

CONAIR RETIRING FLEET OF CONVAIR AIR TANKERS



Seven-Decade-Old Aircraft Have Served the Company Well || BY RUSS NILES

It's the odd combination of a quiet whisper and a loud hum, the result of an engineering marriage of convenience that revolutionized aviation at the time and continues to drive it forward. But to residents of an increasingly fire-ravaged world over the past 23 years, the sound of the turboprop engines on the Convair CV-580 announced that help was on the way. With thousands of flight hours and drops in their logs, the nine 580 airtankers operated by Conair Aerial Firefighting, of Abbotsford, British Columbia have now all been retired to make way for a new generation of De Havilland Dash 8-400 and AVRO RJ85 regional jets fitted out to carry fire retardant ...

“THEY’RE GETTING OLD,”

said Jeff Berry, head of business development at Conair. “Obsolescence sets in.” The aircraft themselves are still in great condition. Meticulous maintenance and constant monitoring have kept the 70-year-old airframes in as-new shape despite their demanding duty. But as operators all over the world retire the type in favour of more modern designs, the availability of parts, especially consumables like landing gear, engine components and other maintenance necessities, is dwindling. “There’s only one company that’s rebuilding the props now,” said Berry.

Since dispatch reliability is core to the firefighting business, Berry said the looming possibility of maintenance challenges dictated the aircraft be replaced. Rather than a sad occasion, it’s viewed as a natural evolution; a “celebration of the long history” of the aircraft’s work all over North America.

The Convair came to Conair via the same process. In the late 1990s, Conair used Douglas DC-6s and Grumman S-2 Tracker tankers, both of which sport big thirsty radial engines. The piston aircraft had long been replaced by jets and turboprops for cargo, charter and airline service, so the market for 100LL aviation gasoline became focused almost entirely on recreational flying. Fuel availability became a crucial limiting factor for the piston-powered tankers, and that made the move to turboprops an operational necessity.

The question was, which turboprop? Airframes for firefighting duties tend to be those that have been retired from profitable commercial use. They must be good, reliable planes able to withstand the rigours of firefighting — and it helps if they aren’t too expensive. The Convair CV-580 ended up fitting that bill well.

A couple of hundred miles away in Kelowna, B.C., KF Aerospace had acquired the type certificate for the whole series of Convair



COURTESY CONAIR

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twins which, themselves, were turboprop derivatives of the original radial engine aircraft first developed in 1947. The common factor in all Convair 580s is the robust and powerful Allison 501 turboprops that replaced the P&W R-2800 radials.

In the 1980s and 1990s KF Aerospace acquired and modified a large fleet of 580s for use in its cargo business and did a brisk business converting them for other carriers. But Conair had to see if a 1940s airliner, first developed as a replacement for the DC-3, could be plunged into the aerial ballet that is firefighting.

The first step was to fly a 580 to see if it would work as an air tanker. “We took it up into the hills around Kelowna to see if the aircraft was comfortable” in that role. Although it couldn’t be described as nimble, it had the power and flight characteristics needed to propel it to the next step, an engineering study to determine its utility and, most importantly, its dependability in that role. The verdict? “It’s a tough airplane,” said Berry.

Conair and KF worked together to modify the 580 into an airtanker. The airframe was lightened by removing pressurization equipment and the radar in the nose cone, which also reduced maintenance requirements. The flaps had to be cut 20 percent to make way for the belly tank, which was installed by Aero Union in Chico, California.

“The certification flight test program was conducted in the spring of 1999 at Chico with the FAA and Transport Canada and resulted in both Canadian and FAA simultaneously certified STC’s which allowed Conair to operate the aircraft in both jurisdictions,” Berry said.

PHOTOS COURTESY CONAIR



A Convair 580 drops its load of fire retardant over an Okanagan fire.



AIRCRAFT SPECIFICATIONS

58,500 lb
Maximum Takeoff Weight

51,000 lb
Maximum Zero Fuel Weight

52,000 lb
Maximum Landing Weight

DELIVERY SYSTEM SPECIFICATIONS

7,950 litres
Maximum Tank Capacity (2,100 US gallons)

AIRCRAFT PERFORMANCE

270 knots
Cruise Speed Loaded

120 knots
Drop Speed

“It’s all cables, pulleys and muscle.”
— Grahame Wilson

About this time, Grahame Wilson was flying the piston fleet and moved to the Convairs in 2003. He’s run the operational side of the 580 program since 2006 and made the company’s final flight in the type with a delivery of one of the four remaining airframes to a museum in Victoria. At least one other plane is also likely headed to a museum and the other two will be parted out.

For Wilson, the end of the Convair era was also the natural end, at age 67, to his long flying career, but it holds a lot of fond memories. “I just love the airplane,” he said.

It’s fair to say that Convair engineers didn’t envision a souped-up version of their new airliner bouncing around the hills and valleys of B.C. and beyond, flying at treetop level. Instead, when they took out their slide rules, they were helping to create a renaissance in civil aviation. Their new twin, the CV-240, would seat 40 passengers in a pressurized cabin that allowed the aircraft to fly above most weather at much higher speeds than the 10-year-old DC-3 it was to replace. Likely because they were breaking new ground, had little operational data to go on and didn’t have computers to help them, they didn’t take any chances with the aircraft’s basic structure.

“The Convair was overbuilt,” said Wilson. The aircraft were already well used by the time Conair got them. The plane he normally flew had almost 50,000 hours in service with Sabena and Frontier Airlines before Conair engineers added a 7,950-litre retardant tank to the belly. In the 20 years of service with Conair, it endured a series of punishing tests of its basic systems. The pilots were similarly tested.

“It is not an agile aircraft,” commented Wilson. “It was designed to take off, cruise and land.” He said there are virtually no power assists for the controls and hauling the old airliner through the manoeuvres required for firefighting was a workout. “It’s all cables, pulleys and muscle,” he added.