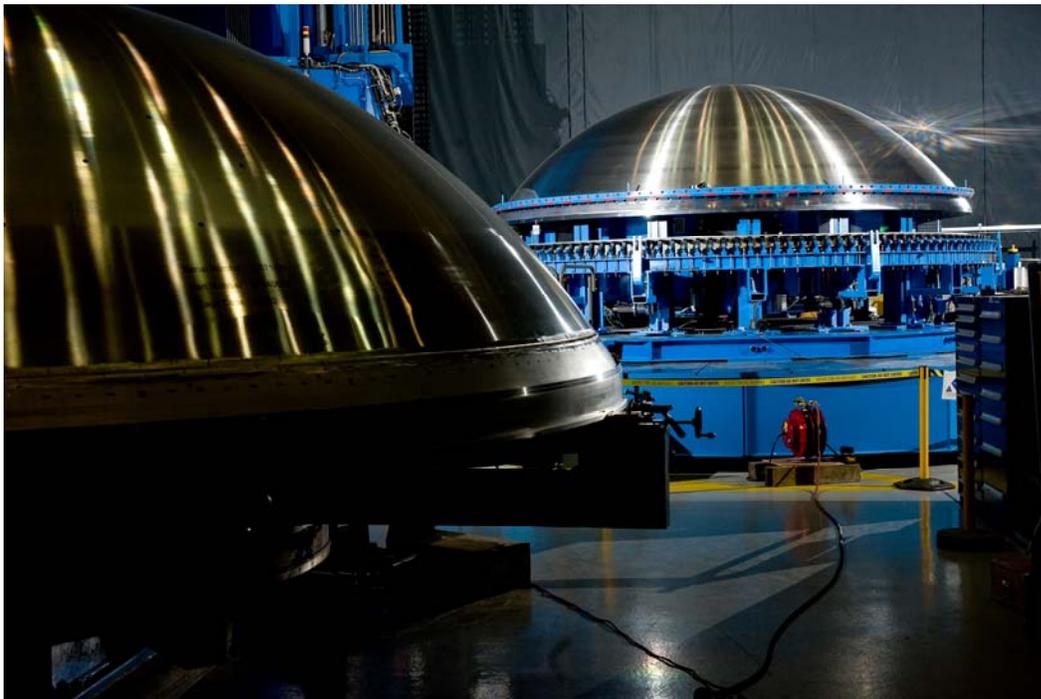




Engineers in Marshall Space Flight Center (MSFC) Building 4755 conducted a successful first weld of the upper stage common bulkhead (CB) manufacturing demonstration article (MDA) aft dome-to-y-ring on April 16. This important achievement will lead to CB structures for the Structural Development (SD) 19 cycle tests and the lessons learned will be available for production implementation. The CBMDA will demonstrate that the Upper Stage Manufacturing & Assembly (M&A) team has assessed the hardware material properties and manufacturability to a high enough level for design confidence to proceed at the Critical Design Review (CDR) level.



The CBMDA is shown on the Robotic Weld Tool in Building 4755. An earlier confidence weld dome can be seen in the foreground.

Ares V

Ground Operations (GO) Technical Interchange Meeting (TIM): Several members of the Ares V team attended a GO TIM at Kennedy Space Center (KSC) April 19–22. The team was successful in gaining an understanding of the ground operation challenges to be considered early in the Ares V development. Topics covered during the week included Ground Systems capability, interfaces, payload encapsulation and processes. The team became familiar with the facilities that could be utilized for processing of Ares V in support of expanding the focus of Ares V/Ground Operations flow and requirements data sets.

Upper Stage (US)

Test Subsystem: A combined MSFC/Glenn Research Center (GRC) Engineering team is in the process of completing the design for the Common Bulkhead Proof Test Fixture (CB-PTF) for the Ares I upper stage. The CB-PTF will be used for testing the SD 19 and Structural Qualification (SQ) 03a tests of the CB at MSFC.

Several components have completed the design phase and are now in fabrication. The CB-PTF will utilize the upper and lower barrel forgings, depicted below. The forgings, which are on order from Ladish Company, Inc., Cudahy, WI, are currently being processed through the various manufacturing processes and are on schedule to be completed in the September 2010 timeframe.



Barrels in the forged and rough machined states prior to heat treatment.

Project Integration

High School Students United with NASA to Create Hardware (HUNCH) Presentation Day: The Ares Projects outreach team supported two Ares presentations and presented certificates to 100 HUNCH students and faculty advisors attending HUNCH Presentation Day at Marshall Space Flight Center on April 23. HUNCH provides work experiences to inspire high school students to seek careers in science and engineering. The students involved in this session planned, designed, and modeled hardware for the Ares I upper stage and J-2X engine. HUNCH is a collaborative effort among NASA Space Operations and Exploration Systems Mission Directorates and Marshall's Academic Affairs, Training and Crew Operations, and Ares Projects offices.

The Ares Projects look forward to the launch of STS-132, Space Shuttle Atlantis, on May 14.