

CESSNA 172S Skyhawk Model Guide

The CESSNA 172S Skyhawk is a single-engine piston airplane with a 180 hp Textron Lycoming IO-360 (IO-360-L2A) and a fixed-pitch 76 inch McCauley propeller. It is fuel injected, with 56 gallons of total fuel capacity (53 usable). It has a maximum takeoff weight of 2550 lbs and a 120 lb baggage allowance. Book cruise is 120 kts. Listed range is 640 nm.

KEY TAKEAWAYS

- The CESSNA 172S Skyhawk has a 2550 lb max takeoff weight, 56 gal total fuel (53 usable) and a 120 lb baggage allowance.
- Book numbers: 120 kts cruise, 8 gph fuel burn, 730 fpm climb, 14000 ft service ceiling.
- Useful load differs by airplane. The library lists 881.8 lbs. The Purdue Aviation sheet shows individual airplanes from 841.5 to 885.7 lbs. Weigh the actual aircraft you are buying.
- Book takeoff is 1525 ft ground roll and 2000 ft over a 50 ft obstacle. Landing is 1350 ft ground roll and 1500 ft over 50 ft. Maximum crosswind is 15 kts.
- If the airplane has a KAP 140 autopilot, check that the AD software update has been done.

WHAT YOU ARE BUYING

The CESSNA 172S Skyhawk has a 36 ft wingspan, is 27 ft long and 8 ft high. The engine is a fuel-injected, four-cylinder, normally aspirated 180 hp Textron Lycoming IO-360-L2A at 2700 RPM. The approved fuels are 100LL (blue) and 100 grade (green). Avionics seen in the sources include the Garmin G1000 Nav III system, and the POH covers a Nav III airplane with a KAP 140 autopilot.

WEIGHT AND LOADING

Max takeoff and landing weight are both 2550 lbs. Max ramp weight is 2558 lbs. The utility category limit is 2200 lbs. The library lists basic empty weight as 1676.2 lbs and useful load as 881.8 lbs. The POH lists standard empty weight as 1663 lbs and max useful load as 895 lbs. Purdue Aviation's individual airplanes show empty weights from 1664.3 to 1715.4 lbs. With 56 gal of fuel on board, the useful load left for people and bags is smaller. The CG range is 36 to 47 inches.

PERFORMANCE AND PLANNING

The library lists cruise at 120 kts, fuel burn at 8 gph, range at 640 nm, climb at 730 fpm and service ceiling at 14000 ft. The POH allows 45 minutes reserve in its range and endurance charts. It warns that leaning technique, engine and propeller condition and turbulence can change range and endurance by 10% or more. A reference-only table says to decrease takeoff and landing distances 10% for each 9 knots of headwind. It says to increase the takeoff ground roll 15% on dry grass. It says a flaps-up landing needs 9 KIAS more approach speed and 35% longer distances.

WHAT TO CHECK BEFORE BUYING

Compare the actual weighed empty weight and useful load against the book figures. Confirm that the KAP 140 autopilot software update required by the airworthiness directive is documented, if the airplane has that autopilot. Verify that the POH matches the airplane's serial number and that the revision is current. The 172S POH in the sources is Revision 5, dated 29 August 2014.

SPECIFICATIONS

Wingspan Ft	36
Length Ft	27
Height Ft	8
Engine Hp	180
Propeller Diameter Inches	76
Fuel Capacity Gal	56
Usable Fuel Gal	53

PERFORMANCE

Cruise Speed Kts	120
Range Nm	640
Fuel Burn Gph	8
Rate Of Climb Fpm	730
Service Ceiling Ft	14000
Takeoff Ground Roll Ft	1525
Takeoff Over 50ft Ft	2000
Landing Ground Roll Ft	1350
Landing Over 50ft Ft	1500
Max Crosswind Kts	15
Stall Speed Clean Kts	48
Stall Speed Landing Kts	40

V-SPEEDS

Vr Kts	55
Vx Kts	62
Vy Kts	74
Vref Kts	65
Best Glide Kts	68
Vs1 Kts	48
Vso Kts	40
Vno Kts	129
Vne Kts	163
Vfe 0 10 Kts	110
Vfe 10 30 Kts	85
Va 2550 Lbs Kts	105
Va 2200 Lbs Kts	98
Va 1900 Lbs Kts	90

WEIGHT & BALANCE

Max Takeoff Weight Lbs	2550
Max Landing Weight Lbs	2550
Max Ramp Weight Lbs	2558
Utility Max Takeoff Weight Lbs	2200
Basic Empty Weight Lbs	1676.2
Useful Load Lbs	881.8
Baggage Allowance Lbs	120
Cg Forward Limit Inches	36
Cg Aft Limit Inches	47

SAFETY NOTES

- The KAP 140 autopilot AD was issued after reports of inadvertent and undetected autopilot engagement on Cessna 172R and 172S airplanes. The update was due within 100 hours time in service of the effective date.
- POH performance figures are calculated values and will vary with individual airplanes. Plan conservatively.
- Stay within the 15 kt maximum crosswind figure listed for the airplane.