Tourism 12- Miss Ashley- Module 3-Before Heading out

p.40-Maintenance

1. What act requires by law that you keep your boat and equipment in seaworthy condition?

Criminal Code of Canada

2. What are the 12 steps for pre-season maintenanee?

1) Check the hull and bilge for any damage including cracks and leaks

2) Check the condition and operation of the outdrive, including:- Shafts- Propellers- Prop- Nuts and pins

3) Check the operation and condition of all systems including:- Fuel, electrical and cooling systems

4) Check the condition of hoses and lines and replace worn, broken or cracked lines

5) Check the condition the throttle control

6) Check all electrical connections. Clean and tighten any corroded or loose connections

7) Check the condition of all navigation lights

8) Inspect and clean the engine’s flame arrestor with soap and water

9) Check and replace engine oil if necessary

10) Check and replace air and fuel filters if necessary

11) With the engine running, check the operation of all gauges and alternator for charging capacity

12) Check the condition of the battery. (A fully charged battery should hold its charge for 24 hours)

p. 41-Regular Maintenance

3. What are the 9 things you should do for regular maintenance of your vessel?

1) Maintain a “Dry” Craft

You should always keep the inside of your vessel dry. Use a bailer or manual pump to remove water from the bilge of your craft. When the boat is on a trailer, remove the drain plug at the stern and allow the bilge to drain.

2) Clean and Inspect the Hull Clean the hull of your craft on a regular basis using an environmentally-friendly marine detergent. Once cleaned, inspect the hull for any signs of damage or unusual wear (if possible, remove your boat from

the water and clean and inspect the hull while on a trailer). Any cracks, leaks or potential problem areas should be fixed immediately.

3) Inspect the Steering System-Examine the vessel’s steering system on a regular basis. The steering system should allow the operator to steer the boat freely and smoothly. Replace any worn or damaged steering components. Ensure that any hydraulics are functioning properly. PWC operators should ensure steering cable mounting brackets are securely fastened and should lubricate steering and throttle cables on a regular basis.

4) Inspect the Engine-Check oil and fluid levels before every use.Engines equipped with oil injection units should

be inspected to ensure the water separator is functioning properly. Lubricate moving parts on a regular basis.

5) Inspect the Fuel System-Perform a visual inspection of the fuel system on a regular basis. Check for any leaks, loose

connections, or cracked hoses. Check the fuel filter for the presence of dirt and/or water and clean or replace if necessary.

6) Inspect the Battery-Check the condition of the battery before each trip.If the battery has difficulty starting the motor it should be charged or replaced. Ensure that battery connections are tight and free of corrosion. Clean battery terminals and terminal connections with a steel brush if necessary.

7) Inspect Navigation Lights-Check the condition of all navigation lights before each trip and ensure that all lights are functioning properly. Replace any worn out bulbs. Make certain all connections are tight and free of corrosion.

Carry spare bulbs (appropriate for your craft) onboard at all times.

8) Inspect the Outdrive and Propeller-Check the condition of the lower unit. Ensure the bottom portion (skeg) is undamaged. Gear case oil should be changed at least once per season (or more often with additional use). Check the

propeller for damage or excessive wear. A damaged propeller will cause vibration, loss of fuel economy

and could damage internal parts including the gear case. A damaged propeller should be refurbished or

replaced as soon as possible. PWC operators should check the condition of the craft’s impeller. If it shows signs of damage (such as dings, and curled or broken edges) or excessive wear it should be replaced immediately. Check the

condition of the wear ring that houses the impeller and replace it if worn or damaged. Change the gear case oil every 25-50 hours of use.

