ROYAL CANADIAN ARMY CADETS

GOLD STAR

INSTRUCTIONAL GUIDE

SECTION 2

EO M426.02A – PADDLE A CANOE

Total Time: 270 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-704/PG-001, *Gold Star Qualification Standard and Plan*, Chapter 4. Specific uses for said resources are identified throughout the instructional guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

Every cadet must have a water carrier prior to the start of this lesson.

All canoes, canoe safety equipment, personal canoe equipment, and group canoe equipment should be organized prior to the start of the lesson.

Review the canoe route. Be aware of locations where cadets may require additional supervision, such as portages.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

The experiential approach was chosen for this activity as it allows the cadet to acquire new knowledge and skills through a direct experience. The cadet experiences paddling a canoe on flatwater during an expedition and defines that experience on a personal level. The cadet will be given the opportunity to reflect on and examine what they saw, felt and thought while canoeing and consider how it relates to what they already learned and experienced as well as how it will relate to future experiences.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the cadet shall have paddled a tandem canoe on flatwater during an expedition.

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IMPORTANCE

It is important for cadets to be able to paddle a tandem canoe on flatwater during an expedition because it can provide opportunities for exploration of new places, relaxation, wildlife-watching and physical fitness. Cadets will be required to work with their canoe partner to paddle a significant distance during the expedition. Understanding stroke mechanics and being able to manoeuvre their canoe will make the expedition more enjoyable and less strenuous. The expedition will provide an opportunity to further develop paddling skills in an environment that challenges them both physically and mentally.

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Teaching point 1 **Paddle a tandem canoe on flatwater during an expedition.**

Time: 270 min Method: Experiential

BACKGROUND KNOWLEDGE



The TP for this lesson will occur during the canoe portion of the expedition. In some situations, cadets will have already received instruction and been provided the opportunity to practice canoe skills during the Silver Star Expedition / at the CTC. The requirement to review skills will be based on the experience level of the cadets and the expedition training centre. Should a review be required, it is suggested that it is completed on-water as the need arises.

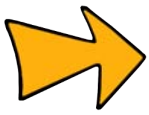
IDENTIFY THE PARTS OF A CANOE

There are many different styles of canoes. The technological improvements in canoe building have made it quite difficult to choose an ineffective canoe. Despite the advances in design, the basic elements of the canoe remain the same. The parts of the canoe are:

Bow. The front section of the canoe. The bow can be easily spotted by looking at the seats. There is more leg room between the end of the canoe and the bow seat.

Stern. The back section of the canoe. Most of the steering is done from the stern.

Gunwales. The upper edges of the sides of the canoe.



Gunwales is pronounced 'gunnels'.

Thwart. A crosspiece that is attached on either side to the gunwales, two-thirds of the way back from the bow. The thwart provides structure and support to the gunwales and the hull.

Hull. The body of the canoe, which displaces water and provides the buoyancy for the canoe.

Keel. A narrow strip that runs along the centre of the bottom of the hull from bow to stern. The keel helps to provide better tracking (movement in a straight line) and stability; as well as providing a small barrier between the ground and the hull.

Bow seat. Located in the front (bow) of the canoe. It is further from the end of the canoe to provide leg room for the bow paddler.

Stern seat. Located in the back (stern) of the canoe. It is narrow and fastened to the gunwales closest to the rear of the canoe.

Bow handle. A handhold at the bow, used for lifting and carrying. It is sometimes called the bow carrying thwart.

Stern handle. A handhold at the stern, used for lifting and carrying. It is sometimes called the stern carrying thwart.

Deck plate. A triangle piece of material that is fastened between the gunwales at both ends of the canoe. It is often called the bow deck and the stern deck. The deck plate provides a convenient handhold in the case of no bow or stern handle, as well as a place to attach a painter line.

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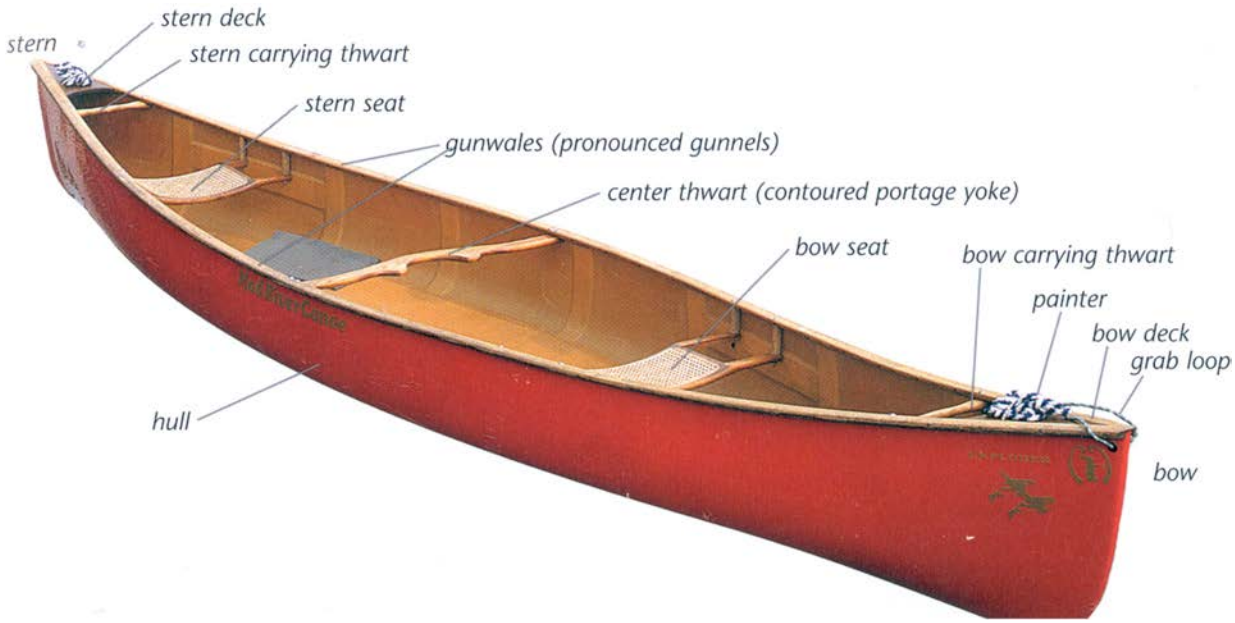

Note. From Paddle Your Own Canoe (p. 13), by G. McGuffin & J. McGuffin, 2005, Erin, ON: The Boston Mills Press. Copyright 2005 by The Boston Mills Press.

