Skydiver aims to jump from 23 miles, go supersonic (Update 2)

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In this Friday Jan. 22, 2010 photo taken by AP Images for Red Bull Stratos, Felix Baumgartner, left, shakes hands with United States Air Force Col. (Ret.) Joe Kittinger, right, following the Red Bull Stratos press conference announcing Baumgartner's plan to attempt to become the first person ever to break the speed of sound with the human body in New York. Baumgartner is more than halfway toward his goal of setting a world record for the highest jump. A spokeswoman says the sky diver took a practice jump Thursday, March 15, 2012 from more than 13 miles high over New Mexico. He's aiming for nearly 23 miles in the summer. The record is held by Kittinger who jumped from 19.5 miles in 1960. (AP Photo/Red Bull Stratos, David Goldman)

"Fearless Felix" Baumgartner has jumped 2,500 times from planes and helicopters, as well as some of the highest landmarks and skyscrapers on the planet - the Christ the Redeemer statue overlooking Rio de Janeiro, the Millau Viaduct in southern France, the 101-story Taipei 101 in Taiwan.

He's also leapt face-first into a pitch-dark, 620-foot-deep cave in Croatia - his most dangerous feat yet, he says, but soon to be outdone.

This summer, Baumgartner hopes to hurtle toward Earth at supersonic speed from a record 23 miles up, breaking the sound barrier with only his body.

He made it more than halfway there during a critical dress rehearsal Thursday, ascending from the New Mexico desert in a helium balloon and jumping from more than 13 miles up. He is believed to be only the third person to leap from such a high altitude and free fall to a safe landing - and the first to do so in 50 years. The record is Air Force test pilot Joe Kittinger's jump from 102,800 feet - 19.5 miles - in 1960.

"I'm now a member of a pretty small club," Baumgartner said in remarks provided by representatives.

Baumgartner tested the same pressurized capsule and full-pressure suit that he will use in a few months for a record-setting free fall from 120,000 feet. The extra protection is needed because there's virtually no atmosphere at such heights.

That's nowhere near space, but high enough to grab NASA's attention.

Engineers working on astronaut escape systems for future spacecraft have their eyes on this Austrian skydiver, former military parachutist, extreme athlete and, yes, daredevil known as "Fearless Felix."

"I like to challenge myself," Baumgartner, 42, explained in a recent interview, "and this is the ultimate skydive. I think there's nothing bigger than that."

Thursday's test run provided the boost Baumgartner was hoping for.

In this photo provided by Red Bull Stratos, Felix Baumgartner prepares to jump during the first manned test flight for Red Bull Stratos over Roswell, N.M. on Thursday, March 15, 2012. Baumgartner is more than halfway toward his goal of setting a world record for the highest jump. A spokesperson says the skydiver took a practice jump from more than 13 miles high over New Mexico. He's aiming for nearly 23 miles in the summer. The record is held by Joe Kittinger who jumped from 19.5 miles in 1960. (AP Photo/Red Bull Stratos, Jay Nemeth)

"That was the momentum we needed for the whole team. Now we are ready for the 90,000 jump," Baumgartner said, referring to the next trial run.

"I could not really feel my hands in free fall as it was so cold. We have to work on this," he added.

Baumgartner's 100-foot helium balloon and pressurized capsule lifted off from Roswell, N.M., on Thursday morning. He jumped at 71,581

feet - 13.6 miles - and landed safely eight minutes and eight seconds later, according to spokeswoman Trish Medalen. He reached speeds of up to 364.4 mph and was in free fall for three minutes and 43 seconds, before pulling his parachute cords, Medalen said.

"The view is amazing, way better than I thought," Baumgartner said after the practice jump.
(Commercial jets generally cruise at just over 30,000 feet.)

After one more trial run, he'll attempt 120,000 feet, or 22.8 miles. The launch window opens in July and extends until the beginning of October; it's based on optimal weather at the Roswell site.

