

Appearing nightly, the Quest Diagnostics Air Force

Enlarge / Quest Diagnostics Air Operations, Reading Regional Airport, Reading, Pennsylvania. Photo by Steve Hockstein/HarvardStudio.com

Quest Diagnostics

reader comments

15 with 14 posters participating

Share this story

It's pretty quiet out there these days, particularly after you've gone to bed. But somewhere above, a pilot bathed in the glow of avionics is looking up from his instrument panel into the night. Behind him are 76 soft-sided coolers holding the physical data on which modern medicine depends—samples of blood, urine, and tissue from individuals around the country.

They're aboard a Pilatus PC-12 turboprop business aircraft, collected from airports where they've been delivered from laboratories, doctors' offices, and hospitals. The airplane is part of the 25-strong specimen-transport fleet of Quest Diagnostics, one of the two leading companies in the medical lab services market.

Quest pilots' mission to collect and transport this valuable cargo has the same goal every night: to gather the material and get it safely back to one of Quest's labs by 2am. That way, the lab results for the person from whom the specimen comes are available by 8am a day or two later.

There are remarkably few aircraft in the air over America at

night in this time of COVID-19. Take a look at FlightRadar24.com or FlightAware.com at 10 or 11pm in the evening and you'll see.

FlightAware

Chances are, if you click on the icon of a small aircraft, it will have the identifier "LBQ" and the call-sign "LabQuest. With each Quest PC-12 aloft in the darkened skies ride the hopes and anxieties of 76 patients waiting for results.

Always aloft

Quest aircraft have flown in empty skies before, on September 11, 2001, for example. "We were just about the only ones in the air outside the government," Quest Senior Director of

National Air Logistics Scott Gordon remembers. "We actually ran under life-guard status on that day." Quest airplanes were intercepted by fighters several times for positive identification, but they kept on moving specimens. That was well over a decade after the genesis of Quest's fleet.

It was launched in 1988 as part of the lab operation of the pharmaceutical company SmithKline Beecham. In the beginning, pilots flew twin-engined Cessna 310s, though they were later joined by faster turboprop TBM 700 business aircraft. When SmithKline Beecham sold its lab operations to Quest Diagnostics in 1999, the specimen-transport fleet went with it.

By that time, demand for lab work and samples had grown so much that the company decided to acquire the PC-12, a larger Swiss-made single engine turboprop that can carry more cargo and cruise at 270 knots (310mph/500km/h) with excellent fuel efficiency. Today, Quest flies nine PC-12s along with nine Beech B58 Barons and five Embraer Phenom 100s.

Able to cruise at 200 knots (230mph/370km/h) at about 7,000 feet, the piston-twin Baron is suited to shorter flight legs, while the twin-jet Phenom 100 is more efficient on longer routes in the western US, cruising above 30,000 feet at 400 knots (460mph/740km/h).

Enlarge / All three airplane types currently flown by Quest Diagnostics awaiting a night's work in the hangar. PC-12s sit forward at left and right by the door. Beech Barons are in the foreground at left and center. An Embraer Phenom 100 is in the foreground on the right.

Photo by Steve Hockstein/HarvardStudio.com

But the PC-12 is likely the future of the Quest fleet. Its load capacity and middle-ground speed/altitude/fuel consumption qualities are encouraging the company to acquire more. It's a good fit in terms of size for an operation that's always assessing its efficiency, including the utilization of cargo space.

Well over a decade ago, Quest recognized that the traditional hard coolers it transported specimens in had a lot of "empty air" inside, Gordon says. "So we went ahead and patented our

own soft-sided coolers [in 2003]. That freed up about 50-percent capacity in all of our aircraft.” All specimens are packaged for the aircraft in the same sterile format, including the many COVID-19 specimens that Quest has been transporting to and from 12 different laboratory facilities during the crisis. Like more routine samples, they’re managed with competition-like teamwork.

NASCAR at night

“It’s like a NASCAR pit crew when we land. There’s a ground team waiting for us, and there’s a hand-off [of specimens],” Gordon explains. Quest’s pit stops (the aircraft make 88 daily landings in 63 domestic locations) often see planes simultaneously being re-fueled and unloaded/loaded while pilots do their next pre-takeoff checks and any flight plan updates. The company aims to “turn” each aircraft 20 minutes after it lands.

The broader process starts after daylight each morning. Maintenance crews show up at Quest’s home airport in Reading, Pennsylvania, to inspect and/or repair the fleet, most of which returns each night. As they do so, Quest dispatchers in Tampa, Florida, are looking at the weather, the schedule, possible delays or diverts, and aircraft availability.

A conference call is joined at 2pm Eastern time by Quest’s chiefs of maintenance and dispatch, its safety officer, chief pilot, and Scott Gordon himself. “There’s always something out there that we’re assessing,” he says. That could include forecasts for thunderstorms, Nor’easters, snow, or even hurricanes that could not only disrupt aircraft operations but broader logistics, from ground delivery vehicles to hospitals or labs.

Quest pilots generally arrive at the airport 30 to 40 minutes before their flights, around 5:30pm Eastern. They check in with dispatchers and walk to their aircraft to go through

their pre-flight checks. The routes they fly are relatively standard, as are their flight plans, which are already loaded electronically into the airplane's avionics.

Each pilot consults a "route sheet" that shows the legs they'll fly round-trip and how many coolers will be placed in their aircraft for transport to a destination. Normally, the first departures from Quest's bases (also in Georgia, Texas, and Missouri) are empty of specimens. Pilots talk with maintainers about any issues or about weather/new stops with dispatchers, then roll out for takeoff with a plane full of empty coolers. If it sounds chill, it isn't.

Quest pilots fly single-pilot IFR (instrument flight rules) operations. These are demanding in any airplane, particularly at night in bad weather. Not surprisingly pilots are generally high-time multi-engine- or turbojet-qualified operators, usually with air transport certifications. "It takes a special kind of pilot to do this," Gordon acknowledges. "They're very skilled, but they're not looking to fly for the airlines and do a conventional job. They like the independence and the team atmosphere we try to build here. They're also home every night, which is pretty rare."

On the way to Elmira, New York, or to Denver, Colorado, in the darkness, Quest pilots are well-known to the air traffic controllers who also work the third shift. When switching to a new frequency en route, pilots often recognize the voices of controllers they work with nightly and vice versa. "We're very professional, and that translates to being treated well by the controllers," Gordon says. "In our business, time matters, so any shortcuts or direct routing they can give us help a lot."

Pilots check in with their dispatchers when landing at a destination, but they are masters of their own ships while flying their routes.

Specimens are people

Quest's pilots tend to stay put. The company includes a number who have been there for 20-plus years, including the pilot who made the first SmithKline Beecham specimen delivery flight 32 years ago. The flying challenge, personal latitude, and security of the job are appealing. But the sense of mission, even in more settled times, gives them—and others within Quest's aviation department—additional motivation.

"Whether it's the pilots, maintainers, dispatchers, or even administrative people, they look at every specimen as a person," Gordon affirms. "Patients are waiting on results, and some of them are critical to their health, to life and death. We keep that in perspective. It's a great thing to be a part of. That's why I think a lot of people have stayed with us."

He adds that during the pandemic that feeling has been more pronounced, the work even more compelling.

By 2am, airplanes are returning to Reading and to Quest's other bases with full coolers. The specimens are handed off for ground transport. A few hospital-related flights will continue until about 11am. But most pilots are taxiing in, shutting down engines, switching off the avionics, and—like truckers or NORAD controllers—taking a break until the sun comes up and goes back down. Then they'll appear, nightly as always.

<https://arstechnica.com/?p=1671790>