

A MONTHLY UPDATE ON THE PROGRESS OF YOUR SWEEPSTAKES AT

Oshkosh

Madison

Fly me to the **MOON**

Come on, let's go fly the Archer

BY IAN J. TWOMBLY

Washington D.

The paint has been applied. The interior has been replaced. Even the panel is finished and working beautifully. Work on your 2008 Get Your Glass Sweepstakes Piper Archer is finished. It's time to go out and have some fun and show it off to its adoring fans.

Thanks to the work of Penn Yan Aero, Oxford Aviation, and Penn Avionics, this year's sweepstakes airplane was finished earlier than usual, giving the admirers at EAA AirVenture in Oshkosh something to be thankful for. Those who made the trek to the show and stopped by AOPA's Big Yellow Tent were treated to a beautifully finished airplane (save a few minor details) to gawk at, take pictures of, and imagine what it would be like to win such a nice airplane. Although only one pilot will get to feel that excitement of winning, we can all imagine what it's like to fly N208GG.

The sweepstakes Archer reached top speeds of 148 mph during the 571-nm flight from Frederick, Maryland (FDK), to Oshkosh (OSH). PLANE

NZDBGG

One of the great appeals of this year's airplane, aside from the modern avionics and striking appearance, is that most of us have flown an Archer before. Perhaps we learned in one, rented one, or flew a friend's cherished bird. So strap in and come along as we fly the Get Your Glass Sweepstakes airplane to Oshkosh.

It's an Archer

The first thing you notice when flying the sweepstakes Archer is that it gets lots of attention wherever it goes. Oxford Aviation's great paint and interior design schemes, and the execution of those designs, make the attention a sure bet at every stop. Ask anyone who has seen the airplane at a show and they'll tell you the depth of the pearl basecoat and silver fade can only be appreciated in person on a sunny day.

After admiring the paint and doing a thorough preflight, let's step into the cockpit and settle into those custom black leather seats. Are they as hot as they might seem in the summer heat? Chances are you'll agree with all the passengers so far who said they were surprised how cool it was inside the

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Straight and true

As soon as we picked up the sweepstakes Archer in Iowa late last year, we knew it didn't fly precisely straight and true. Even in smooth air with the perfect trim setting, the airplane always seemed to want to roll right.

Then later we began to notice it was flying half a ball out to the left. Late this summer we finally had a chance to take it in to a shop for a proper rigging adjustment. On the recommendation of the Piper Flyer Association, we sought out Hagerstown Aviation Services and the staff's rigging expertise for the job. Joe Hart did the work, and he found a number of issues. The turn coordinator wasn't precisely level in the panel, which was causing our inclinometer problem. He found the nosewheel and rudder pedals didn't align either. Finally, he discovered the right wing did in fact appear to be flying heavier. The Piper manual says to adjust a flap to fix the problem, which Hart did. As a last touchup, he adjusted the push rods on the ailerons to center the yokes. Now the winner will have a true hands-off airplane, autopilot or not. -IJT



Despite a beautiful, high-tech panel, we couldn't overcome ferocious headwinds to OSH—not a comforting feeling when you're flying over one of the biggest lakes in the world (notice the Avidyne EX500 on the right side of the photo).

cabin. In fact, many have said it's cooler than a standard airplane.

Just like in the Archer you've flown in the past, we'll go through the beforestart checklist (including four shots of prime, thank you very much), and clear the area. Then turn the key, press in, and the Lycoming O-360-A4M overhauled by Penn Yan Aero will fire right up. It's at this point you'll realize you're about to fly a glass cockpit airplane without having to go through a number of pages of checks beforehand. Despite loads of capability, the Aspen Avionics EFD1000 primary flight display reduces pilot workload, as any glass display should.

Taxiing out to the runup area, notice that the Aspen has completely initialized and is giving us the full attitude, airspeed, altitude, and directional displays. Now at the runup area, you know the drill. Beneath that beautiful façade and highly integrated instrument panel, it's the same Archer you're familiar with.

