

# Acceptance Data Package Requirements Specification

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## International Space Station Program

Revision C  
Incorporates SSCD 15716

August 2010

National Aeronautics and Space Administration  
International Space Station Program  
Johnson Space Center  
Houston, Texas Contract No.: NNJ09GA18B



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PREFACE

**ACCEPTANCE DATA PACKAGE  
REQUIREMENTS SPECIFICATION**

This document, SSP 30695, Acceptance Data Package Requirements Specifications, establishes the minimum data required to accompany Space Station hardware or software deliveries/transfers (via DD Form 250, Material Inspection and Receiving Report, and DD Form 1149, Requisition & Invoice/Shipping Document Form, or equivalent form) to assist in rapid determination of hardware or software status by the using organization.

The contents of this document are intended to be consistent with the tasks and products to be prepared by Program participants. The International Space Station (ISS) Program Acceptance Data Package Requirements shall be implemented on all ISS Program contractual and internal activities. This document is under the control of the Space Station Program Control Board, and any changes or revisions will be approved by the Program Manager.



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Michael T. Suffredini  
Manager, International Space Station  
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9/7/10

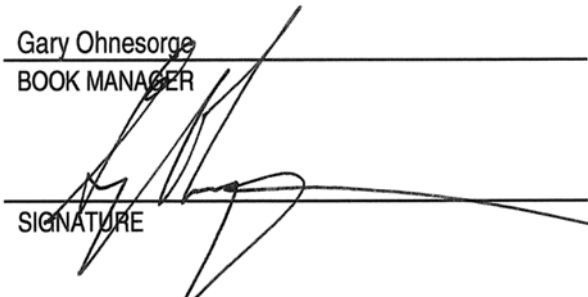
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Date

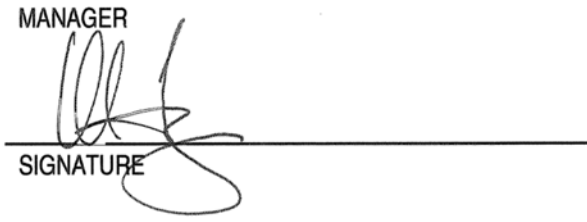
INTERNATIONAL SPACE STATION PROGRAM  
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REQUIREMENTS SPECIFICATION

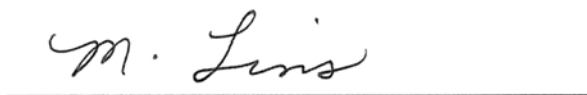
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**INTERNATIONAL SPACE STATION PROGRAM**

**ACCEPTANCE DATA PACKAGE  
REQUIREMENTS SPECIFICATION**

**LIST OF CHANGES**

**AUGUST 2010**

All changes to paragraphs, tables, and figures in this document are shown below:

<b>SSCBD</b>	<b>Entry Date</b>	<b>Change</b>	<b>Paragraph(s)</b>
000123	09-30-94	Revision A	All
	February 2007	Revision B	All
	September 2010	Revision C	All

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## **1.0 INTRODUCTION**

To support hardware or software deliveries for the ISS Program, specific data must be provided to the using organizations as defined herein. The accumulation of this data in a hardware and/or software package is known as the Acceptance Data Package (ADP).

This ADP provides a complete and verified status, including the as-built configuration, of hardware or software, contains information pertinent to acceptance, and enables the continuation of required activities by the using organization. The ADP is prepared as part of the hardware or software acceptance/delivery criteria and shall be maintained throughout the hardware or software life cycle after government acceptance. The ADP shall be maintained throughout all phases of the product life cycle including integrated testing, ground processing, launch site processing, on orbit, post landing, and maintenance/modification/refurbishment activities until the hardware or software is decommissioned. The ADP is a living document, to be updated as needed throughout the product life cycle to reflect the product configuration and status.

### **1.1 PURPOSE**

This specification defines the minimum data required to accompany all hardware and software deliveries to or on the behalf of National Aeronautics and Space Administration (NASA) via DD Form 250/DD Form 1149 or equivalent form. The specification also establishes the maintenance requirements for this data during all phases of the product's life cycle including integration, operational, maintenance/modification and refurbishment activities.

### **1.2 SCOPE**

For hardware, this specification applies to all hardware items designated as ISS Program deliverable Flight Hardware, Orbital Support Equipment (OSE), Flight Support Equipment (FSE), Ground Support Equipment (GSE), and associated spares, mod kits, and loose equipment.

For software, this specification applies to all ISS Program software products (and to their approved changes) designated as operational software, which is defined as flight software and ground software that (1) interfaces with flight hardware or (2) is critical to the mission (such as all control center, test and certification software), including associated models and simulations and Software Support Environment (SSE) Software which interfaces with on-orbit elements in real-time or is critical to the mission. A software delivery may include one or more Computer Software Configuration Items (CSCIs), a release.

Historical data for each deliverable hardware item or software delivery shall be retained and readily accessible by the contractor/NASA procuring center per SSP 41170, Configuration Management Requirements.

The requirements for engineering design data, drawings, specifications, operations and maintenance documentation, logistic data, and other data required by the using organizations, which are required to be submitted in advance of hardware or software item deliveries, are not addressed in this specification.

