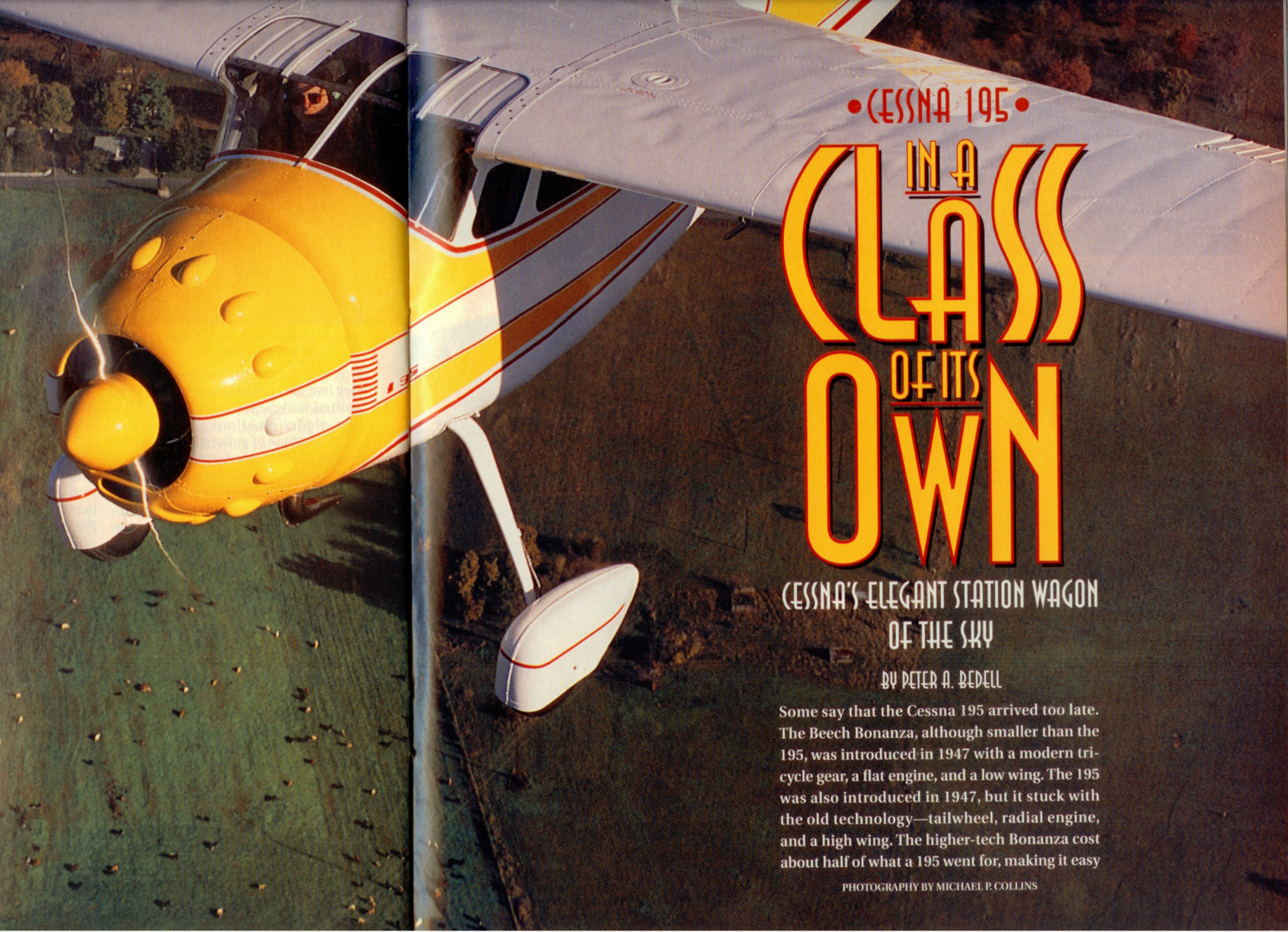


•CESSNA 195•

IN A CLASS OF ITS OWN

