

PO 490

1. **Performance:** Participate in an Aircrew Survival Exercise
2. **Conditions:**
 - a. Given:
 - (1) Matches,
 - (2) Firewood / kindling / tinder,
 - (3) Fire extinguisher,
 - (4) Water,
 - (5) Shovel,
 - (6) Global Positioning System (GPS) receiver,
 - (7) Other materials and equipment as required,
 - (8) Supervision, and
 - (9) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Field setting during a field training exercise.
3. **Standard:** The cadet will participate in an aircrew survival exercise, to include:
 - a. assembling emergency survival kits;
 - b. operating a stove and lantern;
 - c. tying knots and lashings;
 - d. navigating using a GPS receiver; and
 - e. lighting a fire without matches.
4. **Remarks:** Nil.
5. **Complementary Material:**
 - a. Complementary material associated with PO 490 is designed to enhance the cadet's knowledge of aircrew survival training through a number of activities, specifically:
 - (1) EO C490.01 (Describe Climatic and Seasonal Concerns),
 - (2) EO C490.02 (Improvise Tools for Use in a Survival Situation),
 - (3) EO C490.03 (Move a Casualty to Shelter),
 - (4) EO C490.04 (Practice Safe Toolcraft),
 - (5) EO C490.05 (Navigate a Route Using a Map and Compass),

- (6) EO C490.06 (Erect, Tear Down and Pack Tents) and,
 - (7) EO C490.07 (Construct a Hootchie or Lean-to-Style Shelter).
- b. Complementary material from PO 390 that was not conducted in the previous year may be selected as complementary training in Proficiency Level Four.

EO M490.01

1. **Performance:** Assemble an Emergency Survival Kit
2. **Conditions:**
 - a. Given:
 - (1) Supervision, and
 - (2) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Classroom or field setting, during the day.
3. **Standard:** The cadet shall assemble an emergency survival kit.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Discuss the characteristics of an emergency survival kit, to include: <ol style="list-style-type: none"> a. essential items, and b. small and easy to carry in a pocket. 	Interactive Lecture	5 min	C3-002 (p. 26)
TP2	Explain that emergency survival kit items should be placed in a durable container that is lightweight and waterproof, such as: <ol style="list-style-type: none"> a. hard plastic, b. flexible plastic, or c. metal. 	Interactive Lecture	5 min	C2-010 (pp. 648–655)
TP3	Explain the purpose of each survival kit item and have the cadets, as a group, assemble an emergency survival kit: <ol style="list-style-type: none"> a. adhesive bandages, b. aluminum foil, c. antibiotic tablets, d. button compass, e. candle, f. condom, g. cord, h. cotton balls, i. emergency blanket, j. fish hooks, k. fishing line, l. fishing sinkers, 	In-Class Activity	15 min	C3-002 (pp. 26–32) C3-003 (p. 8, pp. 14–16) C3-150 (pp. 33–37)

TP	Description	Method	Time	Refs
	m. flexible saw, n. garbage bag (small), o. hard candies, p. magnifying glass, q. mirror (small), r. moleskin, s. pain reliever (pills), t. paper, u. pencil, v. personal medication, w. resealable plastic bags (very small), x. safety pins, y. salt, z. sewing needles, aa. small folding knife, bb. snare wire, cc. thread, dd. tweezers, ee. water purification tablets, ff. waterproof matches, and gg. whistle. Note: This list is not exhaustive and is designed to give cadets an idea of what an emergency survival kit could contain.			

5. **Time:**

a.	Introduction / Conclusion:	5 min
b.	Interactive Lecture:	10 min
c.	In-Class Activity:	15 min
d.	Total:	30 min

6. **Substantiation:**

- a. An interactive lecture was chosen for TPs 1 and 2 to present basic material and give direction on assembling an emergency survival kit.
- b. An in-class activity was chosen for TP 3 as it is an interactive way to provoke thought and stimulate interest among cadets about emergency survival kits.

7. References:

- a. C2-010 ISBN 0-375-70323-3 Rawlins, C., & Fletcher, C. (2004). *The complete walker IV*. New York, NY: Alfred A. Knopf.
- b. C3-002 ISBN 0-00-653140-7 Wiseman, J. (1999). *The SAS survival handbook*. Hammersmith, London: HarperCollins Publishers.
- c. C3-003 ISBN 1-896713-00-9 Tawrell, P. (1996). *Camping and wilderness survival: The ultimate outdoors book*. Green Valley, ON: Author.
- d. C3-150 ISBN 978-0-8117-3292-5 Davenport, G. (2002). *Wilderness survival*. Mechanicsburg, PA: Stackpole Books.

8. **Training Aids:** Presentation aids (eg, whiteboard / flip chart / OHP) appropriate for the classroom / training area.

9. **Learning Aids:** Sample emergency survival kit items, such as:

- a. hard or flexible plastic or metal container,
- b. adhesive bandages,
- c. aluminum foil,
- d. antibiotic tablets,
- e. button compass,
- f. candle,
- g. condom,
- h. cord,
- i. cotton balls,
- j. emergency blanket,
- k. fish hooks,
- l. fishing line,
- m. fishing sinkers,
- n. flexible saw,
- o. garbage bag (small),
- p. hard candies,
- q. magnifying glass,
- r. mirror (small),
- s. moleskin,
- t. pain reliever (pills),
- u. paper,

- v. pencil,
 - w. personal medication,
 - x. resealable plastic bags (very small),
 - y. safety pins,
 - z. salt,
 - aa. sewing needles,
 - bb. small folding knife,
 - cc. snare wire,
 - dd. thread,
 - ee. tweezers,
 - ff. water purification tablets,
 - gg. waterproof matches, and
 - hh. whistle.
10. **Test Details:** Nil
11. **Remarks:** Cadets who are qualified Survival Instructor may assist with this instruction.