**SSP 30695**  
**Revision C**

**2.0 DOCUMENTS**

**2.1 APPLICABLE DOCUMENTS**

The following documents in this paragraph are applicable to the extent specified herein.

SSP 41170	Configuration Management Requirements
DD Form 250	Material Inspection and Receiving Report
DD Form 1149	Requisition & Invoice/Shipping Document
JF 911	JSC Projects Parts Tag
JPD 5320.6B	Implementation of NASA's Electrical, Electronic, and Electromechanical (EEE) Parts Policy
JPR 8080.5	JSC Design and Procedural Standards
JSC 23642	JSC Fastener Integrity Testing Program

**2.2 REFERENCE DOCUMENTS**

The following documents contain supplemental information to guide the user in the application of this document. These reference documents may or may not be specifically cited within the text of this document.

SSP 50123	Configuration Management Handbook
ASME Section VIII-1971	ASME Code for Unfired Pressure Vessels
OSHA 29 CFR 1910.1200(G)	Occupational Safety and Health Standards, Hazard Communication, Material Safety Data Sheets



### **3.0 REQUIREMENTS**

An ADP, as defined in this specification, shall be prepared and made available at acceptance for each applicable hardware item or software delivery (reference paragraph 1.2). An ADP can include multiple serial numbers associated with the subject part number as long as they are enumerated in each section where appropriate. The ADP shall reflect the status of the hardware or software at the time of acceptance and shall be delivered concurrently with the hardware item or software delivery. Sustainer shall review ADP updates to acknowledge that updates have been accomplished and reflected in the appropriate sections of the ADP.

The requirements contained herein shall apply to all hardware or software deliveries which are being delivered to or on behalf of NASA by a contractor, subcontractor, or government organization using a DD Form 250/DD Form 1149 (or equivalent form).

#### **4.0 ADP DELIVERABLE DATA**

##### **4.1 CONTENT**

The ADP, consisting of the applicable data items specified in Table 4.1-1, Hardware Data Items/Elements, and Table 4.1-2, Software Data Items/Elements, as a minimum, shall be accumulated by the contractor/supplier or government agency during the fabrication/development and testing of each hardware or software deliverable. The minimum data elements to be included for each applicable data item are mandatory and are specified under "Data Elements" for each corresponding data item (Tables 4.1-1 and 4.1-2).

Each element must be objectively addressed in the ADP. If the element is not applicable, it must be referenced as such. The forms, format, and methods of recording (i.e., manual, computer, or combination thereof) ADP Data Elements are optional unless specified in the contract.

**TABLE 4.1-1 HARDWARE DATA ITEMS/ELEMENTS (PAGE 1 OF 5)**

DATA ITEMS	DATA ELEMENTS
<p><b>Section I DD FORM 250/DD FORM 1149 OR EQUIVALENT.</b> Provide appropriate shipping documents including any special packaging, handling, storage and/or transportation (PHS&amp;T) requirements necessary for transportation of hardware.</p>	<p>a. Copy of form DD Form 250/DD Form 1149 or equivalent</p>
<p><b>Section II Historical Log/Notes/Comments.</b> Used for documenting events in chronological order to include acceptance, tests performed, rework, modification, etc; documenting details of any unusual phenomenon, occurrence, difficulty, or questionable condition during fabrication and testing; referencing any potential hazards to personnel or equipment; also, any other data which may be beneficial at the using organization (e.g., maintenance manual/firmware support manual, special handling/storage requirements, alignment data, weight and center of gravity data, proof load data, drawing charts, original lot number of subsequently serialized parts, etc.). A computerized printout may be used.</p>	<p>a. Deliverable item name, part number, Commercial and Government Entity (CAGE) code and serial number(s). b. Specify location if special instructions are included. c. Date, Location, and Historical Event. d. Notes/comments as applicable.</p>
<p><b>Section III Waiver/Deviation Record.</b> Approved waivers and deviations and Material Review (MR) or equivalent documents to the contract and/or other requirements authorizing hardware use or variations as applicable to the physical/functional parameters of the item being delivered (i.e., form, fit, function).</p>	<p>a. Deliverable item name, part number, CAGE code, and serial number(s). b. Waiver/Deviation number and affected item name, part number, CAGE code, and serial number. c. A copy of the actual waiver/deviation document with a detailed description and contract authority. d. Any of the following (in preferential order)*: A copy of associated MR forms, or - A list of the associated MRs that are housed in a Program recognized, configuration controlled government system (e.g. HRS, PART, EDMS, etc.), including status and disposition, or - A summary of each MR, including, at minimum, the following information: - Nonconformance/MR Document Number - Discrepancy/Item Number - Item/Part Name - Part Number - Serial/Lot/Batch Number - CAGE Code - Description of the Nonconformance - Investigation Details - MR Disposition - Engineering Rationale - Root Cause - Corrective Action e. Copies of any special exemptions for government regulations  * Regardless of the format of the MR data included in the ADP, the original MR(s), or copy/copies, shall be made available to government Quality representatives for review at or prior to Acceptance Review.</p>

TABLE 4.1-1 HARDWARE DATA ITEMS/ELEMENTS (PAGE 2 OF 5)

