When Honda Aircraft Company announced it had received FAA type certification for the HA-420 HondaJet on December 9, the company’s president and CEO, Michimasa Fujino, described the document as “the crystal of sweat and tears.” The sign-off was the culmination of decades of hard work. Fujino became involved in Honda’s aircraft program in 1986. The first drawings of what eventually became the HondaJet were sketched in the early 1990s. The Honda Aircraft branch was established in August 2006, and the first conforming HondaJet flew in December 2010. It is no wonder Fujino refers to the HA-420 as his third daughter.
Beyond the vision of producing aircraft under the world-renowned Honda brand, Fujino conceived an over-the-wing mount for the jet engines, claiming the new configuration would provide a quieter cabin and better performance. With the ink now dry on the FAA certification papers, we finally had an opportunity to put this new light twinjet to the test. Could the airplane really do all that Fujino originally envisioned?

The HA-420 HondaJet is powered by two GE Honda Aero Engines HF120 turbofan engines, each producing 1,997 pounds of thrust. The engine pylons atop the wings are constructed of metal. The natural laminar flow wings terminate in sizable winglets. The HondaJet’s fuselage is made of carbon fiber, and its flight deck is built around Garmin’s touchscreen-capable G3000 suite.

Since the HA-420 is Honda Aircraft’s first aircraft offering, the company should be considered a startup. However, walking around the facilities at the Piedmont Triad International Airport (GSO) in Greensboro, North Carolina, it is evident that this is not your typical newcomer. With the backing of the Honda empire, the Honda Aircraft facilities are first-rate with high-tech security at each entrance, spacious modern offices, and hangars so clean, you could eat off the floors. As with the production of the parent company’s automobiles, sophisticated automation is involved in the production process, which should translate to consistency across the product line.

Adjacent to the factory facility lies the delivery hangar, which has a lazy-Susan-like rotating platform on which the airplane is parked during the delivery process, giving customers of this $4.85 million jet a lavish look at their new airplane while they sign the final paperwork. The ramp up to deliveries also shows a level of maturity that a regular startup would be hard-pressed to accomplish. By mid-April, less than five months after the FAA inked the certification paperwork, the company had already delivered seven HondaJets.

Not only are the facilities top-notch, a dealer network and an extensive service network with support available 24/7 have already been established. More than 50 maintenance technicians have gone through FlightSafety’s rigorous training program, located adjacent to the factory.

With great excitement enhanced by gusty winds and cool, clean crisp North Carolina spring air, I explored N420EX, the first production HondaJet, which has now flown well over 600 hours. If I could summarize the exterior and interior of the airplane, I would refer to it as not only stunning but also highly intelligent. The airplane tells you what to do.

For example, the latches for the external doors are orange on the inside, making it easy to spot one that is not properly closed. I found the latches on the two exterior luggage compartments and cabin airstair door easy to open and close, something pilots who value their fingernails like me will appreciate. In addition to the orange reminders on the access doors and visual inspection windows on the main door, indications on the G3000 will alert the pilot of an improperly shut exterior opening.

A table with a cup holder that folds out on the underside of one of the steps on the airstair door is a clever solution to satisfy a person sitting in the side-facing seat at the entrance.

There is only one external fuel port, making the refueling process quick and simple, but there are four tanks—one in each wing, one in the wing carry-through and one in the area aft of the bulkhead behind the lavatory—
providing a total fuel capacity of 2,890 pounds. There is also an optional external lavatory service port, a worthwhile investment to avoid bringing the waste through the luxurious cabin.

One benefit of having the engines mounted on the wings is that the HondaJet has an exceptionally large luggage compartment for an airplane in the light-jet category. The rear compartment is 57 cubic feet and holds up to 400 pounds. The engine is situated adjacent to the luggage compartment, so bulky items may be difficult to load. But there is plenty of space to load large suitcases without trouble.

There is also a 9-cubic-foot cargo area in the nose, capable of carrying up to 100 pounds. Neither of the cargo spaces is pressurized, however, so you may want to keep your toothpaste and any liquid materials inside the cabin.

