

Press release

Temuka engineer takes flight with remarkable invention

The world's most exciting innovation in extreme aviation sports for decades is the brainchild of an entrepreneurial engineer who lives in Temuka, South Canterbury, New Zealand.

Bob Harris is no stranger to the world of cutting-edge inventions and innovative thinking although Skyboard, his radical, racy personalized skydiving glider, must rate as his top achievement so far. But, Bob's talents have been with him for a long time, as have skills in heavy engineering that have been fine-tuned over 23 years in the business.

He reckons, however that Skyboard might just be the most exciting idea he's come up with, and it seems national and international interests share his enthusiasm.

The New Zealand Foundation for Research Science and Technology has put up \$60,000 towards the production of the Skyboard prototype, a great boost according to Bob who adds, however that the project so far has cost in excess of \$350,000!

“This is new generation aviation – the ultimate prolonged skydiving experience. I believe its potential in the world of extreme sports is huge and it's not too hard to see that a craft that can reach speeds of up to 280kph, can stay airborne for at least 20 minutes, and that can be easily transportable to launch height, could have military applications too.”

Imagine this: long capsule, in which a pilot lies face down with hands free for the controls offering full flying functions. On being launched from between 10,000ft and 15,000 ft (from either a fixed wing aircraft or helicopter) the Skyboard's front and rear wings, and tail plane are activated. The pilot, using aileron and elevator control surfaces can then 'fly' the glider before making a wheels-down or parachute-assisted landing.

It's a conversation-stopper, a scene-stealer, much in the tradition of many inventions that have left less forward thinking humans gasping over the centuries. And there's an almost eerie connection here with New Zealand's most famous aviation pioneer Richard Pearse. Pearse lived, dreamed and invented just a few kilometers away from Temuka. So, when Skyboard was taken on its first land test (for roll, pitch and yaw), Bob knew straightaway where the location should be: A long stretch of road at Waitohi believed to be exactly where Pearse became airborne in 1903.

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This amazing craft was built at Bob Harris' Temuka factory, with the assistance of many of his exceptionally skilled staff. It was a departure from their more usual projects, that include structural and precision steelwork, and working alongside some of the largest construction companies in the world, including Bechtel USA, Badger, IHI, Simon Carves and ABB. Among Steelworks' impressive portfolio of work was constructing the \$23m NZ Steel building, and a water purifying project in Australia's Snowy Mountains.

But before the first meticulous steps were taken on the construction of Skyboard there had to be the moment of inspiration for Bob. The idea for Skyboard hit him out of the blue just last year.

"I've always been fortunate to have the ability to see things other people can't see, to think beyond the square and then to push on and turn those ideas into reality."

Although Bob was confident his Skyboard could fly he sought help and advice from the University of Canterbury's mechanical engineering department. He was delighted, when, following his visit, post-graduate engineering student Mark Daniels arrived at his Temuka workshop to tell him that the mathematics and theories backed up Bob's belief that Skyboard was feasible. A half-scale model was then successfully put to the test in the university's wind tunnel.

It was all go then. Bob doesn't believe in hanging about with good ideas.

"I said we'd have the prototype ready in six months, and we have. I didn't want any of this taking years to turn an idea into reality."

Skyboard was tested in its natural environment for the first time in June, with aviation extreme sport daredevil, skydiver and BASE jumper John "Chuck" Berry at the controls. He believes Skyboard is the most radical extreme aviation sports craft in decades.

It was a milestone event for Bob as it had been an anxious time for the whole Skyboard team in the weeks leading up to the test flight. Not the least because the craft is so innovative, nothing like it had been flown anywhere in the world before.

For Skyboard's first free flight it was suspended 200ft below a helicopter which then climbed to 12,000ft.

"We could see it being taken up higher and higher – that gave me a bit of a pit in the stomach," Bob said. "Then we saw Chuck release the strops and then Skyboard dropped vertically for a few seconds until Chuck nailed it and got it under control. Then it arced away – that was breathtaking to see."

Chuck then released both his and the craft's parachutes and Skyboard's first free fall was over.

Paul Smith was at the controls for the second series of free drop flights over Twizel in August.2005.

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“Paul flew Skyboard for 39 seconds this time, the longest anyone has been airborne in the craft. He started at 10,000ft and stayed with it until 4000ft when he released the chutes,” Bob recalls.

The culmination of the whole team’s blood, sweat and tears came on October 25, 2005 when Paul successfully flew Skyboard under full control on two test flights, the first for nearly 50 seconds and the second for over a minute.

“I reckon anyone who loves flight and is into the adrenaline rush of extreme sport is going to want a Skyboard. Even if only a tiny proportion of that world market wants one, we could be on to a multi-million dollar winner,” Bob says.

Bob, who has an aircraft hangar in his back garden and his own airfield beyond that, is a keen pilot. And, yes he’s keen to be launched from Skyboard once expert test pilot Berry has put it through his paces. That’s an event Bob (who was born in Cardiff, Wales) couldn’t have imagined when he was growing up in Oamaru.

He’d always been interested in flight though, but ironically, ended up spending 13 years at sea as a marine engineer soon after leaving school. He moved to Temuka with his family and established Steelworks in 1978.

Now the skies seem to be the limit for the Temuka man, his thriving company and his extraordinary personalised skydiving glider.

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