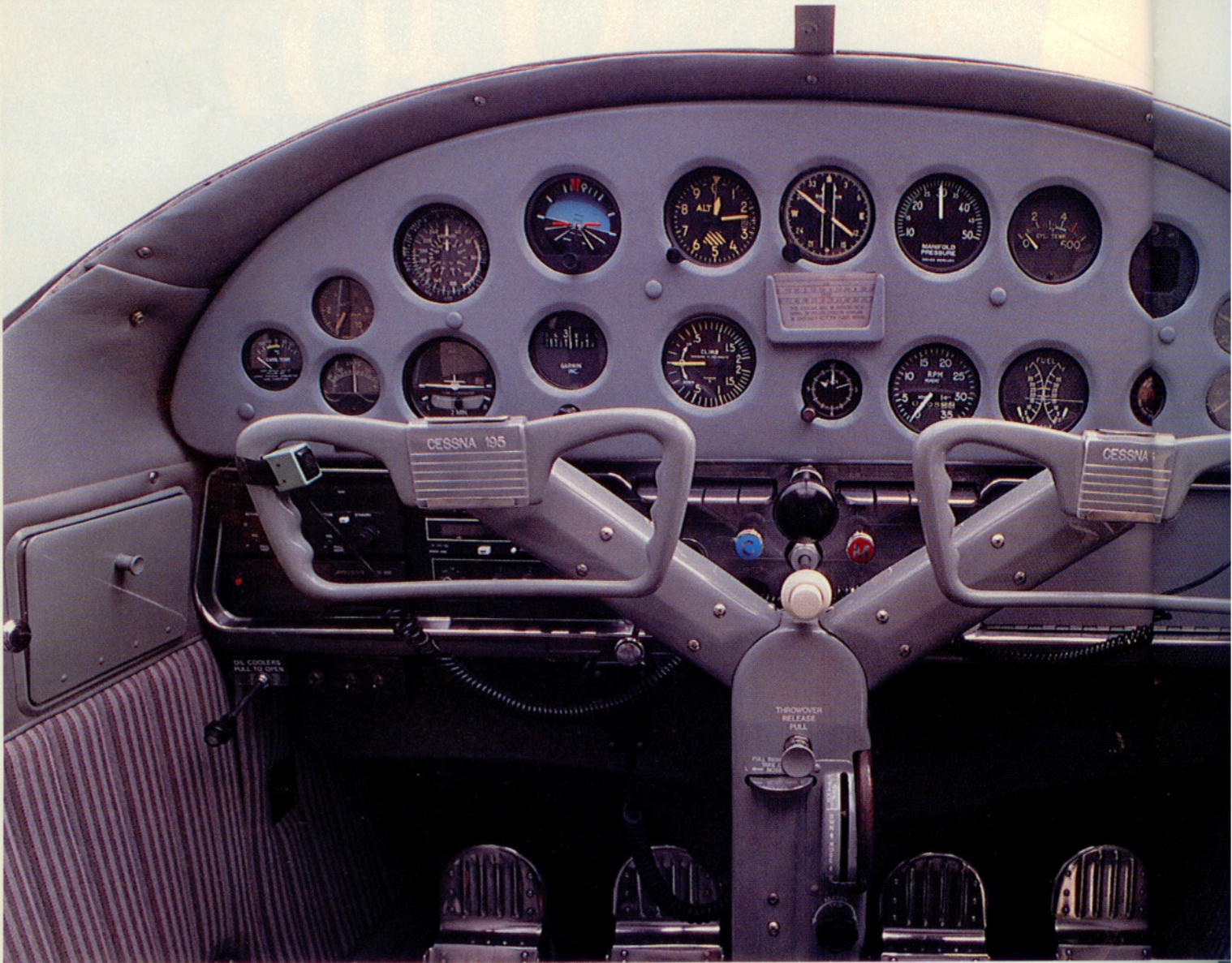
CESSNA'S ELEGANT STATION WAGON OF THE SKY

