

Ground & Urban Direction Finding Team Tasks



24 May 2004

Developed as part of the
National Emergency Services Curriculum Project

O-0201
USE A COMPASS

CONDITIONS

Given a compass, the magnetic azimuth and distance to a destination point. Your team has been given a point to travel dismounted. You have been designated the compass person. Or, you spot an object in the distance and want to know the azimuth to that point.

OJECTIVES

1. Successfully give the magnetic azimuth to a distant object +/- 5 degrees within 2 minutes.
2. Successfully move at least 600 meter's distance along the azimuths given with enough accuracy to find coffee-can sized targets suspended at eye level within 45 minutes.

TRAINING AND EVALUATION

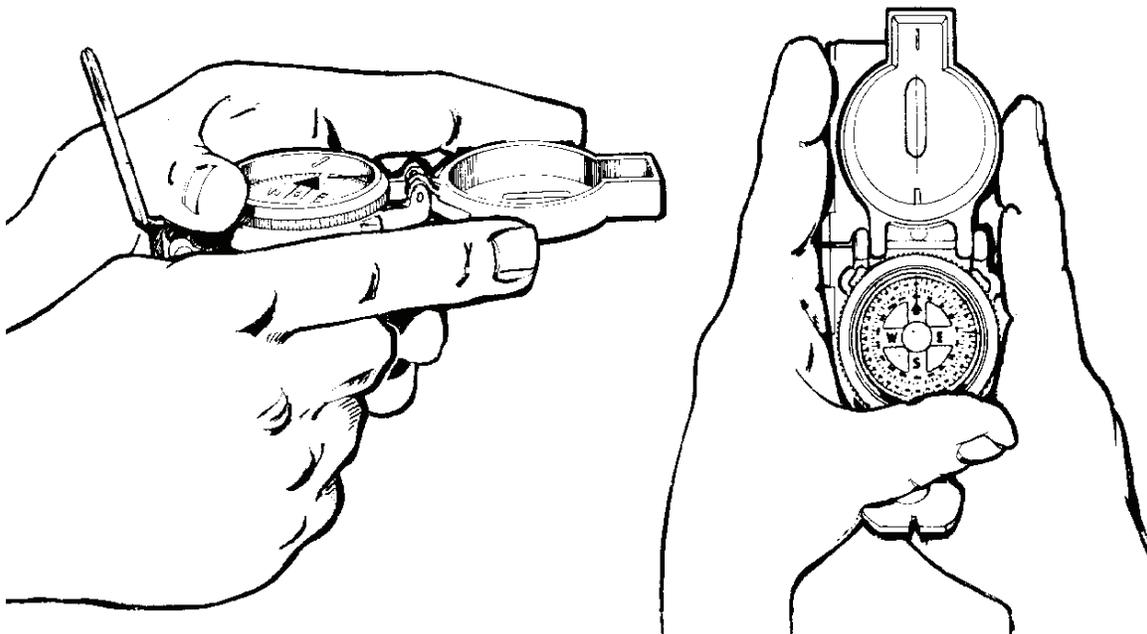
Training Outline

1. There are two techniques to holding and determining an azimuth with a compass: the Centerhold Technique and the Compass-to-Cheek Technique.

a. The Centerhold Technique can be used with lensatic or orienteering compasses.

1) If you have a lensatic compass, open it up to its fullest so the cover forms a straightedge with the base. Then move the lens (rear sight) to the rearmost position to allow the compass dial to float freely.

2) Hold the compass at waist level, with your elbows firmly against your sides, with your hands in the position shown below:



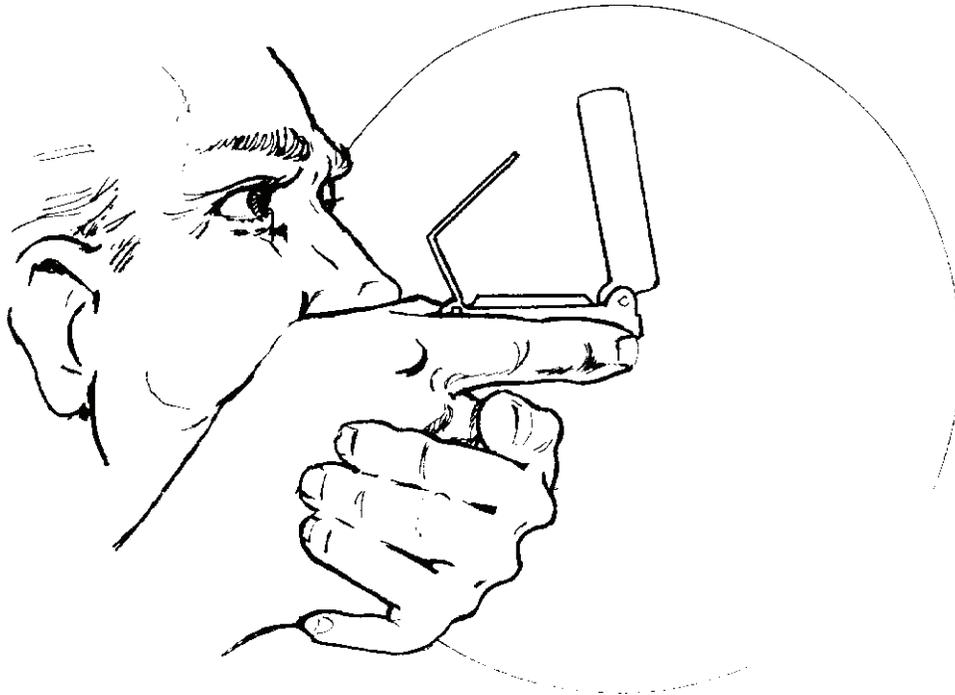
The centerhold technique used with a lensatic compass. You can hold an orienteering (Silva compass) the same way.

