

SHUTTLE CRITICAL ITEMS LIST - ORSITER

SUBSYSTEM : COMMUNICATION & TRACKING FMEA NO 05-2A -21947 -2 REV: 01/06/88

ASSEMBLY : PNL A1A3		CRIT. FUNC:	2
P/N RI : ME452-0093-5036		CRIT. HDW:	2
P/N VENDOR:		VEHICLE	102 103 104
QUANTITY : 2		EFFECTIVITY:	X X X
: TWO, VOICE RECORD		PHASE(S):	PL LO X OO X DO X LS
: CHANNELS 1 & 2			

PREPARED BY:		REDUNDANCY SCREEN:	A-	B-	C-
DES <i>RKFL</i>	R K F LEE	APPROVED BY:	APPROVED BY (NASA):		
REL <i>1-6-88</i>	A MASAI	DES <i>[Signature]</i>	SSM	<i>[Signature]</i>	<i>2/8/88</i>
QE <i>1-7-88</i>		REL <i>[Signature]</i>	REL <i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
		QE <i>[Signature]</i>	QE <i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

ITEM:

SWITCH, VOICE RCD SELECT ROTARY SWITCH, VOICE RECORD SELECT (CHANNEL 1 AND CHANNEL 2), 8 POLE, 6 POSITION.

FUNCTION:

D & C MANUAL CONFIGURATION OF THE AUDIO DISTRIBUTION SYSTEM VIA THE RIGHT ATU OR THE MS ATU. SELECTS ONE OF FIVE (5) AUDIO DISTRIBUTION SYSTEM (ADS) BUSES (THE 6 POSITIONS ARE-OFF, A/G 1, A/G 2, A/A, ICOM A, AND ICOM B) FOR RECORDING OF VOICE. THERE ARE TWO (2) VOICE RECORD CHANNELS, LABELED 1 & 2. BOTH VOICE RECORD CHANNELS HAVE A DEDICATED VOICE RECORD SELECT SWITCH. RCD1 36V73A1A3S15, RCD2-S16.

FAILURE MODE:

SHORT-TO-CASE (GROUND)

CAUSE(S):

PIECE PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, PROCESSING ANOMALY.

EFFECT(S) ON:

(A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE

(A, B) DUE TO THE LOSS OF THE NSP SWITCH BUFFER DRIVERS (REF. FMEA 05-6PG-21503-1), LOSS OF ALL S-BAND PM DOWNLINK IN GCIL "PANEL" MODE DUE TO LOSS OF THE "NSP ON" SIGNAL TO THE TRANSPONDERS.

(C) POSSIBLE LOSS OF SECURE MISSION DUE TO INABILITY TO PROTECT CLASSIFIED DATA/COMMANDS.

(D) AFTER THREE FAILURES (THIS SWITCH, 1 GCIL PNL/CMD SWITCH, AND 1 UHF), POSSIBLE LOSS OF CREW/VEHICLE DUE TO LOSS OF STATE VECTOR UPDATE.

DISPOSITION & RATIONALE:

(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE

(A, B, C, D) REFER TO APPENDIX A, ITEM # 2, ROTARY SWITCH

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(B) TEST

GROUND TURNAROUND TEST- THE VOICE RECORD FUNCTION (RECORD AND PLAYBACK) IS VERIFIED PRIOR TO EVERY FLIGHT.

(E) OPERATIONAL USE

NO CREW CORRECTIVE ACTION AVAILABLE TO RECOVER ENCRYPTION CAPABILITY. CREW ACTION IS REQUIRED TO REGAIN S-BAND IN GCIL COMMAND MODE OR TO USE THE UHF SYSTEM FOR COMMUNICATIONS AND STATE VECTOR UPDATE. IF ONE ATU SIGNAL SHORTS TO GROUND, RECORD CAPABILITY CAN BE REGAINED BY SWITCHING THE AUDIO CENTER SWITCH TO THE OTHER ACCU.