EO M490.02

1. **Performance:** Operate a Stove and a Lantern
2. **Conditions:**
 - a. Given:
 - (1) Two-burner naphtha stove,
 - (2) Dual-mantle naphtha lantern,
 - (3) Lantern storage carrier,
 - (4) Mantles,
 - (5) Naphtha,
 - (6) Funnel,
 - (7) Drip pan,
 - (8) Matches,
 - (9) Needle-nose pliers,
 - (10) Supervision, and
 - (11) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Field setting.
3. **Standard:** The cadet shall operate a stove and a lantern, to include:
 - a. filling;
 - b. pressurizing;
 - c. lighting;
 - d. extinguishing;
 - e. draining;
 - f. cleaning;
 - g. performing minor maintenance; and
 - h. storing.

4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Identify the characteristics of a two-burner naphtha stove, to include: <ol style="list-style-type: none"> a. operational temperature, b. fuel type, and c. parts and accessories. 	Interactive Lecture	10 min	See Remarks, para 11b.
TP2	Identify the characteristics of a dual-mantle naphtha lantern, to include: <ol style="list-style-type: none"> a. parts and accessories, and b. precautions. 	Interactive Lecture	5 min	See Remarks, para 11b.
TP3	Explain, demonstrate and have the cadets fill and drain a stove and a lantern, utilizing a drip pan. Note: A spill response kit should be on hand when fuelling and emptying stoves and lanterns.	Demonstration and Performance	15 min	See Remarks, para 11b.
TP4	Explain, demonstrate and have the cadets operate a two-burner naphtha stove, to include: <ol style="list-style-type: none"> a. assembling; b. lighting and extinguishing, to include: <ol style="list-style-type: none"> (1) pressurizing the fuel tank; (2) lighting the master burner; (3) lighting the auxiliary burner; and (4) extinguishing the burner; and c. disassembling after use. 	Demonstration and Performance	15 min	See Remarks, para 11b.
TP5	Explain, demonstrate and have the cadets operate a dual-mantle naphtha lantern, to include: <ol style="list-style-type: none"> a. assembling; b. lighting and extinguishing, to include: <ol style="list-style-type: none"> (1) pressurizing the fuel tank, (2) lighting the lantern, and (3) extinguishing the lantern; and c. storing after use. 	Demonstration and Performance	20 min	See Remarks, para 11b.
TP6	Explain, demonstrate and have the cadets perform minor maintenance on a stove and a lantern, to include: <ol style="list-style-type: none"> a. cleaning the stove, b. cleaning the lantern, 	Demonstration and Performance	15 min	See Remarks, para 11b.

TP	Description	Method	Time	Refs
	c. replacing a mantle; and d. inspecting the pump assembly.			

5. **Time:**

- | | | |
|----|--------------------------------|--------|
| a. | Introduction / Conclusion: | 10 min |
| b. | Interactive Lecture: | 15 min |
| c. | Demonstration and Performance: | 65 min |
| d. | Total: | 90 min |

6. **Substantiation:**

- An interactive lecture was chosen for TPs 1 and 2 to introduce to the cadets the characteristics of the stove and of the lantern.
- A demonstration and performance was chosen for TPs 3–6 as it allows the instructor to explain and demonstrate how to operate a stove and lantern while providing an opportunity for the cadets to practice the skill under supervision.

7. **References:** Manuals for stove and lantern types being used.

8. **Training Aids:**

- Two-burner naphtha stove,
- Dual-mantle naphtha lantern,
- Lantern storage carrier,
- Mantles,
- Naphtha,
- Fire extinguisher,
- Funnel,
- Drip pan,
- Matches,
- Needle-nose pliers,
- Spill response kit,
- Manual for stove, and
- Manual for lantern.

9. **Learning Aids:**

- Two-burner naphtha stove,
- Dual-mantle naphtha lantern,
- Lantern storage carrier,

- d. Mantles,
- e. Naphtha,
- f. Funnel,
- g. Drip pan,
- h. Matches, and
- i. Needle-nose pliers.

10. **Test Details:** This EO is assessed IAW Chapter 3, Annex B, 490 PC.

11. **Remarks:**

- a. The spill response kit will be placed at the fuelling area.
- b. Refer to the manuals for all operations and maintenance of the two-burner naphtha stove and dual-mantle naphtha lantern.
- c. A fire extinguisher will be at each site where stoves and lanterns are being lit.
- d. When cleaning the stove, the fuel tank is to be wiped with fresh naphtha. Protective gloves and clothing are to be worn when completing this task. Acceptable materials for gloves are neoprene and nitrile / viton. It is also recommended that safety glasses, splash goggles, or face shield be worn. Have eye water wash available.
- e. Cadets who are qualified Survival Instructor may assist with this instruction.

