

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPD&C - HYDRAULICS FMEA NO 05-6G -2080 -2 REV:02/19/88

ASSEMBLY : AFT LCA 1, 2, AND 3
P/N RI : MC477-0264-0002

P/N VENDOR:
QUANTITY : 6
: SIX
:

	VEHICLE	102	103	104
CRIT. FUNC:				1R
CRIT. HDW:				3
EFFECTIVITY:		X	X	X
PHASE(S):	PL	LO X OO	DO X LS	

PREPARED BY:

DES J HERMAN
REL T KIMURA
QE J COURSEN

REDUNDANCY SCREEN: A-PASS B-FAIL C-PASS

APPROVED BY:

DES *[Signature]*
REL *[Signature]* 2-18-88
QE *[Signature]*

APPROVED BY (NASA):

SSM *[Signature]*
REL *[Signature]* 3/12/88
QE *[Signature]* 3/11/88
EPD&C R/E *[Signature]* 3/3/88
EPD&C WS *[Signature]* 3-4-88
SSM

ITEM:

CONTROLLER, HYBRID DRIVER, HDC TYPE 4 - HYDRAULIC MAIN PUMP DEPRESS SOLENOID CIRCUIT

FUNCTION:

PROVIDES REDUNDANT POWER RETURN FOR EACH OF THREE HYDRAULIC MAIN PUMP DEPRESS SOLENOIDS (PATH TO GROUND). SYSTEM 1 - 55V76A122(J11-I), 54V76A121(J11-P); SYSTEM 2 - 56V76A123(J11-R), 55V76A122(J11-P); SYSTEM 3 - 54V76A121(J11-M), 56V76A123(J11-M)

FAILURE MODE:

INADVERTENT OUTPUT, SHORT TO GROUND

CAUSE(S):

VIBRATION, THERMAL STRESS, CONTAMINATION, MECHANICAL SHOCK, PIECE-PART FAILURE

EFFECT(S) ON:

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

(A) FIRST FAILURE - NO EFFECT. SECOND FAILURE - INADVERTENT ACTUATION OF DEPRESS SOLENOID VALVE

(B) FIRST FAILURE - NO EFFECT. SECOND FAILURE - INABILITY TO PRESSURIZE AFFECTED HYDRAULIC SYSTEM

(C) FIRST FAILURE - NO EFFECT. SECOND FAILURE - POSSIBLE RETARGET OF LANDING SITE

(D) FIRST FAILURE - NO EFFECT

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(E) POSSIBLE LOSS OF CREW/VEHICLE WITH THREE FAILURES (INADVERTENT OPERATION OF HYBRID DRIVER, INADVERTENT OPERATION OF RPC, LOSS OF SECOND HYDRAULIC SYSTEM).

B SCREEN FAILS BECAUSE THIS FAILURE IS NOT FLIGHT DETECTABLE WITHOUT A SECOND FAILURE (RPC FAILS ON).

DISPOSITION & RATIONALE:

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

(A-D) DISPOSITION AND RATIONALE

REFER TO APPENDIX B, ITEM NO. 1 - HYBRID DRIVER

(B) GROUND TURNAROUND TEST

V58AJO.011, "MAIN PUMP EDV GRD SHORT CIRCUIT VERIFICATION" (PERFORMED PRIOR TO EACH FLIGHT). VERIFY THAT THE DEPRESS VALVE GROUND SIDE CIRCUIT IS NOT SHORTED TO GROUND/OUTPUTS INADVERTENTLY.

(E) OPERATIONAL USE

NONE