This online study guide has been approved by Transport Canada strictly on the basis that it meets the requirements of the *Standard for Pleasure Craft Operator Testing over the Internet* (TP 15080E) and the *Boating Safety Course test and Syllabus* (TP 14932E). This approval does not represent confirmation of authorship by the course provider.

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Chapter 2

REQUIRED SAFETY EQUIPMENT

It is foolish to go out on the water without adequate safety equipment (i.e.: equipment that is undamaged, complete, functional, and appropriate for your type and size of pleasure craft.

The following chapter is an introduction to the types of safety equipment that Canada's *Small Vessel Regulations* require to be carried on pleasure craft operating on any Canadian waters.

The seven chapters of this study guide contain the information that you must know to pass a Transport Canada Boating Safety Test in order to obtain your Pleasure Craft Operator Card (PCOC).

This chapter contains the following sections:

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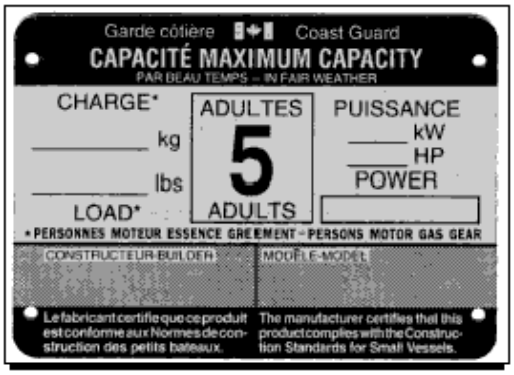
2.1 *SMALL VESSEL REGULATIONS*

The *Small Vessel Regulations* (http://laws-lois.justice.gc.ca/eng/regulations/sor-2010-91/page-1.html) of the *Canada Shipping Act, 2001* **apply to all boaters operating on any Canadian waters. These regulations**:

- **Outline loading limits, power limits, and licensing and registration requirements for recreational vessels;**
- **Specify the mandatory safety equipment required on board; and**
- **Describe safety precautions to be taken while operating your pleasure craft.**

Compliance Notice



In Canada, any pleasure craft that is propelled (or designed to be propelled) by a motor is required by Transport Canada to carry a label, tag, or plate called a "**Compliance Notice**". The Compliance Notice must be permanently affixed to the hull of the vessel, usually at the back of the vessel, in a location where it can be read from inside the vessel.

As depicted in the image at left above, for pleasure craft less than 6 m (20 ft.) in length, a Compliance Notice must be affixed displaying the vessel's **Recommended Gross Load Capacity**, which includes:

- The maximum load that the vessel can carry;
- The maximum number of adult-sized people that the vessel can carry; and
- (If the vessel is designed to be fitted with an outboard motor): The recommended safe limit of engine power recommended for the hull.

The operator of a pleasure craft cannot exceed any limit indicated on the Compliance Notice. The maximum load indicated on the Compliance Notice (also referred to as the "recommended gross load capacity") includes the weight of the passengers, the motor, fuel, and all cargo on board.

A Note about Compliance Notices

The load and power limits indicated on a Compliance Notice assume that:

- The vessel will be operated in fair weather; and
- The weight of equipment and people carried in the vessel is evenly distributed to balance the hull.

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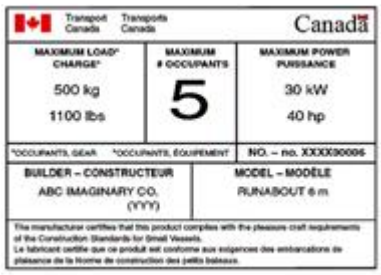
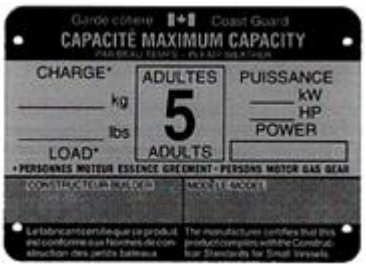
Remember, in high winds and large waves, the load and power limits indicated on your vessel's Compliance Notice no longer apply; the vessel can only accommodate a smaller load. Thus, any trip that you plan to take with your pleasure craft should be planned with the craft's capabilities in mind. **Operators should take into account weather and water conditions when planning a trip and adjust loads for weather conditions according to the capacity of their vessel**.

Samples of acceptable Compliance Notices are provided below:





For more information on Compliance Notices, please go to Transport Canada's web site:
http://www.tc.gc.ca/eng/marinesafety/debs-obs-paperwork-paperwork_noticesfaq-307.htm#_what_is_a

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2.2 TYPES OF SAFETY EQUIPMENT

The minimum amount and type of safety equipment required on board your pleasure craft is based its type and length.

All required safety equipment must be carried on board, be in good working order, be readily accessible and available for immediate use, and be maintained regularly and replaced according to manufacturer instructions and recommendations so that it will function correctly when needed.

The *Small Vessel Regulations* of the *Canada Shipping Act, 2001* require four types of safety equipment to be carried on board your vessel:

1. Personal protection equipment;
2. Navigation equipment;
3. Distress equipment; and
4. Boat safety equipment.

2.3 PERSONAL PROTECTION EQUIPMENT

Personal protection equipment (PPE) includes:

A. Approved personal flotation devices and lifejackets;
B. Buoyant heaving lines;
C. Life buoys; and
D. Re-boarding equipment.

A. <u>Approved Flotation Devices</u>

An approved PFD or lifejacket is one that bears a label, stamp, or tag indicating that it has been approved. To comply with the standards, **you must ensure that the label on your flotation device indicates that it has been approved by one of the following agencies:**

- **Transport Canada;**
- **Fisheries and Oceans Canada; or**
- **The Canadian Coast Guard**.

Visitors to Canada may use flotation devices that conform to the laws of their home country.

When purchasing a flotation device, choose one that is appropriate for your size, weight, and the type of boating activities in which you will be engaged.

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If you employ a flotation device that is too small, it will not support your weight in the water. Ensure that the style you choose fits you comfortably. Keep in mind that **the most highly visible colours in the water are red, orange, and yellow**. Wearing these colours increases your chances of being located during a search and rescue operation.

At the beginning of each season, check the condition of your flotation device per manufacturer instructions. In other words, try it out in the water to ensure that it functions correctly.

The *Small Vessel Regulations* require that each craft (regardless of the type of craft) have on board a Canadian-approved personal flotation device or lifejacket of the appropriate size for each individual on board [except for infants less than 9 kg (20 lbs.) in weight or a person with a chest size of 140 cm (55 in) or larger]. Note: There are no approved lifejackets or PFDs for infants that are less than 9 Kg (20 lb.) in weight.

Note: Approved personal flotation gear does not include products such as buoyant seat cushions or water-skiing belts.

Lifejackets - Lifejackets are defined as flotation devices that are designed specifically to keep an unconscious person face-up in the water. This is important when a person is immersed in cold water since hypothermia can eventually cause a person to lose consciousness. There are three main types of Lifejackets:

1. SOLAS (safety of life at sea) lifejackets;
2. Standard lifejackets; and
3. Small vessel life jackets.

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SOLAS lifejackets – SOLAS lifejackets meet very high performance standards and are approved for all vessels. This type of lifejacket will turn over an unconscious person in seconds to keep one's face out of the water. It is designed to work even when the wearer is unconscious.

Standard life jackets – Standard lifejackets are approved for all vessels except those that are required to carry SOLAS lifejackets. A standard type lifejacket will turn a person over to be face up in the water but not as quickly as a SOLAS device. Standard type lifejackets are available in two sizes:

- **Greater than 40 kg (88 lb); and**
- **Less than 40 kg**.

