

If somebody asks you,
"How long will one of these things fly?" Tell them...

64 HOURS, 33 MINUTES!

by John Thompson

• Control line model aviation goes back a long time in Eugene, Oregon. There has been a flying club there for more than three decades, and the flying goes back all the way—literally—to the invention of the bellcrank.

But the Eugene Propspinners' notch in model aviation history was carved 21 years ago when a homely, overweight craft named the "Spirit of Exchange" lumbered into flight on a voyage that is now a model aviation legend. In September of 1957, after several months and six unsuccessful attempts, the Propspinners broke the then-existing AMA control line endurance record by keeping a single plane in the air for 64 hours, 33 minutes and 14 seconds.

Records for continuous flight by multiple-piloted, in-flight refuelable aircraft are no longer kept by the AMA and the remarkable feat of the Propspinners' modified Veco Chief is now all but forgotten in the modeling world. But in Eugene there are a number of men who can still hear the drone of the twin-plugged K&B Allyn Torpedo .35 in their ears. Recent reports of a 26-hour control line "Fly-A-Thon" in Reading, Pennsylvania, in which a world record was claimed (though three airplanes were used), revived the memories of the stunning Eugene flight.

The Propspinners' plane flew night and day, with pilots first taking one-hour shifts but eventually cutting it down to only minutes as their powers of concentration waned.

The craft was a marvel of engineering for that time. For one thing, it was the third plane the Propspinners had built for the endurance record attempt—the first two had shaken apart. The third, built with steel hinges, fiberglass and other strengthening techniques (in a day when many of our present miracle adhesives were not available), held together beauti-



Shown with the "Spirit of Exchange" are: (left to right, kneeling) pilot Bob Miller, pilot Pat Holland, chief pilot Dick Wampach, pilot Bert Gray, pilot Danny Sparks, pilot Bill Kuykendall; (left to right, standing) pilot Ron Fetsch, pilot and technical advisor Obie St. Clair, pilot Fred Hazel, ground crew member Morris Gilbert, ground crew member and Propspinner president Chuck Nickens, pilot Ray Howard, ground crew member Judy Kuykendall, pilot Wendell Gray and ground crew member Bob Steen.

fully—and still hangs in Paul Agerter's Eugene Toy and Hobby shop in Oregon.

But even more amazing was the engineering of the system that pumped fuel from a gallon can on the pilot's chest to the airplane's twin on-board tanks. Also essential was a homemade servo, powered by current fed through the control lines, that adjusted the fuel mixture as the temperature ranged from 83 degrees down to 43 degrees during the three-day flight.

People in the Northwest who know Obie St. Clair aren't the least surprised about the engineering feats that kept the Chief flying. For those elsewhere, it is sometimes necessary to point out the little known fact that Obie claims the title of "The Father of Control Line Flying" through his invention of the bellcrank control system in the late 1930s. (Confirmation of this fact was once the subject of a California court battle.) It

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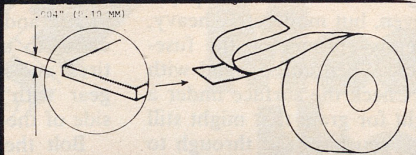
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was another well-known Northwest mod-
eler and showman, Jim Walker, who
made the bellcrank and control line fa-
mous.

St. Clair, still an active Propspinner, is
the diminutive man who has for decades
dazzled Eugene-area modelers with his

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inventions — a completely operational control line flying simulator, a throttled profile stunt plane with landing gear on top and bottom, and a tiny stogie that is a masterpiece of engineering, to name a few. But that's another story. St. Clair's engineering was only one element in the tedious effort of the Propspinners to chase a record that at the time was 35 hours, 8 minutes, set by a club in Dallas, Oregon.

Talk of trying for the record of continuous flight started early in 1957. The record of the Dallas club seemed within reach, some Propspinners thought. Once the decision was made to make an attempt at establishing a new record, the

project went forward at full speed. One early priority was to get the backing of the Eugene Exchange Club, and the Veco Chief became the "Spirit of Exchange."

