Cessna, maybe for decades, wanted to expand its single-engine piston line to include a 200-plus-knot airplane, and in 2007 the company saw its opportunity. That was when it bought the Columbia line of certificated aircraft made by renowned kitbuilder Lancair: the Columbia 350 and 400. For a company like Cessna, which traditionally designs its airplanes in house, this was a big move. But Lancair was in bankruptcy at the time, and Cessna snapped up the Columbia line for a mere $20 million to $26 million, depending on whom you believe. That’s a fraction of what it would have cost to certify an in-house design—and instantly
Cessna had its piston-single hot rod.

CESSNA TTX

Cessna changed the Columbia 350’s name first to Cessna 350, then Cessna Corvalis. Likewise, the Columbia 400 became the Cessna 400, then Cessna Corvalis TT, then Cessna Corvalis TTx (when the Garmin G2000 avionics suite was introduced in 2011), and,

The airplane is so slippery that it comes with speed brakes as standard equipment.

SPEC SHEET
CESSNA TTX
Base price: $689,000
Average equipped price: $810,785
finally, Cessna TTx. The “TT” stands for “twin turbocharged” (the TTx has a dual bank of intercooled turbos); Corvallis is the name of a town west of Lancair’s Bend, Oregon, location; and the little triple-mountain logo is a nod to a set of mountain peaks near Bend. While we’re at it, there’s one L in the airplane name, but two for the town of Corvallis. Whew—got all that?

As for sales, the TTx has been challenged by Cirrus’ SR22T, and, to a lesser extent, the Mooney Acclaim Type S. Did all that confusing nomenclature play a part? Hard to say. It may sound trifling, but so many name changes can bring consequences. Then again, Cessna didn’t sufficiently apply itself in promoting the Corvalis/TTx line. In all, Cessna sold a total of 261 400s, Corvalis TTs, and TTxs since 2007. Lancair sold 604 of its certified Columbia predecessor designs between 2000 and 2007.

It’s the 310-horsepower Continental IO-550 and those twin turbos that give the TTx its satisfying true airspeeds. Cessna says it’s the world’s fastest production fixed-gear piston single on the market today. The company advertises 235 knots as a maximum cruise speed—but that’s up at 25,000 feet where you’ll need oxygen (which is standard); where many probably won’t fly; and at 85 percent power and a fuel-hungry 24 gallons per hour, at a 50-degrees rich of peak EGT power setting. Still, it’s nice to have the option of flight-level flying for weather avoidance, or to take advantage of rip-roaring tailwinds.

A more typical cruise altitude and power

**Specifications**

<table>
<thead>
<tr>
<th>Powerplant</th>
<th>Continental TSIO-550-C, 310 hp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended TBO</td>
<td>2,000 hr</td>
</tr>
<tr>
<td>Propeller</td>
<td>McCauley, three-blade, constant speed</td>
</tr>
<tr>
<td>Length</td>
<td>25 ft 2 in</td>
</tr>
<tr>
<td>Height</td>
<td>9 ft</td>
</tr>
<tr>
<td>Wingspan</td>
<td>36 ft</td>
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<tr>
<td>Wing area</td>
<td>141.2 sq ft</td>
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<tr>
<td>Wing loading</td>
<td>25.5 lb/sq ft</td>
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<tr>
<td>Power loading</td>
<td>11.6 lb/hp</td>
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<tr>
<td>Seats</td>
<td>4</td>
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<tr>
<td>Empty weight</td>
<td>2,530 lb</td>
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<tr>
<td>Max ramp weight</td>
<td>3,600 lb</td>
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<tr>
<td>Max useful load</td>
<td>1,070 lb</td>
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<tr>
<td>Payload w/full fuel</td>
<td>458 lb</td>
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<tr>
<td>Max takeoff weight</td>
<td>3,600 lb</td>
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<tr>
<td>Max landing weight</td>
<td>3,420 lb</td>
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<tr>
<td>Fuel capacity</td>
<td>106 gal (102 gal usable), 636 lb (612 usable)</td>
</tr>
<tr>
<td>Baggage capacity</td>
<td>120 lb, 25 cu ft</td>
</tr>
</tbody>
</table>

