

WHERE AM I GOING ?

By Richard Sorokin

How does a mariner tell direction at sea? In the beginning all they had was the moon, stars and currents. The Polynesians did a pretty good job of colonizing the Pacific Ocean with these guides alone. Marco Polo in the 1200's brought back from China the magnetic compass. The North Pole of a magnetic compass always points to the south magnetic pole of the earth or close to it. Because of random iron deposits in the earth the compass is inaccurate and must be corrected for locale faults. This correction is called deviation and is corrected by the second compass rose on all nautical charts.

A magnetic compass will not work on a submarine that is all metal. Another type of direction finding instrument had to be developed. The gyroscope compass was the answer. According to Sir Isaac Newton, a body resists changes in motion or direction. Brakes on a car allows it to stop, giving it gas to go faster, turning creates lateral forces. Energy is needed to change speed and direction. The gyroscope is an electric motor mounted on gimlets. No matter how the housing moves the gimlets allow the motor to remain in place. Put degrees on the casing to mark the movement of the vessel and you have a gyrocompass.

To day mariners use the magnetic and gyroscope compasses as back ups. The GPS system is the system now in use by all vessels. Using satellites GPS not only will tell you your location within 10 meter but will give you your speed and true direction on land or sea. It will tell you the true course to your next destination and the distance and time to get there at your present speed. It will correct your course for great circle routs. All this at the push of a button.