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FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CRITICAL HARDWARE
NUMBER: MO-AB1-100000-00-003-X

SUBSYSTEM NAME: GAMMA RAY OBSERVATORY
REVISION : 1 05/31/90

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
P PART :	SWITCH, ROTARY, 4P9P	ME4S2-0093-5029

PART DATA

- EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
  FOUR POLE, NINE POSITION ROTARY SWITCH

- REFERENCE DESIGNATORS: 31P73A12A3S1

- QUANTITY OF LIKE ITEMS: 1
  ONE, S1 ON THE DEPLOYMENT AND POINTING PANEL.

- FUNCTION:
  THE S1 (SURS SELECT) ROTARY SWITCH PROVIDES THE CONTROL POWER AND SELECTION FOR SURS A OR B.

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CRITICAL FAILURE MODE
NUMBER: MO-AB1-100000-00-C03-03

REVISION# 1 05/03/90 9

SUBSYSTEM: GAMMA RAY OBSERVATORY

ITEM NAME: SWITCH, ROTARY, 4P9P

CRITICALITY OF THIS FAILURE MODE:2/2

- FAILURE MODE:
  FAILS OPEN, BROKEN STOP OR SHAFT, CONTACT OPEN.

  MISSION PHASE:
  00 ON-ORBIT

- VEHICLE/PAYLOAD/KIT EFFECTIVITY: 103 Discovery 104 ATLANTIS 105 Endeavour
- CAUSE:
  STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, THERMAL STRESS, PROCESSING ANOMALY

- CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

- REDUNDANCY SCREEN A) N/A
- B) N/A
- C) N/A

PASS/FAIL RATIONALE:
- A)
- B)
- C)

- FAILURE EFFECTS -

- (A) SUBSYSTEM:
  UNABLE TO SELECT SURS

- (B) INTERFACING SUBSYSTEM(S):
  NEITHER SURS ENERGIZED.

- (C) MISSION:
  LOSS OF GRO MISSION.

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CRITICAL FAILURE MODE
NUMBER: MO-AB1-100000-00-003-03

- (D) CREW, VEHICLE, AND ELEMENT(S):
  NONE

- (E) FUNCTIONAL CRITICALITY EFFECTS:
  N/A

- DISPOSITION RATIONALE -

- (A) DESIGN:
  REFER TO APPENDIX A, ROTARY SWITCH (A-2)

- (B) TEST:
  REFER TO APPENDIX A, ROTARY SWITCH (A-2)

- (C) INSPECTION:
  REFER TO APPENDIX A, ROTARY SWITCH (A-2)

- (D) FAILURE HISTORY:
  REFER TO APPENDIX A, ROTARY SWITCH (A-2)

- (E) OPERATIONAL USE:
  An EVA workaround procedure is available to retract the SWAS in the event that the failure does occur

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- APPROVALS -

RELIABILITY ENGINEERING:	M. P. RAGUSA	
DESIGN ENGINEERING	: D. M. DANIEL	
QUALITY ENGINEERING	: M. F. MERGEN	
NASA RELIABILITY	: G.E	
NASA SUBSYSTEM MANAGER	:	8/2/90
NASA QUALITY ASSURANCE	:	8/13/90

NASA EPD&C RELIABILITY: M.S. Davis 10/9/90.

NASA SSM (EPD&C): for F. Falconi 10/9/90