Small Vessel Lifejackets – Small vessel lifejackets are approved only for small vessels (vessels under 6 metres in length). This type of lifejacket can turn a person over to be face up in the water but slowly. They are available in keyhole and vest styles in three sizes:

- Greater than 41 kg (90 lb),
- 18 kg (40 lbs.) to 41 kg (90 lbs.), and
- Less than 18 kg (40 lbs.).

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Life jackets are bulkier and less comfortable than PFDs and, as a result, are rarely worn.

There are lifejackets available that are inflatable (they inflate automatically in water, or they can be triggered to inflate, or they can be inflated manually by blowing into a tube). Note: Persons under 16 years of age are not allowed to wear inflatable lifejackets.

Personal Flotation Device – A personal flotation device (PFD) is defined as a device designed to provide enough buoyancy to keep a conscious person's chin out of the water. Specialised PFDs are available for sports such as water skiing and kayaking. PFDs do not have a lot of buoyancy, making them unsuitable for rough water. PFDs are not designed to keep an unconscious person face-up in the water.

A PFD or lifejacket should fit snugly (not tightly) and allow freedom of movement of arms and legs. **PFDs or lifejackets should be worn at all times while on board any pleasure craft**.

The approved status of a PFD or lifejacket lapses if the flotation device has been damaged, altered, or repaired. Note: Repairing a PFD or lifejacket does not restore it to its approved status.

Use only a mild soapy solution (hand soap or dish soap) when cleaning a PFD or lifejacket. **Dry-cleaning fluids, gasoline, or solvents should never be used to remove a stain from a PFD or lifejacket as they will damage the foam flotation material inside a PFD or lifejacket (i.e.: a PFD or lifejacket that smells of petroleum products is not approved since by definition has been damaged by being exposed to a solvent).**

When wet, PFDs and lifejackets should be dried in open air but not in prolonged exposure to sunlight and not close to a direct heat source (such as in a clothes dryer or next to an electric baseboard heater). When not in use, dried PFDs and lifejackets should be stored in a dry, well-ventilated, easily accessible place on board the pleasure craft.

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It is highly recommended that you test the buoyancy of your PFD or lifejacket at the beginning of every boating season. To do so, use the following technique:

1. **Put on the PFD or lifejacket;**
2. **Wade into water until you are chest-deep;**
3. **Bend at the knees to lower yourself further into the water;**
4. **Float on your back; and**
5. **Verify that the device keeps your chin above water.**

Keeping Children Afloat

A PFD or a lifejacket is no substitute for adult supervision. Children should be within arm's reach and wearing an approved flotation device at all times they are on or near water (including when on a dock). Children should also be taught how to put on a flotation device in the water.

Flotation devices are available that are designed specifically for children. Before buying a flotation device for your child, check the labelling to verify that the device is Canadian-approved. Select one that best suits your child's size and weight and have your child try it on. It should fit snugly, not ride up above the chin or ears.

Here is a quick test to verify the fit of your child's flotation device: While your child is wearing the device, check the space between the top of your child's shoulder and the device's armhole. If the space is more than the three fingers wide, then the device is too big and could do more harm than good.

Look for these safety features:

- A large collar for head support
- Waist or elastic gathers in front and back.
- A safety strap that goes between the legs to prevent the device from slipping up and over your child's head.
- Buckles on the safety straps
- Reflective tape

It is also recommended that you use a string or lanyard to attach a non-metallic, pea-less whistle to your flotation device.

Parents who want their children to wear a flotation device should set a good example by doing so themselves.

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Inflatable PFDs

There are PFDs available that are inflatable. **Inflatable PFDs are not approved for any person who is less than 16 years of age or who weighs less than 36.3 kg (80 lbs.). Inflatable PFDs are not approved for use on PWCs or for use in any white water activity such as kayaking or rafting**. In addition, inflatable PFDs are not suitable for weak swimmers.

You must be wearing an inflatable PFD for it to be approved on any open boat. If the boat is not open (i.e.: it has a cabin), then you only need to wear it when you are not in the cabin (i.e.: you must wear it when on deck or in the cockpit).

Inflatable PFDs are significantly different from traditional foam-filled PFDs and are gaining popularity because when folded, and not inflated, the PFD is light, compact, comfortable, non-restrictive, and either inflates automatically when immersed in water, or is inflated by the wearer (usually in less than 5 seconds) by pulling a tab or toggle when buoyancy is needed.

Be aware that inflatable PFDs require regular maintenance since they contain a carbon dioxide (CO_2) cartridge that inflates the PFD. The inflatable PFD should be checked before each use to ensure that the CO_2 cartridge is properly installed and ready for use. The CO_2 cartridge must be replaced after every use; thus, it is recommended that you have a complete re-arming kit onboard for each inflatable PFD.

As mentioned above, inflatable PFDs are not recommended for weak swimmers. The inflation time for these devices, although relatively short, may not be appropriate for persons that are not confident in the water and if the automatic or manual inflation system malfunctions, a weak swimmer may have difficulty successfully inflating the device using the back-up oral inflation tube. If you are struggling to stay afloat, blowing into the back-up inflation tube could be a challenge.

All Canadian-approved inflatable PFDs come with manufacturer instructions. Make sure that you read the manufacturer instructions and become familiar with the operation and maintenance requirements for your inflatable PFD. Also, be sure to try out your PFD in a supervised, safe environment before your first boating excursion to make sure that you are familiar with how it operates.

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Inflatable PFDs are generally available in two styles:

1. Vest style
2. Pouch style

Vest style – A vest style PFD can be designed to be inflated orally (by blowing into a tube), manually (by pulling a tab or toggle to activate CO_2 inflation), or automatically (when a CO_2 trigger mechanism is immersed in water). For PFDs that inflate automatically, users should be aware that exposing the PFD to extreme humidity or to water splashing over the craft may cause premature automatic inflation.

Pouch style – A pouch style PFD can be inflated manually (by pulling a toggle to activate CO_2 inflation) or inflated orally (by blowing into a tube). The pouch style PFD is considered a 2-stage donning device because once the inflation mechanism is triggered, the inflated chamber comes out of the pouch and then the wearer must pull the inflated chamber over his or her head to correctly wear the inflated PFD.

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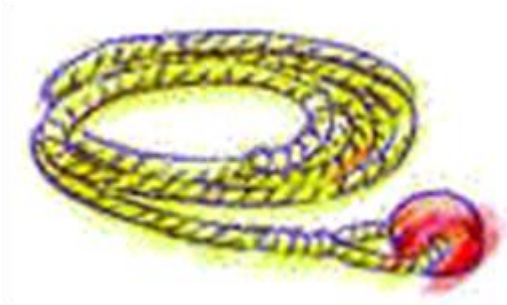
B. Buoyant Heaving Lines



Buoyant Heaving Lines – Buoyant heaving lines are composed of a floating type of line (such as nylon rope) with a float attached at one end. The line is designed to float so as to reduce the risk of the line tangling in a vessel's propeller and to make it easier for a person in the water to find and grab onto the line.

All vessels up to 24 metres (79 ft.) in length are required to have a buoyant heaving line at least 15 metres (49 ft. - 3 in.) in length with a float attached at one end to assist throwing accuracy. The float should be made of a soft material, such as foam rubber. Vessels that are greater than 24 metres in length are required to carry a buoyant heaving line of at least 30 metres (98 ft. – 6 in.) in length. **It is highly recommended that you practice throwing your heaving line to develop throwing accuracy**.