Let's go flying

Where N208GG really differs from the Archers you've known and loved is the panel. Are you familiar with the Garmin GNS430W GPS/nav/comms? If not, I'll be sure to instruct you as we make the flight. Without question, the 430Ws are the most complicated piece of equipment in the Archer. While the basic functions of tuning the radios and entering a direct course are easy, advanced functions take training. But assuming you've used a 430 (the W stands for WAAS-enabled), flying this Archer should be no problem.

There are no additional checks or tests to go through with the Aspen before takeoff. In that way, it's no more difficult than a standard six-pack. After entering our course on the Garmin, make sure the navigation source on the Aspen is selected to GPS, and the HSI needle will automatically slew to the course, and continue to automatically change as waypoints are passed.

After takeoff, notice the climb is brisk. With its new engine, the sweepstakes Archer is climbing better than the book numbers. Today's a busy day on the approach frequency, so instead of worrying about missing our assigned altitude, let's turn on the S-Tec System Fifty Five X autopilot, dial in the altitude on the SA200 altitude preselect,



Free Comparison Report available at: WWW.piclife.com William J. Fanning, registered agent. Policies may not be available in all states - call for details. select the navigation mode, and push "alt" and "vs" simultaneously. Now the S-Tec will take over by navigating laterally, and leveling off at the preselected altitude. It's an amazing thing to watch. The interaction of the various tools is starting to become evident what a game changer all the equipment really is.

Reaching our desired altitude, set the power with the digital tachometer indication on the JP Instruments EDM-800 and settle in. Today we're flying at 6,000 feet and 75-percent power. Using the EDM-800, enter the Lean Find mode

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and lean the O-360 to peak EGT. Expect it to happen around 1,475 degrees F. From here it's our option, but I prefer to run 100-degree rich of peak EGT, as the book says to do for best power.

Now is the moment of truth. Do the flap gap seals, Speedpants from Laminar Flow Systems, and wing root seals help the top end speed? The book says the Archer should get 140 mph at this altitude, power setting, and outside air temperature. Today, like every day the airplane has flown since coming from the shops, we do better than book—148 mph to be exact. So



Gentlemen, you have

I've always imagined myself diving for the start of the race at Reno, overtaking the highly modified P-51s and Sea Furys. And while I may not ever get the chance to fly low and fast, I'll always be able to say I'm a race winner. Let me explain. Senior Editor Dave Hirschman and I have been cooking up a race between the sweepstakes Archer and a stock Archer of the same vintage for a few months. We made it happen recently, and the results may surprise you.

The sweepstakes Archer has flap, aileron, and wing root seals. It also sports Speedpants. AOPA's 1979 Archer II has none of those things. Even the stock wheelpants are long gone, a testament to its duty as a primary trainer. Hirschman and I decided we could compare takeoff distance, slow flight, stalls, climb, and speed in our flight. The only way to make it fair was to do it on the same day at the same altitude, heading the same direction. We're both experienced flying formation, so that wasn't a problem. The race was on.



race!

Hirschman sprung out to an early lead when 8121K stalled at only a slightly higher speed; managed to keep up with 208GG in the climb; and exhibited nice slow flight characteristics. But then came the power. I knew I could get him here. When Hirschman said he firewalled it, it was time to show him who was boss. I advanced power to the stop, watched, and waited. I couldn't believe it. He was keeping up! What was wrong? I asked if he had leaned out the engine. "About half an inch," he said. I pulled back the mixture on 208GG and shot by like I was being fired from a cannon. He was toast, and I knew it. When I was safely clear, Hirschman asked what my groundspeed was. "Onetwo-nine knots," I said proudly. "What's yours?" "One-two-six," he said. So much for my cannon metaphor. To anyone who asks, I tell them weight was the reason the sweepstakes Archer didn't do better in the tests. Between 208GG weighing 75 pounds more, and my diet, we weren't in top form. -IJT



while it's not blazingly fast, it is better than the manufacturer says we should do, and anytime that happens it's a good day.

