Skydiver Felix Baumgartner seeks to break sound barrier

By Jonathan Amos
Science reporter, BBC News
January 22, 2010

The Austrian extreme sportsman Felix Baumgartner says his next goal is to try to break the long-standing record for the highest ever parachute jump.

Joe Kittinger made his leap before the first American went into space

It is 50 years since the American Joe Kittinger made history by leaping from a balloon at 102,800ft (31km).

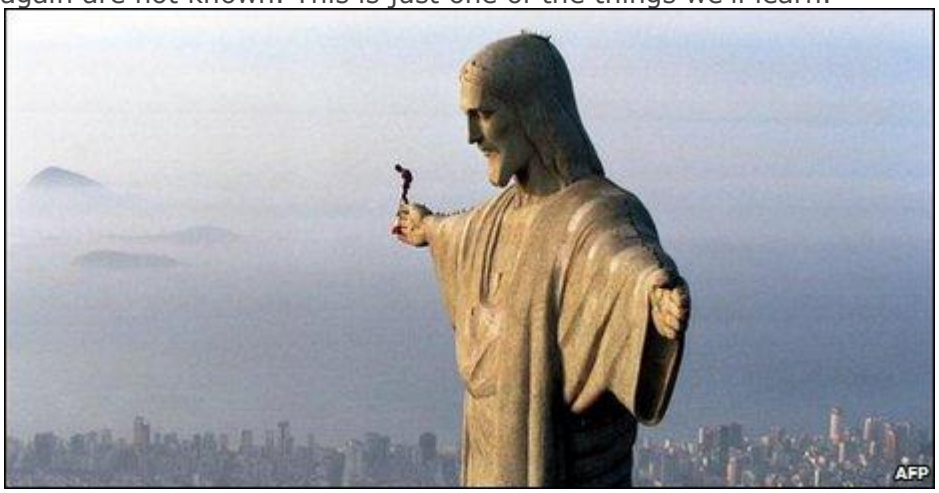
Many have sought to repeat the feat down the decades but all have failed.

Baumgartner, who is famous for stunts such as jumping off the Petronas Towers, aims to skydive from a balloon sent to at least 120,000 ft (37km).

It is likely that in his long freefall of more than five minutes, he will exceed the speed of sound - the first person to do so without the aid of a machine.

"One of the unknowns is how a human body will react approaching supersonic speeds," he said.

"The effects of the transition from subsonic through transonic to supersonic velocity and back again are not known. This is just one of the things we'll learn."



Felix Baumgartner's base-jumping has not always pleased the authorities

Baumgartner and his supporters claim the project will gather scientific data also about the

stratosphere and how the body copes with the extreme conditions so high above the Earth's surface.

The most recent attempt to try to better Kittinger's mark was made in 2008 by the Frenchman Michel Fournier.

The former paratrooper and adventurer had spent years preparing for "Le Grand Saut", or Big Jump, only to see his balloon break free and float off into the sky just as he was about to climb inside the ascent capsule.

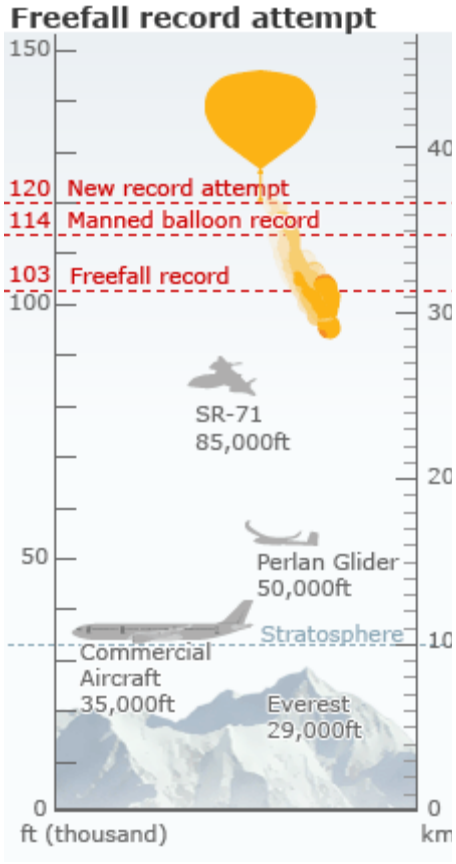
Baumgartner acknowledges the risks of breaking the sound barrier

Baumgartner has frequently incurred the ire of the authorities because of his base-jumping - the highly dangerous practice of parachuting from buildings. He also made headlines in 2003 when he crossed the English Channel on a carbon wing strapped to his back.

His assault on Kittinger's record is likely to take place later this year over an as yet unnamed location in North America. He will ascend to the stratosphere in a pressurized capsule attached to a high-altitude helium balloon, and then jump out at an altitude he hopes will exceed 120,000ft.

He will be wearing a specially modified full-pressure suit and helmet.

The organisers of the project called Red Bull Stratos say, if all goes well, he should break the speed of sound about 35 seconds into his descent.



Joe Kittinger's 16 August 1960 jump was an extraordinary achievement. It was made nine months before Alan Shepard was even launched on the first American sub-orbital space trip.

Kittinger experienced intense swelling in his right hand as his glove malfunctioned and his body reacted to the low pressure at high altitude.

The retired USAF colonel is now supporting the Austrian in his endeavour.

As well as coping with freezing temperatures and ultra-thin air, a key objective for Baumgartner must be to try to maintain a correct attitude during the descent and prevent his body from going into a spin and blacking out.

"Looking at the bigger picture, it's clear that we have a unique opportunity to support science in a very specific field," he said. "Maybe one day it will be possible to bring astronauts home safely from space if their spacecraft malfunctions. It sounds like

a sci-fi scenario, but aeronautics is definitely moving in that direction."

Michel Fournier has promised to make another attempt in 2010 also, if he can secure the funding.

A BBC/National Geographic Channel documentary is being made about Baumgartner's project. The 90-minute film will be transmitted on BBC Two in the UK shortly after the jump.

Jonathan.Amos-INTERNET@bbc.co.uk