

2009 Cessna 172S: Skyhawk In Year 53



Forever young

By Bill Cox, Photos By Scott Slocum

Is it just me, or does the Cessna Skyhawk seem younger than 53? After all, take away the panel, paint and interior, and you might mistake a 2009 for a 1964 model if both airplanes were parked side by side on the ramp in bare aluminum livery. But while the current model's configuration is physically very similar to that of the older models, the 2009 172S is a very different machine from that early version.



The aircraft can reach cruise speeds of 126 knots (at 75% power). Pictured above are its wingtip LED nav lights.

No, we're not planning to detail a half-century of Skyhawk changes. We're more interested in what the 172 has become than what it used to be. We'll also skip any discussion of comparative price, as price is always relative. Before you scoff and allege that the 21st-century Skyhawk represents 20th-century technology in contrast to the Cirrus SR20/22, Diamond Star and Cessna's own Corvalis 350/400, consider that what went before and still remains continues to have an undeniably strong attraction for many pilots.

Right up front, the Skyhawk is the most successful airplane in the world—period. There has been a total of 36,000 units delivered. More to the point, since Cessna restarted production in 1997, the company has sold some 4,400 new-generation Skyhawks of all descriptions. At an average \$175,000 per unit, that represents \$700 million in sales in a mere dozen years.

The 2009 Skyhawk S continues the tradition of the 172, and it's the final recipient of a half-century power revolution. (Okay, maybe just a little history.) The original airplane was born with a 145 hp Continental O-300. Then, Cessna transitioned to a 150 hp Lycoming O-320 powerplant. In 1977, the company pushed the O-320's power to 160 hp, and the new-generation Skyhawk has finally settled on 180 hp with an injected Lycoming IO-360. (Yes, there was a prior 180 hp model back in the 1980s, the Cutlass, but relatively few were built.) The former 160 hp 172R was available in 2008, but few were sold, and Cessna has discontinued the lower-powered airplane for the 2009 model year.

After 30 years of writing about each subsequent Skyhawk, it might seem tough to find anything new to say. The truth is, however, love 'em or not, you have to admire their staying power. Cessna's durable everyman's single is an all-around good airplane. The Skyhawk is a little like the Toyota Camry (an American car, by the way, for the benefit of xenophobes). It has always been such a good design in so many ways that even its detractors have to acknowledge its strengths.



The simple fact remains that, even if an airplane isn't outstanding in any one category, there are few San Andreas-level faults in general aviation designs. The Skyhawk may not be the fastest, the quickest climber, the best load lifter or even the cheapest, but it combines enough high marks to come out near the top in any competition. (My friend, Formula One driver Keke Rosberg, won the 1982 F1 racing championship despite having placed first only once in the series' 20 races.)

2009 Skyhawk Enhancements

- **Garmin Synthetic Vision Technology (SVT): optional**
- **AeroTect protective films: standard**
- **Improved yoke chart clip: standard**
- **Fuel sampler stowage provisions: standard**
- **Pictorial passenger briefing cards: standard**
- **Precise Flight oxygen masks & regulators: turbo models**
- **Observer seat: optional**
- **Exterior styling: standard**



Skyhawks have long been regarded as perhaps the premier entry-level family airplane, a reasonable 2+2 machine with reduced fuel and a forgiving two-seater in full fuel mode. Indeed, in addition to their use as rental leasebacks, Skyhawks remain among the most popular trainers in general aviation.

Like many of you, I've logged my share of hours in Skyhawks of various vintage, driving some across oceans and pedaling others on local hops when my airplane was in the shop. I may have a slightly

different perspective than some pilots, however, as I'm fortunate to fly virtually all the competition each year. While that definitely doesn't give me a corner on ultimate truth, it does impart a certain perspective on the relative merits of a given design.

Better still, the lady in my life is a low-time student pilot just starting off in aviation who also has had a chance to compare a number of airplanes. In less than a year, Peggy Herrera has flown about a dozen models, from all three new Cessnas (Skyhawk S, T-Skylane and T-206), a Piper Archer and Malibu to a Beech F33A Bonanza, a Mooney Executive, a Marchetti SF.260, the Goodyear Blimp and probably a few others I've forgotten.

