

2824 ROYAL CANADIAN ARMY CADETS  
(CADET ORGANIZATION POLICE SCHOOL)



**Locally Developed Training Program  
Red Star**

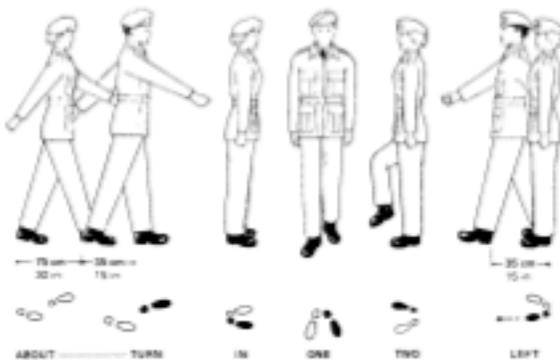
This manual is to be reviewed after reviewing the Green star program. Each star level uses the knowledge from the previous to challenge you as you go through the cadet program. Ensure you speak with your company staff if you have any questions about these lessons. This is not the entire green or red star program, but moreover some of the most important basics you will require to move forward. Your attendance on Monday nights, as well as weekend exercises will ensure you can learn and participate in as many activities as you can.

## Drill

### ABOUT TURN ON THE MARCH

On the and command, "ABOUT – TURN", given as the right foot is forward the ground, squad members will:

- a. take a 35 cm (15 in.) pace with the left foot;
- b. bring the right foot in to the left, in a straight-leg manner above the ground, to the position of attention;
- c. simultaneously, cut the right arm down and the left in from the rear as the left foot comes in;
- d. maintain the cadence;
- e. maintain the arms at the sides;
- f. pivot on the sole of the right foot to force the body through a turn of 90 degrees to the right;
- g. simultaneously, bend the left knee so that the thigh is parallel to the ground;
- h. then lower the leg smartly to the ground to assume the position of attention;
- i. maintain the arms at the sides; pivot on the sole of the left foot to force the body through a turn of 90 degrees to the right;
- j. simultaneously, bend the right knee so the thigh is parallel to the ground;
- k. then lower the leg smartly to the ground to assume the position of attention;
- l. and step off in quick time with a 35 cm (15 in.) pace with the left foot in the new direction.



### EXECUTE SQUAD IN THREES FORMING SINGLE FILE FROM THE HALT

On the command, "SINGLE FILE FROM THE LEFT (RIGHT), QUICK – MARCH":

- a. the directing flank marches off in single file in quick time; and
- b. the remainder marks time. The leading cadet of the centre and remaining single file executes a left (right) incline and leads off in single file when the single file on his/her left (right) is clear.



### **EXECUTE SQUAD IN SINGLE FILE REFORMING THREES ON THE MARCH**

On the command, "ON THE RIGHT (LEFT) RE-FORM THREES FRONT RANK MARK – TIME", given as the right foot is forward and on the ground:

- a. the rank leading marks time; and
- b. remainder reforms threes and marks time.

On the command, "FOR-WARD" or "SQUAD – HALT", the squad acts as previously taught.

### **EXECUTE SQUAD IN LINE FORMING SINGLE FILE FROM THE HALT**

On the command, "SINGLE FILE FROM THE RIGHT (LEFT), QUICK – MARCH":

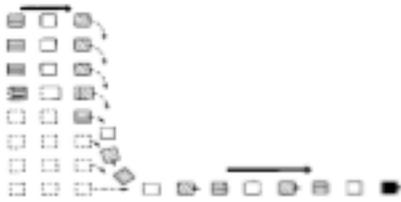
- a. the directing flank marches forward in single file in quick time; and
- b. the remainder marks time, leads off, and wheels in single file following the file on its right (left).

On the command, "FOR-WARD or SQUAD – HALT", the squad acts as previously taught.

On the command, "ON THE LEFT (RIGHT), RE-FORM LINE, REMAINDER MARK" – TIME", given as the right foot is forward and on the ground:

- a. the leading file marks time; and
- b. the remainder reforms line, and marks time.

