



Flying the colors



A classy paint job
for a classy classic
BY THOMAS A. HORNE

When it comes to measuring the progress of an AOPA sweepstakes airplane, a new paint job makes a real statement. Sure, a topnotch engine overhaul is essential to the project, but the engine is out of sight, tucked away under the cowl. A full complement of modern avionics also is a must—and we certainly have one in the Win a Six—but it, too, is an inside job. But when a new paint job is applied it's like an advertisement for the airplane's imminent debut as a finished product. The airplane may have made grand public appearances before, but nothing catches the eye like a distinctive paint job.

The Win a Six made one such appearance at the Experimental Aircraft Association's annual AirVenture in Oshkosh this past July, where it took center stage in front of AOPA's big yellow tent. Thousands of members and



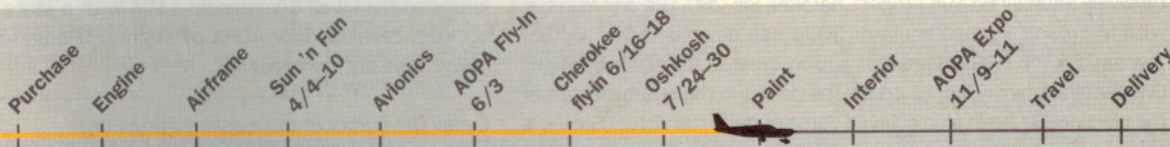
Dial Eastern States Aircraft Painting staffers apply masking for the Win a Six's accent stripes (top). Mark Burkhart prepares a stabilator skin for repriming (above).

other visitors came by to gawk at the 1967 Piper Cherokee Six 260's engine, avionics, and airframe work, and yes, to proclaim that the airplane would indeed be theirs come next February. But before that can happen, the paint and interior phases of the refurbishment must take place. And painting began immediately after AirVenture.

That's when I flew N187KJ from Oshkosh to the Harrison County Airport in Cadiz, Ohio. That's the location of our paint shop, Dial Eastern States Aircraft Painting Inc., or "Desapi" for short (www.desapi.com). Owners Dick (father) and Rich (son) Guenther rolled the Six into the hangar and set to work.

"We don't do it like a lot of paint shops," Dick said. "We do it right...you see a lot of so-called 'dealer' paint jobs out there, where they just paint over the old paint job—hey, I've seen airplanes come here with as many as 11

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coats of paint on them—but we don't do that here."

Dick starts by using a chemical stripper like hydrogen peroxide or methylene chloride to remove the old paint. These strippers are non-acidic, yet strong enough to penetrate the old paint and primer, right down to bare aluminum. "Using an acid stripper might be easier and faster, but it can cause corrosion when it gets into the aluminum skins' lap joints," Guenther said.

Stripping takes three days for an airplane like the Cherokee Six. Add in the time for completely scrubbing off the old paint with stainless-steel brushes and Scotch-Brite pads, and you're looking at 100-plus man-hours of labor.

"After you've done all that scrubbing, that's when any imperfections show up," said Guenther. And show up they did. Our stabilator's upper skins had been dented in the past, then re-



After chemical stripping, surface irregularities are repaired and spot-primed. Here the windows and other critical components are masked off in preparation for a coat of primer. Alodining has turned the aluminum skins a gold color.

Virtually identical

Everyone can fly this Sweeps Cherokee Six

By Michael P. Collins

The controller's voice crackles in your headset. "November One-Six-Four-Uniform, cleared for takeoff."

Already in position at the end of the runway, you run the lights-camera-action final pretakeoff check and turn the landing light On, move the transponder switch from Standby to Altitude, and—after confirming that the mixture and prop already are fully forward—you smoothly apply full throttle and release the brakes. "Six-Four-Uniform's rolling."

The engine noise increases as the airplane accelerates down the runway. You can see the nose move up, ever so slightly, as the wings shoulder more and more of the Piper Cherokee Six's weight. Then, as the airspeed indicator passes through 65 mph, you rotate—and you're flying.

On climbout, however, the J.P. Instruments EDM-930 engine analyzer, which graphically displays all engine parameters, including manifold pressure and tachometer readings, and is located just to the right of the Avidyne FlightMax EX500 multifunction display, depicting traffic from Avidyne's TAS600 active-surveillance traffic system and radar imagery from XM WX Satellite Weather) is difficult to see on your personal computer's monitor, so you mouse over to the airspeed indicator and click. Instantly, overlaid on the ASI are digital readouts of manifold pressure and rpm; airspeed is added for good measure.

