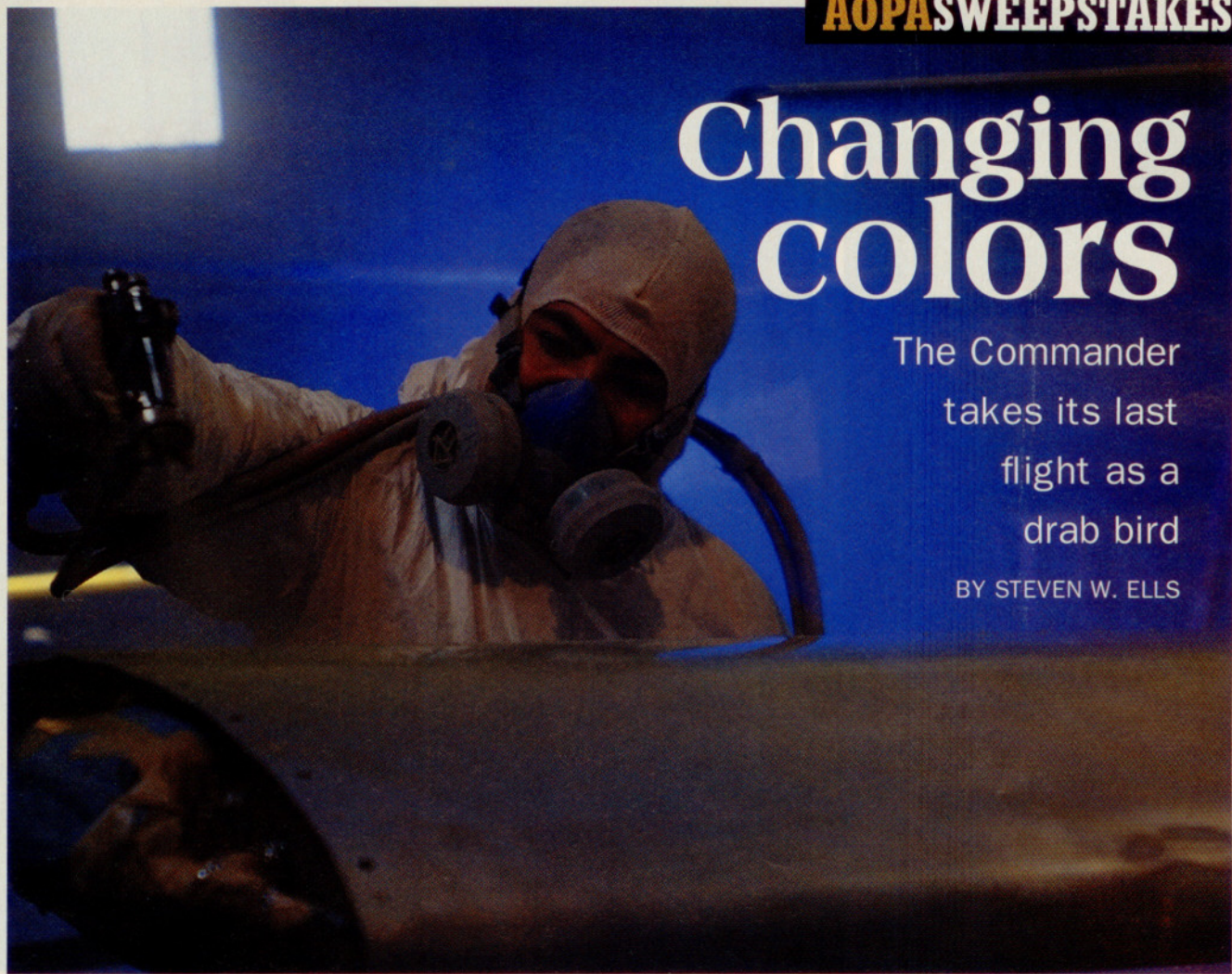


Changing colors

The Commander takes its last flight as a drab bird

BY STEVEN W. ELLS



It was foggy. The marine layer off the Pacific had crept east 35 miles to Brackett Field in La Verne, California, and it was delaying the timely departure of the AOPA Commander Countdown Sweepstakes airplane. The day before,

on March 7, the technicians, led by avionics manager Brian Peoples and lead installer Tony Lange of Howard Aviation, had put the full panel of avionics through calibration testing. At 5:05 p.m. Robin Howard took off from Runway 26 Left on a short test hop. He reported that everything worked as if it were brand-new. I breathed a sigh of relief because everything from the

avionics to the Lycoming factory-rebuilt engine and Hartzell prop to the Whelen strobe lights was new—and to have it all working perfectly after an intensive seven-week-long refurbishment was a tribute to the expertise and professionalism of the Howard Aviation staff. The next step was to fly 284 nautical miles east to Wickenburg, Arizona, to Master Aircraft Painters.

