BREMONT

WEST SIDE NEWS.

PUBLISHED 23 JULY, 2014

THE BREMONT WRIGHT FLYER

A FIRST IN EVERY SENSE OF THE WORD

Bremont unveils the ultimate aviation watch, incorporating original material from the 1903 Wright Flyer, plus its first in-house movement.

What makes the ultimate aviation-inspired watch? Bremont has pondered the question for years. Mechanically, it would have to be outstanding. Just as importantly, as with previous Bremont limited editions, it would have to incorporate a remarkable piece of history. In historical terms, what could be more remarkable than an original part of the first ever powered aircraft? The 1903 Wright Flyer was built and designed by the Wright brothers themselves in Dayton, Ohio, USA. It's the invention and aircraft that changed the way we live today and it has now inspired our latest, and perhaps most unique, limited edition timepiece.

Bremont is honoured to announce the unveiling of the Limited Edition Bremont Wright Flyer on the 23rd July 2014 at the Science Museum in London. The new timepiece will feature some of the original fabric used on the 1903 Wright Flyer aircraft. Just as significantly, it showcases Bremont's first ever in-house movement, the BWC/01, designed and developed in Britain. Many of its constituent parts have also been crafted at the company's workshops in Henley-on-Thames. The 25 jewel, 33.4mm movement features a 50+ hour power reserve, Glucydur balance and a hairspring adjusted via a micro-metric screw. Utterly reliable and extremely robust, the BWC/01 is elegant and beautifully finished, with a central hour and minute hand and a running second hand at 9 o'clock.

This unique project was only made possible by the Wright family's passion for Bremont's aviation heritage. According to family member Amanda Wright Lane: "Our partnership with Bremont on the Limited Edition Wright Flyer watch is a natural fit. Bremont's dedication to historical themes, particularly in aviation, demonstrated by their iconic limited edition watches, all incorporating genuine historic artefacts, caught our attention immediately. As a top quality watchmaker, the brand is a perfect fit for the Wright brothers' legacy. The wing cloth from the 1903 Wright Flyer is considered almost priceless by some, but we felt Bremont's passion for aviation heritage made them a suitable choice for this rare use of the cloth. The Bremont Wright Flyer is a stunning way to launch our brand in international markets and is sure to become one of the most valuable watches ever made."

Above: Wilbur Wright flying his Wright Flyer around the Statue of Liberty in 1909.

Nick English, Co-Founder of Bremont agreed: "Giles and I still cannot believe that it's happened. Holding the original and invaluable muslin used to cover the 1903 Wright Flyer is incredibly emotive. The Wright family has been wonderful to work with and it was inspiring to see their passion for the project. Does the creation of a special aviation-inspired watch really get any better than this? Probably not. The combination of this amazing material and our new BWC/01 movement has resulted in a truly mind-blowing timepiece."

Proceeds from the limited edition line will help to restore the Wright Family home in Dayton, Ohio to its former glory.

"Does the creation of a special aviation-inspired watch really get any better than this? Probably not. The combination of this amazing material and our new BWC/01 movement has resulted in a truly mind-blowing timepiece."

—

NICK ENGLISH
BREMONT CO-FOUNDER.

"Our partnership with Bremont on the Limited Edition Wright Flyer watch is a natural fit. Bremont's dedication to historical themes, particularly in aviation, demonstrated by their iconic limited edition watches, all incorporating genuine historic artefacts, caught our attention immediately. As a top quality watchmaker, the brand is a perfect fit for the Wright brothers' legacy."

—

AMANDA WRIGHT LANE
WRIGHT FAMILY.

BREMONT

WRIGHT FLYER

THE WRIGHT FLYER: LIMITED EDITION

Stainless Steel
Limited to 300 pieces

Rose Gold
Limited to 100 pieces

White Gold
Limited to 50 pieces

FEATURES

CASE

Available in polished stainless steel, rose gold or white gold. All versions feature Bremont's Trip-Tick® case construction with integrated decoration ring. 43mm case diameter with standard 22mm lug width and a case thickness of 14mm including the crystal.

CASE BACK

Exhibition type with integrated domed crystal, secured with 4 polished headed screws. Engraved markings with specific limited edition serial number.

DIAL

Metal dial with black or white base colour, decorated with period numerals and Wright Flyer date specific '1903' sub-dial. Bespoke Bremont SuperLumiNova® luminous coating.

HANDS

Central hour and minute hand with a running seconds hand at 9 o'clock.

CRYSTAL

Domed anti-reflective, scratch resistant sapphire crystal.

WATER RESISTANCE

Water resistant to 10 ATM, 100 metres.