Due to the center console protruding between the front seats, like it does in many jets, the HondaJet presents a challenge for pilots stepping into the captain and copilot’s seats. To make it easier, Honda Aircraft added a handle in the overhead panel that provides a solid grip while climbing into the seat. It was not difficult for me personally to get in, but I could see how it might be a chore for someone with a limited range of motion.

Once in the seat, multiple adjustments are available. The rudder pedals can be adjusted forward and aft, and the seats move forward, aft, up and down to provide the pilot an opportunity to find the perfect position. There is also an armrest on the right side, which is dampened for smoother action when folded down. The same goes for the other armrests in the airplane.

With my smaller frame, I had the seat at the highest position, a location that provided a stellar view over the sharply angled nose. I felt like a queen on a throne. Despite being high up on my royal perch, I had plenty of headroom, a luxury that is not always guaranteed in light-jet and turboprop cockpits.

The seat also has adjustable lumbar support. After sitting in the cockpit for about two hours and 30 minutes, I was still as comfortable as I would have been in an easy chair. It is evident that this airplane was designed for the owner-operator.

To enable the owner-operator application, the HondaJet is single-pilot certified. With its intelligent systems, the airplane itself can be considered a copilot of sorts.

To streamline the pilot’s flow check, all buttons and switches have a logic that makes it quick and easy to ensure the systems are operating normally. Buttons in the automatic flight control system (AFCS) panel, which is located above the main screens and contains the autopilot functions, are black if normal; buttons on the center console and panel show a white “NORM” for normal indication and are amber in an atypical status. Switches are all in the 12-o’clock position during regular operations. There are also crew-alerting system (CAS) messages on the G3000 screens in the event of failures or during operations that would be considered out of the norm.

The G3000 avionics suite in the HA-420 features three 14-inch screens --

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1. The shark-teethlike window accents are not for show. They are part of the electric windshield heat.
2. Honda Aircraft’s president and CEO, Michimasa Fujino, conceived the over-the-wing mount system for the GE Honda HF120 engines that power the HondaJet.
a PFD for each pilot seat and an MFD in the center — managed through two 5.7-inch GTC 570 touchscreen controllers mounted in the center. The large screens have split views or full views depending on the pilot’s preference for different flight regimes. I scrolled through the built-in checklist with a small wheel on the yoke that allows you to move up and down by rolling the wheel and check off items by pushing on its center.

Before starting the engines, I also went through an automatic system called “preflight.” The button activates an automated process that ensures the health of the systems and includes all kinds of bells, whistles and voice alerts, and the activation of the stick shaker and pusher.

The weight and balance calculation is also a breeze. The fuel on board can be automatically synced, and the only task left for the pilot is to add the weight of the cockpit occupant or occupants, passengers and bags in dedicated spots.

With four people on board, totaling just under 660 pounds, and a fuel load of 2,400 pounds, our total load of 10,317 pounds put us more than 300 pounds below the max ramp weight and right in the middle of the CG envelope. Because the wings are mounted so far aft on the fuselage, there is potential for an aft CG scenario for pilots who fly alone with full fuel. However, with the HondaJet’s wide CG envelope, it would be difficult to get the airplane out of forward CG.

The HondaJet’s max ramp weight of 10,680 pounds wouldn’t leave much room for passengers and cargo with a full fuel load. However, the efficiency of the HA-420 allows for good range capabilities, even with limited fuel, as I came to find out.

A flight plan can be quickly entered by typing identifiers on the touchscreen. Once a flight plan is entered, the system automatically figures out the elevation at the destination airport and pushes the data to the pressurization system. With the help of the HondaJet’s smart systems, the entire before-start-up process took just a few minutes, and we were ready to power up the engines.

The start-up is completely managed by full-authority digital engine control (fadic) computers, which are located in the engine pylons. The electronic management takes any fear of a hot start out of the equation. In fact, the engines were incredibly cool after start, showing around 350 degrees Celsius on the systems status screen. In case of a malfunction, the fadic shuts the engine down automatically.