DATA ITEMS	DATA ELEMENTS
<p><b>Section IV UA Record.</b> Provide a record of any Unexplained Anomalies (UAs) noted during fabrication and/or testing and use of the deliverable hardware item.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and serial number(s).</li> <li>b. Nonconformance Report number index with a copy of the actual Nonconformance Report with detailed description, troubleshooting, acceptance rationale, and authority.</li> <li>c. Nonconformance item name, part number, and serial number.</li> </ul>
<p><b>Section V Shortages.</b> Identification of physical hardware shortages existing at the time of delivery and copy of inspection and test/retest requirements documentation received upon shortage installation.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, and serial number(s).</li> <li>b. Part name, part number, and CAGE code of shortage item.</li> <li>c. Quantity short.</li> <li>d. Test procedure(s) and requirement paragraph number.</li> <li>e. Affected next-higher assembly part number and serial number.</li> </ul>
<p><b>Section VI Unplanned/Deferred Work.</b> Unaccomplished fabrication, test, inspection, or installation activities remaining to be completed at time of acceptance and delivery because of parts shortages, lack of schedule time, etc., including open Material Review actions, open nonconformance reports, open recurrence control actions, unincorporated engineering changes, mod kits, and other open work applicable to the hardware being delivered and copy of inspection and test/retest requirements per appropriate documentation to complete Unplanned/Deferred Work.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and serial number(s).</li> <li>b. Affected part number or specification, CAGE code and serial number.</li> <li>c. A listing and a copy of the unplanned/deferred work.</li> <li>d. Test procedure(s) and requirement paragraph number.</li> </ul>

**TABLE 4.1-1 HARDWARE DATA ITEMS/ELEMENTS (PAGE 3 OF 4)**

DATA ITEMS	DATA ELEMENTS
<p><b>Section VII Preplanned/Assigned Work.</b> Description of work from manufacturing and/or test authorized for accomplishment after item delivery because of a Program decision to ship prior to completion, or deferral of work completion because of authorized shortages. Provide a copy of inspection and test/reject requirements documentation required to complete Preplanned/Assigned Work.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and serial number(s).</li> <li>b. Authorizing work document identification.</li> <li>c. Description and listing of Preplanned/Assigned Work.</li> <li>d. Test procedure(s) and requirement paragraph number.</li> </ul>
<p><b>Section VIII Identification — As Designed/As-Built Listing.</b> An indentured parts list which provides a comparison of the as-designed/as-built configuration of the hardware being delivered. The configuration listing consists specifically of the following:</p> <ul style="list-style-type: none"> <li>a. Subsystem, assembly, and subassembly hardware (traceable and non-traceable);</li> <li>b. Parts procured to a Source Control Drawing (traceable and non-traceable); and</li> <li>c. Parts procured to a Specification Control Drawing (traceable only).</li> </ul> <p>For purposes of this specification, the as-designed/as-built configuration excludes specification control drawing parts and standard usage hardware which are exempt from traceability (e.g., nuts, bolts, washers, shims, pins).</p> <p>In the event of a discrepancy between the part number/nomenclature of subassembly parts on the assembly drawing versus that of the subassembly drawings, the as-designed/as-built listing should reference the part number/nomenclature as shown on the subassembly drawings.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code and serial number(s).</li> <li>b. Part indenture level.</li> <li>c. Part number, CAGE code, part serial or lot number, including Government Furnished Equipment when applicable.</li> <li>d. Quantity.</li> <li>f. Drawing number and revision.</li> <li>g. Circuit reference designators (Electrical, Electronic, and Electromechanical parts).</li> </ul>
<p><b>Section IX Operating Time/Cycle.</b> Status at time of delivery of accumulated operating time and/or cycles of parts designated as time/cycle critical. This includes maintenance activities which are required based on operating time/cycle.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and serial number(s).</li> <li>b. Time/cycle part name, part number, CAGE code, and serial number.</li> <li>c. Allowable (specification requirement) and remaining operating time and/or cycles from point of delivery.</li> </ul>
<p><b>Section X Age-Sensitive/Time-Action Items.</b> Limited-life items that have a maximum life limit and are subject to replacement when specified limit is reached or exceeded. Included are time-action control items having a minimum periodic functional operating limit and are subject to replacement when one or more of specified limits are exceeded. This includes maintenance activities which are required based on Age-Sensitive/Time Actions. This includes shelf life items, items with calibration expiration date, time-sensitive maintenance actions.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and serial number(s).</li> <li>b. Age-sensitive/time-action part name, part number, CAGE code, serial number, birth date, expiration date (action due date), and type of action required (i.e., replace, service, inspect, etc.).</li> <li>c. Last operation and/or servicing date and next operation and/or servicing due date (time action items only).</li> </ul>

