



On August 27, 2009, the DM-1 static test was automatically halted 20 seconds prior to ignition. Through investigation of the instrumentation it was determined that one of the fuel valves in the tilt side auxiliary power unit (APU) fuel supply system did not open as commanded at startup. This condition prevented fuel from entering the APU gas generator, and triggered the built-in safety checks of the thrust vector control system. Since this APU is the same design as is used on the Space Shuttle, the first priority was to determine that the APU hardware was not at issue and clear the STS-128 mission for launch. The investigation team was able to successfully demonstrate that the APU valve on the DM-1 motor was functional during troubleshooting late Thursday night. The investigation is ongoing and focused on the ground test equipment, which is unique to the ground test configuration. The team is working towards a September 10 test date.



Ares I First Stage DM-1 static test motor

Recent activities specific to the Elements include:

First Stage (FS)

- ***Deceleration Subsystem (DSS) Extraction Parachute System Tow Test:*** A tow test of the modified extraction parachute system to be used on the next main parachute drop test (MDT-3) was successfully conducted last week at Edwards Air Force Base. Since the standard military extraction parachute system has a load limit of 60,000 pounds, United Space Alliance and their subcontractor have modified the standard extraction parachute system and enhanced its capability to 90,000 pounds. The test objective was to characterize the performance of the modified extraction parachute system in support of our heavy parachute drop tests. All test objectives were met and demonstrated as well as visually recorded.

Upper Stage (US)

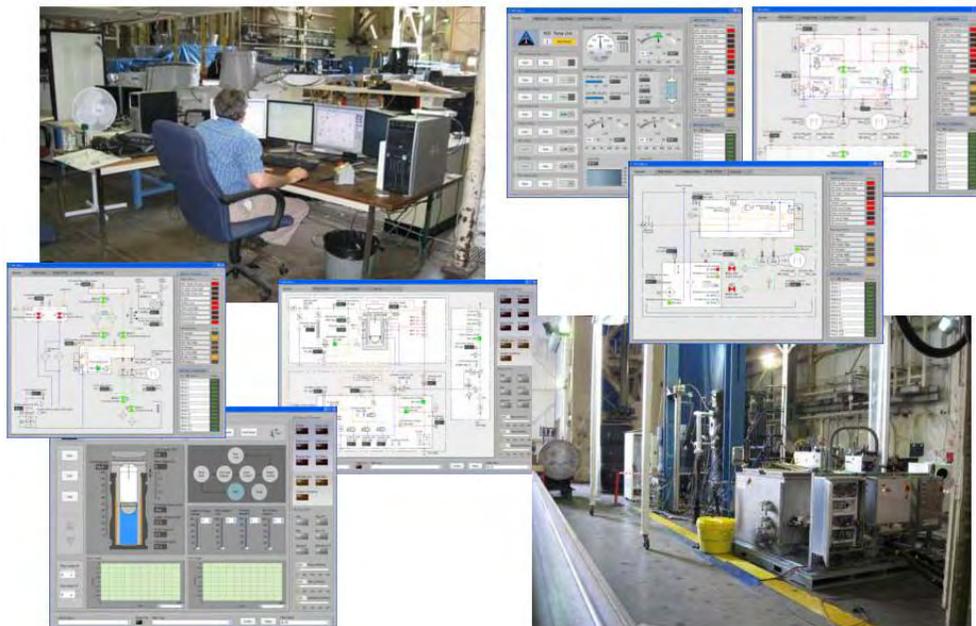
- US Structures & Thermal (S&T) Subsystem:** Boeing Upper Stage Production Contractor (USPC) recently fabricated a composite interstage pathfinder development panel and then fabricated test coupons from the panel. This fabrication processing will be used to aid in process specification development. Objectives included demonstration of fiber placement, evaluation of core splice, demonstration of lightning protection material application, core bonding, and evaluation of fiber breakout during machining operations.



Test coupons fabricated from interstage pathfinder development panel

Flight and Integrated Test Office (FITO)

- Building 4619 – Hydrodynamic Support (HDS):** The Hydrodynamic Support (HDS) system's dynamic test frame is currently being fabricated. Upon completion of the test frame, the HDS will undergo functional testing prior to relocating it to Test Stand 4550 for use with the Integrated Vehicle Ground Vibration Test (IVGVT). Sophisticated controls are being developed to monitor and control the HDS for testing.



Initiation of checkouts for HDS functional testing in 4619

Project Integration

- ***Friendship Civitan Club:*** The Ares outreach team presented the Junior Ambassador Package that explains NASA's exploration story to clients of the Arc of Madison County on August 27. The Arc serves people with mental retardation and developmental disabilities. It provides them the chance to choose and realize their goals about where and how they learn, live, and work—goals that our Ares outreach efforts support.
- ***Development Motor 1 Support:*** The Ares outreach team posted links on Facebook to multiple DM-1 stories and videos August 25–28. The team also posted behind-the-scenes video for DM-1 to YouTube and Ares web sites and broadcast the DM-1 static test firing event through the decision to cancel the test due to a technical problem. The DM-1 news release, photos, videos, and live-streaming videos were posted to the Constellation, Ares, and Marshall Newsroom sites, and photos were distributed to Flickr on August 27.



Boy Scouts pick up Ares Projects literature at the DM-1 test in Utah

The Ares Projects look forward to the First Stage DM-1 static test at ATK in Promontory, Utah on September 10.

National Aeronautics and Space Administration

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