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# CESSNA

OWNER MAGAZINE



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## Skywagon: Venerable, Reliable, Lovable

- Why To Buy It
- How To Fly It
- Why It's Special

## Why Is Your Plane SLOW?

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by Bill Cox

# CESSNA 180: RUSH BIRD PAREX



## THOUGH LONG OUT OF PRODUCTION, THE CESSNA 180 CONTINUES AS THE PREMIER BACKWOODS TRANSPORT

I was no different from any other airport kid living in Anchorage, Alaska, in 1953. I wanted to fly — period. My whole world was wrapped up in aviation, and I was determined I'd someday make a living by flying.

I'm still waiting for that day.

I joined the local Civil Air Patrol squadron as a CAP Cadet and aspired to fly as an observer in the nicest airplane they had at the time, a brand-new Cessna 180. Of course, that was the airplane all the cadets hoped to

ride in, and since I was at the bottom of the list, I never earned a seat in that airplane.

Instead I wound up riding along on search-and-rescue missions in the oldest, rattiest machine in the squadron, a J3 Cub converted to 85 hp, allegedly producing a Super Cub. The Cub was slow, not very comfortable, and unsophisticated, but despite the inconveniences, I was flying. That was what mattered.

Tough break, I guess — or maybe not, as it turned out.

For the next three years, I lusted after the Cessna 180 (that actually had a working heater) but never succeeded in flying in it. By the standards of the time, the Skywagon seemed sleek and refined, even if it wasn't as fast as the Anchorage squadron's Navion, the quickest, most comfortable, and most expensive airplane in the fleet.





The advantage of flying in the cold little Cub was that I was allowed to actually *fly* more than most of the other cadets, while they waited in line for the bigger, more sophisticated airplanes. Also, because the Cub had only two seats, I often was allowed to actually fly it, then (and now) the ultimate thrill.

### Introduction to the Skywagon

It was 20 years later, after I'd started writing aviation magazine articles, before I finally had the opportunity to fly Cessna's venerable Skywagon. By that time, I'd long since earned my pilot's license and logged several hundred hours in the Skywagon's successor, the nose-dragging 182 Skylane. As it turned out, the Skylane was a far easier airplane to fly, but I was to learn that the

conventional-gear 180 was definitely the more talented of the two. On my frequent trips back to Alaska, I've discovered that the Cessna 180 is held in high regard, whereas the 182 is considered just another airplane in a land where utility counts more than speed.

Cessna, of course, knew the 180 was special all along. That's exactly why the model remained in production for almost 30 years, despite better sales of the Skylane with its modern nose gear. That's also the reason the Skywagon is still one of the most popular airplanes for cargo and people transport in the bush country of Canada and Alaska, the Australian outback, and the African veldt. Bush operators and charter services often regard the Cessna 180 as the best airplane in their fleets.

Introduced in 1953, the Cessna 180 was a big brother follow-on to the Cessna 170, a type that had proven





popular as a 2+2 family airplane and rental. The 170 was more an entry-level machine with only 145 hp, however, designed more for those who wished to dip a toe in the general-aviation market without making a huge investment.

### Prices from the '50s

By today's standards, prices were insignificant. The Cessna 180 premiered at a list price of \$12,950, this at a time when a Piper Super Cub cost only \$4,775, a 170 had a base of \$7,245 and a D35 Bonanza ran \$19,000. While this didn't make the 180 an economy airplane, it became much in demand because of the missions it could accomplish.

The first 180 flew behind a 225/230 hp Continental engine and was only required to lift a little over 2,650 pounds of aluminum. With a power loading of only 11.5 to 1, the Skywagon was enthusiastic coming off the ground. It featured a high lift, 36-foot-span, long chord wing similar to that used on the aforementioned Cessna 170, along with huge, barn-door-type flaps that reduced stall speed to a low 54 knots. Fly into any consistent headwind in a 180 at a minimum approach speed, and you almost feel you could jump out and run alongside.

### The Joy of Takeoff

Takeoff performance was excellent, partially because it was so short. In combination with the tail wheel that placed the wing at just the proper angle of attack for liftoff, the low stall speed allowed the four-seat Skywagon to post takeoff and landing distances superior to most other airplanes of the day. (In fact, the Cessna 180 was actually approved to carry six people in three pairs if the weight was properly distributed. That eliminated the baggage compartment and greatly reduced allowable fuel. As a result, the airplane was relegated to four seats and baggage in most applications.)

The durable little Maules were later to surpass the Skywagon's performance, but in 1953, there was no other four-seat airplane that could beat it off the ground or back on.

