



“AVIATION IS PROOF THAT GIVEN THE WILL WE CAN DO THE IMPOSSIBLE”  
Eddie Rickenbacker



WBAC  
2016

The background of the page is a collage of orange-toned images. The central focus is a photograph of a SpaceX Falcon Heavy rocket launching, with the word "SPACEX" visible on the side of the rocket. The rocket is surrounded by a large plume of fire and smoke. The text "WBAC 2016" is overlaid on the right side of the rocket image in a white, serif font.

PIREP

The bottom section of the page features a photograph of several people silhouetted against a bright, hazy sky. They appear to be on a beach or a similar outdoor setting, possibly preparing for a flight. The word "PIREP" is overlaid on the bottom of this image in a large, white, serif font.

pī'-rep, *n.* a pilot report to fellow aviators enroute containing timely and valuable information to assist in the successful outcome of their flights.



**Mailing Address:**  
WRIGHT BROTHERS  
AEROPLANE CO.  
P.O. Box 204  
West Milton, OH 45383  
USA

**Aircraft Construction/  
Test Facilities:**  
Charles W. Furnas  
Memorial Hangar  
25 Hays Street  
West Milton, OH 45383

**Administrative/Shipping:**  
119 S. Miami St.  
West Milton, OH 45373

**Phone Numbers:**  
Dayton Area: 937/238-6523  
On Tour: 937/673-2560

**Website:**  
[www.wright-brothers.org](http://www.wright-brothers.org)

**E-mail:**  
[orville@wright-brothers.org](mailto:orville@wright-brothers.org)

**Contacts:**  
**NICK ENGLER**  
Director

**MARY JANE FAVORITE**  
Deputy Director

### Creating future scientists from the Wright stuff

The **Wright Brothers Aeroplane Company** is a band of dedicated aviators, engineers, teachers, and other Wright-minded folks who share a passion for early aviation and science education. Our mission is to ***tell the story of the Wright brothers to inspire the next generation of scientists and engineers.*** The invention of the airplane and the courage, imagination, and perseverance it required is more than history. It resonates with and empowers many young people who hear its tale. Not only does it show the ability of science and technology to change the world, it encourages kids to dream and do the work necessary to achieve those dreams.

We began in 1999 with an expedition in **Aviation Archaeology**, working with students to build and fly all of the Wright Brothers' experimental aircraft. Each successive machine showed how the Wright brothers took a complex scientific problem and broke it down into simple experiments. As we traced the evolution of ideas that resulted in powered flight, a lesson in science history became a real-life adventure



This was the jumping-off point for additional programs. Our **“Secret of Flight” Program**, brings a full-size Wright glider, a Wright flight simulator, and a wind tunnel into schools where we conduct demonstrations and workshops that introduce up to 140+ scholastic benchmarks. The **Birth of Aviation Exhibit** tours museums and air shows with six Wright aircraft arranged in a walk-through timeline to show how the Wrights developed a practical airplane. In the **Do-It-Yourself Flyer** program, we teach young people to build a Wright aircraft. Some of these are museum-quality replicas; others actually fly. We have even taken kids to Kitty Hawk and watched as they made their own test flights! We bring all of these programs together on the Internet where we've created a **Virtual Museum** of the Wright Brothers to explain the science engineering, and mathematics behind the story to millions of young people worldwide.

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**Bringing the Wright  
story to life**

To tell a good story, you need hands-on experience with your subject. So we conduct **expeditions in aviation archaeology**, recreating the invention of the airplane. We built all the experimental aircraft the Wright brothers designed between 1899 and 1905 in their quest for a practical flying machine – their scientific kites, gliders, and powered Flyers. Then we flew them, traveling to the North Carolina Outerbanks near Kitty Hawk where we could experience the winds and sands that were the Wright brothers' laboratory.

In many of these expeditions, we partnered with members of the United States armed forces, test pilots and instructor pilots from the **US Army, Navy, and Air Force**. Drawing on their unique

ability to analyze the performance of an airplane, we designed flight test programs and conducted hundreds of flights to establish the performance envelope of these primitive Wright aircraft and teach ourselves the skills needed to make them fly.

We have documented our expeditions in photographs and video, as well as test pilot reports and engineering drawings. All of these are woven into our programs and presentations. The Wright gliders and Flyers that we bring to you are not static models, but actual flying machines, and your audience can see the flights and hear the words of the men and women who flew them. We don't just tell the Wright story; we bring it to life.



