

Critical Item: Solenoid Valve (Arming and Release)
(8 each MLP. 24 total)

Find Number: 3 and 4

Criticality Category: 1S

SAA No: D9SY01-002

System/Area: Halon 1301 Fire
Protection System/MLP

NASA

Part No: None

PNM/

Name:

K61-0739-01

K61-0740-01

K61-0741-01

MFG

Part No: ASCO 8314C36

Drawing/

Sheet No:

79K09475

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Function: Open pressure line from pilot cylinder to release halon.

Critical Failure Mode: Fails closed, FMO9SY01-002.003

Failure Cause: Solenoid coil open or actuator failure.

Failure Effect: Blocks control pressure to control head and prevent halon release in affected discharge system. Loss of halon concentration which could allow a fire to spread. Possible loss of life and damage/loss of a Space Shuttle Vehicle.

Acceptance Rationale

Design:

- o Component Specification:

	<u>RATED</u>	<u>ACTUAL</u>
Pressure	750 psi	360 psi
Temperature	200°F max.	Ambient
- o Materials:
 - Body - Brass
 - Seals and discs - Buna "N" and Nylon
 - Other Internal Parts - Stainless Steel
- o Valves are listed by Underwriters Laboratories (UL) and Canadian Standards Association (CSA) certified.

Test:

- o File VI OMRSD requires an annual test:
 - Ensure Halon System is in the automatic mode. Activate two ionization detectors on separate circuits to perform end-to-end test and verify dampers close and halon actuator pins do extend approximately 1/4 inch.

Inspection:

- o Verify functional operation annually and at component replacement.
- o PMI requires: Visually inspect quarterly for physical damage and deterioration.

Operational Use:

- o Norm. response by Fire Services Personnel when MLP at Launch Pad:
 1. During normal Pad operation (routine operation/maintenance personnel present), Fire Services Personnel will respond within 2-9 minutes after notification from LOC Room 1P10.
 2. During hazardous operations at the Pad (access limited to essential personnel only), response time after notification of a fire would be 2-9 minutes. Fire Services Personnel will be on-site or in near proximity during all hazardous operations.
 3. During post-launch operations (no operation/maintenance personnel present), response time after notification of a fire is expected to typically be within 20 minutes.

Failure History:

- o No QIDEP ALERTs were reported.
- o No KSC FRACA history of failure in the critical failure mode.
- o No trouble tickets were reported.