Figure 1 Parts of the Canoe

OUTFIT A CANOE WITH SAFETY EQUIPMENT

Every boat that enters the water has to be outfitted with certain safety equipment that is required by law. The Canadian Coast Guard and Transport Canada deem every canoe must have the following safety equipment:

Buoyant Heaving Line or Throw Bag

One buoyant heaving line not less than 15 m (49 feet) in length must be available for use in emergencies such as capsized paddlers. The heaving line shall be capable of floating and shall be attached using a figure-of-eight knot, or by clipping the throw bag to the thwart or bow handle.

A throw bag is a nylon rescue bag with a length of rope stuffed loosely inside, so it can pay out through the top when thrown to a person in the water.

Bailer

A bailer is any container capable of removing water from a canoe. It must be made of plastic or metal, with an opening of 65 cm^2 and a minimum volume of 750 mL. The bailer will be attached to the thwart of the canoe using a clove hitch.

Spare Paddle

In addition to the paddles used by the paddlers, a third paddle is required in the case that one is lost, broken or forgotten on shore. The spare paddle should be secured, but immediately available in an emergency. Lashing the paddle into the canoe is not recommended.

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Whistle

A pealess whistle or noise-making device is required to communicate with other paddlers and to signal in case of emergency. The whistle is often attached to the paddler's PFD; if not, it should be worn on a cord around the paddler's neck.

White Navigation Light

The white navigation light is a watertight flashlight complete with working batteries. This light can be used to signal other paddlers or during an emergency. It is attached to the bow plate using a carabiner or a piece of cordage.

Painter Lines

Painter lines are two lines 6 m (19 feet) in length made of 10 mm buoyant polypropylene rope, with no knots. The lines are attached to the bow (bow line) and stern (stern line) of a canoe. They are used for pulling the canoe through shallow water and securing it to the shoreline or other stationary object. Painter lines will be attached to the bow and stern handles using a re-woven figure-of-eight knot.

PFD

A vest style jacket filled with foam panels or tubes that provide buoyancy. A PFD must be worn when an individual is within 3 m (10 feet) or less of the shoreline, prior to or upon completion of an on-water activity and when they are on the water. It is important to ensure that the PFD is properly zipped and buckled prior to moving to the waters edge.



The A-CR-CCP-930/AG-001, states "PFDs shall be worn by all personnel while canoeing. While on the water, the PFD may be removed to adjust clothing as long as the canoes are in a controlled position (rafted up) and under supervision of an instructor. Additional equipment (e.g. raingear, windbreaker, survival kit, rash guard) shall not be placed over the top of the PFD for MW activities."

IDENTIFY THE PARTS OF A PADDLE

The paddle is the most important piece of equipment required to canoe, with the exception of the canoe itself. The paddle provides the momentum to move the canoe.

Shaft. The narrow neck of the paddle between the grip and the blade.

Grip. Found at the top of the paddle shaft, where the paddler holds the paddle.

Throat. Located at the bottom of the shaft, where the paddler's shaft hand holds the paddle.

Blade. The part of the paddle that is placed in the water. The blade has two sides:

- **Power face.** The side of the paddle blade that presses against the water during a forward stroke.
- **Back face.** The side of the paddle blade that has no pressure against it during a forward stroke. The back face is the opposite side of the power face.

Tip. The very bottom edge of the paddle blade.

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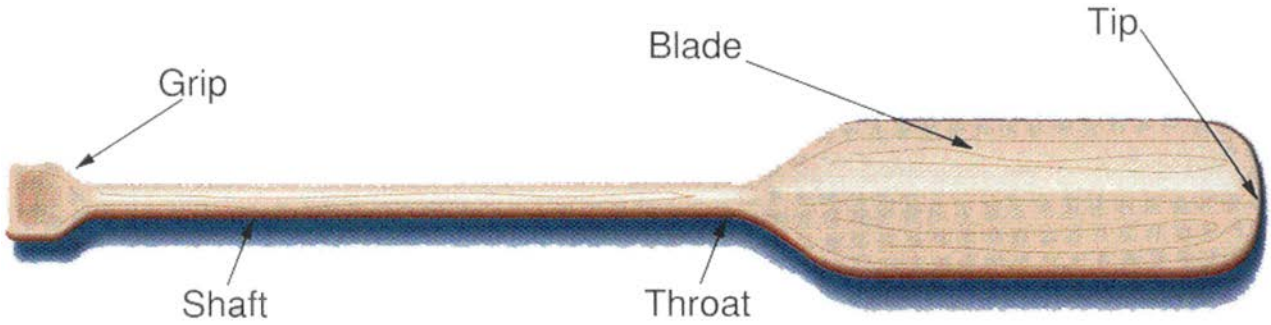

Note. From Outdoor Pursuits Series: Canoeing (p. 21), by L. Guillon, 1994, Champaign, IL: Human Kinetics Publishers. Copyright 1994 by Human Kinetics Publishers.

Figure 2 Parts of a Paddle

Sizing a Paddle

When selecting a paddle, it is important to size it correctly. Torso length, canoe seat height and paddling style will determine the proper paddle length.

Most tandem paddlers will require a paddle length between 137 cm and 147 cm. Shorter paddles allow for higher tempo strokes. If the grip hand is above the head during strokes, the paddle is too long.



Paddle length will differ with individual preference, based on comfort and efficiency.

When choosing a paddle from a group of paddles, there are two ways to size a paddle.

1. Hold the paddle in both hands over your head with one hand on the grip and the other on the shaft, close to the throat. With the paddle rested on the head, the arms should be able to bend comfortably at the elbow in a 90-degree bend.

2. Hold the paddle in one hand and rest the blade on the top of the foot. The grip should come to the chin.

Holding a Paddle

The paddle is held in both hands. One hand will hold the grip (control hand) and the second hand, called the shaft hand, will hold the paddle somewhere between the shaft and the throat of the paddle. If the paddler has shorter arms, the shaft hand will be higher up on the shaft.

Fitting a PFD

Fit is the most important thing when selecting a PFD. A PFD should:

- not be able to be pulled off easily,
- fit snugly, and
- be properly fastened.