"From a student pilot's perspective," says Herrera, "the Skyhawk is an extremely simple airplane to fly in almost every respect—almost. I've been lucky to train in an air-conditioned 2008 model with a G1000 flat-panel display. The Skyhawk couldn't be more straightforward, and I certainly understand why it's such a popular trainer. Control response is slow and gentle, the flaps are very effective and stall speed is so low that nothing needs to happen very fast in the pattern.



The all-leather seats can be

"That's an important advantage for new students having trouble keeping up with the airplane, especially during landing," Herrera continues. "I'd love to have ropes on the nose of the airplane like the Goodyear Blimp, so a ground crew could help me land, but short of that, the Skyhawk has to be one of easiest machines to put back on the ground."

Herrera feels that perhaps the most challenging aspect of the newer Skyhawk is the G1000 glass panel. "It's a little overwhelming until you understand the logic, but the technology is impressive," she says.

For short people such as Herrera, the Skyhawk's tall panel presents a bit



The aircraft's electric trim control is located on the yoke.

equipped with Am Safe seat belts/ air bags.

of a challenge, but at least both front seats are vertically adjustable in partial compensation. Cessna hasn't changed the airplane's internal dimensions much over the years. It's relatively easy to climb aboard, and the AmSafe seat belts/air bags spring from the center to attach at the doors rather than the other way around. In other words, you'd best fasten the belts before closing the doors.

The cabin is 39.5 inches across by 48 inches high, so you're better off being tall than wide. In fairness, the door panels are recessed at the armrest to accommodate elbows. The cabin does narrow in back, so those passengers relegated to the rear have good reason to be small of beam.

Once you're properly perched in the left seat, the view is good, with plenty of Plexiglas in all the right places. The Skyhawk's tricycle gear provides a fairly stable ride on the ground, with little need for brakes to steer the airplane.

Even with 180 hp out front, nothing happens too quickly when the left knob goes full forward, again more of a positive than a negative. The Skyhawk S boasts a reasonable 730 fpm climb at gross, so students, owners and renters alike can score reasonable climb from sea level most of the time. Similarly, the airplane is fairly adept at training from semi-high-altitude Mountain West locations such as Albuquerque, Denver, Salt Lake and Reno. Service ceiling is 14,000 feet. That means cruise can be as tall as 10,500 feet without an especially labored climb.

Max cruise performance comes at 8,000 feet, however. The NACA 2412 airfoil is optimized more for climb than cruise, but the airplane will still generate about 125 knots if the CG is full aft, vents are closed, prop and engine are working at optimum, conditions are otherwise willing and your biorhythms are all high.

Specific fuel consumption is fairly immutable, and the Skyhawk's durable IO-360 engine scores about 0.43 lbs./hp/hr. From that, it's fairly easy to extrapolate fuel burn at 75% (135 hp), 65% (117 hp) and 55% power (99 hp). The pure numbers work out to 9.7 gph, 8.4 gph and 7.1 gph, respectively. If that's too precise to remember, just think of burn as 10, 9 and 8 gph, respectively, and you'll always be on the safe side.



The Skyhawk now comes standard with the Garmin G1000 glass panel, including terrain and traffic, XM Satellite Weather and G700 autopilot. Synthetic Vision Technology is an option.

equipped airplane sports a payload of about 500 pounds, easily enough for two folks up front plus one or two munchkins in back. Full fuel is 53 gallons, and if you leave 20 gallons in the truck (with about 2.5 hours of endurance plus reserve remaining), payload increases to just over 600 pounds, not quite four folks worth.

The good news is that pilots rarely are tempted to fly a full seats/full tanks mission in a Skyhawk, though the new glass panel and gee-whiz Garmin autopilot would make the trip next to automatic.

Despite their high use rate, Skyhawks benefit from an excellent safety record. That's partially a function of the model's low approach speeds, and also because the airplane is a reasonably tough machine. Drag is sufficient to keep speed from building excessively, even if a pilot gets into a graveyard spiral (though it's hard to imagine how one could do that in a Skyhawk). With those thick, tough struts connecting the wings to the fuselage, even full control deflection shouldn't break anything, and the NTSB has few reports of in-flight structural failure.

As Peggy Herrera described above, students and owners love the airplane, and that's partially a function of how many cheeks it's been able to turn to the mistreatment of pilots and the hands of time.

