

Appendix G

AMS-02 Flight Safety Verification Tracking Log

NSTS/ISS PAYLOAD SAFETY VERIFICATION TRACKING LOG

a. FLIGHT

X

GROUND

c. Alpha Magnetic Spectrometer-02 (AMS-02)/STS-134/ULF-6

d. DATE:

April 12, 2011

e. Log No.	f. Hazard Report Number	g. Safety Verification Number	h. Safety Verif. Method (Identify Procedures By Number and Title)	i. Ground Operation(s) Constrained	j. Independent Verification Required (Yes/No)	k. Scheduled Completion Date	l. Completion Date	m. Method of Closure (Comments)
1	AMS-02-F01	1.1.1	Review and approval of the AMS-02 Structural Verification Plan (SVP) (JSC 28792), which includes the requirements in NSTS 14046, by the JSC Structures Working group (SWG). Individual test plans derived from the SVP will be submitted to the JSC SWG.	No	No	10/7/2010	10/5/2010	ESCG Document, ESCG-4460-10-LODY-DOC-0001, "Review of the Alpha Magnetic Spectrometer - 02 Structural Verification Plan and Model Correlation Report," dated October 5, 2010.
2	AMS-02-F01	1.1.2	Structural analysis will be performed to the appropriate factors of safety for all load conditions. Submittal of the AMS-02 Stress Analysis Reports to the JSC SWG and ISS Structures and Mechanisms Group.	No	No	10/7/2010	9/20/2010	AMS-02 Stress Report, ESCG-4005-05-AMS-0039-A, "Revised Strength and Stability Assessment of the Alpha Magnetic Spectrometer-02 (AMS-02) Unique Support Structure (USS-02), Vacuum Case, Payload Attach System (PAS) and STS and ISS Integration Hardware, and X-Structure Components," September 2010
3	AMS-02-F01	1.1.10	Sine sweep, "smart-hammer" or modal testing, or analysis (by subsystem) will be performed to verify the first natural frequency of any secondary structure with a global mode that is below 50 Hz. Submittal of the Sine Sweep, "Smart-Hammer" or Modal Test Plan, analysis methodology (part of the SVP) and Test Report to the JSC SWG.	No	No	8/25/2010	9/17/2010	ESCG Memorandum ESCG-4460-10-LODY-DOC-0218, "Summary of the Fundamental Frequencies for Components of the Alpha Magnetic Spectrometer (AMS)-02, Revision A, dated September 17, 2010

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4	AMS-02-F01	1.1.12	Other subdetector items in the AMS-02 SVP will be verified by letters of certification per SVP.	No	No	8/25/2010	9/17/2010	ESCG Memorandum ESCG-4460-10-LODY-DOC-0218, "Summary of the Fundamental Frequencies for Components of the Alpha Magnetic Spectrometer (AMS)-02, Revision A, dated September 17, 2010
5	AMS-02-F01	1.4.1	Documentation of all occurrences of structural interface joints negative margins against gapping (documented in Stress Report) in structural joints and submit to the JSC Structures Working Group.	No	No	8/25/2010	9/20/2010	AMS-02 Stress Report, ESCG-4005-05-AMS-0039-A, "Revised Strength and Stability Assessment of the Alpha Magnetic Spectrometer-02 (AMS-02) Unique Support Structure (USS-02), Vacuum Case, Payload Attach System (PAS) and STS and ISS Integration Hardware, and X-Structure Components," September 2010
6	AMS-02-F01	1.5.1	Review of design to demonstrate compliance with ICD 2-19001 paragraph 10.6.1	No	No	8/5/2010	7/9/2010	ESCG Memo ESCG-4390-07-SP-MEMO-0014, dated October 18, 2007, "Review of AMS-02 Vented Containers". ESCG Memo ESCG=4390-07-SP-MEMO-0013, "Stress Analysis of the USS-02 Hollow Members" dated October 17, 2007. ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0014, "Venting of the AMS-02 Vacuum Case," dated July 9, 2010.

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7	AMS-02-F01	1.6.1	Thermal Analysis of Heater Fault Condition	No	No	8/25/2010	7/20/2010	NLR (National Lucht- en Ruimtevaartlaboratorium) document AMSTR-NLR-TN-061, "AMS Tracker Thermal Control Subsystem TTCS Liquid line health heater calculations," Issue 1 dated November 19, 2009. ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0024, "TTCS Design Review," July 20, 2010
8	AMS-02-F01	1.6.2	Review of heater control circuitry	No	No	8/25/2010	7/20/2010	NLR (National Lucht- en Ruimtevaartlaboratorium) document AMSTR-NLR-TN-061, "AMS Tracker Thermal Control Subsystem TTCS Liquid line health heater calculations," Issue 1 dated November 19, 2009. ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0024, "TTCS Design Review," July 20, 2010
9	AMS-02-F01	1.6.3	Inspection of as built design for incorporation of proper thermostatic control devices	No	No	8/25/2010	7/20/2010	AIDC document AMSTR-AIDC-PR-037, "AMS Tracker Thermal Control Subsystem Thermal Switch and Sensor Gluing Integration Procedure," dated January 2008 and Sun Yat-Sen University document TTCS-SYSU-TEST-TRP-016, "TTCBQM Test Report for 2nd Micro-G Loop Performance Test," 10/7/2009. ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0024, "TTCS Design Review," July 20, 2010

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10	AMS-02-F01	1.7.1	Thermal Analysis of Heater Fault Condition	No	No	8/25/2010	6/15/2010	Thermal Analysis Documented in "AMS Tracker Plane 1NThermal Control" presentation, June 15, 2010
11	AMS-02-F01	1.7.2	Review of heater control circuitry	No	No	8/25/2010	7/12/2010	ESCG Memorandum ESCG-4295-ADV Sy-MEMO-0015, "Plane 1NS Thermostats," dated July 12, 2010
12	AMS-02-F01	1.7.3	Inspection of as built design for incorporation of proper thermostatic control devices	No	No	8/25/2010	6/30/2010	ATS CABLE100701-003, "Plane 1NS Heater, Thermostat and DTS Installation," closed June 30, 2010
13	AMS-02-F01	2.2.1	Material Compatibility Assessment	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010
14	AMS-02-F01	2.2.2	Approval of material use and MUAs by JSC ES4/Materials and Processes Branch	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010
15	AMS-02-F01	3.1.1	Compliance with the fracture control requirements of NASA-STD-5003 and SSP-30558C will be verified by approval of fracture control summary by JSC ES4/Materials and Processes Branch.	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010

