

# Keeping It Real

Why and How the FAA Manages Its Own Fleet

*By Kate Knorr, FAA Flight Program Operations*



The work that FAA's Flight Program Operations does contributes to keeping the National Airspace System (NAS) safe and efficient for operators and passengers. But not too long ago, this work was spread across multiple offices within the FAA, with disparate aircraft fleets that supported the agency's mission in a singular fashion. That changed in 2016 when the agency consolidated the legacy flight programs to form [Flight Program Operations](#) under the [Air Traffic Organization](#). Its core business is to conduct safe and efficient flight operations across four primary missions: flight inspection; research, development, test, and evaluation (better known as RDT&E) support; aviation safety training; and critical event response/transportation.

Consolidating the legacy flight programs raised operating standards across all of the activities; in fact, all aircraft are now on the Flight Program Operations air operator certificate and authorized to operate under [14 CFR part 135](#) — consistent with industry operators with similar size, scope, and complexity of operations. The consolidation also increased efficiency, enhanced safety systems, and enabled the development of a comprehensive aircraft fleet management strategy. Before consolidation, the legacy organizations operated 13 different makes and models. Aircraft were specialized for a single activity, and the fleet was rapidly aging. Apart from higher costs for parts and maintenance, older aircraft were increasingly mismatched to their mission in today's highly dynamic aviation environment.



## **Right-Sizing the Fleet**

The 2016 consolidation enabled the FAA to take a fresh look. The first thing Flight Program Operations identified is that having so many different makes and models was unsustainable and inefficient.

Fast forward to today. Flight Program Operations is now flying the following aircraft: Cessna Citation Sovereign Plus, King Air C90GTi, King Air 300, Challenger 601, Challenger 604/605, Challenger 604, and Bombardier Global 5000. That is six different makes and models, which is much more efficient.



Some of Flight Program Operations' aircraft rest on the tarmac.

## **Meet the Fleet**

Let's do a quick meet and greet with a few of the aircraft that are currently part of the Flight Program Operations fleet.

### **Cessna Citation Sovereign Plus**



### **Job(s)**

*Critical event response/transportation, flight inspection*

### **? About me**

Like many people in this area, I am a transplant to the Washington, D.C., region.

As the workhorse of the FAA's critical event response/transportation responsibilities, these capabilities are absolutely essential for several reasons. My range means that I can go coast-to-coast without stopping. This allows the National Transportation Safety Board's "Go Team" to arrive as quickly as possible to an accident scene. I have a top speed of 613 miles per hour and a maximum range of 3,000 nautical miles. My size and speed also mean that I can get there quickly, and with more relief supplies, in the wake of natural disasters such as Hurricanes Florence, Harvey, Irma, and Maria.

### **Beechcraft King Air 300**



### **☛ Job(s)**

*Flight inspection and RDT&E support*

## **? About me**

Used in both flight inspection and RDT&E support activities, I have a top speed of 368 miles per hour and a maximum range of 1,570 nautical miles.

### **Bombardier Global 5000**



## **» Job(s)**

*Critical event response/transportation, flight inspection, and RDT&E support*

## **? About me**

Although I can handle many missions, RDT&E support is where I really shine. The most recent example is months of flights associated with characterizing the potential risks of 5G C-Band wireless network interference with aircraft instrumentation as new towers were activated near airports and other facilities.

I have a top speed of 683 miles per hour, a maximum range of 5,200 nautical miles, and a maximum operating altitude of 51,000 feet.

## **Bombardier Challenger**



## Job(s)

*Critical event response/transportation, flight inspection, and RDT&E support*

### ? About me

I will be a core member of the modernized fleet moving forward. With the ability to quickly shift between the flight inspection configuration and seats, I will be the most versatile aircraft in the fleet. I can reach a top speed of 660 miles per hour and fly a maximum range of 4,123 nautical miles.

My primary focus is flight inspection. Because of my capabilities, myself and the other Challenger aircraft in the fleet are responsible for international flight inspections, traveling to, among other places, both the South Pacific and to Europe each year. I am also responsible for flight inspections in Alaska's complex airspace.

### And The Fleet Goes On ...

While most commercial airlines retire their aircraft when they reach 20 or 25 years of service to maximize efficiency, the current average age of aircraft in the FAA's fleet is still more than 30 years old. Another issue is that aircraft in the FAA fleet have missions and uses that are quite different from those of commercial and general aviation aircraft. With a commercial aircraft, for example, a flight from one airport to another

involves just a single instance of moving the engine(s) to takeoff power once and cycling flaps and landing gear. In contrast, a flight inspection aircraft might take off from an airport, fly to another, circle around it multiple times at specific altitudes, and then return to the original airport. Flaps and landing gear might be cycled a dozen times, and engines will be throttled up six times. In addition, aircraft used for flight inspection often have to fly at low, bumpy altitudes, which increases wear and tear.

When fleet modernization is complete, the FAA aircraft fleet will include three makes and models of type rated aircraft.



Lined up, shined up, and ready to go at a moment's notice.

## **The Future is Modular**

How do you still complete the same amount of (or more) work with fewer aircraft? Flexibility and efficiency!

Instead of being dedicated primarily to a specific activity, like flight inspection or critical event response, each aircraft in the fleet will be multi-mission capable. In conjunction with fleet modernization, engineers in Flight Program Operations have been working to take the extensive suite of specialty equipment required for an aircraft to conduct flight inspection work and shrink it. Aircraft that are used for flight inspection right now have more than 860 pounds of equipment painstakingly hardwired into them. Moving forward, aircraft will have tracks installed and a much smaller, much lighter, but equally capable modular mission system weighing approximately 260 lbs. The modular system can be quickly installed or removed to support multiple missions.

## **Fewer Aircraft, More Possibilities**

Pilot training will also be more effective and efficient since the future fleet will include less aircraft types. There will be no need to reposition aircraft or pilots in order to play “find the match” with type ratings and aircraft.

Of course not all the magic will be in the air. Having a streamlined fleet simplifies maintenance. Engineers and maintenance personnel will

receive more focused training on each aircraft type. The number of parts that will need to be stored, or procured, to fix aircraft when they do break down will be much smaller. Then again, because the aircraft will be younger, parts will also be easier, less expensive, and faster to find.



The FAA fleet of the future will be capable of flying different kinds of missions on short notice.

We stress the need to keep a safe distance — always important in aviation! But when you hear the call sign “flight check” on the radio at an airport near you, keep an eye out if y