



SWEEPSUPDATE

A MONTHLY UPDATE ON THE PROGRESS OF YOUR SWEEPSTAKES AIRPLANE



A new coat

Your Archer gets a makeover

BY IAN J. TWOMBLY

Many said, "It's beautiful." One thought it has the best paint job of any sweepstakes airplane yet. Others simply said the paint really updated the look of the airplane. All these reactions and more were heard at the annual Sun 'n Fun Fly-In in April for the "Get Your Glass Sweepstakes" airplane's public debut. Although the airplane shined, getting to that point was no easy task for the shop involved.

The Archer was a hit at the Sun 'n Fun Fly-In in Lakeland, Florida, in April (above). A worker at Oxford Aviation masks out the striping (right).



For this year's project, that shop is Oxford Aviation in Oxford, Maine. President and owner Jim Horowitz and his crew of highly skilled technicians and craftsmen designed and executed a striking paint job that has received rave reviews. Horowitz and crew worked nights and weekends to deliver on their commitment to quality, and the results speak for themselves.

We picked Oxford for a number of reasons, not the least of which was some prior experience. The shop painted the first modern AOPA sweepstakes airplane in 1993, the "Good as New 172." They also crafted a beautiful paint job for the "Spirit of Liberty," a Socata Trinidad GT the AOPA Air Safety Foundation offered as a promotion in 2002. In both cases the paint was wonderfully executed, so there was no question we felt comfortable giving them another go on a sweepstakes airplane. But even if Oxford Aviation hadn't done work for us in the past,



The metallic silver fade on the fuselage is complimented with the wing pattern (left). Painting an airplane is a task that requires patience, experience, and most of all, good preparation and application (below). Micro AeroDynamics vortex generators lower stall speed and improve low speed handling (bottom left). Wing root seals are just one addition to help give the Archer a speed boost.

we still would have been impressed with their operation. With more than 3,000 airplanes painted to date, there are many happy customers out there to give positive reviews.

The scheme

After choosing Oxford and scheduling the job, it was time to start thinking about the scheme. This is a job best left to professionals. Since Oxford is a large shop that has multiple projects going at any one time, they have an in-house design service. Paul Taitt is Oxford's designer, and he created the scheme on the "Get Your Glass Sweepstakes" Piper Archer. Taitt presented us with a number of schemes, from the wildly conceptual Pink Floyd (a prism to evoke the glass theme) to the conservative two-tone, single-stripe design. In the end, we settled on a scheme that updated the look of the Archer, while being tasteful enough that the winner will be proud to own it.

Let the work begin

The work began the minute we landed in Oxford. Staff from the shop pulled N22ZT, the "old" airplane, out of the blustery late-November Maine weather, and immediately got to work inspecting its condition. This is standard practice for the crew. Horowitz said the initial inspection is crucial because it sets the stage for the rest of the job by giving the customer an accurate idea of what to expect. Since issues such as corrosion and cracked fiberglass are common, and have to be fixed to produce the best final product possible, the technicians spend time carefully inspecting the airplane for flaws.



The Archer had many blemishes, as is to be expected for a 32-year-old airplane. The biggest issue was the underside of the left wing. A previous pilot had left a scrape from the leading edge to the aileron, roughly two feet in from the tip. Reports differ, but one theory

involves taxiing, a fence, and a lower-than-anticipated wing. Regardless of what happened, it left us with a dilemma—patch or replace?

In the case of the aileron, Piper made the decision for us. The manual allows no filling compounds (Bondo) on the control surfaces—period. So we made a call to Williams Airmotive and they bailed us out, as they've done with a few projects in the past. With light hail damage on the horizontal stabilator and a few small dents in the right aileron, we went for new control surfaces all around. Williams Airmotive has thousands of control surfaces in stock, and with their exchange program, it meant simply making a phone call and sending our parts back in the same crate our new ones arrived in. To replace some cracked fiberglass, we



turned to Knots 2U. The company offers the dorsal fin, something that is perpetually cracked on Pipers, and various fiberglass tips.

Oxford took the opportunity of a stripped airplane to further repair and replace old parts, and add some new modifications. In our case, that meant replacing the windows and adding vortex generators. LP Aero Plastics helped us this year with the new windows. Be-

6 steps to a great paint job

1. Pick the best shop. Reviews and personal experience are the best indicators of a shop's work, but paint samples and photos of past work are quite telling.