**TABLE 4.1-1 HARDWARE DATA ITEMS/ELEMENTS (PAGE 4 OF 5)**

DATA ITEMS	DATA ELEMENTS
<p><b>Section XI Nonstandard Calibration.</b> Records of measurement equipment, instrumentation, components, or systems having nonstandard calibration curves shall be provided at time of delivery.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and serial number(s).</li> <li>b. Component/transducer/signal conditioner/gauge or meter, part name, part number, and serial number.</li> <li>c. Measurement Number.</li> <li>d. Range (engineering units), excitation volts (+/-), units stimulus (engineering units), and output volts or resistance.</li> <li>e. Temperature environment, calibration date, and stimuli values versus output expressed in engineering units or percent of full range.</li> <li>f. Actual calibration tabulated data points and/or calibration curves, as specified in the sensor/signal conditioner component procurement documents, will be required at time of delivery.</li> </ul>
<p><b>Section XII Repair Limitations.</b> When repair limitations are imposed by the design agency (i.e., limits the number of times a specific hardware type can be repaired), then a status of these limited repair items which have had prior repair activity but have or have not reached the specific repair limit shall be identified at time of delivery.</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code and serial number(s).</li> <li>b. Type of repair (i.e., bent pins, brazed joints, etc.).</li> <li>c. Repair limitation requirement.</li> <li>d. The source of the requirement (i.e., specification, etc.).</li> <li>e. Identification method (i.e., painted, tagged, charted, etc.).</li> <li>f. Part name, part number, CAGE code, serial and/or lot number of the affected item.</li> <li>g. Physical location of affected item.</li> <li>h. The number of prior repairs.</li> </ul>
<p><b>Section XIII Pressure Vessel Data.</b> A log of each pressure vessel's exposure to materials and pressures shall be provided at time of delivery (GSE exclusion - American Society of Mechanical Engineers (ASME) Code for Unfired Pressure Vessels. All GSE pressure Vessels which have been designed, fabricated, and tested to the requirements of the ASME Code for Unfired Pressure Vessels, Section VIII, 1971 Edition, are excluded from the log requirements. However, an ASME Form U-1, prepared in accordance with the ASME code, shall be provided at time of delivery. Requirements are specified on ASME Form U-1.).</p>	<ul style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and serial number(s).</li> <li>b. Pressure vessel's part name, part number, CAGE code, and serial number.</li> <li>c. Limited-life requirements.</li> <li>d. Threshold Pressure Pounds Per Square Inch Pressure Differential at Mean Sea Level (PSID at MSL).</li> <li>e. Pressure Limitations including threshold pressure, maximum operating pressure and proof pressure.</li> <li>f. Cycle Limitation for threshold pressure, maximum operating pressure and proof pressure.</li> <li>g. Chronological test and checkout history as listed below: <ul style="list-style-type: none"> <li>1. Proof pressure data/certification,</li> <li>2. Leak test data,</li> <li>3. Cycling data,</li> <li>4. Peak pressure,</li> <li>5. Minimum pressure,</li> <li>6. Total number of pressure cycles,</li> <li>7. Type of pressurant (test media), and</li> <li>8. QC or operator stamp as required.</li> </ul> </li> </ul>

TABLE 4.1-1 HARDWARE DATA ITEMS/ELEMENTS (PAGE 5 OF 5)

DATA ITEMS	DATA ELEMENTS
<p><b>Section XIV Pyrotechnic Data.</b> Documented evidence that representatives of both NASA and the procuring agency have reviewed and accepted the described pyrotechnic devices on the basis of applicable NASA and procuring agency specification and requirements. This documentation consists of the lot certificate, which includes the certification statement and marriage records.</p> <p><b>Lot Certificate.</b> This certification reflects the current status of the device lot at time of acceptance and shall be provided with each device lot.</p>	<p>Minimum data to be included in the lot certification and marriage record is detailed in the pyrotechnic specification .</p>
<p><b>Section XV Nonflight Hardware/Temporary Installations.</b> A listing of installed hardware, which is not part of the deliverable item configuration and must be removed prior to subsequent operations or flight, shall be provided.</p>	<ol style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and serial number(s).</li> <li>b. Identification method (painted, tagged, streamered, chartered, etc.). If tagged or streamered, indicate tag or streamer number.</li> <li>c. Listing of the temporarily installed part name, part number, CAGE code, and serial number.</li> <li>d. Physical location of the temporarily installed part and identification of when item is to be removed (i.e., prior to test, prior to continued integration, prior to flight, etc.).</li> </ol>
<p><b>Section XVI Certifications.</b> Documented evidence attesting to the fact the delivered hardware meets specified requirements (i.e., proof load, proof pressure, cleanliness, flight, etc.). Supporting documentation [e.g. Verification Completion Notices (VCNs)], shall be available for review.</p>	<ol style="list-style-type: none"> <li>a. Deliverable item name, part number, CAGE code, and Serial Number(s).</li> <li>b. Identification of certifying official.</li> <li>c. Evidence the qualification and acceptance requirements have been satisfied (reference document number).</li> <li>d. Acceptance test procedure number.</li> <li>e. ATP report number.</li> </ol>
<p><b>Section XVII MSDS Data.</b> Material Safety Data Sheet (MSDS) used to convey information about the potential health and physical hazards of materials/substances used in the work environment. [Reference OSHA 29 CFR 1910.1200(G), Occupational Safety and Health Standards, Hazard Communication, Material Safety Data Sheets]</p>	<ol style="list-style-type: none"> <li>a. The chemical and common name of the material/substance.</li> <li>b. The physical properties of the material/substance.</li> <li>c. The hazards or other risks involved in the use of the material/substance, including fire and explosive potential, corrosivity, reactivity, and any known acute and chronic health effects related to exposure.</li> <li>d. Safe handling practices, necessary personal protective equipment, and other safety precautions.</li> <li>e. Emergency procedures for spill, fire, disposal, and first aid.</li> </ol> <p>Note: One MSDS per type of material/substance.</p>

