

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	823636-551	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 "Loss of Commutator BITE" annunciation.

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

Mission Phase: Orbit

Cause(s): Motor Drive Amplifier Assembly

Commutator BITE verification circuit failed.  
Loss of commutator BITE and MDA overcurrent BITE circuit 25 KHz and 3.125 KHz clocks.  
WRS Register data is cleared.

Failure effect on unit/end item: Failure of Commutator, Commutator and Direct Drive or Commutator and MDA Over-current BITE verification circuitry cause the associated BITE verification tests to fail. Direct Drive and MDA Over-current BITE verification annunciations will be over-written by the Commutator BITE verification bits. All BITE continues to function correctly. All modes remain available.

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

Redundant Paths: Not Applicable.

Failure Detection: With Brakes ON:  
"CHECK CRT" Caution with Master Alarm.  
SM Message "996 PDRS TEST SPA".  
SPEC 96 "CKCRT - SPA: BITE TEST BY (SP, EP,WP,WY,WR) CMTR".

Corrective Action: Not Applicable.

Time to Effect: Immediate

Time to Correct: Immediate

Hazard/Remarks: Failure cannot be distinguished from a real failure of the Commutator BITE circuit.

Approvals:

Functional Group	Name	Position	Telephone	Date Signed	Status
Engineer	Jorgensen, Glen	SPAR OEC	(713) 286 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)	713-483-1284	19Mar97	Signed

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Prepared: 03Jul96 by Rice, Craig

Supersedes: N/A