

# Good Gyration

Six years ago, Andy Keech decided to build an autogyro that would be safe, dependable, and able to fly long distances. Recently, Keech proved his autogyro to be one of the best-performing aircraft of its type. Having already set several world aviation records in his yellow Little Wing LW-5 autogyro, nicknamed *Woodstock* after the bird in the comic strip "Peanuts," last February he flew 617 miles without landing, besting a Brit's 2003 record by 32 miles.

The biggest challenges in setting the record came in building the aircraft. "I consider myself an ordinary pilot, but *Woodstock* is an extraordinary aircraft," says Keech, a 64-year-old native of Australia who now lives in Washington, D.C. "I could not have set that record in a different autogyro."

The autogyro, a product of the 1920s, is rarely seen today. It uses rotary-wing technology—helicopter-like blades—to generate lift. However, the rotor is not powered by an engine. Instead, an engine powers a propeller that moves the aircraft forward. Forward motion causes the rotor to spin, creating the lift usually produced by an aircraft's wings.

Of the few autogyros built today, most are "pushers," with propellers mounted on the rear of the aircraft. *Woodstock* has a tractor, or puller configuration, with a



*Andy Keech and Woodstock dropped in at the Wright brothers' memorial in Kill Devil Hills, North Carolina, in 2003.*

builder Ron Herron. When Keech saw Herron's trailer hauling a Little Wing autogyro, "I was quite taken with it. It was like nothing I had seen before," he says. "So I started talking to him, and we began collaborating." The two worked together in Arkansas to design and build *Woodstock* over the next five years,

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115-horsepower Rotax 914 engine and a propeller on the front.

The puller design fell out of favor when the less expensive pushers came along. "The best types of autogyros were pretty much forgotten," Keech says. "They were grand machines that flew everywhere. They made transcontinental flights; they could fly down to Central and South America. I decided that's the kind of aircraft I wanted."

Keech became enamored with pullers after meeting autogyro designer and

logging some 1,000 hours to complete it.

Herron favors the tractor configuration because undisturbed airflow into the propeller disc provides better engine cooling, increases propeller efficiency, and generates less noise. (Airflow to a rear-mounted engine is "disturbed" in traversing the length of the fuselage.) And, he says, "Little Wing autogyros have the look of the original Cierva, Pitcairn, and Kellett autogyros of yesteryear."

Keech first tested *Woodstock's* long-distance legs in October 2003, making

transcontinental flights across the United States in both directions. *Woodstock's* original fuel capacity was 12 gallons. For the transcontinental flights, Keech and Herron installed a 24-gallon tank in the cabin. For the distance record attempt, an additional 14-gallon tank was installed on the belly, bringing total capacity to 50 gallons.

A winter flight at more than 10,000 feet usually means sub-freezing temperatures, and *Woodstock* had no cabin heat. Keech bought clothing designed for Arctic conditions and made sure the cabin was well sealed, but still feared hypothermia.

On February 22, Keech took off near Little Rock, Arkansas, heading east in favorable winds. Cabin temperatures at around 12,000 feet stayed well above freezing. He landed in Hickory, North Carolina, five hours and 38 minutes later, having eclipsed the record with two hours' worth of fuel remaining—enough for another 200 miles. "But a bird in the hand is good enough," he says.

"It's been one of my life's real pleasures, building *Woodstock* and flying it," Keech adds. "It's a relief that it's done, but it was exciting to go through the experience."

—Dustin Gouker