

Sticks for Hire

“Uh oh. Why is this piston rod left over?” Meet the pilots who are gutsy enough to fly freshly restored airplanes

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ATT JACKSON IS NOT AN OFFICE GUY. WEARING A T-SHIRT AND JEANS, the burly 44-year-old reports to work each morning at Los Angeles County's Van Nuys Airport, a busy airfield where business jets take off from an 8,000-foot runway surrounded by strip malls and 1950s stucco houses. At Van Nuys, Jackson operates a shop that specializes in restoring “old, junk airplanes,” as he puts it. And as much as he loves refurbishing aircraft, the ultimate reward for Jackson is that he gets to fly them afterward.

“I test fly airplanes every day,” says the pilot, who must make sure that the airplanes leaving his shop are safe to operate. Jackson also tests aircraft that have never been in his shop. He is one of a handful of pilots in the United States whom other pilots trust with their airplanes and ultimately with their lives. When an airplane has sat for a decade and needs to be moved, or a one-of-a-kind antique has undergone an extensive restoration, or you need a hot stick to race your highly modified warbird at the National Air Races in Reno, Nevada, these are the pilots you call.

They come from a variety of backgrounds; they are engineers, pilot-mechanics, airline pilots. In an age of glass cockpits and computerized flight management systems, these pilots do it the old-fashioned way: stick-and-rudder flying mated to decades of experience with old aircraft systems.

John Mohr's experience began with his family business. He grew up on Crane Lake, in Minnesota's Boundary Waters, where he helped maintain airplanes at the seaplane base operated by his grandfather and father. There, surrounded by Piper Cubs and Aeronca Champs on floats, he built his own kit helicopter, a Rotorway Scorpion, at age 17. At 49, he has logged more than 30,000 hours of flight time. During the week, he works as a DC-9 captain and flight instructor for a major airline, and on the weekends during airshow season, he flies an aerobatic routine in his Stearman biplane. His test flying work involves 1920s and '30s aircraft, most of them restored for the Golden Wings Museum in Anoka, Minnesota.

“There's no typical career path for a warbird pilot,” says Doug Rozendaal, who became qualified to fly World War II bombers and fighters for the Minnesota Wing of the Commemorative Air Force after logging thousands of hours hauling freight in a Beech 18. Rozendaal flies P-51 Mustangs, Corsairs, PBY Catalinas, and B-25s when he's not running his business, which sells lubricating oil to farmers and truckers. The reputations of pilots who fly piston-powered airplanes are built over the course of years in the close-knit warbird, antique,

and air racing communities, and new business originates strictly by word of mouth. “You don’t just call someone up and ask to fly their warbird,” says Rozendaal.

People who know the community at Van Nuys Airport probably knew Matt Jackson’s dad before they knew Matt. The senior Jackson ran Pacific Continental Engines, a well-known business that rebuilt aircraft engines. Matt hung out at the airport, trading odd jobs like washing airplanes and pumping gas for flying lessons. He bought his first airplane when he was 14. By the time he was 18, he’d had a pilot’s license for a year and logged 400 hours, much of it moving airplanes for his father’s customers. At 19 he flew his first Mustang, ferrying it back to the airport from the Reno Air Races. There have been many Mustangs since.

It takes more than experience, however, to hop in somebody else’s treasure and make sure it’s put together right. It takes authorization from the Federal Aviation Administration. The FAA requires pilots to obtain a letter of authorization (LOA) for a particular airplane—a Lockheed P-38 Lightning, say—by passing a flying proficiency test, stipulated by sections of the Code of Federal Regulations governing pilots and aircraft operation. Since most aircraft dating back to World War II and earlier seat only one—the pilot—the FAA or an FAA-designated examiner observes the check flight from the ground. Jackson, John Mohr, and Doug Rozendaal are among only a dozen or so pilots with unlimited letters of authorization for piston-powered airplanes: They are authorized by the FAA to fly all piston-powered airplanes. (To receive such an unlimited LOA, a pilot must have at least three individual prop-airplane LOAs.) These pilots have the authority to sign off on any piston-powered aircraft they have test flown, clearing its return to service. (Before even a test pilot can go up in a recently restored airplane, though, a licensed airframe-and-powerplant mechanic must first inspect it for airworthiness.)

The “unlimited” authorization also increases the pilots’ earning power. Jackson’s test flying brings in \$50,000 a year. His fee starts at \$500 a day plus expenses and goes up based on the degree of risk. “I’ve got five children, and a wife, and a dog, a couple goldfish,” he says. “And I have six or seven people that work for me that rely directly on the ability of me to be there every day to make their living. I have to consider all that. So the first thing I do is go and inspect the airplane. And if the airplane meets my requirements in quality in the restoration process, then I will consider doing the test flying.”

