

## Compass and Instrument Errors - Ground Lesson

### Attention

Why does it show me climbing? I didn't try to climb.

### Objective

Despite that we need to put supreme trust in our instruments we must be aware that they will not be perfect every second of flight. We need to know what to look for.

### Schedule

Ground instruction – 10 minutes

### Reference Material

Gleim Online Ground School  
Boldmethod.com

### Material



Airspeed↑ => attitude indicator shows climb

Airspeed↓ => attitude indicator shows descent

### Deviation

The difference between the direction indicated by a magnetic compass not installed in an airplane and one installed in an airplane is called compass deviation.

## Compass and Instrument Errors - Ground Lesson

Magnetic fields produced by metals and electrical accessories in the airplane disturb the compass needles.

Deviation varies for different headings of the same aircraft.

### Acceleration/deceleration error

If heading west or east in the northern hemisphere.

Accelerate North Decelerate South (ANDS)

A magnetic compass will indicate a turn toward the north during acceleration going E/W.

=> Airspeed↑ shows North

A magnetic compass will indicate a turn toward the south during deceleration going E/W.

=> Airspeed↓ shows South

It does not occur when heading north or south.

### Turning error

Occurs when turning from a north or south heading.

When turning from a northerly heading the magnetic compass indicates a turn in the other direction. Heading north when turning heading indicator lags.

When turning from a southerly heading the magnetic compass indicates the turn but at a faster rate than is occurring. Heading south when turning heading indicator precedes.

NOSE: "North-Opposite, South-Exaggerated."

Heading east or west accurate