

CRITICAL ITEMS LIST (CIL)

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

FAILURE MODE: Loss of SLA Material

FAILURE EFFECT: b) Loss of mission and vehicle/crew due to structural failure caused by overheating. 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: This ablative materials provides thermal protection from high aerodynamic heating during ascent.

PMEA ITEM CODE(S)	PART NO.	PART NAME	QTY	EFFECTIVITY
5.8.26.1	80971078452	Crossbeam Assy, TPS Appl	1	LWT-54 & Up
	80971078480	GH2 Pressline Support, TPS Appl	1	LWT-54 & Up
	80971028404	Fairing Assy, SLA Appl	2	LWT-54 & Up
	80971078476	Fairing, Umbilical, TPS Appl	1	LWT-54 & Up
	80971028478	LQ2 F/L Support - Crossbeam, TPS	1	LWT-54 & Up
	80971008455	SLA Appl-Umb C/T, F/L Support	1	LWT-54 & Up
	80971048498	Cover Assy, TPS Appl	2	LWT-54 & Up
	80971078498	Helium Inject Box Assy	1	LWT-54 & Up
	80971008452	TPS C/O Crossbeam C/T	1	LWT-54 & Up
5.8.28.1	80971078429	Thrust Strut, Ablator Appl	2	LWT-54 & Up
5.8.30.1	80971078439	Vertical strut, Ablator Appl	2	LWT-54 & Up
	80971048446	Cover Assy, TPS Appl	1	LWT-54 & Up
5.8.32.1	80971028440	Diag Strut Assy TPS, Lower	1	LWT-54 & Up
	80971028440	Diag Strut Assy TPS, Upper	1	LWT-54 & Up
	80971028453	Diag Strut Tank Ftg. TPS Appl	1	LWT-54 & Up

REMARKS: The crossbeam SLA applications (5.8.26.1), the thrust strut SLA applications (5.8.28.1), vertical strut SLA applications (5.8.30.1) and diagonal strut SLA applications (5.8.32.1) are grouped as the failure mode, causes and effects are the same.

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

SYSTEM: Thermal Protection System
SUBSYSTEM: Components
FMEA ITEM CODE(S): 5.8.26.1, 5.8.28.1, 5.8.30.1, 5.8.32.1

REV & DATE: J, 12-19-97
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RATIONALE FOR RETENTION

STP1506, 1509, 1510, 1520, 1521, 1530, 1531, 3001, 3003 and 5013 are applicable to these FMEA Item Codes. See Page 1 for Retention Rationale specified by these STP's. The following additional Retention Rationale is also applicable to these FMEA Item Codes:

DESIGN:

No additional Rationale for Retention is applicable.

TEST:

The Crossbeam SLA Applications (5.8.26.1), Thrust Strut SLA Application (5.8.28.1), Vertical Strut SLA Application (5.8.30.1) and Diagonal Strut SLA Applications (5.8.32.1) are certified. Reference RCS's HMC-ET-TM08-L-T020 and T505. Refer to the RCS(s) for effectivity data applicable to specific part numbers and material type.

INSPECTION:

No additional Rationale for Retention is applicable.

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.