

CRITICAL ITEMS LIST (CIL)

SYSTEM:	Thermal Protection System	FUNCTIONAL CRIT:	1
SUBSYSTEM:	LD2 Barrel/Ogive	PHASE(S):	b
REV & DATE:	J, 12-19-97	HAZARD REF:	T.02
DCN & DATE:			
ANALYSTS:	A. Mitchell/R. Lauto		

FAILURE MODE: Loss of SOF: Material

FAILURE EFFECT: b) Loss of mission and vehicle/crew due to debris impacting Orbiter in critical areas.

TIME TO EFFECT: Seconds

FAILURE CAUSE(S):
 A: Material Deficiency
 B: Process Deficiency

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: The SOF material insulates the GC2 vent system, preventing ice formation on the nose cone during prelaunch.

<u>FMEA ITEM</u> <u>CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
5.5.4.1	80971068400	GC2 Vent System - TPS Instl	1	LVT-54 thru 56
	80971068401	GC2 Vent System - TPS Instl	1	LVT-57 & Lp

REMARKS:

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

SYSTEM: Thermal Protection System
SUBSYSTEM: LO2 Barrel/Ogive
FMEA ITEM CODE(S): 5.5.4.1

REV & DATE: J, 12-19-97
DCM & DATE:

RATIONALE FOR RETENTION

STP1503 or 1518, (manufacturing option), 1532, 1536 and 6014 are applicable to this FMEA Item Code. See Page 1 for Retention Rationale specified by this STP. The following additional Retention Rationale is also applicable to this FMEA Item Code:

DESIGN:

- A: J463A tape is a polyamide pressure sensitive tape used to install pre-molded BX-250/SS-1171 or PDL-4034/PDL-1034 foam on the G02 vent line.
- B: Engineering drawings 80971068400 and 80971068401 establish the requirements for the installation of pre-molded BX-250/SS-1171 or PDL-4034/PDL-1034 foam on the G02 vent line. This foam has been molded per STP1503, STP1518, STP1532 or STP1536 and installed using a continuous triple wrap of J463A tape.
- A, B: These materials have been approved for usage on the External Tank and are listed in the Approved Materials List (MMC-ET-SE16).

TEST:

The G02 Vent System - TPS Application is certified. Reference RCS's MMC-ET-IM08-L-1005, 1503, 1504 and 1507. Refer to the RCS(s) for effectivity data applicable to specific part numbers and material type.

INSPECTION:

MAF Quality Inspection:

- B: Inspect TPS configuration and tape application (drawings 80971068400 for LWT-54 thru 56 and 80971068401 for LWT-57 & Up).

FAILURE HISTORY:

Current data on test failures, unexplained anomalies and other failures experienced during ground processing activity can be found in the PRACA data base.