

AT-504

Field Report

An Ag Plane For
The Next Generation





AT-504

Air Tractor's AT-504 earns its place in the ag plane fleet.

As spraying seasons blend from one year to the next, veteran aerial applicators are asking a question that becomes more pressing each year. "Who's going to take over my operation when I'm ready to retire?" With an average of over 25 years of ag flying among them, it's no secret that a fresh generation of ag pilots is needed. And the hurdles operators and new pilots must overcome are well known, too. Piston aircraft pilots and aerial application owners are looking for a practical and affordable path into turbine engine

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aircraft. The Air Tractor AT-504 offers one way to bridge the piston-to-turbine gap, providing the vehicle to begin bringing new pilots into the business in a way where they can learn while they earn their keep. The logic behind the 504's reason for being is

gaining traction among more and more forward-looking ag operators.

The AT-504 As Trainer

Fran de Kock, owner of Battlefords Airspray in Saskatchewan Canada, comes at the new pilot challenge as a flight instructor and aerial applicator. Fran not only holds his commercial license with instructor and instrument ratings, he is also a board member in the CAIR Self Insurance Program. He has been turning out ag pilots from his Professional Agricultural Pilot Training Program since 2000. Fran is a big believer in Air Tractor's AT-504 and its side-by-side pilot/student setup. In fact, he encouraged Leland Snow to build a side-by-side seat turbine training platform. "Leland and I go back a long way. I bought my first Air Tractor in 1985," Fran recalls. Having instructed for many years in a tandem seat PA25 and with the Gippsland GA200 ag trainer, which has side-by-side seating,

Fran is convinced there's no better cockpit configuration than side-by-side seating. "Leland and I had several years of discussions about it. He was going to build another tandem seat AT-503 with a bigger engine. At one of the NAAA conventions, he and I sat in a little room and had a spirited dis-

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ussion about ag pilot training. He had his opinion and I had mine. I guess he saw it my way, because some time later he called me and said, 'You'll be happy to hear that we're going ahead with this side-by-side seat airplane, and we're going to have it at the 2009 NAAA convention.' I felt pretty good about that because he was a great man. But in my wildest dreams I didn't think the 504 was going to be as good an airplane as it is."

Battlefords Airspray has, in fact, two AT-504 aircraft. The first one was purchased in January 2012; the second 504 in the fall of 2012. With these two aircraft, Fran has begun a new turbine transition training program. "It's reality training at its

very best." His ag pilot training operation at North Battleford Airport includes 14,000 sq. ft. of facilities, maintenance shop, classroom and onsite pilot accommodations. His training programs have attracted ag pilot trainees from around the world. The AT-504 aircraft are outfitted as fully operational spray planes—equipped with Hemisphere GPS, flow controls, booms and nozzles, etc. When 504s aren't being used for training, they're part of Fran's working fleet. He points out, "Whether we're doing bug or insecticide work, we're using all three 500-gallon Air Tractors — two 504s and our AT-502."



And when it comes to transition training ag pilots into turbine aircraft, Fran adjusts the instruction to each pilot's needs and experience level. CAIR insurance programs require a minimum of five hours for turbine transition. Two to three of those hours are typically ground school for teaching the differences in flight characteristics and aerodynamics of turbine-powered aircraft. A good portion of the ground school is devoted to the engine and power management.

Fran recounts how in 2013 he instructed two experienced AN-2 pilots from Mongolia. Even when language issues made communication difficult, in the AT-504 the two pilots achieved proficiency after ten hours of turbine transition training. On the

other hand, a low-time piston engine student recently came to Battlefords with no prior spraying experience. He took Fran's initial ag pilot course, then completed 25 hours of instruction in the AT-504. He was later hired and flew 200 hours last season in an AT-402. "Without the training in the AT-504, that exercise just wouldn't have been feasible for that guy," Fran says.

Cockpit communication is always an important element of flight instruction, even more so when flying with heavy loads close to the ground. In tandem seat trainers, instructor and student can only communicate via radio. Directly observing the student during flight is just about impossible. Side-by-side seating brings the



*The 504 works at the same speeds,
hauling the same loads as the 502*

instructor elbow to elbow with the student. The instructor can observe the student's demeanor, see approaching terrain from the same perspective and watch the student's eye gaze to see if he's focusing on the right problem at the right time.

“The communication advantage [of side-by-side seating] is the big thing,” Fran points out. “You can feel the student's reaction and see their face. When they're in a situation that's becoming dangerous, you can be ready to react at the right moment if it's necessary. It's also nice to be able to help the student reprogram the GPS, or whatever. You're right beside him. Engine management... you can put your finger on the gauge and say 'Hey, watch the torque. Notice what the NG is.' You can physically tap the gauge and draw their attention to it.”

Fran says he's noticed a deficiency in time spent by pilots on higher altitude training—exploring the flight envelope of a turbine aircraft—how it handles in slow flight. The first flight is typically devoted to upper air work in all configurations and power settings. Then there's work on

landings and takeoffs. Next comes low-level spray turns without GPS—handling the airplane and the flaps in the turns. A few trips with loads come next. “Most of these guys know how to spray. So once you get them comfortable going 145 mph across the field, we spend time on emergency procedures... emergency drops, engine failures, flame-outs. Sitting there beside the guy, you can see how they handle the airplane when stuff goes sideways.”

Having flown 13 seasons in an Air Tractor AT-502B, Fran was a bit apprehensive changing to the AT-504 for spraying. But he was pleasantly surprised by how quickly he adjusted to the two-seat cockpit. “We placed the GPS and light bar directly in front of the left pilot seat. This proved to be the perfect configuration for spraying. After flying the 504 about 30 hours, I'm as comfortable in it as I am in the AT-502B. I flew all season with 502s, and as advertised, the 504 is an AT-502 with two seats.”

*Side-by-side seating brings the instructor
elbow to elbow with the student.*



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475

450

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OPEN

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THROUGH

OPEN

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