PHAK Glossary — I

35 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.

IAF
See initial approach fix.
> FAA definition of **Initial approach fix (IAF)**:
> The fix depicted on IAP charts where the instrument approach procedure (IAP) begins unless otherwise authorized by ATC.

IAP
See instrument approach procedures.
> FAA definition of **Instrument approach procedures (IAP)**:
> A series of predetermined maneuvers for the orderly transfer of an aircraft under IFR from the beginning of the initial approach to a landing or to a point from which a landing may be made visually.

IAS
See indicated airspeed.
> FAA definition of **Indicated airspeed (IAS)**:
> Shown on the dial of the instrument airspeed indicator on an aircraft. Indicated airspeed (IAS) is the airspeed indicator reading uncorrected for instrument, position, and other errors. Indicated airspeed means the speed of an aircraft as shown on its pitot static airspeed indicator calibrated to reflect standard atmosphere adiabatic compressible flow at sea level uncorrected for airspeed system errors. Calibrated airspeed (CAS) is IAS corrected for instrument errors, position error (due to incorrect pressure at the static port) and installation errors.

ICAO
See International Civil Aviation Organization.
> FAA definition of **International Civil Aviation Organization (ICAO)**:
> The United Nations agency for developing the principles and techniques of international air navigation, and fostering planning and development of international civil air transport.

Ident
Air Traffic Control request for a pilot to push the button on the transponder to identify return on the controller's scope.

IFR
See instrument flight rules.
> FAA definition of **Instrument flight rules (IFR)**:
> Rules and regulations established by the Federal Aviation Administration to govern flight under conditions in which flight by outside visual reference is not safe. IFR flight depends upon flying by reference to instruments in the flight deck, and navigation is accomplished by reference to electronic signals.

ILS
See instrument landing system.
> FAA definition of **Instrument landing system (ILS)**:
> An electronic system that provides both horizontal and vertical guidance to a specific runway, used to execute a precision instrument approach procedure. Instrument meteorological conditions (IMC). Meteorological conditions expressed in terms of visibility, distance from clouds, and ceiling less than the minimums specified for visual meteorological conditions, requiring operations to be conducted under IFR.

ILS categories
Categories of instrument approach procedures allowed at airports equipped with the following types of instrument landing systems: ILS Category I: Provides for approach to a height above touchdown of not less than 200 feet, and with runway visual range of not less than 1,800 feet. ILS Category II: Provides for approach to a height above touchdown of not less than 100 feet and with runway visual range of not less than 1,200 feet. ILS Category IIIA: Provides for approach without a decision height minimum and with runway visual range of not less than 700 feet. ILS Category IIIB: Provides for approach without a decision height minimum and with runway visual range of not less than 150 feet. ILS Category IIIC: Provides for approach without a decision height minimum and without runway visual range minimum.

IMC
See instrument meteorological conditions.

Inclinometer
An instrument consisting of a curved glass tube, housing a glass ball, and damped with a fluid similar to kerosene. It may be used to indicate inclination, as a level, or, as used in the turn indicators, to show the relationship between gravity and centrifugal force in a turn.

Indicated airspeed (IAS)
Shown on the dial of the instrument airspeed indicator on an aircraft. Indicated airspeed (IAS) is the airspeed indicator reading uncorrected for instrument, position, and other errors. Indicated airspeed means the speed of an aircraft as shown on its pitot static airspeed indicator calibrated to reflect standard atmosphere adiabatic compressible flow at sea level uncorrected for airspeed system errors. Calibrated airspeed (CAS) is IAS corrected for instrument errors, position error (due to incorrect pressure at the static port) and installation errors.

Indicated altitude
The altitude read directly from the altimeter (uncorrected) when it is set to the current altimeter setting.

Indirect indication
A reflection of aircraft pitch-and-bank attitude by instruments other than the attitude indicator.

Induced drag
Drag caused by the same factors that produce lift; its amount varies inversely with airspeed. As airspeed decreases, the angle of attack must increase, in turn increasing induced drag.

Induction icing
A type of ice in the induction system that reduces the amount of air available for combustion. The most commonly found induction icing is carburetor icing.

Inertial navigation system (INS)
A computer-based navigation system that tracks the movement of an aircraft via signals produced by onboard accelerometers. The initial location of the aircraft is entered into the computer, and all subsequent movement of the aircraft is sensed and used to keep the position updated. An INS does not require any inputs from outside signals.

Initial approach fix (IAF)
The fix depicted on IAP charts where the instrument approach procedure (IAP) begins unless otherwise authorized by ATC.

Inoperative components
Higher minimums are prescribed when the specified visual aids are not functioning; this information is listed in the Inoperative Components Table found in the United States Terminal Procedures Publications.

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Instantaneous vertical speed indicator (IVSI)
Assists in interpretation by instantaneously indicating the rate of climb or descent at a given moment with little or no lag as displayed in a vertical speed indicator (VSI).

Instrument approach procedures (IAP)
A series of predetermined maneuvers for the orderly transfer of an aircraft under IFR from the beginning of the initial approach to a landing or to a point from which a landing may be made visually.

Instrument flight rules (IFR)
Rules and regulations established by the Federal Aviation Administration to govern flight under conditions in which flight by outside visual reference is not safe. IFR flight depends upon flying by reference to instruments in the flight deck, and navigation is accomplished by reference to electronic signals.

Instrument landing system (ILS)
An electronic system that provides both horizontal and vertical guidance to a specific runway, used to execute a precision instrument approach procedure. Instrument meteorological conditions (IMC). Meteorological conditions expressed in terms of visibility, distance from clouds, and ceiling less than the minimums

specified for visual meteorological conditions, requiring operations to be conducted under IFR.

Instrument takeoff
Using the instruments rather than outside visual cues to maintain runway heading and execute a safe takeoff.

Intercooler
A device used to reduce the temperatures of the compressed air before it enters the fuel metering device. The resulting cooler air has a higher density, which permits the engine to be operated with a higher power setting.

Interference drag
Drag generated by the collision of airstreams creating eddy currents, turbulence, or restrictions to smooth flow.

International Civil Aviation Organization (ICAO)
The United Nations agency for developing the principles and techniques of international air navigation, and fostering planning and development of international civil air transport.

International standard atmosphere (IAS)
A model of standard variation of pressure and temperature.

Interpolation
The estimation of an intermediate value of a quantity that falls between marked values in a series. Example: In a measurement of length, with a rule that is marked in eighths of an inch, the value falls between 3/8 inch and 1/2 inch. The estimated (interpolated) value might then be said to be 7/16 inch.

Inversion
An increase in temperature with altitude.

Inversion illusion
The feeling that the aircraft is tumbling backwards, caused by an abrupt change from climb to straightand-level flight while in situations lacking visual reference.

Inverter
A solid-state electronic device that converts D.C. into A.C. current of the proper voltage and frequency to operate A.C. gyro instruments.

Isobars
Lines which connect points of equal barometric pressure.

Isogonic lines
Lines drawn across aeronautical charts to connect points having the same magnetic variation.

IVSI
See instantaneous vertical speed indicator.

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