EO M490.03

1. **Performance:** Tie Knots and Lashings
2. **Conditions:**
 - a. Given:
 - (1) Braided rope,
 - (2) Poles (2 m long, 6 cm in diameter),
 - (3) Supervision, and
 - (4) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Field setting, during the day.
3. **Standard:** The cadet shall tie knots and lashings, to include:
 - a. reef knot,
 - b. figure-of-eight knot,
 - c. clove hitch,
 - d. bowline,
 - e. round lashing,
 - f. square lashing, and
 - g. figure-of-eight lashing.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Describe the parts of a rope, to include: <ol style="list-style-type: none"> a. the working end (bitter end), b. the working part (running part), c. the standing end, d. the standing part, e. the turn or loop, and f. the bight. 	Interactive Lecture	10 min	C3 026 (pp. 28–29)
TP2	Explain, demonstrate and have the cadets tie the following knots: <ol style="list-style-type: none"> a. reef knot, b. figure-of-eight knot, c. clove hitch, and d. bowline. 	Demonstration and Performance	20 min	C3-026 (p. 44, p. 98, p. 104, p. 162)

TP	Description	Method	Time	Refs
TP3	Explain, demonstrate and have the cadets tie the following lashings: a. round, b. square, and c. figure-of-eight.	Demonstration and Performance	20 min	C3-026 (p. 180, p. 182, p. 186)

5. **Time:**

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|----|--------------------------------|--------|
| a. | Introduction / Conclusion: | 10 min |
| b. | Interactive Lecture: | 10 min |
| c. | Demonstration and Performance: | 40 min |
| d. | Total: | 60 min |

6. **Substantiation:**

- An interactive lecture was chosen for TP 1 to present background material on rope terminology.
- A demonstration and performance was chosen for TPs 2 and 3 as it allows the instructor to explain and demonstrate tying knots and lashings while providing an opportunity for the cadets to practice and develop these skills under supervision.

7. **References:** C3-026 ISBN 1-55267-218-2 Pawson, D. (2001). *Pocket guide to knots and splices*. London, England: PRC Publishing.8. **Training Aids:**

- Presentation aids (eg, whiteboard / flip chart / OHP) appropriate for the classroom / training area,
- Knife,
- Braided rope,
- Poles, and
- Knot-tying and Lashings Instructions handout.

9. **Learning Aids:**

- Braided rope,
- Poles, and
- Knot-tying and Lashings Instructions handout.

10. **Test Details:** This EO is assessed IAW Chapter 3, Annex B, 490 PC.11. **Remarks:**

- The cadet will require two 3-m (10-foot) pieces of 10-mm (3/8 inch) braided rope to perform the required knots and lashings.
- Cadets who are qualified Survival Instructor may assist with this instruction.

EO M490.04

1. **Performance:** Navigate to a Waypoint Using a Global Positioning System (GPS) Receiver

2. **Conditions:**

a. Given:

- (1) GPS receiver,
- (2) Supervision, and
- (3) Assistance as required.

b. Denied: Nil.

c. Environmental: Field setting, during the day.

3. **Standard:** The cadet shall navigate to a waypoint using a GPS receiver by:

- a. turning on the GPS receiver;
- b. selecting the waypoint list;
- c. selecting a waypoint from the list; and
- d. using the GPS receiver to move to the waypoint.

4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Explain and demonstrate: <ul style="list-style-type: none"> a. turning on the GPS receiver; b. selecting the waypoint list; c. selecting a waypoint; and d. using the GPS receiver to move to a waypoint. 	Demonstration	30 min	C2-143
TP2	Have the cadets practice navigating to a waypoint using a GPS receiver.	Practical Activity	80 min	

5. **Time:**

- a. Introduction / Conclusion: 10 min
- b. Demonstration: 30 min
- c. Practical Activity: 80 min
- d. Total: 120 min

6. **Substantiation:**

- a. A demonstration was chosen for TP 1 as it allows the instructor to demonstrate and explain how to navigate to a waypoint using a GPS receiver.
- b. A practical activity was chosen for TP 2 as it allows the instructor to introduce the GPS receiver while providing an opportunity for the cadets to practice navigating to a waypoint using a GPS receiver under supervision.

7. **References:** C2-143 ISBN 1-58923-145-7 Featherstone, S. (2004). *Outdoor guide to using your GPS*. Chanhassen, MN: Creative Publishing International, Inc.

8. **Training Aids:**

- a. Presentation aids (eg, whiteboard / flip chart / OHP / multimedia projector) appropriate for the classroom / training area,
- b. GPS receiver with charged batteries,
- c. Waypoint containers,
- d. Waypoint locations,
- e. Hand-held radio (one per group),
- f. Waypoint form (one per group), and
- g. Pen / pencil.
- h. Prepared course

9. **Learning Aids:**

- a. GPS receiver with charged batteries (one per group),
- b. Hand-held radio with charged batteries (one per group),
- c. Waypoint form (one per group), and
- d. Pen / pencil.

10. **Test Details:** This EO is assessed IAW Chapter 3, Annex B, 490 PC.

11. **Remarks:**

- a. Several waypoints should be set up before this lesson.
- b. The waypoints should be indicated on the ground or object by a marker.
- c. The waypoints should be 200–500 m apart.
- d. Cadets who are qualified Survival Instructor may assist with this instruction.

EO M490.05

1. **Performance:** Light Fires Using Improvised Ignition
2. **Conditions:**
 - a. Given:
 - (1) Aluminium can,
 - (2) Battery,
 - (3) Chocolate,
 - (4) Cordage,
 - (5) Knife,
 - (6) Magnesium fire starter,
 - (7) Magnifying lens,
 - (8) Shovel,
 - (9) Steel wool,
 - (10) Sunglasses,
 - (11) Toothpaste,
 - (12) Water,
 - (13) Wire,
 - (14) Supervision, and
 - (15) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Field exercise during the day, with a low to moderate rating under the Canadian Wildland Fire Information System (CWFIS).
3. **Standard:** The cadet shall light fires using improvised ignition by:
 - a. selecting an improvised ignition from the following:
 - (1) magnesium fire starter,
 - (2) aluminium can and chocolate,
 - (3) battery, wire and steel wool, and
 - (4) magnifying lens;
 - b. constructing the fire;
 - c. lighting and maintaining the fire;
 - d. extinguishing the fire; and
 - e. repeating steps b–d for each type of ignition.

