

CESSNA

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THE CESSNA 210

LIFE IN THE FAST PLANE

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 TEXAS HILL COUNTRY

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The complex 210 definitely has its admirers.

The Cessna 210, or Centurion, was first created in the late 1950s and entered the marketplace as a 1960 year model aircraft. A total of 9,304 C210s were built according to Doug Miller, architect and historian for Cessna Aircraft Co. At press time, there were just under 5,000 Cessna 210s listed in the FAA registration database; many others are still in use throughout the world.

The aircraft was eventually available in three different versions: normally aspirated (C210), turbocharged (T210), and turbocharged and pressurized (P210).



Each aircraft offered different benefits related to speed, altitude, load-carrying capability and passenger comfort.

All three versions were certified under Part 23 and are basically built around the same airframe; however, the P210 is structurally significantly different.

The normally aspirated 210 and the T210 are almost exactly the same, except for different engines—and thus some system differences which significantly alter performance and therefore require different operational procedures.

Many of the basic characteristics





Photo: Paul Bowen

All three versions were certified under Part 23 and are basically built around the same airframe.

of these aircraft are the same, though, including preflight and in-flight handling characteristics.

Models

The original 210 had four seats and a normally aspirated 260 hp engine. It was essentially a C182, wing struts included, with retractable gear.

The first turbocharged Centurion sold was the 1966 T210F powered by a Continental TSIO-520C engine. Built-in oxygen was standard—and necessary, as the specifications claimed a 31,300-foot service ceiling.

In 1967, the Cessna 210G arrived with a laminar flow cantilever wing replacing the strut-braced wing, but it was still a four-plus-two aircraft.

The introduction of the 210K in 1970 brought to market the full-sized six-seat

aircraft and a 400-pound gross weight increase to 3,800 pounds. One of the changes that came with the K model was the tapered tubular steel landing gear legs with a six-inch wider stance. The gear legs may look fragile, but they aren't.

The 210L arrived in 1972 with a 28 volt electrical system, and in 1975 the three-bladed propeller became standard. Flap gap seals in 1976 enhanced climb performance and a key instrument change occurred: the airspeed indicator was changed to knots from mph.

The M model of 1977 ushered in the 310 hp TSIO-520R engine for the turbocharged airplanes, which reduced takeoff distances and provided increased climb rates. The engine has a five-minute limit on the 310 hp, which then must be reduced to 285 hp maximum continuous power.

The pressurized 210 was introduced in



Photo: Paul Bowen

The economy was in a spin during the mid-1980s and sales of new aircraft skidded to a halt. This gave Cessna time to redesign the 210 for the 1985 release.

1978 as the P210N. It was powered by a Continental TSIO-520P putting out 310 hp at takeoff, and like the other turbocharged 210s was limited to 285 hp after five minutes. Records indicated that a total of 851 P210s had been built when production ceased.

Gear doors and other changes

In 1979, the main landing gear doors were removed from the Centurions. Many of the earlier Centurions had their main gear doors removed by owners with a modification called the Uvalde gear door mod.

My own aircraft has the gear door mod, which I had performed immediately following an IFR flight where I could not get a green gear-down light. Because I didn't have gear mirrors at that time, I couldn't see the position of my wheels, which made it a most unpleasant event. (The value of gear mirrors was instantly implanted into my brain on that flight.)

In 1982, there was a major change in the fuel system for 210s. Cessna accomplished this by removing the dual fuel reservoir tanks and installing a single reservoir tank. This allowed the pilot to select Left, Right, or Both fuel tanks in flight. Obviously, being able to select both fuel tanks reduced the pilot's workload.

Other fuel system changes included

separate fuel vapor return lines to return the vapor to each fuel tank.

A late-season redesign

The economy was in a spin during the mid-1980s and sales of new aircraft skidded to a halt. This gave Cessna time to redesign the 210 for the 1985 release of the R model, which was sold new as the 1985 and 1986 models.

There were many changes in the '85 model; one of the most significant was an enlarged and strengthened tail for the aircraft. This was accomplished in a variety of ways, including making the horizontal stabilizer a full three feet wider.

The wingspan was increased to 38 feet, 10 inches and the gear extension speed and flap speed were raised. The bottom line is that the 1985/1986 210R is a very different airplane than its predecessors—and they are highly prized by their owners. Cessna delivered its last three Centurions in 1987 as 1986-year models.

Operating a 210

By any definition, Centurion aircraft are complex airplanes. Original systems are in some cases very complex and perhaps not thoroughly explained in the owner's manual, POH or airplane flight manual. As time has passed and technol-

ogy has changed, we now see extensively updated avionics and various other modifications made to each aircraft that complicate the situation even more.

The 210 is a checklist airplane. It is very important to your safety that you ensure the preflight and flight operations checklists you use are representative of the actual aircraft you are operating; one checklist will not fit all! Seemingly identical aircraft are probably not, and a switch in the wrong position or a circuit breaker located in a different position can cause harm to the aircraft or you and your passengers.