C. Life Buoys

Life Buoys – Operators of vessels that are 9 m (29.5 ft.) in length or longer must carry life buoys that are attached to buoyant lines that are 15 m (49 ft.) in length. When buying a life buoy, choose one with a Transport Canada approval sticker. Store the buoy where it can be easily accessed in an emergency. The body of the lifebuoy must be inspected monthly to ensure that it is in good condition (no tears, perforations, or rot) and the grab lines must be attached securely to the sides and must be in good condition. Otherwise the buoy must be replaced. There are two types of acceptable lifebuoys:

- **Small Vessel Lifebuoy – Circular in shape with an outside diameter of 610 mm (2 ft.). These devices are approved by Transport Canada.**
- **SOLAS Lifebuoy – Circular in shape with an outside diameter of 762 mm (2.5 ft.).**

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Note: The 508 mm diameter lifebuoys and horseshoes do not meet the requirement for having a lifebuoy.

D. Re-boarding Equipment

Lifting harness – A lifting harness is required on all pleasure craft that are 24 metres (78.7 ft.) in length or longer.

Re-boarding Device – A re-boarding device allows a person to get themselves back on board a boat from the water. **A re-boarding device is required if the vertical height that must be climbed to re-board the pleasure craft from the water (freeboard) is greater than 0.5 metres (1.6 ft.).** Pleasure craft equipped with transom ladders or swim platforms already meet this requirement. The re-boarding device cannot be part of the vessel's propulsion unit. Further, the device qualifies under the regulations only if it is appropriate to the craft on which it is being used; i.e.: it must readily assist someone to gain access to that pleasure craft from the water.

When using a re-boarding device to get someone back on board, manoeuvre the craft to the downwind side of the person in the water and then use the re-boarding device to recover the person over the windward side. It is a good idea to practice "rescuing" an object, such as a stick of wood to gain skill in the use of your re-boarding device(s).

The re-boarding device should be checked seasonally to ensure that it is undamaged and functions correctly. It should be stowed in a location that is out of the way but readily accessible in the event of an emergency.

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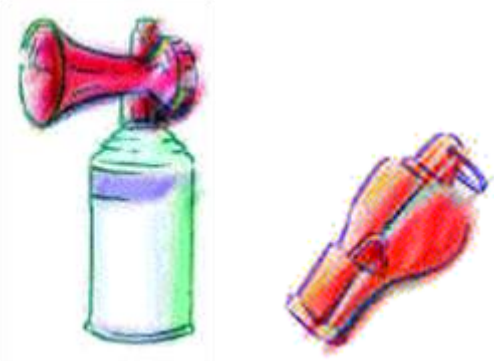
2.4 NAVIGATION EQUIPMENT

Navigation equipment is composed of devices that are designed to help you to be seen and heard by other vessel operators. There are four main types of navigation equipment:

1. Sound signalling devices
2. Sound signalling appliances
3. Navigation Lights
4. Passive radar reflectors

A sound signalling *device* is portable and can be carried on or about a vessel, whereas a sound signalling *appliance* is more substantial and is installed permanently on a vessel. **Sound signalling devices and sound signalling appliances are used to communicate your manoeuvring intentions, to alert others to your presence during conditions of restricted visibility, and to draw attention to yourself in an emergency**.



Sound Signalling Devices – All vessels under 12 m (39.4 ft.) in length and not equipped with a sound signalling appliance must carry some type of sound signalling device (such as a pea-less whistle or a compressed gas horn).

The *Collision Regulations* (http://laws-lois.justice.gc.ca/eng/regulations/C.R.C., c. 1416/) state that a vessel of:

- 12 metres or more in length shall be provided with a whistle.
- 20 m (65.6 ft.) or more in length shall be provided with a bell in addition to a whistle
- 100 m (328 ft.) or more in length shall, in addition, be provided with a gong, the tone and sound of which cannot be confused with that of the bell.

The bell or gong or both may be replaced by other equipment having the same respective sound characteristics, provided that manual sounding of the prescribed signals shall always be possible.

A vessel of less than 12 metres in length shall not be obliged to carry the sound signalling appliances prescribed above but if it does not then it shall be provided with some other means of making an efficient sound signal.

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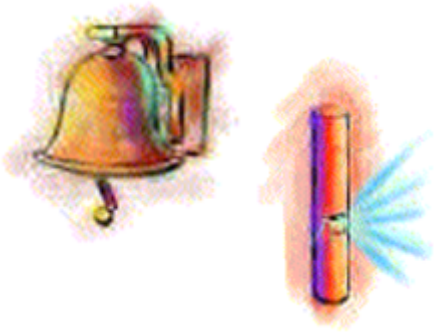
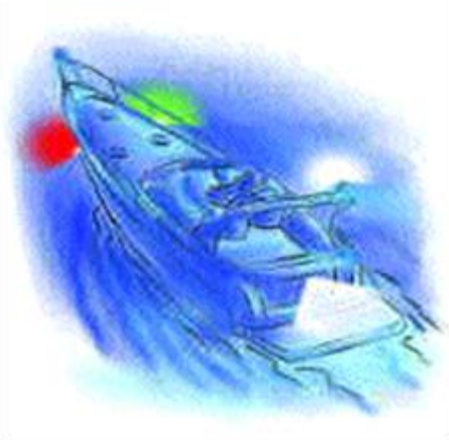


<u>Sound Signalling Appliances</u> – Vessels that are 12 metres or more in length must carry a sound signalling appliance (such as a bell and whistle). Vessels that are 20 (65.6 ft.) metres or more in length must be equipped with two sound signalling devices (one of which must be a bell). Sound signalling devices must meet technical criteria for frequency and audible range as described in the *Collision Regulations:*
http://laws-lois.justice.gc.ca/eng/regulations/C.R.C., c. 1416/

<u>Navigation Lights</u> – **Navigation lights (also called running lights) are required to be displayed under the *Collision Regulations* if a vessel is operated after sunset and before sunrise or in periods of reduced visibility (such as in fog, mist, or rain)**. Navigation lights help vessels that are converging on crossing courses at night to determine who has the right of way.



<u>Passive Radar Reflectors</u> – A passive radar reflector (example pictured at left) is designed to make a vessel more ”visible” to radar. **Vessels less than 20 m (65.6 ft.) in length or constructed primarily of non-metallic materials can be difficult to see on radar and must, therefore, be equipped with a passive radar reflector mounted above the superstructure not less than 4 m (13.1 ft.) above the water surface.** The reflector must be able to maintain its performance under the full range of foreseeable environmental conditions.

The requirement for a radar reflector does not apply to you if your vessel operates only in limited traffic, in daylight, and favourable environmental conditions.

In addition, your vessel is not required to carry a passive radar reflector if compliance is impractical because of the small size of the vessel or if it only operates where other vessels do not use radar.

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2.5 DISTRESS EQUIPMENT

There are two main types of equipment (visual signals) that are used for indicating distress:

- Watertight flashlights
- Pyrotechnic distress signals (flares)

Watertight Flashlight – **Almost all vessels are required to have at least one working, watertight flashlight on board**. This is especially true for small boats not equipped with navigation lights. For non-powered vessels, as well as sailboats that are less than 7m (23 ft.) in length, a watertight flashlight is required on board and qualifies as navigation lights.

A flashlight can be used to signal your presence to other vessels. Use the light by shining it toward approaching vessels. If your vessel is sail-powered, then use the flashlight to light up the sail. It can also be used to send an S-O-S distress signal. Check the flashlight weekly to ensure that the batteries are good. Keep fresh batteries in a dry place on the boat. Almost every pleasure craft requires a watertight flashlight or flares. In the event of an electrical failure, a watertight flashlight may be your only means of signalling your presence to other vessels.