4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Explain and demonstrate lighting a fire using a bow drill.	Demonstration	15 min	C3-003 (pp. 127–128)
TP2	Explain and demonstrate lighting a fire using a fire piston.	Demonstration	15 min	C3-315
TP3	Explain, demonstrate and have the cadets light a fire using a magnesium fire starter.	Demonstration and Performance	20 min	C3-002 (p. 275) C3-003 (p. 129)
TP4	Explain, demonstrate and have the cadets light a fire using an aluminium can and a bar of chocolate, to include: <ul style="list-style-type: none"> a. polishing the aluminium can base; and b. igniting tinder with the focused rays of the sun. 	Demonstration and Performance	20 min	C3-314
TP5	Explain, demonstrate and have the cadets light a fire using a battery, wire and steel wool.	Demonstration and Performance	20 min	C3-002 (p. 275)
TP6	Explain, demonstrate and have the cadets light a fire using a magnifying lens.	Demonstration and Performance	20 min	C3-002 (p. 275) C3-003 (p. 129)

5. **Time:**

a.	Introduction / Conclusion:	10 min
b.	Demonstration:	30 min
c.	Demonstration and Performance:	80 min
d.	Total:	120 min

6. **Substantiation:**

- a. A demonstration was chosen for TPs 1 and 2 to allow the cadets to observe lighting a fire with a bow drill and a fire piston, and to stimulate interest in lighting fires using improvised ignition.
- b. A demonstration and performance was chosen for TPs 3–6 as it allows the instructor to explain and demonstrate lighting fires with improvised ignition and permits the cadets to practice lighting fires under supervision.

7. **References:**

- a. C3-002 ISBN 0-00-653140-7 Wiseman, J. (1999). *The SAS survival handbook*. Hammersmith, London: HarperCollins Publishers.
- b. C3-003 ISBN 1-896713-00-9 Tawrell, P. (1996). *Camping and wilderness survival: The ultimate outdoors book*. Green Valley, ON: Author.

- c. C3-314 Wildwood Survival. (2009). *Fire from a can of coke and a chocolate bar*. Retrieved February 9, 2009, from <http://www.wildwoodsurvival.com/survival/fire/cokeandchocolatebar/index.html>
- d. C3-315 Primitive Ways. (1996). *The fire piston: Ancient firemaking machine*. Retrieved February 9, 2009, from http://www.primitiveways.com/fire_piston.html

8. **Training Aids:**

- a. Aluminium can,
- b. Battery,
- c. Chocolate,
- d. Cordage,
- e. Bow drill,
- f. Fire piston,
- g. Fire extinguisher,
- h. Gasoline,
- i. Knife,
- j. Magnesium fire starter,
- k. Magnifying lens,
- l. Rags,
- m. Shovel,
- n. Steel wool,
- o. Sunglasses,
- p. Toothpaste
- q. Water, and
- r. Wire.

9. **Learning Aids:**

- a. Aluminium can,
- b. Battery,
- c. Chocolate,
- d. Cordage,
- e. Knife,
- f. Magnesium fire starter,
- g. Magnifying lens,

- h. Steel wool,
- i. Sunglasses, and
- j. Toothpaste.

10. **Test Details:** This EO is assessed IAW Chapter 3, Annex B, 490 PC.

11. **Remarks:**

- a. Petroleum products such as gasoline should be handled with care due to its combustible properties. Avoid skin contact. Refer to Material Safety Data Sheet (MSDS).
- b. Cadets who are qualified Survival Instructor may assist with this instruction.

EO C490.01

1. **Performance:** Describe Climatic and Seasonal Concerns
2. **Conditions:**
 - a. Given:
 - (1) Supervision, and
 - (2) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Training area large enough to accommodate the entire group.
3. **Standard:** The cadet shall describe climatic and seasonal concerns that affect a survival situation.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Describe: <ol style="list-style-type: none"> a. climate associated with the following regions: <ol style="list-style-type: none"> (1) the West Coast, (2) the Prairies, (3) the Great Lakes–St. Lawrence, (4) Atlantic Canada, and (5) the North; and b. climate change, to include: <ol style="list-style-type: none"> (1) environmental impact, and (2) health impact. 	Interactive Lecture	15 min	C3-341 C3-342 C3-343
TP2	Conduct a group discussion on seasonal concerns in a survival situation, to include: <ol style="list-style-type: none"> a. spring, b. summer, c. autumn, and d. winter. 	Group Discussion	10 min	C3-344

5. **Time:**
 - a. Introduction / Conclusion: 5 min
 - b. Interactive Lecture: 15 min
 - c. Group Discussion: 10 min
 - d. Total: 30 min

6. **Substantiation:**

- a. An interactive lecture was chosen for TP 1 to give an overview of climate concerns.
- b. A group discussion was chosen for TP 2 as it allows the cadets to interact with their peers and share knowledge, experiences, opinions, and feelings about seasonal concerns associated with spring, summer, autumn, and winter weather. This helps develop rapport by allowing the instructor to evaluate the cadets' responses in a non-threatening way while helping them refine their ideas. A group discussion also helps the cadets improve their listening skills and develop as members of a team.

7. **References:**

- a. C3-341 Environment Canada.(2009). *Environmental impacts*. Retrieved April 16, 2009, from <http://www.ec.gc.ca/cc/default.asp?lang=En&n=4630D154-1>
- b. C3-342 Environment Canada. (2009). *Health impacts*. Retrieved April 16, 2009, from <http://www.ec.gc.ca/cc/default.asp?lang=En&n=0B072979-1>
- c. C3-343 O Canada. (2009). *Canadian regional climate*. Retrieved April 16, 2009, from <http://www.ocanada.ca/climate/regional.php>
- d. C3-344 Government of Canada. (2008). *Four seasons*. Retrieved April 22, 2009, from <http://www.goingtocanada.gc.ca/CIC/display-afficher.do?id=00000000000039&lang=eng>

8. **Training Aids:** Nil.

