SAA09VE14-001
REV. E

B/L: 006.01
SYS: ORBITER
ACCESS ARM

NOV 1 2 1992

Critical Item:	DECELERATION VALVE (2 Items Total)
Find Number:	A101365
Criticality Category:	1S

SAA No:	09VE14-001	System/Area:	ORBITER ACCESS ARM / LC-39 PAD A&B
NASA Part No:	76K00251-1	PMN/ Name:	U70-0603 ORBITER ACCESS ARM
Mfg/ Part No:	KSC SPEC DWG. 76K00251-1	Drawing/ Sheet No:	79K06013 , 79K40015 1

Function: Reduces the extension speed of the access arm as it approaches the orbiter.

Critical Failure Mode/Failure Mode No: Fails closed (variable orifice) / 09VE14-001.003

Failure Cause: Cam follower disengages from cam groove.

Failure Effect: Additional time to re-extend is the only failure effect. from 30 second maximum allowable to 1 minute 20 seconds. (TR-117)

ACCEPTANCE RATIONALE

Design:

- In the Shuttle program, the deceleration valve will be used only if LPS or emergency extend is commanded. Although the "fail closed" mode can be proposed for the variable orifice within this valve, it cannot be the cause of failure to re-extend, because an intentionally provided-additional fixed flow passageway exists through the valve.

Test:

- Operational test prior to each launch. File VI OMRSD requirement.

Inspection:

- Inspection port provided to allow visual observation of cam / actuator mechanism and valve plunger position.

- Inspection of general condition and lubrication of cam groove performed annually per OMI V6C50. File VI OMRSD requirement.

Failure History:

- The deceleration valve is a modified Apollo 75M12581 deceleration valve with no history of failure in this mode.

WORKSHEET 5312-013
920706ggP60128

Attachment S05023414
sheet 2 of 8

- During Apollo programs a deceleration valve was operational during both extend and retract.

- No failures in the critical failure mode have occurred in LETF or validation testing.

- The PRACA database was researched and there was no failure data found on this component in the critical failure mode.

- The GIDEP failure data interchange system was researched and no failure data was found on this component in the critical failure mode.

Operational Use:

- Correcting Action:

  There is no action which can be taken to mitigate the failure effect.

- Timeframe:

  Since no correcting action is available, timeframe does not apply.

*Attachment 505023446
Sheet 7 of 8*