

Camber-Wing 172/Skyhawk



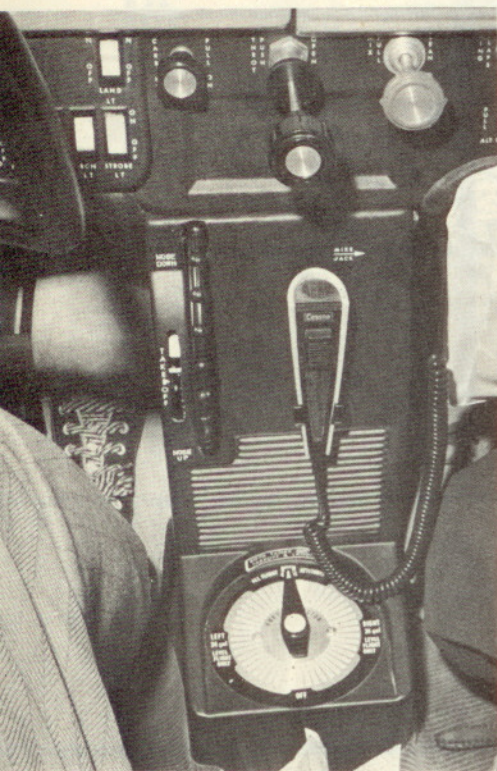
The flight-checked aircraft, a 1973 Cessna Skyhawk, tied down at a private sand strip at Twentynine Palms, Calif.

Photos by Don Downie

According to the owner's manual, there's only one basic difference between the 1972 Cessna Model 172/Skyhawk and the 1973 versions. The new aircraft weigh more empty (20 pounds more for the 172; 30 more for the deluxe Skyhawk). Specifications and published performance figures for 1973 are identical with those for 1972, but there's a not-so-subtle improvement at the very-slow-speed end of the performance envelope.

The one major structural improvement on the 1973 model is addition of a riveted, drooped leading edge (the "camber-lift" wing), similar in geometry to the wider-radius leading edge added to the heavier 182 series a year ago [Feb. 1972 PILOT, page 46]. While this change doesn't show up in any of the new 172's "numbers," it is this reporter's opinion that the revamped leading edge produces greater short-field capabilities and slow-flight stability than

Fuel selector for the tanks on the 1973 172/Skyhawk is safely above floor level, reducing the possibility of accidentally kicking the selector to an "OFF" position.



it does on the heavier Cessna models.

We spent more than 15 hours in N20064, a brand-new Skyhawk with ferry time only on the recording tachometer. When we picked up the ship, the only comment from Bob Gunnell (AOPA 183439), Cessna's Santa Monica, Calif., dealer, was, "Please be careful of the prop when you're landing on dirt."

We made seven off-pavement landings and takeoffs in three subsequent days of flying. When the aircraft was returned, a little of the black paint on the prop tips was eroded, but there wasn't a nick in either blade. Careful pilot technique for soft-field takeoffs included 10 degrees of flaps to shorten the ground roll by about 10 percent, no runup, and a slow application of throttle with the wheel held all the way back until the nosegear left the ground. The "cuffed" leading edge kept the Skyhawk in the air in ground effect (at an altitude substantially less than the wingspan of the airplane) even while the stall warner wailed. Since published specifications don't show it, you'll have to try a maximum-performance takeoff in the 1973 Cessna 172 to prove it for yourself.

Our unimproved-airport landings and takeoffs included two on a rolling, private sand strip at Twentynine Palms, Calif.; two at San Carlos Bay and one at Guaymas in Sonora, Mexico; and a final two at Bahia de los Angeles in Baja California.

Actually, it was easier to get the prop up and out of sand and gravel with three people aboard and full baggage than with a light load. Our only light-weight takeoff was made after refueling at the old Guaymas strip, with just two persons aboard in the front seats. It took considerable speed before the nosewheel wanted to pull up out of the heavy gravel of the runway. With a load aft in the airplane, the nose came up easily at half-throttle or less.

The owner's manual warns rightfully that "if 10 degrees of flaps are used for minimum ground runs, it is preferable to leave them extended rather than retract them in the climb to an obstacle." At the obstacle-clearance speed of 65 mph, the new 172 will tend to settle as the flaps come up under full-gross-weight conditions.

Cessna's owner's manual becomes in-

creasingly complete with each new edition. Factual emergency procedures were added several years ago. One item that we've commented on in previous 172 flights has now been explained fully: "It is not practical to measure the time required to consume all the fuel in one tank, and, after switching to the opposite tank, expect an equal duration from the remaining fuel. The airspace in both fuel tanks is interconnected by a vent line and, therefore, some sloshing of fuel between tanks can be expected when the tanks are nearly full and the wings are not level." Since the fuel vent is outboard of the left wing tank, park your 172 with the right wing low, if you can't put it on level ground.