9) Fill Up After Each Use-You should fill the fuel tank after each use to prevent condensation. Doing so will also ensure

your craft is prepared for your next trip on the water.

p. 42-Trasnporting your craft

4. What are the 7 steps for winterizing and storing your vessel?

1) Use an environmentally-friendly marine detergent or algae remover to clean the hull of your craft. Empty

the bilge of any excess water and clean it using soap and water (or a marine-grade bilge cleaner). Cleaning the hull and bilge will remove any dirt, oil, fuel or marine life that may damage the hull over prolonged exposure

2) Drain and flush the engine’s cooling system

3) Drain the engine’s fuel system

4) Clean (or replace) the fuel filter

5) Remove the spark plugs and fog the engine cylinders with a rust inhibitor

6) Lubricate all moving parts

7) Clean off any excess grease, lubrication, dirt or marine life

5. What are the 3 things your trailer must meet the provincial and local laws with respect to?

Licensing, registration, operating lights

6. What are the two types of trailers and what are they best used for?

Bunk Style- A bunk style trailer uses two or more bunks (typically constructed from wood) to hold and support the weight of the craft. Bunk style trailers are best used for small boats and PWCs. However, bunk style trailers can be

difficult to use on shallow boat ramps. The bunks must be fully submerged in order to properly launch or

retrieve your craft.

Roller Style-A roller style trailer uses a series of rollers to hold and support the weight of the craft. Roller style trailers can be used for all types and sizes of craft with well constructed, deep-V fibreglass or welded aluminum hulls. Roller style trailers are easier to use on shallow boat ramps.

p. 43-transporting your craft continued

7. what 6 things do you need to consider when choosing a style of trailer?

- Is the width and length of the trailer suitable for the width and length of your craft?

- Is the weight capacity of the trailer suitable for the weight of your craft? The weight of the boat (including engine and all fixed equipment) should not exceed 80% of the trailer’s weight capacity. The remaining 20% of load capacity should be reserved for equipment and fuel

- Do all operating lights function properly?

- Are the wheel bearings properly greased and able to operate smoothly?

- Does the coupler (located at the front-end of the trailer) match the size of your vehicle’s hitch ball?

- Is the trailer equipped with the required “closed- loop” safety chains?

8. What are 3 additional considerations?

Vehicle Capacity

The towing capacity of your vehicle should be considered before trailering any craft. Check your owner’s manual to determine the manufacturer’s recommended gross towing weight for your vehicle. The gross towing weight includes the weight of the craft, the engine, the trailer, and all fuel and equipment. The maximum gross trailer weight and

the tongue load should not exceed that specified by the vehicle’s manufacturer.

Trailer Brakes

Every provincial jurisdiction has its own laws pertaining to trailer brake requirements. For example, some provinces allow towing up to 50% of the net weight of the tow vehicle before brakes are required. Check with local and provincial authorities to determine if your trailer needs to be fitted with trailer brakes.

Trailer Hitch

In order to use a trailer, your vehicle must be fitted with a trailer hitch. The hitch should be installed by a reputable dealer and should be suitable for both your vehicle and size and type of trailer. The hitch should be equipped with a ball that matches the size of the coupler on your trailer.

p. 44- transporting your craft cont.

9. What 7 things do you need to do when attaching a trailer to your vehicle?

1) Before attaching the trailer to the vehicle, ensure that the trailer is properly balanced (See “Weight Distribution and Driving” this page)

2) Position the vehicle or trailer so that the hitch ball is directly below the trailer’s coupler and lower the trailer

3) Securely fasten the tongue latch and lock the trailer coupler using a cotter pin

4) Using tie down straps, securely fasten the boat to the trailer

5) Attach the winch cable and/or winch safety chain to the bow eye of the boat (if so equipped)

6) Ensure that the trailer’s safety chains are securely fastened to the hitch. Chains should be long enough to accommodate tight turns but short enough so that the tongue of the trailer cannot touch the road if it becomes dislodged from the hitch

7) Fasten the trailer’s lighting harness to your vehicle

10. What is the rule of thumb for establishing proper hitch weight and why?

As a rule of thumb, 5-10% of the total loaded weight should be on the tongue. Too light of weight will result in "fish-tailing" (swaying from side to side). Too much tongue weight could exceed the trailer hitch specifications and may affect the handling or your vehicle

11. How can you adjust the tongue weight?

Adjust the tongue weight by shifting equipment in the boat, or moving the position of the winch on the trailer. Depending on the trailer, the axles may also be moved to adjust weight distribution.