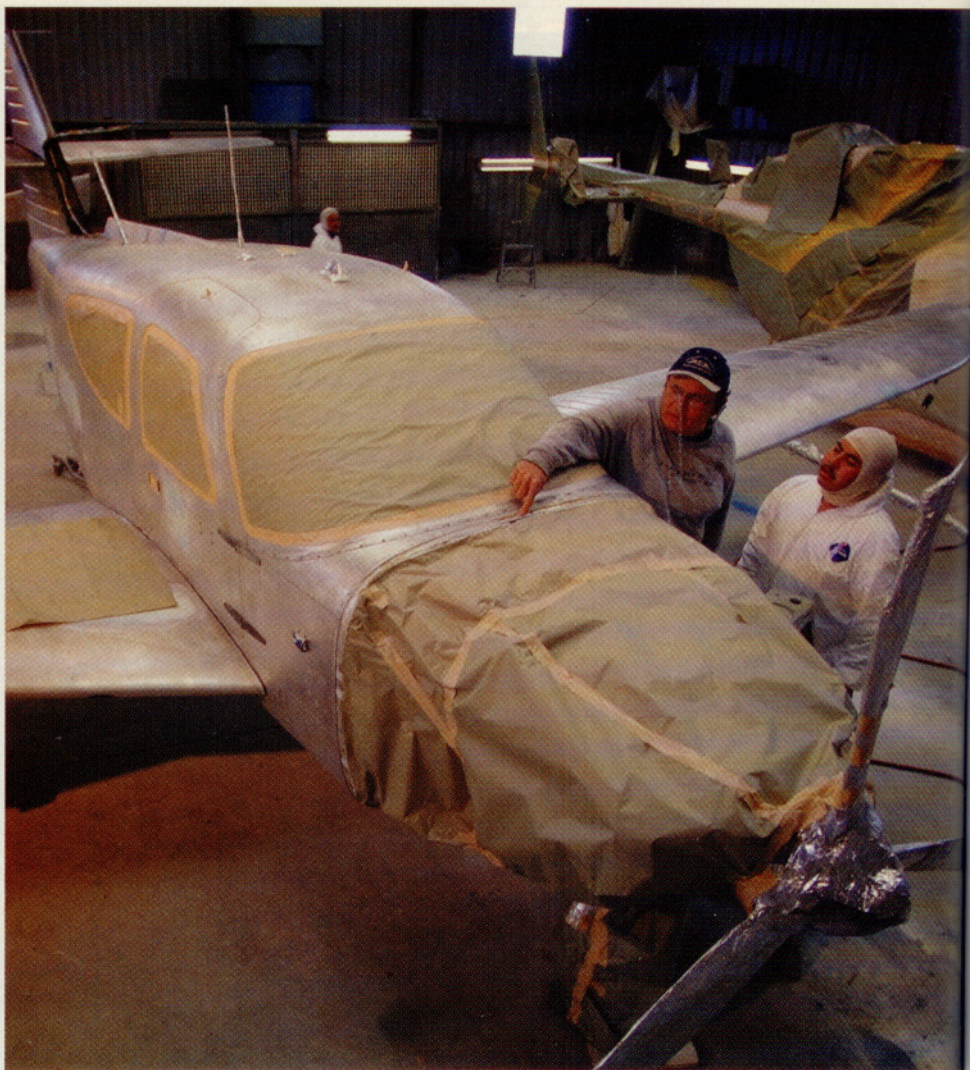
The last XC as 1169J

AOPA reserved N112WN—an appropriate N number for the Commander Countdown, a 1974 Rockwell Commander 112A—in mid-November 2004. N number reservations last for one year and can be renewed. To paint a reserved number on an airplane, a letter describing the airplane including manufacturer, model, serial number,