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16	AMS-02-F01	4.1.1	AMS-02 Chief Engineer will collect all Certification documentation (including documentation for safety critical fasteners contained in components supplied by subcontractors) to verify that all structural fasteners will be #8 or larger and lot testing has been performed by JSC personnel to verify compliance with strength and chemical composition requirements of JPR 8730.2. Chief Engineer's Report on Completion will close action.	No	No	8/25/2010	8/5/2010	JSC Memorandum EA3-09-031, "AMS Safety Verification Log," dated November 30, 2009. JSC Memorandum EA3-10-030, "AMS Safety Verification Log Update," August 5, 2010
17	AMS-02-F01	4.2.1	Review of design by AMS-02 Project to ensure compliance.	No	No	8/25/2010	8/5/2010	JSC Memorandum EA3-09-031, "AMS Safety Verification Log," dated November 30, 2009. JSC Memorandum EA3-10-030, "AMS Safety Verification Log Update," August 5, 2010
18	AMS-02-F01	4.2.2	Inspection of as built design.	No	No	8/25/2010	8/5/2010	JSC Memorandum EA3-09-031, "AMS Safety Verification Log," dated November 30, 2009. JSC Memorandum EA3-10-030, "AMS Safety Verification Log Update," August 5, 2010

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19	AMS-02-F01	5.1.1	Certification documentation (including documentation for safety critical fasteners contained in components supplied by subcontractors) that appropriate back off prevention methods were used.	No	No	8/25/2010	8/5/2010	JSC Memorandum EA3-09-031, "AMS Safety Verification Log," dated November 30, 2009. JSC Memorandum EA3-10-030, "AMS Safety Verification Log Update," August 5, 2010
20	AMS-02-F01	5.2.1	Review of Design	No	No	8/25/2010	8/5/2010	JSC Memorandum EA3-09-031, "AMS Safety Verification Log," dated November 30, 2009. JSC Memorandum EA3-10-030, "AMS Safety Verification Log Update," August 5, 2010
21	AMS-02-F01	5.3.1	Inspection of fastener potting/embedding. (Cumulative report will close this verification.)	No	No	8/25/2010	8/5/2010	JSC Memorandum EA3-09-031, "AMS Safety Verification Log," dated November 30, 2009. JSC Memorandum EA3-10-030, "AMS Safety Verification Log Update," August 5, 2010
22	AMS-02-F01	9.1.1	QA review of procedures and certification of procedure completion.	No	No	8/25/2010	8/29/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0035, "Composite Structural Elements," Dated August 29, 2010

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23	AMS-02-F01	10.1.1	Review of design.	No	No	8/25/2010	7/12/2010	Design of all load bearing composite structures indicate no line of sight to atomic oxygen. Memorandum ESCG-4390-06-SP-MEMO-0005, "Composite Structural Elements," dated 13 March 2006, AMS-02 Chief Engineer Chris Tutt. ESCG Memorandum ESCG-4295-ADV Sy-MEMO-0016 "Composite Strutral Element on AMS-02," dated July 12, 2010
24	AMS-02-F01	10.1.2	Inspection of as built hardware.	No	No	2/4/2011	7/21/2010	Photographic Survey inspection performed by ESCG/P. Mott, 7/21/2010
25	AMS-02-F01	11.1.3	Inspection of Flight hardware to confirm proper configuration of adjustment prior to flight.	No	No	2/4/2011	10/20/2010	JSC TPS 2A1020268, "Inspection of AMS-02 PAS for Flight Safety Verifications," closed October 20, 2010
26	AMS-02-F04	4.3.3	Post filling inspection of cap installation	No	No	2/4/2011	9/13/2010	AMS-02 Task Sheet (ATS) TRD 100804-01, "Securing of TRDGAS Fill Port Caps," closed September 13, 2010
27	AMS-02-F04	6.1.2	Inspection of as built hardware.	No	No	3/14/2011	3/14/2011	ESCG Memorandum ESCG-4470-11-TEAN-DOC-0015, "Verification of Positive Attachment for AMS-02 Blankets," dated March 2, 2011 and AMS-02 Task Sheet (ATS) TCS100909-331-0, "Installation of TRD Particle Shield SLI XN YN " March 9, 2011

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28	AMS-02-F05	1.1.1	AMS-02 Pressure Systems Structural/Stress Analysis and Tests as defined in AMS-02 SVP (JSC 28792).	No	No	10/7/2010	7/21/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-027, "Review of AMS-02 Pressure System Analysis Results, Dated July 21, 2010
29	AMS-02-F05	1.2.9	COPV Stress Analysis Per ANSI/AIAA S-081	No	No	8/5/2010	7/26/2010	Email confirmation of acceptability of COPV to ES4-08-043 and ES4-09-031 from JSC-ES4/S.C. Forth, "AMS COPVs," dated July 26, 2010
30	AMS-02-F05	1.4.2	Manufacturer's Certification of TTCS Filling.	No	No	8/25/2010	7/26/2010	TTCS Fill report, transmitted by NLR/Johannes Van Es for Primary (819 grams CO2) and Secondary (850 grams CO2) Loops, dated 7/26/2010. Fill quantities make mass per liter of internal volume under the maximum allowed for establishing MDP
31	AMS-02-F05	2.2.1	Materials Compatibility Assessment	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010
32	AMS-02-F05	2.2.2	Approval of material use and MUAs by JSC ES4/Materials and Processes Branch	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010
33	AMS-02-F05	2.4.1	Material Compatibility Assessment	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010

