

SRB CRITICAL ITEMS LIST

SUBSYSTEM: ELECTRICAL AND INSTRUMENTATION

ITEM NAME: SRB OF Nonwatertight Reusable Cables 131W101R P2/P4 (231W101R P2/P4), and 131W102R P2/P3 (231W102R P2/P3) (SRM Chamber Pressure power Input A and B)

PART NO.: 10400-0105 (10400-0116)  
10400-0106 (10400-0117)

FM CODE: A14A

ITEM CODE: 50-04-X31

REVISION: Basic

CRITICALITY CATEGORY: 1R

REACTION TIME: Immediate

NO. REQUIRED: 1 each

DATE: March 1, 1995

CRITICAL PHASES: Boost, Separation

SUPERCEDES: March 1, 1994

FMEA PAGE NO.: D-736A

ANALYST: R. Smith/ A. Craft

SHEET 1 OF 2

APPROVED: F. Kalia

FAILURE MODE AND CAUSES: Loss of Bus A and Bus B input power to SRM chamber pressure A and B sensors in both cables due to:

- o One pin or wire short to ground caused by: bent pin, contamination in connector, insulation breakdown, frayed shielding, abraded or cut insulation.

FAILURE EFFECT SUMMARY: Loss of OI Bus A and B power results in loss of separation and TVC system leading to loss of mission, vehicle and crew. One success path remains after the first failure. Operation is not affected until both paths are lost.

REDUNDANCY SCREENS AND MEASUREMENTS:

- 1) Pass - All cables are system tested during ground turnaround sequence.
- 2) Pass - Voltage measurements B76V1600C and B76V1601C
- 3) Pass - No credible causes.

RATIONALE FOR RETENTION:

- A. DESIGN Per Appendix A Section # V
  
- B. TESTING
  - 1) VENDOR RELATED Per Appendix B Section # IA
  
  - 2) KSC RELATED Per Appendix B Section # IIA
  
  - 3) SYSTEM/ UNIQUE FUNCTIONAL

Cables are tested during ACO per 10REQ-0021, para. 1.2.2.19.2 (Chamber Pressure Circuit Verification). (Short)

Cables are tested per OMRSD File II, Vol. 1, requirement number S00000.450 (SRM Chamber Pressure Measurement). (Short)

The last time the cables are tested is at final countdown per OMRSD File II, Vol. 1, requirement number S00FF0.180 (SRM Chamber Pressure Bias and Calibration Check). (Short)

- C. INSPECTION
  - 1) VENDOR RELATED Per Appendix C Section # I (Crimped Connector)
  
  - 2) KSC RELATED Per Appendix C Section # IIA
  
- D. FAILURE HISTORY

Failure Histories may be obtained from the PRACA database.

- E. OPERATIONAL USE
- Not applicable to this failure mode.