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SAAOITR01-001
REV. A
B/L: 315.50
SYS: SRM/PC TRANSPORTER

JAN 14 1988

Critical Item: Pneumatic Actuator

Find Number: None

Criticality Category: IS

SAA No: OITR01-001 Rev. A

System/Area: Halon 1301 Fire
Protection/SRM/PC
Transporter

NASA
Part No: None

PMN/
Name: P77-0828

Mfg/
Part No: Walter Kidde 877806

Drawing/
Sheet No: Walter Kidde Catalog
2.3

Function: Actuates release of Halon 1301.

Critical Failure Mode: Piston fails to release. FM No. OITR01-001-003

Failure Cause: Frozen by Contamination.

Failure Effect: Unable to release Halon 1301 fire extinguishing agent in response to fire alarm in the engine compartment of the SRM/PC Transporter. An uncontrolled engine fire could result in loss of life/SRM segment and/or payload.

Acceptance Rationale

Design:

- o Component Specification:
 - Operating Temperature -65°F to 200°F
- o Materials:
 - Valve Body: Aluminum
 - Retaining Ring: Stainless Steel
 - Piston: Aluminum
 - Seat: Synthetic Rubber
- o Meets requirements of NFPA-12A "Standard for Halon 1301 Fire Extinguishing Systems".

Test:

- o Validated by Acceptance Test

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90
SAA01T01-001
REV. A
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JAN 14 1988

Pneumatic Actuator (Continued)

Inspection: The OMI will specify the following inspection requirements in accordance with NFPA-12A "Standard for Halon 1301 Fire Extinguishing Systems".

- o Monthly: Check all parts of system for physical damage, rust, corrosion, etc. Make certain that the system has not been tampered with and that nothing has been placed where it would interfere with the operation of the system.
- o Semi-Annual: Examine the nitrogen cylinder, Part No. 878508, for knicks and corrosion. Replace if cylinder is knicked or corroded. Unscrew the nitrogen cylinder from actuator assembly. Install the anti-recoil cap with gasket into the cylinder and weigh. Replace if the weight is not within 1/2 ounce of the weight stamped on the cartridge.
- o OMRSD File VI will require semi-annual verification of the weight of nitrogen cylinder PN878508.

Failure History:

- o No KSC PRACA history of failure in the critical failure mode.
- o No GIDEP alerts were reported

Operation:

- o Observers are assigned on both sides of the transporter to monitor safety requirements
- o Fire department is notified to stand by when moving SRM segments.
- o Fire truck is in convoy when moving payloads.
- o Portable extinguishers are available in each cab and in convoy vehicles
- o A power kill switch is activated to turn off all power to the transporter systems.
- o The engine compartment and the SRM segment are approximately 12 feet apart along the surface of the structural steel deck of the transporter.