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34	AMS-02-F05	2.4.2	Approval of material use and MUAs by JSC ES4/Materials and Processes Branch	No	No	8/5/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010
35	AMS-02-F05	3.2.2	Proof Pressure Testing, Dye Penetrant inspection, Radiological (or ultrasound) inspection of welds.	No	No	8/25/2010	8/20/2010	TRD documentation in TRD GAS ADP Rev 1.0 for pressurized components, lines and fittings, on file AMS-02 Project Office. TTCS documents in ADP record Weld inspections, helium leak checks and proof tests for the accumulator, condensers and the entire TTCS loop. Review and Closure Date August 20, 2010, TRD leak Repair radiological examination report EDMS No: 1078985 dated 5/25/2010.
36	AMS-02-F05	4.1.1	Compliance with the fracture control requirements of NASA-STD-5003 and SSP-30558C will be verified by approval of fracture control summary by JSC ES4/Materials and Processes Branch.	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010

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37	AMS-02-F05	4.1.2	Compliance with COPV Letters ES4-08-043, "Composite Overwrapped Pressure Vessel Risks," dated Septembr 30, 2008 and ES4-09-031, "NASA Carbon Overwrapped Pressure Vessel (COPV) Pressure Restrictions," dated September 8, 2009	Yes	No	8/5/2010	7/26/2010	Email confirmation of acceptability of COPV to ES4-08-043 and ES4-09-031 from JSC-ES4/S.C. Forth, "AMS COPVs," dated July 26, 2010
38	AMS-02-F05	5.3.2	Thermal Analysis	No	No	8/5/2010	7/19/2010	TTCS freezing potential documented in ESCG Memorandum ESCG-4470-06-TEAN-DOC-0032, "Alpha Magnetic Spectrometer (AMS-02) Tracker Thermal Control System (TTCS) Cold Environment Temperatures", dated March 22, 2006ESCG Memorandum ESCG-4470-10-TEAN-DOC-0098, "Re-evaluation of Potential Freezing of CO2 in AMS-02 TTCS," dated July 19, 2010
39	AMS-02-F05	5.3.3	MDP Analysis based on worst case thermal profiles and two failures (if applicable)	No	No	8/5/2010	7/19/2010	AMSTR-NLR-TN-039, Issue 3.0, "TTCS Condenser Freezing Test Report", 8/23/2005 from Nationaal Luchten Ruimtevaartlaboratorium (NLR). ESCG Memorandum ESCG-4470-10-TEAN-DOC-0098, "Re-evaluation of Potential Freezing of CO2 in AMS-02 TTCS," dated July 19, 2010

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40	AMS-02-F05	5.3.6	Thermal Analysis of TTCS System to establish freezing/non-freezing elements.	No	No	8/5/2010	7/19/2010	ESCG-4470-06-TEAN-DOC-0032, "Alpha Magnetic Spectrometer (AMS-02) Tracker Thermal Control System (TTCS) Cold Environment Temperatures), Dated March 22, 2006, from ESCG/E. L. Yagoda indicates no other system elements will freeze. ESCG Memorandum ESCG-4470-10-TEAN-DOC-0098, "Re-evaluation of Potential Freezing of CO2 in AMS-02 TTCS," dated July 19, 2010
41	AMS-02-F05	8.3.3	Functional testing/Acceptance Testing of thermostatic switches.	No	No	8/25/2010	7/26/2010	Thermal Vacuum Testing Report DEL037-UNIPC-20100603-is2.doc, "DEL037 TV TB Test Report," June 3, 2010. AMSTR-AIDC-PR-019, "TTCS-Thermal Switch Incoming Inspection Procedure, Testing Results," April 22, 2008, AMSTR-NLR-TR-080, "TTCS Condenser Heater Wire Test Report," February 2, 2010.

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42	AMS-02-F05	8.3.4	Inspection of flight hardware for proper installation of thermostatic switches.	No	No	8/25/2010	8/12/2010	AMS-02 ATS TTCS-090716.01-A, "TTCS Condenser Installation Ram Side," dated 11/29/2009, AMS-02 ATS TTCS-090716-01-B, "TTCS Condenser Installation Wake Side," dated 11/25/2009, Carlo Gavazzi Drawing 47-AMS02TCS-200.10.00, "AMS TCS Condenser RAM Heaters and Thermostats Cabling," 9/16/2009, Carlo Gavazzi Drawing 47-AMS02TCS-300.10.00, "AMS TCS Condenser WAKE Heaters and Thermostats Cabling," 9/16/2009,

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43	AMS-02-F05	8.6.3	Inspection of Flight Hardware to assure proper thermostatic control placement and parts used.	No	No	8/25/2010	8/12/2010	Carlo Gavazzi Space SpA Inspection Report, AMSTCS-RP-CGS-017, "RAM Radiator Cabling Checkout Report," dated November 2, 2009, Carlo Gavazzi Space SpA Inspection Report, AMSTCS-RP-CGS-018, "WAKE Radiator Cabling Checkout Report," dated November 2, 2009, AMS-02 ATS TTCS-090716.01-A, "TTCS Condenser Installation Ram Side," dated 11/29/2009, AMS-02 ATS TTCS-090716-01-B, "TTCS Condenser Installation Wake Side," dated 11/25/2009, Carlo Gavazzi Drawing 47-AMS02TCS-200.10.00, "AMS TCS Condenser RAM Heaters and Thermostats Cabling," 9/16/2009, Carlo Gavazzi Drawing 47-AMS02TCS-300.10.00, "AMS TCS Condenser WAKE Heaters and Thermostats Cabling," 9/16/2009,
44	AMS-02-F05	8.6.4	Functional testing of thermostatic switches/ Acceptance testing.	No	No	8/25/2010	7/3/2010	Thermal Vacuum Testing Report DEL037-UNIPC-20100603-is2.doc, "DEL037 TV TB Test Report," June 3, 2010.
45	AMS-02-F05	9.3.3	Acceptance by POIC of Flight Regulations.	No	No	2/4/2011	10/15/2010	Email from MSFC-EO03/Payload Operations Director/R. S. Grimaldi, "AMS-02-F05 Hazard Report – FR Acceptance," dated October 15, 2010

