

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EW&I/REMOTE MANIP ARM FMEA NO 05-7IA-2000 -1 REV:03/17/89

LOCATION : SEE TABLE 05-7IA-2000-1

CRIT.FUNC: 1
CRIT. HDW: 1

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

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

APPROVED BY. (NASA):
 EW&I SSM *[Signature]* 4/24/89
 EW&I REL *[Signature]* 4/21/89
 SSM *[Signature]* 4/20/89
 REL *[Signature]* 4/11/89
 QE *[Signature]* 4/16/89

PREPARED BY: APPROVED BY:
 DES B SEARS DES *[Signature]*
 REL T KIMURA REL *[Signature]*
 QE J COURSEN QE *[Signature]*

ITEM:
CONNECTOR, PLUG, [(1.) 32 #20 CONTACTS, (2.) 41 #20 CONTACTS, (3.) 61 #20 CONTACTS, (4.) 37 #22 CONTACTS, (5.) 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/SOCKS REFERENCE DESIGNATORS, SEE TABLE 05-7IA-2000-1.

FAILURE MODE:
PIN-TO-PIN SHORT (HOT)

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) FUNCTION.
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.



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(C,D) THE FAILURE MODE COULD RESULT IN UNCOMMANDED MOTION WHEN THE RMS 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 INITIATES 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-2000-1

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	PIN/SOCKET DESIG.
1. NB6GE18-32XXXX	45V77W339P9216	RMS CONTROL I/F PNL	5-T
2. NB6GE20-41XXXX	30V77W1P452	RMS MCIU	F-E
3. NB6GE24-61XXXX	30V77W1P305	576 BULKHEAD	AA-2 AA-BB BB-CC CC-DD DD-EE EE-FF EE-NN FF-GG FF-NN

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EXPEDITE

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TABLE 05-7IA-2000-1, CONT'D

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	PIN/SOCKET DESIG.
3. NB6GE24-61XXXX (CONT'D)	30V77W1P309	576 BULKHEAD	FF-S FF-EE GG-C GG-V GG-FF GG-HH GG-NN HH-V HH-W HH-NN JJ-W JJ-X JJ-HH JJ-PP NN-EE NN-FF
	40V77W109P305	576 BULKHEAD	AA-Z AA-BB BB-CC CC-DD DD-EE EE-FF EE-NN FF-GG FF-NN
	40V77W109P309	576 BULKHEAD	FF-S FF-EE GG-C GG-V GG-FF GG-HH GG-NN HH-V HH-W HH-NN JJ-HH JJ-PP NN-EE NN-FF

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TABLE 05-7IA-2000-1. CONT'D

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	PIN/SOCKET DESIG.
3. NB6GE24-61XXXX (CONT'D)	45V77W339P9025	SILL LONGERON, LH	FF-F FF-S FF-EE FF-GG FF-NN GG-C GG-V GG-HH GG-NN HH-V HH-W HH-JJ HH-NN JJ-W JJ-X JJ-PP NN-EE NN-PP
4. NLS6GT14-35XX	36V73A8A1P3	PANEL A8A1	1-2
5. NLS6GT16-35XX	30V77W1P454	MCIU	4-10 4-11 10-11 11-12 25-32 31-38 38-37 38-45 42-43 43-44
	30V77W6P9584	PANEL A8A1	6-7 18-19 18-26 19-26 26-27 41-44 45-44

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TABLE 05-7IA-2000-1, CONT'D

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	PIN/SOCKET DESIG.
5. NLS6GT16-35XX (CONT'D)	36V73A8A1P1	PANEL A8A1	1-2 3-2 3-8 29-30 29-36 34-27 34-35 34-41 35-27 35-36 44-36 44-51 51-55
	45V77W339P9215	RMS CONTROL I/F PANEL	28-20 28-21 28-35 28-36 30-23 30-31 30-37 30-38 31-23 31-24 31-38 31-39 35-34 35-36

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EXPEDITE
PROCESSING