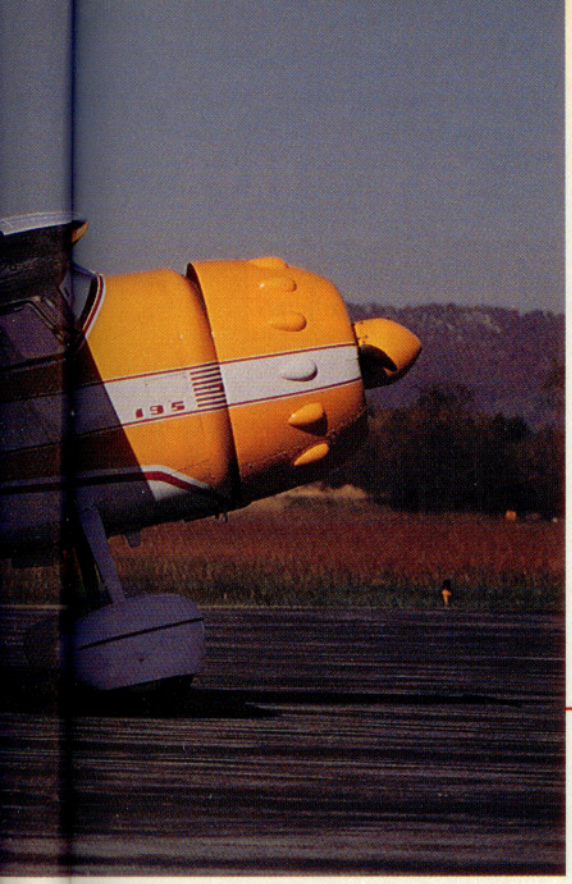
BY PETER A. BEDELL

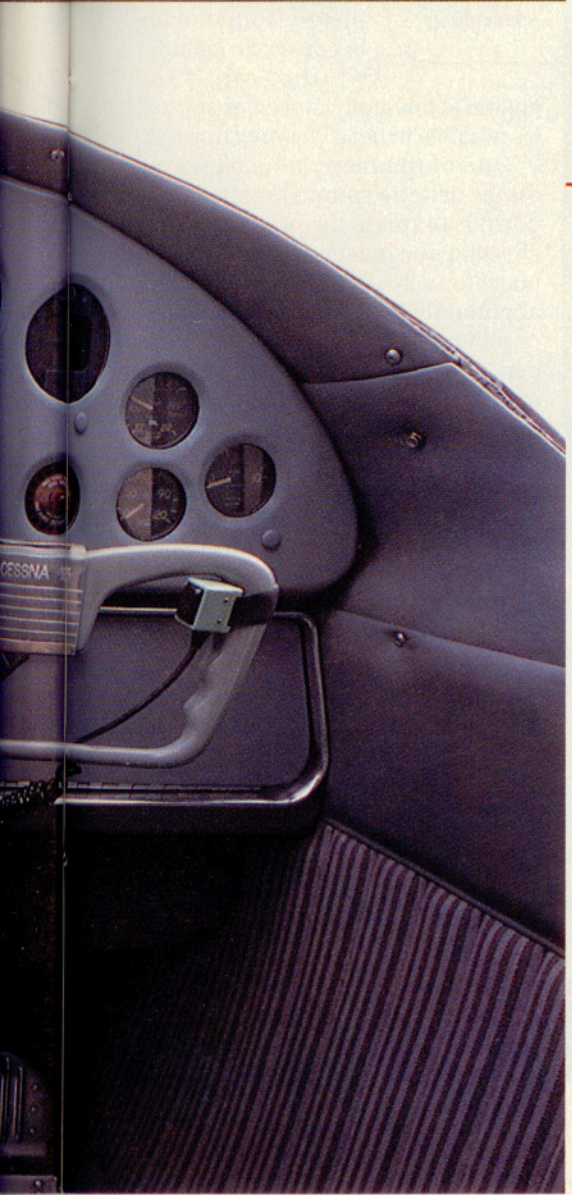
Some say that the Cessna 195 arrived too late. The Beech Bonanza, although smaller than the 195, was introduced in 1947 with a modern tricycle gear, a flat engine, and a low wing. The 195 was also introduced in 1947, but it stuck with the old technology—tailwheel, radial engine, and a high wing. The higher-tech Bonanza cost about half of what a 195 went for, making it easy