9. **Learning Aids:** Nil.

10. **Test Details:** Nil.

11. **Remarks:** Cadets who are qualified Survival Instructor may assist with this instruction.

EO C490.02

1. **Performance:** Improve Tools for Use in a Survival Situation
2. **Conditions:**
 - a. Given:
 - (1) Aviation salvage kit,
 - (2) Bones,
 - (3) Cordage,
 - (4) Knife,
 - (5) Needle,
 - (6) Supervision, and
 - (7) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Training area large enough to accommodate the entire group.
3. **Standard:** The cadet shall improvise tools for use in a survival situation, to include:
 - a. cutting tools, and
 - b. a compass.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Discuss the potential of the materials at hand for use in a survival situation.	Group Discussion	10 min	A3-016 (p. 150)
TP2	Explain, demonstrate and have the cadets construct a cutting or piercing tool, to include: <ol style="list-style-type: none"> a. a bone, metal or plastic knife, or b. a bone needle. 	Demonstration and Performance	15 min	
TP3	Explain, demonstrate and have the cadets construct a compass.	Demonstration and Performance	15 min	
TP4	Explain and demonstrate how to construct a hammer.	Demonstration	10 min	

5. **Time:**

- | | | |
|----|--------------------------------|--------|
| a. | Introduction / Conclusion: | 10 min |
| b. | Group Discussion: | 10 min |
| c. | Demonstration and Performance: | 30 min |
| d. | Demonstration: | 10 min |
| e. | Total: | 60 min |

6. **Substantiation:**

- a. A group discussion was chosen for TP 1 to allow the cadets to interact with their peers and share knowledge and experiences about the potential of the materials at hand during a survival situation.
- b. A demonstration and performance was chosen for TPs 2 and 3 as it allows the instructor to explain and demonstrate the skill of improvising tools while providing an opportunity for the cadets to practice the skill under supervision.
- c. A demonstration was chosen for TP 4 to allow cadets to observe how to construct a hammer.

7. **References:** A3-016 B-GA-217-001/PT-001 Director Air Operations and Training. (1978). *Down but not out*. Ottawa, ON: Department of National Defence.

8. **Training Aids:**

- a. Bones,
- b. Cordage,
- c. Knife, and
- d. Needle.

9. **Learning Aids:**

- a. Bones,
- b. Cordage,
- c. Knife, and
- d. Needle.

10. **Test Details:** Nil.

11. **Remarks:** Cadets who are qualified Survival Instructor may assist with this instruction.

EO C490.03

1. **Performance:** Move a Casualty to Shelter
2. **Conditions:**
 - a. Given:
 - (1) Wooden poles (approximately 3 m long),
 - (2) Shirts / coats,
 - (3) Blanket,
 - (4) Tarp,
 - (5) Cordage,
 - (6) Supervision, and
 - (7) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Training area large enough to accommodate the entire group.
3. **Standard:** The cadet shall:
 - a. assess the situation; and
 - b. move a casualty to shelter using:
 - (1) a rescue carry, and
 - (2) an improvised stretcher.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Conduct an activity where the cadets will practice Emergency Scene Management (ESM), to include: <ol style="list-style-type: none"> a. scene survey, to include: <ol style="list-style-type: none"> (1) taking charge of the situation; (2) calling out for help, to attract bystanders; (3) assessing the hazards and making the area safe; (4) finding out the history of the scene, number of casualties and mechanism(s) of injury; (5) identifying yourself and obtaining consent; 	Practical Activity	15 min	A0-134 (pp. 1-11 to 1-15)

TP	Description	Method	Time	Refs
	<ul style="list-style-type: none"> (6) assessing the responsiveness of casualty; and (7) getting medical help; b. primary survey, to include: <ul style="list-style-type: none"> (1) checking the airway; (2) checking for breathing; and (3) checking circulation; c. secondary survey, to include: <ul style="list-style-type: none"> (1) obtaining a history of the casualty; (2) assessing the vital signs of the casualty; (3) performing a head to toe examination of the casualty; and (4) giving first aid to the casualty; and d. ongoing casualty care, to include: <ul style="list-style-type: none"> (1) giving first aid for shock; (2) monitoring the casualty's condition; (3) recording the events of the situation; and (4) reporting on what happened. 			
TP2	<p>Explain, demonstrate and have the cadets, in pairs / groups of three, move a casualty to shelter, to include:</p> <ul style="list-style-type: none"> a. moving and carrying over short distances using: <ul style="list-style-type: none"> (1) drags, (2) the tarp drag method, (3) single-rescue carries, to include: <ul style="list-style-type: none"> (a) packstrap carry, (b) piggyback carry, and (c) carrying seat; and b. carrying over long distances using the following two-person carries: <ul style="list-style-type: none"> (1) the fore-and-aft lift and carry, and (2) two-hand seat. 	Demonstration and Performance	20 min	C2-030 (pp. 18–30)

TP	Description	Method	Time	Refs
TP3	<p>Explain, demonstrate and have the cadets, as members of a group, fabricate an improvised stretcher, to include:</p> <ul style="list-style-type: none"> a. inventorying the available resources; b. fabricating the improvised stretcher; and c. testing the durability of the stretcher before use. 	Demonstration and Performance	30 min	C2-030 (pp. 30–33)
TP4	<p>Discuss casualty care, to include:</p> <ul style="list-style-type: none"> a. focusing on: <ul style="list-style-type: none"> (1) breathing, (2) warmth, (3) body's position (eg, recovery, comfortable), (4) morale, (5) rest, (6) fluid intake, (7) urination, and b. recording all observations. 	Interactive Lecture	15 min	C2-030 (pp. 52–69)

