

## Cessna 172 Differences

V-Speed	Description	S Model IAS KTS	R Model IAS KTS	N Model IAS KTS	M Model IAS KTS
V <sub>NE</sub>	Never exceed speed.	163	163	160	160
	Max window open speed	163	163	160	160
V <sub>NO</sub>	Maximum structural cruising (normal operating) speed.	129	129	128	128
V <sub>A</sub>	Maneuvering speed at max gross weight of At a gross weight of At a gross weight of	2550#-105 2200#-98 1900#-90	2450#-99 2000#-92 1600#-81	2300#-97 1950#-89 1600#-80	2300#-97 1950#-89 1600#-80
V <sub>FE</sub>	Maximum Flap Extended Speed at 10° Flaps Greater than 10° to 30°	110 85	110 85	<b>85</b> 85	<b>85</b> 85
V <sub>Y</sub>	Best rate of climb speed (Sea Level). At 10,000'	74 72	79 71	73 68	78 68
V <sub>X</sub>	Best angle of climb speed (Sea Level). At 10,000' With 10° of flaps on a short-field takeoff (R/S only) With 10° of flaps on soft-field with obstacle takeoff (M/N) Obstacle speed (flaps up)	62 67 56	60 65 57	59 61  55	64 62  55 59
	En route climb (Sea Level). At 10,000'	75-85 70-80	75-85 70-80	75-85 70-80	80-90 70-80
	Balked landing with maximum power and 20° of flaps	60	55	55	55
V <sub>R</sub>	Rotation speed for normal takeoff with flaps up.	55	55	55	55
V <sub>REF</sub>	Final approach speed for normal landing with full flaps.	60-70	60-70	55-65	55-65
V <sub>REF (No Flap)</sub>	Final approach speed for normal landing with no flaps.	65-75	65-75	60-70	60-70
V <sub>REF (Short)</sub>	Final approach speed for short field landing with full flaps.	61	62	60	60
	Landing without engine power with Flaps up. Flaps down.	70 65	65 60	65 60	65 60
	Maximum demonstrated crosswind velocity	15	15	15	15
V <sub>S</sub>	Stall speed with flaps up.	48	44	47	47
V <sub>S0</sub>	Stall speed with flaps down.	40	33	41	41
V <sub>GLIDE</sub>	Best glide speed.	68	65	65	65
	Short-field takeoff flap setting	10°	10°	Flaps Up	Flaps Up

### C172 Additional Limits/Dimensions

Description	S Model Limits	R Model Limits	N Model Limit	M Model Limits
Maximum Gross Weight (takeoff)	2550 lbs. (2200 for utility)	2450 lbs. (2100 for utility)	2300 lbs. (2000 for utility)	2300 lbs. (2000 for utility)
Maximum Baggage (areas 1 & 2)	120 lbs. & 50 lbs. (0 for utility)	120 lbs. & 50 lbs. (0 for utility)	120 lbs. & 50 lbs. (0 for utility)	120 lbs. & 50 lbs. (0 for utility)
Fuel Capacity	56 Gal	56 Gal	54 Gal	42 Gal
Usable Fuel	53 Gal	53 Gal	50 Gal	38 Gal
Oil Capacity	8 Qts. (No ops less than 6)	8 Qts. (No ops less than 6)	7 Qts. (No ops less than 5)	8 Qts. (No ops less than 6)
Maximum Power	180 hp @ 2700 RPM	160 hp @ 2400 RPM	160 hp @ 2700 RPM	150 hp @ 2700 RPM
Static RPM range at full throttle (carb heat off - Lites / full rich mixture - all)	2300 to 2400 RPM	2065 to 2165 RPM	2280 to 2400 RPM	2300 to 2420 RPM
Wing Span	36' 1"	36' 1"	36'	36'
Length	27' 2"	26' 11"	26' 11"	26' 11"
Height	8' 11"	8' 11"	8' – 9' 6"	8' – 9' 6"

### C172 Operational Differences

No flaps used for short-field takeoff in the M & N models, 10° for the R & S models.

Flaps 10° for soft-field takeoff in all models. Flaps up for instrument approaches at 90 knots in all models.

Flaps are limited to **85 KIAS for any setting greater than 0° in the Lites, 110 KIAS for 10° for the R & S models.**

(Note: Flap indicator in N5033R shows a limit of 100 MPH which should be treated as an 85 KIAS limitation.)

Full flaps are 40° in the M & N, 30° for the R & S models.