i Climb aboard

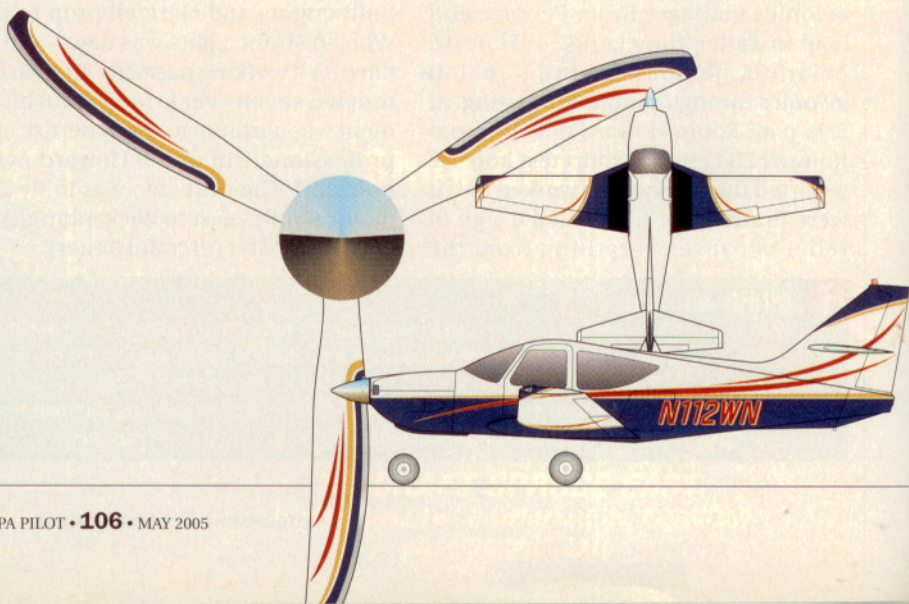
Here's your chance to experience the revolutionary new Chelton FlightLogic system in AOPA's Commander Countdown sweepstakes airplane. This 1.5-minute video shows just some of the highlights of the system at the heart of the Commander. Climb aboard the Commander 112 to see how the FlightLogic system's synthetic terrain display compares to real terrain. Be among the first to see a Highway-In-The-Sky (HITS) system at work as the airplane flies through a series of frames leading it to the synthetic runway depiction (<http://media.aopa.org/050401sweeps.aspx>).

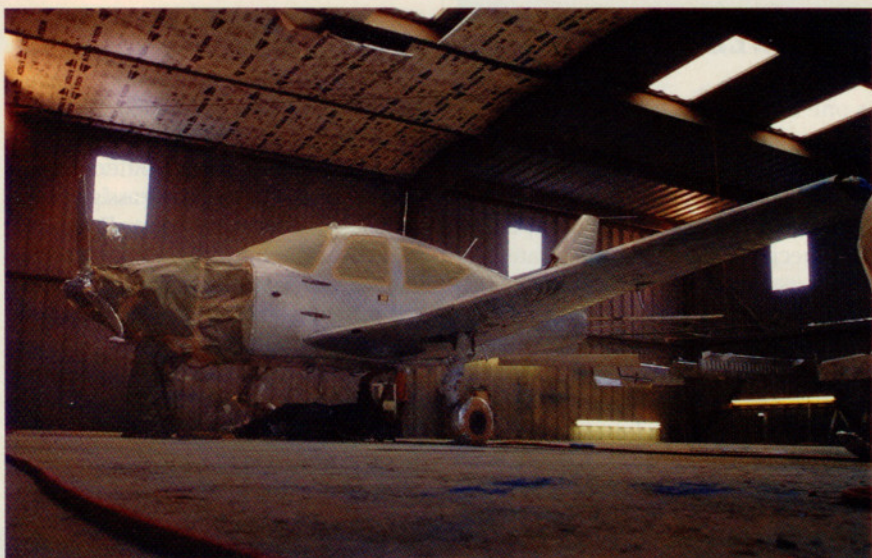


Gus Haussler and Aldo Gonzalez inspect the Commander (above). The four-color paint layout is a product of the collective minds of AOPA members, who voted on a number of colors and schemes created by Craig Barnett of Scheme Designers (below). American Propeller's FAA-approved Designer Prop paint treatment is featured on the new Hartzell Top Prop.

and current N number must be sent to the FAA Registry in Oklahoma City. That's all there is to it.

The fog stayed below VFR minimums all through the morning. I used this time to power up the Chelton FlightLogic EFIS (electronic flight information system); this is the same EFIS that Steve Fossett used to navigate the Virgin Atlantic *Global Flyer* nonstop around the





After a final inspection, the first coat of primer is applied. Grounding and wetting the paint booth floor before application of the final color coats are tricks that ensure paint job quality.

world less than a week before I was going to use it to find Wickenburg. I had studied the Chelton pilots operating manual and watched the procedures DVD for a few weeks and was anxious to enter my flight plan. The same Chelton DVD that I—and I presume Mr. Fossett—used is available free by filling in a few blanks online (www.cheltonflightsystems.com/Prod_cert_request_info.html). To view a video demonstration of the system, visit AOPA Online.

