space where a fuel  burning appliance is present  -entrance to any accommodation space  -entrance to the engine room  Axe  2 Buckets (each with a capacity of 10L or  more)  A Re-boarding Device | Anchor with 50 m line  Mechanical Bilge Pump  Class 10 BC Fire Extinguisher at each of  the following:  -entrance to any space where a fuel  burning appliance is present  -entrance to any accommodation space  -entrance to the engine room  2 Axes  4 buckets with minimum 10L capacity  Firefighting Hose, Nozzle, and Pump  located outside mechanical area  One lifting harness with appropriate  rigging  A Re-boarding Device |
| Navigation  Equipment | One Sound-Signalling Device or one  Sound-Signaling Appliance  Navigation Lights or Watertight  Flashlight (if operated at night or  during periods of poor visibility) | One Sound-Signalling Device or one  Sound-Signaling Appliance  Navigation Lights or Watertight  Flashlight (if operated at night or  during periods of poor visibility) | One Sound-Signalling Device or one  Sound-Signaling Appliance  Navigation Lights (as per the  Collision Regulations) | Two Sound-Signalling Appliances  (Bell or Mechanical Whistle)  Navigation Lights (as per the  Collision Regulations) | Two Sound-Signalling Appliances  (Bell or Mechanical Whistle)  Navigation Lights (as per the  Collision 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) |