**TABLE 4.1-2 SOFTWARE DATA ITEMS/ELEMENTS (PAGE 1 OF 2)**

DATA ITEMS	DATA ELEMENTS
<b>Section I DD FORM 250/DD FORM 1149 OR EQUIVALENT.</b> Provide any special packaging, handling, storage and/or transportation (PHS&T) requirements necessary for transportation of hardware.	Copy of form DD Form 250/DD Form 1149 or equivalent
<b>Section II Notes/Comments.</b> This section is used for pertinent notes, comments, or special instructions which would be beneficial to the software user.	a. Deliverable software identifier and version. b. Notes/Comments as applicable.
<b>Section III Waiver/Deviation Record.</b> Approved waivers, deviations and MR or equivalent documents to the contract and/or other requirements authorizing software use or delivery with existing variations as applicable to the functional/operational parameters of the item being delivered, (i.e., form, fit, or function). Attach a copy of the actual waiver/deviation document with a detailed description and contract authority.	a. Deliverable software identifier and version. b. Waiver/deviation number index. c. Waiver/deviation title or comments.
<b>Section IV UA Record.</b> Provide a record of any UAs noted during acceptance through system testing and use of the deliverable software item, with a copy of the actual nonconformance report with a detailed description, troubleshooting, acceptance rationale, and authority.	a. Deliverable software identifier and version. b. Nonconformance report number index. c. Comments.
<b>Section V Unplanned/Deferred Work.</b> Unaccomplished development, test, or activities remaining to be completed at time of acceptance and delivery due to lack of schedule time, etc., including open nonconformance reports, open recurrence control actions, and other open work, applicable to the software being delivered.	a. Deliverable software identifier and version. b. Affected program, module, or specification. c. Description of Unplanned/Deferred Work, including a list of open or unincorporated Engineering changes which should have been accomplished prior to delivery. d. Inspection and test/retest requirements per appropriate documentation to complete Unplanned/Deferred Work.
<b>Section VI Preplanned/Assigned Work.</b> Description of work from development and/or test authorized for accomplishment after delivery because the Program desires, is deferred for safety reasons, is required to restore the item from alterations/differences necessary for shipping, or is deferred to allow end item software delivery although module/component delivery schedules have been slipped.	a. Deliverable software identifier and version. b. Authorizing document identification (specification, test/plan procedure, etc.). c. Description of Preplanned/Assigned Work. d. Inspection/verification requirements per approved documentation to complete Preplanned/Assigned Work.
<b>Section VII Specification Documents.</b> A listing of the software specification documentation, including amendment and/or revision number.	Identified by software identifier and version.
<b>Section VIII Program Listing.</b> The source code for all programs, subprograms/subroutines, procedures, tasks, and program modules in an electronically stored format (tape, disk, etc.).	Identified by software identifier and version.
<b>Section IX Version Description Document.</b> Establishes the as-built configuration items released and provides installation and adaptation information. Establishes the exact description of the actual configuration of the items as depicted by specifications, incorporated approved changes, approved exceptions, etc.	Identified by software identifier and version  (May point to the software VDD data requirement, if applicable.)
<b>Section X User's Guide or System Operating Manual.</b> Provides program overview and all necessary instructions concerning the use and options of the software program. Document number includes amendment and/or revision.	Identified by software identifier and version.



**TABLE 4.1-2 SOFTWARE DATA ITEMS/ELEMENTS (PAGE 2 OF 2)**

<p><b>Section XI Certifications.</b> Documented evidence that delivered software meets specified requirements.</p>	<ul style="list-style-type: none"><li>a. Deliverable software identifier and version.</li><li>b. Identification of certifying official.</li><li>c. The requirements being satisfied.</li><li>d. The source of the requirement.</li></ul>
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## **4.2 FREQUENCY OF UPDATES**

### **4.2.1 UPDATES FOR ON-ORBIT HARDWARE**

ADP updates are not required for hardware while on-orbit.

Update by sustainer for history of on-orbit activities into the ADP shall be performed by de-integration plus 30 days.

### **4.2.2 UPDATES FOR GROUND HARDWARE**

Updates shall be provided by the accountable entity per the latest DD Form 250/DD Form 1149 or equivalent at a minimum when:

A. Modification or Testing of Hardware/Software (HW/SW).

Stowage processing that does not modify or cycle/checkout hardware does not require an update to the ADP unless the processing operation results in a non-conformance.

## **5.0 ACCEPTANCE DATA PACKAGE CONTENT**

The Title Page and Index Pages are mandatory data elements and shall be identified in Table 5.2-1, Title and Index Pages Elements.

### **5.1 STRUCTURE**

The ADP shall be divided into separate sections with each section containing specific data. Each ADP will be assembled as follows (see Figure 5.1-1, Hardware Acceptance Data Package - Structure, or Figure 5.1-2, Software Acceptance Data Package — Structure). If a specific section is not applicable to the subject hardware or software, record Not Applicable (N/A) on the Index Page.