Pyrotechnic Distress Signals – Pyrotechnic distress signals (flares) should be treated like they are explosives (they are). **Pyrotechnic distress signals (flares) are not required to be carried on board a pleasure craft that is operating in a river, canal, or lake in which it can at no time be more than one (1) nautical mile from shore, or the vessel has no sleeping arrangements and is engaged in an official competition or in final preparation for an official competition.**

The number and types of flares required are based on a boat's type, length, and area of operation (see Table 2-1). Visual signals (flares or watertight flashlights) are not required on board a pleasure craft that is 1.) Not more than 6 m (19.7 ft.) in length and 2.) not fitted with a motor. Otherwise the following requirements apply:

- **If a powered pleasure craft is not more the 6 metres in length, a watertight flashlight OR three pyrotechnic distress signals other than smoke signals is required.**
- **If a powered pleasure craft is 6 - 9 m (19.7 - 29.5 ft.) in length, then a watertight flashlight AND six pyrotechnic distress signals other than smoke signals are required.**
- **If a powered pleasure craft is more than 9 metres in length, then a watertight flashlight AND twelve pyrotechnic distress signals (not more than six of which are smoke signals) are required.**

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When buying flares, ensure that they have been approved by Transport Canada. **Approved pyrotechnic devices are valid for only four (4) years from their date of manufacture. The date of manufacture is stamped on each flare. This is the most common feature of all pyrotechnic distress signals (flares).**

Consult your local law enforcement agency, the Canadian Coast Guard, Transport Canada, or a local fire department for advice on disposing of out-of-date flares. In many municipalities, flares can be disposed of on special days when toxic wastes are picked up with recycling; always clearly label the bag containing the flares as “explosives”.

Read the manufacturer’s instructions before using a flare. Each type of flare has specific characteristics and uses. There are four main types of flares:

1. Parachute flare
2. Multi-star rockets
3. Hand-held flare
4. Smoke flare

Parachute Flare – An aerial flare that, when launched, reaches a height of approximately 300 m and then floats back to earth suspended beneath a parachute.

Multi-Star Rockets – Two red stars that, when launched, reach a height of 100 m. They burn for 4 to 5 seconds and are visible from the air or from the surface.

Hand-held Flare – This is a red-flame torch that can be held in the hand. It has limited visibility and is best suited to helping nearby rescuers pin-point your location during an air search.

Buoyant or Hand-Held Smoke Flare – A smoke flare that can be held in the hand or left to float on the water on the downwind (leeward) side of your vessel.

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2.6 BOAT SAFETY EQUIPMENT

<u>Manual Propelling Devices</u> – Manual propelling devices can be a set of oars (with oarlocks), or a paddle (at least one), or any other apparatus that can be used manually (by hand or by foot) by a person to propel a boat (including pumping the rudder on small open sailboats). Manual propelling devices should be carried on a motorboat in case the engine quits. In the event that a vessel's engine fails, oars and paddles should be used to keep the vessel out of danger by propelling it to shore or to water that is shallow enough for the vessel to drop and set an anchor. Paddles or oars should be stowed on board in a location where they are not in the way yet readily accessible in the event of an emergency.

<u>Anchor</u> – An anchor is good to have for when oars or paddles are insufficient to keep a current from carrying your vessel into shallow water, onto rocks, or into some other dangerous situation.

You must carry either manual propelling devices or an anchor on board your boat. Your anchor must be attached to at least 15 metres of chain, cable, or rope.

<u>Hand Bailers</u> – Hand bailers must be made of plastic or metal and have a volume of at least 750 ml and a minimum opening 65 cm^2 (10 in^2) in area.

Use the bailer to scoop water from the boat. Check the bailer at the beginning of every boating season and replace it if it is split or cracked.

Stow the hand bailer in a location that is out of the way yet readily accessible at short notice.

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<u>Manual Water Pumps</u> – Instead of relying on a hand bailer, one may opt to employ a manual water pump. A manual water pump usually looks like a bicycle tire pump except that it is designed to pump water. If relying on a manual water pump instead of a hand bailer, then note that **a primary requirement of a manual water pump is that the intake of the pump must be able to reach the bilge and the discharge hose must be long enough to discharge water over the side of your boat.**

To use a manual water pump to bail water from a boat, operate the pump with the base of the pump (intake) seated in the bilge and the discharge hose deployed over the side of your boat. The pump should be tested at the beginning of each boating season and the hose checked for splits and cracks and replaced as needed to ensure that the pump will function when needed. The pump and hose should be stowed in a location that is out of the way but readily accessible in the event of an emergency.

Most pleasure craft are required to have at least one hand bailer or manual pump on board. Some craft are exempt from this rule. For instance, a bailer or manual water pump is not required for multi-hull vessels that have subdivided, multiple-sealed hull construction (common examples: pontoon boat, or sailboats fitted with a recess-type cockpit that cannot contain a enough water to capsize the boat., or a sit -on-top kayak).

Many pleasure craft are equipped with bilges (spaces where water is collected and then pumped). Some bilges are equipped with electric bilge pumps.

On larger pleasure craft (14 metres in length and longer) you will rely on the vessel's built-in bilge pumps to remove leakage from the craft. Built-in bilge pump arrangements can remove water from your vessel much faster than manual bailing alone. You still must have manual bailing equipment (bailer or a manual water pump) on board as a backup in case the bilge pumping arrangement fails.

<u>All bilges must be accessible by a manual water pump, which is used to pump bilge water over the side</u>. Both the manual pump and bilge access should be checked annually.

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<u>Fire Extinguisher</u> – Your vessel should be equipped with the number and type of fire extinguishers as indicated in Table 2-1. A class 5BC fire extinguisher is required on any vessel that has an inboard motor, a fixed (built-in) fuel tank, or an appliance (such as a cabin heater or stove) that burns fuel. Any motorized vessel must have on board a type BC fire extinguisher. The size of the type BC extinguisher depends on the length of the vessel (see below).

The number of extinguishers to be carried on board depends on the length of the craft and the types of fuel burning appliances on board. Thus, if a craft is equipped with an inboard motor <u>or</u> a fuel burning appliance, then the following requirements apply:

- Up to 6 m - needs one 5BC extinguisher if equipped with an inboard motor, a fixed fuel tank, or a fuel-burning appliance.
- 6 to 9 m - needs one 5 BC extinguisher if equipped with a motor; plus one 5BC extinguisher if also equipped with a fuel-burning appliance.
- 9 to 12 m - needs one 10 BC extinguisher if equipped with a motor, plus one 10BC extinguisher if equipped with a fuel-burning appliance.
- 12m and above - needs one 10 BC extinguisher if equipped with a motor plus one 10BC extinguisher at each access to a fuel burning appliance, at entrance to any accommodation space and, at the entrance to the machinery space.

The letters (A, B, C, or D) on the label of a fire extinguisher identify the types of fire that the device will extinguish:

- A - **Class A** means that the extinguisher is designed to extinguish fires of combustible solid materials (wood, paper, etc.). Thus, a bucket of sand or water qualifies as a Class A fire extinguisher.
- B - **Class B** means that the extinguisher is designed to extinguish fires of burning combustible liquids (gas, oil, etc.).
- C - **Class C** means that the extinguisher is designed to extinguish electrical fires.
- D - **Class D** means that the extinguisher is designed for fighting fires of burning metal [Note: When ignited, a typical magnesium-fuelled flare (magnesium is a metal) represents a Class D fire].

