

Lanier Flight Center Creates Safer G1000® Pilots and a New Profit Center with Flight1 Aviation Technologies Software

THE CHALLENGE: Get students proficient flying with the Garmin G1000 before they get in the airplane

Based at Lee Gilmer Memorial Airport (KGVL) in Gainesville, Georgia, Lanier Flight Center is the nation's second-largest Cessna Pilot's Center. Founded by Troy and Kenny Wheeler in 2003, the company began operations as a small flight school with a single Cessna 172 Skyhawk SP.

Today, Lanier has a second facility at DeKalb Peachtree Airport (KPKD), and a combined fleet of 14 single-engine aircraft and two piston twins.

More than a dozen flight instructors offer customers training for the Sport Pilot, Private Pilot, and Commercial Pilot certificates, as well as the Instrument, Multi-engine, and Certified Flight Instructor ratings.

Lanier is also a Cessna Authorized Sales Representative, and has become the premiere dealer of new single engine Cessna aircraft in Georgia, Alabama, and Mississippi.

In 2005 Lanier Flight Center took delivery of its first Cessna aircraft with a Garmin G1000 glass cockpit: a 172 Skyhawk SP.

"Cessna has a strong philosophy," says Lanier CFII Chuck Padgett. "They want to put you in an airplane, and they want you to fly that airplane safely. They recognize

the danger of putting someone into an airplane that's too much for them. They don't want people to come out and hurt themselves in their airplane. And so

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we, as a training facility, we have that philosophy flowing through everything we do."

Padgett was Lanier's first instructor to get checked out in the new G1000-equipped 172. From his first flight, it was clear that if students were going to really master the G1000 and maximize their training time in the airplane, they were going to need to first get their head around the G1000 on the ground.

At Padgett's suggestion, Lanier purchased Garmin's G1000 PC Trainer software.

"While the PC Trainer was a great tool for students to learn where all the buttons and menus are and what they do, it really didn't meet our needs," explains Padgett. "The software was difficult to navigate, and it didn't actually put a pilot in the cockpit making decisions."

Padgett got certified by Cessna to do FITS-approved factory training for new Cessna owners transitioning to the G1000, and he gained lots of experience instructing students on the G1000. He realized what Lanier really needed: a G1000-equipped flight simulator.

A G1000-equipped simulator would allow students to achieve a higher level of utility

and a higher level of confidence, at a quicker pace, than training in the airplane. It would also be something that could set Lanier Flight Center apart from other flight schools, and become a new profit center for the company.

In 2010, Lanier purchased a highly touted turn-key G1000 simulator that the industry was rallying behind. Padgett and the rest of the instructors had high hopes. It looked impressive, and Lanier's students lined up to book time using it. Ultimately though, both the instructors and the students were disappointed with its capabilities. The G1000 avionics simulation turned out to be quite basic, and an unrealistic flight model made it challenging to hand fly the airplane. The search continued.

THE SOLUTION: Build a custom G1000-equipped simulator with Flight1 Aviation Technologies software

While searching the marketplace for G1000 simulators in early 2011, Padgett discovered Flight1 Aviation Technologies. When he read about the Garmin G1000 Student Simulator software on Flight1Tech.com, he suspected he had finally found the G1000 simulation he was looking for. A conversation with Flight1 Tech's Vice-President Jim Rhoads confirmed it.

Lanier Flight Center soon purchased both the G1000 Student Simulator software and the Virtual Instructor Station Pro (VISPRO).

An architect by training, Padgett got to work designing and building Lanier's new G1000 simulator: an integration of Microsoft® Flight Simulator X, the G1000 Student Simulator software, and VISPRO running on separate computers.

The "Mark I G1000 Simulator," as Lanier calls it, features two large LCD monitors, a CH Products Flight Sim Yoke, Saitek® Pro Flight Rudder Pedals, and an instructor station. Padgett has plans to add extra monitors in the future, for an even more immersive experience.

