COMP AIR 10 – Flagship of the Aerocomp Fleet

Text by Norm Goyer – Photos by Bill Fedorko

"The Comp Air 10 photographed here is the prototype version. The production version is longer providing an even larger cabin, plus the exterior baggage pod has been enlarged and blended into the fuselage for better efficiency."

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WHEN I FIRST saw the Comp Air 10 last year at Sun 'n Fun, I tried to figure out why it had twin tails. When I asked this question of Steve Young, one of the owners of the company, he explained that the plane's designers decided to use this configuration so that the Comp Air 10 would fit inside standard-size hangars and the plane's fuselage wouldn't be too long. Company engineers and designers arrived at the shape, size and design of the twin vertical stabilizers by using computer-generated information and putting it into practice. All Aerocomp aircraft have undergone a long series of rigorous and exhaustive tests of the strength of their components and to prevent the possibility of problems with flutter. Every Aerocomp plane passed these tests with flying colors. The Comp Air 10 I first flew was the original demonstrator and proof-of-concept aircraft.

In preparation for my next flight, I was taken to the factory, where I saw the new Comp Air 10XL (Xtra Long) that measures 30 feet 9 inches. A new cargo pod with a more streamlined shape replaced the previous one to improve aerodynamics and ensure an even closer fit to the bottom of the plane's fuselage. The new pod is so big, it can hold 10 sheets of 4x8 plywood. The capacity of the Comp Air 10's cabin has grown by 23.25 cubic feet. The cabin measures 13 x 5 feet. While it's possible to install a 350hp to 700hp engine in the Comp Air 10, the Walter turbine seems to be the perfect powerplant for this huge aircraft that can carry up to 11 people.

Even with added drag and a huge payload, the plane will still maintain a fast cruise of 150 to 200 mph, depending on the engine installed. The takeoff run is less than 250 feet, and even at gross weight, the plane will still climb at 2000 fpm. With the Walter installed, the cruise speed will be between 185 and 210 mph. Loading may be accomplished in a number of ways, one of which is full fuel, six or more

people and ample cargo. The Comp Air 10's windscreen is fabricated of strong 3/8inch-thick Plexiglas. With its all-composite construction, you can order your Comp Air 10 in your choice of versions: taildragger, trigear, or configured for floats.

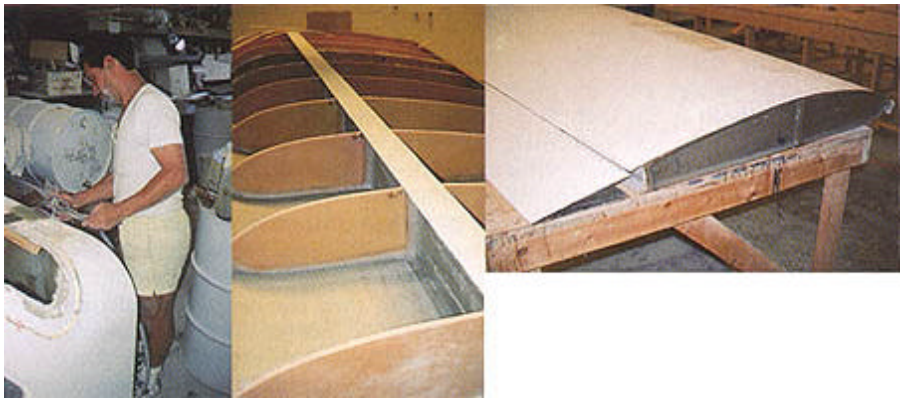
While examining the new Comp Air 10XL, I sat in the back seat, stretched my legs forward as far as they would go and tried to reach the seat in front of me with my toes. The Comp Air 10 XL is so long, and there was so much room between the seats, no matter how much I stretched, I still couldn't touch the seat in front of me, As I relaxed in one of the well-upholstered seats, I said that they looked a lot like those in my Suburban. My guide replied, "They should; they're from a Chevy van." I was also told that this new production version had a "new-and-improved" nosegear, designed so that it would not allow the prop to strike the ground should the bounce be too great. (On the test airplane, the nosegear leg was fitted with a rubber snubber to prevent that from happening).

Next, I asked if I could visit the customer construction area, because I wanted to see how new Comp Air owners and pilots were doing building their own aircraft on site. The place was huge! When I said I never expected it would be this large, my guide told me it had started out smaller, but because of the enthusiasm of homebuilders who wanted to use the facility, it had been expanded several times. I watched as each of the builders worked to perform various assembly procedures on his particular Comp Air. Trained factory workers were beside them, advising them and helping them with whatever tasks they were undertaking at the time.

LEFT: Located on the engine quadrant of the Comp Air 10's instrument panel are fuel, prop and power controls that are only slightly different from those found in an aircraft with a piston engine. RIGHT: Designers at Aerocomp reconfigured the panel of the Comp Air 10 XL to make it easier for the pilot to attend to the instruments.

"What a great way to build your own airplane," I thought. There were all the various jigs and all the special tools a builder might need for construction. The factory workers, each highly experienced in his own field, were there to advise and help each builder every step of the way. With this setup, a builder can not only do the job of assembling his aircraft much more swiftly, he knows it will be done correctly. Should a customer opt for a firewall-forward engine combination, he'll find that this greatly reduces the amount of time spent on installation. With Aerocomp's highly enhanced assembly facilities, some owners can put together their new airplane in a matter of weeks, and it's certainly worth the extra cost for the peace of mind they get, knowing for certain that every part of the construction process was done carefully, correctly and safely.

