

**Critical Items List (CIL) Sheet**

**Critical Item:** Disconnect, Quick, Female (12 items) **B/L:** 810.64

**Find Number:** 08D6, 08D7, 08D8, 08D9

**Criticality**

**Category:** 2

**FMEA/CIL No.:** STS88-0210/A

**System/Area:** ECLSS/OPF

**NASA Part No.:** -

**PMN/Name:** S70-0790-08/ECLSS,  
Water Coolant Service  
Set

**Mfg. Part No.:** Symetrics/502060-  
2174

**Drawing/Sheet No.:** G070-582488/1

**Function:** Provides quick connect and disconnect of fluid path (water)

**Critical Failure Mode/Failure Mode No.:** Leak before disconnect/STS88-0210.007

**Failure Cause:** Broken/worn sleeve O-ring seal or worn/corroded sleeve

**Failure Effect:** Water is released inside vehicle crew compartment. Possible damage to a vehicle system. Failure is detectable visually.

Acceptance Rationale

**Design:**

This 3/8 inch female coupling is a mechanical connector which permits separation of a fluid system line without fluid loss. Both the male and female halves have integral poppet valves which stop flow when the halves are separated.

		<u>RATED:</u>	<u>ACTUAL:</u>
Temperature:	Fluid media	120°F	50-80°F
	Ambient	160°F	70-90°F
Pressure:	System Operating	90 psig	90 psig

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	Proof	135 psig	-
	Burst	180 psig	-
Fluid Media:		Water	Water
Material:	Body	15-5 Stainless Steel (precipitation hardened)	
	Sleeve	15-5 Stainless Steel (precipitation hardened)	
	O-Ring	Ethylene Propylene	

**Test:**

At initial fabrication, the following is performed:

- Hydrostatically proof-pressure test to 1-1/2 times maximum operating pressure
- Hydrostatically burst-pressure test to 2 times maximum operating pressure
- Side-load test (bending moment to test for premature disconnection)
- Leakage verified bubble tight when checked with nitrogen at operating pressure

Disconnects are verified functional during system verification

**Inspection:**

KSC procedures require periodic inspection to suit individual system requirements.

OMRSD File VI TBD

**Failure History:**

The PRACA database was queried and no failure data were found on this component in the critical failure mode.

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

**Operational Use:**

Correcting Action: Terminate water flow

Timeframe: Minutes