The Cessna 180 featured a takeoff distance of 610 feet and a landing run of 450 feet. As is nearly always the case, takeoff requirement was greater than the landing distance, but both parameters still beat the performance of most other four-seat utility designs.

### Built Bush Tough

The 180's landing gear employed Cessna's cantilever, sprung steel, main wheels under the wings and a tapered, tubular, spring tailwheel trailing behind the rudder. The wings were supported with stout, single struts, resulting in a strong, durable wing structure that has very rarely failed in flight.

Usable fuel capacity on the early airplanes was 60 gallons, but later Skywagons were typically fitted with long-range 79-gallon tanks. At a burn rate of 13 gallons per hour, this meant the airplane could endure for five hours plus reserve. It's important to remember, however, that Skywagon missions were often out and back, with no provisions for refueling at the destination. That translated to 2.5 hours in each direction.

### Not Quick but Utilitarian

Speed was never the ultimate goal with the Cessna 180, as the airplane was valued more for where it could go than how fast it could get there. A realistic cruise on the Cessna 180 was about 135 knots, so the airplane



had an operational out-and-back range at max cruise of just over 300 nautical miles, perhaps 350 or 400 miles at economy power.

The Cessna 180 was so good at what it did, it spawned a step-up model within the same type certificate. The Cessna 185 offered an additional 55 hp for those pilots who felt a need for extra takeoff performance and additional lifting power. In most other respects, it was essentially the same airplane as the 180.

Back in the early '80s, I delivered a number of NOR-DO (no radio) 185s from the Cessna factory in Wichita to the West Coast, and the airplane was an especially impressive performer with only one soul aboard and full fuel. With only a handheld radio available, I stuck to the little airports and enjoyed the 185's wonderful performance, meanwhile dazzling the locals with the airplane's short field performance.

The 180/185 offered a better takeoff attitude for dirt strips, providing more prop clearance with the tail on the ground. When fitted with oversized tundra tires, the prop blades are elevated even farther above the terrain, so much so that a prop strike is virtually impossible unless the impromptu runway is extremely rough.

## High Wing Over Low Wing on Water

Of course, another obvious benefit of the 180/185 series is the type's high wing, which automatically provides better clearance of brush and low-lying trees if there's a need to operate off non-runways.

Once during a visit to Kenai, Alaska, a bush pilot told me that some pilots land 180s fitted with oversize balloon tires on creeks and rivers adjacent to small sandbars. I'd heard about this procedure in Super Cubs. As long as you keep the speed above about 15 knots, there's little risk of sinking into the water, as the huge tires serve as pontoons. When you roll up onto a sand bar or other semi-solid ground, you simply chop the throttle, drop the tail, tap the brakes, and stop almost instantly.

Takeoff requires the opposite procedure: line up with as much informal runway as possible, apply full power, release the brakes and water ski out onto the river or creek for liftoff. I'd even heard of this procedure being used with retractable skis on old wood-wing Bellancas of the 1950s.

Another common trick, this one for departure, is what some pilots call a jump takeoff. Dan Spader, chief pilot of Maule Aircraft, taught me this technique back in

## Member Photos

### ► 1979 Cessna 180K

#### Owner

Jon Harden (Aviation Insurance Resources, [www.air-pros.com](http://www.air-pros.com))

#### Special Features

P-ponk conversion, 3 blade prop, Horton STOL kit, bubble side windows. I am second owner. Original owner (Pan Am pilot) bought new and flew home from the factory.

#### What is the biggest ongoing challenge with this aircraft?

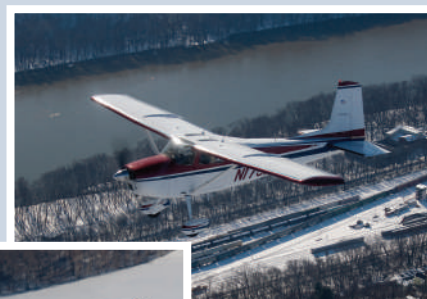
No real ongoing problems. Normal maintenance and very few ADs. Cessna kept this plane simple to operate.

#### What is the best reason to fly this aircraft?

This is an all-around, do-most-anything aircraft. It will haul whatever you put in it (within W&B limits of course). It is comfortable, roomy and stable traveler. Land anywhere. And has classic look. This is a pilot's airplane.

#### About the Photos

Photographer Jeff Fink shot these over snow-covered Maryland.



Let's see your plane: Visit [cessnaowner.org/submissions](http://cessnaowner.org/submissions)

### ◀ 1955 Cessna 180

#### Owner

Phil and Kathi Irwin, Colorado

#### What is the biggest ongoing challenge with this aircraft?

Keeping it polished!