A PFD must always be worn on and near water, and worn as the top layer.

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Refer to A-CR-CCP-930/AG-001, *Cadet Program Interim Activity Safety Direction* for more information.

DISCUSS SAFETY CONCERNS WHILE CANOEING

Understand Personal Responsibilities

Skill Level. It is the responsibility of the paddler to ensure that they have the proper skill set for paddling. Participants should always advise staff when they feel uncomfortable or unprepared for any aspect of canoe training.

Physical Fitness. Fitness and well-being are an important part of canoeing. Individuals must take responsibility for themselves. Every paddler must make sure they are physically and mentally prepared for paddling. Physical preparedness includes having the endurance to be able to paddle the entire trip. The paddler should not be suffering from a cold or illness, and should not have any physical injuries, such as cramped or sore muscles.

Identify Paddle Signals

The water can be a noisy place. Using a whistle, paddle or gestures are the best ways of getting the attention of other paddlers.

Before heading out on any body of water, it is important to know and understand universal paddle signals. Paddle signals are important in times when there is distance between canoes and it is difficult to hear. Good communication on the water is essential to prevent accidents and ensure swift emergency response.

When receiving a signal, it is important to repeat the signal to the sender and pass the signal on to paddlers behind.

Paddle signals are used to alert the entire group to the direction of travel or to an unexpected situation, such as an overturned canoe.

Stop. Form a horizontal bar with the paddle and move with an up and down motion until remaining paddlers see it. If you are already stationary, stay where you are. Wait for the all clear signal before proceeding.



Note. From Basic Kayaking: All the Skills and Gear You Need to Get Started (p. 83), by J. Rounds, 2005, Mechanicsburg, PA: Stackpole Books. Copyright 2005 by Stackpole Books.

Figure 3 Stop

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Paddle signals should be given to indicate the direction of travel; not the location of the obstacles.

Help required / emergency. A paddle, helmet or a bright object (not a PFD) are waved in a continuous motion side to side above the head. This means "assist the signaller as quickly as possible".



Note. From Basic Kayaking: All the Skills and Gear You Need to Get Started (p. 83), by J. Rounds, 2005, Mechanicsburg, PA: Stackpole Books. Copyright 2005 by Stackpole Books.

Figure 4 Emergency

Raft up. Raise the paddle vertically above the head and move in a circular motion. This signal means "come to me".

All clear. Extend the paddle over the head vertically. Maintain the paddle in the air in order to ensure that all members of the group have seen the signal. This signal is used when it is safe to continue on and indicates that there are no obstructions or danger ahead.

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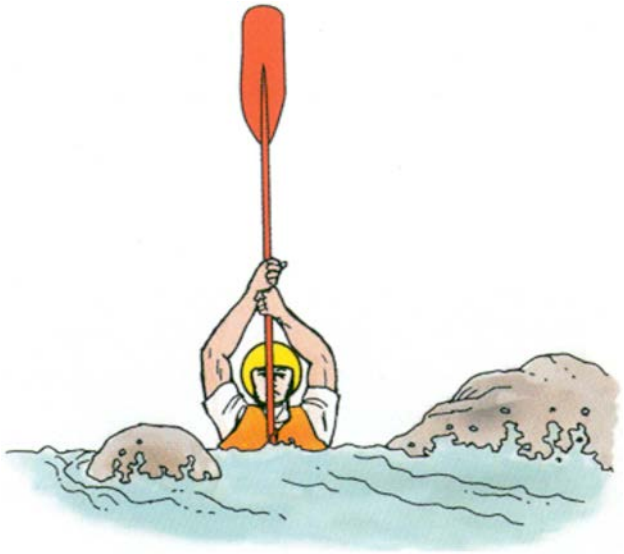

Note. From Basic Kayaking: All the Skills and Gear You Need to Get Started (p. 83), by J. Rounds, 2005, Mechanicsburg, PA: Stackpole Books. Copyright 2005 by Stackpole Books.

Figure 5 All Clear

Identify Whistle Signals

A whistle is an effective way to get the attention of other paddlers when visibility is limited and there is a lot of noise. Before heading out on any body of water, it is important to know and understand universal whistle signals. Good communication on the water is essential to prevent accidents and ensure swift emergency response.



Cadets shall be reminded that they will not play with or blow whistles unless they are in an emergency situation.

Universal distress signal. Three whistle blasts indicate that there is an emergency. All action should stop, and action should be taken for the emergency. This signal means assist the signaller as quickly as possible.

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Figure 6 Universal Distress Signal

Move to shore / raft up. Two whistle blasts indicates that there is a need for the group to get together. When two whistle blasts are heard, all personnel will look to the instructor or group leader for instructions and guidance on where to meet up, whether to move to the shore or to raft up at a given point. It should only be used when other forms of communication are not working.

All clear / look at me. When one whistle blast is heard, focus attention on the instructor (look at me). It is used to get the attention of the group. This signal could also mean all clear.

As there are alternative meanings for one and two whistle blasts, it is imperative that the group understands what the signal means for their group. The team / group leader will specify before moving to the water.

Any series of three signals such as three whistle blasts or three horn blasts indicates an emergency. Immediately stop all activity and assist.

IDENTIFY ACTION ON CAPSIZING

Although strong rescue skills are important, preventing rescues by making careful, informed decisions will reduce the chances of capsizing. Anticipating changes in weather, actions of other paddlers and being properly trained will aid in the prevention of accidents.

Discuss Rescue Priorities

The priority of rescue is listed below, but rescuers will only initiate rescue if it is safe to do so without harm to themselves.

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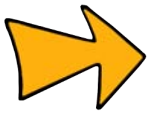
When carrying out rescues, it is imperative that every individual involved be aware of the priorities of rescue. The rescue priorities are:

Rescuer. Rescuer safety is priority. The rescuer should not complete any part of the rescue that is beyond the scope of the rescuer's ability. Another casualty will only escalate the emergency.

People. The paddler(s) in the water. Each paddler will make sure they are okay, and that their partner is okay. If they cannot see their partner, they must establish voice contact to confirm that their partner is conscious, is not seriously injured and is preparing to self-rescue.

Canoes. Canoes will be retrieved once all the paddlers in the water are safe.

Equipment. Equipment is the last thing to be retrieved as it is not essential. Clothing and food can be shared if need be.



