

System: SRMS

Subsystem: ELECTRICAL SUB-SYSTEM

Assembly Desc: Servo Power Amplifier

Part Number(s): 51140F1177-3

Name	Part Number(s)	Qty	Sheet No.	Schematic No.
Item: Motor Drive Amplifier Assembly	823536-551	1		824206
Function: Motor Drive Amplifier Assembly	Provides motor voltage based on demand from tachometer electronics. Commutates the motor drive voltage. Provides hardware current limiting, brake drive, direct drive functions and enables backup drive. Provides BITE circuits and BITE verification for MDA.			

Failure Mode: False Motor Drive fault detection BITE.

Criticality:	H/W	Func.	Screen Failures
3	1R		

Mission Phase: Orbit

Cause(s): Motor Drive Amplifier Assembly      Loss of or erroneous test pattern to commutation circuit.

Failure effect on unit/and item: Corrupt test commutation pattern will cause motor drive fault detection to always fail regardless of health of commutation bridge and output switches. MDA demand voltage switch BITE verification may also falsely announce a loss of the demand voltage switch BITE. MDA demand voltage switch BITE and commutation and output switch circuitry continue to function correctly.

Worst Case: No effect on Crew/Vehicle or Mission.

Redundant Paths: Not Applicable.

Failure Detection: With Brakes ON;  
"ABE" Warning with Master Alarm.  
SM Message "S96 PDRS ABE SY (SP,EP,WP,WY,WR)".  
SPEC 96 Downarrow at "ABE - MDA O/C: SY (SP,EP,WP,WY,WR)".

Additionally may receive:  
"CHECK CRT" Caution with Master Alarm.  
SM Message "S96 PDRS TEST SPA".  
SPEC 96 "CKCRT - SPA: BITE TEST SY (SP, EP,WP,WY,WR) O/C".

Corrective Action: Not Applicable.

Time to Effect: Immediate

Time to Correct: Immediate

Hazard/Remarks: Indistinguishable from FMEAs 2891, 2901 and 2911.

Approvals:

Functional Group	Name	Position	Telephone	Date Signed	Status
Engineer	Jorgensen, Glen	SPAR DEC	(713) 285 9101	14Mar97	Signed
Reliability	Hautot, Rodney	Product Assurance Manager SRMS	4879	17Mar97	Signed
Program Management Office	Rice, Craig	Technical Program Manager	4892	13Mar97	Signed
Technical Manager	Peck, John	Technical Manager (JSC)	713-483-1254	25Mar97	Signed

Y & Mission Assurance Coach, David      RMS JMA ENGINEER      (201) 427-5499      1 MAY 99      *[Signature]*

Prepared: 15May96 by Rice, Craig

Supersedes: N/A