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46	AMS-02-F06	2.1.2	Inspection of as built hardware for implementation of non-propulsive vents on all pressure relief locations.	No	No	8/25/2010	7/15/2010	ESCG Memorandum ESCG-4195-10-ADV SY-MEMO-0021, "TRD Vent Installation," dated July 15, 2010
47	AMS-02-F06	4.2.2	Acceptance of calculated torque by Shuttle and ISS Program	No	No	2/4/2011	1/14/2011	Shuttle: CR/DIR No. A05889, "DC Magnetic Field Non-Compliance," for the AMS-02 was withdrawn/declined as further investigation showed there was no Non-compliance. Withdrawn/Decline Disposition 10-19-2010. ISS: PIRN 57213-NA-0014B, "AMS (Alpha Magnetic Spectrometer) – DC Magnetic Field Exceedence," Approved January 14, 2011
48	AMS-02-F07	1.1.1	The magnetic field of the AMS-02 Magnet will be measured and compared to analytic model.	No	No	8/5/2010	7/6/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0013, "AMS Permanent Magnet Magnetic Field Correlation," dated July 6, 2010
49	AMS-02-F07	1.2.1	An analysis of the final, measured field strength.	No	No	8/25/2010	7/6/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0013, "AMS Permanent Magnet Magnetic Field Correlation," dated July 6, 2010
50	AMS-02-F07	1.3.1	The magnetic field of the AMS-02 Magnet will be measured and compared to analytic model.	No	No	8/5/2010	7/6/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0013, "AMS Permanent Magnet Magnetic Field Correlation," dated July 6, 2010

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51	AMS-02-F07	1.3.2	Magnetic fields intensities will be coordinated with robotic (SRMS, SSRMS) control authorities.	No	No	2/4/2011	7/6/2010	SEWG Minutes July 6, 2010, document the acceptance of the AMS-02 10 Gauss Field's lack of intrusion to EVR worksites or operational volumes as not requiring any special notification of keep out zones.
52	AMS-02-F07	1.4.1	The magnetic field of the AMS-02 Magnet will be measured and compared to analytic model.	No	No	8/5/2010	7/6/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0013, "AMS Permanent Magnet Magnetic Field Correlation," dated July 6, 2010
53	AMS-02-F07	1.4.2	Magnetic fields intensities will be coordinated with Shuttle Program Office.	No	No	2/4/2011	10/19/2010	CR/DIR No. A05889, "DC Magnetic Field Non-Compliance," for the AMS-02 was withdrawn/declined as further investigation showed there was no Non-compliance. Withdrawn/Decline Disposition 10-19-2010
54	AMS-02-F07	1.6.2	Magnetic field mapping of flight AMS-02.	No	No	8/5/2010	7/6/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0013, "AMS Permanent Magnet Magnetic Field Correlation," dated July 6, 2010
55	AMS-02-F07	1.11.1	MAGIK Analysis to show that robotic operations are outside the AMS-02 10 Gauss field.	No	No	10/26/2010	10/6/2010	MAGIK Analysis Action Item 2496, "AMS Magnetic Field Impacts to EVR Access," October 6, 2010
56	AMS-02-F07	2.1.1	The AMS-02 will be tested as a unit for excessive RF energy.	No	No	2/4/2011	3/30/2010	ETS-REP-EMC-3308-Issue 1, "AMS02-FM EMC Test Facility Data Report," dated March 30, 2010.

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a. FLIGHT

X

GROUND

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57	AMS-02-F07	2.1.2	Acceptance of EMI Testing Results by NASA EMEP.	No	No	4/8/2011	4/8/2011	JSC 66168, "Assessment of AphaMagnetic Spectrometer (AMS) Upper Experiment Structural Configuration Shielding Effectiveness Associated with Change from Cryo-Cooled Magnet to Permanent Magnet," February, 2011. Accepted by EMEP on 2/14/2011 as documented on E3 Panel Review web site.AMS-02 EMI accepted by ISS EMEP on April 5, 2011 with acceptance of TIA 1995a, approved April 6, 2011 and PIRN 57213-NA-0031, "AMS-02 EMI Exception to the RE02 Testing Requirement," approved April 8, 2011
58	AMS-02-F08	1.3.2	Inspection of as built hardware.	No	No	2/4/2011	9/16/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0039, "Review of the AMS-02 High Voltage Components," dated September 16, 2010.
59	AMS-02-F08	1.4.2	Inspection of as built hardware.	No	No	2/4/2011	9/16/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0039, "Review of the AMS-02 High Voltage Components," dated September 16, 2010.
60	AMS-02-F08	2.1.2	Functional testing of covers.	No	No	2/4/2011	11/15/2010	WONUM 221728/221738, "Space Station and Shuttle Payloads AMS-02 PRCU/ACASS IVT - SSPF Operations and Maintenance Instruction (OMI) Mission: STS-134," Dated November 15, 2010

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a. FLIGHT

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GROUND

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61	AMS-02-F08	2.1.3	Testing of exposed connectors for proper diode blocking.	No	No	2/4/2011	1/18/2011	JSC TPS 2A1120002, "PDS Diode Verification Test of AMS-02 Payload at KSC SSPF," Closed January 18, 2011
62	AMS-02-F08	2.2.2	Testing of integration grounding of AMS-02 Components to integration hardware.	No	No	2/4/2011	8/28/2010	ATS No. MITM081210-13, "AMS02- WAKE Crates Grounding/Bonding Verification on Jigs," 06/12/2009, ATS No. MITM081210-14, "AMS02-RAM Crates Grounding/Bonding Verification on Jigs," 06/12/2009, Grounding Measurements on LUSS Crates Sheet August 28, 2010
63	AMS-02-F08	2.2.3	Testing of Interface paths to the Shuttle and ISS (UMA & Nickel Plated Guide Vanes).	No	No	4/8/2011	3/26/2011	WONUM 221728/221738, "Space Station and Shuttle Payloads AMS-02 PRCU/ACASS IVT - SSPF Operations and Maintenance Instruction (OMI) Mission: STS-134," Dated November 15, 2010. OMRS P507ED.030, :Orbiter to AMS-02 Wiper Static Bond," Closed 3/29/11, P507ED.050, "AMS-02, "ORB/PDA Fault Current Bond," Closed 3/26/11