2. Set expectations. Make sure you know exactly what you're paying for and what you're not. As a partial list, good shops will include stripping, corrosion proofing, and dynamic control surface balancing as a standard part of the package.

3. Choose a good scheme. Take time and work with a designer to arrive at a paint scheme that you'll be proud of for many years.

4. Fix everything. This is not the time to pinch pennies. Work with the shop to fix everything from broken fiberglass to corrosion. Problems like these will be a much bigger headache in the long term if they're ignored now.

5. Communicate. Be sure to clearly lay out your expectations with the shop and make sure you get firm commitments. Also, don't be afraid to switch directions as time goes on. Most plans can be altered. Just be aware that there is usually a penalty in timing.

6. Trust the shop. If the shop says it needs to fix a part or take more time on a particular application, don't worry too much. Most are very honest and work hard to meet the customer's expectations. Additional sheet metal or fiberglass work is often required above and beyond the estimate, especially on an older airframe.

cause the only way to get any serious airflow inside a Piper is to open the side vent, we were happy they offered a new passenger-side window with one installed, thus allowing some nice cross flow.

The windows have a few other features that really raise the comfort level of the airplane. At a quarter-inch, they're thicker than stock, which means they are also quieter. Kosola and Associates helped us with the hardware for a new one-piece windshield, and LP Aero provided the glass. Visibility has increased as a result. Finally, the windows have a light gray tint, which the company claims blocks 99 percent of UV light and a large amount of infrared light that keeps the cockpit up to 20 degrees cooler. The flight to Sun 'n Fun confirmed that.



American Propeller Service designed and executed a custom paint scheme to go with the Archer's unique look.

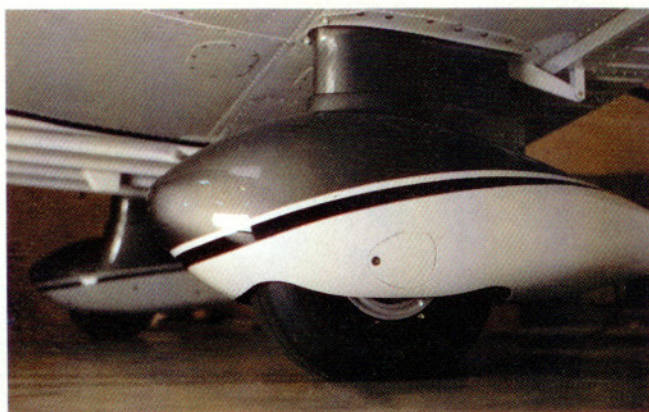
The vortex generators have received lots of attention. Designed, built, and sold by Micro AeroDynamics in Anacortes, Washington, the small strips on the leading edge of the wings—and the vertical stabilizer and horizontal stabilizer—are meant to improve low-speed handling and reduce stall speed. The technicians at Oxford said they were easy to install, and Micro AeroDynamics said that stall speed on the PA-28 is reduced by about nine percent, with no reduction in top-end speed.

Once all the necessary replacement parts were installed and the primer applied, the pretty stuff arrived. Despite the final paint coats being the only thing anyone ever focuses on, Horowitz said 90 percent of the entire job leads up to that point. The pressure was on for the painters to do it right.

First was the basecoat. N208GG, the "new" airplane, has a special basecoat called pearl white, essentially a white paint with an impregnated material that reflects light differently than standard paint. Previously reserved for luxury cars, it lends a beautiful effect to

OXFORD AVIATION

New wheelpants come from Laminar Flow Systems. Goodyear provided a new set of tires to keep the winner safe.



the Archer, especially under direct sunlight. Instead of blaring white, the basecoat is warm and complex. The basecoat, like all the Archers' primer, paint, and clear coats, is Sherwin Williams Jet Glo. Sherwin Williams is a big player in the aircraft paint market, and Horowitz uses it exclusively.

Applying the basecoat was something of an art form. It took three coats, all done in relatively quick succession, Horowitz said. And although conventional wisdom would have us believe it was important to avoid runs and be careful about not applying too much paint, Horowitz said the opposite is the case. "Runs are a good thing, in that getting too dry creates a poor coat," he said. "Runs can be easily removed, but you can't remedy too little coverage."

