

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EW&I/REMOTE MANIP ARM FMEA NO 05-7IA-2001 -1 REV: 03/11/89

LOCATION : SEE TABLE 05-7IA-2001-1

CRIT. FUNC: 1
CRIT. HDW: 1

P/N RI	QUANTITY		VEHICLE	102	103	104	105
1. NB6GE18-32XXXX	1						
2. NB6GE20-41XXXX	1						
3. NB6GE24-61XXXX	3	EFFECTIVITY	X	X	X	X	X
4. NLS6GT12-35XX	1						
5. NLS6GT14-35XX	1	PHASE(S):	PL	LO	OO X DO	LS	
6. NLS6GT16-35XX	4						

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

APPROVED BY (NASA):
 EW&I SSM *L. G. Tomaker* 4/24/89
 EW&I REL *[Signature]* 4/24/89
 SSM *[Signature]* 4/26/89
 REL *[Signature]* 4/11/89
 QE *[Signature]* 4/16/89

PREPARED BY:
 DES B SEARS
 REL T KIMURA
 QE J COURSEN

APPROVED BY:
 DES *[Signature]*
 REL *[Signature]*
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ITEM:

CONNECTOR, PLUG, [(1.) 32 #20 CONTACTS, (2.) 41 #20 CONTACTS, (3.) 61 #20 CONTACTS, (4.) 22 #22 CONTACTS, (5.) 37 #22 CONTACTS, (6.) 55 #22 CONTACTS] - REMOTE MANIPULATOR ARM CONTROL CIRCUITS.

FUNCTION:

PROVIDES MATE/DEMATE CAPABILITY FOR WIRING WHICH CONTAINS CIRCUITS FOR CONTROLLING THE REMOTE MANIPULATOR ARM. FOR PLUG AND SHORTED PIN/SOCKE REFERENCE DESIGNATORS, SEE TABLE 05-7IA-2001-1.

FAILURE MODE:

PIN-TO-PIN SHORT (GROUND)

CAUSE(S):

PIECE PART FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, PROCESSING ANOMALY, THERMAL STRESS

EFFECT(S) ON:

(A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE (E) FUNCTIONAL CRITICALITY EFFECT:

(A) SIGNALS FOR CONTROLLING THE REMOTE MANIPULATOR ARM ARE INADVERTENTLY TRANSMITTED.

(B) UNCOMMANDED MOTION COULD OCCUR OR INABILITY TO COMMAND RIGIDIZATION OR DERIGIDIZATION OF THE REMOTE MANIPULATOR ARM END EFFECTOR WHEN A CRITICAL PIN IN THE CONNECTOR SHORTS TO GROUND.

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(C,D) THE FAILURE MODE COULD RESULT IN UNCOMMANDED MOTION WHEN THE RM IS IN USE WHICH COULD CAUSE INJURY OR LOSS OF LIFE TO AN EVA CREWMAN OR DAMAGE THE VEHICLE. THE FAILURE MODE RELATES TO INABILITY TO RIGIDIZE AFTER CAPTURE, INABILITY TO RELEASE AFTER DERIGIDIZATION OR INITIATE UNCOMMANDED MOTION.

REFERENCE CIL 05-6IA-2028-6

DISPOSITION & RATIONALE:

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

(A,B,C,D) DISPOSITION AND RATIONALE

REFER TO APPENDIX K:

- ITEM NO. 1 - TYPE NB CONNECTOR, CIRCULAR, MINIATURE
- ITEM NO. 3 - TYPE NLS CONNECTOR, CIRCULAR, MINIATURE

(B) GROUND TURNAROUND TEST

CIRCUITS - VERIFIED ON-LINE BETWEEN FLIGHTS FOR RMS VEHICLE POWER AND SIGNAL VERIFICATION PERFORMED PRIOR TO ALL ORBITER FLIGHTS WITH CONTINGENCY FOR RMS TURNAROUND ONLY.

(E) OPERATIONAL USE

NONE

TABLE 05-7IA-2001-1

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	PIN/SOCKET DESIG.
1. NB6GE18-32XXXX	45V77W339P9216	RMS CONTROL I/F PNL.	R-P R-d R-e S-e
2. NB6GE20-41XXXX	30V77W1P452	RMS MCIU	G-H G-b F-a

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PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	PIN/SOCKET DESIG.
3. NB6GE24-61XXXX	30V77W1P309	576 BULKHEAD	GG-U NN-MM PP-LL PP-MM
	40V77W109P309	576 BULKHEAD	GG-U NN-MM PP-LL PP-MM
	45V77WJ39P9025	SILL LONGERON, LH	NN-MM PP-LL PP-MM
4. NLS6GT12-35XX	36V73A2A2P1	RMS TRANS HAND CONT	1-2 4-3 4-5 4-16 6-5 6-7 6-17 22-17 22-18
5. NLS6GT14-35XX	36V73A8A1P3	RMS CONTROL PANEL	2-3
6. NLS6GT16-35XX	30V77W1P454	RMS MCIU	4-5 10-17 10-18 11-5 11-18 25-17 25-18 26-18 26-33 32-33 32-40 43-36 43-50

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PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	PIN/ SOCKET DESIG.
6. NLS6GT16-35XX (CONT'D)	30V77W6P9584	PANEL A8A1	6-13 7-13 19-20 27-20 27-35 32-40 42-35 43-35
	36V73A8A1P1	PANEL A8A1	1-5 1-6 1-7 4-5 4-10 4-11 12-5 12-6 12-11 12-13 12-19 12-20 17-10 17-18 17-25 27-19 27-20 27-26 27-28 29-21 29-28 34-26 34-33 35-28 35-42 35-43 36-28 36-43 44-43
	45V77W339P9215	RMS CONTROL I/F PANEL	28-27 35-27 35-42

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