

# CESSNA 172 SPEEDS

1974-75 MODEL

NOTE: All airspeeds are in Indicated Airspeed (IAS) and are based on the aircraft at maximum gross weight unless otherwise noted.

## Published V-Speeds

V-Speed Symbol	Speed Value	What Is It?
V <sub>SO</sub>	54 MPH	Stall speed or minimum steady flight speed in the landing configuration (flaps fully extended).
V <sub>S1</sub>	61 MPH	Stall speed or minimum steady flight speed in the clean configuration (flaps fully retracted).
V <sub>R</sub>	60 MPH	Rotation speed. The speed at which the nosewheel is lifted from the runway during takeoff.
V <sub>X</sub>	75 MPH	Best Angle speed. In a climb it provides the maximum gain in altitude for the <i>distance</i> traveled forward.
V <sub>Y</sub>	91 MPH, Sea Level 80 MPH, 10,000' MSL	Best Rate speed. In a climb it provides the maximum gain in altitude per unit of <i>time</i> traveled.
V <sub>ENROUTE CLIMB</sub>	80-90 MPH	In a climb it provides increased forward visibility and engine cooling.
V <sub>BEST GLIDE</sub>	80 MPH, 2300 Lbs.	In a glide it provides the maximum distance traveled forward with the minimum altitude lost.
V <sub>FE</sub>	110 MPH	Full Flaps Extended speed. Maximum speed at which flaps may be fully extended.
V <sub>A</sub>	112 MPH, 2300 Lbs.	Design Maneuvering speed. Maximum speed at which full, abrupt deflection of the controls can be made without causing structural damage. Reduce speed to this value when in rough air.
V <sub>NO</sub>	145 MPH	Maximum Structural Cruising speed. Do not exceed this speed except in <i>smooth</i> air.
V <sub>NE</sub>	182 MPH	Never Exceed speed. Do not exceed this speed under any circumstances.
Max. Demonstrated Crosswind	17 MPH (15 KTS)	Maximum crosswind component during which the aircraft has been landed by the manufacturer test pilot.

## Airspeed Indicator Markings

Range	Arc Color	Speed Values	What Is It?
Full Flap Operating	White	54-100 MPH	Range of speed at which flaps may be fully extended.
Normal Operating	Green	61-145 MPH	Range of speed at which the aircraft is normally operated.
Caution	Yellow	145-182 MPH	Range of speed at which the aircraft should be operated only in <i>smooth</i> air, and then only with caution.
Never Exceed	Red Line	182 MPH	Never Exceed speed. Do not exceed this speed under any circumstances.

## Operational Speeds

Operation	Speed Values
Normal Takeoff (0° Flaps)	1.) $V_R$ 60 MPH 2.) $V_Y$ 91 MPH
Short-Field Takeoff, No Obstacle (10° Flaps)	1.) $V_R$ 60 MPH 2.) $V_Y$ 91 MPH
Short-Field Takeoff, Obstacle Clearance (10° Flaps)	1.) $V_R$ 60 MPH 2.) $V_X$ 75 MPH 3.) $V_Y$ 91 MPH (when obstacle cleared)
Soft-Field Takeoff, No Obstacle (10° Flaps)	1.) Lift off as soon as possible 2.) $V_Y$ 91 MPH
Soft-Field Takeoff, Obstacle Clearance (10° Flaps)	1.) Lift off as soon as possible 2.) $V_X$ 75 MPH 3.) $V_Y$ 91 MPH (when obstacle cleared)
Normal Landing (0° Flaps)	1.) 70-80 MPH final approach
Normal Landing (40° Flaps)	1.) 65-75 MPH final approach
Short-Field Landing (40° Flaps)	1.) 70 MPH final approach speed
Soft-Field Landing (40° Flaps)	1.) 70 MPH final approach speed

## Average Cruise Speeds (based on 5000 feet Pressure Altitude, Standard OAT, No Wheel Fairings)

75% power, Best Economy Leaning	131 MPH True Airspeed (113 KTS TAS)
65% power, Best Economy Leaning	124 MPH True Airspeed (107 KTS TAS)
55% power, Best Economy Leaning	112 MPH True Airspeed (97 KTS TAS)