I hated to leave, because it was so interesting, but it was time to head back to the hangar where the Comp Air 10 had been refueled and inspected, and was waiting to be taken on its last photo flight of the day. Because this aircraft is equipped with the same engines and controls as the other Aerocomp planes, the same preflight and start procedures were used. This particular aircraft's tri-gear made it easier to steer the big plane out to the takeoff end of the runway. While we were taxiing, I noticed that this pilot also used the beta control of the prop rather than the brakes. After the pilot had done a pre-takeoff runup and a check of the prop, he launched the big plane. It came off the ground within 3 seconds, then climbed out rapidly at



FAR LEFT: An Aerocomp technician, experienced in the use of fiberglass, is busy completing this phase of the construction. LEFT: Once the worker has attached the wing ribs to the bottom wing skin, he applies the spars. The wiring and plumbing are next, after which he applies the top wing skin to the assembly. ABOVE: This wing is almost ready for installation onto the fuselage. Note the attachment points and the flap.

about 2000 fpm really good acceleration for a 10-place airplane.

Soon after takeoff, the pilot turned the controls over to me, and I kept climbing to the location where we'd prearranged to rendezvous with the Comp Monster. Hurricane Dennis had been wreaking havoc with the weather all along the coast that week, but it also left a variety of gorgeous medium-size clouds for us to use as photographic backgrounds. As I flew along, the plane's handling reminded me of a 600hp deHavilland Otter I'd once flown, but in the turns, it felt a little like a DC3, too. In other words, it flew like a big airplane. I could easily imagine taking this super-comfortable airplane on a long cross-country flight and enjoying every minute of it.

When I mentioned the Comp Air 10's high level of fuel consumption and the possibility of pilots needing to make quite a number of fuel stops on a long cross-country flight, the pilot replied that the company was addressing this problem by installing much larger fuel tanks, in this version at least. I wasn't surprised that the Comp Air 10 flew like the Comp Air 7 and the Comp Air 8, because they all share the same design specifications and, as a result, the same excellent flight characteristics.

After I put the huge homebuilt into several 360-degree turns, did some slow flight and stalls, I could see no differences between its performance and that of the other two Aerocomp aircraft, except that, of course, the Comp Air 10 was somewhat heavier.

It's easy to predict that the production version with the longer fuselage will be even easier to fly, because it should be even more directionally stable than the prototype, due to its extra length. On the advice of the pilot, I made an easy full-stall landing to keep the prop tips from hitting the ground. Then, once the nosewheel settled down on the asphalt, the plane smoothly rolled straight to a stop. I hated to see the end of what had been a successful and satisfying flight.

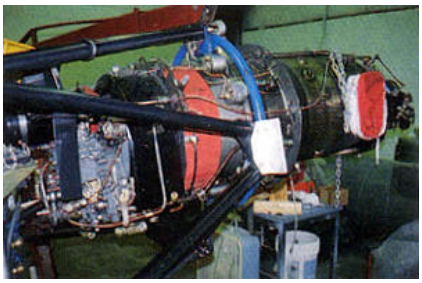
The Comp Air 10 uses twin vertical stabilizers to keep the overall height and length of the fuselage smaller for storage in average-size hangars.

Walter turbines

After speaking with everybody I could find who had any knowledge about this Czech engine, here's what I learned: Walter engines, which were once used on commuter airliners, were removed and set aside once they'd met and exceeded their TBO (Time Before Overhaul), which is around 1500 hours when in commercial service. Walters have reportedly been extremely reliable for an additional 1500 hours of use before overhaul is indicated. There's also the fact that Walter engines are never operated at full power and are rated for far greater horsepower than what they're normally run at. Besides that, turbine engines are so simple, there isn't much that can go wrong with them. If they're operated properly, with careful monitoring of power rates and never allowed to overheat, they should produce full power for a substantial amount of time.

However, a person who installs one of these engines in his aircraft should be aware that they arrive from the Czech Republic without any documents or logs showing the amount or type of usage. Nothing comes with a Walter except for all the parts needed for installation. When they arrive in shipping cans from the Czech Republic, they're checked by the importer to be sure they're complete. Once installed in an aircraft, each Walter engine is given an extensive test run to assess and confirm its soundness and to assess its level of performance.

When I brought up the fact that the Walter engine appeared to be an almost direct copy of the Pratt & Whitney PT6, I was told that the only difference between the two is that, while one uses individual injection jets, the other uses a distribution ring. I was also reminded that engines from both companies have earned enviable safety records. If you're looking for a certified engine, the Walter 601E is the one for you. The Walter 601D,



Most builders of the larger Aerocomp aircraft chose to install the firewall-forward package, which includes the Walter turbine engine and all controls, including the propeller.

ABOVE LEFT: The owner of this aircraft is current/y working on the final details of the fuselage. ABOVE CENTER: This well-run facility, housed in a big warehouse-type building adjacent to the airport, is sub-contracted by Aerocomp. ABOVE RIGHT: During our visit to the facility, at least 10 owners were assembling their aircraft under the supervision and guidance of experienced aircraft-construction instructors.

while also an excellent engine, is not certified. If you want to install a Walter engine in your homebuilt, I suggest you buy the one you can best afford.

When I asked whether replacement parts were available for Walter engines, I was told that some are available, but if your engine should fail or stop producing the advertised amount of power, the best thing to do is to ship the engine back overseas where, for $20,000, it will be returned to you after receiving a complete overhaul. With this in mind, you can figure that if you originally paid $45,000 for a Walter engine, installed it in your aircraft, operated it for 1500 hours and then paid $20,000 for a complete factory overhaul, you would end up with a good, completely overhauled engine and still be way ahead of the game.

I've heard that an increasing number of homebuilders have been installing Walter turbine engines in their aircraft, and I've never known about any of these builders having problems with them. So I'll do an additional amount of research about the Walter turbine and write another report about this interesting, affordable engine. Look for the report in a future issue.

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