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a. FLIGHT

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64	AMS-02-F08	2.3.2	Testing of enclosure's grounding path connectivity.	No	No	2/4/2011	8/28/2010	ATS No. MITM081210-13, "AMS02- WAKE Crates Grounding/Bonding Verification on Jigs," 06/12/2009, ATS No. MITM081210-14, "AMS02-RAM Crates Grounding/Bonding Verification on Jigs," 06/12/2009, Grounding Measurements on LUSS Crates Sheet August 28, 2010
65	AMS-02-F08	2.4.2	Inspection of flight hardware to assure proper potting and insulation.	No	No	2/4/2011	7/16/2010	Review of TRD ADP (Maintained in AMS-02 Project files) confirmed by email on July 16, 2010 from ESCG/J. C. Tutt
66	AMS-02-F08	2.4.4	Testing of MLI grounding resistance.	No	No	2/4/2011	7/16/2010	AMS-02 Task Sheet (ATS) TCS100630198-0, "Installation of TRD Upper Blanket," closed 7/16/2010, ATS TCS100630194-0, "Installation of TRD Lower Blanket" closed 7/3/2010
67	AMS-02-F08	2.5.2	Inspection to verify that there is no exterior accessibility of the PMT or their circuitry.	No	No	8/25/2010	7/21/2010	Photographic Survey inspection performed by ESCG/P. Mott, 7/21/2010
68	AMS-02-F08	2.5.3	Inspection of flight hardware to assure proper use of potting and high voltage wiring.	No	No	8/25/2010	8/29/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0039, "Review of the AMS-02 High Voltage Components," dated September 16, 2010.
69	AMS-02-F08	2.7.3	Inspection of as built hardware of HV design	No	No	2/4/2011	9/16/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0039, "Review of the AMS-02 High Voltage Components," dated September 16, 2010.

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70	AMS-02-F08	2.7.4	Inspection of as built hardware of 120V heater design	No	No	2/4/2011	9/16/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0039, "Review of the AMS-02 High Voltage Components," dated September 16, 2010.
71	AMS-02-F08	2.8.1	Review of design.	No	No	8/25/2010	7/21/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0028, "Bonding of AMS-02 Flight Hardware Conductive Surfaces – Review of Design," dated July 21, 2010
72	AMS-02-F08	2.8.2	Testing of bonding of AMS-02 Conductive surfaces to integration hardware.	No	No	3/18/2011	3/16/2011	ESCG Memorandum ESCG-4295-11-ADV SY-Memo-0002, "Bonding and Grounding Verifications for AMS-02 Payload," dated March 4, 2011. TIA#1187c for unbounded MLI approved March 16, 2011, TIA #1186c for TRD bracket bonding approved March 16, 2011
73	AMS-02-F08	2.8.3	Testing of Interface paths to the Shuttle and ISS (UMA & Nickel Plated Guide Vanes).	No	No	4/8/2011	3/26/2011	WONUM 221728/221738, "Space Station and Shuttle Payloads AMS-02 PRCU/ACASS IVT - SSPF Operations and Maintenance Instruction (OMI) Mission: STS-134," Dated November 15, 2010. OMRS P507ED.030, :Orbiter to AMS-02 Wiper Static Bond," Closed 3/29/11, P507ED.050, "AMS-02, "ORB/PDA Fault Current Bond," Closed 3/26/11

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GROUND

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74	AMS-02-F08	3.2.2	Inspection of as built hardware.	No	No	2/4/2011	9/16/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0039, "Review of the AMS-02 High Voltage Components," dated September 16, 2010.
75	AMS-02-F08	3.2.4	Functional testing of AMS-02 in flight configuration in thermal-vacuum chamber.	No	No	8/5/2010	7/5/2010	Thermal Vacuum Testing Report, "ETS Facility Data report AMS-02 Thermal Vacuum Test," ETS-REP-THER-3326 Issue 1, dated July 5, 2010, indicates no anomalies associated with Coronal Discharge.
76	AMS-02-F10	1.1.1	Review of design.	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010
77	AMS-02-F10	1.1.2	Inspection of as built hardware.	No	No	2/4/2011	1/20/2011	JSC Memorandum EA3-11-004, "Inspection of AMS-02 Materials," dated January 20, 2011
78	AMS-02-F10	1.1.3	Material Certification by JSC ES4.	No	No	11/15/2010	12/10/2010	JSC Materials and Fracture Control Certification MATL-11-009, "Alpha Magnetic Spectrometer -02 (AMS-02) Payload Assembly," Approved December 10, 2010
79	AMS-02-F11	1.1.2	Inspection of as built hardware	No	No	2/4/2011	10/12/2010	JSC TPS 2A102115, "Replacement of Sill Trunnions and Installation of Scuff Plates," closed September 17, 2010, JSC TPS 2A1020232, "Keel Installation," closed October 12, 2010

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80	AMS-02-F11	1.1.3	AMS-02 Installation into Orbiter	No	No	4/8/2011	4/11/2011	Email Confirmation, "Email for AMS Installation in Payload Bay" from Boeing/Jayme N. Poppin on April 11, 2011, documenting completion of "Vertical Payload Operations – N05134" and "Payload Installation Latch Closure – PT-5-25-162" were completed on 3/26/2011
81	AMS-02-F11	1.2.2	Inspection of as built hardware	No	No	2/4/2011	10/4/2010	JSC TPS 2A1020115, "Replacement of Sill Trunnions and Installation of Scuff Plates," closed September 17, 2010, JSC TPS 2A1020195, "Installation of Hand Rails and WIF," Closed October 4, 2010
82	AMS-02-F11	2.1.2	Inspection of as built hardware	No	No	2/4/2011	11/15/2010	JSC TPS 2A1020272, Closed November 15, 2010
83	AMS-02-F11	2.3.2	Inspection of as built hardware.	No	No	2/4/2011	11/15/2010	JSC TPS 2A1020272, Closed November 15, 2010
84	AMS-02-F11	3.1.2	Inspection of as built hardware	No	No	2/4/2011	11/29/2010	(FRGF) JSC TPS 2A1020196, Closed November 29, 2010, (PVGf) JSC TPS2A1020249, Closed November 4, 2010
85	AMS-02-F11	4.1.4	UMA electrical connectors verified to be mechanically and electrically compatible across the UMA interface.	No	No	2/4/2011	11/15/2010	WONUM 221728/221738, "Space Station and Shuttle Payloads AMS-02 PRCU/ACASS IVT - SSPF Operations and Maintenance Instruction (OMI) Mission: STS-134," Dated November 15, 2010

