CUTLASS RG

AN AIRPLANE FOR MANY REASONS

BY MARY F. SILITCH

The cockpit is familiar. You have put in any number of hours in a Cessna 172 Skyhawk over the years. The same radios are stacked up the middle of the panel. The control wheel is the usual shape. The flight instruments are, as always, just in front of you.

But there are a few differences that clash with memories of the last Skyhawk you flew, just a year ago. For starters, you spot a small round lever just below the control wheel, to the right. There are two lights next to it with labels: Gear Up, Gear Down. Between the seats a bright red knob juts from the floor, labeled Manual Gear Extension. Retractable gear.

Over to the right of the control wheel, there is another unexpected item. Manifold Pressure/Fuel Pressure, the gauge reads. Now look over to the throttle. Next to it is a prop control. A constant speed propeller.

The Skyhawk has gone complex.

In its new, gussied-up state, it is called Cutlass RG. Its introduction, last model year, made sense. The Cardinal, previously situated in the Cessna line between the Skyhawk (and the Hawk XP) and the Skylane, was gone. The Cutlass, with its retractable gear, additional horsepower, constant speed propeller and uniformity of design was intended to serve as a transition to the higher-performance singles in the Cessna line, filling the gap that the maverick Cardinal really never seemed to.

The Cutlass also should fit comfortably within the general aviation fleet as a lower-cost complex trainer, which commercial and CFI candidates must fly as part of their training. Its base price of $45,895 is more than $7,000 below the Piper Arrow IV's $53,000 and $8,000 under the Beech Sierra's $53,900. Although the Cutlass has only 180 hp compared to the Arrow's and the Sierra's 200, its retractable gear and constant speed prop qualify it as complex.

With its ease of operation, 140-knot speed and fuel economy, it also should serve well as a business and personal aircraft, good for all but the longest cross countries.

It even appeared to Cessna this year, as the economy sagged and single-engine sales slowed, that the Cutlass was attracting pilots who felt it might be time to move *down* the line, for less expensive operation without giving up too much speed. Ten gallons an hour is looking better, as two dollars a gallon looks imminent.

Indeed, the Cutlass is doing better

PHOTOGRAPHY BY ART DAVIS AND MARY F. SILITCH

than most singles in the unsettled 1980 economy, we discovered. It is the only light single that Cessna did not halt production of this spring. With 293 units delivered from January through June, the Cutlass rivaled Cessna's perennial best-seller, the Skyhawk, with its 451 deliveries.

Initial interest in the "retractable 172" was high when the word leaked from Wichita that Cessna was tucking up the gear. Some 33,000 of the Cutlass's venerable progenitor, the 172 Skyhawk, have rolled off the Wichita and the Reims, France, lines, and there are untold numbers of pilots who have at some time in their careers flown the type. Most of them must wonder what the retractable result would be. A few members of the *Pilot* staff were able to satisfy their curiosity when the Cutlass was introduced last year (September 1979 *Pilot*, "Cutlass RG," p.34). Recently, other staff members have flown Cutlasses for photo missions.

This year, Cessna had a new Cutlass with a 1981 paint scheme at the factory and one in the old colors to be delivered from Wichita to New Jersey. I flew both and took yet a third on a short trip from Virginia to upstate New York.

Reviewing the operators manual in preparation for the checkout flight, I soon saw that I would find no surprises. The engine, a 180-hp Lycoming O-360-F1A6, was used on the fixed-gear Cardinal. Various versions of the O-360 can be found on the Bellanca Scout and Super Decathlon, the Maule M-5, the Piper Archer and the Beech Sundowner. It has 20 hp more than the Skyhawk's 160-hp Lycoming O-320-H2AD and has had considerably fewer problems than the Skyhawk powerplant with its constantly troublesome crankshafts and valves. (The 172 engine is being changed with the 1981 model.)

The 62-gallon-usable wet wing (not a bladder system) was borrowed from the Cessna Hawk XP.

However odd it is to see the retractable gear and its accompanying switches and lights on the old model aircraft, the gear is the familiar design of the Skylane RG and the 210 Centurion, with a slightly narrower track.

The main gear looks a little naked

Speedier than a Skyhawk, more economical than a Skylane, the Cutlass RG is finding several niches in the marketplace.

without the usual Skyhawk wheel pants. It does not impart the solid-steel assurance that the fixed gear does on landing. In fact, it gives a bit, fore and aft, on touchdown; but that does not interfere with its ability to track straight down the centerline on rollout.