N20064 had optional 48-gallon long-range tanks. The extra 10 gallons was greatly appreciated when we pumped in 35.7 gallons of 80/87 at Guaymas, after a leisurely flight from Imperial, Calif., with stops in Mexicali and San Carlos. Steps and handles for climbing up to check fuel quantity and caps weigh only 1.7 pounds and cost just \$37.50 at the factory. If the new 172 were mine, I'd add the steps.

Another option that's most desirable for off-field operations is a pair of stabilizer-abrasion boots: 1½ pounds and \$62.50. We found two small paint nicks in the leading edge of the left stabilizer after our seven off-pavement landings.

In recent years, Cessna has added a number of additional safety features, including a broad, shock-absorbing control wheel and a padded instrument visor. The fuel selector valve is protected and is far enough off the floor to be difficult to kick out of position when one enters the aircraft. Shoulder harnesses are standard equipment on both front seats and are options in the rear.

One of Cessna's consistent installations is to place the carburetor-heat control just to the left of the throttle, so that a pilot can push it forward easily as he applies full throttle in a go-around situation.

Tinted skylight windows that date back to the days of the Cessna 120 and 140 were added on N20064. These top windows cost \$145, but add an extra dimension in visibility that may cause

*Addition of the drooped
leading edge to the
1973 model makes a
fine bird even better*

the new 172 pilot to exceed a 30-degree bank in the traffic pattern so that he can admire the horizon through the roof.

There are just two items not on the accessory list that I'd add to the new 172, and the total cost would be less than 50 cents. Item No. 1 would be two short lengths of safety wire or heavy twine to anchor the shoulder-harness attach points to the outside of the lap buckle, so that the shoulder portion of the belt would fall away as the seat-belt is opened.

Item No. 2 would be a simple clothespin to continue a trick used by many World War II pilots (and probably the generation before them). Put the clothespin on the mixture-control knob before takeoff, eliminating any possibility of pulling this knob back to idle cutoff by accident. Then at altitude, as you lean the mixture, put the clothespin on the throttle. Before let-down, when you reduce power, you feel the clothespin, which should re-

mind you to return the mixture to the full-rich position. Again, with the clothespin on the mixture control, it becomes increasingly difficult to goof and pull out the mixture when you think you are reaching for carburetor heat. Sure, the abbreviated checklist tells you all this, but the old clothespin trick makes you doubly sure.

Cessna's performance figures seem accurate-to-conservative, particularly regarding the 865-foot takeoff run at sea level. At 6,500 feet, with full gross weight and 2,450 rpm, we were using 60 percent power and trueing out at 122 mph, while the manual calls for 120 mph. Figures here are calibrated, rather than true speed from ground checkpoints, because of high winds.

We were over the 7-gph fuel consumption that can be expected, since N20064 had no EGT (exhaust gas temperature) gauge and I deliberately ran the new engine on the rich side. However, we did fly a very bumpy two hours and 45 minutes, from Bahia de los Angeles to Mexicali, with fuel out of just one 24-gallon tank that wasn't quite full. (Fueling at Bahia de los Angeles is done by hand via five-gallon "Jerry cans" that have vent holes below the top, so you're never getting a full five gallons. Under these conditions, accurate fuel-consumption figures are impossible.) In 15 hours, we added one quart of break-in oil, and that may not have been needed.

Cessna has taken its most popular four-placer and improved its slow-speed envelope with the new cuff, its range with optional 48-gallon tanks, and its overall dependability by sheer weight of numbers, if nothing else.

The 1973 Model 172/Skyhawk is a fine bird made even better. —D.D.

**Cessna's Model 172/Skyhawk For 1973
Specifications And Performance**

	Model 172	Skyhawk
Seating capacity	4	4
Engine	150-hp Lyc.	150-hp Lyc.
Gross weight (lb)	2,300	2,300
Empty weight (lb)	1,285	1,335
Useful load (lb)	1,015	965
Fuel capacity (gal)	42 (standard); 52 (optional long-range tanks)	42 (standard); 52 (optional long-range tanks)
Oil capacity (qt)	8	8
Top speed (mph)	139	140
Cruising speed (mph), 75% power at 9,000 ft	131	132
Optimum range (mi) at 10,000 ft: 38 gal, no reserve 48 gal, no reserve	640 820	655 830
Cruising range (mi), 75% power at 9,000 ft: 38 gal, no reserve 48 gal, no reserve	615 775	620 780
Service ceiling (ft)	13,100	13,100
Takeoff distance: Standard ground roll (ft) Over 50-ft obstacle (ft)	865 1,525	865 1,525
Landing distance: Standard ground roll (ft) Over 50-ft obstacle (ft)	520 1,250	520 1,250
Rate of climb (fpm, sea level)	645	645
Stall speed, flaps down (mph)	49	49
Base price	\$14,050	\$15,675