



PHOTOGRAPHY BY ED HICKS

UNLIMITED AEROBAT CLEARED INTO THE BOX

The GameBird GB1

BY LORRIE PENNER, IAC 431036

WHEN YOU WATCH PHILIPP STEINBACH fly the GB1 GameBird, your initial thought might be, “Am I watching a full-scale RC airplane?” The maneuvers seem to defy standard monoplane performance. Seasoned aerobatic pilots stop in their tracks and ooh and aah with the rest of the spectators.

Last September, Philipp flew to the U.S. National Aerobatic Championships from his Bentonville, Arkansas, factory to act as warm-up pilot for the Unlimited category’s Unknown sequence. All sat spellbound as he went through the program and added a flare at the end, floating, tumbling, and hovering over the Salina airport. “The GameBird is meant for having fun, whether you want to fly Unlimited aerobatics, travel cross-country, or just tool around,” Philipp said. “It’s not a one-trick pony. A lightweight airplane with a big Lycoming IO-580, 303-hp engine may not be a new concept, but there’s nothing else on the market executed at this level that does so many things so well.”

Starting Game Composites with Stuart Walton in 2013, Philipp and his small team carved out a plan and went to work, starting in a rented office container on a small airfield in the United Kingdom. “We started with all the nonshiny things, like processes and organization structure,” he said. “From there, we made a job description for the airplane and started the design and certification work, including the tooling design and work instructions for production.” All in all, the airplane design was about 20 percent of the overall work to get the airplane to market. The remaining 80 percent of work went into the typical startup company challenges, plus everything the aviation regulators require for any airplane company nowadays. Regardless if it makes airliners or aerobatic airplanes, we completed bench/ground tests, flight tests, compliance demonstration, and production drawings.



The first production GameBird was completed in November 2018. The FAA production certificate was awarded in June 2019, and since then 15 more GameBirds have taken flight. The company has grown from a team of four in 2016 to a workforce of 40, building one plane every three weeks. The construction time from start to finish is currently 42 days. “Everybody was trained from scratch,” Philipp said of the local workforce. “Most of the guys are young and straight from school. For them, it’s a real career opportunity.” He said hiring locals and teaching them the fine points of building certified composite airplanes to the satisfaction of FAA inspectors has been a challenging experience with meaningful rewards. There are few composites technicians in the United States trained to the exacting standards necessary for this work. By hiring locally, Game Composites both invests in the community and ensures that skilled workers learn to execute their craft at the highest possible caliber.

The GB1 is Philipp’s third aircraft design. His first, starting in 1997, was the Impulse 100. In 2003 he started design work on the single- and tandem-seat versions of the XtremeAir Sbach. The composite structure low-wing monoplane earned him one of IAC’s prestigious annual awards, the Curtis Pitts Memorial Trophy in 2013, which recognizes outstanding contributions to aerobatics through product design.

The GameBird is based on a wish list from Philipp’s own experiences of flying, competing, and teaching people aerobatics in various airplanes.

It has incredible aerobatic capabilities with slow-speed maneuvers that remind you of an RC airplane. Each wing-half weighs only 80 pounds and each aileron 9 pounds, so the roll inertia is very low. The spadeless aileron design features positive centering and helps to precisely control the roll rate of up to 450 degrees per second at 235 knots. With less than 20 hours in the type, Patrick Davidson flew his GameBird to a respectable second place in Unlimited at the July 2019 South African National Aerobatic Championships.



"THE GAMEBIRD IS MEANT FOR HAVING FUN, WHETHER YOU WANT TO FLY UNLIMITED AEROBATICS, TRAVEL CROSS-COUNTRY, OR JUST TOOL AROUND."

– PHILIPP STEINBACH

The GameBird adds unprecedented speed and range to this class of airplane, which opens the market beyond the aerobatic box and makes getting there and back a lot more enjoyable. The aerobatic tank in the fuselage provides 25 gallons for aerobatic flight. With another 56 gallons split between two wing tanks, this capacity adds up to 81 usable gallons. A flight last November demonstrated the cross-country versatility of the GameBird: Philipp ferried a GB1 1,100 miles nonstop from a customer in Idaho back to Bentonville, arriving home with 50 minutes of endurance remaining.

Philipp and the Bentonville team have made a few improvements since the 2016 flight test program. The new Garmin G3X avionics suite provides radio and transponder access, navigation, engine and fuel management, live weather and airport information, and ADS-B In and Out for both seats. This avionics package combined with full dual-engine controls makes the GameBird a real two-seater with an unprecedented level of safety and situational awareness among aerobatic airplanes.

Future customers can thank the Halcones for the factory camera mounts. The Chilean air force aerobatic demonstration team, which is trading in its seven Extra 300Ls for GB1s, needed certified action camera mounts. Philipp said these military customers "can't just go buy GoPro mounts and stick them on airplanes," so the hardware had to be tested and incorporated into the type certificate. In the process, they became an option for future customers.