#### What is the best reason to fly this aircraft?

To keep up those tailwheel skills.



the '80s when I was delivering Maules from Moultrie, Georgia, to Long Beach, California. It works best when the load is relatively light and the aircraft is equipped with manual flaps, controlled by a hand lever.

Hold the brakes, push power to the stop, release the binders, and lever the yoke forward to bring the tail up. When the airspeed comes off the bottom of the dial and hits 20-30 knots, simultaneously select the second notch of flaps and rotate hard. If you do it just right, the airplane will come off the ground instantly and start uphill.

You'll obviously need to ease the yoke forward to avoid a low altitude stall and an abrupt return to Earth. This isn't a trick for the uninitiated! Unless you're very familiar with your airplane's stall characteristic and handling, don't even consider trying it.

## Wheels, Skis, or Floats – Your Choice

The Cessna 180 may be fitted with skis and floats for more conventional operation on snow or water (without risk of sinking), and the type makes an excellent floatplane. There's some payload lost with either ski or float option, but the Cessna is amenable to switching between the three types of landing gear, and it can still make its own airport at uncharted destinations.

The Cessna 180 has always been one of the most endearing airplanes in general aviation, a design constructed in the '50s to perform a variety of jobs. Even today, Cessna's venerable Skywagon continues in service as one of the world's most cost-effective utility airplanes. 



**Bill Cox** took his first flight in a Piper J-3 Cub in 1953 and has logged some 15,000 hours in 311 different types of aircraft since. He has authored more than 2,200 magazine articles and was the on-camera host of the 1980s TV series "ABC's Wide World of Flying." Bill is currently rated Commercial/Multi/Instrument/Seaplane/Glider/Helicopter. He can be contacted via email at flybillcox@aol.com.



All photos submitted by Andrew Dilworth, [www.flyskyhoppers.com](http://www.flyskyhoppers.com). See more about Andrew on Page 14.

## SPECIFICATIONS & PERFORMANCE

### 1958 Cessna 180 Skywagon

All specs are researched from Aviation Week's Aircraft Bluebook Price Digest or Jane's All The World's Aircraft (in this case, 1958 edition). Performance numbers on older aircraft may be open for debate if you use other sources.

#### SPECIFICATIONS

Engine:	Continental O-470U
HP:	230
TBO (hrs-std/overhl):	180
Gross Wt (lbs):	180
Empty Wt (lbs):	2,000
Useful Ld (lbs):	100LL
Fuel (gal):	McCauley FP
Payload (lbs):	Tri/Fxd
Length:	2,558
Height:	2,550
Wingspan:	1,717
Baggage Cap (lbs):	841/833

#### PERFORMANCE

Cruise (kts)	139
Climb (fpm):	1,130
Service Ceiling (ft):	21,500
Stall (kts):	54
Stall – V <sub>so</sub> (kts)	615
T.O. Dist (ft):	460



# HOW AND WHY TO FLY A SKYWAGON

As the chief instructor for one of the rarest of aviation courses — one that teaches how to fly the specific model of Cessna called the 180 Skywagon — Andrew Dilworth of SkyHoppers Aerial Adventures knows the Skywagon about well as anyone.

From SkyHoppers' website at [www.flyskyhoppers.com](http://www.flyskyhoppers.com), here's a description of the course:

SkyHoppers offers a unique course of Cessna 180 high-performance-tailwheel training not found anywhere else in the lower 48 United States. Our transition-training includes instruction in high-performance power-plant operation, tailwheel airplane inspection & handling, and basic tailwheel maneuvers including taxi, takeoffs, and 3-point landings. As you progress, we will review and practice advanced crosswind techniques, and introduce you to 'wheel landings' on both pavement and grass strips. After you demonstrate proficiency in tailwheel flying, we can then introduce you to the short-field capabilities of the Cessna 180 and the related techniques.

We asked Dilworth to give us a rundown of why to fly this interesting model of airplane, and what to look for in a used Skywagon.

What are your favorite, unique elements of this airplane? What is the reason you use it so extensively?



by Andrew Dilworth  
[www.flyskyhoppers.com](http://www.flyskyhoppers.com)

The Skywagon is the quintessential American bush plane. Its design is timeless and form factor ever so practical, from the huge baggage area to the quick-removal rear seats. Like the 4x4 Jeep industry, there are also seemingly countless modifications that can be made to the plane. It is also an extremely stable platform for all kinds of flying and very forgiving at the hands of new Skywagon pilots, given proper instruction and experience building. It is the rugged alternative to the milder-mannered Cessnas, for a younger generation of pilots seeking the adventure experience. As for me personally, I really like the aspect of climbing *up* into the plane, especially when it is equipped with oversized tires. Being a Skywagon driver also allows one to command a bit of swagger.