The flap switch in the M models has 3 positions down (spring loaded to off), off, & up. Flap angle will need to be visually estimated when putting them down (installed gauge is questionable). When doing a go-around from the 40° flap position, place the switch in the up position for approximately 2 seconds then return it to the off position. This should approximate 20° of flaps. Always return the switch to the off position after fully raising the flaps. The N, R, & S models have the newer style switch & indicator.

The M & N models have carbureted engines and thus carburetor heat. Carburetor heat should be applied prior to any significant reduction or closing of the throttle. Must be off for takeoff and turned off after power application during go-around.

The fuel selector on all of the M & N models has an OFF position. The R & S models do not have an off position on the fuel selector but have a separate fuel shutoff valve.

The M & N models have one fuel drain for each wing tank and the fuel strainer is drained by activating the lever by the oil cap. The R & S models have 13 fuel system drains; 5 under each wing and 3 under the fuselage.

N75860 (N model) has rudder trim which uses a bungee system rather than aerodynamic trim. It has no placard on use but moving lever to right is like pushing the right rudder pedal.

N75860 & N32GV are equipped for VFR (day/night) only and are considered Cessna 172 Lites. N5033R is equipped VFR/IFR (day/night) with a 430W tied to a G5 HSI and a second Nav/Com tied to a traditional OBS. R & S models are equipped VFR/IFR (day/night) with multiple navigation radios.

On N32GV, an Alternator Inoperative placard replaces High Voltage placard indicated in manual due to PMA part replacement. The placard in N5033R indicates both Alternator Inop and High Voltage. N75860 has an updated regulator that will also light the HIGH VOLTAGE warning light when a low voltage condition exists. The R & S systems are per their respective manuals.

The M & N models have an avionics switch which is not indicated in the standard manuals.

Recommended maneuver entry speeds from manuals and placards for all models.

MANEUVER	RECOMMENDED ENTRY SPEED*
Chandelles	105 knots
Lazy Eights	105 knots
Steep Turns	95 knots
Spins	Slow Deceleration
Stalls (Except Whip Stalls)	Slow Deceleration

## C172 System Differences

Component	S Model	R Model	N Model	M Model
<b>Engine</b>	Lycoming IO-360-L2A 180 BHP @ 2700 RPM	Lycoming IO-360-L2A 160 BHP @ 2400 RPM	Lycoming O-320-D2J installed under an STC 160 BHP @ 2700 RPM Fuel supplied by gravity only N75860 has an EI EGT gauge installed.	Lycoming O-320-E2D 150 BHP @ 2700 RPM Fuel supplied by gravity only. N32GV has an EI EGT gauge installed
<b>Electrical System</b>	28-volt DC system with a belt driven, 60-amp alternator. 24 volt, 12.75 amp hour battery	28-volt DC system with a belt driven, 60-amp alternator. 24 volt, 12.75 amp hour battery	14 volt DC system with 60 amp belt driven alternator. 12 volt, 25 amp hour battery located on the firewall.	14 volt DC system with 60 amp belt driven alternator. 12 volt, 25 amp hour battery located on the firewall.
<b>Ventilation</b>	Overhead vents are variable control by twisting ring to adjust valve.	Overhead vents are variable control by twisting ring to adjust valve.	Overhead vents are "can" style with a twist lock to keep them closed.	Overhead vents are "can" style with a twist lock to keep them closed.

Carbureted engines on M & N models have manual primers, carb heat, accelerator pumps activated by throttle control, up draft-float type-fixed jet carburetors mounted below the engine. Air from the carburetor heater is unfiltered and will cause a 100 to 225 RPM loss at full power.

N75860 & N32GV have a single Garmin GTR 255, Communications only unit with a built in intercom. Capable of monitoring the standby frequency with priority given to the primary frequency. Manual available online.

The seats on the M & N models have a locking inertial reel safety system mounted under the seats. The locks can be engaged and disengaged using the seat release latch. The inertial mechanism will engage the lock regardless of the latch position if the seat slides back too quickly. Seat belts are anchored to the floor, not the seat. Move seat forward first before fastening. Shoulder harnesses must be clipped to the lap belt.

The aircraft model is specified in Flight Schedule Pro as a reminder. The following also summarizes the models.

Cessna 172M	Cessna 172N	Cessna 172R	Cessna 172S	C-172S-G1000
N32GV N5033R	N75860	N121UC N2386V N377ES N53417 N9545F	N2135S N362SP N5315E N536SP	N12064