

We Fly: Cirrus SF50 Vision Jet

We put the world's first single-engine personal jet to the test on a memorable real-world trip

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Only rarely does a benchmark airplane come along that demands the creation of an entirely new category in which to place it, one that shatters conventional thinking with radical leaps in design and operating efficiency. The SF50 Vision Jet from Cirrus Aircraft is one of these uncommon airplanes. As such, the typical spin around the patch — a few steep turns, maybe, followed by three takeoffs and landings — wouldn't suffice for our flight report in an airplane as important as this. Clearly, flying the Vision Jet called for an experience befitting the occasion.

There's a great scene in the classic John Hughes film *Ferris Bueller's Day Off* in which Ferris (Matthew Broderick), having "borrowed" his friend Cameron's father's 1961 Ferrari 250 GT California for a day of top-down reverie in and around Chicago, turns to the camera and asks, "If you had access to a car like this, would you take it back right away?" After a beat: "Neither would I."

My time in the Vision Jet was kind of like that. You see, several months ago the marketing folks at Cirrus suggested I appraise the airplane in a way I might if I actually owned it. Take it on a trip, they suggested. Keep it for a couple of days, they said. Bring the wife along. Really? I've flown some unique airplanes to interesting locales, but I can't recall anyone ever tossing me the keys to a newly certified jet and saying, "Have fun." But if they were game, that's exactly what I planned to do.

I piqued my wife Kate's interest in the possibilities that awaited us with the inducement of a trip aboard a "private jet." People in the aviation industry avoid that term, but I don't see why. Customers love their private jets, and they're the ones writing the checks, after all. Rarely does anyone outside of aviation use the more staid term "business jet." And anyway, the Vision is no garden-variety bizjet. Cirrus calls it the world's first single-engine "personal jet." After flying the SF50 for two blissful days in early May, I agree wholeheartedly — personal is the perfect description for this category-busting little jet.

I suggested to Kate that we head south to warmer latitudes, and we quickly settled on Kiawah Island, South Carolina, a place neither of us had visited. Charleston Executive Airport (KJZI), an uncontrolled field on Johns Island between Kiawah and the city of Charleston, has sufficiently long runways and a great little FBO with rental cars. It would be an easy two-hour flight from our home field of Morristown Municipal Airport (KMMU) in New Jersey down the East Coast to South Carolina for what I promised her would be the most epic "date night" we'd probably ever experience.

Kate has flown many times in light general aviation airplanes, but never in anything with an airstair door. When I showed her a photo of what she'd be whisked away in, hoping to fan the flames of anticipation, she furrowed her eyebrows.

"That puny thing?" she said. "Yikes."



The Vision, with its single Williams FJ33-5A turboprop sitting atop the fuselage, is an aerial curiosity that will take some time for ATC to figure out. It performs more like a turboprop than a turbojet airplane.

Cirrus Aircraft

Yes, the Vision is an unusual-looking airplane, and as far as jets go it's, shall we say, diminutive. In fact, the first time I saw an artist's rendering of one several years ago I thought

it was ugly. The V tail with the turbofan engine sitting atop the fuselage was just so weird. But slowly my attitude softened. By the time I had the chance to see a Vision Jet up close, I marveled at the smart use of the interior space and the gorgeous Perspective Touch flight deck up front. If we're being honest, there's really only one way to describe the Vision Jet: It's just so undeniably cool.

Kate and I met up with Matt Bergwall, Cirrus Vision program manager, at KMMU for our introduction to the airplane that would be taking us to the land of championship golf courses, tidal creeks and pluff mud — the slippery, shiny brown-gray sucky sludge on the banks of the Lowcountry salt marshes that smells horrid but is supposedly good for your skin. Matt would fly in the right seat and serve as my guide to the Vision's many capabilities.

After a walk-around, we loaded our bags into the unpressurized aft cargo hold and climbed aboard. A personal jet doesn't need to be big, but the Vision is surprisingly spacious where it counts — on the inside, with huge cabin windows that let in lots of natural light and give it the feeling of a much larger airplane. Kate settled into the comfortable-looking leather seat that beckoned to her from the entryway, stretched out her legs and said, "Wow, this is nice. Plenty of room back here."



On the flight to Kiawah Island, my wife, Kate, settled in nicely in the Vision Jet's cabin, which makes smart use of the limited space and boasts huge windows.

