



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Weekly Reports

September 17, 2004



National Aeronautics and
Space Administration

Upcoming Events:

- O-Ring Test Fixture (OTF) Vacuum Test - Suspended - J13
- Interface Plate Static Test - Date TBD - Location TBD
- Lower Joint Static Test - Date TBD - Location TBD
- STA Acoustic Test - Date TBD - ESTEC - Noordwijk, Netherlands (Schedule under review)
- STA Sine Sweep Test - Date TBD - INFN - Terni, Italy (Schedule under review)
- Full Assembly Modal & Static Tests - Date TBD - IABG - Munich, Germany
- OTF Vacuum Test - On going - J13

Status:

- The Alpha Magnetic Spectrometer (AMS) Project Manager, SEAT Program Manager, and Vacuum Case Lead traveled to STADCO in Los Angeles for discussions on the Vacuum Case fabrication schedule. The meeting was very productive and resulted in an agreement on a new schedule. STADCO has agreed to supply all required resources, including engineering, manufacturing and quality inspection, to meet the new schedule. STADCO was encouraged to do whatever is necessary to return the schedule to the delivery dates shown in the August 27, 2004 schedule.
- The AMS Design Lead participated in a series of meetings at the European Center for Nuclear Research (CERN) to develop the Integration Plan and the Integrated Assembly Schedule for the AMS-02 Payload.
- LMSO and KSC personnel continue to address potential issues in preparation for the Functional Integration Test (FIT) scheduled for January 17-28, 2005 at KSC. An agreement has been reached with JSC personnel to acquire the High Rate Frame Multiplexer on January 12 to allow for integration into the Payload Test and Checkout System (PTCS); and will be available until its return to JSC scheduled for January 24. This schedule change will drive PTCS testing first, followed by CITE testing, but should not have any negative impacts. Additionally, the High-Rate Comm Outage Recorder (HCOR) and the Automated Payload Switch (APS) will be delivered to KSC December 22 in plenty of time for integration and checkout activities. Finally, a Technical Interchange Meeting (TIM) is tentatively scheduled at KSC October 14 and 15 to develop the procedures for the FIT test. The dates for this TIM should be finalized early next week.
- The Structural Test Article (STA) Upper Support Ring was inspected and the mating surface for the Conical Flange does not meet the specified flatness requirement. The surface is wavy around the circumference and across the width. The maximum observed gap appears to be approximately .020 inches. LMSO requested that STADCO perform additional inspections on the ring to determine the maximum gap for the Conical Flange mating surface, using the Outer Cylinder mating surface as a datum. Once the information is received, an analysis will be performed to determine the maximum assembly stresses in the part.



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- The STA Vacuum Case Assembly drawing has completed the first check. Incorporation of redlines is pending return from checking.
- Dispositions for three discrepancy reports (DRs) written against the Upper and Lower Support Rings at STADCO are being prepared. The discrepancies are minor and the DRs will be dispositioned to use the parts "as-is".
- Vacuum Case Milestones

<u>Contract Deliverable</u>	<u>Due Date</u>	<u>Status</u>
First Article Conical Flange Complete	July 2004	(Machining complete, metal finish in work)
Weld Fixture Complete	August 2004	(Currently in use for rolled ring weld tests)
STA Support Rings Complete	September 2004	(Machining complete, metal finish in work)
Weld Development Complete	September 2004	(Flat plate qualification test in work)
STA Conical Flanges Complete	September 2004	(Machining complete, metal finish in work)
Flight Support Rings Complete	October 2004	
First Article Weld Complete	September 2004	
Flight Conical Flanges Complete	October 2004	
Shipping Fixture Complete	October 2004	(CDR complete)
STA Line Drill Operations Complete	October 2004	
STA Match Drill Procedure Complete	October 2004	
STA Weld Complete (for proof test @ STADCO)	November 2004	
STA Vacuum Case Delivery (on dock at STADCO)	November 30, 2004	
Flight Vacuum Case Delivery (on dock at STADCO)	December 15, 2004	