



*Every detail on this Zenith CH 701.1 is highly customized, including the "flat front" cowl that gives it a classic, water-cooled look. Read the story behind this build in the What Our Members Are Building section of this issue.*

PHOTOGRAPHY BY **ED HICKS**

# Deviant Behavior

Tennessee Zenith CH 701

**MY 2014 MISSION TO** EAA AirVenture Oshkosh was to find *Mojo* a new sister. *Mojo*, N51PW, is the RV-6A I completed in 2004. In more than 1,100 hours it has reliably and efficiently transported me across this country, including eight visits to Oshkosh, and brought home a Bronze Lindy in 2005. But this isn't about *Mojo*, it's about *Elixir*, N701RX.

It was time to explore the low and slow side of aviation. At Oshkosh, I investigated several options including open-cockpit parasols — Pietenpols, Pober Pixies, etc. — but I enjoy flying year-round and headed home undecided. Somewhere over Illinois, I recalled my first flight in a Zenith 701. Jabiru North America at my home field Shelbyville Municipal Airport (KSYT) in Shelbyville, Tennessee, had bought an unfinished kit in 2008 to develop its 2200 engine firewall forward kit. Owner Pete Krotje was out doing some fine-tuning on the plane with the doors off. He taxied up to the hangar and told me to give it a try. I took off at the far end of the field, and the crew at Jabiru said they could hear me hootin' and hollerin' as I sailed over the hangar. That memory produced a big smile, and I ordered my kit soon after I got home.

Early in the project I decided that there would be no plastic or fiberglass components. All wing and control surface tips are metal. The rudder and elevator pivot on bellcrank bearings, and the flaperon pivots are modified. On the fuselage I wanted to see if I could make the longerons internal, similar to the extrusions used on the newer 750 model. I asked Roger Dubbert at Zenith if they could make the side skins wider on the top and bottom. No problem. I bent these to underlap the top skin and overlap the bottom. Other 750 features I really like are the rear windows and the much larger baggage compartment. The latter became a major challenge but worked out well. I fabricated an entirely new flaperon control system and built a push-pull tube system for the elevator. This gave me a much larger compartment with a flat floor. On *Elixir*, CH also means cargo hauler.

Stylewise, I wanted a Curtiss Jenny-esque look to the plane with a paint scheme reminiscent of the old snake oil wagons. I flush-riveted the side skins to allow for artwork — imagine “Professor Possum’s Sure-Fire ELIXIR Aerotonic!” — and reserved N701RX. I fabricated a spring-loaded wooden tailskid and began buffing parts. I was on a mission.



Then the mission shifted.

During my Oshkosh trip in 2016, I fell in love with a 1937 Stinson SR-8B and a 1934 Waco UKC, among others. I was in trouble now. I'll never own one, but could I finish my plane to honor those deep pockets and fine craftsmen of the 1930s? I decided to try. I bought a block of bird's-eye maple and made the stick — sticks are wood, right? I used the same maple with lauan plywood for the rear compartment and door trim, cockpit floor, and side panels. There would be no paint on the interior, only wood, chrome,



polished or buffed aluminum, and leather. I bought and learned how to use a three-axis CNC router and engraved all of the required labels and placards on the plane. Online searches yielded retro-looking switches, control cables, and lamp lenses. UMA built the classic-looking instruments for the center panel — the plane can be legally flown using only these, but more on that later.

The all-metal cowling began with widening the firewall and rudder pedals by 6 inches to provide more foot room and to extend the lower fuselage lines forward to the “radiator.” Inside is a Jabiru 3300 Generation 4 six-cylinder engine, aluminum oil-recovery tank, and little else. The battery, contactors, voltage regulator, and similar components are in the fuselage. All wiring is carefully concealed even though full engine monitoring is provided, with redundant sensors for the UMA instruments. The nose gear is a modified unit from Jabiru. The easily removable bubble doors are scratchbuilt, employ three lock pins, and can be latched under the wings for engine start and taxi.

The original paint design was ditched as something more classic was required. Many 1930s aircraft were reviewed, but nothing really fit. I started looking at cars from the period and eventually ran across the 1935 Duesenberg SSJ driven by Clark Gable. Score! Paint, red leather seats, and a Sensenich CK prop with skull cap finished the job.

About that instrumentation. The wood panels on either side of the central cluster are hinged on the bottom and drop down like tray tables. On the pilot’s side is a Garmin G3X Touch GDU 450, and on the right is a GTR 200 comm radio and storage room for two headsets and much more. There’s a two-axis autopilot, ADS-B In and Out, and retractable LED landing lights on the bottom of the fuselage.

*Elixir* flies great, and we went round trip to Oshkosh 2018 and carried home a Bronze Lindy. I’m still working to improve my part of the performance equation, but the really interesting thing about this plane is that once you fire up, taxi out, and depart, you forget all about the wood, leather, avionics, and three-and-a-half year journey to make it happen. What you remember is the warm breeze, countryside aromas, and the exquisite view from a lofty 300 feet up.



*Elixir*’s slip/skid indicator is mounted on a required placard. On the right side it says, “FAA PASSENGER WARNING — THIS AIRCRAFT DOES NOT COMPLY WITH FEDERAL SAFETY REGULATIONS FOR STANDARD AIRCRAFT.” On the left it reads, “EAA PASSENGER WELCOME — IN THE PURSUIT OF RECREATION AND EDUCATION THIS AIRCRAFT CELEBRATES AVIATION — ENJOY THE RIDE!”

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