Maximum gear-operating speed (Vlo) is 140 knots. Essentially, a pilot can lower the gear at any time, since cruise speed also is 140. Cessna did not want to make the number too limiting by making pilots consciously slow the aircraft to reach a low gear-extension speed. After all, one of the Cutlass's roles is as a transition aircraft. (The three-setting flaps are a different matter. At 130 knots, 10 degrees of flap can be lowered; 100 knots is the maximum speed for adding the full 30 degrees.) The slight nose-down reaction of the aircraft as the gear is dropped can be countered by the slight pitch up when the first flaps go down at 130 knots; no trimming is necessary.

A gear-warning horn sounds if manifold pressure drops below 12 inches or if more than 20 degrees of flaps are extended—that is, if the aircraft is in a landing configuration with power reduced or flaps down.

Raising the gear after takeoff is not hard to remember, somehow. But pilots new to retractables might forget to tap the brakes after liftoff—a rather foreign move for a newcomer. It is done to stop the rotation of the wheels before they move into the wheel wells. As the wheels spin, centrifugal force expands the tires. Any mud or ice in the wheel well could cause the wheels to rub as they are retracted. Stopping the motion also helps prevent wheel bearing wear.

The cowl flaps are something else to add to the must-remember list. (Using a checklist, of course, is the best way to aid your memory.) Leaving the cowl flap open at cruise can cost five or more knots in airspeed.

One control that should be checked carefully on any Cutlass RG (and, it would appear, on any of the Cessna singles) is the fuel selector. One *Pilot* staff member has flown two in which the selectors were very mushy and imprecise; on one of them the selector actually could be on the left tank while indicating both tanks.

We have not determined whether the problem is design- or construction-derived; but there is a great deal of inconsistency from one aircraft to another of the same model. Some are quite positive, with definite detents for each selector position. Others are very mushy; still others are very difficult to move.

Cessna has added a number of smaller refinements to the basic 172 airframe and cockpit. A new baggage-door lock replaces the old type, which often failed to operate. Another improvement is that the sun visor has been hinged all the way across the top—no more need to carry a Phillips screwdriver to keep the old visor in place. The new rounding-out of the gap seal at the leading edge of the elevator gives even better control at low landing speed than is provided in the Skyhawk. The cabin is the same roomy 172 cabin; but we did miss the extra width of the Skylane RG (which allows enough room between the seats for a flight bag, not to mention the extra elbow room).

The Cutlass I flew from Wichita,

N5297V, had the II and Nav-Pac options, which add $5,695 and $3,425, respectively, to the bare airframe price of $45,895. The II option includes an ARC 300 series nav/com, an automatic direction finder and a transponder; a basic avionics kit of antennas and wiring; an emergency locator transmitter; a rotating beacon; dual flight controls; under-wing courtesy lights; navigation light detectors; and heated stall-warning and pitot systems. Nav-Pac adds a second nav/com, a glideslope receiver and a marker beacon receiver.

The aircraft has an additional $6,835 in options, including an ARC 300 series autopilot ($3,020), an altitude encoder, strobes, instrument panel post lights and a heavy duty battery.