By late morning the fog had cleared enough to permit a special VFR departure. The factory-rebuilt Lycoming engine started as the second blade of the Hartzell prop moved across my field of vision. Vigorous starting power was provided by a Concorde sealed-cell battery. Within minutes after liftoff I had been given a squawk code for flight following. Flight Explorer—a software program that enables users on a PC to track any airplane that has a transponder code—

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is one of the technological tools available on the AOPA Web site to follow the progress of the Commander Countdown sweepstakes airplane. Flight Explorer is also available by subscription—at a special AOPA-discounted rate—for home use. It's handy for tracking business flights or the progress of a flying spouse or boss!

I immediately fell in love with the Ryan International 9900BX traffic advisory system (TAS) as I maneuvered my way toward Banning Pass in the hazy air over the Inland Empire east of Los Ange-

Springs VOR-V16-Blythe VOR-direct E25. Climb to and maintain 9,000 feet." I acknowledged the clearance and punched the Select button on the Chelton after scrolling through the menu to the "activate flight plan" selection. After that, all I had to do was maintain my assigned altitude and follow the magenta line on the ND. After the hand-off to Los Angeles Center, they amended my flight plan—the route assigned by the last controller crossed through the Gladden 1 military operations area. The amended clearance added Buckeye VOR to the flight plan between Blythe VOR (BLH) and Wickenburg—I punched the ACTV (active flight plan) button on the Chelton, scrolled the



les. Traffic in front of me was displayed on the forward-looking primary flight display (PFD) of the Chelton system, and traffic to the sides or behind me was displayed on the navigation display (ND) screen. In addition to the visual displays, Ryan's Audible Position Alerting (APA) provided aural warnings when aircraft got too close. The traffic awareness this system provides is very comforting. A side benefit is that now I can say, "I've got the traffic on the fish finder," just like the jet jocks say when they have been asked to look for my airplane.

The flight plan consisted of a right turn to stay clear of the north side of Ontario's Class C airspace, then direct to Banning, where I commenced a climb to pick up an IFR clearance from Palm Springs to Wickenburg.

The controller at the Palm Springs Terminal Radar Service Area (TRSA) cleared me to Wickenburg Municipal Airport from my position—"Direct Palm

cursor down to Blythe, pushed the "insert" button, entered the identifier for the Buckeye VOR, and pushed to enter. Amending an active flight plan on the Chelton system was that simple.

The cross-country flight after the big installation was a snoozer. The only squawk was that the communications radio sidetone in my headphones was way too high. After I landed I placed a call to the avionics people at Howard Aviation and learned that sidetones from the Garmin SL-30 are adjustable without removing the radio from the rack. It's all in the users guide.

I landed on Wickenburg's Runway 23 after a flight of two hours and 23 minutes and taxied to the hangars of Master Aircraft Painters.

Scheme Designers

Craig Barnett's company, Scheme Designers, designs paint schemes that range from the sublime to the outra-

geous. If an owner can visualize a paint layout or just has an idea for a scheme, then Barnett can create it. He's proven it over and over again on AOPA sweepstakes airplanes.

Barnett started creating a menu of paint schemes for the Commander early in December 2004. Within a few days, his offerings were up on the AOPA Web site where members were asked for input. You and other members just like you voted—and Barnett refined the design. After the layout—a pretty conservative straight-line design with some curved accent lines—was locked in, the details of the accent lines and the final colors were chosen, again by online AOPA member voting.

When American Propeller, of Redding, California, suggested that the



An epoxy two-part primer was first applied to the airplane (left). Freddy Gonzalez grounds the airframe (above).

Commander would benefit from its Designer Prop paint application, the AOPA staff jumped at the opportunity. According to Bob Honig of American, the Designer Prop paint application process is the only FAA-approved propeller painting process in the country—and unlike other paint processes this one is tough and will last and look good for years.

"We painted the propeller on Julie Clark's aerobatic T-34 three years ago, and it's been through three airshow seasons and the paint still looks brand-new," says Honig.

Barnett had previously worked with American creating airplane scheme-compatible propeller paint designs and when AOPA asked him for a prop design, he finished in a matter of days. For the first time, an AOPA sweepstakes airplane paint scheme—one selected by

GUSTAV A. HAUSSLER III

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its members—will be applied to the airplane's propeller.

The painting process began when the new Hartzell blended airfoil scimitar three-blade Top Prop arrived at American. The blades were removed from the hub before being painted by American's certified master painter. American says its Luminous Finish process consists of color and clear-coat applications. Whatever, it looks great, and the Hartzell prop, Lycoming engine, and Barry vibration

isolator (sometimes referred to as *engine mounts*) combination delivered strong thrust and smooth operation throughout the entire flight.