12. What things should you make sure you do because of the added weight and length of the trailer?

- Accelerate slowly- Turn using a wider radius to allow for the trailer- Drive at a slower speed than normal

- Allow greater braking distance

13. What are the 11 things you should do when launching your craft?

1) Make a visual check of the launch area:- Is the ramp deep enough to launch your craft?- Are there any overhead wires or obstructions?

3) Remove all tie-down straps and unplug the trailer lights from your vehicle

4) Ensure the bilge drain plug is properly installed

5) Put all gear and safety equipment onboard the craft

6) Ensure the winch is connected to the bow of the craft

7) Attach a bow and stern line to the craft

8) Slowly back the trailer into the water until the motor becomes submerged

9) Test the operation of the motor by starting it and allowing it to warm up

10) Shut down the motor and continue backing the trailer into the water until the boat begins to float

11) Use the bow and stern lines to guide the boat off the trailer. Remove the vehicle from the ramp

p. 45 transporting your craft cont.

14. What 13 steps do you need to follow when loading your craft?

1) Secure the boat at the dock

2) Back the trailer into the water until it is two-thirds submerged

3) Turn off your vehicle and engage the emergency brake

4) Position the boat on the trailer using the bow and stern lines - Do not drive your boat onto the trailer

6) Attach the winch line to the bow-eye of your boat

7) Pull the boat up onto the trailer using the winch

8) Ensure the boat is properly seated and balanced on the bunks or rollers

9) Once the boat is in position, lock the winch and attach the winch’s safety chain (if so equipped)

10) Remove your vehicle and trailer from the ramp

11) Once parked, attach the trailers lights and ensure they are functioning properly

12) Remove the boat’s bilge drain plug

13) Secure the boat using tie-down straps before departing

15. What are the 6 things you need to maintain on your trailer?

1) Wheel Bearings

Most new trailers are equipped with “Bearing Buddies” which act as replacements for traditional dust caps. Bearing Buddies enable you to grease the wheel bearings without having to dissemble the bearing assembly. Bearing Buddies are fitted with a filling “piston” and should be greased when the piston is in the “in” position.

2) Brakes

You should flush the brake system (if so equipped) with fresh brake fluid on an annual basis. Failure to properly flush the breaking system can result in improper breaking and wheel lock-up.

3) Rollers

Roller assemblies should be greased regularly. Properly greased rollers will rotate smoothly under the weight of the boat. Greasing rollers regularly will also alleviate premature wear.

4) Winch and Jack

Its not uncommon for the trailer jack to seize during winter months. Apply a small amount of grease on winch and jack gears before the trailer is stored for the winter.

5) Lights

Ensure that all lights are working properly before each use. Replace bulbs when necessary. Although most new trailers are fitted with submersible lights,it is recommended that you disconnect the lights from your vehicle before submerging the trailer.Always carry spare bulbs for your trailer lights in your vehicle and/or boat.

6) Tires

Regularly check the condition of the tires and ensure that they are inflated to the recommended pressure.

p. 46- understanding local hazards

16. How can you find out about local waterways and why is it important?

Knowing the waterways on which you’re traveling and being able to locate potential hazards is also vital for your safety.

You can refer to a Marine Chart or Nautical Publication to determine the location of waterway hazards for the area in which you will be operating. You can also talk to local operators and marinas who are familiar with the waters to gain valuable insight.

17. What are examples of local hazards?

- Low head dams- Rapids- Currents- White water- Tides- Sudden winds- Overhead cables- Underwater cables- Bridges- Rapid build-up of high wave conditions

18. What do charts depict?

- Depth- Underwater hazards- Traffic routes- Aids to Navigation (such as marker buoys)- Adjacent coastal areas and landmarks around a body of water

19. What 3 items do the Charts and nautical publications regulations require that operators carry the latest and largest scale versions of onboard at all times?