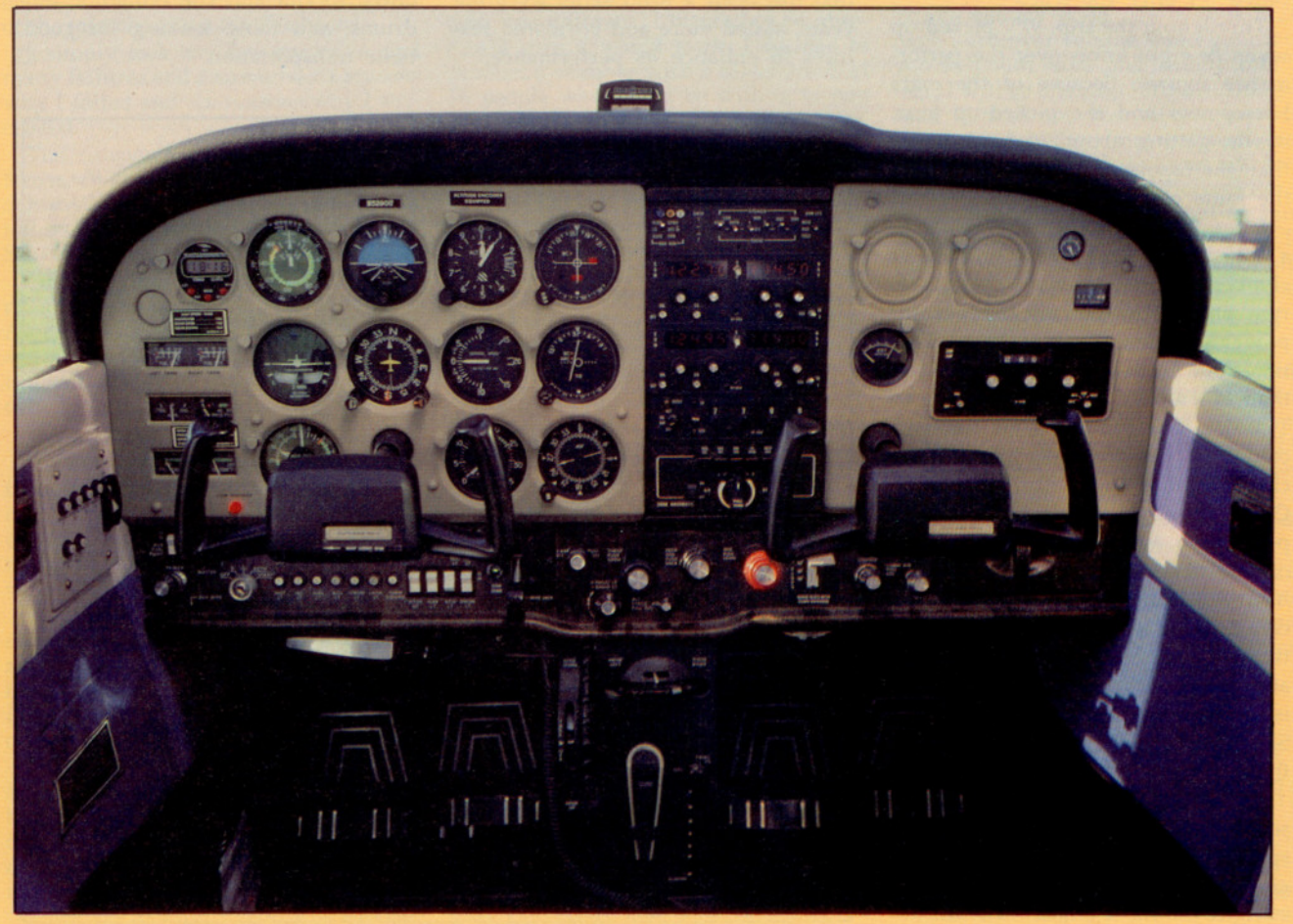
Taking off from Wichita on my first cross-country flight in the Cutlass, I used the recommended rotation speed (Vr) of 55 knots. After gear retraction, the aircraft rapidly accelerated to 84 KIAS (knots indicated airspeed), the recommended best-rate-of-climb speed (Vy). The Cutlass quickly climbed out at 700 fpm.

Added features, subtle refinements give the RG its own identity.

When the gear came up, I was prepared for the hard shove forward on the control wheel that is required when the Skylane RG's gear retracts. Good thing I did not become heavy-handed automatically, for the Cutlass does not react as forcefully to retraction as does the Skylane. Again, its docile reaction is a plus for the unfamiliar pilot. (Muscle power is needed, however, to coax the Cutlass into a deliberate stall—but that is true of the Skyhawk too.)

Since 5297V had only two hours on the tach, I followed the handbook instructions when leveling off for the flight east. They call for a minimum of 75 percent power for the first 25 hours or until oil consumption has been stabilized. Initially flying at lower power settings could cause improper seating of the rings, so I left the economy-power trials for later.

But even at 75 percent, the Cutlass



burned only 10 gallons an hour. In the next eight hours eight minutes, it used 86.7 gallons of fuel, an average of 10.6 gph. A Cessna representative had indicated that I could expect about 10 gph, and the book called for between 10.0 and 10.3 at our altitudes.