If involved in a high risk rescue, the rescuer or rescue team should be prepared and trained to perform effectively and efficiently and to follow the procedures.



Cold water and wind will accelerate the loss of body heat. People can become hypothermic very quickly, even in warm weather.

Canoe Over Canoe Assisted Rescue

The canoe over canoe assisted rescue is the universal rescue means.



The figures below depict two solo paddlers completing a canoe over canoe assisted rescue. The procedure is virtually the same as a tandem rescue with only minor adjustments, which are detailed in the numbered procedure. Use the figures as a guideline.

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Step 1



Step 2



Step 3



Step 4

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Step 5



Step 6



Step 7



Step 8

Note. From Paddle Your Own Canoe (p. 36), by G. McGuffin & J. McGuffin, 2005, Erin, ON: The Boston Mills Press. Copyright 2005 by The Boston Mills Press.

Figure 7 Canoe Over Canoe Assisted Rescue (Solo Paddlers)

The procedure to follow in a tandem canoe over canoe assisted rescue is:

1. One paddler will swim to the stern of a rescue canoe, hang on and get as much of the body out of the water as possible.

2. The second paddler will swim to the far end of the capsized canoe.

3. The rescuers will lift up on the capsized canoe as the second paddler pushes down on the opposite end of the capsized canoe to break the suction.

4. The second paddler will then move to the bow of the rescue canoe, hang on and get as much of the body out of the water as possible.

5. Both paddlers will remain in that position until told to move by the rescuers. The rescuers will move the canoe across the gunwales of their canoe. Once it is centred they will flip it over and gently continue to slide it into the water.

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6. Maintain communication and when instructed to do so the paddlers will, one at a time, get back into the canoe by one of two ways:

   a. hook one leg over each canoe and pull up out of the water and climb into the canoe; or

   b. propel themselves upward by scissor kicking, tucking the shoulder in and rolling into the canoe.

7. Return to the paddling position.

PORTAGING A CANOE

Carrying a Canoe to The Water

Once a canoe is off the vehicle or trailer, it still needs to get to the water. There are several ways to carry a canoe; having one person at each end is a typical way. Hand and arm placement should allow for maximum comfort and provide balance and security against dropping.



It is critical that the canoe is not dragged along the ground. This damages the keel and the bottom of the canoe which may result in holes.

Tandem Hand Carry

For a short distance over relatively flat ground, a canoe can be carried much like a briefcase. This is referred to as the tandem hand carry.

To execute the tandem hand carry:

1. The bow paddler will stand at the bow on the left or right of the canoe.

2. The stern paddler will stand at the stern on the side opposite to the bow paddler.

3. Each paddler will lift the canoe by the handle at their end.

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Figure 8 Tandem Hand Carry

Tandem Portage Carry

For longer distances, a canoe can be carried on the shoulders in the tandem portage carry. The canoe is lifted over the head and carried in such a manner that the stern seat rests across the shoulders of the person at the rear and the bow deck rests on one shoulder of the person in front.

To execute the tandem portage carry:

1. Stand up straight, with the legs slightly apart and knees bent. Grasp the gunwale closest to the body, near the bow and stern seats respectively. Place the fingers inside the gunwale and the thumbs outside the gunwale.

2. Keeping the back straight and knees bent, lift the canoe to the thighs in a rocking motion.

3. Reach across the canoe and grasp the far gunwale. The fingers are pointing out and the thumb is in. Re-position the hand from step one so that the fingers are out and the thumb is in.

4. Rocking the canoe again, use your legs to launch and lift the canoe over the head.

5. As the canoe is raised, turn to face the bow and then guide the bow and stern seats onto the shoulders.

6. Rest the weight of the canoe on the shoulders. The bow person will move further forward to improve visibility.

7. To move forward, the bow paddler hand-walks along the gunwale toward the front of the canoe. Balance the canoe's weight side to side and bow to stern.

8. Rest the deck plate on the bow paddler's shoulder.

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Note. From Canoeing: The Essential Skills and Safety (p. 136), by A. Westwood, 2007, Beachburg, ON: The Heliconia Press. Copyright 2007 by The Heliconia Press.

Figure 9 Tandem Portage Carry Steps 1–8

To lower the canoe, complete the procedure in reverse. It is important to lower the canoe onto the thighs, then onto the ground.

LOADING AND UNLOADING EQUIPMENT FROM A CANOE

Weight Distribution and Stability

Stability is the first consideration when canoeing. Canoes are floats and their stability depends primarily on their shape and the position of the centre of gravity. The more expansive the float over the water and the lower the centre of gravity, the more stable a float becomes.

An empty canoe resting on the water has two centres on the same vertical plane, the centre of gravity and the centre of buoyancy. The canoe is evenly trimmed bow and stern and side to side.

Centre of gravity is the point around which a person's body weight is equally balanced in all directions. The total weight of the person is concentrated at this point. The position of the centre of gravity of an object depends on the shape of the object and the distribution of its weight.

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If weight is added to the canoe, such as a heavy pack, the centre of buoyancy changes to stay on the same vertical plane as the centre of gravity.

Loads should not be higher than the gunwales of the canoe and must be evenly distributed over the keel line. Weight should be adjusted so that the canoe is neither bow nor stern heavy.

Canoe Trim

Trim is the way the canoe rides in the water once it has been loaded. It is important to keep the gunwale line parallel to the water surface. In addition, it is crucial that the stern does not ride lower than the bow.

Weight of Paddlers

The weight of the paddlers is often overlooked and must be taken into consideration. Most canoes are rated with a maximum capacity, normally between 500–635 kgs (1100–1400 pounds) with a load range of 135–270 kgs (300–600 pounds). The paddlers' weight must be considered, as this will limit the weight of equipment that can be loaded in the canoe. This weight will also affect the trim of the canoe.



Packs and equipment are tied to the centre thwart using a tether line. This will ensure the equipment is not separated from the canoe. The equipment should be placed in the middle section of the canoe. By trial and error, adjustments may have to be made so that the canoe will be trimmed evenly.

LAUNCHING AND LANDING A CANOE

Identifying a Location

Putting a canoe on water and taking it out of water should be done carefully, smoothly and without damage to the canoe.

The ideal location to launch a canoe is a soft shore or beach where the water is calm. Avoid locations where there are large rocks, stumps and roots, strong wind or large waves.

