

AN AIRCRAFT

by Gates L. Scott

with a Purpose

Many times you've looked out onto the ramp and find aircraft that serve no other purpose than to hoist its fearless pilot into the air and take him or her on a nice joy flight. The aircraft then returns back to the hangar, idling, waiting for the next cross country or its pilot's best excuse to get away from the stresses of life and enjoy some time in the air. Then there are those aircraft that are unique and carry a distinctive quality of purpose and utility. Tell me you don't find those aircraft more interesting!

As the Ag plane dive bombs over your head as you drive down a country road, or the military helicopter lands and empties what seems like hundreds of passengers; these aircraft were built with a specific mission in mind. They weren't built for the weekend warrior. As you gaze at these awesome flying machines, you are jealous that someone is actually getting paid to fly them. What an opportunity. What a life, right. Some manufacturers miss practicality and utility. Hundreds of thousands, even millions of dollars are displayed at air shows throughout the country; however sometimes you have to ask, 'what would I use that aircraft for?' 'What practical use would I have for that multi-million dollar aircraft?'

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AN AIRCRAFT DESIGNED FOR A SPECIFIC PURPOSE

The roots of the P-750 XSTOL go back over fifty years of useful purpose. In a joint effort between an American aircraft designer, John W. Thorp and a Kiwi named Wendell S. Fletcher back in 1953, the FU-24 agricultural aircraft was developed in response to the needs of a fledgling agricultural aviation industry in New Zealand. The FU-24, or "Fletcher" as it is widely known, was spawned from Mr. Thorp's design of the FD-25, a ground attack aircraft in the United States, and after many years the aircraft has had hundreds of modifications that include bigger hoppers, dual controls, aerodynamic improvements and even an adapted, automotive V-8 engine.

In 1967, the world was introduced to the first turbine-powered Ag plane when the FU-24 was outfitted with a Pratt and Whitney PT6-20 500hp engine. Not only was it a first, but this aircraft was also specifically modified with a bigger hopper

and much heavier payload. Over the next 12 years, designers and manufacturers kept adding more weight and more power (in 1970 a 50 cubic inch hopper was added), pushing the envelope in the characteristics and capabilities of this aircraft. Once it had reached its design limitations (and considering that all of these changes were not production modifications), it was determined that a new aircraft was needed. One that was stronger and faster.

The FU-24 (It's interesting to note that the first delivered FU-24 is still in operation) was then surpassed by the "Cresco", which is Latin for "I Grow." Pacific Aerospace Corporation (PAC) began working on this new design in 1975. The new design included a longer fuselage, a massive hopper, enlarged fins and rudder, a "wet wing" and a whopping 600 hp Lycoming LTP 101 turbine. Wow.

A NEW DEFINITION FOR "OPERATION"

Now, the phrase "operation in New Zealand" needs further clarification. In the steep New Zealand countryside, operating usually means landing in many unimproved landing strips, or on the side of a hill with one precarious spot at the top to load over 5,000 pounds of fertilizer into the hopper. (That is two and half tons of fertilizer). Back from a dispersal run, the PAC-750 Cresco with its high-lift, outer dihedral wing can often be back for a load in as few as four minutes. From brakes on to brakes off, there's no turbine utility aircraft that can even come close to its productivity. One significant problem Ag pilots and operators were having was that trucks couldn't deliver the fertilizer quick enough for each run. The aircraft was that productive in each of its dispersal runs.

Although the PAC-750 isn't the best looking, light turbine, it packs one hell of a punch. Practicality over beauty.

In a half-century, PAC has built over 600 airframes including CT-4 piston trainers for the RAAF and RNZAF. Now, with the P-750 XSTOL, looks can be deceiving. Beauty being in the eye of the beholder, this aircraft is a perfect case-in-point that utility does win over beauty. The aircraft has a proven record in spraying, parachuting, firefighting, freight, aerial survey and aero medical roles that rival any competitors in the market. However, its looks and PAC's humble marketing efforts don't put it at the top of the list for many commercial operators. (All the better). Its ability to operate off the shortest, most rugged airstrips, to be able to serve the most remote communities around the world and a rapid climb to altitude to facilitate more jump sorties per hour for skydiving puts the P-750 XSTOL in a class of its own. However, I can almost bet you have never seen or heard of this airplane.

The combination of engine/airframe is one of the cheapest and simplest to operate and these characteristics quickly outweigh its aesthetic appeal. Furthermore, the upward raking of the outboard wing offers an enhanced lateral stability and the large single slotted flaps spanning the inboard section facilitate a stall speed of a mere 58 knots (What's the stall speed of your Cessna?) At a maximum take-off weight of a whopping 7,491 pounds, this aircraft has a certified takeoff roll of 726 feet and can cruise at 140 knots. It is a workhorse, alright.

A DROP ZONE OPERATOR'S DREAM

The new P-750 XSTOL was born in 1999, when many US skydiving companies were looking for different and more efficient alternatives to their standard King Air, Beech 18 or Pilatus Porter jump planes (US FAA Certification was awarded in 2004). Equipped with a Pratt and Whitney PT6A-34 750 hp turboprop, the XSTOL can carry up to 18 passengers to an altitude of 13,000 feet and back to the point of departure in around 15 to 16 minutes. The cabin measures 5 feet wide and over 13 feet long

from the back of the pilot seat to the aft bulkhead. Cargo doors are variable, however the skydive version of the XSTOL boasts a jump door of 127cm tall by 119cm wide. Drop Zone operators around the globe have found a new way to increase efficiency without any further modifications to the aircraft (external mike in the rear of the cabin, huge jumps doors, steps, handles, lights and appropriate harnesses are fitted in the skydive version) or additional expenses to their operations.

This is a very special aircraft with extremely special capabilities. In order to justify the expense and operation of an aircraft (something very common these days), an owner/operator has to have the right aircraft for the right mission. Sometimes flashy and sleek design can interest a buyer; however, without truly understanding what the aircraft is needed for or its true capabilities, what's the sense in buying on looks alone? Practicality is now starting to outweigh mainstream aircraft marketing and flash. The PAC-750 XSTOL is an aircraft with both the brute and utility, despite its awkward, clumsy appearance. It's a true workhorse. ☺

P-750 XSTOL Specifications:

Powerplant

One Pratt & Whitney Canada PT6A-34 Turboprop
Average Fuel Consumption is 50 Gallons/Hour

Performance

Vne is 170Kts
Cruising Speed is 140 Kts
Max Maneuvering Speed is 131Kts
Stall Speed (Flaps Up) is 58 Kts
Takeoff Roll at SL, ISA is 726 Feet
Max Rate of Climb at Sea Level (MTOW) is 1067 Feet/Min
Service Ceiling is 20,000 ft
Max Range (No Reserves) at 15,000 Feet is 582 NM
Endurance (No Reserves) is 5 Hours

Weight

Basic Empty is 3,293 lbs
Max Takeoff is 7,484 lbs
Max Landing is 7,110 lbs
Max Useful Load 4,191 lbs

Dimensions

Wing Span is 42.2 ft
Length is 36.7 ft
Height is 13.17 ft

Manufacturer

Pacific Aerospace Ltd
Private Bag 3027
Hamilton 3240, New Zealand
www.aerospace.co.nz

Price

Approx. \$1.75m



The XSTOL can carry up to 18 passengers to an altitude of 13,000 feet and back to the point of departure in around 15 to 16 minutes.



Pacific Aerospace's 750-XSTOL has a proven record of spraying, parachuting, firefighting, freight, aerial survey and aero medical roles from some of the most inhospitable strips on the planet.