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3

## AVIATION ARCHAEOLOGY PICS

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P.O. Box 204  
West Milton, OH 45383  
USA

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4

## THE BIRTH OF AVIATION EXHIBIT

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Deputy Director



### Recreating the adventure of the first flights

The culmination of our expeditions in aviation archaeology is the Birth of Aviation Exhibit. Inside this unique presentation, Wright airplanes are arranged in a **walk-through timeline**. Beginning in 1878 with the childhood of Wilbur and Orville and their first experiences with a flying toy, the timeline continues through 1905 when the brothers finally achieved what they considered a “practical flying machine.”

Along the way, visitors can inspect the rubber-band powered toy that inspired the young Wright brothers, read a copy of their first newspaper, perform the inner-tube box experiment that revealed the secret of flight,

even fly the Wright gliders and Flyers on our unique Wright flight simulators. Expert interpretive displays explain the Wrights’ wind tunnel and the simple scientific instruments they used to unlock the mysteries of flight, how they arrived at aerodynamic control, and how they taught themselves to fly. At each station along the timeline, aviation archaeologist Nick Engler demonstrates the relevant glider or Flyer in a brief video, collectively titled **The Machines of the Wright Brothers**.

If you don’t have room to display the entire timeline, the Birth of Aviation Exhibit is modular and can be configured in many different ways to fit your space. You can opt to display just a few of the airplanes or just one. Additionally, we can produce interpretive displays for you to fit a scientific or historical theme.

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5

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6

## “THE SECRET OF FLIGHT” PROGRAM

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West Milton, OH 45383  
USA

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Deputy Director

### Wilbur and Orville visit your school

As an educational institution, **we bring the Wright story to schools.** “The Secret of Flight” Program is a much-acclaimed experience in science, history, and character development, built around nationwide proficiency requirements and educational benchmarks. It tours America with a special portable museum – **including a full-size 1902 Wright Glider** – designed to fit in school gyms, cafeterias, libraries, anywhere there is space enough for an airplane.

Along with this museum comes one of our aviation archaeologists, who spins a spirited and humorous tale of two ordinary brothers – Wilbur and Orville – who did something extraordinary by virtue of their courage,

imagination, and perseverance. They present an interactive experience for students, allowing them to perform the same experiments as the Wright brothers and drawing them along on the adventure that was the invention of the airplane. Volunteers from the audience even get a little “stick time” aboard a Wright glider flight simulator!

Our presentation and the artifacts we bring are easily adapted to your students’ special needs. We can modify each presentation for grade level and content. There are plans for follow-up projects. With advance notice, we can incorporate local proficiency requirements, insuring a memorable and valuable experience for you and your students.



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7

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### Immersing kids in the Wright story

We build many of our airplanes with the involvement of young people, usually students from 9 to 16 years old. Our aim is not just to interest kids in science, but to let them get their hands dirty with it. Building an airplane is an exciting way to do just that. There are many parts of a Wright Flyer – the ribs, in particular – that are simple enough for children to build and do a flight-worthy job. So we conduct "Rib Workshops" in which young folks learn some aeronautics, build Flyer wing ribs, and sign them. We incorporate these signed ribs in a Wright aircraft. The signatures are hidden by the wing covering, but the kids know and their involvement will continue to be a source of pride for the rest of their lives.

Besides their obvious educational value, these Rib Workshops have far-reaching benefits for the sponsor institution. They raise the public awareness and give participants a sense of ownership in the Flyer project. Parents are impressed by and grateful for the experience, and they bring their kids back for more of the same. Eventually, these young people will grow up and bring their own children. Those that achieve positions of wealth and leadership in adulthood will support the sponsor institution in large part because of memorable experiences like the Rib Workshop and the Do-It-Yourself Flyer. Programs like these are the seed corn of every community-supported organization.

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9

## DO-IT-YOURSELF FLYER PICS

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Deputy Director

### Reaching a worldwide audience

In addition to our traveling displays and workshops, we also maintain a “virtual museum” on the Internet at [www.wright-brothers.org](http://www.wright-brothers.org). This web site is a **respected source of information on the Wright brothers for scholars and students worldwide**. It is also one of the busiest aviation sites on the net, serving over a million visitors a year.

We use this site not just to support our own efforts, but also yours. We list your event on our home page, along with the Wright airplanes we will be bringing to you and a link to your web site. You can reference our web site in press releases and

use information from the site to help write them. From special blind pages, we provide high-resolution photos to your local media to promote your event.

There are special benefits for schools such as downloadable activity books and detailed instructions for Wright-related aviation experiments. A hypertext biography of the Wright brothers lets students to delve into the story in any level of detail wanted. With little effort, teachers can transform a one-day visit from “The Secret of Flight” Program to weeks of exploration in science, history, and character development.



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