If you are launching from a shallow beach, launch the canoe at a right angle to the beach and hold it with its stern touching the bottom at the water's edge.

Avoiding Equipment Damage

A canoe should not be pushed, pulled or slid in or out of the water on a beach, bank, or dock. When launching, it is best to lay the canoe in the water from a lift position. It should be raised with the same care when being taken out of the water.

The canoe should be empty when launching. Once the canoe is placed on the water, it can be loaded with equipment while it is floating.

Entering a Canoe

Getting into a canoe for the first time is difficult; with practice, it will become easier. The stern paddler should always hold the canoe steady while the bow paddler enters. Likewise, once the bow paddler has entered the canoe, they will steady the canoe, using their paddle and body, while the stern paddler enters.

The steps for getting into a canoe are:

1. Keep the body low at all times, to lower the centre of gravity; never stand in a canoe.
2. Place the paddle shaft across the gunwales for stability.

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3. Grasp both gunwales and step into the canoe over the centreline.

4. Step along the centreline and slide the hands and paddle along the gunwales to move to the seat.

Launching a Canoe at a Shoreline

Launching and landing a canoe in waves is inadvisable. Wait for a lull and keep the canoe at a right angle to the water.

If the canoe swamps at any time, avoid getting between the canoe and the shore. A canoe full of water weighs approximately 1 ton (1 000 kg) and can seriously injure a paddler.

There are several ways to launch a canoe from shore. The most common is the bow first launch:

Procedure for the bow first launch:

1. Put on a PFD and have paddles in the canoe or on the shoreline. Set the canoe at a right angle to the shore.

2. Place the spare paddle and stern paddle in the centre of the canoe. Have the stern paddler hold the canoe while the bow paddler walks up the length of the canoe keeping their weight low and balanced over the centreline. Stability is maintained by keeping the paddle shaft across the gunwales.

3. Have the bow paddler sit or kneel and place the paddle in the ready position as detailed in Figure 10. The stern paddler will hold the paddle shaft across the gunwales for stability.

4. Have the stern paddler slide their paddle forward along the gunwales, continuing to hold both paddle shaft and gunwales while keeping their weight low and balanced over the centreline. The blade is positioned on the side opposite to the bow paddlers' paddling side.

5. Once the stern paddler is kneeling and in the ready position, move the canoe away from the shore.



Note. From Paddle Your Own Canoe (p. 36), by G. McGuffin & J. McGuffin, 2005, Erin, ON: The Boston Mills Press. Copyright 2005 by The Boston Mills Press.

Figure 10 Bow First Launch

On windy days, face the canoe directly into the wind when launching.

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Landing a Canoe at a Shoreline

When a suitable location to exit the canoe is found, the following procedure shall be followed:

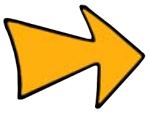
1. Bring the canoe into landing without running up on shore.
2. Have the bow paddler exit first to steady the canoe for the stern paddler.
3. Have the stern paddler move forward, keeping their weight low in the canoe.
4. Have the stern paddler exit at the bow.

Exiting a Canoe

To exit the canoe, reverse the entry procedures:

1. Bring the canoe into the landing slowly and carefully.
2. Keep the body low at all times, lowering the centre of gravity.
3. Place the paddle shaft across the gunwales for stability.
4. Grasp both gunwales and the paddle shaft, and move to the bow of the canoe.
5. Step out of the canoe, keeping weight low.

EXECUTE CANOE STROKES



Kneeling is the position of choice for paddling because it provides increased canoe stability. When a person kneels, their centre of gravity is lowered. To give sore knees a break, a paddler can sit on the seat.



There are four phases of a stroke that help ensure the transition between each stroke is natural and smooth.

Catch. The beginning of the stroke where the blade is inserted into the water.

Power. The movement of the paddle through the water by rotating the torso to transmit power to the blade. When paddling, it is important to use the muscles of the torso, which have more strength and endurance than the arm muscles.

Exit. When the paddle leaves the water.

Recovery. When the paddle is returned to the catch position. This is completed by feathering the blade (keeping it flat and just above the water surface) to minimize wind resistance.



The stern paddler will control the direction of the canoe using corrective strokes where applicable. The bow paddler will complete mostly power strokes when canoeing, unless the stern paddler requires assistance with corrective strokes.

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Power Stroke

The power stroke is used to move the canoe forward. It is the foundation stroke on which most other strokes are built. The power stroke is made close to the side of the canoe and parallel to the keel, with the shaft of the paddle moving in a vertical or near-vertical plane. To complete the power stroke:

1. Rotate the torso forward toward the bow to engage the muscles for the stroke.

2. Place the blade deep into the water with as little splash as possible.

3. Unwind the torso while pulling on the shaft hand (lower hand) and pushing with the control hand (upper hand).

4. Power the stroke through the water until the blade of the paddle is in line with the knee.

5. Lift the paddle out of the water by slicing it out to the side.

6. Recover the stroke with the blade clear and flat across the water (to reduce wind resistance) and complete another stroke.

