

CESSNA'S RETRACTABLE SKYHAWK

CUTLASS RG

Adding the 182RG/210 gear and a few other touches to the basic 172 airframe produces some pleasant surprises



Word has been out for a few months that a retractable Skyhawk was in the works. It was confirmed during the Paris Air Show last June, and we were given a brief preview of the airplane in late July.

But when we got to the airport, the Skyhawk RG was a Cutlass. Name games can get a bit confusing, and we were reminded of a line from an essay by Joan Didion about her experiences living in Malibu, Calif., in which she said she would never again live in a place named after a Chevrolet.

When we were kids, a cutlass was a weapon wielded by pirates. As we got car-crazy, it was an Oldsmobile. Now it's Cessna's label for the "retractable Sky-

hawk," which has the model designation 172RG. One Cessna source said it was really only fair, since Chevrolet now has a Citation.

Once over the name-the-airplane nonsense, however, the 172RG was a pleasant surprise to us. We were committed to not being impressed. After all, the 172 series is a tried, productive and pleasant airplane but one which doesn't stir strong emotions. So what if the gear comes up?

It looks like a Skyhawk, even though the nacelle line is different and its "legs" are spindly-looking. The gear design is the same as that pioneered on the 210 series several years ago which was passed down to the 182RG. The

nose gear retracts forward while the mains flip and twist up and rearward into open wells in the fuselage. Notwithstanding the main gear saddle problems the 210 series gear suffered, it is a reliable, rugged system.

The starter on our evaluation aircraft, N4596R (serial number 0001), failed. While a crew of people traced the problem and tried to find a replacement, we had extra time to open the Cutlass up.

Engine access is good, even for the forward section. The cowl sections remove fairly easily; the nose cowl is split to permit removal without disturbing the spinner. There aren't any cooling baffles in the forward engine compart-



ment. The nose gear well nestles up under the powerplant with the exhaust collector wrapped around the front of it like a large, rusty arm. The carburetor and most accessories are mounted at the rear.

The Avco Lycoming O-360-F1A6 is rated at 180 hp and has a recommended TBO of 2,000 hours. Cessna's extended warranty, which it calls the "Blue Ribbon Protection Plan," applies to this installation on a pro-rata basis over the full 2,000 hours or 50 months.

From the firewall aft and from the gear up, the Cutlass looks 100% Skyhawk. However, there have been a few refinements made during the development of the Cutlass which will probably

appear on the other 172 variants eventually. Two aerodynamic developments would require a very sharp eye to discover unaided. More attention has been paid to the juncture of the wings and fuselage, and a new wing root fairing is fitted at the trailing edge to smooth out the airflow. The radius of the leading edge of the elevator has been increased, effectively making a gap seal between it and the horizontal stabilizer. The change in control response, degree of input and effort, particularly at low speeds and at the flare, is significant. The difference was particularly noticeable to one staffer who regularly flies a Skyhawk.

Another change to the airframe, a

reduction of the thickness of the doorpost, improves visibility from the cockpit. It is a minor change but reduces the head-bobbing necessary to search for traffic. A good-sized access door has been added to the battery and avionics accessory area of the fuselage to make service easier.

Total fuel capacity is 66 gallons (62 usable), which is carried in integral tanks in the wings. It's the straightforward Cessna high-wing fuel system. The carburetor has an accelerator pump for easier starting; the primer isn't needed except for cold weather starts. Mixture control is vernier rather than precision push-pull for more.

The electrical system is 28 volts with a

CUTLASS RG

"... well-mannered and without any apparent vices."

60-amp alternator. There is a separate avionics master and circuit breaker panel mounted on the left side wall of the cabin, a welcome touch Cessna started providing on its single-engine line some time ago. In addition to an ammeter, there is a high/low voltage control unit for the alternator and a low-voltage warning light.

The gear actuating system is electrically driven hydraulic. Hydraulic pressure holds the gear up, and the gear will free-fall if pressure is lost. Down locks are mechanical. There is a hand pump for emergency extension. The gear warning system is a horn, which sounds when the throttle is reduced below 12 inches manifold pressure or if more than 20 degrees of flap is selected with the gear up.

Aside from the gear and the controllable-pitch propeller, the only system a transitioning Skyhawk pilot will need to get used to is the manual cowl flap.

Once inside, there are a few other changes of note—4596R has a black instrument panel, something we aren't used to seeing in Cessna's light single-

engine line, complete with black-faced avionics. We like it. (Those who don't can specify gray). The avionics stack can be removed as a package for easier maintenance.

