

Limited panel

INSTRUMENT FLYING

Objectives

- To maintain straight and level flight by sole reference to a limited flight instrument panel.
- To carry out rate one level turns onto compass headings.

Considerations

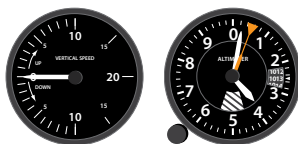
Turn coordinator

- Electrically driven
- Failure shown by warning flag
- Estimate angle of bank from AI - 15°
- Balance indicator okay
- Checked during taxi and SADIE checks



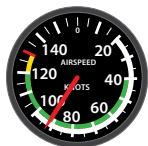
VSI and altimeter

- Rely on static pressure
- If fails need to use AI and RPM
- Inspect static vent during preflight



Airspeed indicator

- Requires pitot and static pressure
- Most common blockage by ice over pitot head
- Will indicate wrong airspeed, or zero
- If fails need to use AI and RPM
- Inspect pitot head and static vents during preflight



Heading indicator

- DI, DG, HSI
- Gyro stabilized, powered by engine-driven vacuum pump
- If fails will slowly run down, card will spin
- If fails will need to use magnetic compass
- Checked during taxi and SADIE checks



Attitude indicator

- AH
- Driven by engine-driven pump
- May have failure flag
- If fails will have to use indirect information from performance instruments
- Checked during taxi and SADIE checks

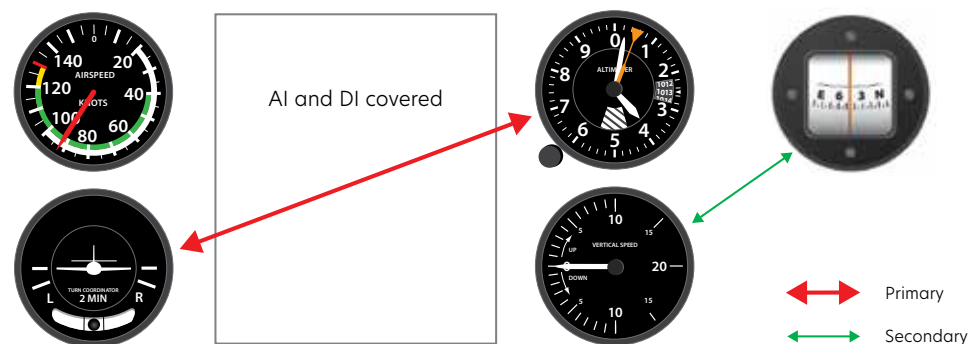


Air exercise

- Simulate vacuum system failure
- AI and DI unserviceable

Pitch	ASI, ALT, VSI, RPM
Bank	TC, Compass
Yaw	Balance

Selective radial scan



- Airspeed will require only a small amount of attention so long as attitude and power are set correctly
- During turns the compass' importance will increase as approach heading

Airmanship

- Instrument check during taxi very important

Aeroplane management

- Electrical system failure may affect other instruments
- Static system often has backup system
- Pitot head heated
- Vacuum gauge checked regularly
- Regularly checking DI is aligned to compass

Human factors

- Develop systematic instrument scan
- Trust the instruments
- Cover failed instruments