



PFR-139 Title: ESA topcap retraction

Assembly : ESA		SubAssembly :Release Plate																	
Component : Nutplate		Units Affected:			Units fixed:														
Originator: C W Carlson		<table><tr><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td></tr></table>			x	x	x	x	x	x	<table><tr><td>o</td><td>o</td><td>o</td><td>x</td><td>o</td><td>o</td></tr></table>			o	o	o	x	o	o
x	x	x	x	x	x														
o	o	o	x	o	o														
Organization: SSL		Date:2/3/06																	
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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

Calibration results showed an unexpected azimuthal variation in analyzer response.

Analyses Performed to Determine Cause

Visual check found that the top-cap electrode was not seated flat on the release plat after deployment. The micro-switch mounting nutplate interfered with complete retraction of the top-cap electrode.

Cause was a design error that provided insufficient clearance.

Corrective Action/ Resolution

The nut plate is modified to provide a generous clearance for the deployed top-cap. Verification is made by analysis and visual check during bench test of mechanism. Instrument re-calibration is done to Confirm performance.

All units are being modified and re-calibrated.

QA Final Inspection Required

Acceptance:

MAM: Ron Jackson _____ ; MSE: Ellen Taylor _____

PM: Peter Harvey _____ ; Cognizant Engineer _____

Date of Closure _____