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The number before the letters on the label of a fire extinguisher rates the extinguisher's size (a 10BC extinguisher puts out a bigger fire than a 5BC extinguisher). Longer vessels are required to carry bigger fire extinguishers (see Table 2-1).

A marine-grade fire extinguisher is recommended because of its resistance to corrosion.

The fire extinguisher that you choose should be certified by an appropriate certifying body (such as Underwriter Laboratories of Canada, Underwriter Laboratories USA, or the British Board of Trade for Marine Use), or approved by the United States Coast Guard. **Always familiarise yourself with your fire extinguisher by reading the manufacturer's instructions (so that you know how to use it rapidly and effectively in the event of a fire).** Maintain and replace fire extinguishers according to manufacturer instructions and ensure that your fire extinguisher is always fully charged.

Although Transport Canada *recommends* that a fire extinguisher should be included in the safety equipment on all pleasure craft, it is mandatory that pleasure craft be equipped as described in Table 2-1.

Everyone on board the vessel should know where the fire extinguishers are located and how to use them. **Fire extinguishers should always be stored in a convenient and accessible location**.

Fire extinguishers should be protected from damage and securely stowed. If stowed in a locker or a container, then the outside must be clearly marked with its contents.

Fire extinguishers should be checked regularly to verify that they are fully charged. **With chemical-type devices, shake them vigorously in the upside down position once a month to prevent the extinguishing agent from caking on the bottom**. Carbon dioxide- (CO_2-) type devices should be recharged if they contain less than 90 percent of their capacity. If you use a Halon 1211 system, have it inspected annually.

Note that both CO_2 and halogens are colourless, odourless gases that displace oxygen. Thus, exercise extreme caution when storing or using fire extinguishers below decks.

Even if your pleasure craft has an automatic fire suppression system the *Small Vessel Regulations* (http://laws-lois.justice.gc.ca/eng/regulations/sor-2010-91/) still require you to carry portable extinguishers as specified for your vessel in Table 2-1.

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Axes and buckets

On larger vessels, fire extinguishers are not enough and the *Small Vessel Regulations* require additional firefighting equipment; specifically, axes and buckets.

In a fire situation, axes can be used to break up material to help control the fire. Note: An axe can also be used to cut a tow line in an emergency. If you are towing a vessel that begins sinking, it can also sink yours if it remains attached via the tow line. Untying the tow line will be too difficult and slow (not to mention potentially dangerous). In an emergency, you will need to use an axe to cut the tow line.

Buckets are used to douse a fire with water. Buckets should be not less than 10-litres in capacity and should be fitted with a lanyard of sufficient length to reach the water from the location in which the bucket is stored.

Vessels that are between 12 m (39 ft.) and 24 m (79 ft.) in length are required to carry at least one axe and two 10-litre buckets. Vessels greater than 24 m in length must carry at least two axes and four 10-litre buckets.

Check the condition of axes and buckets annually and keep them in a readily accessible location.

You are in violation of the *Small Vessel Regulations* if your vessel does not have all required safety equipment on board. A summary of minimum requirements under the regulations (based on vessel length) is provided in Table 2-1.

A Very Important Reminder

As mentioned earlier in this chapter, the safety equipment required on your vessel depends on the type and *length* of the vessel. Operators should ensure that they consult Table 2-1 while keeping in mind the length and the type of their vessel.

All required equipment carried on board must be in good working order, readily accessible, available for immediate use, and maintained and replaced in accordance with manufacturer instructions.

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Table 2-1: Summary of Safety Equipment Requirements

Type of Vessel	**Human Powered**[5]	**Sail or Powered**[6]	**Sail and Powered**[6]			
Vessel length:		< 6 metres[1]	6 to 9 metres	9 to 12 metres	12 to 24 metres	> 24 metres
Required Safety Equipment						
PFD or lifejacket for each occupant	√	√	√	√	√	√
Buoyant 15m heaving line	√	√	√ or life buoy on 15m line	√	√	30m line
Small vessel or SOLAS lifebuoy on 15m line			√	On 15m line	On 15m line[8]	On 30m line[9]
Re-boarding device	if free-board > 0.5 m	if free-board > 0.5 m	√	√	√	√
Lifting harness						√
Manual propelling device or anchor(s)	√	√	√	30m anchor line	50m anchor line	50m anchor line
Bailer or manual water pump	√	√	√	Manual bilge pump or bilge pumping device(s)	Installed bilge pumping device(s)	Installed bilge pumping device(s)
Fire extinguisher(s)[1]		1 5BC[2]	1 or 2 5BC[3]	1 or 2 10BC[3]	3 10BC[4]	3+ 10BC[4]
Axe					1	2
10-L buckets					2	4
Powered fire pump						1+
Watertight flashlight or flares[10]	Flashlight or 6 flares if craft over 6m in length	Flashlight or 3 flares other than smoke signal [1]	Flashlight +6 flares other than smoke signal	Flashlight +12 flares other than smoke signal	Flashlight +12 flares other than smoke signal	Flashlight +12 flares other than smoke signal
Sound signalling device/appliance	Any type	Any type	Any type	1	Whistle (+bell if over 20m in length)	Whistle +bell

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Type of Vessel	**Human Powered**[5]	**Sail or Powered**[6]	**Sail and Powered**[6]			
Vessel length:		< 6 metres[1]	6 to 9 metres	9 to 12 metres	12 to 24 metres	> 24 metres
Navigation lights	Or a flashlight	√	√	√	√	√
Magnetic compass	If out of sight of sea marks	√	√	√	Meets Navigation Safety Regs	Meets Navigation Safety Regs
Radar Reflector [7]	See note 7	See note 7	See note 7	See note 7	See note 7	See note 7

1 - Pleasure craft that are less than 6 m in length do not need to carry fire extinguishers or visual signals (flares, etc.) if they are not equipped with a motor.

2 - Pleasure craft must carry at least one 5BC (or larger) fire extinguisher if the craft is equipped with an inboard engine, a fixed fuel tank, or a fuel-burning appliance.

3 - Sail and powered pleasure craft 6-9 m in length require:

- One 5 BC extinguisher if equipped with a motor **and**
- A second 5 BC extinguisher if the craft is equipped with a fuel-burning appliance

- Sail and powered pleasure craft 9-12 m in length require:

- One 10 BC extinguisher if equipped with a motor **and**
- A second 10 BC extinguisher if the craft is equipped with a fuel-burning appliance

4 - Mandatory for pleasure craft 12-24 m in length and must be located at:

- Each access to any space where a fuel-burning appliance is fitted;
- The entrance to any accommodation space; and, or
- The entrance to the machinery space.

5 - For a human-powered pleasure craft (such as a stand-up paddleboard, a paddleboat, a water cycle, or a sit-on-top kayak), if every person on board is wearing a personal flotation device or a lifejacket of an appropriate size, then only the following safety equipment is required on board:

- A sound-signalling device; and
- A watertight flashlight, if the craft is operated after sunset, before sunrise, or during periods of restricted visibility (fog, falling snow, etc.).

Under all other circumstances, the requirements for human-powered craft must be followed.

6 - For other-than-human-powered pleasure craft, the following exceptions exist:

- **Sailboard and Kite board -** If the operator of a sailboard or kite board is wearing a lifejacket or personal flotation device of appropriate size, then only the following equipment is required on board:
  1. A sound-signalling device; and

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2. A watertight flashlight, if the craft is operated after sunset, before sunrise, or in periods of restricted visibility.

Under all other circumstances the safety equipment requirements for pleasure craft other than human-powered pleasure craft up to 6 m (19'8") must be followed.

