EXECUTIVE RISK ASSESSMENT SUMMARY

HAZARD REPORT NUMBER: LWS-MS-ERAS-3B	DATE: 12/95
REV. LETTER:	REV. DATE:
PART NUMBER: 950001-25	LRU NUMBER: SED39126815
TITLE: Unable to restrain crew member.	1. SEVERITY: Catastrophic 2. LIKELIHOOD OF OCCURRENCE: Improbable 3. CLASSIFICATION: Controlled
CAUSE: B. Restraint system release buckle internal mechanism fails.	REDUNDANCY SCREENS: A - Pass B - Pass C - Pass
FMEA: LWS-MS-ERAS-3B Criticality: 1R/2 Name/Quantity: Restraint release buckle/1 Function. Restrain crew member in the seat Failure Mode: Internal buckle mechanism fails to hold each restraint harness belt in place or inadvertently releases all belts. Corrective Action: Crew will rebuckle loose belt.	Cause: Excessive wear, piece-part defect, vibration Failure detection: Crew member notices release of a belt.
EFFECT: Time to Effect: Immediate Time to Correct: Seconds Failure Effect: Restraint system inadequate to provide support/ restraint for nominal flight loads or crash loads. Possible crew injury/ loss of crew due to crewmember being tossed during turbulence, landing or following a failure which results in a crash landing	REMAINING PATHS: None
CONTROL/RETENTION RATIONALE: 1. Functional test performed before and after each certification test. PDA (SKD39126824), PIA (SKD39126825) and OMRS (File 3 V66AAO) with QA participation during each certification test. PDA and PIA. 2. Restraint system harness will be designed to withstand vibrations associated with Launch, RTLS and Landing. 3. Designed for minimum access for contamination. 4. Even though the loss of a belt could result in injury to the crew during a crash, it has been determined that in a crash situation that the restraint provided by the remaining belts will provide some level of protection and is considered better than no restraint at all.	
VERIFICATION: 1a. PDA 4.2.8.6, PIA 4.2.8.6 Verify that the fittings for the shoulder and lap belts will release from the buckle. With a small preload on the harness system, 20 +/- 2 pounds, release the fittings from the buckle by using one hand and turn the buckle release clockwise. Repeat for counter-clockwise. 1b. OMRS V66AA0.052-A, 053-A, 054-A, 055-A, 056-A - Verify locking mechanism of harness buckle 2. A vibration test has been performed (QVT TPS FV9520103) to the acceptance levels listed below and reviewed by EM2: Frequency Range (Hz) Level 20 0.00053 g2/Hz 1000 0.030 g2/Hz Overall = 6.1 grms 150 0.030 g2/Hz 2000 0.0075 g2/Hz 550 0.030 g2/Hz 3. During assembly all parts are checked to be clean.	