One of the most expensive jobs Jackson ever took was test flying one man’s self-designed homebuilt. Though flight software indicated the never-flown airplane would be stable, Jackson still felt he was taking quite a risk. It turned out, though, the airplane presented no problems, and it “flew just as advertised,” says Jackson. For about three hours of flying, which took place over a period of months, Jackson earned \$12,000.

The economics of restoring vintage airplanes makes owners seek only the most trustworthy test pilots. World War II-era P-51 Mustangs in good condition will fetch upward of \$1.5 million, and they are expensive to maintain. Engines can give out after only 500 hours, and rebuilding one can consume more than \$150,000. The engines are also fuel-ravenous: A Mustang in high-speed cruise can gulp up to 90 gallons of \$3-a-gallon piston avgas per hour. Annual

insurance can run to four percent of the aircraft's value, and racing insurance can cost \$100,000 for only 10 days of coverage.

John Mohr has tested about 30 one-of-a-kind aircraft, like a 1938 Cunningham-Hall and a 1936 Stinson Model A Tri-Motor. Though he relishes flying them, he warns that they can be a handful. "You can get yourself in a box in these airplanes if you are not careful," he says. "They don't fly well at all. The rudders are stiff. The elevators are mushy. The ailerons are heavy. The brakes are poor, and the braking systems are all different. You need to be pretty savvy on the brakes." Consequently, Mohr still approaches each test flight carefully, doing extensive ground run-ups and taking other precautions. Nevertheless, "a lot of stuff doesn't work when you first go up and fly it," he says.

While Jackson is restoring an airplane, he simultaneously prepares himself for test flying it. "When I get in an airplane, I know every aspect of that airplane: how it works, what it took to put it together, what it takes to break it," he says. "You're basically becoming part of the airplane as far as systems go, and that's done over a period of months, rather than just hop in and blast off into the sunset."

On first flights after restoration or major maintenance, Jackson brings a long sheet of paper for writing down maintenance problems, or squawks; some of the things he typically finds are sticky cockpit canopies, radios that don't work, and inoperative landing-gear lights, problems that are more of a nuisance than cause for alarm. In fact, Jackson says that most of his test flights pass without incident. "The majority of a test pilot's job is not dealing with a problem, it's noting to see if there's a problem. The only reason why you want somebody that's qualified there to deal with it is when there is a problem, you want the plane brought back. I mean anybody can jump out of one, and anyone can crash one. So the trick is to find somebody that can deal with an emergency, to bring it back so you can fix it."

When a serious problem does arise, however, Jackson says that his response is measured, not heroic. "The flying is calculated because it's the 'You know what's going to happen before it happens' kind of thing," he says. "Really, we're not reinventing the wheel here. The [type of warbirds] that I fly after restoration have thousands and thousands of proven hours in them."

Vlado Lench knows a thing or two about measured responses to inflight emergencies. An aerospace engineer with degrees from Purdue and the Massachusetts Institute of Technology, Lench worked for Boeing as a test engineer and later for several major airlines as a pilot. In 1988 he bought a P-51 Mustang, which he raced at Reno. Within the Midwest's Mustang community he soon earned a reputation as a skilled stick, and he occasionally would ferry the pricey warbirds for their owners.

When Mike Vadeboncoeur and his employee David Young needed someone to test fly a Mustang they had spent hundreds of hours restoring, they decided Lench was their man. Vadeboncoeur owns Midwest Aero Restorations, based in Danville, Illinois. Since 1999 he and Young had been working on Cripes A'Mighty, a P-51D owned by Ken Wagnon of Wichita, Kansas. Wagnon's aim was to restore Cripes A'Mighty back to the colors and specifications of

the U.S. Army Air Force's World War II 352nd Fighter Group, and he spared no expense. The 12-cylinder Rolls-Royce Merlin engine had been completely rebuilt. New aluminum skins and new side cowling were fabricated. The colors were meticulously researched. At the 352nd's old headquarters in England, the men's room had been painted with the group's original colors, so Vadeboncoeur and Young had a brick liberated from the wall and shipped Stateside so they could exactly duplicate the blue needed for Cripes A'Mighty's nose.

Finally, in May 2002, Cripes A'Mighty was ready for its first flight. Over the course of 45 minutes, Lench took the Mustang to 8,000 feet and pushed it to 260 mph ("I didn't want to crack the paint or load up the airplane too much," he says). Aside from a few problems related to trim and engine instrumentation, all was well.

