



**JEFF SKILES**

COMMENTARY / CONTRAILS



# Louis Blériot

Flight of the mariner

**THE GREAT FLAMING ORB** of the sun slowly disappears below the edge of our world, trailing the vibrant spectrum of the sunset in its wake. The reds and oranges of the western sky stand in contrast with the purples and indigos of the eastern horizon. The yellow of an early-fall cornfield and the green of the closely cropped grass bridge the gap between the opposite points of the compass.

A crowd has amassed along the south edge of the sod runway, peering into the brilliance of the last vestiges of this day. They have not come to gaze upon this perfect sunset, although no finer display could be called from memory; they are here with a different desire. They wait anxiously, eager to be transported back to the moment when pioneer aviators transformed our world by bravely adding a new dimension to our terrestrial existence. They wait to stand witness to the dawn of aviation, here in the 21st century.

## FLIGHT OF DISCOVERY

In the distance, blades flash in the setting sun as a man purposely swings the broad wooden propeller to give its cylinders their prime. As the crowd watches, the man pauses as if to reflect on what is to

come, the anticipation grows, and then he takes a stance. The blades spin once again, and then blur in the sunset. From far down the runway the faint, unfamiliar staccato beat of the Anzani's three cylinders reaches our ears as the engine, dormant for a century, returns to purpose and life. A thin white vapor, like that of a steam engine, trails in the propeller's wake as castor oil is transformed into smoke.

The man scrambles out of the way of the angry whirling propeller, two other crew men pull the big yellow chocks, and the Blériot immediately surges forward. With no throttle, the French Anzani either pulls at full power, or not at all. Rolling easily along on its spoked wheels, the Blériot gathers itself for flight. Looking vaguely like a bird of prey, it accelerates down the grass runway just as Louis Blériot did more than 100 years before.

## A PIONEER AVIATOR

Blériot was an inventor, an engineer, and a pioneer aviator who is easily mentioned in the same breath as the Wright brothers and

Glenn Curtiss. He designed the very finest aircraft of his time and with them tested various methods of lift and control. Some of his designs were successful, and as with all inventors, some were not, but all his designs' lines displayed a certain degree of elegance that forever marked them as products of his inventive genius.

He made his fortune building acetylene headlamps for the automobiles of the time before spending it building aerial machines. Like other aviators of his day, Blériot was a self-trained pilot and flew his own designs.

On July 25, 1909, the now nearly bankrupt Louis Blériot slept in Les Barraques, France, near his latest creation, the Blériot XI. He was here to attempt the first crossing of La Manche (the English Channel). The London *Daily Mail* had proffered a £1,000 prize for the first aviator to do so, but the stormy channel was 22 miles across, and his machine had never flown longer

than 20 minutes in any one flight. The weather had been foul for days with wind and rain. The raw conditions made it too perilous to attempt a trans-channel flight, or any flight at all.

Blériot was watching for that one break in the dreary overcast that would allow him to be the first to claim history. At 3 a.m., while he slept, his crew sensed a change in the weather. The aircraft was readied. Louis Blériot was awakened, and precisely at dawn, 4:41 a.m., the Blériot XI took flight. Blériot himself described the moment afterwards: "I begin my flight, steady and sure, towards the coast of England."

He flew out over the choppy seas, dodging the clouds and rain. "I am alone. I can see nothing at all," he wrote after the flight. Without a compass he had no way of judging his heading and could only hope he was aimed toward his ambitious objective, the shores of England. "I touch nothing. My

hands and feet rest lightly on the levers," Blériot wrote. "I let the aeroplane take its own course. I care not wither it goes."

He observed nothing but the great rolling channel swells stretching to all horizons until, after 20 minutes of sea and sky, he glimpsed the cliffs of Dover as they crept over the edge of his world. But Louis was off course, and far from his planned landing site. He had to find a clear place in the countryside to set the ship down. "At once I stop my motor, and instantly my machine falls straight upon the land from a height of 20 metres. In two or three seconds, I am safe upon your shore," he described. The landing gear and propeller were damaged in the hard landing, but Blériot had achieved his goal and claimed the prize. Without any protocols for a visitor from the skies, British customs logged him in as a ships master. And his aircraft? The yacht Blériot XI.



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## 21ST CENTURY BLÉRIOT

Chad Wille, a master craftsman of aeronautical machines, has spent his life building and restoring antique airplanes and engines. His newly completed Blériot replica is as authentic as Chad's tireless research, and available materials, could produce.

"This is a pioneer aircraft that must be operated more conservatively than any other airplane built since," Chad said. "Flights beyond the perimeter of the airport should be made only in dead calm air, which is cool and has good lift."