**Performance**

| Takeoff distance, ground roll | 1,280 ft |
| Takeoff distance over 50-ft obstacle | 1,900 ft |
| Takeoff distance over 50-ft obstacle, 5,000 ft msl | 2,460 ft |
| Max demonstrated crosswind component | 23 kt |
| Rate of climb, sea level | 1,400 fps |
| Cruise speed/range w/45-min reserve (fuel consumption) @ 85% power, rich of peak TIT | 235 kt/830 nm |

25,000 ft (25 kph) @ 55% power, lean of
setting would be below 10,000 feet, and at
lean-of-peak mixtures, where true airspeeds at
65 to 75 percent power run around 170 to 180
knots and fuel burns average 14 to 18 gallons
per hour, respectively. Of course, if you’re in a
hurry, at 7,500 feet you could push the throttle
up to the manifold pressure redline of 37.5
inches of mercury, dial up the prop to 2,500, fly
at rich of peak, and see 190 knots true
airspeed. The penalty is that 24-gallons-per-
hour fuel burn. The reward is seeing the
scenery roll past at near-turboprop speeds.

Inside and out, the TTx is a full-featured
airplane—and strong. Twin carbon fiber spars
run the entire wingspan. And embedded in the
fuselage structure is a protective carbon fiber
roll cage that surrounds the cabin. The
airframe has an unlimited life, and has been
fatigue tested to the equivalent of 25,200 flight
hours. To top it off, the TTx is certified in the
Utility category, one of the benefits of which is
a comparatively high, 158-knot maneuvering
speed. This means you can still make decent
time in turbulence, if that’s an issue. For
slowing down, there are speed brakes—
standard. For battling ice, there’s a flight into
known icing (FIKI)-certified TKS weeping-wing
ice protection system—a $55,180 option that
most people order. For avoiding
thunderstorms, there’s XM weather ($7,725
extra) via Garmin’s GDL 69A datalink receiver.
There are plenty more options—Garmin’s GTS
800 traffic advisory system ($14,525); terrain
avoidance and warning system ($10,610); GSR 56 Iridium satellite datalink receiver for worldwide
reception of weather information; and more. Oh, and air conditioning, which rings up at $29,870. Keyless
entry for the gull-wing doors is standard.
The wing leading edge uses an outboard cuff that’s set at a lower angle of incidence than the rest of the laminar-flow wing. This keeps the airflow energized over the outboard wing section and ailerons, and assures that the inboard wing sections stall first. This bit of design work is an adoption of NASA’s Advanced General Aviation Transport Experiments (AGATE) initiative, conducted in the early 1990s with the goal of improving the safety and efficiency of general aviation airplanes. In case you want to disrupt that airflow to, say, hasten a descent or slow down in the pattern, you can pop the speed brakes. The TTx is a slippery machine, so there are times you’ll need them.

Inside and out, the TTx is a full-featured airplane—and strong.

In case all that slipperiness gets away from you, the TTx’s Garmin GFC 700 autopilot has electronic stability protection (ESP). With the autopilot off, its servos will automatically exert corrective force in pitch when attitudes reach 17 degrees nose up or 19 degrees nose down. Exceed 45 degrees of bank, and ESP will apply force to roll the airplane back to 30 degrees. Fight the corrective forces for any 10 seconds of a 20-second period, and the autopilot automatically engages.

As for the panel, its clean, well-organized look is dominated by Garmin’s G2000 avionics suite. This comprises two huge, 14.1-inch-diagonal screens in landscape arrangement. To control the display views and system functions there’s a Garmin GTC 570 touchscreen controller, mounted ahead of the armrest. The leather seats are very comfortable, thanks to cushions that adapt to your contours and still provide good ergonomic support.

Cessna says that from 14,000 feet the TTx can glide 30 nautical miles; that beats the competition by 10 nm.