5. **Time:**

a. Introduction / Conclusion:	10 min
b. Practical Activity:	15 min
c. Demonstration and Performance:	50 min
d. Interactive Lecture:	15 min
e. Total:	90 min

6. **Substantiation:**

- a. A practical activity was chosen for TP 1 as it is an interactive way to allow cadets to experience emergency scene management skills in a safe, controlled environment. This activity contributes to the development of first aid skills and knowledge in a fun and challenging setting.
- b. A demonstration and performance was chosen for TPs 2 and 3 as it allows the instructor to explain and demonstrate moving a casualty to shelter and fabricating an improvised stretcher while providing an opportunity for the cadets to practice and develop these skills under supervision.
- c. An interactive lecture was chosen for TP 4 to introduce the cadets to assessing the situation and caring for a casualty.

7. **References:**

- a. A0-134 A-MD-050-072/PW-001 Canadian Forces (2006). *Military first aid: Safety oriented: basic and standard Levels: Activity book*. Ottawa: Department of National Defence.

- b. C2-030 ISBN 0-7710-8250-9 Merry, W. (1994). *St. John Ambulance: The official wilderness first aid guide*. Toronto, ON: McClelland & Stewart Inc.

8. **Training Aids:**

- a. Presentation aids (eg, whiteboard / flip chart / OHP / multimedia projector) appropriate for the classroom / training area,
- b. Wooden poles (approximately 3 m long),
- c. Shirts / coats,
- d. Blanket,
- e. Tarp, and
- f. Cordage.

9. **Learning Aids:**

- a. Wooden poles (approximately 3 m long),
- b. Shirts / coats,
- c. Blanket,
- d. Tarp, and
- e. Cordage.

10. **Test Details:** Nil.

11. **Remarks:**

- a. Cadets who are qualified Survival Instructor or qualified first-aiders in Proficiency Level Four may assist in the conduct of this EO.
- b. The assessment of the casualty in order to move the casualty will be conducted by the qualified first-aider.
- c. Samples of improvised stretchers should be fabricated before conducting this lesson to use as examples.

EO C490.04

1. **Performance:** Practice Safe Toolcraft
2. **Conditions:**
 - a. Given:
 - (1) Axe,
 - (2) Bow saw,
 - (3) Shovel,
 - (4) Knife,
 - (5) Honing stone,
 - (6) Sharpening stone,
 - (7) Cloth,
 - (8) Supervision, and
 - (9) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Field setting.
3. **Standard:** The cadet shall practice safe toolcraft while in the field, when using:
 - a. an axe,
 - b. a bow saw,
 - c. a shovel, and
 - d. a knife.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Explain, demonstrate and have the cadets: <ol style="list-style-type: none"> a. handle tools; b. pass tools; and c. store tools. 	Demonstration and Performance	25 min	C3-003 (pp. 171–174)
TP2	Explain, demonstrate and have the cadets: <ol style="list-style-type: none"> a. clean and sharpen a knife; and b. file and sharpen an axe. 	Demonstration And Performance	20 min	C3-002 (p. 35) C3-003 (p. 25)

TP	Description	Method	Time	Refs
TP3	Explain, demonstrate and have the cadets cut wood using: a. an axe; and b. a bow saw.	Demonstration and Performance	20 min	C3-002 (p. 306) C3-003 (pp. 171–174)
TP4	Explain, demonstrate and have the cadets use a shovel, to include: a. digging a hole; and b. filling a hole.	Demonstration and Performance	15 min	

5. **Time:**

- | | | |
|----|--------------------------------|--------|
| a. | Introduction / Conclusion: | 10 min |
| b. | Demonstration and Performance: | 80 min |
| c. | Total: | 90 min |

6. **Substantiation:** A demonstration and performance was chosen for this lesson as it allows the instructor to explain and demonstrate the skills. The cadets are expected to sharpen a knife and an axe, and to cut wood while providing an opportunity for the cadets to practice the skills under supervision.

7. **References:**

- a. C3-002 ISBN 0-00-653140-7 Wiseman, J. (1999). *The SAS survival handbook*. Hammersmith, London: HarperCollins Publishers.
- b. C3-003 ISBN 1-896713-00-9 Tawrell, P. (1996). *Camping and wilderness survival: The ultimate outdoors book*. Green Valley, ON: Falcon Distribution.

8. **Training Aids:**

- a. Vice or clamp,
- b. Axe,
- c. Bow saw,
- d. Shovel,
- e. Knife,
- f. Honing stone,
- g. Sharpening stone,
- h. Cloth, and
- i. First aid kit.

9. **Learning Aids:**

- a. Vice or clamp,
- b. Axe,

- c. Bow saw,
- d. Shovel,
- e. Knife,
- f. Honing stone,
- g. Sharpening stone, and
- h. Cloth.

10. **Test Details:** Nil.

11. **Remarks:**

- a. Sharpening should only be done under close supervision of trained staff members, to prevent unnecessary damage to the equipment and injury to cadets.
- b. Cadets who are qualified Survival Instructor may assist with this instruction.