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A neat trick in the Vision cabin is the ability to slide the pilot's seat far aft, allowing for direct entry to the cockpit through the cabin door. When I got comfortable up front, I noted that the space felt very familiar. The switches for turning on the batteries, generators, lights, anti-ice equipment and so on, for example, are all grouped in the same spot as the Cirrus

SR22 I fly. The flap switch is in the same place too, a nice touch that demonstrates the thinking that went into the design to make for a smooth transition for piston Cirrus owners. The Perspective Touch avionics system, based on Garmin's G3000 avionics suite, is reminiscent of the cockpit in my airplane as well, with a major exception being the three touch-screen controllers arrayed before the pilot that are used for interacting with the system. The engine start procedure of the Vision's single, faDEC-controlled Williams FJ33-5A turbofan is ridiculously simple. You merely turn a dial on the left side of the instrument panel to "Run" and hit the "Start" button. Everything from that point on is fully automated, with the computer brains running through the necessary start procedures and automatically initiating a shutdown if any problems are detected along the way.



The engine start sequence in the Vision is a no-brainer. Turn the dial to "Run," press the "Start" button and let the computerized faDEC handle the rest.

Cirrus Aircraft

Coaxing the Vision forward from a standstill requires advancing the thrust lever to about 20 percent power to get the wheels moving and then reducing thrust to maintain taxi speed as needed. Because the Williams engine is controlled by computer, the pilot can throw the thrust lever around with abandon. When stopped, you simply pull the thrust lever fully back and the engine maintains idle thrust, even automatically taking into account optimum operating temperatures.

Flying the Vision

I was curious to know what the sensation would feel like when I advanced the Vision Jet's single thrust lever to the stops to unleash the jet engine's roughly 1,800 pounds of thrust. Perhaps not surprisingly since there's only one engine doing the thrusting, the acceleration felt only slightly more brisk than in my SR22. I wasn't sucked back into the seat, but it certainly was adequate — and of course the jet noise was deliriously intoxicating. Because the Vision's rotation speed at our weight was about 90 knots, it took longer to reach flying speed, both in time and runway used. Once we did, I pulled the stick gently aft and the Vision leaped into the air. Retracting the gear and flaps, I started the turnout to follow the Morristown Six instrument departure procedure as Matt called New York Departure.

Hand-flying the Vision on the climb-out, I noted it handled like many of the single-engine turboprops I've experienced. The sidestick felt comfortable in my hand as I pitched for the best rate of climb airspeed of 160 knots. The vertical speed indicator showed a climb of 1,250 feet per minute, not eye-popping performance but not bad for a single-engine airplane loaded with three adults, baggage and 230 gallons of fuel on a relatively warm day. The view of the New York City skyline out the Vision's enormous wraparound windscreen was spectacular.



The Vision's sidestick is linked to the control surfaces by pushrods, and lacks the spring loading of the SR series' sidestick for a more natural feel in flight.

The Perspective Touch avionics system features a great many safety-enhancing tools, including synthetic vision, SiriusXM satellite weather, integrated checklists and more.

Three touchscreens are used for interacting with the avionics. They can revert to backup primary flight display in the event of a failure of both main screens.

The autopilot control panel is similar to the SR22's, but lacks a course knob because it is so infrequently used. That feature can be activated by touchscreen.

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I thought we were climbing quite nicely, but it didn't take long before New York Departure lost patience with our progress. It was bad enough that the controller had to ask what a Cirrus Vision was; once Matt explained that we couldn't climb at a faster airspeed we were instructed to level at 6,000 feet and stay there to accommodate crossing arrivals into Newark Airport. Jets aren't intended to fly low for extended periods of time due to the higher fuel burn; on a number of occasions during our trip, ATC didn't quite seem to know what to make of a turbojet airplane with performance closer to that of a turboprop. With time they'll figure it out, but carrying a little extra fuel for low-altitude excursions is probably a good idea.

Once we reached our cruising altitude at FL 280, the Vision's advantages began to shine through. With the power set to the detent for max continuous thrust, we showed a cruise speed of 300 ktas burning 65 gallons an hour, both respectable figures to be sure. Priced at around \$2 million, the Vision really has no direct competitor in the general aviation market. It slots in above high-performance piston airplanes but well below the price of single-engine turboprops and other very light jets. And of course, there's the whole ownership experience — flying a jet that is incredibly easy for a single pilot to feel comfortable in, and being able to bring along the entire family while easing the spouse's worries by reminding that the Vision is the only jet in the world with a full-airframe parachute. Taken as a whole, it makes for a compelling — even life-changing — product, particularly for buyers stepping up from an SR22. When I checked in on Kate in the back, she was lounging in her seat, listening to Jimmy Buffett courtesy of the SiriusXM audio and a borrowed Bose A20 headset. I asked how she was doing, and she said great. She remarked about the incredible view through the big cabin windows and her comfy accommodations.

"It's like riding in a party bus," she said.

It was better than that, I suggested. "This is your personal time machine and magic carpet ride rolled into one."

"Oh," she said with a laugh. "Does that make you Aladdin?"



