STEREO IMPACT

PROBLEM REPORT
PR-2012
LET Housing Parts
6/2/2005

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

Assembly: SEP	**SubAssembly: LET**
Component/Part Number:	**Serial Number: FM2**
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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

While reassembling FM2 LET sensor in order to apply corrective actions described in PFR 2006 & 2007, the tapped 0-80 holes in LET housing were found to be oversized and out of spec. The anomaly was evident on approximately 60-75% of the 0-80 holes in the LET housing. The running torque on new 0-80 screws with Poly-Lok feature alone wasn't sufficient, and there was unanimous fear that the proposed corrective action wouldn't work as planned.

Analyses Performed to Determine Cause

Tapped holes in the LET housing parts were manufactured using "rolled" threads rather than "cut" threads. In the process of making "rolled" threads a larger drill size is used, so the resulting tapped hole size is larger than the specification allows. This was not noticed during GSFC's flight parts inspection, and by the time the problem was discovered it was too late to remake the parts.

Corrective Action/ Resolution

□ Rework □ Repair √ Use As Is □ Scrap

Install new screws with the Poly-Lok feature and add a stripe of EC2216 epoxy on the threads to fill the voided areas and provide more strength to the screw. This corrective action was performed throughout the SEP Main Assembly (LET/HET/SEP Central) to assure there are no further issues during environmental testing. Recommended 3-axis vibe test was successfully completed between 7/12/2005 - 7/14/2005.

Date Action Taken: 6/3/20005 – 6/5/2005 **Retest Results**: Passed

Corrective Action Required/Performed on other Units √ Serial Number(s): FM1 LET

Same steps were applied and 3-axis vibe test was successfully completed between 7/12/2005 - 7/14/2005.

Closure Approvals

Subsystem Lead:	Branislav Kecman_____	Date:__8/31/05____
IMPACT Project Manager:	_____	Date _____
IMPACT QA:	_____	Date:_____
NASA IMPACT Instrument Manager:	_____	Date:_____