

PRECISION, PURPOSE, AND PUSHING LIMITS

LUKE PENNER TAKES CANADIAN AEROBATICS TO NEW HEIGHTS

For Luke Penner, aerobatics isn't just flying; it's about mastering the extreme. "Competition in aerobatics is about pushing the boundaries of what you can do in an aircraft," he says—and he would know. Over 20 years, Luke has flown in 30 aerobatic competitions across North America, including eight U.S. National Aerobatic Championships, five Canadian National Aerobatic Championships, and the World Advanced Aerobatic Championship, where he led Team Canada as captain in 2023. Recently, he completed his first season flying in the Unlimited category—the top tier of aerobatics—where pilots perform complex, high-speed maneuvers that test skill, precision, and physical endurance to their limits.

"I've done various types of flying, and the challenge of aerobatics keeps me coming back," Luke notes. He thrives on the structured nature of competition flying, where each flight comes with a clear mission and measurable standards. "I've been doing this for 20 years, and just yesterday, I flew a maneuver I'd never attempted before," he adds. "Especially flying Unlimited, the challenge never ends."

INFLUENCES AND A HIGH-IMPACT AIRCRAFT

In 2022, Luke secured first place in the U.S. Nationals. This victory fueled his entry into airshow flying, inspired by icons such as Patty Wagstaff and Rob Holland, who also began in competition. "Building a foundation in competition will better prepare you for airshow flying," he emphasizes, highlighting essential skills like energy management, precision, and discipline. This pursuit has led him to share his passion through airshows, where he engages the public and inspires new pilots. He also posts clips of flights and training exercises to YouTube and Instagram, helping bring aerobatics to larger audiences.

Luke typically participates in four to five competitions each year while serving as the Chief Flight Instructor and pilot examiner at Harv's Air in Manitoba since 2003. There, he has trained pilots who now fly around the globe. Throughout his



▲ Luke Penner on an inverted 45° line in the box in Nevada, at the 2023 World Advanced Aerobatic Championship.

career, he has flown over 30 types of high-performance aerobatic aircraft, including the Pitts S-2B, Extra 300L, and rare models like the Sukhoi 26 and the Staudacher S-300.

Each aircraft has broadened his understanding of how subtle design elements impact performance and precision. "Every plane brings something different to the table," he reflects. His current competition aircraft, the Extra 330SC, is particularly notable for its unmatched handling and responsiveness, essential for competing at the highest levels. "Since its release in 2007, no other aircraft has come close to capturing the number of world titles that the 330SC has," he says, adding that everything in its design is built for the competitive edge."

TRAINING SEASON

As the competition season winds down in the fall, Luke takes a step back from intensive aerobatic training to recharge and focus on his role at Harv's Air. During winter, Luke balanc-

SPECIALTY FLYING



▲ The 2023 Canadian Advanced Aerobatic Team, posing in front of the famous Las Vegas sign.

es work with fitness and endurance training to prepare for the intense G-forces of aerobatic flying. He spends time in the gym, runs, and works with a sports psychologist to stay mentally sharp.

By February, he begins mapping out his spring training regimen with coach Aaron McCartan in Iowa. “Preparation is essential in aviation, but even more so in competition flying,” he asserts. To refine his techniques, he dedicates hours to studying his flight videos, analyzing errors and setting new training goals based on his performance.

Meanwhile, his Extra 330SC is displayed at the Royal Aviation Museum of Western Canada in Winnipeg, where he shares his passion for aerobatics with the public through talks and exhibitions. By April, after his planes undergo their annual safety inspections, he’s ready for competition season.

MINDSET AND MENTAL PREPARATION

For Luke, visualization, mental space, and strategy are just as crucial as physical training. “When you’re flying, you focus on your rhythm, cadence, and how your performance appears to the judges—that’s all mental,” he explains.

To bolster his mindset, Luke collaborates with a sports psychologist and practices breathing exercises to maintain focus. His mantra, “I face my fears because my goals demand it,” helps him push through discomfort, whether it’s the temptation to skip training sessions or the fear of making mistakes in front of an audience.

“I think it’s really important people kind of get out of their comfort zones,” Luke says, but he also emphasizes the importance of mastering foundational skills. As a flight instructor, he advises students against skipping basics, which can hinder their future flying endeavors. “Flying is not fun if it’s not safe,” he stresses.

COMPETITION DAY

On competition day, whether in the U.S. Nationals or World Championships, Luke’s preparation involves a mix of mental rehearsal and ritualized practice. In his hotel room, he tapes out a makeshift aerobatic “box” and meticulously walks

through each maneuver. Using objects to simulate judges’ positions and wind direction, he visualizes every moment of his flight. “We spend hours physically walking through the flight, imagining where we’ll be and what it’ll feel like until we can recite the entire five-and-a-half-minute flight from memory.” By the time he heads to the airfield, Luke is focused on details like weather, wind, and the location of the judges—any factor that might influence his performance.

Once airborne, he starts with the known sequence, a set routine he has practiced extensively. The real challenge, he says, lies in the unknown sequence—a set of complex figures that’s only revealed a day before the competition. These figures are contributed by each competing country and linked together, pushing pilots to perform at their limits. “If you haven’t practiced enough, you might encounter figures you’ve never considered,” he explains. Without strong muscle memory and preparation, even a single missed detail can ruin the sequence, which can include any challenging figure, like the “Mad Cow,” a high-speed, multi-G-force figure that begins with a 200-plus knot dive and a complex series of rolls and snaps, all in under five seconds.

Despite the inherent pressure, Luke finds the unknown sequence often brings out his best work. “I actually get less nervous on the unknown flights than on the known ones,” he shares, explaining how they test his ability to adapt to changing situations, a skill he values as a pilot. “I usually don’t score super, super well in the known. It’s fine, but I always tend to claw my way back during the unknown flight.”

LOOKING AHEAD

Luke has ambitious plans to continue pushing boundaries in aerobatics. “The 2025 Canadian Nationals are high on my list, as I’d love to maintain my title as Canadian Unlimited Champion,” he says. He’s also exploring opportunities to compete at the German Nationals, having converted to a full EASA private licence, which will facilitate renting an Extra in Germany, where the plane is also designed and built.

Luke remains committed to the U.S. Nationals, which he has attended since he started competing. “The U.S. Nationals is the largest aerobatic competition in the world, and it’s exceptionally well-organized,” he says. Long-term, he aspires to compete in an Unlimited World Advanced Aerobatics Championship and hopes to assemble a full Canadian team for the event. “Canada has had minimal representation at the world level in Unlimited, just a few pilots here and there, but never a full team of pilots. So we’d like to have a first there.”


When he’s not doing that, he’ll be back engaging with the flying community in Manitoba, training new pilots and sharing his passion for aerobatics. “There is a good amount of private ownership around the province. There are great opportunities for commercial aviation here in Manitoba, from agricultural to northern operations that serve the Indigenous communities in the northern parts of the province and into Nunavut.” 

PHOTO: ALLISON PELLETIER