In cruise now, we settle in for the long flight to our fuel stop. There's a 30knot direct headwind, so this will take a total of six hours of flying, including the FISK arrival. To pass the time, let's turn on music from PS Engineering's new PMA8000B-MP3 audio panel. The folks at the factory loaded a full gigabyte of tunes, so we should be good all the way to Oshkosh. The music plays clear and crisp, like having an iPod installed in the panel. It's unfortunate their taste in music includes 1980s dance beats.

Learning the avionics

So how was it flying the Aspen for the first time? Well, if you are like most who have had the opportunity, your answer is probably "pretty easy." This is Aspen's secret. Sure the unit has robust capability and fits in the two holes previously occupied by the attitude indicator and directional gyro or HSI. But what users recognize is how easy it is to get accustomed to a piece of equipment as advanced as a primary flight display.



ACR's MicroFix[™] 406 Personal Locator Beacon can save the day when your life is on the line. Featuring 5-plus watts of power and a professional grade internal GPS, MicroFix is faster than a speeding bullet, more powerful than a locomotive and able to send your signal in a single bound.

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account for at least 60 percent of registered beacons worldwide. This super model, with extra powers and built-in redundancies, will identify the location even where GPS can't to bring help quickly. You can trust it to work because the technology inside has been torture tested in impossibly harsh conditions. And there's no subscription fee. Who says there are no heroes left?

*121.5 MHz no longer satellite detectable as of February 2009

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More advanced features may take time to learn, but the basics are clear from the beginning.

Senior Editor Dave Hirschman has flown the sweepstakes airplane a few times and offers the following impression on the Aspen. "I got far more pertinent and timely information from the PFD than the steam gauges," he said. "I'd glance at the vacuum attitude indicator and turn coordinator from time to time—but the PFD proved it was for real." Editor in Chief Tom Haines also had a chance to fly the Archer, and said he was impressed with the Aspen's capabilities and how much it offers for the price.

But regardless of those first impressions, the sweepstakes winner, and any other owner of a glass cockpit aircraft for that matter, will have to get training on the panel equipment. Many companies make that easy. Garmin, for example, has a free PC-based training simulator that can be downloaded from the Web site for its series of 430/530 units. Between that, lots of outside resources from vendors, and a wide knowledge base in the flight training community, the winner shouldn't have any problem learning how to navigate the GPS'

Featured contributors Kannad

When an aircraft undergoes a major facelift like the Archer has this year, it's always a good idea to consider changing peripheral items. Since satellite monitoring of ELTs will end February 1, 2009 (see "Blind to the satellites." October Pilot). it seemed like a logical time to switch to a 406 MHz ELT. Kannad is a first-time contributor this year. supplying the airplane with a newly certified 406 MHz unit. The ELT is GPS-enabled, meaning if anything ever happens to the winner, search and rescue personnel will be able to fly directly to the scene. It's great peace of mind. You can find out more about Kannad's offerings and contact the company for more information (www.kannad.com).

various functions. The autopilot, PFD, MFD, and engine analyzer will present different training challenges. Avidyne's EX500 multifunction display is an easy box to use, and since not knowing it isn't critical to flight safety, the winner should have no problem seeking out advice from the manual and then giving it a try. The engine analyzer is the same, although more complicated. Here again the manual comes in handy, especially when it's in the seatback pocket for quick reference.

The S-Tec and Aspen are the big learning challenges. A CFI seems like the natural place to go for instruction on the autopilot, but many will have had no personal experience. S-Tec's manual is very good, but it's not a bad idea to seek help from another pilot with experience in the box and go flying for a while to make sure you fully understand its functions before flying solo. Finally, since Aspen's PFD is a new unit, the outside resources for training are still not there. The manual is excellent, but there's no substitute for the real thing.

Although we will give the winner some basic instruction in all the panel's various toys, it will be up to him or her to maintain proficiency and discover the inner depths of what the airplane can do.

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