The 2020 list price of \$425,000 rolls all of those wish list items into one incomparable aircraft. The purchase price even includes 10 hours of ground and flight training to make sure new owners enjoy letting their GameBird live up to its name.

Customers can add a G3X display in the front cockpit, built-in camera mounts, a custom paint scheme, and a sleek single-seat canopy. Current lead time is about eight months.



The cockpit of the GB1 is stylish, modern, and ergonomically optimized. It has enough space to accommodate pilots from 5 feet (150 centimeters) to 6 feet, 6 inches (202 centimeters).

Harvey & Rihn Aviation

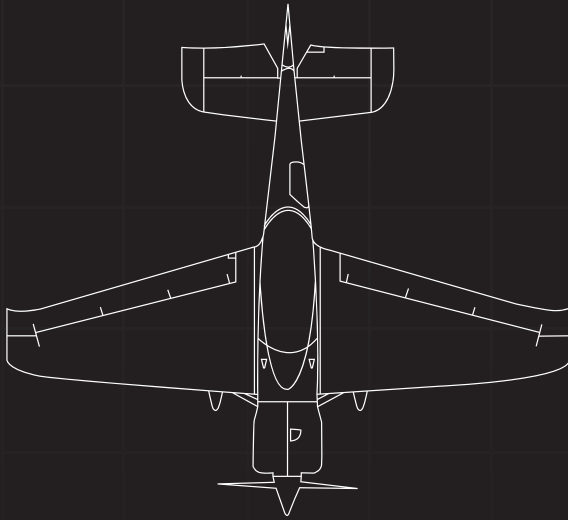
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SPECS

GB1 GAMEBIRD

LENGTH:	22 feet, 7 inches
WINGSPAN:	25 feet, 4 inches
EMPTY WEIGHT:	1,390 pounds
GROSS WEIGHT:	1,940/2,200 pounds
SEATS:	2
POWERPLANT:	Lycoming AE10-580 B1A, 6 cylinders
HORSEPOWER:	303 @ 2600 rpm
PROPELLER:	MTV14-190-130-1 four-bladed
FUEL CAPACITY:	81 gallons
CRUISE SPEED (75% POWER):	230 mph
RANGE:	1,000 nm

THE GAMEBIRD IS BASED ON A WISH LIST FROM PHILIPP'S OWN EXPERIENCES OF FLYING, COMPETING, AND TEACHING PEOPLE AEROBATICS IN VARIOUS AIRPLANES.

Philipp said earning the FAA and E-ASA type certificates for the airplane and finally the production certificate is a satisfying reward for many, many late nights and early mornings. "Bringing a new airplane to market is an all-out effort," he said. "I'm very proud of what our small team has achieved in a comparably short period of time." With all necessary certificates on the wall and a solid order book, Game Composites will focus on getting the production rate up to two airplanes per month, building up the service network to support customer airplanes.

Philipp said he is looking forward to flying more again. "Doing that warmup flight at the Nationals was fun, but competing again would be great! I just need to find time." He is committed to growing the sport of aerobatic flying while raising the level of proficiency and safety of pilots. To do so, Game Composites is organizing a series of training camps throughout the United States to give pilots the opportunity to receive world-class aerobatic coaching in collaboration with local IAC chapters.

Aerobatic pilots of all levels are invited to bring their airplanes to any of the Game Composites Aerobatic Training Camps and join Philipp and the Game Composites team for a weekend of coaching. The GB1 GameBird will be on hand and available for viewing and demonstration rides. "Game isn't just about producing airplanes," Philipp said. "It is here to be an active, contributing member of the community and help grow this great sport."

The first camp will be held in Miami Executive Airport (KTMB) from April 6 through April 8 after SUN 'n FUN Aerospace Expo. The second camp will be held at Mesa Del Rey Airport (KKIC) from April 24 through April 26. Sign up at www.GameComposites.com and experience for yourself just how playful the GameBird can be.



The GB1 GameBird will be displayed at several events this year, including SUN 'n FUN in Lakeland, Florida, the Reno Air Races in Stead, Nevada, and EAA AirVenture Oshkosh. You can find Game Composites at AirVenture parked in front of the IAC Vicki Cruse Memorial Pavilion, where company staffers have enjoyed mingling with the IAC members and aerobatic enthusiasts for the last three years. **IAC+**



ABOVE: Snuggled between the iconic green and black, the red and white CO Fire Aviation Inc. Gamebird GB1 is employed in the company's upset recovery training program.



ABOVE: Five-time South African aerobatics champion Patrick Davidson of South Africa took delivery of his Gamebird GB1 in 2019.

RIGHT: Owner/Designer Philipp Steinbach flies inverted over Beaver Lake less than 20 miles from the Bentonville, Arkansas, factory where the GB1 is produced.

