

# ■ How to Create Your Own Kitthawk

## *Lessons in Invention from Two Average Guys*

by Tom Terez

**D**addy, you be Wilbur, I'll be Orville. Let's pretend we're playing in our bike shop."

The evening before, my wife had tucked in our 4-year-old daughter by reading her a book about flying. The story must have filled her dreams that night, because bright and early the next morning, she wanted to role play. For an hour, we labored away in our imaginary workshop, cobbling together a flying machine out of paper, streamers, chairs, and sofa cushions.

That was a year ago, and at our daughter's request, I've had other roles since then—Mufasa from *The Lion King*, Winnie the Pooh, Elvis, and a few others, none of which I'll perform in public. But more often than not, I've been Wilbur and she has been Orville. And to this day, she can't hear enough about that bicycle shop and their trial runs and that triumphant 12-second flight on December 17, 1903.

She has tinkered with paper, folding it every which way and tossing it out the upstairs window. She has taped strips of balsa wood and flung them hopefully across the room. She has even made flying contraptions out of clay, which is why we have a deluxe vacuum cleaner. She is positively obsessed with invention.

Along the way, I've learned all about the Wright brothers. It's a fascinating story with lessons for all of us—lessons that we can apply right now in our workplaces.

Wilbur and Orville were average guys from Dayton, Ohio. They owned a bicycle business, but they found themselves thinking more about wings than wheels. (Lesson #1—Have a vision.)

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### **They found themselves thinking more about wings than wheels.**

#### **Lesson #1 – Have a vision.**

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So in 1899, they wrote to the Smithsonian Institution and gathered everything they could find about early efforts to fly. (Lesson #2—Do your front-end homework.)

They combed through every detail, searching for proven practices that would help their invention get off the ground. Other inventors had already demonstrated the aerodynamic wisdom of gliding, as opposed to flapping, and the Wrights followed their lead. In fact, they worked all sorts of earlier discoveries into their designs. (Lesson #3—Make the most of existing best practices.)

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In other cases, facts and data convinced the brothers that they'd have to develop an entirely new approach—as in the case of lateral control. The prevailing method required the pilot to shift his body left or right to attempt rolling and banking. Orville and Wilbur knew they'd have to find a better way. (Lesson #4—If the facts tell you to go against the grain, do it.)

Then the real work began. They analyzed what it would take to get airborne, and in the process, they pinpointed four problems that had to be solved: lift, control, power, and learning how to fly. (Lesson #5—Divide big challenges into smaller challenges, and take them on one at a time.)

They built model after model, starting with kite-like gliders so they could test their ideas on lift and control. (Lesson #6—Experiment, experiment, experiment.) These gliders kept getting bigger as they fine-tuned their invention,

and the brothers methodically made improvements to their design. (Lesson #8—Great creations result from many small creations.) And in July 1901, the tethered glider was big enough and safe enough for a brave rider. Wilbur held on, everyone else pulled, and the glider soared across the sand. (Lesson #9—Sometimes it just takes guts.)

Plenty of work still needed to be done—not the least of which was this little problem of power. There was none. Gasoline engines at that time were too heavy to carry the plane and a person. So the Wright brothers turned to Charles Taylor, a mechanic extraordinaire who worked in the bicycle shop. Taylor led the effort to build a light-enough gas engine. (Lesson #10—Capitalize on all that nearby know-how.)

On September 23, 1903, Wilbur and Orville left Dayton and headed once again for the Outer

Banks—bringing along their precious cargo, the “whopper flying machine,” as Wilbur called it. They spent that autumn using the glider version to sharpen their flying skills. (Lesson #11—Take the time to be prepared.)

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### **We can all be inventors in our workplaces, applying the same lessons and achieving our own soaring results.**

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and before long, they needed more space. We all know where they went: Kitty Hawk, North Carolina, where the Outer Banks offered perfect flying conditions.

Imagine telling your colleagues and family that you're going to haul your big kite to a windy beach so you can work out the kinks. Oh, and by the way, the beach is 500 miles from home. (Lesson #7—Do whatever it takes to achieve your vision. Ignore the naysayers.)

Each test flight provided a wealth of infor-

Then winter came, and they felt the time was right for their maiden flight. They tried on December 14, but weak winds and an overeager tug on the elevator caused the “Wright Flyer” to hit the sand. Weather conditions prevented attempts the next two days, but December 17 seemed acceptable. Just four years after writing to the Smithsonian, Orville climbed onto the bottom wing, eased himself into position, and pulled the release wire. The rest is history.

The famous photo of that first flight is a story

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in itself. Orville and Wilbur felt so prepared, so optimistic, that they had a camera ready and waiting. (Lesson #12—At the moment of truth, throttle up your optimism.) An assistant had instructions to release the shutter just as the Flyer slipped the bonds of its launch track.

In the photo, Wilbur is standing on the sand, hunched forward, watching the airplane take off—not unlike the proud yet anxious parent who has just let go of a child’s two-wheeler. Look closely at the sand and you can see his footprints. They’re spaced far apart. He ran alongside his creation while it took flight.

Few of us will ever make the history books

like Wilbur and Orville Wright. But we can all be inventors in our workplaces, applying the same lessons and achieving our own soaring results.

Beyond a shadow of a doubt, I know one person who has her heart set on it: my daughter.

### ABOUT THE AUTHOR

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