Dual defrosters are standard (and those who have cursed the single-outlet system while trying to get a sufficient area clear to see out will appreciate it).

Our test airplane was fitted with a center-mounted inertia reel harness for the front seat occupants, a \$215 option we recommend to any prospective purchaser of this or any other Cessna single. We have found the fixed shoulder harness to be so uncomfortable and movement-limiting that we suspect many pilots aren't using it. The inertia reel system as fitted in the Cutlass is actually easier to set and adjust than the standard lap belts.

We don't know if the change was made in response to customer complaints about torn fingernails and ripped skin or not, but the reclining mechanism for the rear seats has been greatly improved. It now features an easy-to-reach lever and positive locking.

Aside from ensuring that the cowl flaps are open and the gear lever is down, there are no tricks to preflight, start or pretakeoff checks. Transition should be straightforward so long as the check pilot is familiar with the aircraft and its systems. One added touch on the console is rudder trim. The entire rudder is displaced with trim input; the only trim tab is ground adjustable.

The Cutlass has a maximum ramp weight of 2,658 pounds and maximum takeoff and landing weight of 2,650 to provide for start, runup and minor holds on the pad without cutting into useful flying fuel.

The Cutlass flies much like a Skyhawk but a bit crisper and faster. The key airspeeds are quite close. Liftoff is initiated at 55 knots, with initial climb of from 70 to 80 knots. Recommended cruise climb is 85 to 95 knots at a power setting of 2,500 rpm/25 inches. Best rate of climb speed is 84 knots.

Our brief flying experience with the Cutlass, which included a photographic mission, was on a very hot, humid day

CUTLASS VERSUS THE COMPETITION

	Cessna Cutlass 172RG	Cessna Skyhawk 172	Cessna Hawk XP R-172K	Beech Sierra 200	Piper Arrow IV PA28R	Mooney 201 M20J	Mooney Ranger M20C
Base Price	\$43,395	\$27,250	\$33,950	\$49,000	\$44,510	\$46,725	\$35,325
Powerplant hp	Lycoming O-360-F1A6 180 hp	Lycoming O-320-H2-AD 160 hp	Continental IO-360-KB 195 hp	Lycoming IO-360-A1B6 200 hp	Lycoming IO-360-C1C6 200 hp	Lycoming IO-360-A3B6 200 hp	Lycoming O-360-A1D 180 hp
Fuel Capacity Std/Optional	66	40/50	52/68	57	77	64	52
Weight Empty/Gross	1,558/2,650	1,397/2,300	1,541/2,550	1,696/2,750	1,593/2,750	1,640/2,740	1,525/2,575
Cruise Speeds (knots @ altitude)							
75%	140 @ 8,500 ft	122 @ 8,000 ft	127 @ 6,000 ft	137 @ 10,000 ft	143 @ 6,900 ft	169 @ 8,000 ft	143 @ 7,500 ft
65%	132 @ 10,000 ft	115 @ 8,000 ft	119 @ 8,000 ft	127 @ 10,000 ft	138 @ 9,900 ft	160 @ 8,000 ft	135 @ 7,500 ft
Optimum Range (nm @ altitude) (45 min reserve)							
75%	720 @ 9,000 ft	485 @ 8,000 ft	500 @ 6,000 ft	646 @ 10,000 ft	810 @ 6,900 ft	847 @ 6,000 ft	654 @ 10,000 ft
65%	782 @ 10,000 ft	115 @ 8,000 ft	530 @ 8,000 ft	670 @ 10,000 ft	845 @ 9,900 ft	924 @ 6,000 ft	732 @ 10,000 ft
Takeoff/Landing Distance over 50 ft	1,675/1,340	1,440/1,250	1,360/1,270	1,660/1,462	1,600/1,525	1,559/1,610	1,395/1,550
Rate of Climb	800	770	870	927	831	1,030	800
Service Ceiling	16,800	14,200	17,000	15,385	17,000	18,800	16,500
Stall Speed (kts) Gear/Flaps Down	50	44	46	60	55	53	49

Figures developed from manufacturers' data



with the aircraft initially 25 pounds below gross. Takeoff runs and initial climb performance suffered as a result of the high density altitude but were in line with adjusted book figures.

A great deal of our time in the Cutlass was low speed and airwork. It is a very straightforward airplane, well mannered and without any apparent vices. Control response is crisp and forces are reasonably well balanced with a bit of muscle required for elevator input if trim isn't used.

