

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : COMMUNICATION & TRACKING FMEA NO 05-2R -5214 -1 REV:06/27/88

ASSEMBLY : PNL A1A1			CRIT. FUNC: 2	
P/N RI : ME452-0102-7106			CRIT. HDW: 2	
P/N VENDOR:	VEHICLE	102	103	104
QUANTITY : 1	EFFECTIVITY:	X	X	X
: ONE	PHASE(S):	PL	LO	OO X DO LS

PREPARED BY:		REDUNDANCY SCREEN:	A-	B-	C-
DES H D HADDAD	DES <i>Haddad 2/27/91</i>	APPROVED BY:	APPROVED BY (NASA):		
REL <i>7-5-89</i> J Y HARADA	REL <i>Harada 8-3-88</i>	DES <i>Haddad 2/27/91</i>	DSSM	<i>John V. Smith 9/19/88</i>	
QE J. T. COURSEN	QE <i>John T. Courson 6/27/88</i>	REL <i>Harada 8-3-88</i>	REL <i>Harada 8-3-88</i>	<i>John V. Smith 9/19/88</i>	
		QE <i>John T. Courson 6/27/88</i>	QE <i>John T. Courson 6/27/88</i>	<i>John V. Smith 9/19/88</i>	

ITEM: A1S14, TOGGLE SWITCH, SP3T, KU-BAND A RADAR OUTPUT RF POWER.

FUNCTION: THE 3 SWITCH POSITIONS PROVIDE RADAR OUTPUT POWER COMMAND DISCRETES TO EA-1A - "RADAR POWER LOW", "RADAR POWER MEDIUM", AND "RADAR POWER HIGH". 36V73A1A1S14

FAILURE MODE: FAILS OPEN, PREMATURE OPEN, FAILS CLOSED, PREMATURE CLOSURE, CONTACT-TO-CONTACT SHORT

CAUSE(S): VIBRATION, MECHANICAL SHOCK, CONTAMINATION, PIECE PART STRUCTURAL FAILURE, PROCESSING ANOMALY.

EFFECT(S) ON: (A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE

EFFECTS ON ABILITY TO CONTROL, POSITION, OR LOCK ANTENNA GIMBALS - 3/3
(A, B, C, D) NO EFFECT ON LOCKING KU-BAND ANTENNA GIMBALS.

EFFECTS ON MISSIONS REQUIRING KU-BAND SYSTEM SUPPORT - 2/2
(A, B) LOSS OF ABILITY TO CONTROL RF POWER LEVELS IN RADAR MODE. NO EFFECT ON COMM OPERATION.
(C) POSSIBLE LOSS OF ALL MISSION OBJECTIVES REQUIRING KU-BAND RENDEZVOUS RADAR, EXCESSIVE RF POWER ON RENDEZVOUS TARGET, LIMITED DETECTION RANGE IF HIGH POWER CANNOT BE COMMANDED.
(D) NO EFFECT.

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EFFECTS ON PROVIDING DATA TO NSP FOR STATE VECTOR UPDATE - 3/3

(A,B,C,D) NO EFFECT ON 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 # 1, TOGGLE SWITCH

(B) TEST

GROUND TURNAROUND TEST - MEASURE RF POWER IN COMM MODE AND VERIFY THAT RF POWER RESPONDS CORRECTLY TO HIGH, MEDIUM AND LOW PANEL COMMAND IN RADAR MODE - PERFORMED EVERY FLIGHT.

(E) OPERATIONAL USE

WORKAROUND TO REGAIN ABILITY TO CONTROL, POSITION, OR LOCK ANTENNA GIMBALS
NO EFFECT, NONE REQUIRED.

WORKAROUND TO REGAIN SUPPORT OF MISSION OBJECTIVES
COMM: NONE. RADAR: ATTEMPT RENDEZVOUS WITH ALTERNATE SENSORS. USE BACK-UP RENDEZVOUS PROCEDURES.

WORKAROUND TO PROVIDE THE STATE VECTOR UPDATE
NO EFFECT, NONE REQUIRED.