The first Skyhawk was the first modern three-passenger Cessna with four seats installed. Today, a typically

One trick that's fun in a Skyhawk if the load isn't heavy is a short-field takeoff. The technique is simple: power to the stop against locked brakes at the first foot of runway, release the binders when power peaks, count to three, lever in two notches of flaps and rotate at 35 knots. It's not that dramatic, but if you do it right, the airplane will transition to the sky in less than 800 feet.

Similarly, the 172's low stall speed allows short-field landings shorter than 500 feet if you're willing to use the bush pilot's 1.2 V_{so} approach speed. Approach at 57 knots rather than the recommended 65 knots, and you can ground the airplane and brake to a stop in less than 500 feet.

The usual proviso applies, however. Don't try this at home unless you're very familiar with the stall characteristics and the wind is steady and right down the runway. There was a time when you could buy a Skyhawk in bare-bones configuration, then add options at will. No more. The "basic" Skyhawk S is hardly basic in any respect. At \$297,000, it comes standard with the Garmin G1000 glass panel, including terrain and traffic, XM Satellite Weather and Mode S transponder, plus Garmin's do-everything G700 autopilot, the aforementioned vertically adjusting, all-leather seats and most of the other options pilots normally order. The option list is short; primarily, air conditioning (\$29,365), TAWS-B (\$8,935), Synthetic Vision (\$9,400), AmSafe seat belts (\$1,785) and three-frequency ELT (\$7,920).

At 53 years old, the latest Skyhawk has aged better than Heather Locklear. It may not win the swimsuit competition (Locklear still might!), but along with the Cirrus SR22, the venerable 172 has proven to be one of the airplanes most pilots buy most often.

Garmin G1000 Tips *By Joe Shelton*

1 SIMPLIFY INSTRUMENT APPROACH PROCEDURES.

The process of selecting an approach procedure is both easy and confusing. Easy because you should always start with the PROC button to select the procedure. Confusing because you'll typically be offered the opportunity to either load or activate the procedure.

Activating a procedure means that the autopilot immediately will transition to the initial approach fix as the active waypoint. Sometimes that's what you want, but often, it isn't. You should only activate an approach when you're actually transitioning to the IAF for the approach. If ATC gives you a vector or directs you to another waypoint, you'll have to scramble. An easier solution is to select the full procedure and load it instead. Then, when you're given a clearance direct to any waypoint in the procedure, you'll simply select the waypoint, choose Direct To and ENT, and that segment and the rest of the approach will become active.



2 OPTIMIZE CLIMB PROFILES. A modern aircraft's POH provides an airspeed range for optimal engine operation during cruise climb. The G1000 doesn't let you set the cruise climb speed (i.e., flight level change or FLC) before takeoff. Instead, set vertical speed (VS), select the rate of climb in fpm and use that for the initial autopilot climb.

When appropriate, switch to the cruise climb airspeed.

Combining the two options during departure works because the initial climb can be at a predetermined rate of climb to reach a safe altitude quickly, and the cruise climb should be at the optimal airspeed. First, set the autopilot using VS, then use the NOSE UP or NOSE DN buttons to

set the initial climb rate, which is displayed at the top right of the altitude ribbon. Engage the autopilot after takeoff. As the aircraft passes an appropriate altitude (e.g., 1,500 AGL), press the FLC button, and the the autopilot will continue to climb at the current airspeed. Adjust to the desired cruise climb speed with the NOSE UP and NOSE DN buttons. The desired climb rate will be shown at



the top of the airspeed ribbon. The climb will continue at the selected airspeed until reaching the target altitude.

3 PREPARE EARLY FOR ALTITUDE CHANGES. When on a nonprecision instrument approach, or anytime there's a predetermined altitude change, the normal procedure is to wait until the altitude change begins, then enter the new altitude and the rate of climb and command the autopilot to make the altitude change. It's actually easier to prepare slightly early, especially during an instrument approach. Once you're level at an assigned altitude, enter the next target altitude using the ALT knob. Press the VS button on the autopilot to set up for the descent or climb. Monitor that the aircraft continues to fly level, then verify the autopilot setup by looking at the autopilot status box at the top of the PFD. When it's time to initiate the altitude change, simply press the NOSE UP or NOSE DN button to set the desired rate. For a descent, you'll probably also want to decrease power; for a climb, you'll want to add power.



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