Wait a minute, you're thinking. Computer monitor? Mouse?

Although it behaves almost exactly like AOPA's snazzy, blue-and-white Win a Six in '06 membership sweepstakes airplane, you're flying a virtual representation on a personal computer.

Early next year, only one lucky person will win the keys to this extensively refurbished 1967 Piper Cherokee Six 260. But any member with Microsoft Flight Simulator 2004 can download the "virtual Sweeps Six," a Flight Simulator add-on created for AOPA by Flight One Software (www.flight1.com). The delays in the refurbishment of the physical Six have also delayed completion of the virtual Six—it's

been tough for Jim Rhoads and his crew to replicate details that don't exist yet—but completion of the Flight

Simulator add-on is expected in late October; watch AOPA ePilot and AOPA Online for download information. (Microsoft will release an updated application, Flight Simulator X, this fall. Members of Microsoft's development team say that add-on aircraft like the virtual Win a Six in '06 will work properly in the new version, but the software has not yet been checked for compatibility.)

AOPA members got an early look at the virtual Win a Six airplane in AOPA's yellow tent during EAA AirVenture in Oshkosh in July. "It's fun," said Jim Lockwood, of Tustin, California, after taking the virtual aircraft around the pattern. "I don't like the way you fly my airplane," chided his friend, Pete Vaughn, of Wildomar, California. Lockwood, who owns a Cessna Cardinal, had a Piper Cherokee 180 about 16 years ago.

More recently, AOPA Project Pilot showed the Cherokee Six software at the 2006 Aviation Simulation Convention Conference and Exhibition, which was held in Washington, D.C., during September. AVSIM attendees—including many current, aspiring, and former pilots—were excited to see and fly the Win a Six Cherokee, the first Cherokee Six add-on airplane for Flight Simulator.

Can't wait to fly the Win a Six Cherokee in Microsoft Flight Simulator? More than 22,000 members downloaded last year's virtual 2005 AOPA Commander Countdown Sweepstakes airplane, a refurbished Rockwell Commander 112A with a state-of-the-art glass cockpit, developed for AOPA by Flight1. It's still available online (www.aopa.org/sweeps/fly).

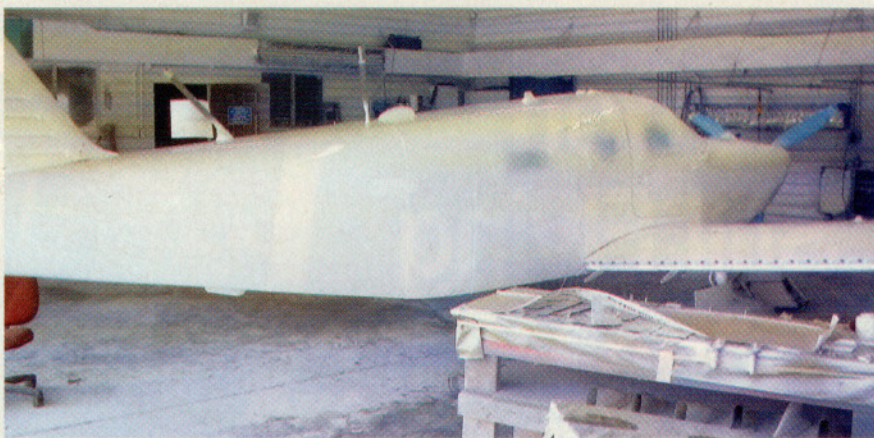
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E-mail the author at mike.collins@aopa.org.



paired by pulling out the deformed skin and patching with body putty. There was also some hail damage on the stabilator (common in airplanes this old; hail shows up on the thinner skins of control surfaces more often than the thicker ones used on other parts of the airplane). Other damage that turned up included a cracked aileron hinge bracket and a dented stabilator anti-servo tab. The Six's belly ribs had some minor corrosion, which was cleaned up and treated.

It's worth mentioning that Piper does not approve of repairing damaged



The base coat has been applied and now there are four more colors to go—all of them stripes. The control surfaces have been removed for this step.

