

46 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.

V1

See takeoff decision speed.

FAA definition of **Takeoff decision speed (V1)**:

Per 14 CFR section 23.51: "the calibrated airspeed on the ground at which, as a result of engine failure or other reasons, the pilot assumed to have made a decision to continue or discontinue the takeoff."

V2

See takeoff safety speed.

FAA definition of **Takeoff safety speed (V2)**:

Per 14 CFR part 1: "A referenced airspeed obtained after lift-off at which the required one-engine-inoperative climb performance can be achieved."

VA

See maneuvering speed.

FAA definition of **Maneuvering speed (VA)**:

The design maneuvering speed. Operating at or below design maneuvering speed does not provide structural protection against multiple full control inputs in one axis or full control inputs in more than one axis at the same time.

Vapor lock

A problem that mostly affects gasoline-fuelled internal combustion engines. It occurs when the liquid fuel changes state from liquid to gas while still in the fuel delivery system. This disrupts the operation of the fuel pump, causing loss of feed pressure to the carburetor or fuel injection system, resulting in transient loss of power or complete stalling. Restarting the engine from this state may be difficult. The fuel can vaporize due to being heated by the engine, by the local climate or due to a lower boiling point at high altitude.

Variation

Compass error caused by the difference in the physical locations of the magnetic north pole and the geographic north pole.

VASI

See visual approach slope indicator.

FAA definition of **Visual approach slope indicator (VASI)**:

A visual aid of lights arranged to provide descent guidance information during the approach to the runway. A pilot on the correct glideslope will see red lights over white lights.

VDP

See visual descent point.

FAA definition of **Visual descent point (VDP)**:

A defined point on the final approach course of a nonprecision straight-in approach procedure from which normal descent from the MDA to the runway touchdown point may be commenced, provided the runway environment is clearly visible to the pilot.

Vector

A force vector is a graphic representation of a force and shows both the magnitude and direction of the force.

Vectoring

Navigation guidance by assigning headings.

VEF

Calibrated airspeed at which the critical engine of a multi-engine aircraft is assumed to fail.

Velocity

The speed or rate of movement in a certain direction.

Venturi tube

A specially shaped tube attached to the outside of an aircraft to produce suction to allow proper operation of gyro instruments.

Vertical axis

An imaginary line passing vertically through the center of gravity of an aircraft. The vertical axis is called the z-axis or the yaw axis.

Vertical card compass

A magnetic compass that consists of an azimuth on a vertical card, resembling a heading indicator with a fixed miniature airplane to accurately present the heading of the aircraft. The design uses eddy current damping to minimize lead and lag during turns.

Vertical speed indicator (VSI)

A rate-of-pressure change instrument that gives an indication of any deviation from a constant pressure level.

Vertical stability

Stability about an aircraft's vertical axis. Also called yawing or directional stability.

Very-high frequency (VHF)

A band of radio frequencies falling between 30 and 300 MHz. Very-high frequency omnidirectional range (VOR). Electronic navigation equipment in which the flight deck instrument identifies the radial or line from the VOR station, measured in degrees clockwise from magnetic north, along which the aircraft is located.

Vestibule

The central cavity of the bony labyrinth of the ear, or the parts of the membranous labyrinth that it contains.

VFE

The maximum speed with the flaps extended. The upper limit of the white arc.

VFR

See visual flight rules.

FAA definition of **Visual flight rules (VFR)**:

Flight rules adopted by the FAA governing aircraft flight using visual references. VFR operations specify the amount of ceiling and the visibility the pilot must have in order to operate according to these rules. When the weather conditions are such that the pilot cannot operate according to VFR, he or she must use instrument flight rules (IFR).

VFR on top

ATC authorization for an IFR aircraft to operate in VFR conditions at any appropriate VFR altitude.

VFR over the top

A VFR operation in which an aircraft operates in VFR conditions on top of an undercast.

VFR terminal area chart

At a scale of 1:250,000, a chart that depicts Class B airspace, which provides for the control or segregation of all the aircraft within the Class B airspace. The chart depicts topographic information and aeronautical information including visual and radio aids to navigation, airports, controlled airspace, restricted areas, obstructions, and related data.

V-G diagram

A chart that relates velocity to load factor. It is valid only for a specific weight, configuration and altitude and shows the maximum amount of positive or negative lift the airplane is capable of generating at a given speed. Also shows the safe load factor limits and the load factor that the aircraft can sustain at various speeds.

Victor airways

Airways based on a centerline that extends from one VOR or VORTAC navigation aid or intersection, to another navigation aid (or through several navigation aids or intersections); used to establish a known route for en route procedures between terminal areas.

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Visual meteorological conditions (VMC)

Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling meeting or exceeding the minimums specified for VFR.

VLE

Landing gear extended speed. The maximum speed at which an airplane can be safely flown with the landing gear extended.

VLO

Landing gear operating speed. The maximum speed for extending or retracting the landing gear if using an airplane equipped with retractable landing gear.

VMC

Minimum control airspeed. This is the minimum flight speed at which a light, twin-engine airplane can be satisfactorily controlled when an engine suddenly becomes inoperative and the remaining engine is at takeoff power.

VMC

See visual meteorological conditions.

FAA definition of **Visual meteorological conditions (VMC)**:

Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling meeting or exceeding the minimums specified for VFR.

VNE

The never-exceed speed. Operating above this speed is prohibited since it may result in damage or structural failure. The red line on the airspeed indicator.

V NO

The maximum structural cruising speed. Do not exceed this speed except in smooth air. The upper limit of the green arc.

VOR

See very-high frequency omnidirectional range.

VORTAC

A facility consisting of two components, VOR and TACAN, which provides three individual services: VOR azimuth, TACAN azimuth, and TACAN distance (DME) at one site.

VOR test facility (VOT)

A ground facility which emits a test signal to check VOR receiver accuracy. Some VOTs are available to the user while airborne, while others are limited to ground use only.

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VSI

See vertical speed indicator.

FAA definition of **Vertical speed indicator (VSI)**:

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VS0

The stalling speed or the minimum steady flight speed in the landing configuration. In small airplanes, this is the power-off stall speed at the maximum landing weight in the landing configuration (gear and flaps down). The lower limit of the white arc.

VS1

The stalling speed or the minimum steady flight speed obtained in a specified configuration. For most airplanes, this is the power-off stall speed at the maximum takeoff weight in the clean configuration (gear up, if retractable, and flaps up). The lower limit of the green arc.

V-tail

A design which utilizes two slanted tail surfaces to perform the same functions as the surfaces of a conventional elevator and rudder configuration. The fixed surfaces act as both horizontal and vertical stabilizers.

VX

Best angle-of-climb speed. The airspeed at which an airplane gains the greatest amount of altitude in a given distance. It is used during a short-field takeoff to clear an obstacle.

VY

Best rate-of-climb speed. This airspeed provides the most altitude gain in a given period of time.

VYSE

Best rate-of-climb speed with one engine inoperative. This airspeed provides the most altitude gain in a given period of time in a light, twin-engine airplane following an engine failure.