ROYAL CANADIAN ARMY CADETS

RED STAR

INSTRUCTIONAL GUIDE

SECTION 5

EO M222.05 – 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-702/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.

Calculate the declination for the map being used prior to delivering this lesson.

PRE-LESSON ASSIGNMENT

N/A.

APPROACH

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

INTRODUCTION

REVIEW

The review for this lesson is from EO M222.04 (Determine Distance Along a Route).

QUESTIONS

Q1. What are the two methods of measuring distance on a map?

Q2. How many steps equal one pace?

Q3. What is the most common factor affecting pacing?

ANTICIPATED ANSWERS

A1. Point to point and along a route.

A2. Two steps equal one pace.

A3. Topography.

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OBJECTIVES

By the end of this lesson the cadet shall be expected to orient a map using a compass.

IMPORTANCE

It is important for cadets to know how to orient a map using a compass so they can accurately align features found on the map with true north when navigating a long distance.

Teaching point 1 — **Explain, Demonstrate and Have Cadets Practice Orienting a Map Using a Compass**

Time: 25 min — Method: Demonstration and Performance



Arrange the cadets so they can see the demonstration and hear the explanation of orienting a map using a compass as listed below.

As previously taught during Green Star navigation, orienting a map by inspection means turning the map so that, visually, the map directions and map detail correspond with details on the ground. When you are unable to identify details on the map with those on the ground (e.g. you are in a hilly area), or you need to orient the map more accurately when navigating a long distance, a compass must be used.



D Cdts 3, 2007, Ottawa, ON: Department of National Defence

Figure 1 Set Declination



D Cdts 3, 2007, Ottawa, ON: Department of National Defence

Figure 2 Set Compass to 00



D Cdts 3, 2007, Ottawa, ON: Department of National Defence

Figure 3 Red in the Bed

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For this skill lesson, it is recommended that instruction take the following format:

(1) Explain and demonstrate the complete skill while cadets observe.

(2) Explain and demonstrate each step required to complete the skill. Monitor cadets as they imitate each step.

(3) Monitor the cadets' performance as they practice the complete skill.

Note: Assistant instructors may be employed to monitor cadet performance.

To orient a map using a compass:

1. set the current declination on the compass;
2. set the compass dial to read 00 (zero) mils or 0 degrees (north);
3. lay the compass flat on the map with the cover open;
4. point the mirror to North (top of the map);
5. align one side of the base plate with an easting line; and
6. turn the map and compass together until the red end of the magnetic needle is over the orienting arrow.



The mnemonic used to remember putting the magnetic needle over the orienting arrow is "Red in the Bed".

CONFIRMATION OF TEACHING POINT 1

QUESTIONS

Q1. When would you orient a map by compass instead of by inspection?

Q2. What number is the compass dial set to read?

Q3. What is the mnemonic for putting the magnetic needle over the orienting arrow?

ANTICIPATED ANSWERS

A1. When unable to identify details on the map or a more precise oriented map is required.

A2. The compass dial is set to 00 mils or 0 degrees.

A3. Put red in the bed.

END OF LESSON CONFIRMATION

QUESTIONS

Q1. What is the first step to orienting a map using a compass?

Q2. What direction is the compass mirror to be pointed on the map?

Q3. How is the map aligned with the compass?

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ANTICIPATED ANSWERS

A1. Set the declination on the compass.

A2. It is to be pointed to the top of the map or north.

A3. Line up one side of the compass base plate with an easting line.

CONCLUSION

HOMEWORK/READING/PRACTICE

N/A.

METHOD OF EVALUATION

N/A.

CLOSING STATEMENT

Knowing how to orient a map using a compass is important as it enables you to accurately align the map with true north. It also aids cadets in having a general idea of their location during expedition training.

INSTRUCTOR NOTES/REMARKS

This lesson will be conducted with PO M223 (Participate in a Two Day Hike with Some Class 2 Terrain and Obstacles).

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.

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