3) To use a lensatic compass while holding it this way, simply look down and read the number under the black reference line. This is the azimuth of the direction you index fingers are pointing.

4) To use an orienteering compass while holding it this way, rotate the compass dial until the “N” is under the needle while pointing at the target with your index fingers. Then read the dial number aligned with the “read bearing here” line. This is the azimuth of the direction you index fingers are pointing.

b. The Compass-to-Cheek Technique is typically used with a lensatic compass, though some newer orienteering compasses have sighting lenses and reference lines as well.

1) Hold the compass as shown below.



2) To use the compass when holding it this way, look through the rear sight notch and align the front sighting wire with your target. Look down through the lens one rear sight and read the number under the black reference line. This is the azimuth of the direction you are sighting.

3) This technique can be more accurate, but takes longer. If you are wearing metal glasses, they may affect the compass when held this close to your face.

2. Following an azimuth with a compass (Daylight).

a. With a lensatic compass:

1) Use the centerhold technique.

2) Rotate your body until the desired azimuth fall under the fixed black index line.

3) Turn the bezel ring until the luminous line is aligned with the north-seeking arrow. Once you obtain alignment, the compass is preset.

4) To follow an azimuth, keep the north seeking arrow aligned with the luminous line. Look along the way your fingers are pointing, and pick out a distinctive terrain feature along the azimuth and walk toward it. Occasionally recheck the compass to ensure the north seeking arrow is still aligned with the luminous line.

b. With an orienteering compass.

1) Turn the compass dial until the desired azimuth is aligned with the “Read Bearing Here” line.

2) Use the centerhold technique.

3) Rotate your body until north seeking arrow is aligned with the “N” on the compass dial.

4) To follow an azimuth, keep the north seeking arrow aligned with the “N” on the compass dial. Look along the way your fingers are pointing, and pick out a distinctive terrain feature along the azimuth and walk toward it. Occasionally recheck the compass to ensure the north seeking arrow is still aligned with the “N” on the compass dial.

3. Following an azimuth with a lensatic or orienteering compass at night is the same as daytime, except you cannot normally use terrain features for reference as you walk. Simply:

1) Use a flashlight to set the appropriate azimuth as listed under daylight compass work (above). Use a red or blue lens to avoid night blindness.

2) To follow an azimuth:

a) Orienteering Compass: To follow an azimuth, keep the north seeking arrow aligned with the “N” on the compass dial. This only works if the arrow and the “N” are luminous.

c) Lensatic Compass: To follow an azimuth, keep the north seeking arrow aligned with the luminous line.

3) Occasionally “recharge” the luminous marks by cupping your hand around a white light flashlight and the compass dial, ensuring the compass gets the light without blinding any team members.

4. At all times avoid metal objects and electrical sources. These can affect compass accuracy. The following safe operating distances are suggested:

a. High Tension Power Lines -- 55 meters.

b. Vehicles -- 10 meters

c. Telephone poles or metal fences -- 10 meters.

Additional Information

More detailed information on this topic is available in Chapter 5 of the Ground Team Member & Leader Reference Text.

Evaluation Preparation

Setup:

1. Before the student arrives. Choose a wooded area where a course can be established that is at least 600 meters long. Choose a start and a finish point and turning points along the course as necessary, and determine the magnetic azimuth and distance between them. Hang a brightly covered coffee-can or similar object at eye level at the destination point and other turn points on the course. Mark the can with a large letter or number. Hang at least three other cans with different numbers at least 100 meters away from the actual destination point. Choosing a distant terrain feature that is visible from the start point as the destination target is suggested, but if necessary the evaluator may select a different terrain feature for personnel to demonstrate how to properly determine an azimuth.

2. Be sure that the individual has a compass, piece of paper, and pencil.

Brief Student: Give the individual a compass and point out a distant object. Ask him to determine the magnetic azimuth to that point. Then give him the azimuth and distance to the target can. Tell him to move to that point, and then return and tell you the number or letter written on the target.

Evaluation

<u>Performance measures</u>	<u>Results</u>	
Determines an azimuth.		
1. Correctly uses the centerhold or compass-to-cheek technique.	P	F
2. Determines the azimuth to the distant point +/- 5 degrees	P	F
3. Completes the above steps within 2 minutes.	P	F
Follows an azimuth.		
1. Successfully moves to the target and determines it's marking.	P	F
2. Completes the task in less than 45 minutes	P	F

Student must receive a pass on all performance measures to qualify in this task. If the individual fails any measure, show what was done wrong and how to do it correctly.