"Keep in mind that at 120,000 feet ... there is no atmosphere to sustain human life," said Dustin Gohmert, manager of NASA's crew survival engineering office at Johnson Space Center in Houston. "To the body, it's no different than being in deep space, save from possibly more radiation shielding from the little atmosphere you have. You need the full protection of the pressure suit."

The record-holder Kittinger was in free fall for four minutes, 36 seconds, and accelerated to 614 mph, equivalent to Mach 0.9, just shy of the sound barrier. For his grand finale, Baumgartner expects to be in free fall for five minutes, 35 seconds, and achieve Mach 1, or 690 mph. All told, the descent should take 15 to 20 minutes.

Dr. Jonathan Clark, a former NASA flight surgeon who heads Baumgartner's medical team, puts the chance of survival as "very high." Injury is possible.

"Sure, I fear" for Baumgartner's life, said Clark, whose astronaut wife, Laurel, died aboard space shuttle Columbia in 2003. "I mean, this is high-risk stuff."

Baumgartner is a perfectionist with a test pilot's personality and drive, according to Clark, and definitely not a flamboyant risk taker. He's survived as a BASE jumper, Clark noted, referring to the sport of jumping off fixed structures and using parachutes to break the fall. "They don't live long if they're not good."

The project, called Red Bull Stratos, is sponsored by the energy drink maker. (Stratos refers to the stratosphere.) The project costs have not been disclosed.

Kittinger's Excelsior mission was Air Force; he was a test pilot when he made his record-setting jump from an open, unpressurized gondola, long before anyone had rocketed into space.

Now 83, Kittinger lives near Orlando, Fla., and has been working with Baumgartner for three years. He took part in Thursday's test, as did Clark.

Kittinger is amazed no one has broken his free-falling record, after so many decades.

"In the 52 years since I did it, there have been a lot of improvements in pressure suits, in communications and life-support systems. But the only thing that really has not changed is how hostile it is at that altitude," Kittinger said. "It's almost a complete vacuum."

That's why NASA is so interested, even though space officially begins considerably higher at an even 100 kilometers, 328,084 feet or 62 miles.

In the nine years since the Columbia tragedy, emergency escape has been a top priority for NASA. The seven astronauts were killed during re-entry at just over 200,000 feet, nearly double Baumgartner's targeted altitude.

Granted, NASA's retired space shuttles will never fly again. But with so many different types of spacecraft in development by so many different companies, NASA wants to keep astronauts as safe as possible and provide a means for escape in the decades ahead.

Baumgartner's experience is sure to provide important lessons, Gohmert said.

Indeed, Baumgartner considers himself a pioneer - and a cautious one. He's following Kittinger's example of jumping in incrementally higher stages.

Kittinger nearly died trying on his own first dress rehearsal.

While jumping from 76,400 feet in 1959, Kittinger's small, stabilizing parachute opened too soon and got tangled around his neck. He went into a downward spin and blacked out. He was saved only by the automatic deployment of his emergency chute.

"I had confidence in myself and my equipment and my team. That never varied," Kittinger said. "Felix has to have the same thing."

Baumgartner insists he won't take any chances. Plus he's spent the past five years surrounding himself with "the right people," most notably Kittinger, a retired Air Force colonel and former Vietnam POW. A lawsuit, claiming theft by Red Bull of the idea, held things up; it was settled out of court last year.

Baumgartner - a lean but muscular 5-foot-8 and 150 pounds - said he minimizes risk through preparation.

"We're not going from zero to hero," Baumgartner said last month.

Like NASA, he's put together a big what-if list: What if this goes wrong? What if that does?

What scares him most, Baumgartner said, sounding like so many astronauts, are the things he hasn't thought of yet.

Simply put, the unknown unknown.

More information: Red Bull Stratos: www.redbullstratos.com/
National Museum of the U.S. Air Force: tinyurl.com/2dsnn6