Title Page	
Index Page	
Section I	Copy of Delivery/Acceptance (DD Form 250) or Delivery (DD Form 1149) document
Section II	Historical Log/Notes/Comments
Section III	Waivers/Deviations
Section IV	Unexplained Anomalies
Section V	Shortages
Section VI	Unplanned/Deferred Work
Section VII	Preplanned/Assigned Work
Section VIII	Identification - As-Designed/As-Built Listing
Section IX	Operating Time/Cycle
Section X	Age-Sensitive/Time-Action Items
Section XI	Nonstandard Calibration Data
Section XII	Repair Limitation Data
Section XIII	Pressure Vessel Data
Section XIV	Pyrotechnic Data
Section XV	Nonflight Hardware/Temporary Installations
Section XVI	Certifications
Section XVII	MSDS Data-Material Safety Data Sheet

**FIGURE 5.1-1 HARDWARE ACCEPTANCE DATA PACKAGE - STRUCTURE**

Title Page	
Index Page	
Section I	Copy of Delivery/Acceptance (DD Form 250) of Delivery (DD Form 1149) document
Section II	Notes/Comments
Section III	Waivers/Deviations
Section IV	Unexplained Anomalies
Section V	Unplanned/Deferred Work
Section VI	Preplanned/Assigned Work
Section VII	Specification Documents
Section VIII	Program Listing
Section IX	Version Description Document
Section X	User's Guide or System Operating Manual
Section XI	Certifications

**FIGURE 5.1-2 SOFTWARE ACCEPTANCE DATA PACKAGE – STRUCTURE**

**5.2 PREPARATION INSTRUCTIONS**

In the event a data item for a given section is too voluminous to maintain an orderly package (i.e., several boxes of data for a particular section), the appropriate section shall reference and identify the location and quantity of the supporting documentation. This supporting documentation may be packaged separately and shall be identified appropriately with cross reference to the parent ADP.

The number of sections to be contained in a specific ADP is determined by the number of applicable data items required for the subject hardware/software being delivered (i.e., one or more data items, as shown in Table 4.1-1, Hardware Data Items/Elements or Table 4.1-2, Software Data Items/Elements, may not be applicable to the item being delivered; in that event, only those sections which are applicable would be included in the ADP with the proper notation on the Index Page (See Table 5.2-1, Title And Index Pages Elements).

**TABLE 5.2-1 TITLE AND INDEX PAGES ELEMENTS**

DATA FORMATS	DATA ELEMENTS
<p><b>Title Page.</b> The cover page of the ADP will identify the hardware or software item being delivered.</p> <p>The CAGE code is the manufacturer of the highest level assembly being delivered, regardless of the originator of the design.</p>	<ul style="list-style-type: none"> <li>a. For hardware, deliverable hardware item name, configuration item number (if applicable) part number, CAGE code, and serial number; for software, deliverable software identifier CSCI Number (if applicable) and version number.</li> <li>b. Model number (if applicable).</li> <li>c. Contract Number.</li> <li>d. Contractor/supplier name.</li> </ul>
<p><b>Index Page.</b> This page identifies the type of hardware or software, associated data and applicable sections contained in the ADP.</p>	<ul style="list-style-type: none"> <li>a. For hardware, deliverable hardware item name, part number, and serial number; for software, deliverable software identifier and version number.</li> <li>b. HW/SW fidelity (Flight, GSE, FSE, etc.)</li> <li>c. Content (identified by checking the appropriate block) of the applicable data elements/section contained in the ADP.</li> <li>d. Appropriate ADP approval signatures, organization, and dates.</li> </ul>

## 6.0 PARTS TAG

A. A parts tag may be used in lieu of an ADP when:

1. Only Section I (Shipping /Delivery Document (DD1149, DD250, or equivalent), Section II (Historical Log/Notes/Comments), Section X (Age-Sensitive/Time Action Items), and Section XVI (Certifications) of Table 4.1-1 are applicable to the deliverable article, or
2. The deliverable has been considered noncomplex by the appropriate ISS Program board and has either been documented in the board minutes or documented in the Change Directive (CD)/CD attachments, or
3. Data to support Table 4.1-1 is housed in a Program recognized, configuration controlled government system (e.g. EDMS) and readily available to support acceptance and sustaining activities.

B. The parts tag must contain the following information:

1. Part name,
2. Part number,
3. Serial/lot number,
4. Quantity,
5. Drawing number and revision,
6. Incorporated engineering change number,
7. The name, signature, and/or stamp of the Program's government representative indicating acceptance of the hardware.

C. An ADP or a parts tag shall be required for each article delivered to a using organization, as called out in the task order or deliverable items list or equivalent.

Appendix D provides guidelines to both the hardware developers and the ISS Program boards with regards to what constitutes "noncomplex" hardware.

It should be noted that use of the parts tag does not negate the requirements of other hardware status tags which may be prepared prior to hardware delivery. Johnson Space Center (JSC) -developed GFE items can have the Service Life Limitations (shelf life, calibration life, next preventative maintenance, etc.) annotated on the parts tag when B.6 above is not applicable.

