

STEREO IMPACT

PROBLEM REPORT

PR-1010

FM1Vibe

28 June 2004

PR Numbers: 1xxx=UCB, 2xxx=Caltech/JPL, 3xxx=UMd, 4xxx=GSFC/SEP, 5xxx=GSFC/Mag,
6xxx=CESR, 7xxx=Keil, 8xxx=ESTEC, 9xxx=MPAe

Assembly : IMPACT Boom	SubAssembly : Boom Structure
Component/Part Number:	Serial Number: A361SN001
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Failure Occurred During (Check one)

- Functional test Qualification test S/C Integration Launch operations

Environment when failure occurred:

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

Problem Description

Following the Z-axis vibration testing of the Flight Model (FM) 1 Boom, a pin was found loose in the instrument bagging. Inspection determined the original function of the pin had been to locate one of the Tube Catchers (Alignment Combs) for the tubes to the Magnetometer Tray. These pins had been added to prevent slight slippage of the Tube Catchers seen in the Protoflight (PF) Boom Vibration. Since the slippage in the PF Boom had not caused any loss in functionality or structural rigidity and the pins are redundant, the Vibration testing was continued on the FM1 Boom.

Following the Y-axis vibration testing of the FM1 Boom, another pin was found loose in the instrument bagging. Inspection determined the original function of the pin to be the same as the first but from the mirrored Alignment Comb.

Analyses Performed to Determine Cause

During inspection it was determined that the locations on the Magnetometer Tray were the only places out of which these pins could come as the holes were through holes. Though these holes were originally intended to be press fits, the drawings indicate they were machined to be tight clearance holes. This was verified as the pins could be pushed back into position with small effort.

Corrective Action/ Resolution

- Rework Repair Use As Is Scrap

The pins were returned to their correct places in the assembly and staked into position. Staking compound was added to at least 50% of the circumference, but less than 75% to allow venting. This allows them to continue to function as locating pins for the Alignment Combs and prevents them from retracting in the future. A notation has been made to the traveler assembly instructions.

Date Action Taken: 29 June 2004 **Retest Results:** No retest required

Corrective Action Required/Performed on other Units: FM2 not yet built. Pins will be staked prior to FM2 vibration.

Closure Approvals

Subsystem Lead: _____ Date: _____
IMPACT Project Manager: _____ Date: _____
IMPACT QA: _____ Date: _____
NASA IMPACT Instrument Manager: _____ Date: _____