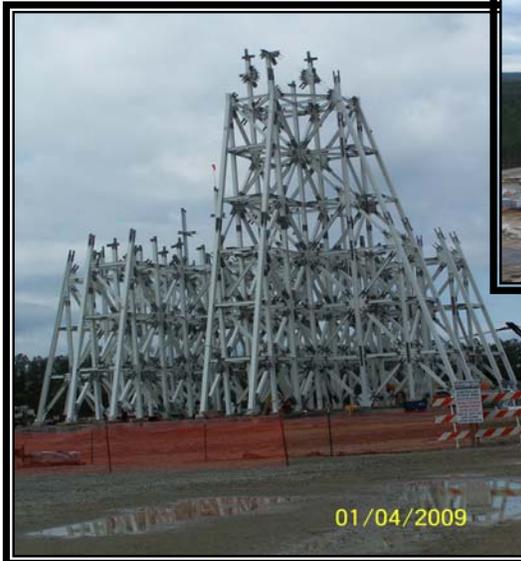




Progress on Test Stand (TS) A-3 at Stennis Space Center (SSC): Progress continues on the construction of TS A-3. The first of four sequences to extend the tower height from 70 to 140 feet has been completed. The completed structure will be over 300 feet tall.



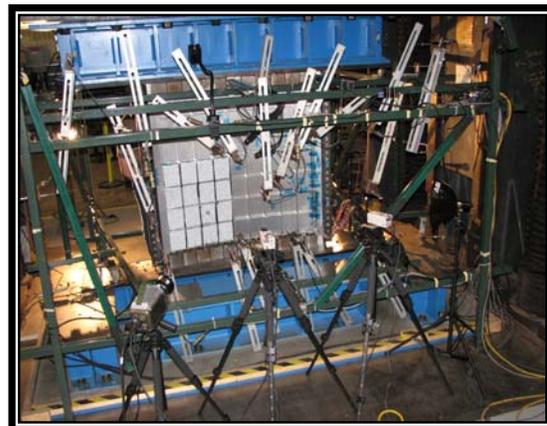
A-3 Test Stand



A-2 and A-3 Test Stands

Recent activities specific to the Elements include:

- **Upper Stage (US)**
 - **US Aluminum-Lithium (Al-Li) Panel Test Series:** Structural development buckling tests have been completed for the small Al-Li panel test series, designated SD01, for the Ares I US. The final orthogrid pattern test panel was successfully tested to failure on December 18. Buckling occurred at a load close to 339,000 lb, which was comparable to previous results. Structural analysts are continuing to review and utilize all of the SD01 test data. SD01 testing is now complete for the Gilmore load test machine in Marshall Space Flight Center (MSFC) Building 4619.



As-Tested SD01 Configuration



The Gilmore will now undergo preparations for the next structural test series, designated SD02, which will comprise testing of a larger series of Al-Li test panels. SD02 testing is currently scheduled to start in late 2009.

- **US Manufacturing & Assembly (M&A) Subsystem:** A demo of sub-scale Common Bulkhead bonding has been planned using Al-Li 2195 External Tank (ET) gores. The bonds are currently scheduled for February 5 and March 20, in MSFC Building 4707. Two pairs of ET gores that were friction stir welded together in August 2008 will each be bonded to the other with Honeycomb and will go through the identical Common Bulkhead bonding and measuring process. The images included here show the tooling, designed by Boeing and manufactured by MSFC Engineering, that will support the gore-pairs during measuring and bonding heat treatment. Following these subscale demos, the Common Bulkhead Manufacturing Demonstration Article (MDA) is planned.



Lower Frame Support



Upper Frame Support

- **Flight and Integrated Test Office (FITO) and Ares I-X**
 - **Ares I-X Roll Control System (RoCS) Element:** Activities specific to the RoCS Element include:
 - The RoCS Team worked extensive hours over the holiday break to ensure all components and piece parts are ready for assembly and/or actually assembled to the flight modules. Functional testing of engine assemblies was completed and engines are mounted to panels. Feedline tubing is being installed. Fairing fit checks and assembly are complete, and fairings are ready for paint shop and final integration.
 - Remaining Mechanical Ground Support Equipment (MGSE) was ready to ship to the Kennedy Space Center (KSC) before the holidays, but receipt of the equipment could not be coordinated. This equipment will be shipped as soon as possible after pre-ship review.

The Ares Projects looks forward to the First Stage (FS) Forward Skirt Extension separator test and the US Ullage Settling Motor Subsystem igniter open air tests beginning in January.

...and as of this Ares Projects Weekly Summary, there are only 183 days until the first Ares I test flight, Ares I-X!!!