On the command, "FOR-WARD or SQUAD – HALT", the squad acts as previously taught.



### **EXECUTE SQUAD IN SINGLE FILE RE- FORMING LINE ON THE MARCH**

On the command, "ON THE RIGHT (LEFT) RE-FORM LINE REMAINDER MARK – TIME", given as the right foot is forward and on the ground:

- a. the leading file marks time; and c. the remainder reforms a line and marks time.

On the command, "FOR-WARD" or "SQUAD – HALT", the squad acts as previously taught.

### **EXECUTE CHANGE STEP ON THE MARCH**

In quick time, on the command, "CHANGE STEP BY NUMBERS SQUAD – ONE", given as the right foot is forward and on the ground, cadets will:

- a. complete a 35 cm (15 in.) pace with the left foot;
- b. swing the right arm forward;
- c. swing the left arm to the rear;
- d. force the weight forward on the left foot; and
- e. raise the right heel off the ground.

On the command, "SQUAD – TWO", cadets will:

- a. cut the arms to the side as in the position of attention;
- b. bring the right foot forward in double time by bending the right knee;
- c. straighten the right leg in double time and place the right foot smartly beside the left; and
- d. as the right foot strikes the ground, shoot the left foot forward in a 35 cm (15 in.) pace, landing on the heel

with the toe up.

On the command, "SQUAD – THREE", cadets will:

- a. swing the right arm forward;
- b. swing the left arm to the rear; and
- c. continue marching in quick time.

On the command, "CHANGE STEP", the three movements are combined. The timing is counted in double time, as Left, Right, Left.

### **CHANGING STEP WHEN MARKING TIME**

In quick time on the command, "CHANGE – STEP", given as the right foot is on the ground, cadets will:

- a. make two successive mark time paces with the left foot; and
- b. continue marking time. The timing is counted in the same cadence as marking time as "LEFT, LEFT – RIGHT".

## **Map and Compass**

Map using is one of the most practical outdoor skills, and also one of the most challenging. It is not just a skill of reading information from a map, it's a combination of decision making skills, intuitive thought, and mathematical ability.

Examples of types of maps are:

- a. political maps show countries, provinces or other political borders – e.g. globes and atlases;
- b. street and road maps are designed to assist commuters and tourists;
- c. statistical map shows statistical information like the production levels of crops or minerals across a country;
- d. digital maps often used with Global Positioning Systems (GPS);
- e. relief maps are built to show a three dimensional view of the mapped area;
- f. outline maps show only borders, rivers, coastlines, etc.;
- g. topographical maps show water, vegetation, structural and contour details, for wilderness travel, land use planning, military uses, etc.;
- h. orienteering maps are used for the sport of orienteering, and they show great amounts of detail of a small area;
- i. air photo maps are the actual pictures used to create all these maps

### **MAP SCALE**

Modern maps share one thing in common, they are all drawn to scale – meaning they are an exact representations of the area which they illustrate. The scale of a map is an expression of the ratio between one unit on the map and the distance it covers, in the same units, on the real ground. For example, a 1:50 000 scale map illustrates an area where one cm on the map represents 50 000 cm (500m) on the ground. The 1:50 000 map covers an area of about 1000 square kilometres. This makes it an excellent size for expeditions. A 1:250 000 scale map covers the same area of land as sixteen 1:50 000 maps.

Ways to protect your map:

- a. place your map in a clear plastic bag, or permanently laminate it;
- b. fold it properly and refold it only along the original fold lines to view other parts;
- c. if it gets wet, dry it on a flat, clean surface;
- d. do not open it fully in a strong wind;
- e. use only pencil to mark your map and erase all markings gently – maps protected by plastic can be marked using grease pencils or erasable markers; and
- f. store maps in a dry place, rolled, folded or laid flat.