- **Personal watercraft -** If everyone onboard the PWC is wearing a lifejacket or personal flotation device (PFD) of appropriate size, then only the following equipment is required on board:
  1. A sound-signalling device;
  2. A watertight flashlight or three flares other than smoke signals;
  3. A magnetic compass, if the PWC is navigated outside of seamarks; and
  4. Navigation lights that meet the requirements set out in the *Collision Regulations*, if the pleasure craft is operated after sunset, before sunrise, or in periods of restricted visibility (fog, falling snow, etc.).

Under all other circumstances, the safety equipment requirements for pleasure craft other than human-powered pleasure craft up to 6 m (19'8") must be followed.

7 - A passive radar reflector mounted above the superstructure, not less than 4 m (13.1 ft) above the water, is required on pleasure craft less than 20 m (65.6 ft) or constructed primarily of non-metallic materials unless, it operates on water where other vessels do not use radar or if it is not possible to install the device as specified without major modification to the vessel.

8 - Requires lifebuoy with self-igniting light or attached to buoyant line at least 15 m long.

9 - Requires two SOLAS lifebuoys. One attached to buoyant line at least 30 m long and one equipped with a self-igniting light.

10 - Smoke signals (Type D) may be carried on board:

- Pleasure craft not more than nine (9) meters in length:
- Human-powered craft more than six (6) meters in length; and
- Personal watercraft.

Note: The *Small Vessel Regulations* also allow, in certain circumstances, for pleasure craft more than six (6) meters in length to reduce the number of flares currently required to be carried onboard, providing the vessel is equipped with two-way electronic communication devices (i.e., cell phones, satellite phones, VHF radios with digital selective calling, 406 MHz personal locater beacons, and 406MHz emergency position radio-indicating beacons).

Note: Table 2-1 is a summary of required equipment based on vessel type and size. A type-by-type analysis of all vessel types is beyond the scope of this course. For more detailed information on what equipment is needed on your type of pleasure craft, consult the Transport Canada Marine Safety web site: http://www.tc.gc.ca/eng/marinesafety/menu.htm

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2.7 SUPPLEMENTAL EQUIPMENT

The following items are not required under the *Small Vessel Regulations* but they are recommended by freecourse.ca as standard equipment on pleasure craft if you plan to be on the water for more than a few hours:

- Spare clothing in a watertight bag;
- Survival kit in a watertight bag (containing potable water, emergency rations, watertight flashlight, pea-less whistle, and knife);
- Tool kit (containing adjustable wrench, socket set, spark plug wrench, screwdriver, hammer, vise-grip pliers, slip-joint pliers, and needle-nose pliers);
- Spare parts (including fuses, light bulbs, spare propeller, shear and cotter pins, nuts and bolts, penetrating oil, lubricating oil and grease, duct tape, electrical tape, filters, spark plugs, fan belt, spare fuel line, and hose clamps);
- Tools and materials to temporarily stop a hull leak;
- First aid kit stored in a dry place; and
- VHF radio.

A racing pleasure craft and its crew may carry alternative safety equipment when engaged in formal training under the direct supervision of a coach**,** in an official competition organised by a club or governing body, or in final preparation for an official competition.

Transport Canada's Pleasure Craft Courtesy Check Program

Transport Canada offers free courtesy checks through the Canadian Coast Guard Auxiliary, the Canadian Power and Sail Squadrons, and other organisations. If you agree to a courtesy check, then a trained volunteer will check your boat for required safety equipment, identify any problems, and discuss general boating safety issues**. There are never any penalties involved in courtesy checks. Thus, they are a great opportunity to receive expert advice, to avoid fines, and to protect yourself**.

End of Chapter 2

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Chapter 2 Review Quiz

The questions included in the following quiz are not sample questions taken from actual tests. They are provided merely to acquaint you with the breadth and depth of knowledge required to pass a Transport Canada Boating Safety Test. Merely memorizing these questions and answers will not be adequate preparation to pass the Boating Safety Test; you must acquire an understanding of the material contained in all seven chapters of this free course. Every topic in this course is a potential test question.

QUESTIONS

Select the response that best answers the question.

1. **The weights of what items are included in a pleasure craft's maximum carrying capacity as indicated on a Compliance Notice?**
   a.) Passengers and cargo
   b.) Engine, fuel, and battery
   c.) Lifejackets, PFDs, and other safety equipment
   d.) All of the above

2. **Why is it important to keep the safety equipment on board your boat in good working order?**

3. **The *Vessel Operation Restriction Regulations* require that each craft (regardless of the type of craft) have on board how many Canadian-approved personal flotation devices?**

4. **What organisations approve PFDs and lifejackets in Canada?**

5. **When must a PFD or a lifejacket be replaced?**

6. **What is the major factor governing what safety equipment must be carried on board a pleasure craft?**
   a.) Number of people on board
   b.) Type of equipment on board
   c.) Size of motor installed on the pleasure craft
   d.) Length and type of the pleasure craft

7. **Which of the following should you always have on board your pleasure craft?**
   a.) An approved PFD for each person on board
   b.) A hand bailer
   c.) Tool kit and spare parts
   d.) All of the above

8. **Which types of pleasure craft must carry a buoyant heaving line?**

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9. What is the minimum required length of a buoyant heaving line?

10. When are reboarding devices required on board a pleasure craft?

11. What are some types of approved reboarding devices?

12. A non-metallic pleasure craft sitting low in the water is essentially invisible to radar. When operating in an area frequented by ships navigating by radar, what can the operator of a pleasure craft do to make his/her vessel more visible to radar?

13. What is the most common feature of all pyrotechnic distress devices (distress flares)?

14. What are two exceptions to the requirement that there must be a PFD or lifejacket that is in good condition and of appropriate size to fit every person on board?

a.) Infants over 9 Kg (20 lb) and any person whose chest size exceeds 140 cm (55 in).
b.) Infants under 9 Kg (20 lb) and any person whose chest size exceeds 140 cm (55 in).
c.) Infants over 9 Kg (20 lb) and any person whose chest size is under 140 cm (55 in).
d.) Not required if the person wearing the device has any physical disability.

15. What is an appropriate way to clean a soiled PFD?

a.) Send it to a drycleaner
b.) Clean using a solvent such as paint thinner, naphtha, or Varsol
c.) Use mild hand soap or dish soap
d.) Use detergent and stain removers

16. What is the major difference between a PFD and a lifejacket?

a.) PFDs are minimum mandatory equipment while lifejackets are optional
b.) PFDs are designed simply to turn an unconscious person right side up in the water but a lifejacket must be able to keep a conscious person's chin out of the water.
c.) Lifejackets are designed to turn an unconscious person right side up in the water. A PFD simply has to keep a conscious person's chin out of the water.
d.) There is no difference

17. Which of the following statements regarding Small Vessel Lifejackets and SOLAS lifejackets is most true?

a.) SOLAS lifejackets are approved only for vessels less than 6m in length
b.) SOLAS lifejackets are approved for all vessels
c.) Small Vessel Lifejackets are approved all vessels
d.) Small Vessel Lifejackets are approved for only for vessels greater than 6m in length.

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18. What is a compliance notice?

19. What information is shown on a compliance notice?

a.) The maximum load that the vessel can carry;
b.) The maximum number of adult-sized people that the vessel can carry
c.) If the vessel is designed to be fitted with an outboard motor): The recommended safe limit of engine power recommended for the hull.
d.) All of the above

20. When does the information on your craft's compliance notice NOT apply?

a.) On holidays, when one is allowed to overload a vessel
b.) In fair weather on calm water
c.) In strong winds and high waves
d.) In strong winds or high waves.

