



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Weekly Reports

October 22, 2004



National Aeronautics and
Space Administration

Upcoming Events:

- Vacuum Case and Shipping Fixture Manufacturing Status Meeting at STADCO - October 25-28, 2004 - Los Angeles
- Electronics TIM and Uninterruptible Power Supply (UPS) CDR - November 1-5, 2004 – Taiwan
- STA Vacuum Case Delivery (on dock at STADCO) - November 30, 2004
- AMS-02 Integration Meeting - December 7-9, 2004 - CERN (Geneva)
- Thermal/Mechanical Workshop - December 13-14, 2004 - CERN (Geneva)
- Flight Vacuum Case Delivery (on dock at STADCO) - December 15, 2004
- Thermal Control System (TCS) Delta Critical Design Review (Δ CDR) - January, 2004 – JSC
- AMS General TIM - January 10-14, 2005 – KSC
- Tracker Thermal Control System (TTCS) PDR - January 2005, CDR - April 2005
- AMS-02 Phase II Safety Review - March 2005 - JSC

Upcoming Tests:

- AMS-02 Avionics Functional Interface Test (FIT) - January 2005 – KSC
- 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

Status:

- ***NASA JSC and LMSO hosted the very successful AMS General Technical Interchange Meeting (TIM) the week of October 18 - 22 at the Center for Advance Space Studies (CASS). LMSO personnel coordinated all activities associated with the TIM with representatives of CASS. LMSO AMS personnel



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provided a one-day review of all Hazard Reports compiled to support the Flight Safety Review of the AMS Payload and a presentation on AMS-02 Payload Integration Planning. LMSO personnel provided all catering during the five day event and hosted an evening reception jointly with NASA/JSC AMS project management for the international visitors and TIM attendees.

- The drawings for the Vacuum Case Test Fixture (VCTF) base fixture were submitted for formal check. Work is continuing on the Transition Frames, Rotation Frame, Z Standoffs, and Installation drawings.
- It was discovered that the coordinate system on the previous VCTF drawings was rotated 90 degrees and the loads models were based on this coordinate system. After discussing this issue with the Loads & Dynamics Engineer, it was decided that the new loads model would rotate the VCTF to the correct orientation since the models were already planned to be re-run with new strap data. Caution will be exercised when the new results are compared to the old results since the orientations will be different.
- Three drawings for Vacuum Case (VC) Ground Support Equipment (GSE) were released through the Engineering Drawing Control Center (EDCC).
- The VC Shipping Configuration drawing is in work. Appropriate models have been generated and drawing details are in work. The drawing is currently in engineering review. The VC Lifting Configuration drawing is also in work.
- Purchase requests are being generated New fasteners for the VC lifting hardware will need to be ordered after discovering that the fasteners in the building 16 AMS bond that were going to be used were downgraded to Class III due to quality issues.
- The LMSO Vacuum Case Lead will be traveling to Los Angeles October 25 - 28 for a series of meetings to discuss progress on the VC and Shipping Fixture manufacturing activities. A list of issues was generated for discussions at the meeting.

• 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	October 2004	
Flight Conical Flanges Complete	October 2004	
Shipping Fixture Complete	October 2004	(CDR complete)



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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