PHAK Glossary — G

22 entries — every glossary entry under this letter, no curation. Reproduced verbatim from the Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25C (July 2023)), Glossary.

GAMA
General Aviation Manufacturers Association.

Gimbal ring
A type of support that allows an object, such as a gyroscope, to remain in an upright condition when its base is tilted.

Glideslope (GS)
Part of the ILS that projects a radio beam upward at an angle of approximately 3° from the approach end of an instrument runway. The glideslope provides vertical guidance to aircraft on the final approach course for the aircraft to follow when making an ILS approach along the localizer path.

Glideslope intercept altitude
The minimum altitude of an intermediate approach segment prescribed for a precision approach that ensures obstacle clearance.

Global landing system (GLS)
An instrument approach with lateral and vertical guidance with integrity limits (similar to barometric vertical navigation (BARO VNAV).

Global navigation satellite system (GNSS)
Satellite navigation system that provides autonomous geospatial positioning with global coverage. It allows small electronic receivers to determine their location (longitude, latitude, and altitude) to within a few meters using time signals transmitted along a line of sight by radio from satellites.

Global positioning system (GPS)
Navigation system that uses satellite rather than ground-based transmitters for location information.

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Goniometer
As used in radio frequency (RF) antenna systems, a direction-sensing device consisting of two fixed loops of wire oriented 90° from each other, which separately sense received signal strength and send those signals to two rotors (also oriented 90°) in the sealed direction-indicating instrument. The rotors are attached to the direction-indicating needle of the instrument and rotated by a small motor until minimum magnetic field is sensed near the rotors.

GPS
See global positioning system.
> FAA definition of **Global positioning system (GPS)**:
> Navigation system that uses satellite rather than ground-based transmitters for location information.

GPS Approach Overlay Program
An authorization for pilots to use GPS avionics under IFR for flying designated existing nonprecision instrument approach procedures, with the exception of LOC, LDA, and SDF procedures.

GPWS
See ground proximity warning system.
> FAA definition of **Ground proximity warning system (GPWS)**:
> A system designed to determine an aircraft's clearance above the Earth and provides limited predictability about aircraft position relative to rising terrain.

Graveyard spiral
The illusion of the cessation of a turn while still in a prolonged, coordinated, constant rate turn, which can lead a disoriented pilot to a loss of control of the aircraft.

Great circle route
The shortest distance across the surface of a sphere (the Earth) between two points on the surface.

Ground adjustable trim tab
Non-movable metal trim tab on a control surface. Bent in one direction or another while on the ground to apply trim forces to the control surface.

Ground effect
The condition of slightly increased air pressure below an airplane wing or helicopter rotor system that increases the amount of lift produced. It exists within approximately one wing span or one rotor diameter from the ground. It results from a reduction in upwash, downwash, and wingtip vortices, and provides a corresponding decrease in induced drag.

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Groundspeed
Speed over the ground, either closing speed to the station or waypoint, or speed over the ground in whatever direction the aircraft is going at the moment, depending upon the navigation system used.

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Gyroscopic precession
An inherent quality of rotating bodies, which causes an applied force to be manifested 90° in the direction of rotation from the point where the force is applied.