

BRAMPTON ONTARIO L6S4J3

System: SRMS

Subsystem: DISPLAY & CONTROL SUB-SYSTEM

Assembly Desc: D&C PANEL

Part Number(s): 51140E391-1

Item:

Function: SINGLE/DIRECT DRIVE SWITCH

PROVIDES COMMAND AND ENABLE SIGNALS TO DRIVE A SELECTED JOINT IN DIRECT DRIVE OR SINGLE MODES.

Failure Mode: Loss of output to either CW or CCW drive in either Single or Direct drive.

HW Func. Screen Failures

Criticality: 3 1R

Mission Phase: Orbit

Cause(s): SINGLE/DIRECT DRIVE SWITCH

- (1) OPEN SWITCH CONTACT (10V).
- (2) OPEN SWITCH CONTACT (DIRECT DRIVE (6.4/12V)).
- (3) OPEN SWITCH CONTACT (DIRECT DRIVE ENABLE).

Failure effect on unit/end item: For cause (1): Joints can be driven in only one direction in Single drive. Override to "proceed/stop" switch to regain Single drive is available. In Direct drive in one direction, GPC will not mask Direct Drive BITE bits from SPA for undriven joints.
For cause (2): Joints can be driven in only one direction in Direct drive.
For cause (3): Joints can be driven in only one direction in Direct drive.

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

Redundant Paths: Single and Backup or Direct and Backup.

Failure Detection: Cause (1): Operator must detect joint is not driving.
In Direct Drive, for undriven joints will receive:
"CHECK CRT" Caution with Master Alarm.
SM Message "S96 PDRS ABE SY(SP,EP,WP,WY,WR)".
SPEC 96 Downarrow at "ABE - DIR DRV: SY(SP,EP,WP,WY,WR)

Cause (2): Operator must detect joint is not driving.
Cause (3): Operator must detect joint is not driving.

Corrective Action: CAUSE (1) USE AUTO, MANUAL OR DIRECT DRIVE MODE. CAUSE (2) USE AUTO OR MANUAL OR SINGLE MODES TO COMPLETE MISSION. CAUSE (3) SAME AS ABOVE.

Time to Effect: Immediate

Time to Correct: Hours

Hazard/Remarks: Override available to regain single. IFM kit available to regain Direct Drive.

Approvals:

Functional Group	Name	Position	Telephone	Date Signed	Status
Engineer	Hiltz, Michael	Systems Engineer	4634	26Aug97	Signed
Reliability	Molgaard, Lena	Reliability Engineer	4590	26Aug97	Signed
Program Management Offic	Taplin, Ron	Technical Manager	4766	26Aug97	Signed
Subsystem Manager	Glenn, George / JSC-ER	RMS Subsystem Manager	(281) 483-1516	24Mar98	Signed
Technical Manager	Allison, Ron / JSC-MV6	RMS Project Engineer JSC	(281) 483-4072	14Apr98	Signed

WSTP Mission Assurances COAN, DAVID / JSC-NC62 RMS SANA ENGINEER (281) 483-5979 11 MAY 98 [Signature]