SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM :EW&I/FWD-RCS FMEA NO 05-7KF-2000 -1 REV:03/05/90

LOCATION :SEE TABLE 05-7KF-2000-1 CRIT.FUNC: 1
CRIT. HDW: 1

P/N RI	QUANTITY
1. NB6GE14-19XXXX	4
2. NB6GE20-41XXXX	1
3. NB6GE24-61XXXX	6

VEHICLE EFFECTIVITY	102	103	104	105
	X	X	X	X

PHASE(S): PL LO OO X DO LS

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

PREPARED BY:			APPROVED BY:	
DES	D	SOVEREIGN	DES	3/6/90
REL	T	KIMURA	REL	3/6/90
QE	J	COURSEN	QE	3-13-90

APPROVED BY (NASA):

EW&I SSM	4/17/90
EW&I REL	4/17/90
SSM	
REL	4/18
QE	3/24/90

ITEM:
CONNECTOR, PLUG, [(1.) 19 #20 CONTACTS, (2.) 41 #20 CONTACTS, (3.) 61 # CONTACTS] - FORWARD RCS FUEL AND OXIDIZER VALVE COMMAND CIRCUITS.

FUNCTION:
PROVIDES MATE/DEMATE CAPABILITY FOR WIRING WHICH CONTAIN CIRCUITS FOR ENERGIZING THE FORWARD RCS FUEL AND OXIDIZER VALVE COMMANDS FROM THE FORWARD REACTION JET DRIVERS (RJD) NO. 1 AND NO. 2. FOR PLUG AND SHORTED PIN-TO-PIN PIN/SOCKET REFERENCE DESIGNATORS, SEE TABLE 05-7KF-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)FUNCTIONAL CRITICALITY EFFECT:

(A) INADVERTENT ENERGIZING OF THE FUEL AND OXIDIZER VALVE SOLENOIDS OF ANOTHER THRUSTER WHEN THE SELECTED THRUSTER IS COMMANDED TO FIRE.

(B) UNCONTROLLED SIMULTANEOUS FIRING OF A NONSELECTED THRUSTER WHEN A CHOSEN THRUSTER IS FIRED.

SUBSYSTEM :EW&I/FWD-RCS FMEA NO 05-7KF-2000 -1 REV:03/05/9[redacted]

(C,D) INADVERTENT FIRING OF ANY RCS JET COULD LEAD TO A LOSS OF VEHICLE DUE TO DAMAGE CAUSED BY IMPACT WITH THE TARGET (PAYLOAD, SATELLITE, etc) POSSIBLE LOSS OF EVA CREWMAN IF STRUCK BY ORBITER, TARGET OR JET PLUME.

REFERENCE CIL 05-1-FC6242-02

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

(B) TEST
GROUND TURNAROUND TEST - CIRCUITS ARE CHECKED OUT EVERY FLIGHT DURING GROUND TURNAROUND VIA THE GUIDANCE, NAVIGATION, AND CONTROL (GN&C) ORBITER MAINTENANCE REQUIREMENTS AND SPECIFICATIONS DOCUMENT (OMRSD) REQUIREMENTS FOR CHECKING THE PRIMARY AND VERNIER REACTION JET DRIVER POWER. THE TESTING CONSISTS OF CYCLING THRUSTER REACTION JET DRIVER LOGIC AND DRIVER SWITCHES WHILE MONITORING VEHICLE INSTRUMENTATION TO DETERMINE IF THE CIRCUITS FUNCTION PROPERLY.

(E) OPERATIONAL USE
IF TIME PERMITS, JET DRIVERS WOULD BE TURNED OFF.

FLIGHT RULE 2-42G IS IMPLEMENTED TO DESELECT THE JETS WHEN CREWMAN IS[redacted] OUTSIDE OF THE PAYLOAD BAY.

TABLE 05-7KF-2000-1

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	FWD RJD NO.	PIN/ SOCKET DESIG.
1. NB6GE14-19XXXX	20V77W1P263	384 BULKHEAD/ECLSS	2	L-K
	22V77W1P69	LH FRCS DISC PANEL	2	L-K
	22V77W2P100	RH FRCS DISC PANEL	1	J-H T-V T-J L-K
	90V77W4P263	ECLSS/384 BULKHEAD	2	L-K
2. NB6GE20-41XXXX	22V77W1P67	LH FRCS DISC PANEL	1	L-M P-N K-J[redacted]

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

PART NUMBER	PLUG REFERENCE DESIGNATOR	CONNECTOR LOCATION	FWD RJD NO.	PIN/ SOCKET DESIG.
3. NB6GE24-61XXXX	20V77W1P203	384 BULKHEAD/BAY 1	1	T-U Y-X W-V
	20V77W2P204	384 BULKHEAD/BAY 2	1	V-W T-U Y-X
	20V77W2P260	384 BULKHEAD/ECLSS	2	X-Y U-T V-W S-R P-N
	81V77W8P203	BAY 1/384 BULKHEAD	1	T-U Y-X W-V
	82V77W9P204	BAY 2/FWD FUSELAGE	1	T-U Y-X W-V
	90V77W6P260	ECLSS/384 BULKHEAD	2	R-S P-N W-V X-Y U-T