

9 Compute and record the deviation for each 15°.

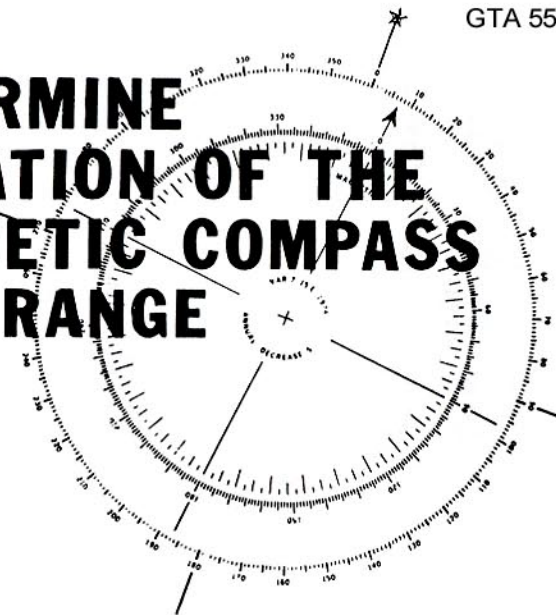
SHIP'S HEAD PSTAC	TRUE DIRECTION RANGE	VARIA- TION	MAGNETIC HEADING RANGE	COMPASS BEARING OF RANGE	DEVIATION
000°	056°	7°E	049°	053°	4°W
015°				053°	4°W
030°				052°5	3°5W
045°				052°2	3°2W
060°				052°	3°0W
075°				051°2	2°5W
090°				051°	2°0W
105°				050°8	1°8W
120°				050°2	1°2W
135°				049°8	0°5W
150°				049°5	0°5W
165°				047°5	1°5E
180°				047°	2°0E
195°				046°5	2°5E
210°				046°	3°0E
225°				045°5	3°5E
240°				045°	4°0E
255°				046°5	3°5E
270°				046°	3°0E
285°				047°	2°0E
300°				047°5	1°5E
315°				048°	1°0E
330°				048°5	0°5E
345°				050°	1°0W

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**THIS GTA MAY BE ORDERED THROUGH YOUR LOCAL TRAINING AND AUDIOVISUAL SUPPORT OFFICE.**

GTA 55-05-011

# DETERMINE DEVIATION OF THE MAGNETIC COMPASS BY A RANGE



THE PURPOSE OF THIS GTA IS TO SHOW YOU THE STEPS FOR DETERMINING DEVIATION BY SWINGING SHIP ON A RANGE. DEVIATION WILL BE CHECKED FOR EVERY 15° OF SHIP'S HEADING. THE SHIP'S MASTER WILL CONN THE SHIP WHILE SWINGING SHIP ON THE RANGE. YOU WILL TAKE THE BEARINGS OF THE RANGE, RECORD THEM AND COMPUTE THE DEVIATION.

Headquarters, Department of the Army  
Graphic Training Aid July 1982

**1** Any two fixed objects shown on a chart constitute a range. The range should be visible, marked on the chart and in safe water. Select a range whose position will not interfere with normal ship traffic.

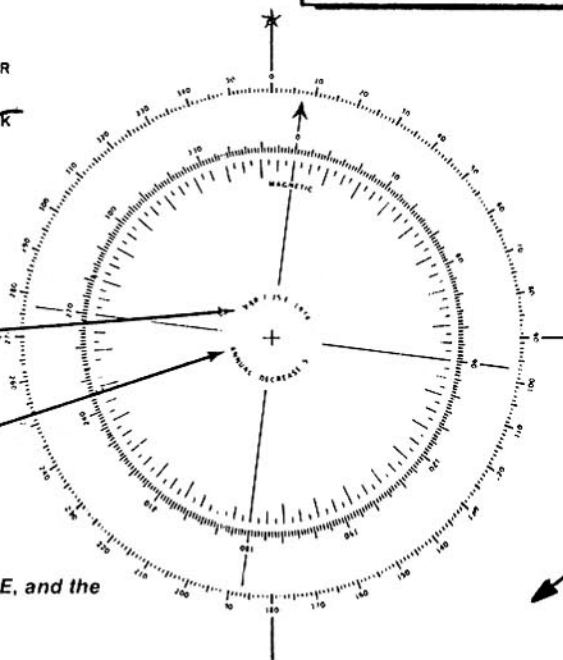
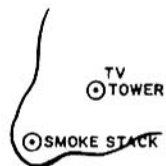
**2** The true direction of the range selected is determined by measurement on the chart.

**3** To determine the local variation, look at the "compass rose" nearest your area. The center of the "compass rose" gives you this information.

**4** Correct the local variation to the present date.

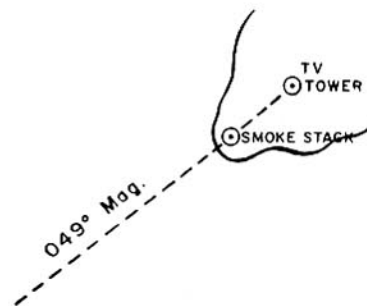
**EXAMPLE:**

Date on the "compass rose" is 1974, variation is 7°15'E, and the variation decreases 5' annually. (1974-1977 = 3 yrs.)  $3 \times 5' = -15'$ .  $7^{\circ}15' - 15' = 7^{\circ}E$  variation for 1977.

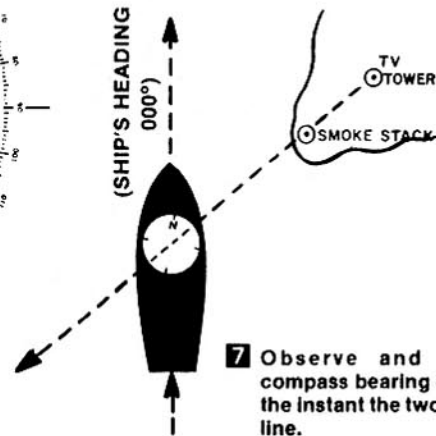


**5** Apply the variation to the true bearing of the range to find the range's magnetic bearing.

- E	Variation	+ W
True	7°E	Magnetic
056°		049°



**6** Put the ship on steering compass (PSC) course of 000° and cross the range.



**7** Observe and record the compass bearing of the range at the instant the two objects are in line.

**8** Repeat steps 6 & 7 for every 15° through 360°.