STRAP

Aligator strap with pin buckle to complement case material.

MOVEMENT AND ROTOR

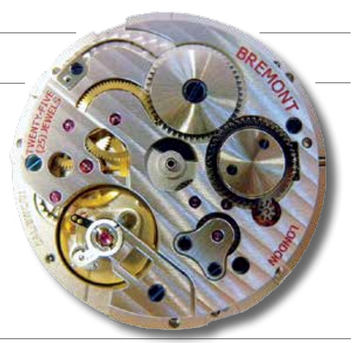
THE BREMONT BWC/01

Bremont BWC/01 33.4mm Automatic with 25 jewels, Glucydur balance, Nivarox CT balance spring and Nivaflex 1 mainspring. Highly efficient double reverser bi-directional winding mechanism to achieve 28,800bph and 50+ hour power reserve. The BWC/01 is elegant and beautifully finished with many of its constituent parts being crafted at Bremont's workshops in Henley-on-Thames.

ROTOR

Each Bremont Wright Flyer Limited Edition rotor will feature some of the original muslin material used to cover the 1903 Wright Flyer aircraft. The muslin will be layered between the period decorated rotor plate and a sapphire crystal window.

Right: Bremont BWC/01 movement without rotor.



Bremont Wright Flyer Limited Edition *Stainless Steel*

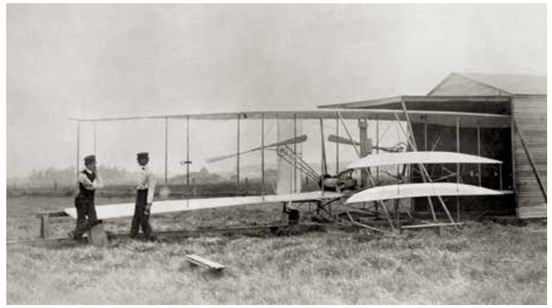
Bremont Wright Flyer Limited Edition *White Gold (left) and Stainless Steel (right)*

HISTORY TAKES TO THE SKIES

Introduction.

As you see an airliner soar overhead or watch wartime footage of fighters furiously defending European skies, cast your mind back further to where it all began. On a cold December day in 1903, the Wright Flyer flew. The world's first successful powered flying machine was the ground-breaking invention of two brothers from Dayton, Ohio.

Wilbur and Orville Wright were not scientists, they did not even graduate high school. Unlike other inventors of the period, they received no sponsorship to fund their endeavours. With perseverance and ingenuity, they were the first to master the principles of controlled flight, enabling an incredible century of aviation development. Their pioneering techniques and systems remain fundamental in modern aircraft design. Remembered as the fore-fathers of flight, the Wright brothers and their remarkable Wright Flyer truly made history.



Right: Wilbur and Orville Wright standing alongside one of their early Wright Flyer aircraft.

"It is possible to fly without motors, but not without knowledge and skill."

Wilbur Wright

WILBUR WRIGHT

Wright Brothers History.

Inspired to Fly

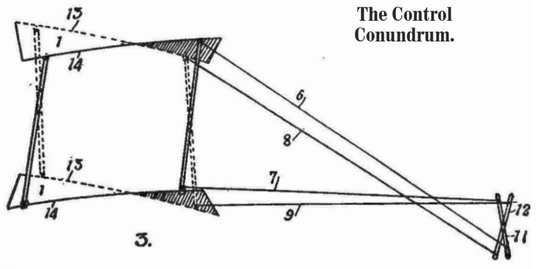
Brought up by loving parents who encouraged creativity and intellectual pursuits, the Wright Brothers credited a simple toy with sparking a lifelong curiosity. In 1878 their father presented them with a small toy 'helicopter' made from cork, bamboo and paper and propelled by a rubber band. Seeing it fly delighted the small boys and inspired 11-year-old Wilbur to recreate larger versions of the helicopter. He was baffled when his constructions could not fly, not yet understanding a bigger helicopter required greater propulsion.

Left: The Wright Brothers. Wilbur (left) and Orville (right).

Younger brother Orville developed an interest in publishing, and after leaving school recruited Wilbur to help produce the West Side News, a newspaper for West Dayton residents. The pair spotted a new business opportunity in 1890 when a craze for 'safety bicycles' (featuring two equal sized wheels) swept America. Using their knowledge as keen cyclists and bicycle mechanics, they opened the Wright Bicycle Company and were soon selling their own innovative designs. Business flourished, and later enabled them to fund their aeronautical experiments. The developing but dangerous pursuit of flight was making headlines in 1896.

