E01-SAA29PP129-001 ~~SAA29PP129-001~~
Sheet 5 of 8
B/L: 72.06
72.63
SYS: Fuel Cell Deservicing

MAY 19 1992

Critical Item: Regulator, Spring Loaded (1 Item Total)

Find Number: A113027

Criticality Category: 1S

SAA No: 29PP129-001

System/Area: Fuel Cell Detank & Safing SLS, SLF and CLS

NASA Part No: 79K80007-12

PMN/ Name: S70-1225-04 GN2/GHe Supply/Purge Pnl

Mfg/ Part No: Tescom Corp 26-1623-38-353

Drawing/ Sheet No: 79K15491 Pg 1-2
79K15493 Pg 1-2

Function: Regulate GHe supply pressure for vehicle tank pressurization and vent stack purge.

Critical Failure Mode/Failure Mode No: Regulate Low/No Output/29PP129-001.004

Failure Causes: Broken Spring

Failure Effect: Possible loss of the LH2 vent stack purge. Loss of purge when flowing H2 could result in an explosive mixture in the vent line, causing a fire or explosion with loss of life and/or vehicle. Loss detectable on gage A113030.

Time to Effect: Immediate.

Acceptance Rationale

Design:	Rated:	Actual:
Operating Pressure	6000 PSI	2250 PSI
Proof Pressure	9000 PSI	-
Burst Pressure	24000 PSI	-
Operating Temp	-20°F to +250°F	Ambient
Body Material	300 Series SST	-
Seat Material	Teflon and KEL-F	-
Seal Material	Conform to MIL, AMS or NAS Specs	-
Diaphram Material	Neoprene (Reinforced)	
Internal Filter Material	300 Series SST	

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A113027 (Continued)

All materials in this Regulator are compatible for use with dry air, nitrogen and helium. This Regulator is designed to maintain a set pressure within ±1% with a fixed inlet pressure and flow. Creepage under cyclic flow conditions shall not exceed ±3% of set outlet pressure with no creep in outlet pressure after lockup. This Regulator also has a reverse flow relief feature, relief cracking pressure will be no more than 120% of set outlet pressure.

Test: Per Dwg 79K80007, the manufacturer performs the following tests:

- Proof pressure test
- Pressure regulation test
- Leakage rate test

Inspection:

- OMRS 79K16224, requires this regulator to be tested for creepage at each panel use and component replacement.
- File VI requires the vent stack purge flow to be verified audibly, prior to starting H2 drain operations.

Failure History:

- The PRACA database was queried and no failures in the critical failure mode were found.
- The GIDEP failure data interchange system has been researched and no failures of this component were found.

Operational Use:

- Corrective Action:

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

- Timeframe:

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