



The first Fixture Assembly Jig (FAJ) has been delivered to Marshall Space Flight Center (MSFC) and installed in Building 4708. FAJs are stationary tools with lift and rotation capability that are used to assemble full-scale Upper Stage (US) common bulkheads. There will be two FAJs at MSFC, as well as on the production line at the Michoud Assembly Facility (MAF). Boeing subcontracted to AMRO Corp to fabricate the FAJ systems to a very high tolerance, and due to the weight of the Invar-material stiffening rings, the systems are built with higher-strength steels and iron castings.



Fixture Assembly Jig installed and assembled to stands in Building 4708



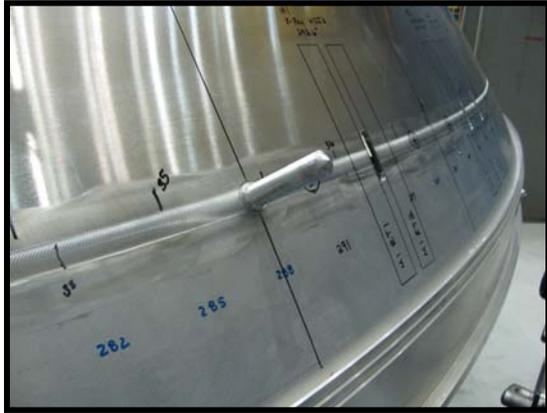
The Test Configuration Review (TCR) for the third Drogue Parachute drop test (DDT-3) was successfully conducted last week at ATK. DDT-3 will be the first in the series of drogue parachute engineering tests, which will generate data to be used to support the Critical Design Review (CDR) later this year. DDT-3 will be a design load structural test of the drogue parachute and will be conducted in Yuma, AZ on April 14. A minimal number of action items were recorded and will be closed prior to the test. Packing of the drogue parachute will be completed this week, and all test support hardware will be shipped to Yuma by the end of March.



Packing drogue test parachute, installing suspension lines



Upper Stage (US)



First Common Bulkhead-to-Y ring plug weld

Manufacturing and Assembly (M&A) Subsystem: The first plug weld was recently completed on a full-scale 2219 US common bulkhead dome welded to a 2014 y-ring. The plug weld was performed to plug a hole that is left behind on a self-reaction friction stir weld. Subsequently, the plug will be shaved flat and Non-Destructive Evaluation (NDE) inspected for any defects.

US Stage Operations: Work continues on three new US manufacturing areas in B103 at MAF. The foundations have been completed for the Robotic Weld Tool (RWT) and Vertical Assembly Building (VAB) facilities, while the foundation for the Machining Center facility is scheduled to be completed by the end of the month. Tooling installation for the RWT facility has begun, tooling installation for the Machining Center will begin soon, and VAB tooling installation will begin later this year. All total, approximately 7,600 cubic yards of earth has been excavated, and 5,700 cubic yards of concrete has been poured from 420 concrete trucks.



MAF VAB foundation



First MAF US RWT X-Axis Rail being lowered on tie rods



Ares V

Ares V Analysis Cycle Face-to-Face: Ares V team hosted the third Phase A, Analysis Cycle (PA-C3) to assess progress toward System Requirements Review (SRR). Approximately a hundred people from Ares V, Ground Systems, Altair and Constellation supported the integration meeting March 8-12, in Huntsville. This cycle focused on three primary areas: closing the performance analyses from PA-C2, evaluating the vehicle configurations extensibility from quick Design, Development, Test, and Evaluation (DDT&E) to upgraded performance, and expanding the requirements scope to the full set of Design Reference Missions (DRMs).

Project Integration

Ares Education Outreach: An Ares historian presented the “History of Rocketry” to sixth grade students at Holy Spirit School in Huntsville, on March 10. The students also did an activity on the stages of a rocket. Ares continues to tell the NASA exploration story and explain its importance to students.

International Electrical and Electronics Engineers (IEEE) Aerospace Conference: The Ares outreach team drafted a paper and presentation about Ares V development progress and potential heavy-lift vehicle uses. The chief architect of the Johnson Space Center System Engineering and Integration Office presented the paper on March 10 for the Ares V Integration Manager. Many people attended the session. The Ares outreach team continues to report on progress in designing a heavy-lift vehicle for exploration, science, and other uses.

The Ares Projects look forward to the launch of STS-131, Space Shuttle Discovery, planned for April 5.