THE RESULTS: Safer G1000 pilots and a new profit center

Lanier's instructors use their Flight1 Aviation Technologies-based Mark I G1000 sim in a variety of ways. Student Pilots get their initial G1000 training on it, and the sim is used extensively for G1000-based instrument training.

The Mark I is also used for recurrent training. A pilot comes in, grabs an instructor, and runs through a scenario he recently experienced in the airplane. He leaves with a much better understanding of how the G1000 works, and a renewed sense

of confidence for his next flight in the airplane.

In response to critics who think that a simulator has to be 100% accurate in order to have any training value, Padgett says: “I have a corridor, and I’m going to take my student down this corridor, and I’m going to open a few of these doors, and along the way they’re going to learn something. And there are a couple of doors that I’m just going to keep locked. We can go to the Garmin Trainer and play with it if we want to. But if we want to learn something, we can get about 95 percent of it right there in the Flight1 Tech simulator for a tenth of the cost of flying the airplane.”

Lanier’s instructors say they especially like the software’s accurate simulation of the Terrain Awareness and Warning System (TAWS), Victor airways, flight plans, VNAV, and Go Around mode. They also like the highly realistic flight models that are included with the simulation software, which make it easy to hand fly the airplane—even on instruments.

The instructors like the Virtual Instructor Station Pro (VISPRO) software too, especially the map display and the ability to initiate failures. They also like the flexibility VISPRO provides them with. They can pause a session, clear the weather to show a student where he really is, point to the position on the map display, reposition the aircraft back on the approach, and let the student try again.

“We can’t do that in the airplane,” says Padgett. “We’ve got better feel, we can

touch the buttons, and we can listen to real ATC. But there are so many things that we can’t do in the airplane that we can do a great job of in the simulator.”

Lanier’s instructors use the Mark I G1000 sim with a dozen written scenarios designed using the FAA/Industry Training Standards (FITS) for scenario-based training. Lasting from 45 minutes to almost two hours, each scenario begins with an objective and includes a pilot briefing, an instructor script (including ATC calls), and learning points and cautions for both the student and the

instructor. The scenarios include interesting and challenging departures, arrivals, and approaches at

airports like Nashville (KBNA), Athens (KAHN), and Marsh Harbour (MYAM) in the Bahamas.

The scenarios work with the Flight1 Tech software to keep Lanier’s students engaged and coming back for more training.

The Mark I sim is currently being used about 50 hours per month, and is already proving itself to be a viable new profit center. More importantly though, Padgett sees that Lanier Flight Center’s customers are becoming more confident, more proficient, and safer G1000 pilots.

“My hope was that we could put students in front of a G1000 simulator, and give them an hour or an hour and a half of inexpensive instruction at a comfortable pace,” he says. “Then we could walk them out to the airplane, take them out on an instrument approach in fairly low conditions, and see the difference. And that’s been the case.”

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About the software

Garmin G1000 Student Simulator

The Flight1 Aviation Technologies Garmin G1000 Student Simulator is add-on software for Microsoft® Flight Simulator X, Microsoft® ESP™, or Lockheed Martin® Prepar3D™. It provides individual pilots and flight schools with Garmin G1000 avionics training in a realistic, dynamic simulation environment.

Virtual Instructor Station Pro (VISPRO)

The Flight1 Aviation Technologies Virtual Instructor Station Pro (VISPRO) is software that integrates with Microsoft® Flight Simulator X, Microsoft® ESP™, and Lockheed Martin® Prepar3D™. VISPRO lets you control the simulation's environment, change the weather, reposition the student's aircraft, and trigger malfunctions ... all in real time as the simulation is running. It gives you professional-quality tools for monitoring, instruction, and analysis.

For more information

To learn more about the Garmin G1000 Student Simulator, VISPRO, and other Flight1 Tech training tools visit www.flight1tech.com

To learn more about Lanier Flight Center, visit www.lanierflightcenter.com