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EO C490.05

1. **Performance:** Navigate a Route Using a Map and Compass
2. **Conditions:**
 - a. Given:
 - (1) Calculator,
 - (2) Compass,
 - (3) Paper,
 - (4) Pen / pencil,
 - (5) Predetermined declination,
 - (6) Topographical maps (including one of the training area),
 - (7) Supervision, and
 - (8) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Field setting or training area large enough to accommodate the entire group.
3. **Standard:** The cadet shall navigate a six-leg predetermined route no longer than two kilometres, using a map and compass.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Review the compass, to include: <ol style="list-style-type: none"> a. the principles behind the workings of a compass, b. the parts of the compass, c. magnetic declination, and d. how to set a predetermined declination. 	Practical Activity	10 min	A2-036 (pp. 5-29 to 5-31) A2-041 (pp. 66–68)
TP2	Review topographical maps, to include: <ol style="list-style-type: none"> a. marginal information, and b. conventional signs. 	Practical Activity	10 min	A2-041 (pp. 7–13, pp. 19–26)
TP3	Conduct an activity to have the cadets review grid references (GRs), to include: <ol style="list-style-type: none"> a. four-figure GRs, b. constructing a romer, and c. six-figure GRs. 	Practical Activity	20 min	A2-041 (pp. 37–41)

TP	Description	Method	Time	Refs
TP4	Conduct an activity to have the cadets review: <ol style="list-style-type: none"> a. determining distance on a map, to include: <ol style="list-style-type: none"> (1) measuring point-to-point; and (2) measuring along a route between two points; and b. determining bearings on a map, to include: <ol style="list-style-type: none"> (1) the 16 points of a compass, (2) the degree system, (3) the three norths, and (4) types of bearings. 	Practical Activity	20 min	A2-041 (pp. 16–18, pp. 47–51, pp. 68–70) C2-041 (p. 50)
TP5	Conduct an activity to have the cadets review: <ol style="list-style-type: none"> a. determining distance on the ground, to include: <ol style="list-style-type: none"> (1) determining personal pace; and (2) identifying factors that affect pace; and b. determining bearings on the ground. 	Practical Activity	20 min	A2-041 (pp. 68–70) C0-111 (p. 530, p. 531) C2-041 (p. 106)
TP6	Have the cadets navigate a route using a map and compass.	Practical Activity	30 min	

5. **Time:**

- | | |
|-------------------------------|---------|
| a. Introduction / Conclusion: | 10 min |
| b. Practical Activity: | 110 min |
| c. Total: | 120 min |

6. **Substantiation:** A practical activity was chosen for this lesson as it is an interactive way for the cadets to review the compass, topographical maps, GRs, distance on the map and on the ground, bearings on the map and on the ground, and to navigate a route using a map and compass in a safe and controlled environment. This activity contributes to the development of navigation skills and knowledge in a fun and challenging setting.

7. **References:**

- a. A2-036 A-CR-CCP-121/PT-001 Director Cadets 3. (2003). *Royal Canadian army cadet reference book*. Ottawa, ON: Department of National Defence.
- b. A2-041 B-GL-382-005/PT-001 Directorate of Army Doctrine 8. (2006). *Maps, field sketching, compasses and the global positioning system*. Ottawa, ON: Department of National Defence.
- c. C0-111 ISBN 978-0-9740820-2-8 Tawrell, P. (2006). *Camping and wilderness survival: The ultimate outdoors book* (2nd ed.). Lebanon, NH: Author.
- d. C2-041 ISBN 978-0-07-136110-3 Seidman, D., & Cleveland, P. (1995). *The essential wilderness navigator*. Camden, ME: Ragged Mountain Press.

8. Training Aids:

- a. Presentation aids (eg, whiteboard / flip chart / OHP / multimedia projector) appropriate for the classroom / training area,
- b. Calculator,
- c. Compass,
- d. Constructed romer,
- e. Paper,
- f. Pen / pencil,
- g. Protractor, and
- h. Topographical maps (including one of the training area).

9. Learning Aids:

- a. Calculator,
- b. Compass,
- c. Paper,
- d. Pen / pencil,
- e. Predetermined declination, and
- f. Topographical maps (including one of the training area).

10. Test Details: Nil.**11. Remarks:**

- a. TPs 1–5 are taught by learning stations. Divide the cadets into four groups and have the groups rotate between four learning stations: one station for TPs 1 and 2 and one station each for TPs 3–5.
- b. To preserve and reuse the maps, they should be covered or coated with mac tac to allow the use of dry-erase markers instead of pencils or pens.
- c. Assistant instructors and cadets who are qualified Survival Instructor may assist with this instruction.

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EO C490.06

1. **Performance:** Erect, Tear Down and Pack Tents
2. **Conditions:**
 - a. Given:
 - (1) 5- or 10-person arctic tent,
 - (2) Civilian-pattern tent,
 - (3) Modular tent, to include:
 - (a) two centre sections,
 - (b) one front,
 - (c) one rear,
 - (d) three "A" frames,
 - (e) six purlins, and
 - (f) six steel pegs;
 - (4) Mallet,
 - (5) Shovel,
 - (6) Supervision, and
 - (7) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Field setting during the day.
3. **Standard:** The cadet, as a member of a group, shall erect, tear down and pack tents.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Discuss site selection, to include: <ol style="list-style-type: none"> a. requiring access by vehicle for set-up and equipment transport; b. inspecting the area for the following: <ol style="list-style-type: none"> (1) proximity to a water source that provides potable water and food from fishing; (2) proximity to a fuel source for fire during cold weather; (3) proximity to building materials; (4) proximity to animal trails or holes; 	Interactive Lecture	10 min	A3-059 (p.1-5, p. 1-8, pp. 2-1 to 2-20)

