Let us assume that we are planning to fly a route at **3000 feet** on a fine day in January in the United Kingdom, when the **Regional Pressure Setting (RPS)** for our area is given as **1003 millibars**, and the **temperature at 3000 feet** is forecast to be **+2° Celsius (C)**. We plan to fly the route at an **indicated airspeed** of **110 knots**. What will be the **true airspeed** that we need to use in order to calculate our **heading** and **groundspeed** for the route?

First of all we must express our chosen **cruising altitude** as a **pressure altitude**. **As the atmospheric pressure at sea-level for our region (the RPS) is given as 1003 millibars, the datum of 1013.2 millibars, which we need for our true airspeed calculation, will lie lower than the RPS, and the pressure altitude will, therefore, be higher than 3000 feet.** As pressure changes by about **1 millibar** for every **30 feet** of altitude, and the difference between **1003 millibars** and **1013.2 millibars** is, for all practical purposes, **10 millibars**, we deduce that the **pressure altitude** equivalent of **3000 feet**, on the day of our flight, will **be 3000 + (30 x 10) = 3300 feet**.

Now, on the **circular slide-rule face of the navigation computer**, identify the **window** marked **Airspeed**. The **Airspeed window** is depicted in *Figure 11.9*.

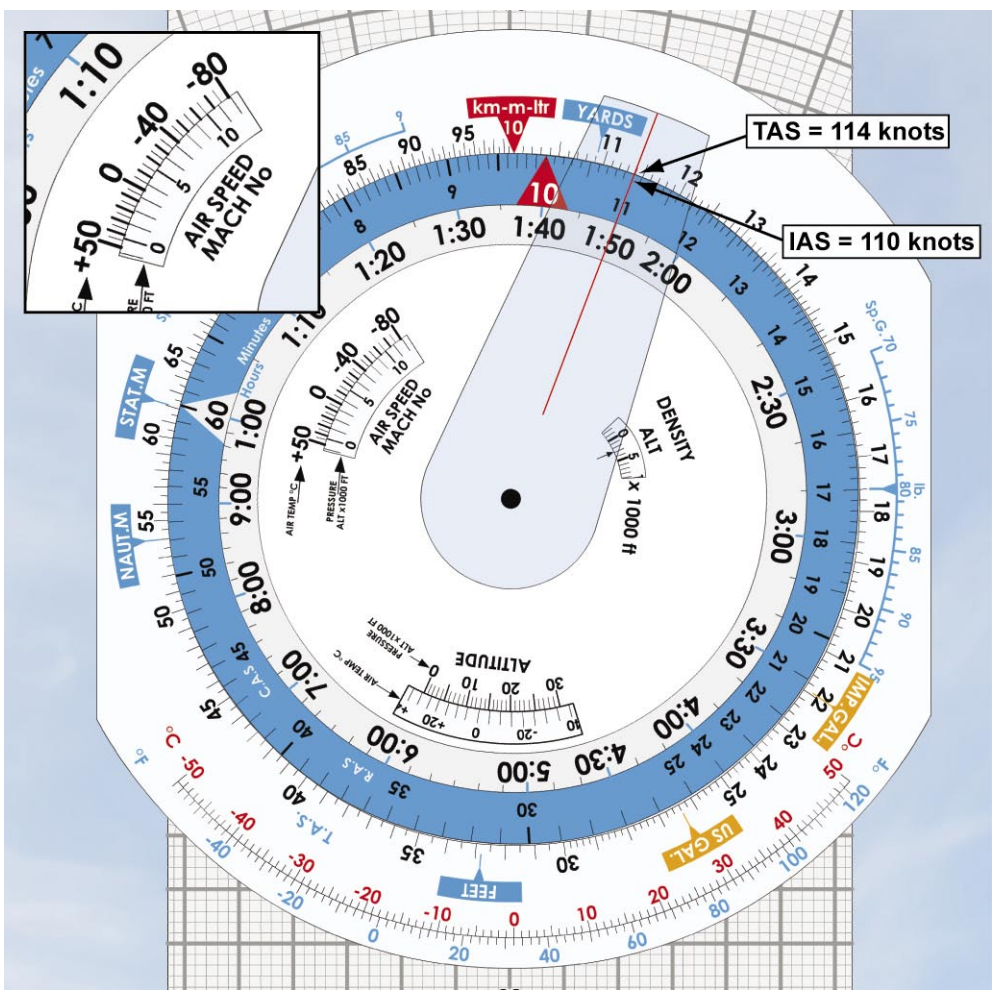

Figure 11.9 At 3300 ft pressure altitude with a temperature of +2°C, 110 knots indicated airspeed is the equivalent of 114 knots true airspeed.