CONVERT AZIMUTHS
071-329-1009

CONDITIONS

Given a standard 1:50,000 scale military map with a declination diagram, a pencil, and a magnetic azimuth and a grid azimuth that must be converted.

STANDARDS

Convert the given magnetic azimuth to a grid azimuth and the given grid azimuth to a magnetic azimuth without error.

TRAINING AND EVALUATION

Training Information Outline

1. The north-south lines on your map give grid north. The needle of your compass points to magnetic north. Grid north and magnetic north are usually different by a few degrees. Neither one points straight to the North Pole (called true north), but you do not need to know true north to keep from getting lost in a combat area. The difference in degrees for every map is shown on the bottom of the mapsheet (Figure 21).

2. The difference between grid north and magnetic north is called the grid-magnetic (G-M) angle. The diagram at the bottom of the map tells you how to change grid azimuths to magnetic azimuths and magnetic azimuths to grid azimuths (Figure 22).

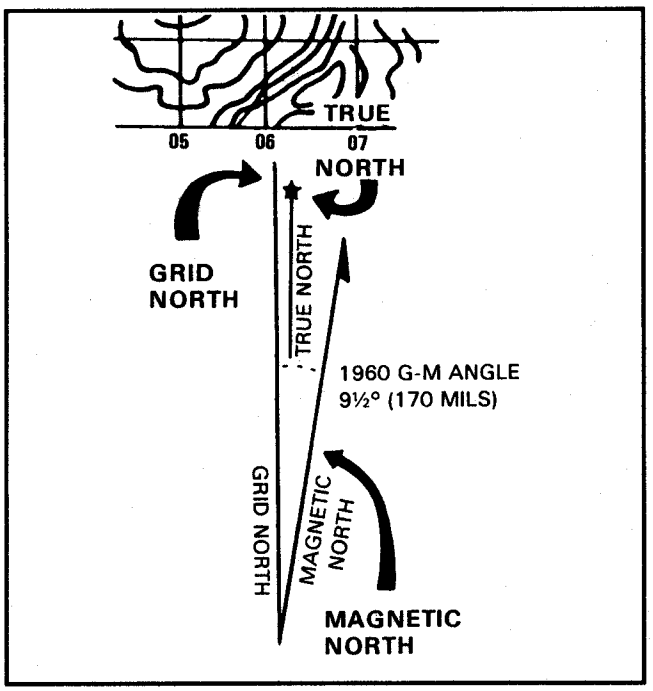

Figure 21. Declination diagram.

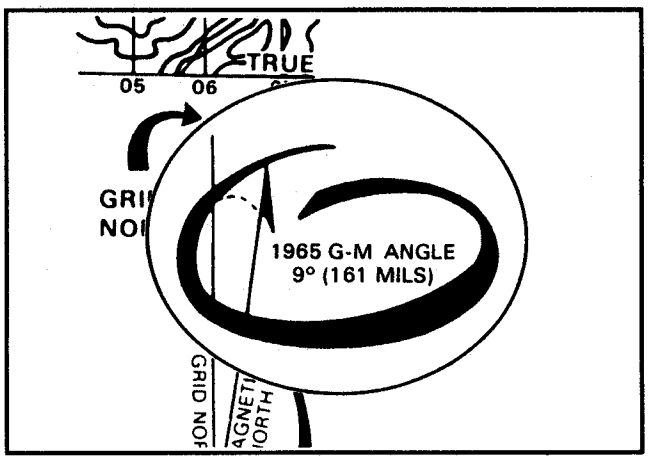

Figure 22. G-M angle.

3. For example, you aim your compass at a distant point. The compass reading you get is 190 degrees, the magnetic azimuth. The diagram on your map (Figure 22) tells you that the G-M angle is 9 degrees, and it also tells you that "to convert a magnetic azimuth to a grid azimuth, add the G-M angle." Therefore add 9 degrees to your compass reading. This gives you 190 + 9 = 199. Your grid azimuth is 199 degrees.

4. The G-M angle depends on where you are in the world.

5. Convert azimuths when given an easterly G-M angle (Figure 23).

a. To convert a magnetic azimuth to a grid azimuth, add the value of the G-M angle to the magnetic azimuth.

b. To convert a grid azimuth to a magnetic azimuth, subtract the G-M angle from the grid azimuth.

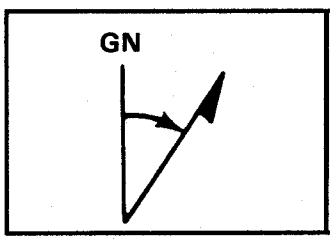

Figure 23. Converting azimuths with easterly G-M angle.

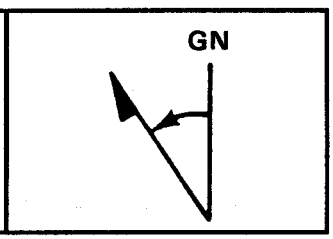

Figure 24. Converting azimuths with westerly G-M angle.

6. Convert azimuths when given a westerly G-M angle (Figure 24).

a. To convert a magnetic azimuth to a grid azimuth, subtract the value of the G-M angle from the magnetic azimuth.

b. To convert a grid azimuth to a magnetic azimuth, add the value of the G-M angle to the grid azimuth.

Evaluation Preparation

Setup: Give the soldier a standard 1:50,000 scale military map, a piece of paper, a pencil, and a magnetic and grid azimuth to be converted.

Brief soldier: Tell the soldier to convert the magnetic azimuth to a grid azimuth and the grid azimuth to a magnetic azimuth.

Evaluation Guide

Performance Measures	Results	
1. Determines correct grid azimuth.	P	F
2. Determines correct magnetic azimuth.	P	F

Feedback

Score the soldier GO if all steps are passed. Score the soldier NO-GO if any steps are failed. If the soldier scores NO-GO, show what was done wrong and how to do it correctly.

REFERENCES

FM 21-26

TEC 930-071-0015-F