

Basic Flight Instrument Cluster

This resource will help you with the following stages;

Stage 5 - I can identify some aircraft instruments using a computer simulator or other method.

Stage 6 - I can show that I understand the basic “T” instrument cluster

Most aircraft have their instruments arranged in a standardised “T” shape. This shape ensures that all the important information that a pilot needs for safe flight is brought close together so that it is quick to find and can be scanned easily. “Glass cockpit” flight decks, such as those in modern airliners, adopt a similar scheme though the instruments are represented on LCD panels.

The principal flight instruments are:

- **The Attitude Indicator.** This is also known as the “artificial horizon” and shows the pilot if the aircraft is flying straight and level, or has a banking, or nose down or nose up attitude. The blue part of the instrument dial represents the sky, while the brown part of the instrument represents the ground.
- **Airspeed indicator.** This instrument shows the aircraft’s speed through the surrounding air, in knots.
- **Altimeter.** This instrument shows the aircraft’s height above sea level in feet.
- **Heading Indicator.** This is like a compass, and shows the direction in which the aircraft is *pointing* (which may be different to the direction the aircraft is *travelling*, due to the effect of cross-winds).

These four instruments may be accompanied by two others:

- **Turn-coordinator.** This instrument help the pilot to know by how much the aircraft is turning to the left or right.
- **Vertical Speed Indicator.** This shows the pilot how fast the aircraft is either climbing or descending.



The first four instruments form the classic T arrangement; if accompanied by the other two, you have the “6 pack” arrangement.



1. Attitude Indicator (aka artificial horizon)
2. Airspeed indicator
3. Altimeter
4. Heading indicator (aka compass)
5. Turn-coordinator
6. Vertical Speed Indicator