What is most surprising or most difficult to learn for a "new" Skywagon pilot (even one who has flown extensively before)?

As a professional Skywagon trainer, I have trained more than 100 pilots in the Skywagon, both 180 and



185, and have found that the most difficult aspect for the trainees is refinement of their basic crosswind landing skills to accommodate the momentum of the plane when unwanted yaw develops. In a nutshell, the aileron *must* remain into the wind, steer with the rudder, and manage the energy with precise power inputs. The airline-pilot trainees often have the most difficulty with the rudder steering, as I have had many of them tell me they aren't even allowed to touch the rudder in flight.

The 'one-point' wheel landings are of course the most difficult, especially when reaching the demonstrated XW component (or beyond) — I liken the experience and required inputs to performing ballet with the airplane. Other somewhat difficult aspects when first learning to land the Skywagon include mastering the roll-on to wheel landings and the sensation of 'pinning' the airplane in that attitude (and the amount of force it takes), as well as mastering the flare in a three-point attitude, in which the runway cannot be seen over the cowl.

The most surprising aspect for Skywagon trainees is how easy the plane can be to land when executed properly, following proper procedure, using techniques specific to the Skywagon and timely control inputs. Equally surprising is when light-tailwheel pilots (Citabria, etc.) try to land it like a Citabria — such [attempted] landings are often ugly when they first are learning how much momentum the Skywagon carries and how much effort, skill, and timely inputs it takes to correct for unusual attitudes during landing. As the saying goes, "If you are a heathen, the Skywagon will turn you into a believer, and if you are a believer, the Skywagon will turn you into a believer."

What is your advice for somebody looking to buy a Skywagon? What are the first few things you would inspect?

Cost considerations aside, first the future Skywagon driver needs to determine how they want to use their Skywagon. If they want to go faster and land as short as possible, then the earlier model years, with their substantially lighter weight combined with upgraded engines, fit the bill. If they want to carry more weight and go longer distances, and brave serious IFR conditions, then the later models (particularly the late '70s and early '80s models) with their longer-range tanks, greater useful loads, and modern six-pack instrument clusters should be considered.

Then, having selected a Skywagon year and shopped around for a few to choose from, the future Skywagon driver should first inspect for previous damage history (which most Skywagons have), and the quality of the repairs. Obvious areas to look for are smoking rivets and/or wrinkled skin in the gearbox area, damage to the tail section (especially the skins), and of course the condition of the horizontal stabilizer jackscrews, and the hinge bushings and the infamous hockey-stick angle brackets they bolt to. Next would be to assess the com-

pleteness of the plane's documentation (logbooks, 337s, etc.). Many planes have had modifications (and repairs) made without accompanying 337 forms, whether or not an STC was available for such modifications, and/or whether the STC was purchased for the plane. All this is aside from the usual inspections for corrosion, engine oil analysis, cylinder compressions, etc. As with all planes, it is best to buy a Skywagon with as few hours as possible, and which has been flown with some regularity since it was new.

Add anything else you think is interesting about this plane, its maintenance, or its pilots.

There is so much to say about all three of these aspects that I don't know where to begin, and perhaps a whole article could be written about them. The "flying tail" aspect of the plane (jack-screw-equipped horizontal stabilizer), "square" tail, and the "fastback" design are some of the more interesting elements. The various combinations of modifications to be found on any given plane allow for hours of conversation between fellow Skywagon drivers.

As for maintenance, the jack screw assemblies can be particularly onerous to maintain, especially if the plane doesn't have the access cover installed in the lower tail cone. Tire rotation is important to prevent highly uneven wear on the outside of the tire tread, especially when performing lots of wheel landings, which I do in my training program. I recommend all Skywagon owners invest in the newly available "Av-Jack" to make this a simpler, safer process.

As for Skywagon drivers, they are quite the cohort. Without going into the various Skywagon personality traits I have encountered over the years, I can say that it takes a certain amount of moxie to become a Skywagon pilot. Those who go on to become Skywagon drivers are self-starters, independent-minded, thrive on the challenge of the Skywagon, and pursue Skywagon ownership as a way of life, incorporating the plane into their family activities and going farther with these planes than most other single engine Cessna owners. That said, it is Skyhoppers' mission to transform ordinary pilots into the persona of Skywagon drivers with the accompanying skills, in order to equip the Skywagon fleet with professionally trained Skywagon owners for generations to come.

