

J&P Visits Scaled Composites at Mojave Spaceport.

Phil Lewis
Chief Engineer – J&P Technologies

Recently I visited Mojave Spaceport with fellow Commercial Space Federation members, and was privileged to receive a tour of SpaceShipTwo and its launch platform WhiteKnightTwo from Matt Stiemetze, Program Manager at Scaled Composites.

Looking back I have but one word to say, “WOW”. The simplicity of an optimal solution to a complex engineering problem never ceases to amaze me. Being a student of commercial, military, and space flight projects I was impressed by multi-functionality of Matt’s designs, which he attributed to “not having much money”. For some reason I view that as a half-truth, yea maybe the money was tight, but it takes a pretty good engineering team to come up with the design solutions they did.

Having identical cabins in both SpaceShipTwo and WhiteKnightTwo may seem like a simple cost saving solution to cabin design, having WhiteKnightTwo simulate SpaceShipTwo handling characteristics via deployable flight control surfaces was nothing short of genius. While NASA trained its Shuttle pilots using a modified Gulfstream II, WhiteKnightTwo is SpaceShipTwo’s training aircraft for both pilot and crew, resulting in one less aircraft to maintain. Another benefit of the design is that in the end it allows for more space for paying customers, both WhiteKnightTwo and SpaceShipTwo can host “crewmembers”. My guess is WhiteKnightTwo will also give you the ride of your life.

After reviewing such engineering marvels I was left with one question, “What can J&P, a small business in Houston, do for Commercial Space Flight?” This time I’ll take my queue from Scaled Composites and come up with a simple solution, “Payload Safety and Assurance”.

People are not the only paying customers for commercial space flight, and J&P has a long history of assuring the Safety of both the International Space Station and the Space Shuttle Programs, including their payloads. At J&P, we are very familiar with what it takes to fly, and fly safely, while at the same time making sure research goals are achieved. Having a payload that does not function properly yielding erroneous results maybe undesirable and costly, but having that payload potentially cause catastrophic damage to its host vehicle is simply unacceptable.

At J&P we understand the importance of minimizing risk while keeping cost under control. To this end J&P can offer basic payload design guidelines that not only ensure the host vehicle is undamaged due to a payload anomaly, but also provide a level of assurance that the payload will function as designed, thus maximizing the probability of success for the “paying customer”. In other words, J&P can minimize risk to the vehicle while the probability of success for the payload is maximized. Sounds like another simple solution to a complex engineering problem.