That summer, celebrated aeronautical pioneer Otto Lilienthal died from injuries sustained in a glider crash. A German engineer and mathematician, he proved that human flight was possible by completing over 2,000 flights in his glider designs. When the news reached the Wright Brothers, Wilbur considered lack of proper control the cause of Lilienthal's demise. The brothers set their minds to solving this problem, spending many hours observing birds to discover the feathered masters' aerial secrets.

The Control Conundrum.



A breakthrough came in 1899 whilst Wilbur chatted to a customer. Idly toying with an inner tube box, as he twisted it from opposing diagonal corners he realised the same principle could be applied to biplane wings. Within weeks he had built the Wright Kite. Based on the pre-existing Chanute-Herring glider design, he attached control wires to the biplane kite's wings which ran to hand-held sticks. To his delight the system worked. He had invented wing-warping, the fore-runner to the aileron principle.

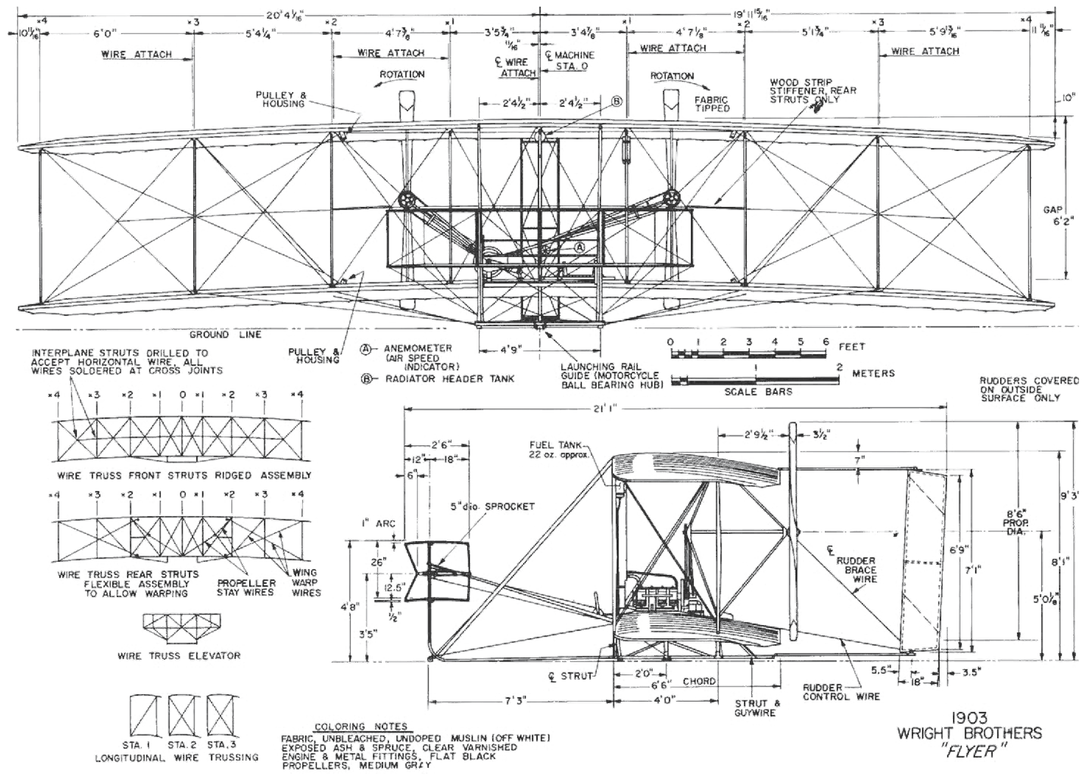
The brothers set to work building a larger piloted version, incorporating various design improvements and a kickbar to operate the control wires. An elevator added to the front allowed the pilot, lying prone, to control the pitch. Wilbur contacted glider designer Octave Chanute, saying: "For some years I have been afflicted with the belief that flight is possible to man. My disease has increased in severity and I feel that it will soon cost me an increased amount of money if not my life."

He explained their progress and asked Chanute's advice on a suitable test flight location where they could depend on, "winds of about fifteen miles per hour without rain or too inclement weather". Comparing Chanute's suggestions with data from the US Weather Bureau, one location seemed apt.

Above: No design plans for the Wright Kite survived, so Wilbur made this sketch in 1912. Note the control wires used to warp the wings.

BREMONT
WRIGHT FLYER

THE 1903 WRIGHT FLYER



Above: Accurately re-drawn blueprints of the 1903 Wright Flyer.

Kitty Hawk.

