

Extreme Flying: How Modern Fliers are Busting Limits

Flying Magazine

Pia Bergqvist



"This whole thing of 'The sky is the limit' — it's not," says professional aerobatic pilot Rob Holland. "The sky is just a playground." Nothing could be closer to the truth when it comes to people who engage in extreme flying adventures. Whether they fly powered or nonpowered aircraft, these individuals are pushing the boundaries of what can be done in three dimensions. Some of these fliers have come up with revolutionary maneuvers in various types of flying machines. Others challenge themselves to fly with extreme precision, where errors can have devastating consequences. Yet others want to experience flight free of any enclosures — to feel, hear and smell flight in its purest form.

Even accomplished pilots might think these daredevils have a suicide wish or are simply insane. It may be best to think that they aren't, because a large dose of daring is only one component required to become a successful adventure pilot. Survival of flight at this level requires dedication, attention to detail, a willingness to call off a mission in the name of safety, an incredible amount of practice and, in many cases, a pile of cash. It seems the pilots who engage in this type of flying have a passion for extreme air for which there is no cure.

AEROBATICS

To the untrained eye, an airplane practicing aerobatics may appear completely out of control. For pilots who attempt it without knowing what they're doing, that is exactly what it is. Many have died trying. But for those who are dedicated to the sport, it is all about precision. Whether the aim is to do a perfect loop and return to the exact starting altitude or attempt to make a set number of expertly executed rolls, whether vertical, horizontal or at some angle to the ground, the skill level required for aerobatic flight is the *crème de la crème* for fixed-wing pilots.

Aerobatic competition sequences are made up of certain maneuvers, such as rolls, loops, hammerheads and Cuban eights, which all have to be completed as close to perfection as possible. On the other hand, aerobatic maneuvers in airshows are limited only to the imagination of the pilots who fly them. Holland's innovative show routine includes maneuvers in his MXS-RH airplane that completely defy logic, such as multiple nose-over-tail somersaults, inverted flat spins and a maneuver that makes the airplane appear to be traveling in reverse.

An extraordinary amount of time and money is required to pull off these types of maneuvers, and Holland put everything into his passion. "Every penny I made went into this whole flying thing," Holland says. "I decided a long time ago that I was only going to have a Plan A. If you don't have a Plan B you have no choice but to plan and execute Plan A."

Fortunately for Holland, Plan A worked out. He was the U.S. National Aerobatics Championship winner the past four consecutive years, has also won several international competitions and is becoming a staple on the airshow circuit.

Another highly successful aerobatic performer who also races sport and jet airplanes at the annual National Championship Air Races near Reno, Nevada, is Vicky Benzing. She was bit by the extreme flying bug early as her primary instructor would have her do loops, rolls and spins (spins were required at the time) as part of her private pilot training. However, she did not actively pursue the sport until after she had established a financially successful career. She initially bought a Luscombe and started practicing aerobatics. In 2003 she graduated to an Extra 300 and started flying competitions under the watchful eye of Wayne Handley.

Today, Benzing can be seen around the country performing her highly technical routines in either the Extra or a Stearman. While she recognizes that there is risk in what she does and admits that she has lost many friends in the industry, she says, "I'm not a gambler. I've never gambled in my whole life. And I don't plan to gamble with my life." She manages the risk by paying close attention to her airplane, taking care of her body, thoroughly visualizing each flight and maintaining a rigorous practice schedule, which includes daily practice during the airshow season. "In anything that has some level of risk I like to be well practiced," she says. "I don't like to wing anything, so to speak."

HELICOPTER AEROBATICS

One modern-day pioneer of extreme flight is Chuck Aaron, the first civilian to fly aerobatic routines in a helicopter. Aaron, who has more than 20,000 hours of flight time, not only was the first civilian to fly helicopter aerobatics, but he also made all of the modifications to the Red Bull MBB BO-105 airframe and systems that make this unorthodox type of flying possible. He realized early that an unmodified helicopter would not hold up to the rigors of aerobatic flight; other helicopter pilots have died trying.

During aerobatic maneuvers, the rotor blades have the potential to flex and even chop the tail off, rendering the machine uncontrollable. It took Aaron more than a year and an unlimited budget from Red Bull to complete the proprietary mods of the BO-105 before he felt

comfortable enough to take the helicopter far beyond normal flight parameters. At that stage, even the FAA felt the design was safe enough to sign off on it as the first helicopter ever approved for aerobatic flight.

"After it got certified and we spent all this money, it was my turn to put my life on the line and go out and prove that it could be done," Aaron says. "That was the hardest part, I think."

Also a fixed-wing pilot, Aaron decided to get some aerobatic training before his first attempt. From his base in Camarillo, California, he hopped over the hill to a flight school in Santa Paula. Unfortunately he found that the skills didn't transfer to the helicopter environment. He had to rethink the entire concept.

Aaron put cameras all over the helicopter to monitor what happened to the rotor blades and structures as he began his aerobatic adventure. The first maneuver he tried was a simple loop. I would pull to the vertical and "start to come over the backside, and I would chicken out and roll out," Aaron says. "I probably did that 50 times over a period of three to four months just trying to squeeze one more degree out of it or hold it a little bit longer. And one day it was just a perfect day, no wind, and I felt good. I got to my chicken point and I thought to myself 'I'm going for it.' So I did it. I was so excited I felt that I had broken the sound barrier. After I did that first loop I did 10 more right in a row. Immediately. I didn't want to forget what I had just done and how I just did it. And everything went smoothly after that."

Aaron started exploring other maneuvers with the help of a European by the name of Rainer Wilke, a former military pilot and test pilot for Eurocopter who later joined the Red Bull team and now flies helicopter aerobatics in Europe.

Aaron learned that, unlike a fixed-wing airplane, a helicopter flies aerobatic maneuvers around the disc that is created by the rotation of its rotor blades. "You have to fly the disc above your head, and that's what you're flying aerobatics with, not yourself. You have to think way outside the box. You screw that up the first time, you're dead, right now."