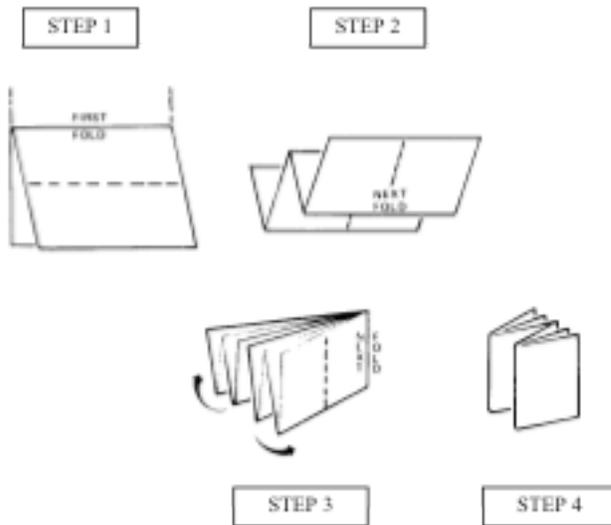
## FOLDING A MAP

**Step 1** – lay map face up, fold map in half by bringing the top of the map sheet down to the bottom of the map sheet; **Step 2** – Fold the top half of the map sheet up into half again, then turn map over and fold bottom half to match the top half;

**Step 3** – Fold the ends of the map into half from left to right; and **Step 4** – Fold each of the open ends back into half again so that the map name and index to adjacent map sheet appears on the outside.

**Note** – The map should now open like an accordion in the shape of an M.

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## Conventional Signs

### WATER



River, with direction of flow (blue)



Falls; rapids



Dry river bed;  
intermittent stream

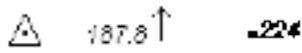


Locks; dams (large; small)



Marsh; swamp

# TERRAIN



Horizontal control point; Benchmark with elevation; Precise elevation



Contours; index (dark) and intermediate



Depression contours



Cliff, cave



Quarry; Pingo



Sand; Esker



Orchard; vineyard

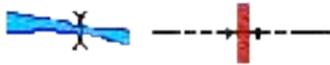
TRANSPORTATION, HUMAN ACTIVITY, MISCELLANEOUS



Bridge; tunnel



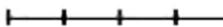
Causeway



Footbridges



Gate on road



Railway, single track



Railway, multiple track,  
with station



Vehicle track or winter  
road



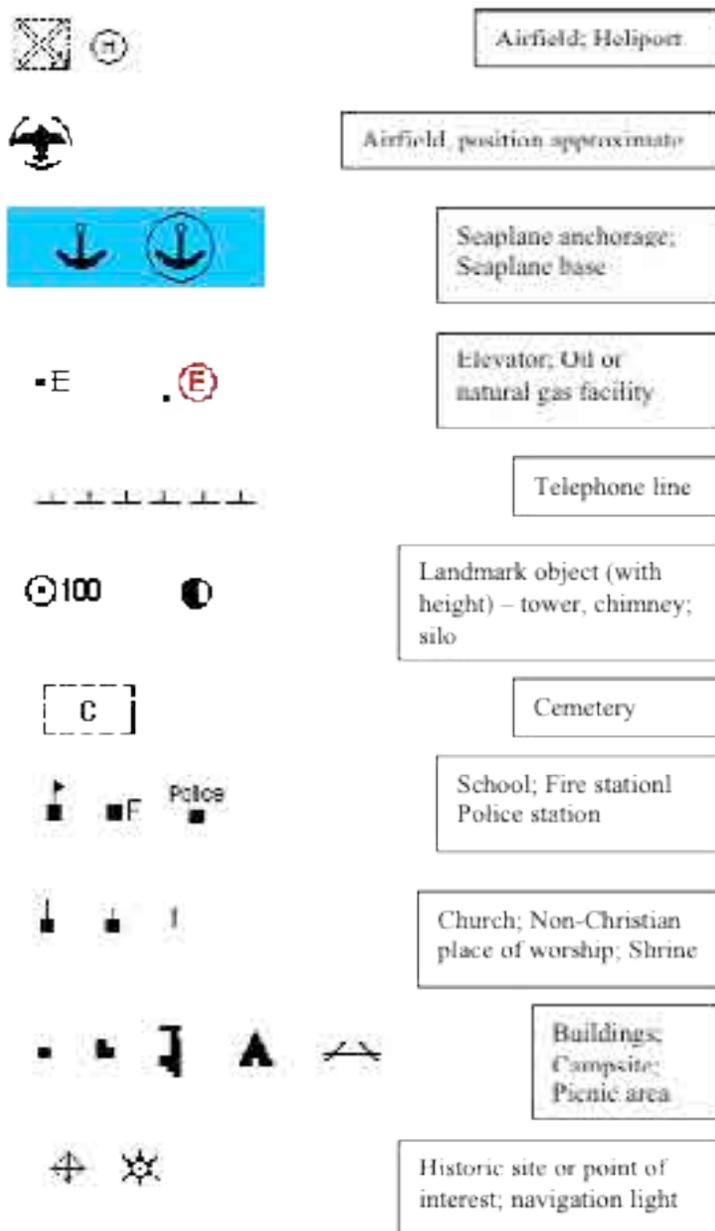
Road - loose surface  
(orange) 2 lane; 1 lane