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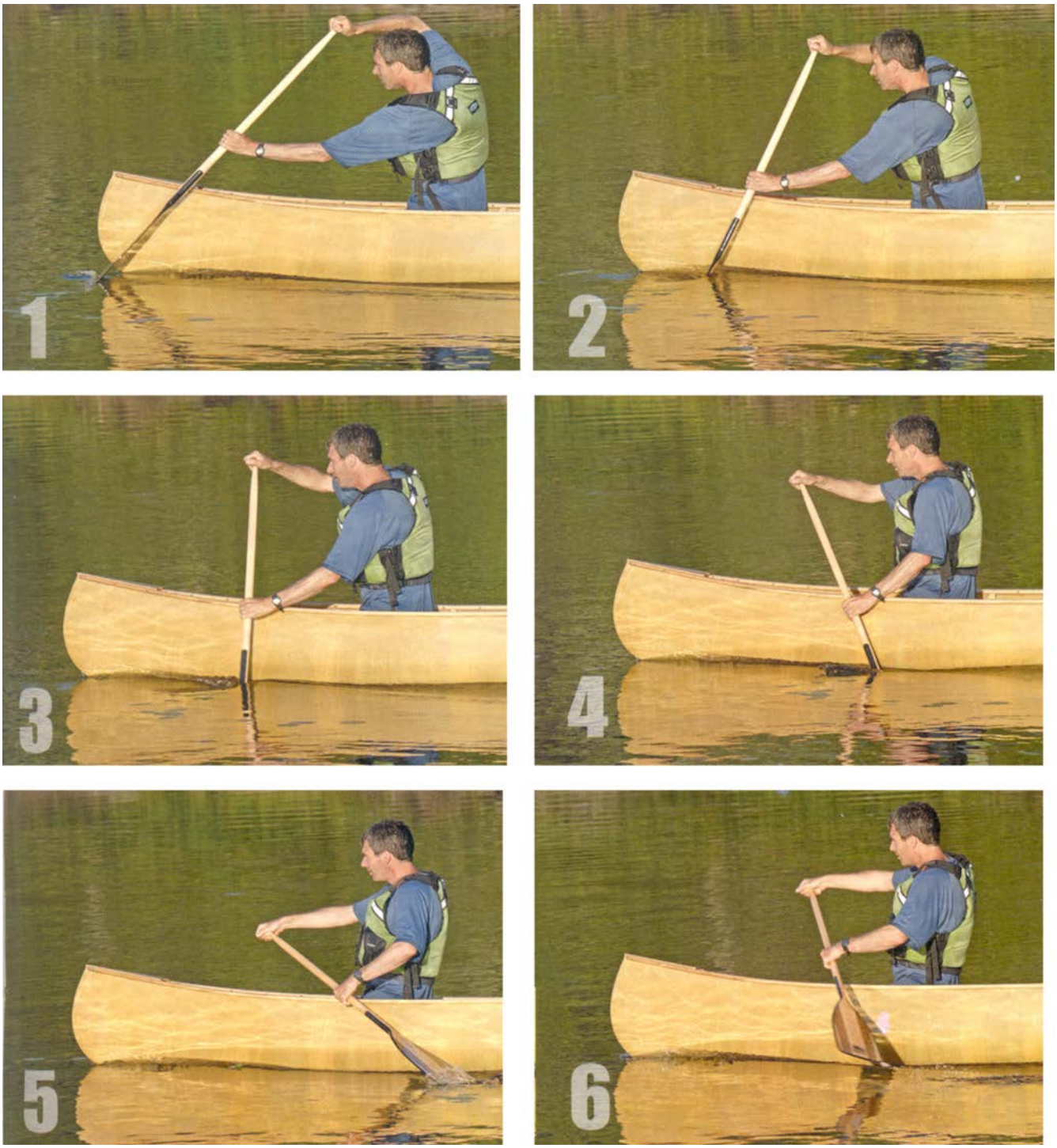

Note. From Canoeing: The Essential Skills and Safety (p. 71), by A. Westwood, 2007, Beachburg, ON: The Heliconia Press. Copyright 2007 by The Heliconia Press.

Figure 11 Power Stroke

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J-Stroke



Watch for ruddering as the cadets' practice the J-stroke. Ruddering is when the stern paddler places their paddle in the water behind the hip and manoeuvres it back and forth to turn the canoe. This will create drag and slow the forward momentum of the canoe.

The J-stroke is a version of the power stroke used as a corrective stroke by the stern paddler to help keep the canoe travelling in a straight line. When applied with force, it can be used to turn the canoe to the stern paddler's side (the side they are paddling on). To complete the J-stroke:

1. Complete the first four steps of the power stroke, ending with the control hand above the gunwale and the shaft hand at the hip.
2. Twist the control hand thumb forward and down while pulling the shaft hand inward, forming a "J".
3. Recover to complete another stroke.



Note. From Canoeing: The Essential Skills and Safety (p. 74 and p. 75), by A. Westwood, 2007, Beachburg, ON: The Heliconia Press. Copyright 2007 by The Heliconia Press.

Figure 12 J-Stroke

Forward Sweep

The purpose of the forward sweep is to turn the canoe away from the canoeist's paddling side. It is a wide sweep of the paddle, using the power face of the blade. There are many occasions when this stroke would be used, such as:

- swinging the canoe for pivot turns or partial turns;
- manoeuvring the canoe around obstacles;
- following along the bends of streams or rivers;

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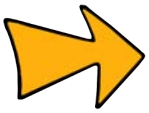
- making sudden changes of direction in paddling;
- aiding in holding a straight course in crosswinds; and
- incorporating with other strokes as necessary to control the canoe.



Reverse sweeps use the back face of the blade and are the opposite of forward sweeps. Both sweeps have many of the same functions.

As the bow paddler, to complete the forward sweep:

1. Rotate the torso and bend forward slightly while immersing the blade of the paddle almost horizontally by the bow of the canoe.

2. Push the shaft hand out slightly from the waist while swinging in a 90-degree arc until the arm extends out from the hip (the paddle should be at a right angle to the side of the canoe).

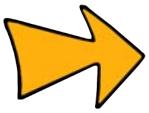
3. Recover to complete another stroke.

As the stern paddler, to complete the forward sweep:

4. Lean back slightly as the upper body rotates while extending and immersing the paddle almost horizontally at a right angle to the side of the canoe at the hip, keeping the lower hand at waist height with the thumb pointing up.

5. Push out slightly with the shaft hand while swinging in a 90-degree arc (the paddle should be almost touching the stern).

6. Recover to complete another stroke.



When the bow paddler is completing a forward sweep, the stroke should never move past the paddler’s body. Any further movement will result in drag and loss of momentum.

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Step 1



Step 2



Step 3

Note. From Paddle Your Own Canoe (p. 51), by G. McGuffin & J. McGuffin, 2005, Erin, ON: The Boston Mills Press. Copyright 2005 by The Boston Mills Press.

Figure 13 Forward Sweep

Draw

The purpose of the draw is to turn the canoe or to move it sideways. The draw stroke can be completed by both the bow and stern paddler. To complete the draw stroke:

1. Rotate the torso and extend the arms fully to position the paddle at the side of the canoe, adjacent to the knee.

2. Reach across the canoe with the control hand and place the paddle vertically into the water.

3. Plant the blade deeply in the water and pull the power face toward the body.

4. Twist the control hand thumb away from the body and rotate the blade 90 degrees (before the blade hits the canoe).

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5. Bring the paddle back to the beginning position by slicing it through the water.
6. Twist the blade back into the original position to complete another stroke.