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86	AMS-02-F11	4.1.5	AMS-02 will be tested prior to installation into the Orbiter on the Active Common Attach System Simulator (ACASS) to confirm proper mating and interface	No	No	2/4/2011	11/15/2010	WONUM 221728/221738, "Space Station and Shuttle Payloads AMS-02 PRCU/ACASS IVT - SSPF Operations and Maintenance Instruction (OMI) Mission: STS-134," Dated November 15, 2010
87	AMS-02-F11	4.3.5	Acceptance of OCAD by MOD.(OCAD 67868)	No	No	8/5/2010	12/17/2010	OCAD 67868 confirmed documented as being approved with mod in MOD database December 17, 2010
88	AMS-02-F11	4.3.6	EVA IPT acceptance of SSCN 1819 EVA Fastener and Threaded Insert Data	No	No	2/4/2011	7/16/2010	Email confirmation of acceptance of submitted bolt data by MOD and EVA IPT provided by XO/M. Tullar, July 16 2010.
89	AMS-02-F11	5.1.4	Final setting/check of Load Release Screw Locking Mechanism.	No	No	2/4/2011	10/20/2010	JSC TPS 2A1020268, "Inspection of AMS-02 PAS for Flight Safety Verifications," closed October 20, 2010
90	AMS-02-F11	5.4.1	Preflight Inspection for proper configuration of preload mechanism.	No	No	2/4/2011	10/20/2010	JSC TPS 2A1020268, "Inspection of AMS-02 PAS for Flight Safety Verifications," closed October 20, 2010
91	AMS-02-F11	5.4.6	Preflight Inspection of Anti-Rotation Devices to assure Anti-Rotation Device is properly engaged for launch.	No	No	2/4/2011	10/20/2010	JSC TPS 2A1020268, "Inspection of AMS-02 PAS for Flight Safety Verifications," closed October 20, 2010

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92	AMS-02-F11	6.1.4	Inspection of as built hardware for AMS-02 Geometry compliance.	No	No	4/8/2011	3/28/2011	ROEU Measurement and acceptance of positioning for intrusion documented in ISS PIRN 57213-NA-0024, "AMS Electromagnetic Calorimeter (ECAL) – On-orbit Operational Envelope Violation," Approved March 28, 2011. Measurement of USS Trunnion locations established in ATS MITM100609-80, "USS Trunnion Metrology," June 9, 2010
93	AMS-02-F12	1.1.1	OCADs for inhibits will be address in ISS EPS 309demating UMA prior to EVA connector swap (Including power removal). (OCAD 67860)	No	No	8/5/2010	12/17/2010	OCAD 67860 confirmed documented as being approved with mod in MOD database December 17, 2010
94	AMS-02-F12	1.2.2	Inspection of as built hardware.	No	No	2/4/2011	10/27/2010	EVA Connector Build and Inspection controlled by JSC TPSs. TPS # 2A0420007(06-04-2008) (10-26-2010), TPS # 2A1020254 (10-26-2010), TPS # 2A1020255 (10-27-2010), TPS # 2A1020256 (10-22-2010), TPS # 2A1020257 (10-22-2010), TPS # 2A1020258 (10-22-2010), TPS # 2A1020259 (10-22-2010)
95	AMS-02-F12	1.5.2	Testing of PVGF blocking diodes	No	No	2/4/2011	1/18/2011	JSC TPS 2A1120002, "PDS Diode Verification Test of AMS-02 Payload at KSC SSPF," Closed January 18, 2011

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96	AMS-02-F12	2.1.2	Inspection of as built hardware.	No	No	2/4/2011	10/27/2010	EVA Connector Build and Inspection controlled by JSC TPSs. TPS # 2A0420007(06-04-2008) (10-26-2010), TPS # 2A1020254 (10-26-2010), TPS # 2A1020255 (10-27-2010), TPS # 2A1020256 (10-22-2010), TPS # 2A1020257 (10-22-2010), TPS # 2A1020258 (10-22-2010), TPS # 2A1020259 (10-22-2010)
97	AMS-02-F14	1.1.2	Inspection of as built hardware.	No	No	2/4/2011	10/4/2010	JSC TPS 2A1020195, "Installation of Hand Rails and WIF," Accepted October 4, 2010
98	AMS-02-F14	1.3.2	Inspection of as built hardware.	No	No	2/4/2011	11/12/2010	KSC VITT inspection Memorandum from KSC/Jeff Mitchell, Memorandum JCM112010-001 dated November 12, 2010
99	AMS-02-F14	3.1.2	Inspection of flight hardware (including swatch testing) for sharp edges, corners, etc.	No	No	2/4/2011	11/12/2010	KSC VITT inspection Memorandum from KSC/Jeff Mitchell, Memorandum JCM112010-001 dated November 12, 2010
100	AMS-02-F14	3.1.3	Acceptance of EVA no touch area for Star Tracker baffles by MOD through an OCAD. (OCAD 67862)	No	No	8/5/2010	11/23/2010	OCAD 67862 confirmed documented as being accepted in MOD database November 23, 2010

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101	AMS-02-F14	4.1.1	Thermal Analysis of EVA Work Sites and Translation Paths	No	No	8/5/2010	7/19/2010	ESCG Memorandum ESCG-4470-07-TEAN-DOC-0033-B, "Alpha Magnetic Spectrometer (AMS-02) EVA Touch Temperature Evaluation," dated July 28, 2008. ESCG Memorandum ESCG-4175-REENTES-MEMO-0025, "Cryomagnet Dump Diode Accessibility," dated June 8, 2009 establishes Cryomagnet Dump Diode Inaccessible to EVA. ESCG-4470-10-TEAN-DOC-0097, "Re-evaluation of AMS-02 EVA Touch Temperatures," July 19, 2010
102	AMS-02-F14	4.2.1	Review of design.	No	No	8/5/2010	7/19/2010	ESCG Memorandum ESCG-4470-09-TEAN-DOC-0181, "AMS-02 Active Thermal Devices and EVA Touch Temperature Limits," dated October 23, 2009. ESCG-4470-10-TEAN-DOC-0097, "Re-evaluation of AMS-02 EVA Touch Temperatures," July 19, 2010

