

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL HARDWARE  
 NUMBER:05-60-200600 -X

SUBSYSTEM NAME: EPD&C-GUIDANCE, NAVIGATION, & CONTROL (05-1)

REVISION: 1 01/22/98

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PART DATA

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	PART NAME	PART NUMBER
	VENDOR NAME	VENDOR NUMBER
LRU	:PANEL 017	V070-730397
SRU	:RESISTOR	RLR42C122GR

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EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:  
 LIMITING RESISTOR (ATVC 1.2 K, 2W)

REFERENCE DESIGNATORS: 33V73A17A1R1  
 33V73A17A2R1  
 33V73A17A3R1  
 33V73A17A4R1

QUANTITY OF LIKE ITEMS: 4  
 FOUR

FUNCTION:  
 PROVIDES CURRENT LIMITING AND CONTROL BUS PROTECTION FOR ATVC CONTROL  
 CIRCUIT.

FAILURE MODES EFFECTS ANALYSIS FMEA - NON-CIL FAILURE MODE

NUMBER: 05-60-200600-01

REVISION#: 1 01/22/96

SUBSYSTEM NAME: EPD&C-GUIDANCE, NAVIGATION, & CONTROL (05-1)

LRU: PANEL O17

CRITICALITY OF THIS

ITEM NAME: RESISTOR

FAILURE MODE: 1R3

FAILURE MODE:  
OPENS

MISSION PHASE: LO LIFT-OFF

VEHICLE/PAYLOAD/KIT EFFECTIVITY:	102	COLUMBIA
	103	DISCOVERY
	104	ATLANTIS
	105	ENDEAVOUR

CAUSE:

MECHANICAL STRESS, VIBRATION, THERMAL STRESS, ELECTRICAL STRESS,  
PROCESSING ANOMALY.

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN	A) PASS
	B) N/A
	C) PASS

PASS/FAIL RATIONALE:

A)

B)

B SCREEN NOT APPLICABLE DUE TO REDUNDANCY OF ATVC'S. LOSS OF ANY OF THE  
FOUR ATVC'S IS READILY APPARENT DURING FLIGHT USE.

C)

CORRECTING ACTION: NONE

CORRECTING ACTION DESCRIPTION:

- FAILURE EFFECTS -

(A) SUBSYSTEM:

FAILURE MODES EFFECTS ANALYSIS (FMEA) - NON-CIL FAILURE MODE  
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LOSS OF CONTROL POWER TO ONE OF FOUR MPS ISOLATION VALVE DRIVER.

(B) INTERFACING SUBSYSTEM(S):

LOSS OF MPS ISOLATION VALVE DRIVER FOR ONE OF FOUR ATVC CHANNEL.

(C) MISSION:

NO EFFECT

(D) CREW, VEHICLE, AND ELEMENT(S):

FIRST FAILURE - NO EFFECT. SECOND FAILURE (LOSS OF ATVC CHANNEL ASSOCIATED WITH FAILED ISOLATION VALVE DRIVER) RESULTS IN A THREE AGAINST ONE FORCE FIGHT CONDITION. THE FLIGHT CONTROL SUBSYSTEM TOLERATES THIS CONDITION. THIRD FAILURE (ADDITIONAL ATVC CHANNEL FAILURE RESULTS IN A TWO AGAINST ONE FORCE FIGHT CONDITION) COULD RESULT IN LOSS OF VEHICLE.

(E) FUNCTIONAL CRITICALITY EFFECTS:

CRITICALITY 1R BECAUSE LOSS OF MPS THRUST VECTOR CONTROL MAY CAUSE LOSS OF CREW/VEHICLE.

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- APPROVALS -

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EDITORIALLY APPROVED	: RI	: <u>James D. [Signature]</u> 2/21/96
EDITORIALLY APPROVED	: JSC	: <u>Sam [Signature]</u> 2-11-96
TECHNICAL APPROVAL	: APPROVAL FORM	: 95-GIL-004-R1