There's room for seven inside the Vision Jet, which features seats that can quickly be removed or rearranged to customize the cabin to fit your needs. You won't be able to fill all the seats with people and top the fuel tanks, but at max gross weight range is still a respectable 500 nm flying at max continuous thrust. The SF50's performance sweet spot is 800 pounds of payload, providing roughly 800 nm of range.
Cirrus Aircraft

At one point I took off my headset to gauge the ambient sound level in the cabin. It was certainly louder than the passenger compartments of larger and pricier jets I've flown — as you'd expect with the engine attached to the roof. It was also a bit louder than the typical airliner cabin, though comfortable enough with a pressurized cabin altitude of 8,000 feet at FL 280, the Vision's max altitude. But I'd keep the ANR headset on at all times in this airplane. As the 600-plus miles to South Carolina ticked down on the Garmin multifunction display, Matt explained that each of the touchscreens below had a different purpose. The one on the left essentially replaces all the soft keys in the Perspective cockpit, the middle screen is the dedicated keyboard and the right screen is reserved for the comm radios.

As I played around with the system's features, we noted something curious about our destination. Despite a forecast that called for good VFR conditions, the SiriusXM weather page reported a 100-foot overcast ceiling. A marine layer, possibly? Since all the other stations around KJZI were reporting VFR conditions, a problem with the ASOS seemed more likely. Matt had mentioned the Vision had an onboard Iridium satcom system, and I suddenly had an idea. I suggested we call the FBO and ask what the weather was doing. A few button presses later and the phone was ringing. The customer service rep at Atlantic Aviation told us it was indeed a bright and sunny day on Kiawah Island. We told her we'd see her soon.

It was also windy. The Vision's max demonstrated crosswind component with full flaps is 16 knots. We would be right at the edge of that. Executing the bumpy RNAV approach to Runway 9, I managed to make a smooth touchdown with the direct crosswind thanks in no small measure, I'm sure, to the Vision's trailing link landing gear.



V tails can offer aerodynamic advantages, such as cruise speeds higher than those with conventional tails and better resistance to spins. They can also exhibit a tendency to hunt around in yaw if not flown carefully. The Vision Jet overcomes this with the use of a yaw stability augmentation system built into the lower ventral fins that automatically cancels out dutch roll to provide a smooth and efficient ride.

Cirrus Aircraft

When we taxied to the ramp and parked out in front of the FBO, all heads turned to watch. Since this was only the third Vision Jet to roll off the production line in Duluth, Minnesota, the airplane is still very much a novelty.

We spent the afternoon strolling the grounds of our magnificent beachside hotel, the Sanctuary at Kiawah Island Golf Resort, before heading out to dinner at a great nearby French restaurant called Hege's. The next morning, Kate and I rented bikes and rode a couple of miles up the beach for breakfast and then headed to the salt marshes to see what birds we could spot. We skipped the pluff mud experience, instead spending the rest of the day by the pool. Before we knew it, our brief vacation was coming to a close. Well, nearly so. We still had the flight home to enjoy.



Cirrus fans have waited a decade for this moment, the dawn of the Vision Jet age. Buyers have placed orders for more than 600 of the single-engine jets built at the Cirrus factory in Duluth, Minnesota.

Cirrus Aircraft

Homeward Bound

That afternoon had turned really breezy, with sustained winds out of the south of 20 knots and gusts well over 30. We'd depart from KJZI's shorter Runway 22, which, at 4,313 feet long, still offered plenty of concrete for the Vision. The weather in New York was gray and rainy with low IFR ceilings, but the forecast called for improving conditions by our planned arrival time. The bad weather up north was wreaking havoc on air traffic, however, and when we called clearance delivery the controller informed us we'd have to hold on the ground for an hour and a half. Ugh. That was obviously no good. What would Ferris do? I wondered. Heck, I would have been happy to get in the air and continue flying south — but we had another trick up our sleeve, I knew.

We told clearance delivery we'd depart VFR. Once in the air, if ATC was really serious about the delay we could always go to another airport and take a taxi home. Lo and behold, when we called to pick up our IFR routing in the air we were cleared to KMMU without delay. The only hiccup was that as we flew north over the Chesapeake Bay and crossed into New Jersey, New York Approach wouldn't allow us to fly the jet arrival. Instead they put us on the "turboprop only" arrival, which — you guessed it — put us at a lower altitude.

At one point when we checked in with a New York controller as "Vision Jet 730FA," he asked, "Did you say Learjet?" "No," Matt corrected him, "Vision Jet. It's a new personal jet from Cirrus Aircraft."

"Never heard of it," the controller said.

Oh, don't fret, I thought. Cirrus plans to build a few dozen through the rest of the year as it ramps up to a production rate of 125 aircraft a year while it works through an order backlog of some 600 airplanes. Controllers will be hearing plenty from Vision Jet pilots soon enough.