Road - hard surface  
(red) 2+ lanes; 2 lane



Trail or portage



### MILITARY GRID REFERENCE SYSTEM

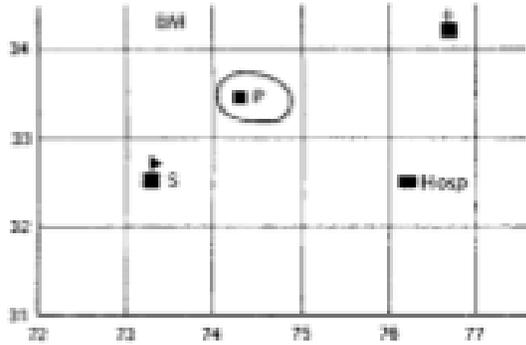
The military traditionally identifies grid lines by stating the two-digit short form of the grid line numbers. Because these two-digit numbers repeat over a large area (every 100km), the military has established a letter code for each 100km x 100km square. The military grid codes is found in the right margin underneath the UTM Zone number. In the example above, the military “100 000m Square Identification” is “EK.” This code also appears on your map face.

### FOUR-FIGURE GRID REFERENCES

The grid system on a map allows us to identify locations and communicate them to other people with an internationally accepted system. When you identify a location using the grid system it is called using a “grid reference.”

Military grid references use the two-digit grid line numbers to identify specific grid squares. For centuries,

mathematicians have always stated the X coordinate (vertical) before the Y coordinate (horizontal), so map users have adopted that procedure. **Eastings are stated before Northings.** Every 1000m grid square is identified by listing the numbers of the grid lines that intersect at its bottom left corner.



For example: The post office circled is located in the grid square identified as 7433. The hospital is at grid reference 7632. Remember: a four-figure grid reference refers to the entire grid square. The easiest way to remember to list the eastings then northings is to say, “In the door, then up the stairs.”

### SIX-FIGURE GRID REFERENCES

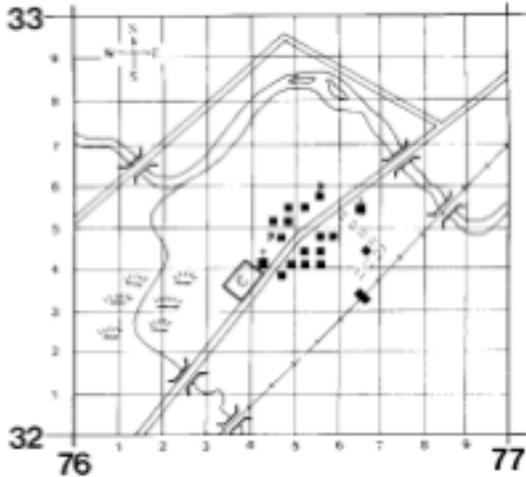
In wilderness navigation we often need to be more accurate with a grid reference for a location than a 1000m x 1000m square. In the illustration below you’ll notice that the grid square has more than one bridge, so communicating which bridge you are going to meet at would be impossible using a four-figure grid reference.