Once the basecoat was sprayed, the stripes were laid out. Striping requires a unique talent, said Horowitz. That's because the striper, more than any other position, is tasked with having to take a two-dimensional scheme and make it

come alive on a three-dimensional airplane. Horowitz's stripers have been doing it for years, and each has an uncanny ability to see beyond the scheme. "They will even make minor adjustments for the height of the owner," said Horowitz. It's a love affair with perfection, and after talking to stripers in the shop, it's obviously infectious.

Not surprisingly, the stripes set the sweepstakes airplane apart from anything else on the ramp. The inspiration in Taitt's design came in at this point. His idea was to incorporate a metallic silver fade, starting with the darkest color on the bottom and lightening as it went up. To further offset the tinted windows and update the look of the airplane, Taitt suggested surrounding them in metallic black. Add in a few curved stripes in metallic black and what's left is a very modern-looking, 32-year-old airplane. Many have said that the silver on top is reminiscent of a Cirrus, while the black around the windows reminds them of a Socata. Those two were an inspiration, said Taitt, but so were Mercedes and BMW.

But the real work comes in actually painting the fade. Imagine taking a can of spray paint and a piece of cardboard and making five passes at the bottom, four passes directly above that, then three, and so on. Now imagine doing that on both sides of a high-profile airplane in a dark color over the entire fuselage and tail. This is the basic process that Oxford used to create the Archer's look. To make things even more complicated, the paint is metallic. There are literally millions of small pieces of metal in the paint, and they lay down differently than standard paints. Add to that the fact that two painters have to be working opposite each other, and the difficulty level skyrockets. The staff at Oxford executed it beautifully, as the photos demonstrate.

Featured contributor

Oxford Aviation

Jim Horowitz founded Oxford Aviation in the rural mountains of western Maine in 1989. His mission was to provide expertly rendered interiors and paint jobs. From its first days in a small hangar at the Oxford Airport, the business has grown to include most of the office and hangar space on the field, is expanding to Sanford, Maine, and will handle larger jets. Horowitz and his skilled craftsmen have built a reputation for quality and workmanship that extends beyond the Northeast. Visit the Web site (www.oxfordaviation.com) or call 207-539-4779.

For many airplanes, the process would have been complete at that point. But being a sweepstakes airplane, and given the fact that Horowitz sought to make this paint job as good as possible, multiple clear coats were applied—an optional step for standard paints, but required over metallics. Before the material was sprayed, the airplane had to be desecrated by a wet sander. Doing so ensures a smooth, brilliant finish. Opinions in the industry differ on the merits of clear coat, but Horowitz is a believer. He said it's 35 percent harder than paint, it cleans easily, and creates a smooth finish. It also doubles the warranty.

Other exterior improvements

Fixing up the exterior isn't just about nice paint. We also decided to replace some normal wear and tear items, such as brakes, wheels, hoses, and tires. New wheels, brakes, and master cylinders came courtesy of Cleveland Wheels and Brakes. The hoses are from Stratoflex. Both companies are now subsidiaries of Parker Hannifin, and we thank them for providing these important safety items. New wheels and brakes wouldn't be complete without new tires, and we've replaced those as well. Goodyear provided the full set, which should set up the winner for a number of years.

The propeller is also new because the old one was out of tolerance. American Propeller Service helped us procure a new one, and provided the beautiful paint job. This is something of a specialty business for the company, and we look forward to their work with every project.

Finally, some speed. The Archer is no screamer, so we wanted to give it a little boost. Laminar Flow Systems offered a pair of their Speedpants and we are happy they did. The new wheelpants have a more bulbous look than the original, which is a good thing. Various flights have shown roughly a 4-knot speed increase over the stock wheelpants, equivalent to the company's expectations.

Between new parts and a new paint job, the Archer is looking good. The skilled technicians at Oxford Aviation designed and executed a paint job that both updates the look of the airplane while evoking the idea of the Get Your Glass Sweepstakes. We think they did a perfect job of complimenting the glass panel, and putting the "old" airplane to bed for good.

AOPA

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