Oregon Rocketry March Meeting Minutes
Giovanni's Restaurant, March 4, 2009

The meeting was called to order at 7:50 PM by Gary Goncher.
Officers present: Gary Goncher and Tim Ryerse.

Launch Report from Tillamook
A new launch site for Oregon Rocketry was found during the past month by Robert Nech. Robert is a former Washington Aerospace member who found the Mansfield launch location for them. A preliminary launch was held at the Tillamook Airfield on Sunday, Feb. 28th, with members bringing their own ground support equipment. A waiver for 10,000 ft MSL was in place for the launch. The weather was great for the launch, cloudy but little wind. Participants reported that the field should support single deploy launches to about 4k feet and dual deploy launches to about 6k feet without getting into trouble from surrounding terrain. Robert Nech reported that a second launch at Tillamook has tentatively been scheduled for Sunday, April 18th – great job Robert!

Upcoming Launches
The next model rocket will be held at Wilsonville Memorial Park on Sunday, March 13. The first OROC sponsored high power launch of the season will be held on May 21-23 at the Brothers launch site. As usual the Friday launch will be research only (must be TRA level 2 to participate), and Saturday and Sunday launches will be open to all.

Walter Jones Carbon Fiber Presentation
Walter Jones is a local veteran of the aerospace industry who pioneered the use of carbon fiber composites for many uses: missile nosecones, propellant tanks, rocket nozzles, aircraft fuel tanks, aircraft structures, and space boosters. Walter gave a fascinating account of his experiences in the industry over the course of over 50 years. He started his career at B.F. Goodrich in 1954 designing a fiberglass helmet for a pressure suit. He then worked on re-entry shield for GE using fiberglass and phenolic resin that survived the harsh conditions of re-entry from space. His next project was Atlas and Minuteman nosecones using sulfuric acid-leached fiberglass that formed a refractory silica when heated in a furnace. He then worked on high pressure (10000 PSI) composite compressed air tank for de-icing Cessna wings in flight, followed by Polaris missile liners that were required to withstand 7500 degree temperatures for 60 seconds. He then joined a phenolic rocket nozzle start-up company, later bought out by HITCO, and developed carbonized rayon fiber composites. High modulus graphite yarn was later developed, and carbon-carbon interfaces fabricated for nozzles. Walter later joined Burt Rutan and worked with him on carbon fiber composites for his aircraft.

Walter answered questions about carbon composites after his talk. He advocated use of carbon fiber fin materials in high velocity rockets to reduce flutter, which is a culprit in loss of fins (or aircraft wings). He suggested that carbon fiber epoxy pre-preg works extremely well, the drawback being that it must be refrigerated. For supersonic flights, he recommended that high temperature cure epoxies (350 degrees) be used. He also recommended filament-wound carbon fiber composites over carbon fiber cloth for

maximum strength. Adhesion of fins to carbon fiber tubes was one question he did not have a good answer for. Walter still does consulting in composite materials, and can be reached at walterjones686@comcast.net. Thank you Walter for a very enlightening presentation.

Treasurer's Report
There was no treasurer's report this month since the treasurer was not able to attend the meeting.

The meeting was adjourned at 9 PM.

Gary Goncher, Oregon Rocketry Secretary
Please send any additions or corrections to the minutes to ggoncher@verizon.net