In my opinion, the Centurion is a very safe, comfortable, and easy aircraft to



Photo: CFA Staff

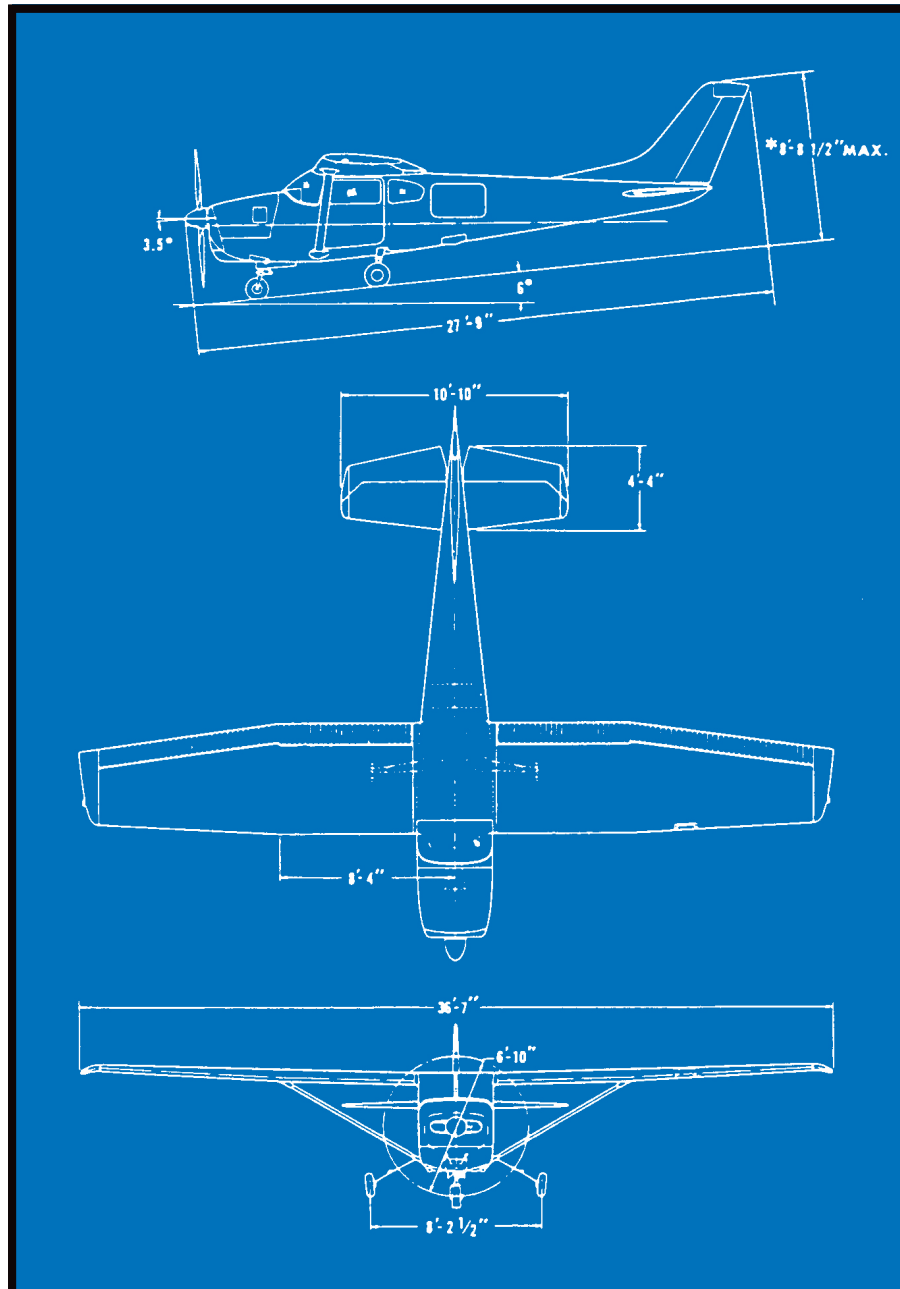


Photo: CFA Staff

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Photo: CFA Staff



Cessna T210 G, H and J Turbo Centurion

SPECIFICATIONS

Horsepower: 285
Top Speed: 203 knots
Cruise Speed: 194 knots
Stall Speed (dirty): 55 knots
Gross Weight: 3,400 pounds
Empty Weight: 2,050 pounds
Fuel Capacity: 89 gallons
Range: 739 nm

TAKEOFF
Ground Roll: 800 feet
Over 50-foot obstacle: 1,365 feet
Rate of Climb: 1,115 fpm
Ceiling: 30,200 feet
LANDING
Ground Roll: 625 feet
Over 50-foot obstacle: 1,355 feet

fly if you have been well trained and are proficient in it. Unfortunately, it is an aircraft that has a less-than-admirable safety record, with over 30 reported in-flight airframe failures. It should be noted that this aircraft is capable of staying together at 5.7 gs—150 percent of its 3.8 g rating.

Fuel management has also historically been a problem and continues to be a leading cause of Centurion accidents, despite it being a widely known issue with the aircraft.

For more information

If you would like to do some interesting research on Centurions, you can go to the FAA website and pull up the TCDS on the entire 210 series. The details are contained in a single 45-page PDF file.

The TCDS files are a treasure trove of information for those who want to know exact details, especially limitations, about a specific make and model. The information is abundant, right down to the serial number of the airplane.



This article was excerpted from “Flying the Cessna 210: The Secrets Unlocked” by Chuck McGill.

Chuck McGill has been teaching for over 30 years and has logged over 12,000 hours in more than different 80 makes and models of General Aviation aircraft. He is a six-time Master CFI, and in 2009 was honored as CFI of the Year, FAA Western Pacific Region. He holds a Commercial certificate for ASEL, ASES, MEL, Instrument Airplane, as well as his CFI and CFII. McGill has bachelor's and master's degrees in business and is a retired Lieutenant Colonel, United States Marine Corps.

Resources

FAA Type Certificate Data Sheets

faa.gov

At the home page on the far right side under “Top Requests” is a link for Type Certificate Data Sheets (TCDS).

“Flying the Cessna 210: The Secrets Unlocked”

by Chuck McGill

<http://safeflightintl.com/flyingthecessna210.html>