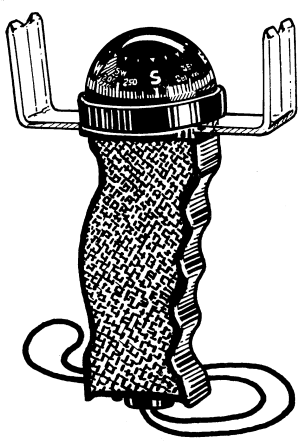
DAVIS

HAND BEARING COMPASS

#211 Standard
#215 Illuminated



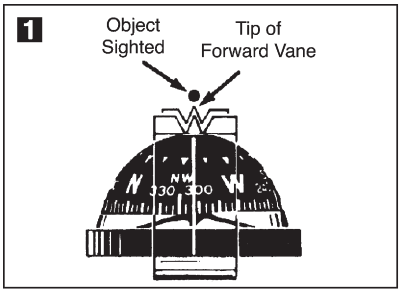
INSTRUCTIONS

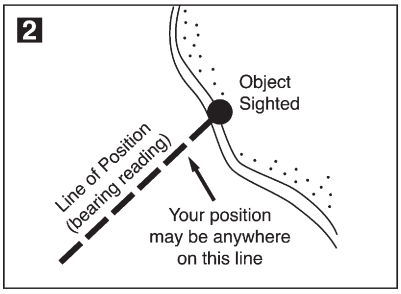
Davis **Hand Bearing Compasses** are excellent for yachtsmen, racers, and fishermen as an aid to position finding and steering. The instruments let you easily obtain quick magnetic bearings on shore or floating objects. Simply align front and rear sights on an object and read off bearing. Use to take a quick bearing or position set, determine angular gain or loss on the competition while racing, check distance offshore, establish lee-bow set while cruising or racing in currents, determine drift vector, and plot a line of position.

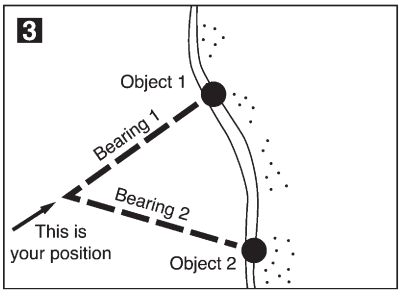
All Hand Bearing Compasses feature stable, liquid-damped compass card graduated in 5° segments. Bold graduations every 15° for easy reading. Lightweight design for easier bearing. High impact plastic housing. Lanyard included.

The Illuminated model has solid-state LED (Light Emitting Diode) illumination system which floods the compass capsule and sight vane with soft light. The LED will last for the lifetime of the compass. Batteries, which are included, will last up to 10 times longer than with regular bulbs. Average LED “half-life” is approximately 10 years if operated continuously. The compass has a positive “push-on” switching action, with vinyl boot water protection. Battery housing has high watertight integrity.

Compasses are designed for Northern Hemisphere only.





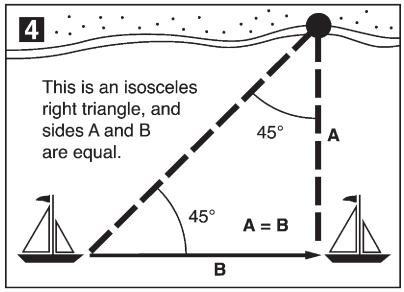


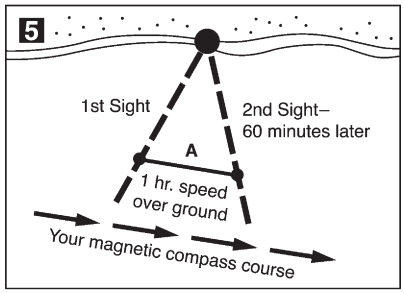
Sighting Objects. Hold the compass in a relaxed position at arms length, with the yellow cursor line facing you. With the compass slightly tipped so both pointers are visible, rotate your arm and upper body until both pointers are in-line with the object being sighted (figure 1). Read the magnetic bearing as it appears at the yellow cursor line.

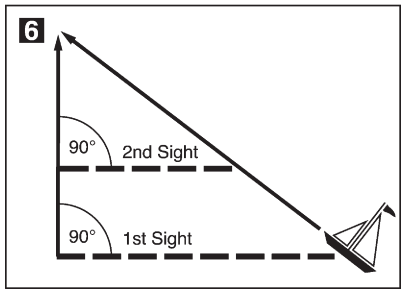
Note: Standing near large metal objects will affect the accuracy of your magnetic bearing.

Navigating Using Your Sightings. A line of position (LOP) is simple to obtain (figure 2). Find an object that is easy to identify on a chart and take a sighting to determine its magnetic bearing. Draw a line from the object using its magnetic bearing and you know that you are somewhere along that line of position. Take a sighting of another object and plot its line of position. Your position is where the two lines cross (figure 3). Tip: Three sightings plotted on the chart (three LOP's) is even more accurate and these sighting form a triangle when plotted; you are somewhere inside that triangle.

Plotting Distance Offshore. This is easiest and most accurate when your compass course is roughly parallel to the shoreline. You must also know your speed over ground. Note the exact time that you are abeam of (perpendicular to) or 45° off a prominent object on shore like a lighthouse, smoke stack or radio tower. Take the exact time again when you are perpendicular to or 45° off the object. Plot these sightings on the chart and, with your distance run as one leg, you have a right triangle (figure 4). Your speed multiplied







by the time equals both your distance offshore (A) and the distance run (B). Tip: Another method to determine distance offshore is to take two sightings off the same object exactly 60 minutes apart and plot the two lines of position. Open a pair of dividers to match your distance traveled in 60 minutes. Draw your actual travel line of position (A) parallel to the compass course you are steering at the point where the angle is the same width as your distance traveled (figure 5).

Predicting Collision Course. Take a sighting on any moving or stationary object that you suspect might be on a collision course and note its bearing. If repeated sightings yield the same bearing, you are on a collision course (figure 6). Note that a collision course with a stationary object means that your are being "set" by drift or tide and you must alter course to avoid a collision. Tip: These types of sightings are extremely useful in sailboat racing when two boats are converging on different tacks.

Checking Drift While at Anchor. Take sightings on any two or more objects on shore and write them down. Radical changes in their magnetic bearings could indicate that your anchor is dragging. Tip: The closer you are anchored to the objects on shore, the greater the chances that simple swinging on the anchor will cause these bearing to change.

Caring for Your Compass. The Davis Hand Bearing Compass is a precision instrument. It is designed for rugged use and built to last a lifetime, but must not be dropped or exposed to severe shock trauma. It can be cleaned with fresh water or alcohol; do not use any other solvents. Continuous vibration or exposure to magnetic influences can damage the pivot bearing or magnetism of the compass and lessen its accuracy.

Factory Overhaul. Contact Davis Instruments if you would like to have your Hand Bearing Compass overhauled.

Davis Instruments *3465 Diablo Ave., Hayward, CA 94545 U.S.A.*
(510) 732-9229 • Fax (510) 732-9188 support@davisnet.com ***www.davisnet.com***