As soon as the engines spoiled up, I took my headset off to see if the hype about how the engine location keeps the cabin quiet was really true. Despite high expectations after years of hearing about it, I was completely blown away by the whisper-quiet cockpit. The only reason I could see for using a headset is for ATC communications. However, I certainly didn’t mind putting the plush Bose A20s that I was supplied with for the flight back on my head.

HondaJet’s clever lighting system also takes the workload off the pilot’s hands. All the exterior lights are activated automatically when it makes sense by certain related actions. For example, the taxi light is activated when the emergency brake is disengaged, and the nav lights are engaged between sunset and sunrise. The lights can also be manually turned on or off, should the pilot wish to do so.

After taxing to Runway 23L at GSO — a process that started out a bit rough because I needed a couple of tries before I could make smooth turns with the electrically controlled, hydraulically activated steer-by-wire system for the nosewheel — my right-seat captain, Tim Frazier, manager of corporate flight operations, took the controls and demonstration, took the controls for natural light and many contemporary accents. An optional external service port is available for the lav.

Open latches are easy to spot with the bright orange color inside. Should the pilot still miss a latch in the preflight, the G3000 avionics system would indicate the mistake. Located on the tail cone, the speed brake is comprised of two panels that open through a small switch left of the thrust lever’s close with application of power.

Before starting the engines, I also went through an automatic system...
The HA-420 cockpit is built around the Garmin 3X Avionics system, which drives all of its displays. Information, such as weather, traffic, and performance, can be displayed on one of the PFDs or the MFD due to the split-screen capability, and sequenced functionality. 

The G3000 avionics system, built around the Garmin G1000, provides a realistic picture of the environment. Synthetic vision provides pilots with an on-demand view of locations outside the airplane.

There are two PFDs, one for each pilot. The PFDs are designed to provide pilots with an on-demand view of locations outside the airplane.

The speedbrake activation switch is located between the control columns. The speedbrake positions are displayed on each PFD, and the speedbrake can be manually deployed.

There is a center console in the center of the cockpit with the main avionics.

The multi-seat adjustments are经提项在每一个座位上，确保了充足的腿部空间。
trouble as the winds were gusting between 11 and 23 knots. Once beyond the runway threshold, Frazier asked me to keep the nose down to an attitude that, from my royal perch, appeared to make us touch down on the nose. However, Frazier ensured we were in the right attitude, and there was no flare required. Using his guidance, my touchdown was smooth, but, once the trailing-link main gear touched the ground, I didn’t quite hold the nose off enough to ensure a smooth derotation—the process of bringing the nosewheel down. I should have held the yoke back longer.

On the third approach, my right-seat captain was completely silent, and I managed to make a nice approach and landing without any verbal assistance. To use a highly overused but appropriate expression: It was awesome. Taxising felt comfortable by now, and we did a tight pirouette on the tarmac outside the factory to highlight the airplane’s steer-by-wire system’s capability. We returned 420EX to the ramp technicians completely squawk-free, an impressive feat I have not experienced in any newly certified airplane and a testament to Honda Aircraft’s pursuit of perfection.

Knowing he would get involved in case I did something unsafe, I guided the airplane through the turbulent air toward the runway. Frazier remained mostly quiet, and I completed another nice touch-and-go.

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With the HondaJet’s stellar speed, pressurization and environmental system, and comfortable and quiet cockpit and cabin, operators and passengers are sure to arrive at their destinations well rested. With the ink barely dry on the FAA certification documents, there are a few items still pending, such as certification for flight into known icing (FIKI) and reduced vertical separation minimums (RVSM). These are expected in the next few months.

The base price for the HA-420 is $4.85 million. However, there are several options, including seat upgrades, cabinets, a second table, cabin management systems, satellite radio, Wi-Fi and more, adding up to as much as $400,000. At the time of this writing, Honda Aircraft had more than 100 orders for the HondaJet. With seven airplanes delivered, the company expects to ramp up production to three to four jets per month next year, so new customers will have to be patient. But, as the saying goes, good things come to those who wait.

Less than five months after the FAA certification of the HA-420 HondaJet, Honda Aircraft had already delivered seven of the clean-sheet airplanes, an impressive feat for a company that is essentially a startup.