- Local Marine Charts - The Required Publications- The Required Documents

20. When might you be exempt from these regulations?

if your vessel is under 100 tons and powered by oars, or if you have substantial knowledge of the local waterway

p. 47-understanding local hazards cont.

21. Why might topographic maps be useful?

Topographic maps depict natural and artificial features of the land and include illustrations of shoreline contours, rocks, elevations and land features or hazards near or above the waterline.

22. What can you use a compass for and what do you need to be aware of when using one?

You can use a magnetic compass to determine direction and your position on a marine chart. Be warywhen using a compass – A magnetic compass can be affected when in the proximity of metallic and electrical devices and may provide the operator with false information.

23. What is a GPS and how can it be useful?

GPS (Global Positioning System) devices can be used to identify your location. Some of today’s systems are able

to pinpoint your position to within several feet.

p. 48-Weather

24. What should you always check before heading out?

Weather

25. What types of personal observations can help us predict potential weather hazards?

watch for changes in temperature, wind speed and direction, sky colour and types of cloud patterns. Sudden or distinct changes in these conditions may signal an approaching storm or the onset of poor weather conditions.

26. What service classifies wind speed and weather warnings in Canada?

Meteorological Service of Canada

27. How many categories of wind speeds are there and how are they measured?

The service has identified five categories of wind conditions that are defined in terms of their wind speed and the

water conditions they create. Wind speed is measured in knots – One knot is equivalent to 1.85 km/h.

28. What are light winds?

Light winds are defined as “Winds with a wind speed less than 12 knots (22 km/h)” and water surface

conditions that are calm or have waves up to 1.5 m.

p. 49- weather cont

29. What are moderate winds and what operators shouldn’t go out in these conditions?

Moderate winds are defined as “Winds with a wind speed of 12 to 19 knots (22 to 35 km/h)” and water surface conditions that are rough with waves from 1 to 3 m in height. Inexperienced operators or vessels under 6 m in length should not operate during such conditions.

30. If small vessels are caught in a moderate wind advisory what should you do?

attempt to cross waves at a 45 degree angle until sheltered waters are found. Ensure all passengers wear pfd/lifejackets

31. What are strong winds and small craft warnings and what do they mean for pleasure craft operators?

Strong winds are defined as “Winds with sustained wind speeds in the range of 20 to 33 knots (37 to 61 km/h).” Water surface conditions during a strong winds advisory are very rough with waves 3 to 6 m in height. Environment Canada issues a Small Craft Warning when winds reach such levels. It is not safe to operate a pleasure craft under such conditions.

32. What should you do if caught in strong winds?

take immediate action to ensure their safety. Turn on all navigation lights and attempt to cross waves at a 45 degree angle until sheltered waters are found. If wind and wave conditions make it difficult to proceed, attempt to anchor your vessel until the storm subsides

33. What are gale warnings and what do they mean for pleasure craft operators?

Gale winds are defined as “Winds with a continuous speed of 34 to 47 knots (63 to 87 km/h)”. Water surface conditions during a gale warning are extremely rough with waves 6 to 9 m in height. During such conditions, Environment Canada will issue a Gale Warning.

34. What should you do if caught in a gale?

immediate action to ensure their safety. Turn on all navigation lights and attempt to cross waves at a 45 degree angle until sheltered waters are found. If wind and wave conditions make it difficult to proceed, attempt to anchor your vessel until the storm subsides. Ensure all passengers are wearing approved flotation devices. Use an appropriate distress signal to exhibit your need for assistance if you are unable to make safe passage.

p. 50\_using a trip plan

35. What is a storm warning?

Storm winds are defined as “Winds with a continuous speed of 48 to 63 knots (89 to 117 km/h). Water surface conditions during a storm warning are extremely rough with waves over 8 m in height. During such conditions, Environment Canada will issue a Storm Warning. Vessels caught in storm warning conditions should immediately signal distress and need of assistance.

36. What is a trip plan?

A trip plan is a document that outlines your expected travel itinerary while on the water. In the event that you do not return on time from your trip, the trip plan can be used by search and rescue organizations to help pinpoint your whereabouts.