PHOTOGRAPHY BY MICHAEL P. COLLINS


N2105C
CESSNA


CESSNA 195
CESSNA
THROWOVER
RELEASE
PULL
OIL COOLERS
PULL TO OPEN





Sam Bellotte's 195B contains a good mixture of modern avionics for safety and convenience and enough original equipment to retain the 195's authenticity.

to see why the big Cessna had only a 6-year production stint. But what the Bonanza had in technology and speed, the 195 had in classic design and proven grass-roots technology—something 195 lovers would not trade for a flat-engined nosedragger any day.

What's surprising about the 195 is that even by today's standards, it's a decent airplane on paper—140 knots on 16 gallons per hour (at 10,000 feet), great load-hauling ability, and a spacious five-place cabin. In a numbers comparison, the revamped 1997 Cessna 182S has a listed cruise speed of 140 knots and a fuel flow of 13 gallons per hour, but it can carry only four people. Of course, the new 182 is a much more user-friendly airplane with a modern instrument panel and predictable ground handling. Also, the 195's postwar era handbook figures are far more optimstic than what owners typically see in the real world. Paper comparisons are unfair anyway. What really hooks people on the 195 is the classic good looks and nostalgic feeling one gets from flying or even riding in one.

The 190 and 195 evolved out of the Cessna Airmaster, an efficient 1930s design by Cessna's Dwane Wallace that extracted more than 1 mile per hour out of each horsepower the engine could produce. The production 190-series airplanes are all metal, unlike the Airmaster's wood, metal, and fabric construction. Upon introduction, the 190-series was touted as "personal business liners" or the "family car of the air." The design was the first production airplane to use the spring steel main landing gear designed by Steve Wittman, the late air-racing legend. Nearly 1,200 of the 190/195s and military LC–126s were built. Only 233 were Cessna 190s, which were discontinued in 1953. Production of the 195 ended in 1954.

Differentiating between the 190 and 195 is hard for the casual passerby. If the designation is not printed on the side of the airplane, you can poke your head into the cowling to confirm the identity. The 190 has a 240-horsepower Continental W-670, a derivative of the 220-hp engine that powers Stearmans. The 195 is powered by Jacobs engines of 245, 275, or 300 horsepower. Engine-conversion STCs boosted horsepower to 330 in normally aspirated form or to 350 in a turbocharged iteration. Yet another conversion long since buried was for a 450-hp Pratt & Whitney Wasp Jr. Two were on display at Oshkosh last year. Cliff Crabs, a longtime 195 owner and editor of the Eastern 190/195 Association's newsletter, believes there is a foreign-registered 195 that is used for skydiving and is equipped with a 575-shaft-horsepower Garrett turboprop. It can reportedly take its pilot *and* six jumpers to 15,500 feet in 11 minutes. Back to reality though—the majority of these aircraft are 195s with Jacobs power.

Nowadays, taxiing onto the ramp at the airport in a mint-condition 195 is like pulling up to the service station in a 1929 Duesenberg Roadster. People circle like vultures around the airplane, looking at the classic lines of the big taildragger. Younger pilots may wonder how this airplane came from the same maker as the plastic-clad and strutted 172 and 182. The proud owner will step out and dutifully wipe down the beast while the more curious onlookers ask questions and pass on their comments.