NOTE: Parts tags are not to be used for software deliveries.

## **7.0 MINI ACCEPTANCE DATA PACKAGES (HARDWARE ONLY)**

### **7.1 HARDWARE SHIPMENT TO A DEPOT/CONTRACTOR FACILITY**

When NASA owned hardware is to be shipped to a depot/contractor facility for maintenance/re-work a mini-ADP may be provided in lieu of the complete ADP.

If the hardware is to be permanently shipped to a non-NASA entity, the complete ADP shall be shipped with the hardware.

The hardware sustainer is responsible for providing updates to the KSC Test Operations and Support Contract (TOSC) Data Center (TDC) prior to mini-ADP shipment.

Minimum contents:

At a minimum, a mini-ADP shall consist of the following components:

- I. DD Form 1149 or equivalent
- II. Historical Log/Notes/Comments
- III. Waiver/Deviations
- IV. Unexplained Anomalies
- V. Shortages
- VI. Unplanned/Deferred Work
- VII. Preplanned/Assigned Work
- IX. Operating time/cycle
- X. Age sensitive/Time Action Items
- XI. Non-Standard Calibration Data
- XII. Repair Limitations Data
- XIII. Pressure Vessel Data
- XIV. Pyrotechnic Data
- XV. Nonflight Hardware/Temporary Installations
- XVI. Certifications
- XVII. MSDS

Additional information shall be provided on a case by case basis upon the Depot/Contractor's/sustainer's request.

### **7.2 HARDWARE RETURN FROM A DEPOT/CONTRACTOR FACILITY**

Sustainer shall review ADP updates to acknowledge that the ADP reflects the changes consistent with the authorized work.

### **7.3 SHIPPING HARDWARE FOR FLIGHT FROM A NON-KSC LAUNCH FACILITY**

For HW/SW transfer to Non-KSC launch facilities, the official ADP shall remain in or be provided to KSC/TDC. An ADP shall be shipped with the hardware only if additional work is planned prior to final packing or when the receiving site has request the ADP. Any unplanned work performed at the receiving site shall be reported to KSC/TDC for inclusion in the official ADP.

## APPENDIX A - ACRONYMS AND ABBREVIATIONS

ABCDL	As-Built Configuration Data List
ADP	Acceptance Data Package
ASME	American Society of Mechanical Engineers
CAGE	Commercial and Government Entity
TDC	TOSC Data Center
CEI	Contract End Item
CI	Configuration Item
CR	Change Request
CSCI	Computer Software Configuration Item
EEE	Electrical, Electronic, and Electromechanical
FSE	Flight Support Equipment
GFE	Government Furnished Equipment
GSE	Ground Support Equipment
HW/SW	Hardware/Software
ISS	International Space Station
KSC	Kennedy Space Center
MOP	Maximum Operating Pressure
MR	Material Review
MSDS	Material Safety Data Sheet
MSL	Mean Sea Level
NASA	National Aeronautics and Space Administration
OEM	Original Equipment Manufacturer
OSE	Orbital Support Equipment
OSHA	Occupational Safety and Health Act
PHS&T	Packaging, Handling, Storage and/or Transportation
PP	Proof Pressure
PPC	Proof Pressure Cycle
PSID	Pounds Per Square Inch Pressure Differential
QC	Quality Control
SPA	Software Product Assurance
SSCB	Space Station Control Board
SSE	Software Support Environment
TOSC	Test and Operations Support Contract
TP	Threshold Pressure



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UA

Unexplained Anomaly

VCN

Verification Completion Notice

VDD

Verification Description Document

## **APPENDIX B - GLOSSARY OF TERMS**

### **ACCEPTANCE DATA PACKAGE**

Specific set of data that accompanies hardware and/or software deliveries to the using organizations, providing a complete and verified status, including the as-built configuration containing information pertinent to the acceptance of the hardware and/or software.

### **ACCEPTANCE REVIEW**

An End Item Acceptance Review formally establishes the exact configuration for each hardware or software item at the time of acceptance/delivery by NASA or NASA designee.

### **AS-BUILT CONFIGURATION**

An actual, physical configuration of a unit of hardware or software.

### **AS-DESIGNED CONFIGURATION**

A configuration formally approved and released by NASA or contractor engineering release authority.

### **COMPUTER FIRMWARE**

An assembly composed of a hardware unit and a computer program integrated to form a functional entity whose configuration cannot be altered during normal operation. The computer program is stored in the hardware unit as an integrated circuit with a fixed logic configuration that will satisfy a specific application or operational requirement.

### **COMPUTER SOFTWARE CONFIGURATION ITEM**

The CSCI is a designation applied to software, or any of its discrete portions, which satisfies an end user function and is designated by NASA as a deliverable item. CSCIs shall be formally accepted on a DD Form 250 or its equivalent.

### **CONTRACT END ITEM**

The Contract End Item (CEI) is a designation applied to an aggregation of hardware or software, or any of its discrete portions, which satisfies an end user function and is designated by the contract as a deliverable item. CEIs shall be formally accepted on a DD Form 250 or its equivalent. CEIs are line items in the contract or furnished by NASA in-house design activities.