At the forefront of the planning, model construction and contacting of sponsors were Propspinners John Murray, Dick Wampach and Bill Kuykendall. Hobby shop proprietor Paul Agerter's name appears on much of the correspondence with model equipment manufacturers.

Next came contacts with industry representatives. The first question was fuel. Where could 50-gallon drums of the stuff be obtained at a reasonable price? With the help of Dave Mallory of the D. C. Parker Co. (now D. N. Mallory Distribu-

tors), an offer came from John Brodbeck, Vice President of K&B Allyn Co., to supply the drum of K&B Supersonic 100 at cost. And Brodbeck also supplied a K&B Torpedo .35, modified slightly for endurance (mainly by the installation of a second glowplug), and helpful advice about props and engine handling. Several other model companies supplied prizes to be given to spectators during the record trial.

However, obtaining a plane, fuel and an engine did not make the flight easy. The first attempts were made on June 16, 1957. The initial flight lasted only 29 minutes. The second attempt went three hours and 19 minutes. The third attempt ended heartbreakingly after 14 hours, 20 minutes, when the tired Chief began to shake apart.

Disappointed but not beaten, the Propspinners returned to the drawing board. A second Chief was built, and in July the group tried again. Their fourth attempt lasted 24 minutes; the fifth was two hours and 16 minutes. The sixth try ended after 13 hours and 56 minutes. Again, failure. But the modelers were more determined than ever to complete their project.

The third Spirit of Exchange incorporated building techniques that look crude today—such as giant steel elevator hinges—but they were the strongest methods available at the time. Paul Agerter recalls that the plane was extremely heavy and flew slowly. But it did fly. The engine was sent to John Brodbeck, who looked it over, replaced a connecting rod, and sent it back ready to go again.

On September 1, 1957, the Spirit of Exchange took off for its legendary flight, covering an estimated 2,705 miles and burning up 30½ gallons of fuel. The site was the infield of an automobile race-track.

Pilots, with the gallon fuel can strapped to their chests, passed over control of the plane with use of a dual handle system. Some went home to sleep and eat, while others stayed at the field. Thirteen pilots and four non-flying ground crew members participated. Needle-valve adjustments were made by the servo, activated by the pilot through the electrically-charged lines as the temperatures and settings fluctuated. Speed of the plane varied from 36.5 to 44 mph.

Equipment problems didn't plague the effort this time, but a problem of another kind came up. The fuel supply, depleted by earlier attempts, began to run out. A flying service not far away at the Eugene airport came to the rescue, donating a plane and pilot to fly to Portland and pick up 19 more quarts of K&B Supersonic 100—at the hefty price of \$1 per quart.

The plane finally landed at 4:41 p.m. on September 3rd, after both Champion glowplugs had given up the ghost. Actually, some theories proposed that the plugs had been destroyed for some time

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before the engine quit, and recollections are hazy about exactly what brought the plane down. Some remember that it was simply shut off by the pilot, but nobody is sure.

The Propspinners and the Spirit of Exchange claimed the new record, which might never have been beaten. (Today's control line endurance records—10:03.25 in the Open class—are based on AMA rules requiring completely on-board fuel tanks and a single pilot.) The flight was reported at the time in the modeling press and became the subject of a K&B Allyn advertising campaign. The effort was well-covered by the Eugene *Register-Guard* newspaper as well.

When K&B people examined the engine, they found some wear but determined the Torpedo had another 25 to 30 hours left in it—in spite of 99 hours, 51 minutes of running time, including break-in, test-running and flights. So pleased about the flight were K&B officials that the company sent the Propspinners a check to cover all fuel costs and the cost of a new engine.

But the old engine, and the Veco Chief, were mounted on the hobby shop wall, never to be taken down again for another flight. The mission of the Spirit of Exchange had been accomplished. ■