Sam Bellotte of Charles Town, West Virginia, is a lucky fellow who gets to fly a fully-restored Cessna 195 when he's not flying Boeing 747s across oceans for United Parcel Service. Getting Bellotte's 195 to its current condition took a lot of time, money, and effort. Alphin Aircraft, of Hagerstown, Maryland, and Bellotte himself teamed up in the refurbishment of N2105C—the bulk of which took a good part of 5 years. In Bellotte's favor was the fact that there was minimal corrosion because the airplane was based in the Southwest for the majority of its life. Bellotte believes that his 195 was the sixth B model produced. It was built in 1953 as a 1954 model and first flew on June 27, 1953.

The first task in the restoration was to replace 36 airframe skins and fairings that had been dinged over the years. After the metalwork, it was off to the paint shop where the original paint scheme was duplicated from Cessna's blueprints right down to the registered trademark next to the Cessna name on the tail.

"It's pretty much finished now," says Bellotte of the project. "It's never *truly* finished, but the bulk of it is done." The last major job was replacing the windshield, which was damaged by paint stripper during the refinishing process.

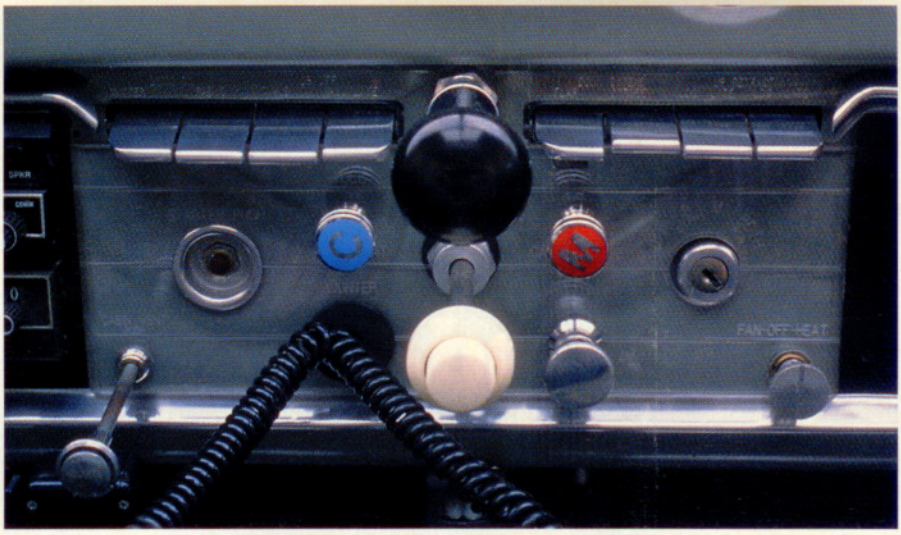
The 195's split flaps do little or nothing to lower stall speeds. They do, however, reduce the angle of attack on final so that the pilot can see better over the huge cowling.

Bellotte now spends more time frequenting fly-ins and airshows. N2105C received Best of Show accolades in its horsepower class at the Sun 'n Fun EAA Fly-in last April. In a stroke of irony, one of the many great moments Bellotte has had with his airplane occurred when N2105C took the "Best Classic" trophy one year at the Sentimental Journey Fly-in to Piper Field in Lock Haven, Pennsylvania—proof that a true classic isn't bound by any label.

Owning a 195, or any classic for that matter, is not without its rituals. The preflight for Bellotte involves pulling the propeller through to ensure that no oil has collected in the radial's lower cylinders. Besides minimizing the smoke on startup, this lessens the risk of hydraulic lock, a condition that prevents a cylinder's piston from moving because the cylinder is full of oil. If the engine is forcefully moved or started, it's possible to bend a connecting rod.

One of the many housekeeping duties Bellotte completes after shutdown is to rotate the propeller (after checking the magneto switch at least once) to such a position that the valve alignment will minimize the chance of oil's collecting in the lower cylinders. This will decrease the possibility of hydraulic lock or a smokestorm on the next startup. He then grabs his bottle of Spray Nine to remove bugs and oil and a tube of Flitz to polish out any fingerprints on the polished parts. These little chores don't bother him. It's all part of owning a classic.

