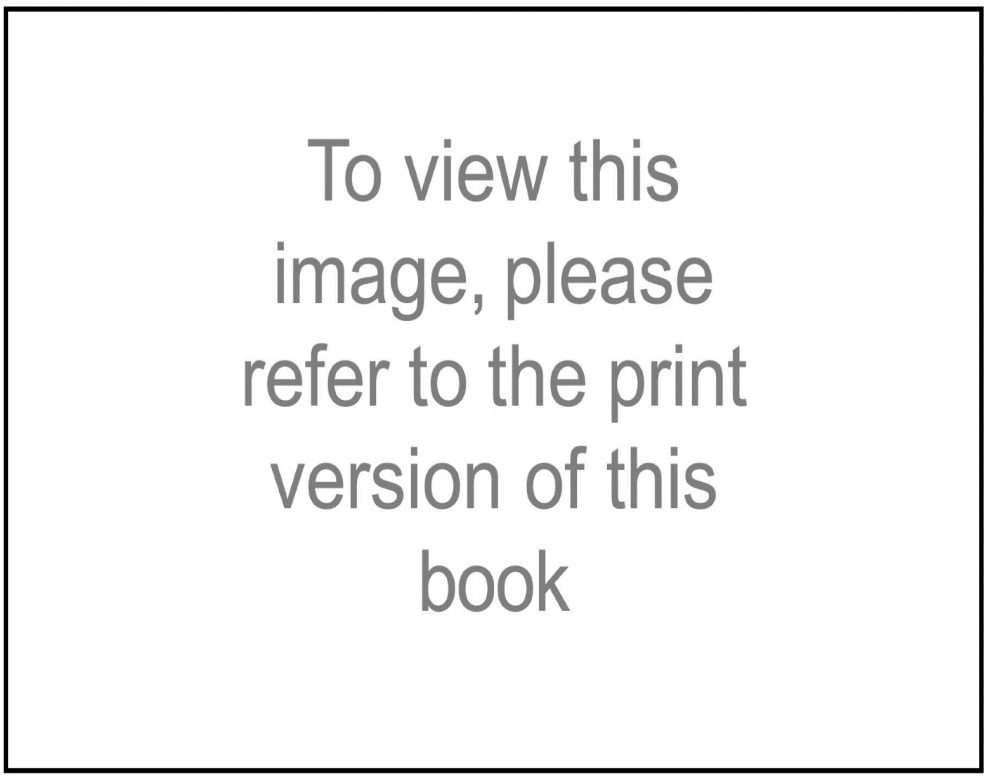

Fig. 2-19. *Aircraft compass elements.*

point blunting. As the point loses its sharpness, the compass loses its reliability. As a result, the compass card assembly is often mounted on a spring to minimize the problem, but the best preventive maintenance is still gentle handling of the aircraft. On larger compasses, the weight of the magnets and card assembly alone is sufficient to put a significant load on the pivot, so manufacturers often use a float with just enough buoyancy to relieve friction without actually floating the magnet and card assembly in the liquid.

The aviation compass card, typically a lightweight metal cylinder, has the cardinal headings depicted as N, S, E, W. The scale in between them is marked every 30 degrees with the appropriate number. The last zero of these numbers is omitted, so 30 degrees is marked by a 3, 180 by an 18. Between the numbers there are small tick marks indicating 5-degree graduations. Because the pilot reads the card from behind the compass, the markings are actually printed on the opposite side of the card. For example, when flying north, the letter W is on the right-hand side of the card, which is actually the east side of the airplane—confusing, but logical. To aid the pilot in accurately reading the compass, a vertical wire or reference mark called a *lubber line* is placed on the front of the instrument behind a glass window. It corresponds to the longitudinal axis of the aircraft, and the aircraft's magnetic heading falls directly under it.