

# Headings, Courses, & Bearings True, Magnetic, Compass, & Relative

Notes from Capt Greg Daley  
www.CaptainGreg.net

Heading - The direction a vessel's bow points. May be measured in degrees true, magnetic, or compass. It is always 000 relative.

Course - The direction a vessel has traveled or plans to travel. May be measured in degrees true, magnetic, or compass. Relative course has no meaning.

Bearing - The direction towards (or from) another vessel or object. May be measured in degrees relative to the bow or degrees true, magnetic, or compass.

True Degrees - A measure of direction in degrees (360 in a circle) relative to the Geographic North Pole with 000 degrees True pointing to the Geographic North Pole (Lat 90deg N, Long any). Outer ring of compass rose.

Magnetic Degrees - A measure of direction relative to the Magnetic North Pole with 000 degrees Magnetic pointing to the Magnetic North Pole. Inner ring of the compass rose. The difference between True and Magnetic is called variation and depends where you are in the world & does not depend on the boat's fields of magnetism.

Compass degrees - A measure of what the compass reads. The boat's magnetic fields alter the compass reading from the magnetic reading (called deviation). Independent of location in the world.

Relative degrees - A measure of direction relative to the bow of the boat. Independent of variation and deviation. A relative bearing of 000 is pointing out from the bow.



$$\text{Bearing (T, M, or C)} = \text{Heading (T, M, or C)} + \text{Relative Bearing}$$