Other little differences separate the 195 from the more popular airplanes of today. Starting Bellotte's 275-hp Jacobs radial is quite different from starting most flat engines. The propeller control is in the high pitch (low rpm) position in order to send all available oil pressure to the engine. The "Jake" has a battery-fed distributor for starting, as well as a standard magneto ignition system. Depending on the temperature, give the engine about four to six shots from the huge primer knob and push the starter button while the key is



in the Off position. After four blades or so, switch the key to Batt to allow the distributor to start the engine. As soon as the engine fires, the key is switched to Both (magneto and distributor). Throughout the process, the entire airplane waddles side to side on its spring-steel gear while the seven cylinders decide whether to wake up. The sight, sound, and smell of that radial engine bellowing to life brings a little tingle to the spine. After a few seconds, the engine will settle into a slow, smooth idle. After the oil pressure is stabilized, the propeller control can be brought to low pitch (high rpm), and the pressure will noticeably drop as oil is forced into the prop hub.

Too hot in the cabin? Roll down the pilot's window (above). Piano-key switches for electrical equipment flank the huge throttle knob (top).

Once the engine is alive and kicking, it would be a good idea to begin taxiing soon because the Jacobs overheats readily during ground operations in hot weather. No cooling is offered to the engine from the prop because the blade shanks directly in front of the cowl inlet are round. Cooling comes from the oil and pointing the nose into whatever wind there might be. Taxiing briskly can aid cooling, but the visibility is so poor while taxiing that S-turning is required—something you may not want to do while taxiing fast in a taildragger.

Even on a hot day the 195 accelerates briskly on the runway. Despite full right rudder trim, the torque of the big Jacobs does its best to run the airplane off the left side of the runway. Besides the effects of torque, the 195's rather small rudder does little until a good bit of speed is gained, so a slow application of power is mandatory—it's also easier on the engine. Tail-low or wheel takeoffs are acceptable, though some feel the airplane is easier to take off from a tail-low attitude at about 55 to 60 mph.

In the air, the 195 leaves behind its cloudy reputation as an easy ground looper. It's a big, gentle airplane that proves mannerly at low and high speeds. Visibility from the front seats is somewhat limited out of the side windows because your head is up in the plane of the wing just ahead of the spar. A little crane of the neck will allow you to see out of the side windows.

The big Jake effortlessly pulls the 195 through the air, turning a leisurely and smooth 1,800 to 2,100 rpm at most cruise-power settings. (It seems the Jacobs engine lives up to its "shaky Jake" nickname only during the starting process.) Flying the radial-engined 195 can be likened to driving a car that has a big V-8 engine. The high-torque Jacobs swinging that huge propeller sounds and feels as if it's loafing compared to the fast-spinning flat engines that more modern light aircraft use. It's a very comforting rumble rather than a high-

pitched racket.

The airplane's huge wing does not have any dihedral, so it lacks a bit of roll stability. Rudder use is a little more necessary than in other big Cessnas, and rudder trim is necessary after large power changes because of the Jacobs' torque. In the pattern, the 195's split flaps reduce the aircraft's angle of attack to give the pilot a better view over the cowling on final. Otherwise, the flaps don't do much of anything. Aside from these minor differences, it behaves pretty much like other big Cessnas.

Landing the 195 is the stage at which pilots get themselves into the most trouble. In a report obtained from the AOPA Air Safety Foundation, one half of all 195 accidents were labeled as "loss of directional control" or ground loops. Most occurred during the landing rollout. The 195 has a fairly heavy rear end and a CG that is far behind the main gear. Couple that with the fact that the pilot is sitting almost exactly on the pivot point and it is easy to see how people can get into so much trouble with the 195.

"It's more challenging to handle on the ground than any other airplane I've flown," said Russ Luigs of Houston, who owns a prize-winning 195. "It took me about 50 hours of dual to feel confident in a crosswind." The 195 has a non-locking tailwheel, although an STC for one is available from Ray's Aircraft Service of Porterville, California. Ray's specializes in 195s and has jigs for all the major airframe parts. It seems that owner Ray Woodmansee has seen enough pranged 195s that he decided to come out with a lockable tailwheel to help curb some of the ground looping incidents.

