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## **ALL-COMPOSITE SAPPHIRE\*77 PRESSURMAXX VESSELS REPLACE OLDER TECHNOLOGIES AS THE LOW COST, LIGHT WEIGHT PATH TO SPACE**

**Newly Created Tank Designs Outperform Older Approaches and Cost Less**

**FOR IMMEDIATE RELEASE**

HAWTHORNE, CA, March 24, 2009 – Two southern CA aerospace companies, Microcosm, Inc., and Scorpion Space Launch Company (SSLC), have teamed up to create a series of all-composite, cryogenic pressure vessels called PRESSURMAXX Sapphire\*77 because they are tested down to 77K, the temperature of liquid nitrogen and colder than liquid oxygen.

According to Dr. James Wertz, President of Microcosm, “In addition to new materials and new manufacturing methods that make them low-cost and light-weight, the Sapphire pressure vessels incorporate two groundbreaking innovations that are particularly important to end users. All-composite bosses replace older, very heavy metal bosses and are superior because the tank is now a uniform material throughout with a single, near-zero thermal coefficient of expansion. In addition, the vessels can now be built with an integral stringer system, designed to customer specifications, that allows the tank to completely replace the structure that was previously required to hold it.”

Jack Kulpa, CEO and President of SSLC stated that “The net results of these multiple advances is a system solution that is lower cost, much lighter weight, performs better, and can replace both pressure vessels and their supporting structure with a single, integrated system that can carry much higher loads and is faster to build than older metal containing systems. This technology also provides attach points and mounting features that are seamlessly integrated into the tank wall.”

These advances will be particularly important in those applications where mass, cost, and schedule are important or which require a unique design for a specific use. Application areas are expected to include launch vehicles and strap-on boosters, lunar and planetary rovers and structures where weight and all-temperature performance are particularly important, and a new class of ultra-light spacecraft in which the tank becomes the central structure of the spacecraft and the usual independent load-bearing structure is entirely eliminated. The latter

application is very similar to the unibody automotive chassis concept carried into the world of spacecraft.

For further information about SSLC's new PRESSURMAXX Sapphire composite tank product line, please visit their website at [www.scorpius.com](http://www.scorpius.com).

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