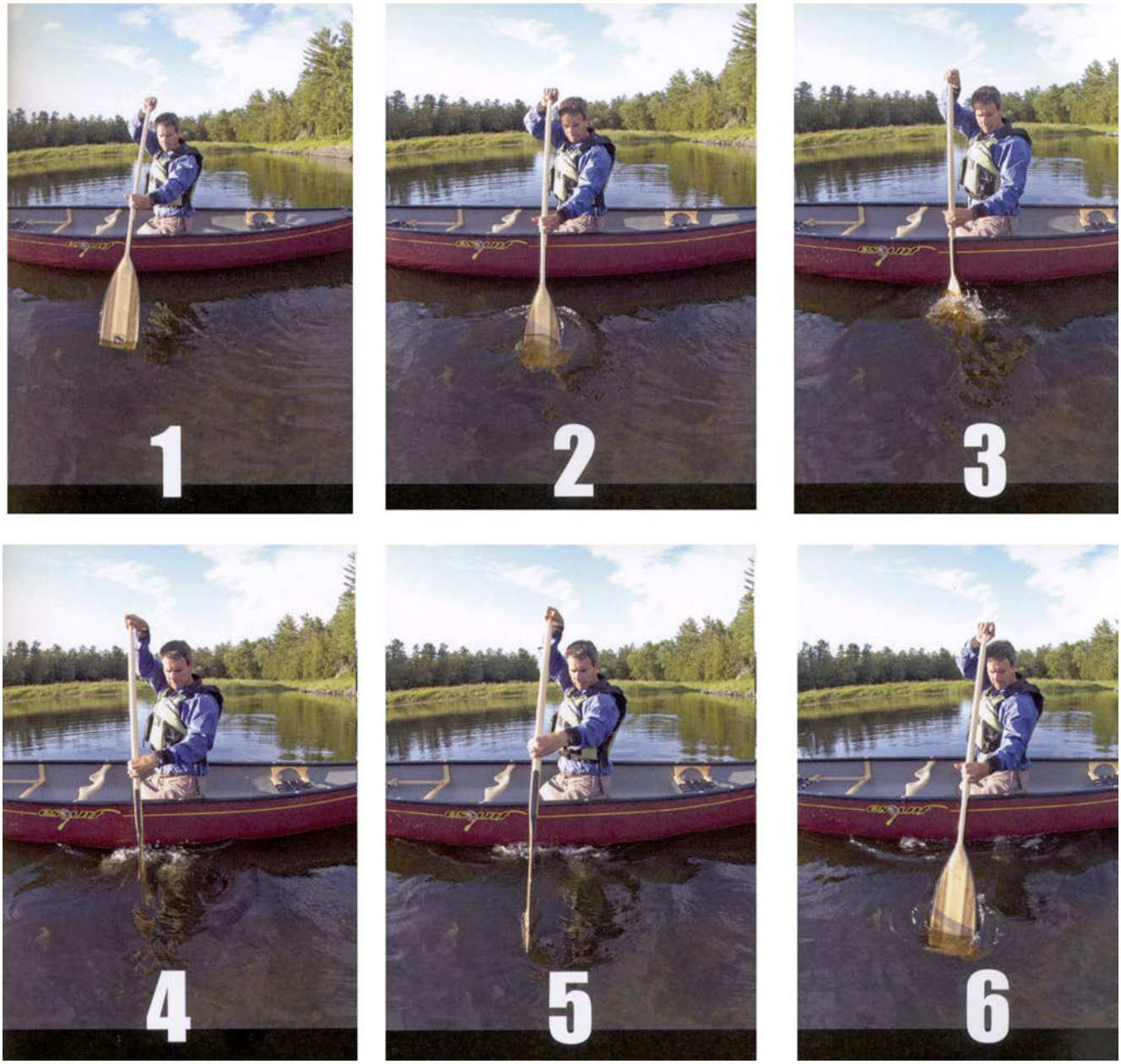

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Figure 14 Draw

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Pry

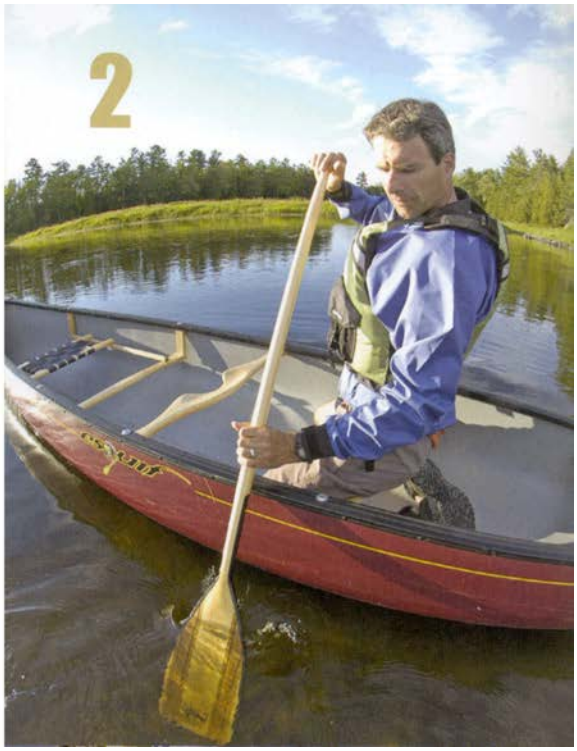
The pry is a powerful, deep-water stroke that can be applied by the bow or the stern paddler to move the canoe away from the paddler's side. To complete the pry stroke:

1. Place the paddle vertically against the gunwale adjacent to the knee with both hands above the gunwale.

2. Pull inward with the control hand to force the paddle away from the canoe.

3. Rotate the blade 90 degrees by twisting the thumb of the control hand away from the body and slicing the blade back to the beginning point.





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Note. From Canoeing: The Essential Skills and Safety (p. 96), by A. Westwood, 2007, Beachburg, ON: The Heliconia Press. Copyright 2007 by The Heliconia Press.

Figure 15 Pry

If the bow paddler completes a pry and the stern paddler completes a draw, the canoe will move sideways. This combination of strokes is useful if trying to move a canoe parallel to a dock or when rafting up.