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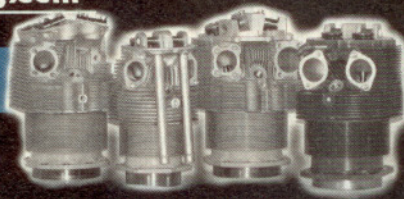


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control surfaces. They must be replaced. Williams Airmotive came through with new stabilator skins and the aileron repair—and for that we thank the company, again. (Williams also contributed new stabilator skins for AOPA's 2004 Win-A-Twin Piper Comanche sweepstakes airplane.) It also provided the Six's new rudder skin, which replaced the original, which had two big dings from hangar rash.

After stripping comes a pressure wash, then an etching treatment with a mild phosphoric acid solution. Then the fiberglass and carbon-fiber components (like LoPresti Speed Merchants' custom-designed cowlings and wheel-pants, and the wingtip fuel tanks) are sanded and smoothed to a fare-thee-well.

Next is an application of Alodine, which is a chromic acid solution that stabilizes the bare aluminum surfaces (turning them a gold color in the process), promotes adhesion of paint, and prevents corrosion. This step—also called a "conversion coating"—involves wiping the Alodine over the surfaces for evenness, then rinsing it off.

After all this, it's time for a new coat of primer, then the application of the base coat of paint. In our case, the base coat is Matterhorn White.

After the base coat, the airplane is masked off in stages so that the stripes can be painted. The Win a Six's paint scheme, designed by Craig Barnett of Scheme Designers, is a five-color design that's white and blue with black, gold, and gray stripes. Each color takes a day to apply, Guenther said. This is enough time to allow each color to dry completely. "Some paint shops use

a chemical in the paint—an 'accelerator'—that speeds up the drying process, but we don't," Guenther said. "The paint—which dries from the outside in—dries unevenly with an accelerator, and so you can get orange peel [a stippling of the paint]. Also, without an accelerator the paint forms a smoother finish because it 'spreads out' over the surface and makes a more 'level' coating."

Finally, the Win a Six logos, provided by Screaming Eagle Graphics, are affixed to the vertical stabilizer and cowl-ing. It's the finishing touch to a world-

class paint job. No wonder Desapi is booked solid for the next two years. Desapi does quality work that doesn't skip corrosion control, takes care of previously neglected maintenance issues, and makes for a finer finish. Many thanks, Dick and Rich—and thanks, too, for applying those door seals (from Aircraft Door Seals LLC, www.aircraftdoorseals.com, which we'll discuss in the next Win a Six update).

Interior progress

Meanwhile, our interior shop, Aircraft Interiors of Memphis ([www.aircraft](http://www.aircraftinteriors.org)

www.aircraftinteriors.org), is hard at work preparing to install the airplane's new, leather-clad interior. The seats have been completed, as have the sidewalls, and all that remains is the installation of the headliner, carpet, and plastic components. A new interior console will be installed, thanks to Saircorp (www.saircorp.com), complete with emergency lighting and storage for Sky Ox's portable oxygen bottle (www.skyox.com).

Special thanks go to Wentworth Aircraft Inc. (www.wentworthaircraft.com), the salvage yard that provided us with aft-facing seats that make our club-seating arrangement possible. Those of you who have been following the progress reports on AOPA's sweepstakes Web site (www.aopa.org/sweeps) know that the original seating configuration had all forward-facing seats, as did all Cherokee Sixes built before 1978.

To turn the interior into a club-seating setup we needed a field approval, which Kosola and Associates Inc. (www.kosola.com/main.htm) provided, and a competent shop—Air Mod (www.airmod.com)—to create the engineering drawings and make the installation fittings. It was a big job, but without Wentworth's help it would have been nearly impossible. Wentworth's huge stock of used parts gave us the seats we needed—and they came from a 1978 Piper Lance. Need parts for your older airplane? Go to Wentworth.

Not long after you read this, the airplane will have been finished, and be moving on to its grand debut at AOPA Expo. This year, Expo runs from November 9 through 11 in Palm Springs, California. So if you want to lay eyes on the finished product, make tracks for Palm Springs (www.aopa.org/expo). You'll see a gorgeous, one-of-a-kind Cherokee Six, and even see it taxi through the streets of Palm Springs, on its way from the airport to the convention center's static display area. That'll be me behind the wheel, so don't forget to wave. And as always, check the sweeps Web site for late-breaking updates and photos.

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E-mail the author at tom.horne@aopa.org.

i Links to additional information about the Win a Six in '06 Sweepstakes may be found on AOPA Online (www.aopa.org/sweeps).



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