Now considered the birthplace of modern aviation, the North Carolina Outer Banks are 200 miles of windswept, narrow barrier islands, formed over time by wind, tide and sand. Wilbur found the open beaches and large sand dunes near the town of Kitty Hawk ideal for testing their designs. When the 1900 glider did not generate enough lift to carry a pilot, they returned the following year with an improved larger version. Lift was still an issue, and they were disheartened to discover a new problem, adverse yaw, which mysteriously caused the glider to swing in the opposite direction when turning. On their return to Dayton a dejected Wilbur stated: "Not within a thousand years would man ever fly."

To improve lift, they built a wind tunnel and tested miniature metal wings. By carefully recording their data and applying the results to improve their design they inadvertently created a new scientific technique. Learning that a parabolic wing would improve lift, their elegant 1902 glider proved vastly superior to earlier models but yaw was still problematic. Orville voiced the solution, suggesting they counteract the unwanted movement by transforming the fixed tail into a vertical movable rudder. Now considered their greatest achievement, the brothers had conquered the issue of control by mastering pitch, roll and yaw. Signalling a major breakthrough in aircraft design, the 1902 glider was the first aircraft to have a three-axis control system. Their next challenge was power.

On their return to Dayton the brothers constructed a small engine, and hand-carved two 8.5 foot spruce propellers. Upon arrival at Kitty Hawk in September 1903 they assembled the first Wright Flyer, their largest machine yet. Mechanical issues delayed proceedings until finally, on December 14, Wilbur took the helm for their first attempt at powered flight. Albeit brief and ending with a gentle crash, it proved the Flyer worked. The brothers sent a telegram home which read: "Misjudgement at start reduced flight... success assured keep quiet."

First Flight.

The morning of 17 December dawned grey and cold, with a strong north-easterly wind buffeting icy puddles amongst the dunes. By 10:30 the Flyer was positioned on its launching rail with the engine running. John T Daniels, a local assisting the brothers, recalled their actions: "After a while they shook hands, and we couldn't help notice how they held on to each other's hand, sort o'like they hated to let go; like two folks parting who weren't sure they'd ever see each other again."

Above: Preparation for the first flight at Kitty Hawk, 14 December, 1903.

At 10:35, Orville released the restraining wire. The flying machine travelled along the rail with Wilbur running alongside to hold the wing steady. As it launched into the air Daniels fired the camera, capturing that iconic moment. The Flyer lurched up and down with Orville desperately attempting to counteract the pitching movement. A downward pitch ended the flight, but he touched down safely having travelled 120 feet in 12 seconds. Their small gathering had witnessed history being made at Kitty Hawk...

"If we all worked on the assumption that what is accepted as true is really true, there would be little hope of advance."

Orville Wright

ORVILLE WRIGHT

Orville taking first flight with Wilbur running alongside at Kitty Hawk, North Carolina, 17 December 1903.

DAMAGED BEYOND REPAIR

Damaged Beyond Repair.

The brothers made three more flights, each one progressively longer and more controlled. On the fourth flight Wilbur covered 852 feet in 59 seconds airborne. After carrying the machine back to the launch site disaster struck. Orville recorded in his diary: "We set the machine down a few feet west of the building, and while standing about discussing the last flight, a sudden gust of wind struck the machine and started to turn it over. All rushed to stop it".

When the wind released the Flyer, it was damaged beyond repair, ending its short but illustrious career.

Right: Telegram sent to their father on 17 December 1903, complete with errors made by the telegraph operator.

Form No. 165.

THE WESTERN UNION TELEGRAPH COMPANY.

INCORPORATED

23,000 OFFICES IN AMERICA. CABLE SERVICE TO ALL THE WORLD.

RECEIVED at 170

176 C KA CS 33 Paid. Via Norfolk Va

Kitty Hawk N C Dec 17

Bishop M Wright

7 Hawthorne St

Success four flights thursday morning all against twenty one mile wind started from Level with engine power alone average speed through air thirty one miles longest 57 seconds inform Press home ~~Wright~~ Christmas . Orevelle Wright 525P

"We set the machine down a few feet west of the building, and while standing about discussing the last flight, a sudden gust of wind struck the machine and started to turn it over. All rushed to stop it."

