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Safe Handling of Flight Hardware Procedure

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Preface

1.0 Scope

Implementation of this procedure will help to protect the Experiment Data System and All Sky Monitor from sustaining electrostatic discharge, contamination, environmental, or physical damage during handling.

1.1 Objective

To provide instructions and checklists for qualified personnel to handle flight hardware.

2.0 Reference Documents

The following MIT documents form a part of this procedure:

64-02006	EDS Functional Description and Requirements
64-02007	ASM Functional Description and Requirements
64-02011	Contamination Control Implementation Plan
64-50104	Lifting Fixture Assembly

3.0 Procedures

3.1 Experiment Data Systems (EDS) (see 64-02006)

3.1.1 Assembled EDS

The assembled EDS incorporates handles to insure safe lifting and handling for moving distances of ten feet or less.

3.1.2 Movement of EDS More Than Ten Feet

Movement of the EDS of distances of ten feet or more requires the use of a clean lab cart as well as the lifting handles.

3.1.3 Movement of EDS from Bonded Stock

Movement of the EDS from the Bonded Stock, Flight Assembly or Flight Test areas requires precautions against Electrostatic Discharge (ESD) and contamination. The assembly must be bagged in a clean anti static bag.

3.1.4 Movement of EDS to Another Facility

Movement of the EDS from NE80 to another facility requires the assembly to be placed into an approved shipping container using the proper protection against ESD, contamination and environmental damage. Before placing the assembly into the container, the following precautions must be taken:

a. Check container visually for contamination and damage
b. Check packing material for contamination and damage
c. Check outside of container for correct labeling

3.2 All Sky Monitor (ASM) (see 64-02007)

The ASM consists of the following major subassemblies:

a. Scanning Shadow Cameras(SSC)
b. Drive Assembly
c. Pedestal

3.2.1 Special Worktable

A special worktable shall enable qualified personnel to assemble the flight subassemblies. Proper procedures to protect these components from ESD and contamination are required to assemble the flight subassemblies.

3.2.2 Special Lighting Fixture

The ASM requires a special lifting fixture (64-50104), to be used in conjunction with a crane type device. When the ASM is moved from the worktable into the shipping container, this fixture shall be employed.

3.2.3 Special Shipping Container

The ASM requires a special shipping container which will include valves, shock mounts and sensors. Prior to moving the ASM from the worktable into the shipping container the following precautions are required:

a. Check container visually for contamination and damage
b. Check functionality of valves, sensors and shock mounts
c. Check desiccant : blue = acceptable pink = unacceptable
d. Check packing materials for contamination and damage
e. Check outside of container for correct labeling

3.2.4 Scanning Shadow Cameras

There are a total of four(4) SSCs which will be moved from NE80 to outside facilities for various tests. A separate approved shipping container shall be utilized to move each subassembly. The following precautions are required prior to movement of these assemblies:

a. Check container visually for contamination and damage
b. Check functionality of sensors, valves and holding fixtures
c. Check desiccant; blue = acceptable pink = unacceptable
d. Check packing material for contamination and damage
e. Check outside of container for correct labeling