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WHEN I FIRST saw the Comp Air 7 1 exclaimed, 'What a schnozz!" The Comp Air 7 has such a big nose, it's got to be the Pinocchio of homebuilts. But no lie-it delivers truly impressive performance. The Comp Air 7 got that way when Aerocomp replaced the big Continental with a 600-hp Walter 60 1 D turbine engine. It didn't gain any weight, but to cover that large engine, the cowling had to be lengthened considerably. Even those who don't think it's all that attractive will quickly forget about its looks once they pour on the coals (in this case, kerosene). It goes so fast that it can take off before you get to the end of a hangar, and it goes faster almost straight up!

The Comp Air 7 is constructed entirely of composite materials and uses much of the same aerodynamic design used by the outstanding Merlin aircraft. It retained the high- lift airfoil (which looks to me like a good old Clark Y). Its fuselage is large and wide, and could easily seat three across, if it weren't for the control sticks and power quadrant in the middle. Yes, the Comp Air 7 comes with control sticks rather than a control wheel, and the instruments are calibrated in mph rather than in knots. The Comp Air 7 has graduated from being an airplane with home-built characteristics and has found its place in the world of fast, executive-type aircraft.

It's quite capable of flying IFR and is so stable that it would be an ideal instrument platform. I've logged thousands of hours flying airplanes with control sticks, and while I do enjoy them, the majority of today's personal executive transport aircraft are equipped with control wheels and instruments calibrated in knots not mph. I don't know why the company took the other route. I attempted to foist my ideas on anybody at the company who'd listen, but I got shot down. Everyone loved the sticks, and having the instruments marked in mph didn't bother them.

The interior of the aircraft was rather spartan, except for the seats and carpets that were very comfortable and plush. They reminded me of the accommodations in some modern SUVS. The instrument panel had all the normal flight instruments, plus some new ones, to monitor the progress and temperatures of the Walter engine. The throttle quadrant had a prop control including beta, a start and cut-off fuel knob and, of course, the turbine fuel-feed throttle. Any pilot will find it easy to switch from operating a reciprocating engine to running a turbine. If you're wondering how to fire-up these blow-torches, follow me as we prepare to take the Comp Air 7 with a Walter engine package for a test flight.

There are some very different rules to be strictly followed when starting a turbine engine vs. a reciprocating one. First, be sure to turn the plane into the wind (if there's any of a significant velocity) to prevent the wind from blowing into the plane's huge exhaust stack. Next, to prevent any possible damage from the prop-blast and turbine heat, make a careful visual check to be sure there's no

The Comp Air 7 has an outstanding rate of climb and STOL capabilities.

structure or another aircraft behind your plane. Start by checking the position of the fuel-tank valve. Move the indicator to "both' or to the correct tank.

Before you start the engine, be sure to apply the parking brake and stand on the brakes as well, because when those huge props start rotating, you can really feel the power, and you don't want the plane to roll until you're ready. To prevent surges, be sure all the power switches and navaids are off and the circuit breakers are in. Check all the controls to see if they're free and not binding.

The following is the procedure we used to start this Walter turbine (one not equipped with an auto-start assembly): Check the fuel valve once more to make sure it's on. See that all circuit breakers are in and that the generator is off. Pull the start lever on the power quadrant full aft to 'fuel cut off.' Position the propeller lever in the full-feather position. The last power quadrant lever is the power lever, which is placed in the idle position. Now you're ready to go. With one hand on the power level, use the other hand to turn on the master switch. Check the voltage to make sure there's at least 24.5 volts. To be absolutely sure, press the two test lights-one marked beta, the other marked limiter. Check the two igniters, one and two, then shut them off again. Now start the fuel boost pump and check to make sure there's at least 15 pounds per square inch. Then clear the prop area.

It's time to hit the starter switch. When the gauge shows N_1, move the fuel lever to the start position. Turn both igniters on, and torch the engine on for two seconds, then off for two seconds. You must also monitor the ITT heat gauge to make sure it does not exceed 735 degrees, and keep the starter engaged until the engine reaches an N_1 of 45 percent. Scan the oil pressure and temperature. When you've made sure the engine has reached 45 percent N_1, you can release the starter. The next step is to check and see if the engine accelerates smoothly to 60 percent N_1. Check again to make sure that you have not exceeded 735 degrees. If the engine does reach 735, you must pull the start lever to ICO (ignition cutoff) until the ITT drops below 650 degrees. This is the dreaded hot start that must be avoided to prevent damage to the engine. If the engine is running smoothly and all temperatures are in the green, you can switch the generator on, then switch the 12-volt buss on for the avionics. Make sure the radios and intercom are working correctly. Next, check the vacuum pump, strobes, beacons and lights.

It's finally time to taxi. The previous instructions might sound complicated, but they're really not. (They're similar to the start procedures of any high performance aircraft with a constant speed prop.) Release the parking brake, and use the prop beta control as the throttle. Avoid using too much brake or depending on the throttle; you have better and faster control with the prop lever. You're about to go for the wildest ride you've ever had-unless you're an Air Force pilot flying an F-15 Eagle - and even then, the Comp Air 7 still has it beat on the takeoff run.

Takeoff is the same as with any high-performance taildragger, but with just a few more checks to make before you start the takeoff roll. Place the flaps 10 to 15 degrees down, recheck the fuel quantity and valve position, and 'make absolutely sure the fuel boost pump is on. Then, cycle the prop once or twice with the power lever in the idle position. Check one more time to make sure the power lever is in the run position. Set the power to 30 percent and slowly move the prop lever to the aft position, so you can check that the rpm are decreasing gradually. Now move the prop lever to the full-forward

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high-rpm position. The moment of truth has arrived.

