



High Performance Aircraft Group
Evolution E-Newsletter

January, 2010

Welcome to the first edition of the Lancair Evolution e-Newsletter!

We, at High Performance Aircraft Group, want this to be an educational and interactive newsletter for you, the Evolution owner and/or pilot. Your feedback is vital in order to provide topics and/or answer questions that will give you the knowledge for safe flights and confidence for fun adventures in your Lancair Evolution – the most technically advanced, performance-driven aircraft!

Pete Zaccagnino
President, High Performance Aircraft Group

Our first newsletter for the Evolution, high performance aircraft is for you the owner and builder of a great aircraft. Please email us what you would like to see in upcoming newsletters.

Test flying Andy Cruce's Evolution, the first customer owned and built airplane was a very exciting opportunity. The pressure to get the plane to Oshkosh was high with the importance of its arrival even higher. The FAA provided excellent limitations and the ability to fly to and from Oshkosh in a corridor from Redmond to Oshkosh during the Phase 1 test period. The "Build up" process leading to first flight can take 2-3 days with all items going as planned. The first step is inspecting the entire airframe and engine and verifying systems. Brian Harris and his team along with the Lancair support team were onboard to assist and facilitate with inspection panels, questions and solutions. The inspection went very well including a make shift air conditioner to keep the cabin reasonable in July.

Engine tests and fuel system tests started next. On first start the engine operated within the acceptable range set forth by Pratt and Whitney. A few settings were tweaked getting the engine set up closer to optimum. Fuel flow was safe as well as fuel delivery. I began the runway high speed tests and rotation tests next. The testing gets us as close to flight conditions as possible

as safely as possible searching for abnormalities while attaining flying speeds and power settings. The control checks and rotation checks proved to be very similar in handling qualities to that of the prototype. Acceleration/deceleration times were normal and the plane responded as designed, superbly. After flowing the appropriate amount of fuel through the system and verifying all of the runway checks it was time to fly.

After briefing the control tower of the purpose and plan it was time to take the runway for first flight. On the runway actions and checklist are rehearsed one last time and contingency plans are programmed into the brain. This was to be my 285th flight test in a Lancair but the first Customer Evolution. But, the plan stays the same every time with the plane offering the outcome of the plan. Checklist complete, power set, brakes released, engine settings monitored, airspeed compared to a predetermined GS based on headwind component, acceleration normal and rotate. The plane was light and N9QX climbed into the air and was now an airplane as opposed to a project. Climbed to 5000' AGL and began the evaluation to determine the ability for a normal, safe landing. 20 minutes flight time and on approach everything was perfect. Touchdown, no brakes until 30 knots and taxi back to the Lancair hanger for post flight inspection. A great day for everyone!

Next month more on testing and training in the Evolution...

A Word from Lancair

Doug Meyer, Lancair Director of Marketing and Sales

As Director of Marketing and Sales at Lancair, I have had the opportunity to fly both versions of the Evolution. Earlier this year, I worked with Pete Zaccagnino; President/Owner of High Performance Aircraft Group, on the initial test flying of the Lycoming powered Evolution. I eventually flew the Evolution to Oshkosh with Joe Bartels of Lancair. Having just spent a few years flying the Columbias, the performance of the TEO-540 was impressive and the pressurization was certainly something I have been anticipating. The airplane is incredibly easy to fly well and is everything a piston single should be. However, if the piston is everything you could want, the PT6 version is everything you could imagine!

Its number one asset can be summed up in one word- **PERFORMANCE!**

Many of you have flown some very exciting aircraft; military, high performance aerobatic, light jets, etc. However for a piston GA guy like me, flying a single engine aircraft where you do not use (or need) full power for takeoff is startling (and fun) to say the least. The smooth power production can be deceiving, and 750 hp in a 3300 pound (mid-weight) airplane gets your attention, for sure. Rates of climb up to 4000fpm are possible, and on a recent cold day flight, I made it to FL250 in 11 ½ minutes. On that flight I had some powerful tailwinds getting me from RDM to RNO in 2:15. That ground speed was a record for me at 375 kts, but hey, the airplane was doing over 300 KIAS (also a first for me and a lot of others in a single!). These are great airplanes, everything promised and more,

and it is a privilege to be flying them and working to get more of them into the hands of others.

Andy Cruce

The First Customer Built Evolution



N90X was certified in late July. After 20 hours of testing, the FAA granted us permission to fly the plane to Oshkosh as part of the Phase I testing. Considering that the plane only had twenty (20) hours on it, things went very well. In fact the whole test program and subsequent flying has been notably trouble free. From a pilot's perspective the plane is a dream. It is very stable in flight, docile in the pattern and relatively fuel efficient. The avionics has been rock solid. The G900X provides an outstanding level of situational awareness both cross country and during approaches. The Sorcerer autopilot also works like a charm in both en route and approach modes.

Coming back from Austin, Texas over Christmas we were blessed with a strong tail wind and were clocking 345 knots over the ground. Would have made the trip from Austin to Vero Beach in one hop but the fuel tank capacity exceeds our bladder capacity and a stop was required. There is still a lot going on with the plane. This spring I'll be taking the plane back to get the upholstery completed and hopefully the remainder of the "production" equipment installed (touch screen, circuit breaker box between pilot and copilot seats, etc). In addition to this there is a drag reduction program that is being conducted to increase the airplanes performance. Targets are reduced drag from the engine inlet, wheel wells and aileron and elevator hinge slots. This should get the overall airplane performance. With luck I'll be able to also install the drag reduction upgrades this spring. However, even without these enhancements the plane beats anything else in the commercial market place at a fraction of the cost.

All in all I am extremely satisfied with the plane. It's comfortable to fly, fast, economical and draws a crowd wherever I land. The quality of the kit and the thought that went into the design make it a truly outstanding product that is relatively quick to build. My airplane took about a year and half to build primarily because it was the first production item. As a result there were many delays due to lack of parts that hadn't yet been invented. From what I understand that issue has been largely overcome and that someone starting on one of these planes

today, using a good build shop, should be able to complete a plane in less than a year and probably in something like 6-8 months.

Tailnote

2010 is going to be an exciting year for all of the Evolutions coming online and beginning the testing and training phase and more important the excitement of owning such a capable plane. We are looking forward to having an Evolution fly-in at the appropriate time and place. Please offer any suggestions to where and when.

Please send your article request(s) and any questions that you might have to glenda@hp-at.com.

Thank you – Fly Safe!