ROYAL CANADIAN AIR CADETS

PROFICIENCY LEVEL THREE

INSTRUCTIONAL GUIDE

SECTION 9

EO C390.04 – ORIENT A MAP USING A COMPASS

Total Time: 30 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-803/PG-001, 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.

Ensure sufficient topographical maps of the exercise area are available.

Photocopy Annex K. Cut the first page along the dotted lines and post the three locations around the training area (eg, on walls, trees, etc). Ensure that the locations match the demonstration map. Ensure that the north of the demonstration map corresponds to the north of the training area, which will allow the map to be oriented with a compass.

Calculate the magnetic declination for the topographical map of the exercise area.

PRE-LESSON ASSIGNMENT

N/A.

APPROACH

An interactive lecture was chosen for TP 1 to give the cadets an overview of the purpose of orienting a map.

Demonstration and performance was chosen for TP 2 as it allows the instructor to explain and demonstrate orienting a map using a compass while providing an opportunity for the cadets to practice the skill under supervision.

INTRODUCTION

REVIEW

N/A.

OBJECTIVES

By the end of this lesson the cadet shall have oriented a map using a compass.

Unofficial convenience copy of A-CR-CCP-803/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PF-001/A-CR-CCP-803-PF-001.pdf.
Verify against the official publication.

IMPORTANCE

It is important for cadets to orient a map using a compass in order to match the symbols on the map with the terrain it represents. It also allows the cadet to confirm or discover their approximate location on the map.

Teaching point 1 **Explain the Purpose of Orienting a Map**

Time: 5 min Method: Interactive Lecture

PURPOSE OF ORIENTING A MAP

Orienting a map using a compass means to rotate the map so that the north of the map matches the north of the ground. This is confirmed, visually, with the map directions and map detail corresponding with those on the ground. This is a simple and quick way of orienting a map if the person's approximate location is known. If the approximate location is unknown, orienting a map using a compass can still be done, but this does not determine the map reader's location. Similar features may confuse map readers and thereby they orient themselves incorrectly. If more unique features are visible and are shown on the map it will be easier to find one's approximate location.

Orienting the map does a number of things:

- it makes it easy to relate the map to the ground;
- it helps to confirm, or possibly find, a person's approximate location; and
- when moving over a complex route, or when travelling over long distances, it helps keep a hiker on the right track.

CONFIRMATION OF TEACHING POINT 1

QUESTIONS

Q1. What is physically done to the map when it is being oriented?

Q2. Can a map be oriented using a compass if the person's location is unknown?

Q3. Orienting the map does a number of things. Describe one.

ANTICIPATED ANSWERS

A1. The map is rotated so that the map directions and map detail correspond with those on the ground.

A2. Yes. Also, the oriented map may assist map readers in discovering their location.

A3. Three possible answers include:

- it makes it easy to relate the map to the ground;
- it helps to confirm, or possibly find, a person's approximate location; and
- when moving over a complex route, or when travelling over long distances, it helps keep a hiker on the right track.

Unofficial convenience copy of A-CR-CCP-803/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PF-001/A-CR-CCP-803-PF-001.pdf.
Verify against the official publication.

Teaching point 2 **Explain, Demonstrate and Have the Cadets Practice Orienting a Map Using a Compass**

Time: 20 min Method: Demonstration and Performance



After explaining each step, demonstrate using the training aids.

After the demonstration, the cadets will orient the topographical map of the training area.

To orient a map using a compass, complete the following steps:

1. Identify the cadet's approximate location on the map (the 'You').
2. Set the magnetic declination.
3. Set the compass dial to north.
4. Lay the compass flat on the map with the cover open.
5. Point the mirror to north (top of the map).
6. Align the compass meridian lines with the map easting lines (use the arrow beside the 'You' on the demonstration map).
7. Turn the map until the magnetic needle lines up with the orienting arrow.
8. Ensure that all features (the house, church and bridge) line up with their positions on the map.



Show page 18K-2.

ACTIVITY

Time: 10 min

OBJECTIVE

The objective of this activity is to have the cadets orient a map using a compass.

RESOURCES

- Topographical map of the exercise area,
- Compass,
- Predetermined magnetic declination, and
- The cadet's location on the map.

ACTIVITY LAYOUT

N/A.

Unofficial convenience copy of A-CR-CCP-803/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PF-001/A-CR-CCP-803-PF-001.pdf.
Verify against the official publication.

ACTIVITY INSTRUCTIONS

1. Have cadets confirm their location on the map.
2. Have cadets set the magnetic declination.
3. Have cadets set the compass dial to north.
4. Have cadets lay the compass flat on the map with the cover open.
5. Have cadets point the mirror to north (top of the map).
6. Have cadets align the compass meridian lines with the map easting lines.
7. Have cadets rotate the map until the magnetic needle lines up with the orienting arrow.
8. Have cadets ensure that all features line up with their positions on the map.

SAFETY

N/A.

CONFIRMATION OF TEACHING POINT 2

The cadets' participation in the activity will serve as the confirmation of this TP.

END OF LESSON CONFIRMATION

The cadets' participation in orienting a map using a compass will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK/READING/PRACTICE

N/A.

METHOD OF EVALUATION

N/A.

CLOSING STATEMENT

It is important for cadets to orient a map using a compass in order to match the symbols on the map with the terrain it represents. It also allows the cadet to confirm or discover their approximate location on the map.

INSTRUCTOR NOTES/REMARKS

N/A.

REFERENCES

A2-041 B-GL-382-005/PT-001 Canadian Forces. (2006). *Maps, Field Sketching, Compasses and the Global Positioning System*. Ottawa, ON: Department of National Defence.

Unofficial convenience copy of A-CR-CCP-803/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PF-001/A-CR-CCP-803-PF-001.pdf.
Verify against the official publication.