

# Back to the future

Venerable prop planes help Boeing team test smarter, quicker and more economically

By Adam Tischler and photos by Ron Bookout

On the edge of the Boeing St. Louis site, away from the sleek F-15 and F/A-18 fighters rolling off its production lines, is a drab, low-slung hangar that sits nearly empty. Inside are three seemingly unremarkable propeller airplanes.

But these planes have a remarkable history—and purpose.

For 30 years, the Test Bed team, now part of Boeing Test & Evaluation, has been pushing its aircraft to the limits to support key company programs. The two King Airs and a tiny Maule have helped test and reduce risk for everything from missile guidance systems to Wi-Fi for commercial airplanes.

“For decades, this team has been behind testing products that are so successful they are still part of Boeing’s revenue stream,” said Test Support Pilot Jim Pitcher. “A key difference is that we are able to test more efficiently than many people might imagine.”

Technician specialist Jim Shaw said the team has, essentially, learned to “fit a square peg in a round hole.”

They’ve taken avionics from aircraft as diverse as a huge commercial airliner to a sea-launched guided missile and found a way to mount them in and around their simple propeller planes. The result: run-of-the-mill airplanes operating state-of-the-art equipment, all ingeniously

adapted and tucked away for flight.

Myriad programs bring complex avionics systems to the Test Bed team, which then pieces together an electrical engineering puzzle. Parts must be adapted so the airplane can fly safely and at maximum performance while conducting rigorous flight tests.

Programs have long sought out the team based on technical performance, but the savings and capability this group offers also is turning heads: Non-Boeing test groups can cost up to four times more than the St. Louis team.

Performing test or training flights in the twin-prop



ing. Important pop-up tests for customers find their way to the team because of its unique abilities.

Those hours of risk-reducing flight tests in fuel-efficient, technically capable aircraft with experienced aircrews have saved programs “millions upon millions upon millions of dollars,” according to Herb Johnson, Lead Test Bed pilot.

The team’s reputation was once largely unknown outside of the programs based in St. Louis.

Now, as Boeing’s test community has been integrated into the Boeing Test & Evaluation organization, the team’s skills and tools are in demand around the enterprise as programs discover the potential savings.

And while the Test Bed team’s propeller airplane assets are important,



King Airs instead of tactical fighters and developing weapons technology without needing to actually launch a weapon has paid big dividends for Boeing.

The C-17 program, for example, recently sought testing of a new communications system from the Test Bed team—and realized significant savings.

“There’s tremendous value in bringing together the knowledge of the Test Bed team and the efficiency of the test platform,” said Bruce Glaser, C-17 program chief engineer. “The C-17 program continues to seek efficiencies like this one that keep the program competitive and provide a world-class product to our customer.”

Cost savings for the team’s business partners aren’t just found in planned test-



**PHOTOS: (Far left)** Test Support Pilot Jim Pitcher of Boeing Test & Evaluation conducts a preflight inspection on the King Air 90. **(Above, from left)** Flight mechanic John Kowalski, left, and technician specialist Jim Shaw prepare a pod for uploading under the King Air 90; Chief Pilot for Military Tactical Dave Desmond occasionally co-pilots the King Air when not flying F/A-18s. **(Left)** Technician specialist Jim Shaw checks out a test harness prior to installation. **(Below, from left)** Lead Test Bed Pilot Herb Johnson completes prestart checks; flight mechanic Tim Godwin prepares the Maule for flight.



the experience and training of the team is its competitive advantage—and difficult to find outside the company.

For the group of mechanics, technicians and pilots working together with their business partners, little has changed. But it is busier in the hangar in St. Louis these days, and there are some new faces from programs that are just now leveraging this resource.

“They’re still kind of discovering us,” said Johnson. “Boeing Test & Evaluation is really helping spread the wealth to different locations.” ■

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To view a video about the Test Bed team, visit <http://videos.web.boeing.com/video/1063> on the Boeing intranet.