37. What should a trip plan include?

- The name of your pleasure craft - License number of your pleasure craft

- Type of craft (Power or Sail) - Size and colour of your pleasure craft

- Type of engine - Distinguishing features of the pleasure craft

- Your name, address and telephone number- Number of persons onboard

- Trip description including: - Time of departure- Time of return- Proposed route

- Type of radiophone and channel monitored (if so equipped)

- List of safety equipment onboard including flares lifejackets and life rafts

- Instructions in case of emergency

p. 51 trip plan cont

38. Where should you file a trip plan?

with a responsible person, a marina, or with the local Canadian Coast Guard detachment.

39. What should you do if you change your trip plan?

If you change plans during your trip you should notify the person with whom you’ve filed the plan.

40. What should you do when your return from your trip?

notify the person or organization with whom you filed the plan. Failing to do so may result in a false alarm and the launch of a search and rescue operation

p. 52- fueling your craft

41. What is the rule of thirds with regard to fuel?

- One third out - One third back- One third in reserve

42. What safety precautions should you use when fueling?

- Always use caution

- Do not overfill or spill fuel. Spilling fuel into the engine or passenger compartment can increase the

risk of explosion or fire

- Refuel during daylight hours when an artificial light source is not needed (the electrical current from

the light source can ignite fuel vapours) (gasoline is highly explosive)

- Never smoke while refueling

43. What 14 steps of procedures should you follow when fueling a boat?

1) Ensure your pleasure craft is securely moored to the dock

2) Shut down all motors

3) Ask all passengers to disembark the craft and remain on shore

4) Extinguish any open flames, including cigarettes and pilot lights

5) Close all doors, windows, ports and hatches

6) Shut down all electrical equipment

7) Always have a fire extinguisher available in case of emergency

8) Check for leaks and fuel vapours/odors

9) When fuelling at a pump, keep the gas nozzle against the rim of the filler pipe. This will ensure the pump is grounded and will reduce the risk of ignition due to static electricity

p. 53-fueling cont

45. cont.

10) Never overfill the fuel tank. Be sure to clean up any spillage and securely tighten the filler cap

11) Open all doors, windows, hatches and portholes once refueling is complete

12) If your pleasure craft is equipped with an enclosed engine compartment, you must operate the

ventilation system (blower) for at least four minutes prior to engine start-up

13) Re-check for the smell of fuel vapours/odors (do not re-start your engine if excessive fuel vapours are detected)

14) Start the motor

46. What steps do you need to take when refueling a portable tank?

1) Ensure your pleasure craft is securely moored to the dock

2) Shut down all motors

3) Extinguish any open flames, including cigarettes

4) Disconnect the fuel line and move the tank to the dock

5) Always use a tank that has been approved for use in Canada

6) Check the fuel system (including the tank, fuel line, and connectors) for any leaks

7) For mixed gasoline: Alternate the addition of gas and oil as the tank is filled. Ensure gas and oil are thoroughly mixed before reconnecting the fuel system to the motor

8) Once filled, place the tank back in the craft

9) Reconnect the fuel line and re-check for leaks

10) Start the motor

47. What 10 steps should you take when fueling a PWC?

1) Shut down the engine

2) Ask all passengers to disembark the craft and remain on shore

3) Extinguish any open flames, including cigarettes

4) Visually check the gas separator for the presene of water. Remove any traces of water before refueling

5) Ensure the fuel selector switch is turned to the “OFF” position

6) For PWCs requiring mixed gasoline: Always pre-mix gas and oil in an approved portable container

7) For PWCs equipped with an oil injection system: Ensure the oil tank is full with the approved oil for your craft

8) Fill the tank

9) Tighten fuel filler cap, check for fuel vapours

10) Turn the fuel selector switch to the “ON” position and restart the engine

p. 54-Using a predaparture checklist

48. Why should you use a predeparture checklist?

way to avoid unsuitable operating conditions, reduce the risk of breakdown and ensure that you have the right equipment onboard in case of emergency.