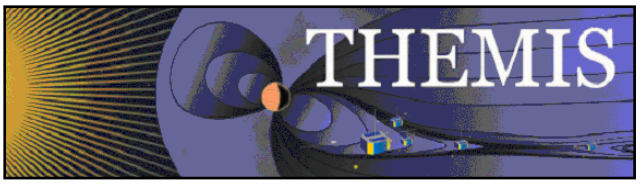

Problem/Failure Report
THM_PFR_098

PFR-098 Title: SPB S/N S923 Dropped During Assembly

Assembly : THM-SPB-MEC-001	**SubAssembly : STRUCTURE**	
Component : FIXED STRUCT PLATE	**Units Affected:**	**Units fixed:**
Originator: DALTON	- - - - - x	- - - - - X
Organization: SSL-UCB	**Date: 27 SEPT 05**	
Phone: 510.643.9240	**Email : gdalton@ssl.berkeley.edu**	

Failure Occurred During (Check one √)

□ Functional test □ Qualification test □ S/C Integration □ Launch operations ■ Other (Flight Assy)

Environment when failure occurred:

■ Ambient	□ Vibration	□ Shock	□ Acoustic
□ Thermal	□ Vacuum	□ Thermal-Vacuum	□ EMI/EMC

Problem Description

SPB S923 was dropped during electrical internal wiring. The unit was dropped from a height of approximately 27 inches onto a linoleum floor. The forward foot of the fixed plate was slightly damaged, and the top portion of the fixed plate was bent to the point that structural plastic deformation occurred. The unit was built up with both side magnesium planes, to spool cover, and motor assembly. Cleanliness was maintained during the incident, and no parts broke off the assembly.

Analyses Performed to Determine Cause

The incident could be attributed to poor handling, and further incidents can be avoided by careful handling of flight hardware.

Corrective Action/ Resolution

Inspection of the affected unit reveals that there was plastic deformation of the fixed panel. It was discussed and determined that the entire structure should be replaced with a flight spare. The motor assembly was inspected for mechanical and electrical integrity. All geometrical tolerances are still in spec, and no damage was observed in the bearings, drivetrain, gearmotor, and bevel gears. Handheld magnetometer readings indicate that the magnetic shield properties have not degraded. Motor current is nominal, and there is no unusual noise observed when the unit is operated. The new unit will consist of flight spare S922 structure and the motor assembly from S923. The internal wiring completed on S923 will be removed and installed on S922, with exception of the science wiring from the slipring. This rework will be recorded in the Repair/Rework Order **S923 REPAIR AFTER DROPPING DURING ASSY.** The new reworked unit will be given serial number S922.

Acceptance:
MAM: Ron Jackson_____; MSE: Ellen Taylor_____

PM: Peter Harvey_____; Cognizant Engineer_____

Date of Closure_____