TP	Description	Method	Time	Refs
	<ul style="list-style-type: none"> (5) an area that can be seen from aircraft above; and (6) an entrance that is sheltered from the wind and preferably in the direction of the sun; and c. placing tents away from the cooking area. 			
TP2	<p>Explain, demonstrate and have the cadets, as members of a group, erect, tear down and pack a two-section modular tent with walls, to include:</p> <ul style="list-style-type: none"> a. identifying components of a modular tent; b. identifying tent sections, to include: <ul style="list-style-type: none"> (1) centre section, (2) front wall, and (3) rear wall; c. discussing tent maintenance; d. erecting by: <ul style="list-style-type: none"> (1) laying out and connecting the frame; (2) locking the frame; (3) connecting tent sections; (4) raising the side and placing canvas; and (5) anchoring; e. tearing down by: <ul style="list-style-type: none"> (1) loosening the cables and ground anchors; (2) removing material from the sod cloth; (3) releasing all straps and lacing up to the eave purlins; (4) lowering the tent one side at a time; (5) unlacing tent walls and sections and removing from frame; and (6) dismantling the frame (reverse procedure); and f. packing by: <ul style="list-style-type: none"> (1) laying out the canvas with the outer surface facing the ground, for ease of cleaning; 	Demonstration and Performance	70 min	A3-059 (p. 1-5, p. 1-8, p. 2-1 to 2-20)

TP	Description	Method	Time	Refs
	<ul style="list-style-type: none"> (2) folding front and rear walls by: <ul style="list-style-type: none"> (a) bringing the peak and sides of the wall toward the centre to square off the wall; (b) bringing the ends of the walls to the centre of the wall; (c) folding the wall in half; and (d) folding the opposite way to complete the process; and (3) folding the centre section by: <ul style="list-style-type: none"> (a) taking the ends of the section and placing them in the centre of the section; (b) taking one end and folding it across to the other end; (c) taking the section and folding it into thirds; (d) folding the section in half; and (e) folding the section in half in the opposite direction. 			
TP3	<p>Explain, demonstrate and have the cadets, as members of a group, erect, tear down and pack one of the following types of tents:</p> <ul style="list-style-type: none"> a. a 5- or 10-person arctic tent, to include: <ul style="list-style-type: none"> (1) identifying components of a 5- or 10-person arctic tent, and (2) inspecting an arctic tent; or b. a civilian-pattern dome tent, to include: <ul style="list-style-type: none"> (1) selecting a civilian-pattern dome tent, based on: <ul style="list-style-type: none"> (a) seasons and conditions, (b) weight, and (c) features; and (2) maintaining the tent, to include: <ul style="list-style-type: none"> (a) protecting the tent; (b) lighting the tent; (c) not eating in the tent; and (d) cleaning the tent. 	Demonstration and Performance	30 min	A3-060 (pp. 3-11 to 3-25)

5. **Time:**

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|----|--------------------------------|---------|
| a. | Introduction / Conclusion: | 10 min |
| b. | Interactive Lecture: | 10 min |
| c. | Demonstration and Performance: | 100 min |
| d. | Total: | 120 min |

6. **Substantiation:**

- a. An interactive lecture was chosen for TP 1 to give direction on factors to consider when selecting a site.
- b. A demonstration and performance was chosen for TPs 2 and 3 as it allows the instructor to explain and demonstrate erecting, tearing down and packing tents while providing an opportunity for the cadets to practice the skills under supervision.

7. **References:**

- a. A3-059 C-87-110-000/MS-000 Canadian Forces. (1983). *Operational support and maintenance manual: Tent, main*. Ottawa, ON: Department of National Defence.
- b. A3-060 B-GG-302-002/FP-001 Canadian Forces. (1974). *Arctic and sub-arctic operations: Part 1*. Ottawa, ON: Department of National Defence.

8. **Training Aids:**

- a. Modular tent,
- b. 5- or 10-person arctic tent,
- c. Civilian-pattern dome tent,
- d. Mallet, and
- e. Shovel.

9. **Learning Aids:**

- a. Modular tent,
- b. 5- or 10-person arctic tent or civilian-pattern dome tent,
- c. Mallet, and
- d. Shovel.

10. **Test Details:** Nil.

11. **Remarks:**

- a. If the squadron does not have access to modular tents, have the cadets erect, tear down and pack the arctic tent and the civilian-pattern tent.
- b. Cadets who are qualified Survival Instructor may assist with this instruction.

EO C490.07

1. **Performance:** Construct a Hootchie or Lean-to-Style Shelter
2. **Conditions:**
 - a. Given:
 - (1) Groundsheet,
 - (2) Cordage,
 - (3) Knife,
 - (4) Supervision, and
 - (5) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Overnight aircrew survival exercise.
3. **Standard:** The cadet shall:
 - a. select an improvised shelter site; and
 - b. construct a hootchie or lean-to-style shelter.
4. **Teaching Points:**
 - a. Brief the cadets prior to the activity, to include an explanation of:
 - (1) the objectives and importance of the activity;
 - (2) the resources that may be required to perform the activity; and
 - (3) any safety guidelines that must be followed while participating in the activity.
 - b. Have the cadets select an improvised shelter site.
 - c. Have the cadets construct a hootchie or lean-to-style shelter.
5. **Time:**

a. Introduction / Conclusion:	10 min
b. Practical Activity:	80 min
c. Total:	90 min
6. **Substantiation:** A practical activity was chosen for this lesson as it allows the cadets to practice aircrew survival skills in a safe and controlled environment. This activity contributes to the development of aircrew survival skills and knowledge in a fun and challenging way.
7. **References:** Nil.
8. **Training Aids:** Nil.

9. **Learning Aids:**

- a. Groundsheet,
- b. Cordage, and
- c. Knife.

10. **Test Details:** Nil.

11. **Remarks:**

- a. Cadets are encouraged to sleep overnight during the aircrew survival exercise in the improvised shelter. The squadron staff will decide whether or not the cadets will sleep overnight in the improvised shelter using the principles of due diligence and safety considerations.
- b. Cadets who are qualified Survival Instructor may assist with this instruction.
- c. There is no instructional guide for this EO.