21. What is the main requirement for use of an inflatable PFD?

a.) You must be wearing an inflatable PFD in stormy weather
b.) You must be wearing an inflatable PFD at all times, even below-deck.
c.) You must be wearing an inflatable PFD for it to be approved on any open boat.
d.) It must be possible to inflate the PFD manually.

22. In what type of activity can one NOT use an automatically inflating PFD?

23. What vessels must carry a hand bailer or a manual water pump?

24. What is the primary requirement of a manual water pump?

25. What factors determine the number and type of flares to be carried on board?

26. What are the different types and sizes of fire extinguishers?

27. What type of fire extinguisher is required on any motorised pleasure craft?

28. What factors determine how many fire extinguishers you must carry on your pleasure craft?

29. Where should fire extinguishers be stored?

30. What should you do every month with all fire extinguishers on board?

31. What fines do you risk if you request a Pleasure Craft Courtesy Check?

32. To indicate it is a power-driven vessel, at night a motorboat 12m in length or less can display a stern light, sidelights, and a masthead light. What is an alternative light arrangement that will indicate that the craft is power-driven?

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33. **What type of pleasure craft do NOT have to carry pyrotechnic distress signals?**

34. **What types of watercraft do NOT have to carry visual signals (flares or a watertight flashlight)?**

35. **How can one tell what is the maximum size of outboard motor that can be installed on a boat?**

36. **What organizations approve PFDs and lifejackets for use in Canada?**

37. **What is a crucial requirement of all manual bailing pumps?**

38. **What is the correct procedure for disposing of out-of-date (expired) flares?**

39. **How do you know when it is time to replace a PFD (personal flotation device or lifejacket?**

40. **While towing a vessel that sinks, what can you do to prevent your vessel from being dragged down with the tow and sinking as well?**

41. **What is an approved flotation device?**

42. **How many approved flotation devices (PFDs or lifejackets) is an operator required to have onboard at all times when underway?**

43. **What is the minimum acceptable length of buoyant heaving line for all types of pleasure craft?**

44. **What is a sound signalling device? What is a sound signalling appliance?**

45. **What types of pleasure craft are required to carry a sound signalling device or sound signalling appliance?**

46. **What is the proper way to install a passive radar reflector on a pleasure craft?**

47. **What are the primary conditions that must be met to allow wearing an inflatable PFD?**

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ANSWERS

1. d.) all of the above. The maximum load indicated on the Compliance Notice (also referred to as the “recommended gross load capacity”) includes the weight of all passengers, the motor, fuel, and all cargo on board.

2. All required safety equipment on board must be in good working order and maintained regularly or replaced according to manufacturer instructions and recommendations **so that it will function correctly when needed.**

3. The *Vessel Operation Restriction Regulations* require that each craft (regardless of the type of craft) have on board a Canadian-approved personal flotation device or lifejacket of the appropriate size for each individual on board.

4. An approved PFD or lifejacket is one that bears a label, stamp, or tag indicating that it has been approved. To comply with the standards, you must ensure that the label on your flotation device indicates that it has been approved by one of the following agencies:
   - Transport Canada; or
   - Fisheries and Oceans Canada; or the
   - Canadian Coast Guard.

5. A PFD or lifejacket must be replaced when it is no longer approved. The approved status of a PFD or lifejacket lapses if the flotation device has been damaged, altered, or repaired. Note: Repairing a PFD or lifejacket does not restore it to its approved status.

6. d.) Type and length of the pleasure craft.

7. d.)

8. All vessels.

9. All vessels up to 24 m (79 ft) in length are required to have a buoyant heaving line of at least 15 metres (49 ft - 3 in) in length with a float attached at one end. Vessels that are greater than 24 metres in length are required to carry a buoyant heaving line of at least 30 metres (98 ft – 6 in) in length. It is highly recommended that your line have attached to it an object made of a soft material such as foam rubber to assist in throwing accuracy. It is also recommended to practice throwing your heaving line to develop accuracy in the event of an emergency.

10. A re-boarding device allows a person to get themselves out of the water and back on board a boat. A re-boarding device is required if the vertical height that must be climbed to re-board the pleasure craft from the water (freeboard) is greater than 0.5 m (1.6 ft).

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11. The prime requirement of a re-boarding device is that it allows a person to get themselves back on board the boat from the water. Thus, a re-boarding device usually takes the form of a ladder. Pleasure craft equipped with transom ladders or swim platforms already meet this requirement. Note: The re-boarding device cannot be part of the vessel's propulsion unit. Further, the device qualifies under the regulations only if it is appropriate to the craft on which it is being used; i.e.: it must readily assist someone to gain access to the pleasure craft from the water.

12. A passive radar reflector is designed to make a vessel more "visible" to radar. Vessels less than 20 m (65.6 ft.) in length or constructed primarily of non-metallic materials can be difficult to see on radar and must, therefore, be equipped with a passive radar reflector mounted above the superstructure, not less than 4 m (13.1 ft) above the water. The reflector must be able to maintain its performance under the range of foreseeable environmental conditions.

13. The most common feature of all pyrotechnic distress devices (distress flares) is that they are approved for four (4) years from their date of manufacture.

14. b.) Infants under 9 Kg. (20 lbs.) and any person whose chest size exceeds 140cm. (55 in.).

15. c.) Clean the item with a mild soapy solution; do not use any kind of solvent.

16. c.) Lifejackets are designed to turn an unconscious person right side up in the water. A PFD simply keeps a conscious person's chin out of the water.

17. b.) SOLAS lifejackets are approved for all vessels

18. In Canada, any pleasure craft that is propelled (or designed to be propelled) by a motor is required by Transport Canada to carry a Compliance Notice, which is a label, tag, or plate permanently affixed to the hull of the vessel, usually at the back of the vessel, in a location where it can be read from inside the vessel. A compliance notice displays the vessel's **Recommended Gross Load Capacity**, which includes:
    - The maximum load that the vessel can carry;
    - The maximum number of adult-sized people that the vessel can carry; and
    - (If the vessel is designed to be fitted with an outboard motor): The recommended safe limit of engine power recommended for the hull.

19. d.) For pleasure craft less than 6 m (20 ft) in length, a Compliance Notice must be affixed displaying the vessel's Recommended Gross Load Capacity, which includes:
    - The maximum load that the vessel can carry;
    - The maximum number of adult-sized people that the vessel can carry; and
    - (If the vessel is designed to be fitted with an outboard motor): The recommended safe limit of engine power recommended for the hull.

    The operator of a pleasure craft cannot exceed any limit indicated on the Compliance Notice. The maximum load indicated on the Compliance Notice (also

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referred to as the “recommended gross load capacity”) includes the weight of all passengers, the motor, fuel, and all cargo on board.

20. d.)

21. c.) You must be wearing an inflatable PFD for it to be approved on any open boat.

22. Automatically Inflating PFDs are not approved for use on PWCs or for use in any white water activity such as kayaking or rafting. In addition, inflatable PFDs are not suitable for weak swimmers.

23. Not all pleasure craft are required to carry a hand bailer or manual water pump but, in general, most pleasure craft are required to have at least one hand bailer or manual pump on board. Some craft are exempt from this rule. For instance, a bailer or manual water pump is not required for multi-hull vessels that have subdivided, multiple-sealed hull construction (common example: pontoon boat), or on sailboats fitted with a recess-type cockpit that cannot contain a sufficient quantity of water to capsize the boat, or on a sit-on-top kayak.

24. The primary requirement of a manual water pump is that the intake of the pump must be able to reach the bilge and the discharge hose must be long enough to discharge water over the side of your boat.