Orville Wright

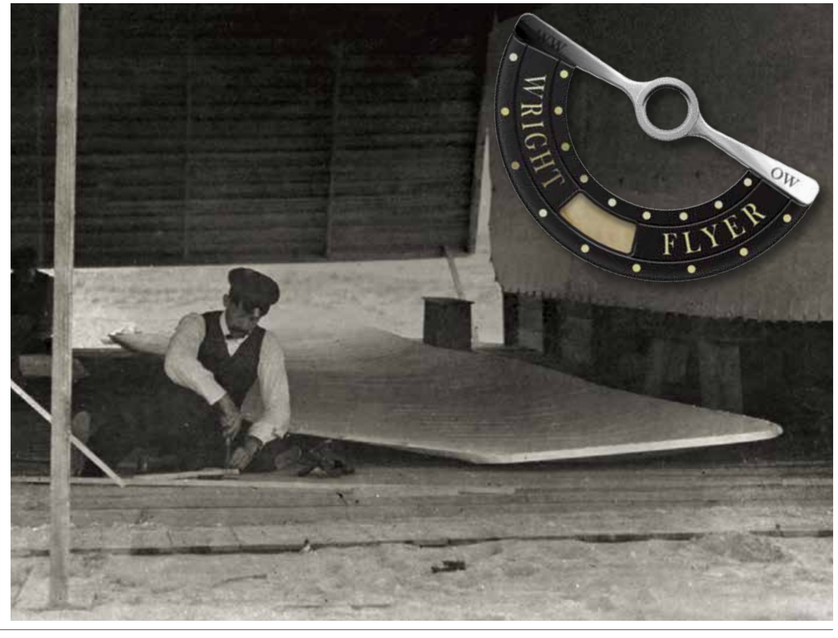
ORVILLE WRIGHT

The Fabric.

The Wright Flyer's wings were encompassed in unbleached 'Pride of the West' muslin, hand-stitched in place by Wilbur. After sustaining damage at Kitty Hawk, the Flyer was crated up and stored in a Dayton basement. When the Miami River burst its banks in 1913, the basement flooded leaving the aircraft sat in mud and water for eleven days. In 1916 Orville repaired and restored the Flyer for a series of static displays, leaving only the outer wing panels covered in original fabric.

A further restoration in 1925 saw all the fabric replaced anew. When Orville passed away in 1948, his family discovered he had kept large portions of the 1903 fabric, and over time small parts were donated to aeronautical friends and institutions. So important is it to aviation history, that when Neil Armstrong set foot on the moon in 1969, he carried a piece of the Wright Flyer fabric in his spacesuit pocket.

Right: The precious wing fabric is incorporated into the centre of each Bremont Wright Flyer rotor.



BREMONT
WRIGHT FLYER

THE WRIGHT LEGACY

The Wright Legacy.

By 1906 the brothers had developed their invention into a practical aircraft, and were ready to sell their design. Preferring to work in secret, their achievements had largely been ignored by the press. It took three years to silence doubters and convince the world their claims were true. The desired sales contracts soon followed and by 1909 they had become world-famous American heroes, piloting Wright Flyer displays across the globe to an adoring public enamoured with all things aviation.

The Wright Company was formed in 1910 to manufacture their aircraft but only two years later, Wilbur contracted typhoid and died aged 45. Without his beloved brother, Orville lost motivation and sold the Wright Company in 1915. He remained a key figure in aviation circles and by his death in 1948 had witnessed incredible progression in aircraft design, thanks in no small part to the remarkable work he and Wilbur carried out.

Right: The Wright brothers fly over Berlin in 1909.

The Wright Flyer at the Science Museum.

The 1903 Wright Flyer spent two decades on display at the Science Museum, due to a long-running rift between the Wright brothers and the Smithsonian Institution in Washington DC. The Smithsonian credited a 1903 machine that failed to fly, the Langley Aerodrome, as the 'first man-carrying aeroplane in the history of the world capable of sustained free flight'. Orville, furious, considered this an outrageous slight on the brothers' legacy. In protest he loaned the brothers' great American aeronautical achievement to London's Science Museum in 1928. Orville said: "I regret more than anyone else that this course of action is necessary". However, America's loss was Great Britain's gain.

During World War II, the Flyer was moved far from the Blitz to the safety of an underground vault away from the city. Finally, in 1942, the Smithsonian changed its stance and credited the Wright Flyer as history's first powered, piloted aeroplane. Before returning the Flyer to the USA, the Science Museum created a replica to exhibit. In 1948 Orville passed away so did not see the Wright Flyer take pride of place on permanent display in the Smithsonian later that year. At the Flyer display's grand opening ceremony, British Ambassador Sir Oliver Franks commented: "It is a little as if we had before us the original wheel".

Left: Image of the original 1903 Wright Flyer at the Smithsonian.

Acknowledgements.

Historical copy: Rachel Morris
Wright brothers imagery: John Dibbs
Design inspired by the
'West Side News'


WEST SIDE NEWS.

APPLETON

In 1889 Orville launched a local weekly newspaper called the 'West Side News'. After a few issues, Wilbur's name appeared on the masthead as Editor, with Orville listed as Publisher. This is believed to have established The Wright brothers' close working relationship.

BREMONT

WRIGHT FLYER