

PIPERSPORT SPEEDS

NOTE: All airspeeds shown are expressed in Knots Indicated Airspeed (KIAS) 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 _{SO}	32 KIAS	Stall speed or minimum steady flight speed in the landing configuration (flaps fully extended).
V _{S1}	39 KIAS	Stall speed or minimum steady flight speed in the clean configuration (flaps fully retracted).
V _R	42 KIAS, 0° Flaps	Rotation speed. The speed at which the nosewheel is lifted from the runway during takeoff.
V _X	60 KIAS, 0° Flaps	Best Angle speed. In a climb it provides the maximum gain in altitude for the <i>distance</i> traveled forward.
V _Y	65 KIAS, Sea Level 65 KIAS, 3000' MSL 60 KIAS, 6000' MSL 55 KIAS, 9000' MSL (All speeds at 0° Flaps)	Best Rate speed. In a climb it provides the maximum gain in altitude per unit of <i>time</i> traveled.
V _{BEST GLIDE}	60 KIAS	In a glide it provides the maximum distance traveled forward with the minimum altitude lost.
V _{FE}	75 KIAS	Full Flaps Extended speed. Maximum speed at which flaps may be fully extended.
V _A	88 KIAS, 1320 Lbs. 70 KIAS, 900 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 _{NO}	108 KIAS	Maximum Structural Cruising speed. Do not exceed this speed except in <i>smooth</i> air.
V _{NE}	138 KIAS	Never Exceed speed. Do not exceed this speed under any circumstances.
Max. Demonstrated Headwind	24 KTS	Maximum headwind component during which the aircraft has been landed by the manufacturer test pilot.
Max. Demonstrated Crosswind	12 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	32-75 KIAS	Range of speed at which flaps may be fully extended.
Normal Operating	Green	39-108 KIAS	Range of speed at which the aircraft is normally operated.
Caution	Yellow	108-138 KIAS	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	138 KIAS	Never Exceed speed. Do not exceed this speed under any circumstances.

Operational Speeds

Operation	Speed Values
Normal Takeoff (0° Flaps)	1.) V_R 42 KIAS 2.) V_Y 65 KIAS
Short-Field Takeoff, Obstacle Clearance (10° Flaps)	1.) V_R 42 KIAS 2.) V_X 60 KIAS 3.) V_Y 65 KIAS (when obstacle cleared)
Soft-Field Takeoff (10° Flaps)	1.) V_R 42 KIAS 2.) V_Y 65 KIAS
Soft-Field Takeoff, Obstacle Clearance (10° Flaps)	1.) V_R 42 KIAS 2.) V_X 60 KIAS 3.) V_Y 65 KIAS
Normal Landing (30° Flaps)	1.) 60 KIAS final approach
Short-Field Landing (30° Flaps)	1.) 60 KIAS final approach
Soft-Field Landing (30° Flaps)	1.) 60 KIAS final approach
Traffic Pattern	1.) Downwind: 85 KIAS / 0° Flaps 2.) Abeam Touchdown: 70 KIAS / 10° Flaps 3.) Base: 70 KIAS / 20° Flaps 4.) Final: 60 KIAS / 30° Flaps

Average Cruise Speeds (based on Standard OAT, Wheel Fairings Installed)

3000' MSL: 75% power (5000 RPM)	98 KTAS (True Airspeed)
6000' MSL: 75% power (5000 RPM)	95 KTAS (True Airspeed)
9000' MSL: 75% power (5000 RPM)	85 KTAS (True Airspeed)