"I don't know if I really needed it, but it's certainly given me a lot more confidence on final with an 18-knot crosswind," said Luigs of the locking tailwheel that he had installed on his 195.

As any 195 owner will tell you, once the tail-wagging starts, it takes a lot of fancy footwork from an experienced 195 pilot to stop it. Because of this behavior it's awfully hard to find an instructor who's willing *and* able to check you out in a 195. Even pilots with thousands of hours in tailwheel airplanes manage to get bitten by the 195's ground handling.

Adding to the problem is the 195's relatively narrow-track spring-steel main landing gear. All but the greasiest of landings will result in at least a little bounce. If the landing is fast and hard, it'll spring you right back into the air. Check logbooks carefully for repairs to the main-landing-gear box and wing tips—the telltale signs of a ground loop.

Cessna attempted to curb some of the ground-control accidents by introducing the crosswind landing gear. This unique device allows the main wheels to caster about 15 degrees when provoked by a side load. According to 190/195 aficianados, you either love it or you hate it. One advantage of the crosswind gear is better ground visibility when there is a crosswind from the right. If a sufficient sideload can be presented during taxi to unlock the gear, the airplane can be taxied in a crabbed position and the pilot will be able to see what's ahead. As a spotter's guide, if a 195 has wheel fairings, it most likely does not have the crosswind gear.

Interestingly, although the ASF accident report revealed that most ground loops were directly attributed to the pilot, a number of the incidents occurred following apparent brake failures or lockups. The airplane's original brakes were not very effective and were expensive to maintain. Because of this,

many owners opted for a Cleveland wheel and brake conversion kit. Sharing many of the components that stop heavier twin Cessnas, the Cleveland brakes are very effective—occasionally too effective, flipping some 195s over on their backs.

In the same way that the 195's clean strutless lines win over the hearts of many pilots, the interior's classic look and practicality deserve the same praise. As you open the cabin door, a step flips down from the belly, inviting you into the cabin. Rear seaters can simply plop into their stations, and there is ample room for the crew to navigate their way between the front seats to either forward perch. A roll-down window, which can be opened in flight, is operated by a small crank on the pilot's left sidewall. And pilots who believe that real airplanes have control columns that come out of the floor won't be disappointed by the 195. The three-abreast backseat is luxurious for two, although tight for three. Under that seat resides a gasoline-fired heater for quick heat on the ground and in the air. According to owners, the huge 5-gallon oil tank above the front-seaters' feet keeps toes warm in the wintertime without the aid of the combustion heater.

The baggage compartment is large enough to swallow a litter of suitcases, and it can be accessed from the fold-down back seat. The only major shortcoming of the 195's interior is that it's tough to see out of—especially from the front seats.

If you have any thoughts of purchasing a 190/195, here's what the experts have to say:

"Plan on finding a *195* instructor, not just a tailwheel instructor," said Luigs. Larry Bartlett of Pagosa Springs, Colorado, suggests getting tailwheel training in a Luscombe as preparation for the 195. Bartlett authored *Taming the Taildragger,* a book about tailwheel flying that includes much discussion about the 195's habits. There's also a version available on videocassette.

"Get insurance first," said Crabs, of the Eastern 190/195 Association. Most insurance companies want to see 10 hours logged in the airplane before issuing insurance, says Crabs. The 190/195 association and the International 195 Club are havens of information for owners of these airplanes.

Jacobs Service Company still wholeheartedly supports and overhauls its engines from its Payson, Arizona, site. Apparently military-surplus Jacobs engines from World War II are still available. Support of the Continental-powered airplanes is a little less certain. Stearman suppliers would be a good source here, since the W-670 is used in many Stearmans.

