

# Burt Rutan

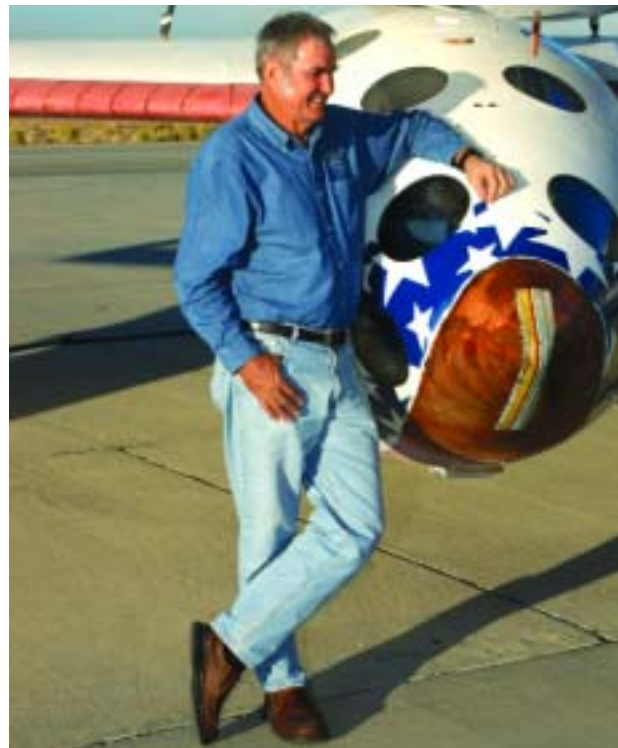
## Aviation's Innovator is now Space's Hottest Barnstormer

It is the coolest invention of 2004, says *Time* magazine. "For solving the problems of sub-orbital flight and re-entry with ingenious design, for boldly going where NASA fears to tread and returning without a scratch, but most of all for reigniting the moon-shot-era dream of zero-gravity for everyone," SpaceShipOne, you gotta admit, is not just cool, but awesomely cool. Pretty hot for its designer Burt Rutan. For now it is done: Scaled Composites, the visionary aeronautical engineer-adventurer-entrepreneur's Mojave, CA company, has made a plane that can make it to space and back. This, the small, biplane-sized SpaceShipOne proved June, 2004, by twice rocketing to altitudes of 64 and 70 miles, respectively, and clinching for its maker – the first non-government organization to launch a reusable manned craft into zero-gravity, suborbital space – the prestigious \$10 million Ansari X Prize. This is the prize modeled on the \$25,000 Orteig Prize of 1919, the prize that spurred Charles Lindbergh to solo across the Atlantic. Now, Rutan is arguably aviation's coolest – and hottest – guy on the planet.

But to hear it from him, the achievement is not all that extraordinary. True, it is the first step manifested of his vision for a future where, "hopefully, within 10 years," he says, "ordinary people, for the cost of a luxury cruise, can experience a (round-trip) rocket flight into the black sky above the earth's atmosphere." But still. "I'm doing essentially the same kind of thing I did when I was a kid," he says of his work toward creating everyday space travel "for the rest of us." "Except (now) I'm doing it with rocket ships and airplanes and special vehicles."

It must be his famously favorite junk food (Arby's barbecued beef and Jack-in-

the-Box tacos) that is keeping the 61-year-old Rutan well-grounded even as his imagination and technical savvy have made him an aviation comet whose trail is a shower of amazements. Yes, he may have been building airplane models at age six back in his hometown of Dinuba, CA before graduating third in his class at California Polytechnic University and from 1965-72 serving as a



flight test project engineer with the Air Force out of Edwards AFB. But Voyager? What of the weird, insect-looking craft that in 1986 thrilled flyers everywhere for its record-breaking, nine-day, nonstop, round-the-world flight? Or for that matter, what of such trademarked carbon fibre composite projects as Dennis Connor's catamaran in the America's Cup challenge, or the balloon gondola in which Virgin Atlantic's Richard Branson attempted to circle the globe, or even the jaw-dropping body of General Motors's 100 mpg showcar? These, of course, in addition to the homebuilts that

helped make his name, from the VariEze to the Defiant, the Quickie to the Solitaire?

"I like to experiment," says Rutan. Inquisitive, creative, hardworking and enjoys what he does – a "fire in the eyes." These are the qualities aviation's coolest/hottest guy says he likes to see in his Scaled Composites colleagues and new hires, which is to say such a fire likely blazes within. After all, Rutan is "so innovative," it is said, that even when his oldest employee, longtime friend and loyal test pilot Mike Melville, saw SpaceShipOne for the first time, he was stupefied. "I thought he had lost his mind," he said.

Credit the Wright Bros. for at least some inspiration. Rutan says: "Building something in your little shop and then putting it on a train and taking it to another state just to find a hill with some wind. Those guys had enormous drive!" Credit a philosophy of "question, never defend" that "has allowed us," says Rutan, "to take courageous steps by safely flying new ideas and new performance envelopes." And credit no small amount of derring-do with every one of his projects, whether it's the 281 Proteus that in 2000 set three world altitude records (peak altitude: 62,786 ft) or SpaceShipOne, his eureka! idea that woke him one morning in his Mojave desert home with its simplicity. How to fly into space – and back – without burning to a crisp on re-entry? Design a craft that behaves much like a badminton shuttlecock so it doesn't hurtle but floats back to earth. He started to sketch. Was aviation ecstatic with the resulting concept? "If you don't have a consensus it's nonsense," says Rutan of the universal derision his spacecraft first attracted. "You don't have a breakthrough."

The guy's got gumption all right. "Try and fail; try and fail." This is one Rutan



secret-of-success that now finds the "barnstormer of space," as he once dubbed his fellow X Prize competitors, taking aviation into an almost sci-fi future. His preferred aircraft-designing workstyle of "sketchpads and colored pencils and away from the office environment" (an "intentional move not to use computers," he says) may be as old-fashioned as the Wright Flyer. But his Flash Gordon etchings are not. Five larger versions of SpaceShipOne with seats for five passengers and a pilot already have been ordered by billionaire Richard Branson for his proposed Virgin Galactic airline (airfare: \$190,000; current waiting list of confirmed passengers: 7,000). He and Rutan plan to be on Virgin Galactic's first space flight, possibly in 2007. We hope, says Rutan, "to enjoy a few minutes of weightless excitement, then feel the thunderous deceleration of the aerodynamic drag on entry." He adds: "This isn't just a pipe dream. We will get this to the point where thousands of people can go into space." And then potentially shop for

their own personal space-tourism craft? "It's a spaceship that fits in your two-car garage, and you can take it to space every other day," says X Prize founder Peter Diamandis. All is possible. Says Rutan: "Stay tuned."

Father of two, grandfather of three, aviation's cool-hot time traveler is nonetheless very here and now. He remembers clearly his first solo at age 16. "It was an Aeronca Champ, in 1959." He is "very fascinated" by the "inspiration on structural design" that comes from nature. At one test pilots symposium presentation, he says, "it was just phenomenally enjoyable and interesting, studying how a bird operates." And he has a typical day in the life of any hot hot hot (hence ultra-cool) aviation visionary. "Oh, you ought to follow me around," he says, "it's wild."

For if it isn't his solitary hours designing – "almost solely done on evenings and weekends...I certainly do enjoy it" – it is marketing, proposals...and tinkering. "I also get in and work on building airplanes," he says. "I get my hands dirty, still." ✕

**It's a bird, it's a plane, it's a rocket into space: Rutan's fantastic, future-is-now SpaceShipOne**