### **DEVIATION**

A Deviation is a specific written authorization, granted before the fact, to depart from a particular performance or design requirement, specification, or related document for a specific number of units or for a specified period of time.

### **HARDWARE**

Items of identifiable equipment, including piece parts, components, assemblies, subsystems, and systems.

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**MINI-ADP**

A mini-ADP is shortened version of a complete ADP containing a minimum set of data elements, that accompanies hardware/software sent to a depot/contractor facility for maintenance/rework.

**MODIFICATION**

A physical change to delivered hardware and/or software, including spares.

**NONCOMPLIANCE**

A condition that exists or will exist when a deliverable item or its related documentation is not in accordance with the baseline at the time of established contractual events.

**NONCONFORMANCE**

A condition of any article or material or service in which one or more characteristics do not conform to requirements. This includes failures, discrepancies, defects, and malfunctions.

**OPERATIONAL SOFTWARE**

Flight and ground software that either (1) interfaces with on-orbit elements in real-time or (2) is critical to the mission (such as all control center test and certification software) including associated models and simulations and SSE software which interfaces with on-orbit elements in real time or is critical to the mission.

**PRESSURE VESSEL CYCLE**

A pressure vessel cycle is recorded when pressure increases by an amount exceeding the absolute value of Threshold Pressure (TP) and then decreases by an amount exceeding the absolute value of TP. NOTE: Pressure increases and decreases need not be continuous and small increases/decreases can exist within a recordable pressure cycle.

**SOFTWARE**

Computer programs required to design, test, check out, maintain, or operate program hardware.

**THRESHOLD PRESSURE**

Minimum pressure at which theoretical cyclic flow growth can occur. Pressurization below TP does not result in reduction of vessel pressure cycle life.

**UNEXPLAINED ANOMALY**

An anomaly (ghost or phantom) which cannot be repeated or for which a cause cannot be determined.

**WAIVER**

A Waiver is a specific written authorization granted after the fact, for use or acceptance of a product which does not meet specified requirements, but is considered suitable for use "as is" or after repair by an approved method.

**APPENDIX C - OPEN WORK**

Table C-1 lists the specific To Be Determined (TBD) items in the document that are not yet known. The TBD is inserted as a placeholder wherever the required data is needed and is formatted in bold type within brackets. The TBD item is numbered based on the section where the first occurrence of the item is located as the first digit and a consecutive number as the second digit (i.e., <**TBD 4-1**> is the first undetermined item assigned in Section 4 of the document). As each TBD is solved, the updated text is inserted in each place that the TBD appears in the document and the item is removed from this table. As new TBD items are assigned, they will be added to this list in accordance with the above described numbering scheme. Original TBDs will not be renumbered.

**TABLE C-1 TO BE DETERMINED ITEMS**

<b>TBD</b>	<b>Section</b>	<b>Description</b>

Table C-2 lists the specific To Be Resolved (TBR) issues in the document that are not yet known. The TBR is inserted as a placeholder wherever the required data is needed and is formatted in bold type within brackets. The TBR issue is numbered based on the section where the first occurrence of the issue is located as the first digit and a consecutive number as the second digit (i.e., <**TBR 4-1**> is the first unresolved issue assigned in Section 4 of the document). As each TBR is resolved, the updated text is inserted in each place that the TBR appears in the document and the issue is removed from this table. As new TBR issues are assigned, they will be added to this list in accordance with the above described numbering scheme. Original TBRs will not be renumbered.

**TABLE C-2 TO BE RESOLVED ISSUES**

<b>TBR</b>	<b>Section</b>	<b>Description</b>

**APPENDIX D– GUIDELINES FOR DETERMINATION OF COMPLEXITY**

This appendix provides guidance to the hardware developers and the ISS Program on interpreting Section 6.0, “Parts Tag.” This is meant as a guidance tool, and should not be interpreted as a requirement. The final decision authority will be the appropriate control board or delegated authority as per SSP 30695.

The guideline below will be used in assessing the need for either an ADP or a parts tag. Use of a parts tag in lieu of an APD should be considered if:

1. Items that have a single use life (e.g., commercial off-the shelf batteries, non-rechargeable battery assemblies, air sniffers, icepacks, screws) provided that a single failure of such items will not result in loss of life, injury, loss of vehicle, or damage to vehicle;
2. Consumable items (e.g. cotton balls, filters, paper, Ziploc) and kits containing consumables;
3. Non-serialized kits containing items that are not required to provide traceability per JPD 5320.6B, Implementation of NASA’s Electrical, Electronic, and Electromechanical (EEE) Parts Policy, JPR 8080.5, JSC Design and Procedural Standards, and JSC 23642, JSC Fastener Integrity Testing Program;

Note: Kits containing items that are required to be traceable by lot or serial number should be serialized.

4. Kits that consist solely of medications. In lieu of providing an ADP, the provider shall make provisions for all data required by this document to be available for the authorized government agent to review prior to acceptance of the deliverable items;
5. Cables developed for non-critical applications;
6. Other hardware that engineering judgment, with concurrence from the appropriate control board with an S&MA representative, deems acceptable by means of a parts tag.

NOTE: The JF911 tag is an accepted parts tag for Johnson Space Center (JSC) Government Furnished Equipment (GFE).