High-Def Video of NASA's 'Flying Saucer' Test

On June 28th, NASA's Low-Density Supersonic Decelerator project conducted the first shakeout flight of a new way of testing technologies that will one day be used to land heavier and more massive payloads on the surface of Mars.

We used a large 34-million cubic foot scientific balloon to hoist a 7,000 pound test vehicle to an altitude of 120,000 feet. The test vehicle was then released from the balloon, spun up for stability and a large solid rocket motor accelerated to over four times the speed of sounds and an altitude of 180,000 feet. A condition very similar to the conditions you see at Mars.

Once we reached the correct speed and altitude, we de-spun the vehicle and then we got a chance to launch our new supersonic inflatable decelerator.

The camera lends covers deploy, the cameras adjust and it inflated very uniformly, without disturbing the vehicle too much.

And now you're seeing previously unreleased high-definition, high-resolution, high-speed video, taken during the test. We used this supersonic inflatable decelerator to slow us to something closer to two and a half times the speed of sound.

We used a ballute to help deploy the new supersonic parachute. The ballute is shot out the back of the vehicle at over 200 feet per second and then we cut the ballute free. It begins to pull the parachute off the back of the vehicle.

As the parachute begins to inflate, we see one of the surprising aspects of this test, which is the early on set of tears in the parachute.

We see where those tears began, how they propagated and otherwise how the parachute behaved as it began trying to inflate behind this very blunt object, moving two and a half times the speed of sound, punching a hole in the atmosphere, including extremely turbulent, chaotic environment for the parachute to exist in.

We now have a data set that we will use to prepare for two more tests beginning June 2015.