Stalls are docile. Actually, it takes a lot of work to get a real break. There is little aerodynamic warning and practically no oil canning. The stall warning horn starts a few knots above the stall, and the aircraft can be flown at the edge of a stall indefinitely.

The airplane will wander off on one wing or the other if left untended long enough, particularly if fuel burn-out of the two tanks has been uneven (as often happens in uncoordinated flight). Entry into a spiral dive is gradual and speed builds up slowly.

The Cutlass gave the impression of good stability and solidity for a relatively light airframe and should be a good instrument airplane. Pitch changes with changes in gear and flap settings are minimal so one shouldn't encounter

large excursions on final approach.

There is a large gap between the aircraft's gear extension speed (140 knots) and its relatively low maneuvering speed (106 knots). If heavy turbulence were unexpectedly encountered indicated airspeed would be close to gear extension speed and one could drop the gear to reduce airspeed to something near maneuvering. We did not have an opportunity to time the exercise, unfortunately. Maximum speed with gear extended is red line—164 knots.

The first 10 degrees of flaps can be extended at speeds up to 130 knots; the 20- and 30-degree positions can be used below 100 knots. Pattern and approach management is good in the Cutlass, using an initial speed of 70-75 knots in the pattern, slowing to a final speed of 60.

Landings are even easier than they are in a Skyhawk, thanks to improved elevator effectiveness and the reduced energy input required. The combination of low approach and landing speeds and improved controllability at the flare make the Cutlass even more docile than a Skyhawk and should make the pilot look better.

Good manners, reasonable performance and straightforward systems

should work together to make the Cutlass find a niche in the growing range of single-engine retractables. It can't really be compared to a Skyhawk since it sits in the middle of the 160-hp 172 and the 195-hp Hawk XP. It might prove to be closer to the now-defunct Cardinal RG, which had 200 hp, and is bound to be compared with the Beech Sierra, Piper Arrow and the Mooney 201, all of which have 200-hp Lycoming IO-360 powerplants, and the waning Mooney Ranger, which has the same basic powerplant as the Cutlass (see box for the numbers).

Cutlass prices are competitive with the class. The bare airplane lists for \$43,395; the Cutlass II option (the basic equipped airplane with some avionics) is \$48,900; the Cutlass II with Nav/Pac (which makes a useful, basic IFR airplane) is \$52,325. Our test airplane, 4596R, is equipped with an additional \$5,670 in accessories and comfort items, including a Cessna 200 Navomatic autopilot.

While the number of single-engine aircraft models available is increasing, we are in a period when sales are slowing. It will be interesting to see how the Cutlass fares in making its mark in what has to be a difficult market.—EGT

Photography and specifications continued overleaf



CUTLASS RG

"Landings are even easier than in a Skyhawk . . ."

CESSNA 172 RG/CUTLASS RG

Basic price: \$43,395
Price as tested: \$57,995

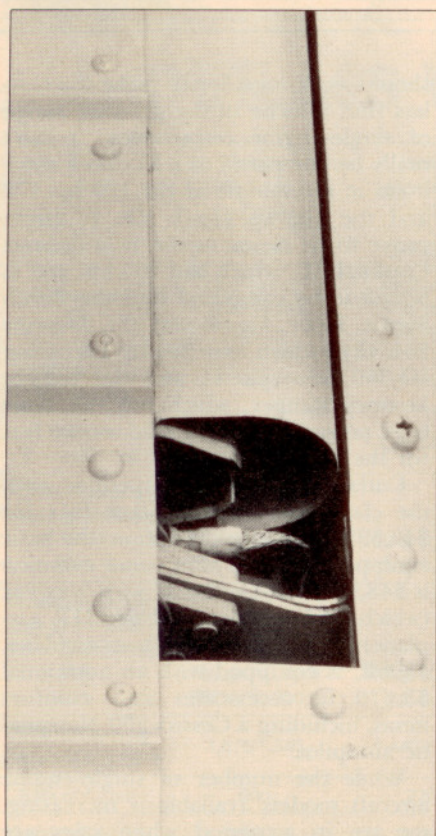
Fuel capacity (standard) 66 gal (62 usable)
Oil capacity 9 qt
Baggage capacity 200 lb

