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SpaceShipTwo's First "Feathered" Flight Marks Latest Milestone for Virgin Galactic.

Early on Wednesday 4th May 2011, in the skies above Mojave Air and Spaceport CA, SpaceShipTwo, the world's first commercial spaceship, demonstrated its unique reentry 'feather' configuration for the first time. This test flight, the third in less than two weeks, marks another major milestone on the path to powered test flights and commercial operations.

SpaceShipTwo (SS2), named VSS Enterprise, has now flown solo seven times since its public roll-out in December 2009 and since the completion of its ground and captive -carry test program.

This latest flight saw a 6:43AM (local) runway take off for VSS Enterprise, attached to its WhiteKnightTwo (WK2) carrier aircraft, VMS Eve. At the controls of the of the spaceship were Scaled Composites' test pilots Pete Siebold and Clint Nichols whilst Mark Stucky, Brian Maisler and Brandon Inks crewed the purpose built, all composite, twin fuselage WK2.

After a 45 minute climb to the desired altitude of 51,500 feet, SS2 was released cleanly from VMS Eve and established a stable glide profile before deploying, for the first time, its re-entry or "feathered" configuration by rotating the tail section of the vehicle upwards to a 65 degree angle to the fuselage. It remained in this configuration with the vehicle's body at a level pitch for approximately 1 minute and 15 seconds whilst descending, almost vertically, at around 15,500 feet per minute, slowed by the powerful shuttlecock-like drag created by the raised tail section. At around 33,500 feet the pilots reconfigured the spaceship to its normal glide mode and executed a smooth runway touch down, approximately 11 minutes and 5 seconds after its release from VMS Eve.

All objectives for the flight were met and detailed flight data is now being analysed by the engineers at Scaled Composites, designers and builders of Virgin Galactic's sub-orbital spacecraft.

George Whitesides, CEO and President of Virgin Galactic, said: "This morning's spectacular flight by VSS Enterprise was its third in 12 days, reinforcing the fast turnaround and frequent flight-rate potential of Virgin Galactic's new vehicles. We have also shown this morning that the unique feathering re-entry mechanism, probably the single most important safety innovation within the whole system, works perfectly. This is yet another important milestone successfully passed for Virgin Galactic, and brings us ever closer to the start of commercial operations. Credit is due to the whole Scaled team, whose meticulous planning and great skill are changing the course of history."

Pete Siebold, who along with Clint Nichols piloted the spaceship added:

"In all test flight programs, after the training, planning and rehearsing, there comes the moment when you have to go up there and fly it for real. This morning's flight was a test pilot's dream. The spaceship is a joy to fly and the feathered descent portion added a new, unusual but wonderful dynamic to the ride. The fact that it all went according to plan and that there were no surprises is a great testament to the whole team."

ENDS

Wing Feathering for Re-Entry

Perhaps the most innovative safety feature employed by SpaceshipOne and now SpaceShipTwo is the unique way it returns into the dense atmosphere from the vacuum of space. This part of space flight has always been considered as one of the most technically challenging and dangerous and Burt Rutan was determined to find a failsafe solution which remained true to Scaled Composite's philosophy of safety through simplicity. His inspiration for what is known as the feathered re-entry was the humble shuttlecock, which like SpaceShipTwo relies on aerodynamic design and laws of physics to control speed and attitude.

Once out of the atmosphere the entire tail structure of the spaceship can be rotated upwards to about 65°. The feathered configuration allows an automatic control of attitude with the fuselage parallel to the horizon. This creates very high drag as the spacecraft descends through the upper regions of the atmosphere. The feather configuration is also highly stable, effectively giving the pilot a hands-free re-entry capability, something that has not been possible on spacecraft before, without resorting to computer controlled fly-by-wire systems. The combination of high drag and low weight (due to the very light materials used to construct the vehicle) mean that the skin temperature during re-entry stays very low compared to previous manned spacecraft and thermal protection systems such as heat shields or tiles are not needed. During a full sub-orbital spaceflight, at around 70,000ft following re-entry, the feather lowers to its original configuration and the spaceship becomes a glider for the flight back to the spaceport runway.

About Virgin Galactic

Virgin Galactic is on track to be the world's first commercial spaceline. The new spaceship (VSS Enterprise) and Mothership (VMS Eve) are both being developed for Sir Richard Branson's Virgin Galactic by Mojave-based Scaled Composites. Founded by Burt Rutan, Scaled developed SpaceShipOne, which in 2004 claimed the \$10m Ansari X Prize as the world's first privately developed manned spacecraft. Virgin Galactic's new vehicles share much of the same basic design but are being built to carry six customers on sub-orbital space flights, allowing an out-of-the-seat zero gravity experience and offering astounding views of the planet from the black sky of space. The VSS Enterprise test flight program will continue through 2011, prior to commercial operations, which will be based at Virgin Galactic's future headquarters at Spaceport America in New Mexico.

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