25. The number and types of flares required are based on a boat’s length (see Table 2-1) and area of operation.

26. Type: The letters (A, B, C, or D) on the label of a fire extinguisher identify the types of fire that the device will extinguish:
A - **Class A** means that the extinguisher is designed to extinguish fires of combustible solid materials (wood, paper, etc.). Thus, a bucket of sand or water qualifies as a Class A fire extinguisher.
B - **Class B** means that the extinguisher is designed for fires of burning combustible liquids (gas, oil, etc.).
C - **Class C** means that the extinguisher is designed to extinguish electrical fires.
D - **Class D** means the extinguisher is for fighting fires of burning metal [when ignited, a typical magnesium-fuelled flare (magnesium is a metal) represents a Class D fire].
Size: The number before the letters on the label of a fire extinguisher rates the extinguisher’s size (a 10BC extinguisher puts out a bigger fire than a 5BC extinguisher). Longer vessels are required to carry bigger fire extinguishers

27. **Any motorized vessel must have on board a type BC fire extinguisher. The size of the type BC extinguisher depends on the length of the vessel.** All pleasure craft up to 6 m in length must have at least one 5BC fire extinguisher on board. And all craft greater than 6 m in length and equipped with a motor need at least two fire extinguishers. If a craft is equipped with an inboard motor or a fuel burning appliance, then the following requirements apply:

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- Up to 6 m - needs one 5BC if equipped with an inboard motor, a fixed fuel tank or a fuel-burning appliance
- 6 to 9 m - needs one 5 BC if equipped with a motor plus one 5BC if equipped with a fuel-burning appliance
- 9 to 12 m - needs one 10 BC if equipped with a motor plus one 10BC if equipped with a fuel-burning appliance
- 12m and above - needs one 10 BC if equipped with a motor plus one 10BC at each access to a fuel burning appliance, at entrance to any accommodation space and, at entrance to the machinery space.

28. The number of extinguishers to be carried on board depends on the length of the craft and the types of fuel burning appliances on board.

29. Everyone on board the vessel should know where the fire extinguishers are located and how to use them. Fire extinguishers should always be stored in a convenient and accessible location.

30. Every month, every fire extinguisher on board should be shaken vigorously in the upside down position to prevent the chemical agent in the extinguisher from clumping.

31. None, you risk no fines when you request a Pleasure Craft Courtesy Check. Transport Canada offers free courtesy checks through the Canadian Coast Guard Auxiliary, the Canadian Power and Sail Squadrons, and other organisations. If you agree to a check, a trained volunteer will check your boat for required safety equipment, identify any problems, and discuss general boating safety issues. There are never any penalties involved in courtesy checks. Thus, they are a great opportunity to receive expert advice.

32. For a craft 12m or less in length, one can display a stern light, sidelights, and masthead light. Alternatively, one can display sidelights and an all-round light.

33. Pyrotechnic distress signals or flares are not required to be carried on board a pleasure craft that is operating in a river, canal, or lake in which it can at no time be more than one (1) nautical mile from shore, or the vessel has no sleeping arrangements and is engaged in an official competition or in final preparation for an official competition.

34. Visual signals (flares or watertight flashlights) are not required on board a pleasure craft that is 1.) Not more than 6 m (19.7 ft.) in length and 2.) Not fitted with a motor. Otherwise the following requirements apply:
    - If a powered pleasure craft is not more the 6 metres in length, a watertight flashlight OR three pyrotechnic distress signals other than smoke signals is required.

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- If a powered pleasure craft is 6 - 9 m (19.7 - 29.5 ft) in length, then a watertight flashlight AND six pyrotechnic distress signals other than smoke signals are required.
- If a powered pleasure craft is more than 9 metres in length, then a watertight flashlight AND twelve pyrotechnic distress signals (not more than six of which are smoke signals) are required.

35. All pleasure craft less than 6 m (20 ft) in length must carry a **Compliance Notice** (usually affixed at the stern) displaying the vessel's Recommended Gross Load Capacity, which includes:
    - The maximum load that the vessel can carry;
    - The maximum number of adult-sized people that the vessel can carry; and
    - (If the vessel is designed to be fitted with an outboard motor): The recommended safe limit of engine power recommended for the hull.

36. An approved PFD or lifejacket is one that bears a label, stamp, or tag indicating that it has been approved by:
    - Transport Canada; or
    - Fisheries and Oceans Canada; or the
    - Canadian Coast Guard

37. All bilges must be accessible by a manual pump, which is used to pump bilge water over the side. In other words, the pump body must be long enough that the base of the pump (the intake) will reach to the bottom of the bilge so that water can be pumped out.

38. Approved pyrotechnic devices are valid for only 4 years from their date of manufacture (date of manufacture is stamped on each flare). Consult your local law enforcement agency, the Canadian Coast Guard, Transport Canada, or a local fire department for advice on disposing of out-of-date flares. In many municipalities, flares can be disposed of on special days when toxic wastes are picked up with recycling; always clearly label the bag or containing the flares as "explosives".

39. The approved status of a PFD or lifejacket lapses if the flotation device has been damaged, altered, or repaired. Note: Repairing a PFD or lifejacket does not restore it to its approved status.

40. An axe can be used to cut a tow line in an emergency. If you are towing a vessel that is sinking, it can sink yours as well if it remains attached via a tow line.

41. An approved flotation device is one that when purchased bore a label stamp or tag certifying that it has been approved by one of the following agencies:
    - Transport Canada; or
    - Fisheries and Oceans Canada; or the

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- Canadian Coast Guard.

Visitors to Canada may use flotation devices that conform to the laws of their home country. When purchasing a flotation device, choose one that is appropriate for your size, weight, and activities in which you are engaged.

42. The *Vessel Operation Restriction Regulations* require that each craft (regardless of the type of craft) have on board a Canadian-approved personal flotation device or lifejacket of the appropriate size for each individual on board [except for infants less than 9 kg (20 lbs) in weight or a person with a chest size of 140 cm (55 in) or larger]. Note: There are no approved lifejackets or PFDs for infants that are less than 9 Kg (20 lb.) in weight.

43. The minimum acceptable length of buoyant heaving line for types of pleasure craft is 15 m.

44. Sound signalling device: A sound signalling device is portable and can be carried onboard. All vessels under 12 m (39.4 ft.) in length and not equipped with a sound signalling appliance must carry some type of sound signalling device (such as a pea-less whistle or a compressed gas horn). Sound signalling appliance: A sound signalling appliance is permanently affixed to a pleasure craft. Vessels that are 12 metres or more in length must carry a sound signalling appliance (such as a bell and or air horn).What is a sound signalling appliance?

45. All types of pleasure craft are required to carry a sound signalling device. Longer vessels are required to carry a sound signalling device as well as two sound signalling appliances.

46. Vessels less than 20 m (65.6 ft) in length or constructed primarily of non-metallic materials can be difficult to see on radar and must, therefore, be equipped with a passive radar reflector mounted above the superstructure, not less than 4 m (13.1 ft.) above the water.

47. Inflatable PFDs are not approved for any person who is less than 16 years of age or who weighs less than 36.3 kg (80 lbs). Inflatable PFDs are not approved for use on PWCs or for use in any white water activity such as kayaking or rafting. In addition, inflatable PFDs are not suitable for weak swimmers. You must be wearing an inflatable PFD for it to be approved on any open boat. If the boat is not open (i.e.: it has a cabin), then you only need to wear it when you are not in the cabin (i.e.: you must wear it when on deck or in the cockpit).

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