Chad has written an aircraft flight and maintenance manual that gives us a glimpse of the period. "Flights in the pioneer period were typically not longer than 30 minutes or higher than 100 feet, and training flights could often be measured in seconds. Five hundred feet was a record height in 1910," he wrote in the manual.

The Blériot XI was one of the first mass-produced airplanes, with more than 900 being built between 1910 and 1914. Like the Wright brothers' designs, the Blériot XI controlled roll by warping the wings. Wing warping is effective in calm winds but responds more slowly than ailerons in windy conditions. Crosswind landings and takeoffs should not be attempted, due to the lack of controllability.

Aircraft engines of the day were small and unreliable. The Blériot XI boasted a 28-hp Anzani three-cylinder fan engine swinging a two-bladed Chauviere propeller. Fan engines have the cylinders arranged similar to a W; therefore, they were sometimes called W engines. Imagine a radial sliced horizontally in half at the prop, with the bottom half discarded.

The technology of aviation engines at the time was very limited. They would often begin to overheat and malfunction after as little as 20 minutes of operation. Only seven months before Blériot's flight, Wilbur Wright had set the world aeronautical endurance record with an unthinkable flight of two hours and 20 minutes. On tour in Europe at the time, Wilbur wrote to Orville of his intention to enter the cross-channel competition himself and win the *Daily Mail* prize. Orville's response was enough to cool Wilbur's

passion: "I do not much like the idea. I haven't much faith in your motor running."

The Anzani is designed with a total-loss oil system. All the castor oil delivered to the engine is thrown out of the exhaust in combustion. The pilot meters the oil to the engine by turning a brass knob in the cockpit, controlling the oil pump. It also has no throttle control, but there is little need to run a 28-hp engine at anything other than full power. For landing and taxiing the engine power is controlled by a blip switch, or "coupe," which interrupts the ignition.

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Chad doesn't rotate on takeoff, as this would stall the wing. He lets it fly itself off. It requires a significant degree of finesse. Pull back slightly and the Blériot flies; pull back slightly more and the tremendous induced drag of the wing will cause it to sink back to the ground. On landing, the aircraft is flown right onto the runway in a tail-high attitude with the engine still producing full power.

## FIRST FLIGHTS

After only a short run with the engine chattering away purposely, the Blériot seems to simply levitate into the air. The thin tires hover mere feet above the runway as the craft ever so slowly approaches. Traveling in slow motion at only 35 mph, Chad's bug-eyed, oil-splattered goggles are clearly evident as he passes. The Blériot could take off and land many times over in the runway's length, but instead sails serenely by no more than 10 feet in the air. At runway's end, Chad simply flies it on, and with the blip switch cutting the engine, the craft comes quickly to a stop. Only a short hop this quiet evening—a short hop that has spanned a century.

While we have become inured to such feats as we traverse the globe in mere

hours, men like Louis Blériot were gods of their day, able to leave the face of this planet, if ever so briefly, and return once again. The peril and bravado of Louis Blériot's English Channel crossing was cast in a stark light only a couple of weeks after Chad's first flight.

Careful not to stray beyond the airport boundaries, Chad took the aircraft aloft. After traversing the length of one runway, he turned to align with another, always keeping a landing site below. With a bang, the center cylinder of the century-old Anzani fractured at its base and the cylinder departed the aircraft, luckily missing Chad's head, but impacting one of the rudder horns. With the errant cylinder digging great divots in the sod runway below, the Blériot settled directly to the earth just as Louis Blériot did a century before: "...and instantly my machine falls straight upon the land...."

## THE LEGACY

Pioneer aviators like Blériot took great personal risks to advance aviation and leave us their legacy of flight. The enormity of this achievement can be appreciated only in the context of the times when horses, not tractors, tilled the fields and the first Model T's were only then leaving the factory doors. On December 17, 1903, Orville Wright launched a new era by making the first powered flight, spanning 12 seconds of time and 120 feet of distance. Only five years later, Louis Blériot made the world a much smaller place by bridging the peoples of mainland Europe and Great Britain over the stormy channel seas. Adventurers, explorers, pilgrims of the heavens—their voyages of discovery inspire us still today. *EAA*

*Note: Both Chad and his Blériot were unharmed and will return next year with either the Anzani or a Gnome rotary engine turning the Blériot's propeller.*



**Jeff Skiles**, EAA 366120, has been a pilot for 34 years and has almost 21,000 hours logged. He is EAA Young Eagles co-chairman, owns a 1935 Waco YOC cabin biplane, and was first officer on US Airways Flight 1549, the Miracle on the Hudson. Visit [www.SportAviation.org](http://www.SportAviation.org) to see a photo gallery and Chad's manuals.