

# The challenge of building an ultralight in your basement

By Kathryn Stocks

**R**obin Shonfield's long-held dream to build a Challenger Ultralight XL-65 aircraft arrived in boxes in a massive do-it-yourself kit in January 2015. The actual building of the two-seater plane from Illinois began in May that year and this summer it was finally moved out of the basement.

"I never expected it to take four years," he said. "I thought it would be much faster. But the truth is life gets in the way." It was a different sort of project for Robin, who is a good woodworker but had never worked with aluminum before. The basic structure of the Challenger is an aluminum frame covered in fabric.

"The thing about the kit is that they do all the really important stuff," he said. "The controls for the rudder, the ailerons, the cables are all in there and you can't screw them up too much. They've also drilled the holes in the wings so the proportion is going to be exactly correct. Everything else is mainly covering and assembly."

At first, Robin found it tough working on his own from a manual so he met up with a group of men in the GTA who were building the same ultralight. They were a valuable resource and he spent a lot of time going to see how they had done things.

"Because it's a plane and your life could depend on it, you have to check everything you do and make sure you understand what you're doing and that you're not forgetting a step. That was the difficult part."

Robin used yellow Oratex to cover his plane, a fabric that was originally used for model aircraft. The pieces are cut out and placed on the plane, then glued and shrunk with heat. Most builders use the fabric that comes with the kit and painting it requires a fume hood and spray booth. "I was able to do it in the basement because I used Oratex and didn't have to paint," he said.

Building in your basement is convenient, but you can't just work on it for an hour a day. "You have to look at it and remember where you last stopped," Robin

said. "Because it's a plane and your life could depend on it, you have to check everything you do and make sure you understand what you're doing and that you're not forgetting a step."

Robin wasn't worried about getting it out of the house since he has a walkout basement, but everyone who viewed the plane looked at him like it would be there forever. He had measured everything so he knew he had to remove the sliding glass door and part of the deck railing.

The wings went out relatively easily and once they got through the door they were rolled across the deck on a dolly and then carried up the hill to the front of the house. The fuselage was more difficult because it was wider and heavier.

"I worried about the fact that I couldn't really wheel the fuselage

out because by the time I put the aircraft wheels on it was too big," Robin said. "So I didn't put the wheels on permanently and I built a dolly to get it out without the wheels." He also had to remove the front wheel just before he and his four helpers could move it into the 26-foot rental truck.

The pieces of the plane were driven to an airfield in Stouffville where it was assembled and inspected. Robin's next step is to take flying lessons. "The only thing more difficult than building it is going to be flying it," he said. "That comes with a whole new set of challenges."

His extremely patient wife (that's me) was happy to get the ultralight out of the basement and is now looking forward to being a passenger in it.



# Challenger



After more than four years of work, Robin stands beside his finished two-seater Challenger Ultralight at an airfield in Stouffville. Next step: flying lessons.



Above: Robin is lucky he had a large enough basement to work on the 14' wings. Right: The wings were taken out of the basement first followed by the fuselage. They were all carried into the truck that transported the pieces to the Stouffville airfield where they were assembled. It's nice to have friends to help you with a job like this!



## Specs: Challenger Ultralight XL-65

More than 600 Canadians own this light sport aircraft that seats two.

Wings are 29.5' and the fuselage is 20' long.

It has two gas tanks in the wings and a 65 hp Rotax engine.

It can be equipped with wheels, amphibious floats or skis.



Robin sits in the fuselage of his Challenger Ultralight soon after the DIY kit arrived in his driveway.