Low Brace

The low brace will assist in righting a canoe from capsizing or if it begins to tip. This stroke will also help a paddler rely on the paddle to steady the canoe as well as lean into turns. It can also be used by the stern paddler to steady the canoe when the bow paddler is initiating a turn. To complete a low brace:

1. Twist the upper body to face the water, with the paddle out at a 90-degree angle to the canoe.
2. Smack the water with the flat backside of the paddle to provide support to balance the body in the canoe.
3. Begin to get the knees level in the canoe by dropping the head towards the shaft of the paddle.
4. Assume a stable posture with the head centred inside the canoe once the canoe has levelled.

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Note. From Canoeing: The Essential Skills and Safety (p. 98 and p. 99), by A. Westwood, 2007, Beachburg, ON: The Heliconia Press. Copyright 2007 by The Heliconia Press.

Figure 16 Low Brace

Jam

The jam stroke will stop a canoe's forward momentum quickly when applied. To execute the jam, the paddler will shove the paddle into the water at a right angle to the canoe in a vertical position.

Backpaddle

To go backward, the bow paddler can complete a reverse power stroke. If necessary, the stern paddler can do a pry in the beginning to steady the canoe. To backpaddle:

1. Lean slightly back, rotate the shoulders back and place the blade of the paddle vertically in the water at the rear of the canoe up to the throat.
2. Unwind the body while pushing forward with the shaft hand and pulling with the control hand.
3. Continue with the stroke until the shoulders are square with the gunwales.
4. Lift the blade out of the water and recover to complete another stroke.

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Note. From Canoeing: The Essential Skills and Safety (p. 98–99), by A. Westwood, 2007, Beachburg, ON: The Heliconia Press. Copyright 2007 by The Heliconia Press.

Figure 17 Backpaddle

If both paddlers are backpaddling, the canoe will turn away from the bow paddler's side.

ACTIVITY

Time: 270 min

OBJECTIVE

The objective of this activity is to have the cadets, in teams of no more than six, paddle a tandem canoe on flatwater, for 15–20 km, during an expedition.

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RESOURCES

- Fully equipped tandem canoe (one per two cadets),
- Personal canoe equipment (one per cadet),
- Group canoe equipment (one per team), and
- Water carrier (one per cadet).

ACTIVITY LAYOUT

Designate a flatwater canoe route, IAW A-CR-CCP-930/AG-001, *Cadet Program Interim Activity Safety Direction*.

ACTIVITY INSTRUCTIONS

1. Conduct a briefing, to include an explanation of:
    a. the objectives and importance of the activity;
    b. the resources that may be required to perform the activity; and
    c. any safety guidelines that must be followed while performing the activity.
2. Have cadets size and fit paddles and PFDs.
3. Place cadets in canoe partners.
4. Assign a bow and stern paddler (groups will be required to switch at the half-way point of the route).
5. Have cadets outfit their canoes with safety equipment.
6. Have cadets, in teams of no more than six, paddle a tandem canoe on flatwater, following the designated route during an expedition to practice:
    a. launching and landing the canoe;
    b. turning the canoe;
    c. pivoting the canoe;
    d. moving the canoe laterally;
    e. paddling in a straight line; and
    f. stopping the canoe.
7. Upon arrival at the end point, have the cadets store / return all equipment.
8. Conduct a debriefing by asking the cadets:
    a. how they felt about the activity;
    b. how they felt their team worked together;
    c. what portion of the activity challenged them the most;
    d. how their teammates assisted them when they were challenged;
    e. if there are any specific examples of when their team bonded;
    f. how the team made decisions;

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g. whether or not all team members ideas / suggestions were considered; and

h. what they would do as a leader of this type of activity to ensure their subordinates enjoyed the experience.

SAFETY

- Cadets must wear their PFDs at all times.
- Each team will be led by the assigned team leader.
- All canoes in a team must travel together—there can be no more than two canoe lengths between team canoes.
- Team Instructor(s) (TIs) must be in sight / sound of the team at all times.
- Teams will travel separately along the canoe route.
- There will be a minimum of 500 m between teams at all times.
- Cadets must carry at least 1 L of water.
- Water re-supply points will be located along the route.
- Meals will be provided at a pre-determined location(s) and detailed in the route instructions.

CONFIRMATION OF TEACHING POINT 1

The cadets' participation in paddling a canoe will serve as the confirmation of this TP.

END OF LESSON CONFIRMATION

The cadets' participation in the expedition will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

This lesson is assessed IAW A-CR-CCP-704/PG-001, *Gold Star Qualification Standard and Plan*, Chapter 3, Annex B, 426 PC.

CLOSING STATEMENT

Canoeing is a fun and challenging mode of travel that can be used during expedition training. Being able to efficiently manoeuvre a canoe while on expedition provides a great sense of freedom and accomplishment. Canoe strokes only improve with practice, it is important to make an effort to continue the development of the skills.

INSTRUCTOR NOTES / REMARKS

Expedition centres are required to select two dynamic modes of travel from EO M426.02a (Paddle a Canoe), EO M426.02b (Ride a Mountain Bike), EO M426.02c (Hike Along a Route), EO M426.02d (Snowshoe Along a Route) and EO M426.02e (Ski Along a Route) to incorporate into the expedition training.

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This EO has been allocated nine periods in the overall course period allocation. Each expedition centre may adjust this allocation to reflect the choice of activities, facilities and available resources in the expedition centre.

Upon arrival at the expedition centre, cadets will be divided into teams. Cadets will be given an opportunity to navigate and lead peers. These teams will remain the same for the duration of the expedition.

IAW A-CR-CCP-930/AG-001, *Cadet Program Interim Activity Safety Direction*:

1. a fully equipped tandem canoe is described as having the following items:
    a. bailer,
    b. buoyant heaving line or throw bag,
    c. sound signalling device,
    d. spare paddle, and
    e. painter lines;
2. the following personal canoe equipment is required when paddling a canoe:
    a. PFD, and
    b. paddle; and
3. the following group canoe equipment is required when paddling a canoe:
    a. topographical or river map of area as required,
    b. compass,
    c. GPS receiver,
    d. first aid kit,
    e. communication device (eg, cellular phone or hand-held radio), and
    f. canoe repair kit.

IAW A-CR-CCP-930/AG-001, *Cadet Program Interim Activity Safety Direction*, there are pre-training requirements for canoeing. Assess the level of pre-training required and plan time into the expedition as necessary.

Ensure that each cadet has an ample supply of drinking water when canoeing.

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