Specifications

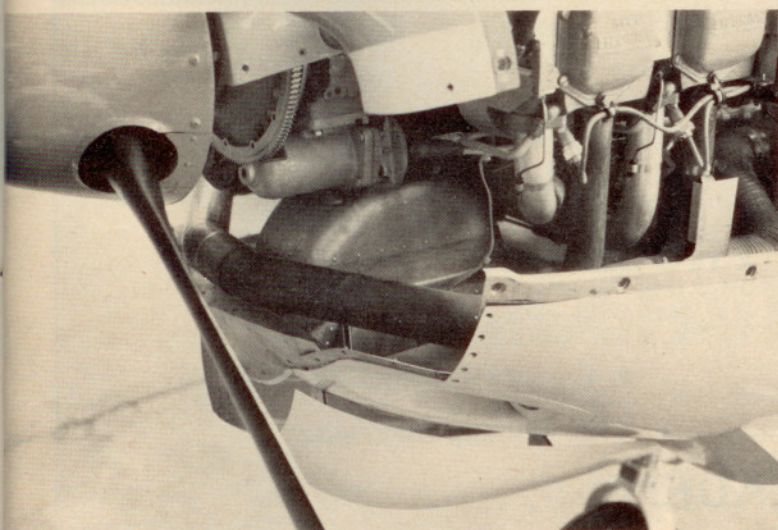
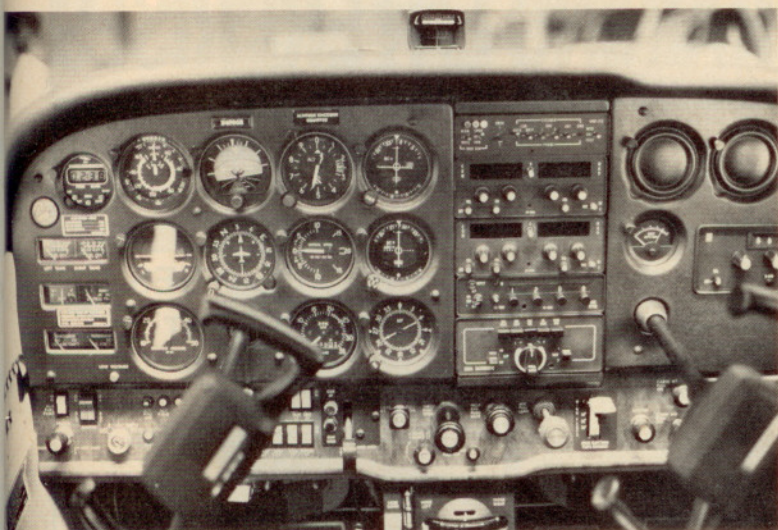
Engine	Avco Lycoming O 360 F1A6
	180 hp @ 2,700 rpm, TBO 2000 hr
Propeller	McCauley 2-blade, constant speed; 76.5 in dia
Wing span	36 ft
Length	27 ft 5 in
Height	8 ft 9.5 in
Wing area	174 sq ft
Wing loading	15.2 lb/sq ft
Power loading	14.7 lb/hp
Passengers and crew	4
Cabin length	108 in
Cabin width	39.5 in
Cabin height	48 in
Empty weight	1,558 lb
Equipped empty weight (as tested)	1,656 lb
Useful load (basic aircraft)	1,100 lb
Useful load (as tested)	994 lb
Payload with full fuel (basic aircraft)	728 lb
Payload with full fuel (as tested)	622 lb
Gross weight	2,650 lb
Max ramp weight	2,658 lb

Performance

Takeoff distance (ground roll)	940 ft
Takeoff over 50 ft	1,675 ft
Rate of climb (gross weight)	800 fpm
Maximum level speed (sea level)	145 kt (167 mph)
Cruise speed (75% power, 8,500 ft)	140 kt (161 mph)
Cruise speed (65% power, 10,000 ft)	132 kt (152 mph)
Cruise speed (55% power, 10,000 ft)	118 kt (136 mph)
Range at 75% cruise (with 45-min reserve)	720 nm (829 sm)
Range at 65% cruise (with 45-min reserve)	782 nm (900 sm)
Range at 55% cruise (with 45-min reserve)	830 nm (955 sm)
Service ceiling	16,800 ft
Stall speed (clean)	54 kt (62 mph)
Stall speed (gear and flaps down)	50 kt (57 mph)
Landing distance (ground roll)	625 ft
Landing over 50 ft	1,340 ft



A new gap seal closes off airflow between the elevator and stabilizer providing just a touch more low-speed pitch control.



No matter how you look, the Cutlass is a new breed of 172. From optional, flat black instrument panel and fold-up gear borrowed from the 182RG to its exhaust-system-wrapped nose-gear well, the classy, cleaned up Cutlass RG stands out in a crowd of "straight leg" brothers on any airport ramp.