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103	AMS-02-F14	4.2.2	Inspection of as built hardware.	No	No	8/25/2010	8/18/2010	Carlo Gavazzi Space SpA Inspection Report, AMSTCS-RP-CGS-017, "RAM Radiator Cabling Checkout Report," dated November 2, 2009, Carlo Gavazzi Space SpA Inspection Report, AMSTCS-RP-CGS-018, "WAKE Radiator Cabling Checkout Report," dated November 2, 2009, AMS-02 ATS TTCS-090716.01-A, "TTCS Condenser Installation Ram Side," dated 11/29/2009, AMS-02 ATS TTCS-090716-01-B, "TTCS Condenser Installation Wake Side," dated 11/25/2009, Carlo Gavazzi Drawing 47-AMS02TCS-200.10.00, "AMS TCS Condenser RAM Heaters and Thermostats Cabling," 9/16/2009, Carlo Gavazzi Drawing 47-AMS02TCS-300.10.00, "AMS TCS Condenser WAKE Heaters and Thermostats Cabling," 9/16/2009, ATS CABLE100701-003, "Plane 1NS Heater, Thermostat and DTS Installation," closed June 30, 2010

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104	AMS-02-F14	4.2.3	Functional/workmanship testing of heater/thermal switch circuitry	No	No	8/5/2010	6/3/2010	Thermal Vacuum Testing Report DEL037-UNIPC-20100603-is2.doc, "DEL037 TV TB Test Report," June 3, 2010, AMSTR-NLR-TR-080, "TTCS Condenser Heater Wire Test Report," February 2, 2010.
105	AMS-02-F14	4.2.4	Functional testing of thermal monitoring by avionics	No	No	8/5/2010	6/3/2010	Thermal Vacuum Testing Report DEL037-UNIPC-20100603-is2.doc, "DEL037 TV TB Test Report," June 3, 2010.
106	AMS-02-F14	4.2.5	Testing of software control of heaters.	No	No	8/5/2010	6/3/2010	Thermal Vacuum Testing Report DEL037-UNIPC-20100603-is2.doc, "DEL037 TV TB Test Report," June 3, 2010.
107	AMS-02-F14	8.1.1	Review of design.	No	No	8/5/2010	7/26/2010	ESCG Memorandum ESCG-4175-09-REENTES-MEMO-0041-A, "EVA Entrapment by AMS-02 Cables," dated July 26, 2010
108	AMS-02-F14	8.1.2	Inspection of as built hardware.	No	No	2/4/2011	11/12/2010	KSC VITT inspection Memorandum from KSC/Jeff Mitchell, Memorandum JCM112010-001 dated November 12, 2010
109	AMS-02-F14	9.1.2	Inspection of EBCS Installation on Flight hardware	No	No	2/4/2011	10/28/2010	MDA Test Report Number MDA-BCS-TP-9341/09, "EMCS End to End Checkout Procedure," October 28, 2010, MDA Test Report Number MDR-BCS-TM-8051/07, "EBCS Avionics Package Final Alignment Instructions," October 28, 2010

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110	AMS-02-F14	9.1.3	Alignment testing of EBCS to PAS passive hardware mounted to AMS-02 (operational check)	No	No	2/4/2011	10/28/2010	MDA Test Report Number MDA-BCS-TP-9341/09, "EMCS End to End Checkout Procedure," October 28, 2010, MDA Test Report Number MDR-BCS-TM-8051/07, "EBCS Avionics Package Final Alignment Instructions," October 28, 2010
111	AMS-02-F14	10.1.2	MAGIK analysis of installation clearances for adjacent payload.	No	No	8/25/2010	7/16/2010	Published MAGIK Analysis Action Item #1705 Report dated May 12, 2003, Published MAGIK Analysis Action Item #2172 Revision A dated February 27, 2007. Published MAGIK Analysis Action Item #2483 dated July 16, 2010
112	AMS-02-F14	10.1.3	ISS acceptance of SSP 57003 envelope exceedences.	No	No	4/8/2011	3/28/2011	ISS PIRN 57213-NA-0008, "AMS (Alpha Magnetic Spectrometer) – On-orbit Operations Envelope Exceedance," dated June 11, 2007, Approved 2/26/2009, ISS PIRN 57213-NA-0024, "AMS Electronic Calorimeter (ECAL) – On-orbit Operations Envelope Exceedance," dated March 28, 2011
113	AMS-02-F16	1.2.2	Inspection of as built hardware.	No	No	8/5/2010	7/12/2010	Review of RICH and ECAL ADP for certification of as built design by J. C. Tutt documented in email "RICH and ECAL ADPs," dated July 12, 2010.

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114	AMS-02-F16	1.3.2	Inspection of as built hardware.	No	No	2/4/2011	11/18/2010	(TAS) ESCG Internal email summarizing review of ADPs for TAS, ECAL and ACC for proper design of the fiber optics cables. Email between John C. Tutt (AMS-02 ESCG Project Manager) and Leland D. Hill (AMS-02 Safety Engineer) October 8, 2009, titled "TAS ADP." ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0020, "TAS Inspection," dated July 15, 2010. ADPs in Project File. (Data Fibers, UMA) JSC TPS 2A1042007, Closed June 4, 2008, JSC TPS2A1020254, Closed October 26, 2010, JSC TPS2A1020255, Closed October 27, 2010
115	AMS-02-F16	1.6.1	Review of Design.	No	No	8/5/2010	7/12/2010	ESCG Memorandum ESCG-4175-09-REENTES-MEMO-0017, "Frangible Materials in the AMS-02 Detectors," dated April 7, 2009. ESCG Memorandum ESCG-4295-ADV SY-MEMO-0017, "New Tracker Planes on AMS-02," dated July 12, 2010