Gus and the gang

AOPA created a very ambitious completion schedule for the 2005 Commander Countdown sweepstakes airplane. In a nutshell, AOPA crammed an extensive avionics rebuild, an engine and propeller change, a complete four-color polyurethane paint job, and a full leather interior into the space of a 12-week time period. When a schedule this ambitious is drawn



Anna Colima, interior shop supervisor at Master Aircraft Painters, shows Gus Haussler a finished seat back.

up, the successful completion depends almost entirely on finding extremely competent and responsible maintenance and upgrade shops to not only produce quality work, but also to produce that work in a timely manner. AOPA had been referred to Howard Aviation by Chelton, and both its avionics and maintenance experts proved to be up to the task. Finding a paint shop that could accommodate AOPA's schedule proved to be a little bit more of a challenge.

After phoning a long list of paint shops that were all too busy to help, I called Gustav Haussler III—best known as Gus—at Master Aircraft Painters in Wickenburg. I found its name in the Western edition of the Aviation Telephone Directory. An older couple used to run a successful and highly regarded paint shop on the Wickenburg site. When they retired, their son and daughter-in-law tried to keep the shop going but the task proved to be too much, and eventually the shop closed. A short time ago Gus and two sets of brothers—Jose, Oscar, and Alex Garcia and Aldo and Freddy Gonzalez—opened up the inactive shop and began turning out good paint jobs. Jose Garcia is the shop foreman and he has been painting light airplanes since the mid-1980s for shops up and down the West Coast in towns such as Santa Maria, California, and Hillsboro, Oregon, to name a couple.

Gus runs the business office and coordinates everything. Painting an air-

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plane is a pain-staking task. Like all painting projects, the finished product is only as good as the preparation, so meticulous work habits and attention to detail are key to a beautiful, shiny, long-lasting paint job. There are four basic steps. First, plastic parts such as wing tips and dorsal fin fairings are removed and antennas and windows are carefully masked off before chemical paint strippers are squirted onto the old paint. According to the Commander records, 1169J was last painted at the Commander factory in 1994. That paint job has not stood up well, as evidenced by the faded colors and some bare spots where both color and primer paint flaked away.

After the old paint is stripped off, the metal surfaces are cleaned with a mild acid wash before being flushed with water and thoroughly dried. The next step is to apply a conversion coating, often referred to as Alodine after one manufacturer's trade name. This step consists of flushing the metal surface with a liquid chemical solution that prepares the aluminum surface. Then minor imperfections, such as small dents, are filled with lightweight body fillers before a coat of epoxy (two-part) corrosion-inhibiting primer is applied.

A good paint shop removes all the normal inspection covers in the wings and fuselage and paints the covers separately. Covers are then reinstalled after the paint finish is complete. This practice prolongs the protection that a good paint job provides because the paint film is not torn when the inspection covers are next removed for an inspection.

The paint being applied to the 2005 sweepstakes Commander is Jet Glo, a two-component polyurethane paint that is known in the industry for its ease of application, durability, and smooth flow characteristics. Master Aircraft Painters uses Jet Glo because of these characteristics and because it's been the industry standard for almost 20 years. The West Coast distributor of Jet Glo—and a generous contributor to the 2005 AOPA sweepstakes—is Alliance Coatings, of El Cajon, California.

By the time you read this article, the paint job will be finished. The interior team of Raul and Anna Colima of Kingman, Arizona, will have applied their skills to the interior. Supplied with top-grain leathers by Rick Mayfield of Mayfield Aviation Leather, of Hickory, North Carolina, the Colimas have upgraded the seats and created color-coordinated soft, but durable, leather seating.

In 1974, Commander—and other light-aircraft manufacturers—trimmed out its interiors by making extensive use of thermosetting plastics. As the years pass, these products get brittle and lose their luster. The interior plastic was in bad shape when AOPA bought the airplane. Vantage Plane Plastics, of Alva, Oklahoma, took responsibility for providing new interior plastic pieces by reworking its molds to provide parts that would fit the Commander Countdown airplane. These pieces—34 in total—will be painted to match the light tan of the panel and the khaki brown of the seating leather.

i Links to additional information about the AOPA sweepstakes may be found on AOPA Online (www.aopa.org/pilot/links.shtml).

Next month, the story of the Countdown Commander's first cross-country—from Arizona to Florida for the Sun 'n Fun Fly-in and back—will be described as well as the powerplant, propeller, and other firewall forward systems. (Look for more frequent updates in *AOPA ePilot*.) **AOPA**

E-mail the author at steven.ells@aopa.org.

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