On the second flight, Lench took the airplane to 7,000 feet. "Everything checked out fine," he says. "Then I reduced power to come back and land." As he descended through 3,000 feet, Vadeboncoeur, who was watching from the ground, radioed, "Hey, you're streaming fluids." Lench radioed back, "Yeah. The oil pressure is at zero."

A piston rod had separated from the top of the piston, and, while still attached to the crankshaft, broke out the side of the engine. "It basically sawed the engine in half," says Vadeboncoeur. Lench, who characterized the failure as "almost instantaneous engine destruction," shut down the engine and set up for a dead stick landing. "He pitched up, threw out the gear, dropped the flaps, and made a great landing," says Vadeboncoeur. And saved one very expensive restoration.

In rebuilt airplanes, engine failure is not uncommon. Last February, Matt Jackson was hired by his friend, Howard Keck, to test fly a civilian transport that had been converted from a Douglas A-26 Invader. During the three weeks it took to ensure that the airplane was ready to return to service after being refurbished at Jackson's Van Nuys shop, Jackson made five test flights. On the third flight, the transport's right engine failed on takeoff. Jackson wanted to land as soon as possible, but his most immediate concern was clearing the power lines that loomed ahead. After that, he worked to keep the aircraft from crashing into the densely populated area surrounding the airport, then he landed safely. "It was a dangerous situation, but it was still routine for an engine failure," he says.

During Jackson's final test flight in the transport, which lasted two and a half hours, the airplane performed flawlessly. Afterward, Jackson signed off on the aircraft, authorizing its return to service. Since then, it has logged more than 150 hours as Keck's personal aircraft ("I use it like it's a King Air, but it's a lot more fun to fly," he says).

Keck and Jackson are part of a group of warbird owners and pilots based at Van Nuys. When not flying, they often gather at nearby Millie's Café to talk shop. Test pilot Skip Holm is one of the regulars, and also a perennial rival of Jackson's at the Reno air races ("We're all friends and we're all trying to get one up on each other," confides Jackson).

Unlike Jackson, Holm got into the business of test flying warbirds based on his experience as a pilot for the U.S. Air Force. During the Vietnam war, Holm flew three tours of duty in F-105s and F-4s, and by the end of the war he had become the U.S. fighter pilot with the highest combat time: more than 1,000 hours. After Vietnam, Holm joined Lockheed's Skunk Works, where he became a test pilot for the F-117 stealth fighter program. Fellow Skunk Works pilot Bill Park introduced Holm to Mustang enthusiast Dave Zeuschel, and in 1981 Zeuschel asked Holm to fly a P-51, Jeannie 69, at the Reno air races.

Holm had barely any experience flying World War II aircraft, but he ended up winning his race with an average course speed of 450 mph. The phone hasn't stopped ringing since. Over the last 20 years, Holm has flown a dozen different racers at Reno, including well-known winners like Dago Red, Stiletto, Out-of-Bounds, and Rare Bear. Charging \$600 a day plus expenses, Holm also test flies 15 to 20 client aircraft a year and has flown for a number of movies, including *The Right Stuff* and *Hot Shots*.

Naturally, Holm's friend, Wayne Wainwright, chose him to help test fly his 1945 Russian-built Yak-11. Wainwright had spent 10 years and 14,000 hours restoring and modifying the airplane. He had stuffed a Pratt & Whitney R-2000 radial engine (taken from an old DC-4 airliner) into the nose. He had reworked the cowling to improve air flow over the cylinders. He had a craftsman in Texas fashion a new prop spinner, and had almost all of the metal reworked and painted a glossy two-tone gray. When he was through, Wainwright had a 515-mph hot rod that climbed at 5,000 feet per minute through 16,000 feet, a rate of climb better than that of most civilian jets. But he hadn't flown it, or much of anything else, in two years. Being a cautious man, he wanted an experienced test pilot like Holm to accompany him in the rear cockpit while he reacclimated himself to his airplane.

On an overcast afternoon last October, Holm drove his bronze Mercedes through the gates of the airport in Camarillo, California, and past a duo of Lockheed Constellations. At Wainwright's hangar, Holm and Wainwright pored over the Yak like two high schoolers who had just been given the keys to their first car. Holm nonchalantly cross-examined Wainwright about modifications made to the Yak, and Wainwright beamed while he explained the details. As the two men climbed into the cockpit, Wainwright shouted back over his shoulder, "Don't assume anything."

The Yak snapped off the runway, went wide in the pattern to avoid much slower traffic, and made three good landings. Afterward, Wainwright presented his logbook to Holm for endorsement, smiled, and asked, "What are you doing Saturday?"