

**Critical Items List (CIL) Sheet**

**Critical Item:** Quick Disconnect  
**Total Quantity:** 90  
**Find Number:** MD1, MD2, MD3  
**Criticality Category:** 2

**B/L:** 600.37 & 890.00  
**System:** OMS/RCS

**FMEA/CIL No.:** SSD99FO027

**System/Area:** RCS/ OPF  
VAB, PAD,  
HMF, CLS

**NASA**  
**Part No.:** -

**PMN/**  
**Name:** A70-1136/ Universal  
& Evacuation Throat  
Plug Assembly

**Mfg/**  
**Part No.:** Swagelok/SS-QM2-B-2PFKR

**Drawing/**  
**Sheet No.:** G070-300143/ 2

**Function:** Provides fluid path by attaching to Vernier Throat Plug Assembly.

**Critical Failure Mode/ Failure Mode No:** Separates prematurely from Thruster Throat Plug/ SSD99FO027.005

**Failure Cause:** Material defect or end-of-life effect (fatigue)

**Failure Effect:** QD falls from thruster plug. Falling QD and attachments may strike vehicle TPS causing flight hardware damage. This failure is detectable visually. Time to effect: immediate.

**ACCEPTANCE RATIONALE**

**Design:** Materials of Construction –

Body, Stem, Adapter, & Sleeves; Stainless Steel  
Spring & Snap Rings; Stainless Steel  
Locking Balls; Stainless Steel  
Body Insert; Teflon coated steel  
Valve Stem, & Valve Stop; Stainless Steel  
Stem Insert; Stainless Steel  
O-Rings; Kalrez

Operating Parameters –

Pressure Rating, coupled – 4,000 psig  
Pressure Rating, coupling or uncoupling – 100 psig  
Temperature Rating – 250° F

Use – Attached to plug stem by appropriately trained personnel

**Test:** - No testing of the QD is explicitly called for in the Certification Testing of the VRCS Vernier Throat Plug. However, during the extended Life Test, an identical QD contained in the Insertion/Removal tool was exercised 256 cycles, four times the expected life cycles of the plug. Due to anomalies during the certification testing, the Life Test was performed twice on the same test QD with no QD failures noted.

**Inspection:** - OMI V6029 requires periodic inspections of the thruster GSE attachments.

**Failure History:**

- Current data on test failure, unexplained anomalies, and failures experienced during processing activities can be found in the PRACA database. The PRACA database was researched and no failure data was found on this component or similar components in the critical failure modes.
- The GIDEP failure data interchange system has been researched and no failure data was found on this component in the critical failure mode.

**Operational Use:**

- Correcting Action:

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

- Time Frame

Since no correcting action is available, time frame does not apply.