By creating an imaginary grid inside a grid square, we can use the same principles of the grid reference to make a more accurate statement of location. Each small easting and northing is numbered 1 to 9, from west to east and from south to north respectively. Then each smaller (100m x 100m) square can be identified listing all eastings, then northings. For example: Grid reference 761326 is given, the easting is 761 or 76 and 1/10, and the northing is 326 or 32 and 6/10. Locate your grid square at 7632 and then go in 1 and up 6. .

- a. There is a church at grid reference 764324; and
- b. There is a T-junction in the road at 768327

Remember that a six-figure grid reference describes a square 100m x 100m.

This imaginary grid inside a square can be estimated, or you can measure accurately using a tool called a “romer.”



### ORIENT A MAP BY INSPECTION

#### ORIENTING A MAP BY INSPECTION

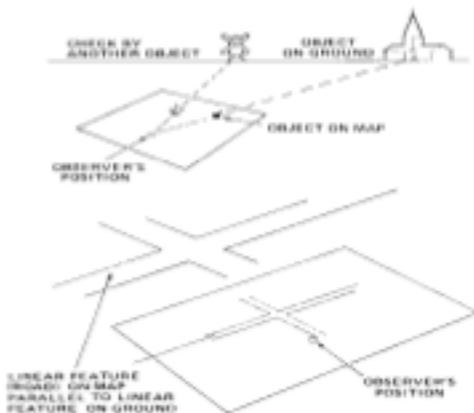
Orienting your map is one of the most important skills in map using. With an oriented map you can navigate across all but the most difficult terrain. Follow these steps to orient your map:

**Step 1** – Identify your approximate location on the map. **Step 2** – Identify 2 or 3 prominent landmarks on the ground and find

them on the map. Try to use landmarks in different directions.

**Step 3** – Rotate your map until all identified objects on the map line up with the direction in which objects are located on the ground. If you are near a straight stretch of road, orient your map by using the road. Line up the road on the map parallel with the road on the ground.

**Step 4** – Check all around you to verify that the features to your front are in front of your position on the map, and so on. The top of your map now points north.

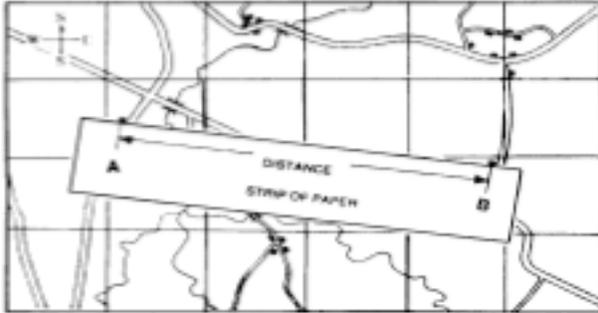


### MEASURING DISTANCE BETWEEN TWO POINTS ON A TOPOGRAPHICAL MAP

There are two ways to describe the distance between feature; point to point, or along a route. Point to point measures the straight line between points. Measuring along a route might be an obvious path, road, or along your planned route.

To measure a straight line between two points:

- a. take a piece of paper and place the upper edge on the map so that it touches the two points;
- b. mark the points on your paper;
- c. clearly indicate you start and finish points;
- d. now place the paper on your scale bars; and e. calculate the distance – in the example below it is 4800m.



To measure along a route (road, trail, stream, etc) between two points:

- a. lay a piece of paper along the first section and mark the paper;
- b. now pivot the paper until it lays along the second section, mark your piece of paper at the end of the section;
- c. repeat this process until you have reached point B; and
- d. compare the distance marked on the paper to the bar scale and calculate the distance.