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116	AMS-02-F16	1.6.2	Inspection of as built hardware.	No	No	8/5/2010	7/26/2010	Installation of Tracker Silicon Wafers and light tight air vents visually confirmed by a designated verifier (DV), T. Martin on September 25, 2007. Tracker Planes 1N and 6 visually confirmed by ESCG/P. Mott, DV, confirmed by email "Verification Activity Request", dated 7/26/2010
117	AMS-02-F17	1.1.2	Inspection of as built hardware.	No	No	2/4/2011	10/1/2010	JSC TPS 2A1020253, "Fabricate AMS-02 PVGF Cable Assembly p/n SEG39136093-301 s/n 1001 (CI)," Closed October 1, 2010.
118	AMS-02-F17	1.2.2	Inspection of as built hardware.	No	No	2/4/2011	10/1/2010	JSC TPS 2A1020253, "Fabricate AMS-02 PVGF Cable Assembly p/n SEG39136093-301 s/n 1001 (CI)," Closed October 1, 2010. AMS-02 ADP for Heaters and PDS Configuration on File in AMS-02 Project Office.
119	AMS-02-F17	1.2.3	Testing of current draw shows max current draw less than or equal to 16.2 amps.	No	No	8/25/2010	9/20/2010	ESCG-4295-10-ADV SY-MEMO-0040, "SSRMS Current Limits," dated September 20, 2010
120	AMS-02-F17	1.3.2	Inspection of as built hardware.	No	No	2/4/2011	11/18/2010	(PVGF) JSC TPS 2A1020253, Closed October 1, 2010. (UMA) JSC TPS 2A1020258, closed October 22, 2010, JSC TPS 2A1020259, closed October 22, 2010, JSC TPS, JSC TPS 2A0420007, Closed June 4, 2008, (ROEU) JSC TPS 2A1020272, Closed November 18, 2010

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121	AMS-02-F17	2.1.2	Inspection of as built hardware to assure proper installation of diode protection	No	No	2/4/2011	1/18/2011	JSC TPS 2A1120002, "PDS Diode Verification Test of AMS-02 Payload at KSC SSPF," Closed January 18, 2011
122	AMS-02-F17	2.1.3	Testing of AMS-02 power interfaces to assure that diode protection is functioning.	No	No	2/4/2011	1/18/2011	JSC TPS 2A1120002, "PDS Diode Verification Test of AMS-02 Payload at KSC SSPF," Closed January 18, 2011
123	AMS-02-F17	2.3.2	Functional testing of AMS-02 for isolation between A and B buses at flight power interfaces.	No	No	4/8/2011	4/4/2011	JSC TPS 2A1120003, "Power Quality Test of AMS-02 Payload at KSC SSPF," performed January 11, 2011, JSC TPS 2A1120004, "Power bus Isolation Test of AMS-02 Payload ROEU PDA Interface at KSC SSPF," performed January 10, 2011, Carlo Gavazzi Analysis, "AMS Power Bus Isolation AC Measurement Considerations," February 4, 2011, ISS PIRN 57213-NA-0026, "AMS-02 Reverse Current Exception," approved March 28, 2011
124	AMS-02-F18	1.2.1	Review of Design	No	No	8/5/2010	7/15/2010	Memo ESCG-4390-06-SP-MEMO-0004 dated 06 March 2006 from AMS-02 Chief Engineer Chris Tutt. ESCG Memorandum ESCG-4295-ADV SY-MEMO-0019, "Rapid Safing Operations," dated July 15, 2010.

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125	AMS-02-F18	1.3.1	Thermal Analysis to confirm thermal condition of structure under worst case conditions.	No	No	8/25/2010	7/15/2010	ESCG Memorandum ESCG-4175-09-REENTES-MEMO-0032, "Review of Stress Analysis of AMS-02 Composites," dated June 4, 2009. ESCG Memorandum ESCG-4295-ADV SY-MEMO-0019, "Rapid Safing Operations," dated July 15, 2010.
126	AMS-02-F18	1.3.2	Structural Analysis to confirm adequate margin for thermal extremes of composite structures/systems.	No	No	8/25/2010	7/15/2010	ESCG Memorandum ESCG-4175-09-REENTES-MEMO-0032, "Review of Stress Analysis of AMS-02 Composites," dated June 4, 2009. ESCG Memorandum ESCG-4295-ADV SY-MEMO-0019, "Rapid Safing Operations," dated July 15, 2010.
127	AMS-02-F18	2.2.3	Magnetic Field Measurement and Analysis	No	No	8/5/2010	7/6/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0013, "AMS Permanent Magnet Magnetic Field Correlation," dated July 6, 2010
128	AMS-02-F18	2.3.2	Physical interface confirmation with Shuttle	No	No	4/8/2011	4/11/2011	Email Confirmation, "Email for AMS Installation in Payload Bay" from Boeing/Jayne N. Poppin on April 11, 2011, documenting completion of "Vertical Payload Operations – N05134" and "Payload Installation Latch Closure – PT-5-25-162" were completed on 3/26/2011

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129	AMS-02-F20	2.3.2	Inspection of as built hardware.	No	No	8/25/2010	7/15/2010	AMS-02 Tracker Alignment System (TAS) ADP dated October 8, 2009. ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0020, "TAS Inspection," dated July 15, 2010.
130	AMS-02-F20	2.6.2	Inspection of as built hardware.	No	No	8/25/2010	7/15/2010	AMS-02 Tracker Alignment System (TAS) ADP dated October 8, 2009. ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0020, "TAS Inspection," dated July 15, 2010.
131	AMS-02-F20	2.7.1	Review of blocking plug design	No	No	8/25/2010	7/15/2010	Design modification reviewed by ESCG/L. Hill via email exchange, "Tracker Alignment System Changes," 4/23-6/10/2010 and confirmed in ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0020, "TAS Inspection," dated July 15, 2010.
132	AMS-02-F20	2.7.2	Inspection of plug installation	No	No	8/25/2010	7/15/2010	ESCG Memorandum ESCG-4295-10-ADV SY-MEMO-0020, "TAS Inspection," dated July 15, 2010