

## FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CIL HARDWARE

NUMBER: 05-2G-21532 -X

SUBSYSTEM NAME: COMM &amp; TRACK: S-BAND COMMUNICATIONS

REVISION: 0

01/05/88

## PART DATA

	PART NAME	PART NUMBER
	VENDOR NAME	VENDOR NUMBER
LRU	: PANEL A1A2	V070-730346
SRU	: SWITCH, TOGGLE	ME452-0102-7401

## EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:

SWITCH, NSP DATA RCV TOGGLE SWITCH, 4 POLE, 2 POSITION, NETWORK SIGNAL PROCESSOR (NSP) DATA RATE, UPLINK FUNCTION.

REFERENCE DESIGNATORS: 36V73A1A2S19

QUANTITY OF LIKE ITEMS: 1

ONE (4 POLES FOR 2 REDUNDANT CIRCUITS)

## FUNCTION:

FOR THE UPLINK FUNCTION, SWITCHES S-BAND PM TO HIGH OR LOW DATA RATE OPERATION WHEN THE GCIL IS IN THE PANEL MODE. ONE SWITCH POLE EACH IS DEDICATED TO THE HI/LO DATA CIRCUIT OF THE 2 TRANSPONDERS AND THE 2 NETWORK SIGNAL PROCESSORS (NSP).



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**(B) INTERFACING SUBSYSTEM(S):**

LOSS OF PANEL MODE OPERATION, AND LOSS OF ENCRYPTION PROTECTION OF  
COMMANDS AND DATA.

**(C) MISSION:**

POSSIBLE LOSS OF MISSION DUE TO MDF DECISION AFTER LOSS OF "PANEL" "NSP ON"  
TO TRANSPONDERS. LOSS OF ENCRYPTION PROTECTION OF COMMANDS AND DATA.

**(D) CREW, VEHICLE, AND ELEMENT(S):**

NO EFFECT

**(E) FUNCTIONAL CRITICALITY EFFECTS:**

LOSS OF "PANEL" "NSP ON" WOULD REDUCE THE MISSION TO MDF. AFTER TWO  
FAILURES (THIS SWITCH, AND 1 GCIL PNL/CMD SWITCH) LOSS OF BOTH NSP, A NEXT  
PLS WOULD BE DECLARED.

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**-DISPOSITION RATIONALE-**

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**(A) DESIGN:**

REFER TO APPENDIX A, ITEM #1, TOGGLE SWITCH.

**(B) TEST:**

REFER TO APPENDIX A, ITEM #1, TOGGLE SWITCH.

**GROUND TURNAROUND TEST**

ANY TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH  
OMRSD.

**(C) INSPECTION:**

REFER TO APPENDIX A, ITEM #1, TOGGLE SWITCH.

**(D) FAILURE HISTORY:**

CURRENT DATA ON TEST FAILURES, FLIGHT FAILURES, UNEXPLAINED ANOMALIES, AND  
OTHER FAILURES EXPERIENCED DURING GROUND PROCESSING ACTIVITY CAN BE  
FOUND IN THE PRACA DATA BASE.

**(E) OPERATIONAL USE:**

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NO CREW CORRECTIVE ACTION IS AVAILABLE TO RECOVER ENCRYPTION CAPABILITY.  
CREW ACTION IS REQUIRED TO REGAIN S-BAND IN GCIL COMMAND MODE OR TO USE  
THE UHF SYSTEM FOR VOICE COMMUNICATIONS.

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**- APPROVALS -**

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EDITORIALLY APPROVED	: BNA	<u>J. K. Kishore 9/15/97</u>
EDITORIALLY APPROVED	: JSC	<u>D. C. Kooch 10/18/97</u>
TECHNICAL APPROVAL	: VIA APPROVAL FORM	: 96-CIL-019_05-2G