Prices for 190s and 195s are currently teetering in the $55,000 to $60,000 range, according to the *Aircraft Bluebook–Price Digest.* These figures will vary greatly, with price depending on the degree of restoration that the airplane has undergone. Some will fetch more than $100,000, and many owners simply won't put a price on their 195s.

As with any airplane, there are as many reasons to buy a 195 as there are not to. "It's like standing in a hammock," relates Luigs, who says that you could probably get into a 182 and fly it around for less money and trouble. "But [the 195] is extremely enjoyable to fly and has a soul that people respond to."

"It's a classic, it's beautiful, and I like the radial engine," says Bellotte, who also thinks the performance is very

competitive with airplanes on the current used market. Regarding the airplane's ground handling, Bellotte says, "In the 5 years that I've owned it, I've been waiting for it to [ground loop]." Bellotte thinks the reputation is undeserved for an otherwise excellent airplane. He figures $85 an hour for flying N2105C, a figure that is comparable to a 182—which rents for more than $90 an hour at some flight schools.

Likewise, Crabs believes that the 195's reputation is clouded by the ground looping debacle. "I once asked Bill Thompson, the test pilot on the 190 series, why they didn't put a locking tailwheel on at the factory," Crabs related. "His reply was that the airplane is a pussycat compared to an AT–6, BT–13, or PT–17 of the day. He, too, believes that the reputation stemmed from pilots who learned to fly in airplanes with the training wheel in the front and who never learned proper directional control in the first place."

Whether or not the 190/195 is for you is a dilemma that may be hard to solve until you fly in one. The sound, smell, and feel of the 195 can easily make you fall in love. The airplane takes you back into that exciting era when general aviation airplanes were almost as fast as the airliners and offered a freedom that no other mode of transportation could offer. Of course, we can't go back to the good old days, but flying a 195 is certainly a big step in that direction. □

E-mail the author at pete.bedell@aopa.org.

1954 Cessna 195B
Current market value: $60,000

Specifications

Powerplant	Jacobs R-755B-2, 275 hp
Recommended TBO	1,200 hr
Propeller	Hamilton-Standard constant speed, 78-in dia
Length	27 ft 4 in
Height	7 ft 2 in
Wingspan	36 ft 3 in
Wing area	218 sq ft
Wing loading	15.3 lb/sq ft
Power loading	12.1 lb/hp
Seats	5
Cabin width	3 ft 10 in
Cabin height	3 ft 10 in
Empty weight, as tested	2,168 lb
Maximum gross weight	3,350 lb
Useful load, as tested	1,182 lb
Payload w/full fuel, as tested	732 lb
Maximum takeoff weight	3,350 lb
Fuel capacity, std	81 gal (75 gal usable) 486 lb (450 lb usable)
Fuel capacity, w/opt tanks	100 gal (93 gal usable) 600 lb (558 lb usable)
Oil capacity	20 qts
Baggage capacity	220 lb, 17.9 cu ft

Performance

Takeoff distance, ground roll	800 ft
Takeoff distance over 50-ft obstacle	1,605 ft
Rate of climb, sea level	1,135 fpm
Max level speed, sea level	154 kt
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption)	
@ 65% power, best economy	10,000 ft 143 kt/4 hrs (96 pph/16 gph)
Landing distance over 50-ft obstacle	1,345 ft
Landing distance, ground roll	551 ft

Limiting and Recommended Airspeeds

V_X (best angle of climb)	65 KIAS
V_Y (best rate of climb)	87 KIAS
V_A (design maneuvering)	109 KIAS
V_{FE} (max flap extended)	95 KIAS (large flaps)
V_{NO} (max structural cruising)	154 KIAS
V_{NE} (never exceed)	173 KIAS
V_{S1} (stall, clean)	54 KIAS
V_{SO} (stall, in landing configuration)	53 KIAS

For more information regarding Cessna 190/195s, contact the Eastern 190/195 Association, 25575 Butternut, North Olmstead, Ohio 44070; or the International 195 Club, Post Box 737, Merced, California 95340.

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.