

N34774

TRANS
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Directional Gyro

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Overview

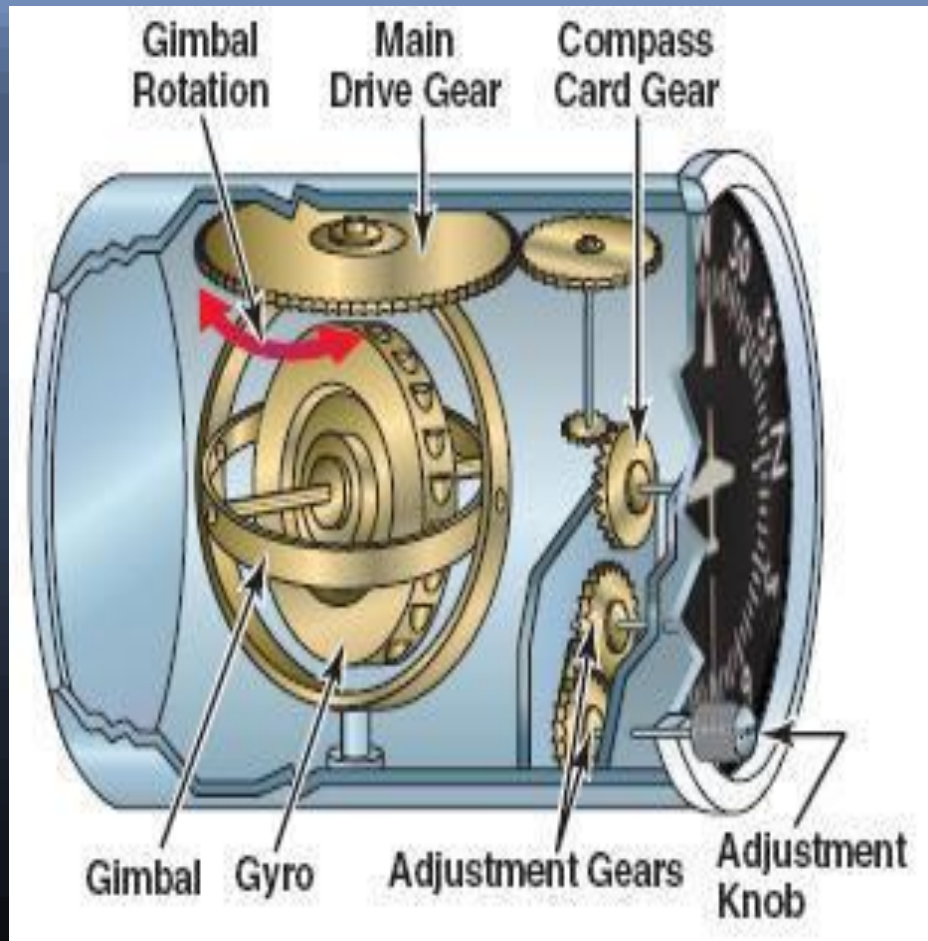
- How Directional Gyro (DG) is used
- How Directional Gyro (DG) works.
- Directional Gyro (DG) summary

Directional Gyro Uses

- Shows Aircraft Heading
- Uses Magnetic Compass information
- Pilot Sets Magnetic Compass Heading into DG



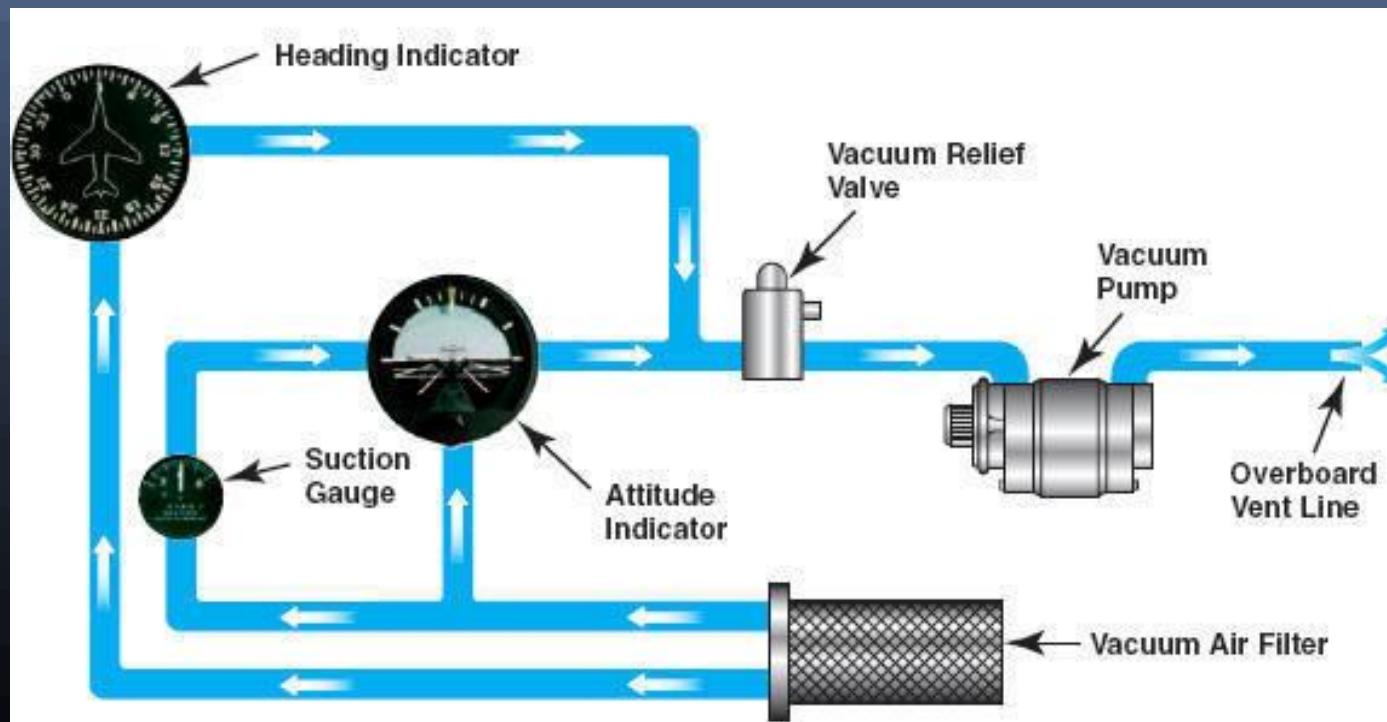
How the directional gyro works.



- Gyroscope creates “rigidity in space” to create a stable heading reference
- Bearing friction will cause DG to Precess
- Precession cause heading errors
- Adjustment knob - Pilot can reset DG to Magnetic Compass Heading

How Directional Gyro (DG) works

- Pneumatic vacuum pump creates vacuum downstream from DG Gyro, pulls air past DG Gyro Vanes, spinning Gyro
- Pneumatic vacuum pump connected to Engine Crankshaft, Crankshaft turns, Pump creates vacuum



Summary

- Pilot uses Directional Gyro (DG) in combination with Mag Compass
 - DG doesn't have Dip Error or Deviation Error
- Pneumatic Vacuum Pump powers DG
- Pilot should check/Compare DG to Mag Compass every 15 min for Precession, and reset as needed

References

- <http://www.allstar.fiu.edu/aero/GSI.htm>
- <http://overtheairwaves.com/vol3-20final.html>
- http://en.wikipedia.org/wiki/Heading_indicator