Since I subjected 5297V to my usual headwinds, I won't talk about the total time it took us to get across the country. I will tell you that 97V is faster than the book says it should be. (The Cessna test pilots had told me that they had found the Cutlass speedier than average and had checked it in the air against the speed of a 210. 97V consistently was faster than the book figures claimed.)

I started the journey from Wichita at 5,000 feet, 50°F outside, with 2,500 rpm and 23 inches of manifold pressure (mp). The aircraft was about 100 pounds below the maximum takeoff weight of 2,650 pounds.

Indicated airspeed was 130 knots and true was 143, although the book called for only 136 true.

Throughout the trip, 97V picked up seven or eight knots over the performance figures. Because of the extra horsepower and the picked-up gear, it was getting about 20 knots more than the Skyhawk would have under the same conditions.

Later I flew another Cutlass, with a 125-hour, broken-in engine. I climbed to 9,000, then set up at 2,400 rpm and 21 inches mp, 63 percent power, for an economy run. This time, our load was 100 pounds less than 97V's. ATC later shot me up to 11,000, if one could call the Cutlass's couple of hundred feet per minute climb at that high altitude a shot. Cruising at 11,000 at 57 percent power, we averaged 110 knots indicated airspeed, 125 true, for the two-hour 40-minute flight. The book called for fuel consumption of between 8.6 gph at 63 percent and 7.8 at 57 percent. We used 7.5 gph. That is close to the book figures for the Skyhawk, which would have been flying about 110 true.

At the New York destination, I met some straight-leg-172 pilots who, despite the presence of more exotic aircraft on the tiedown line, headed straight for the Cutlass. "Ah, the retractable." "All the way from Virginia on 19.7 gallons?" "Only 7.5 gallons an hour!"

With more power and less drag, the Cutlass can pick up 20 knots over the 172 Skyhawk.

The interest is still here. And it is deserved. Cessna took an airplane that has been a solid seller over the years, added more and borrowed features to enhance its performance.

It came up with an airplane that seems to be attracting flight schools in search of a cheaper complex trainer; pilots moving up to higher performance aircraft; those moving down to ride out the economic doldrums; and those looking for good, basic transportation. □

Cessna 172RG Cutlass

Basic price $45,895

Price as tested (with Nav-Pac) $61,850

Specifications

Engine	Lycoming O-360-F1A6 180 hp @ 2,700 rpm
Recommended TBO	2,000 hr
Propeller	McCauley 2-blade constant speed, 76.5-in.
Wingspan	36 ft
Length	27 ft 5 in
Height	8 ft 9.5 in
Wing area	174 sq ft
Wing loading	15.23 lb/sq ft
Power loading	14.72 lb/hp
Passengers and crew	4
Cabin length	9 ft
Cabin width	3 ft 3.5 in
Cabin height	4 ft
Empty weight	1,558 lb
Empty weight (as tested)	1,660 lb
Useful load (basic aircraft)	1,092 lb
Useful load (as tested)	990 lb
Payload with full fuel (basic aircraft)	720 lb
Payload with full fuel (as tested)	618 lb
Gross weight	2,650 lb
Maximum ramp weight	2,658 lb
Fuel capacity (standard)	66 gal (62 usable)
Oil capacity	9 qt
Baggage capacity	200 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 (SL)	145 kt
Cruise speed	
75% power, 8,500 ft	140 kt
65% power, 10,000 ft	132 kt
55% power, 10,000 ft	118 kt
Range, with 45-min reserve	
@ 75% cruise (9,000 ft)	720 nm
@ 65% cruise (10,000 ft)	782 nm
@ 55% cruise (10,000 ft)	830 nm
Service ceiling	16,800 ft
Landing distance (ground roll)	625 ft
Landing over 50 ft	1,350 ft
Vsi (Stall speed clean)	54 kt
Vso (Stall speed gear and flaps down)	50 kt
Vne (Never exceed speed)	164 kt
Vno (Maximum structural cruising speed)	145 kt
Va (Maneuvering speed, 2,650 lb)	106 kt
Vfe (Maximum flap-extended speed)	
To 10 degrees flaps	130 kt
10 to 30 degrees flaps	100 kt
Vlo (Maximum landing-gear-operating speed)	140 kt
Vle (Maximum landing-gear-extended speed)	164 kt
Vx (Best angle-of-climb speed)	67 kt
Vy (Best rate-of-climb speed)	84 kt

Based on Manufacturer's Figures (All V-speeds indicated airspeed)