The view of the panel is wide open, thanks to the sidestick flight controls. The sticks pivot around a central point, and are connected to push rods. There are no springs for artificial control feel or cables that can stretch over time. There’s no aileron-rudder interconnect, either. There is a servo tab on the left aileron that operates passively to reduce aileron control input forces; the TTx can have high roll forces at airspeeds above 120 knots or so. There’s also a rudder limiter that reduces rudder throw as airspeed slows below 100 knots. This, the aft fuselage belly skeg, a limited elevator area, and those wing cuffs preserve directional stability and control at stall angles of attack.

The G2000 and its autopilot make serious IFR cross-country flights a piece of cake. You can even split the multifunction display (MFD) screen and show two different views at the same time: XM datalink weather on
Cessna TTx: Prime Performer - AOPA

Maneuvering in the pattern and elsewhere is a breeze. Fly downwind at 100 knots, base at 90, and use 80 to 85 knots on final using full flaps. Here’s where the speed brakes can come in handy if you need to “slow down and go down” at the same time. For takeoffs it’s rotate at 60 knots, lift off, and climb away. At the VX of 82 knots you’ll see about a 15-degree nose-up pitch attitude, and a lot of sky, as the TTx at lighter weights can hit 1,800 fpm in the initial climb.

Now let’s say you’ve botched an approach and must go around. But you’re having a bad day and forget to retract the flaps or stow the speed brakes. Go to full power, pitch up for VX, and the TTx’s 310 horses will still let you climb out at 700 to 800 fpm.

It’s impossible to discuss the TTx without addressing its main competitor in the marketplace: the Cirrus SR22T. Yes, the SR22T has a bigger cabin and more baggage space, but the TTx beats its speed; has bigger displays, a touchscreen controller, and speed brakes; and holds more fuel—all standard. Cessna, now part of Textron Aviation, also says the TTx has better runway performance, a better climb rate, and at a high-speed power setting can fly an 800-nm trip 26 knots faster than an SR22T—arriving at the destination 19 minutes quicker, while burning just 12.7 gallons more fuel. The TTx can glide farther, too. Cessna says that from 14,000 feet the TTx can glide 30 nautical miles; that beats the competition by 10 nm.

Last but not least, Cessna says the TTx’s typically equipped price is some $49,000 less than the SR22T’s ($810,785 versus $859,800). This assumes a TTx with FIKI, XM datalink weather, Garmin’s TAS, TAWS-B, air conditioning, and Jeppesen’s ChartView electronic charts—which is how many TTxs are ordered.

No, the TTx doesn’t have a parachute, and if you top off the 102-gallon fuel tanks you can carry perhaps two people and bags, or maybe three light people and their equally light bags. The value of having a ballistic recovery parachute is debatable. Some say it’s not essential to their buying decision, citing traffic- and terrain-avoidance technology as prime defenses against the threat of midair collisions, terrain, and obstacles. As for the most common accidents, the TTx’s roll cage and Utility-category construction provide protection. And its glide performance offers more options in case of a power loss. That said, Cirrus’ ballistic parachutes have saved a significant number of lives from catastrophic events. Truth to tell, the TTx’s structure doesn’t allow enough interior space to accommodate a parachute system.

As for the full-fuel useful load situation, the TTx is like any other light airplane—if you want to carry more
passengers and their bags, then you’ll have to take on a partial fuel load. Then there’s this: How many times do you really need to fly with full seats and a packed baggage compartment? Typical flights usually involve one or two passengers, max.

Maybe here’s the takeaway. If you need to fly a family hauler, then the SR22T may be your airplane. But if you want gobs of performance, sports-car-like handling, strength, and durability, then the TTx is for you. To use a well-worn phrase, the SR22T is more of a passenger’s airplane. The TTx is definitely a pilot’s airplane.

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AOPA Pilot Editor at Large Tom Horne has worked at AOPA since the early 1980s. He began flying in 1975 and has an airline transport pilot and flight instructor certificates. He’s flown everything from ultralights to Gulfstreams and ferried numerous piston airplanes across the Atlantic.

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