Bring the power up to 30 percent torque, and release the brakes. As the plane starts to roll, increase the power lever for smooth and continuous acceleration. When the engine is up to full takeoff power, check the engine temps, and make sure the torque limits are not exceeded. By the time you've done that - in maybe 4 seconds - the plane is off the ground. (We used about 75 feet (maybe less) for our takeoff roll. Maintain Vy (110 mph). Now came the fun of flying in a super-powered aircraft. Maintaining a 4000-fpm climb, we were already about 1000 feet above pattern altitude before reaching the end of the runway! Once the climb rate is established, reduce the prop lever to anywhere from 1900 to 1950 rpm for cruise climb. Check the pattern again for any possible traffic, because the Comp Air 7 is so powerful, you'll be joining the traffic in a matter of seconds.

Our outstanding climb in the Comp Air 7 was all for naught, because we had to circle over the Atlantic Ocean to wait for the Comp Monster to catch up to us. When it got into position, it soon became obvious that the Comp Air 7 was an outstanding photo platform; the rear door came off, and Editorial Director Bill Fedorko had ample room to move around the cabin to find the perfect positions from which to shoot his photographs. Once we established contact, we proceeded according to our agreed-upon plan, and the two Aerocomp planes flew over Florida's beautiful beaches for a half-hour photo shoot. Our Comp Air 7 pilot had to throttle way back to stay in formation with the Comp Monster, but both the planes were so versatile, we had no problems at all. When the photos were completed, I got to take my turn flying the Comp Air 7 and see what this turbine aircraft could really do.

I had made a note of the recommended power settings for various cruise conditions, so I could see how close the figures in the manual were to reality (which sometimes differs significantly for homebuilts). Because our plane had a three-blade prop, I held the rpm to between 1800 and 1950. If the airplane in which you're flying has a Walter engine and a five-blade prop, hold the rpm to between 1700 to 1850. Then reduce the torque, and check to make sure the ITT does not exceed 690 degrees. Once you have the right

The Comp Air 7 has a Walter turbine engine installed, which necessitated the very long cowling and the resulting pointed nose.

power setup, you can increase the tension on the knobs on the power quad- rant to prevent creeping.

As soon as the plane was in medium cruise, I checked out the controls by doing 360s in both directions. These maneuvers are quite a test of the airplane's controls, because you have to use all the controls to keep the altitude steady and prevent skid- ding or slipping. I had to use some rudder, but it wasn't a problem. In spite of the fact that there was such a huge engine in a relatively small plane, the aircraft handled beautifully, and there was little vibration.

Next, I reduced power and tried my hand at slow-flight and stalls. I held the stick back until my arms finally got tired. It just wasn't going to stall without a lot more work. I noticed we were bouncing along at about 45 mph, and the plane was still flying. I had to use a great deal of rudder to hold the wings level, because the ailerons had given up several mph before. It finally made a half-baked effort to stall, but as soon as I relaxed the controls, it quickly recovered from the near-stall. This plane's inherent stability is a result of its great wing and excellent airfoil.

Now it was time to see how fast it would go. I was able to get it to a true airspeed of about 235 mph at 5500 feet. The manual states it will easily do 280 true at 21,000 feet. It will carry loads up to 1670 pounds for a gross weight of 3770' pounds. The plane flew a lot like a Cessna 206, but it didn't have the heavy fore-and-aft pressures of the Cessna. Of course, these can be trimmed out, but the Comp Air 7 had a slightly better feel to it.

Looking down at the fuel gauges, I saw it was time to head back to the airport. As we entered the pattern, I reduced power and put the prop lever full forward. I then reduced the power lever to achieve the correct rate of descent but didn't reduce it below the idle stop position. I then checked the beta light to make sure it was off. (Funny things happen when the prop starts pushing instead of pulling.) The manual says the pilot should not let the speed drop below 80 mph indicated during the approach. I used about 15 degrees of flaps on downwind, then used full flaps when I turned final. I didn't want to have to change the tires, so I made sure the parking brake was off and my feet were off the brakes. The manual also recommended not doing wheel landings (unless we wanted to redesign the prop tips), so I set up for a three-pointer. As the plane got closer to the runway, I pulled up the nose just a tad. When we were about 3 feet off, I gradually applied full aft stick. The plane squatted and stayed down. I then flipped up the lockout on the beta prop and made the next turnoff. Flying the Comp Air 7 was practically a no-brainer. It's an easy plane to fly, and you've got to admire its top-notch performance.

The complete kit is $39,995. The Walter engine firewall-forward kit is $45,995. The carbon-fiber tail reinforcement costs another $3000. This comes to a grand total of close to $89,000. You can build it yourself from a kit in your workshop, but I highly recommend you do it the easy way and sign up for one of Aerocomp's building schools, where you'll actually put together your own airplane under the supervision of an experienced Aerocomp advisor. Those who've already built one agree that this is the best way to go. By the time you've built your Comp Air 7 and installed a Walter engine package in it, you will probably have spent close to $125,000. In today's aircraft market, that might buy you a Maule. Add another $25,000 and the total ($150,000) might get you a Cessna 172 or a Piper Warrior. It's your decision.

But if you're serious about buying an airplane in these price ranges, I have one warning: Don't go up for a demo ride in a Comp Air 7 with a turbine engine, because if you do, you'll be so impressed by this powerful, remarkable aircraft, the minute you land, you'll whip out your checkbook and order one right then and there. I know, because that's what I felt like doing.