

## SRB CRITICAL ITEMS LIST

SUBSYSTEM: STRUCTURES & MISCELLANEOUS ITEMS  
 ITEM NAME: SRB/ET Forward Bolt Catcher  
 PART NO.: 10175-0001 PM CODE: A01  
 ITEM CODE: 60-02-13A REVISION: Basic  
 CRITICALITY CATEGORY: 1 REACTION TIME: Immediate  
 NO. REQUIRED: 1 DATE: April 19, 1989  
 CRITICAL PHASES: Boost 1, Boost 2, and Separation SUPERCEDES: March 15, 1988  
 FMEA PAGE NO.: E-22 ANALYST: Reynolds/D. Lee  
 SHEET 1 OF 2 APPROVED: E. Cagle

FAILURE MODE AND CAUSES: Structural failure of bolt catcher caused by:

o Aerodynamic loading.

FAILURE EFFECT SUMMARY: Loss of mission, vehicle and crew due to vehicle breakup and/or damage from generated debris.

## RATIONALE FOR RETENTION:

## A. DESIGN

Analysis shows that with a design factor of safety of 1.1 (yield), a margin of safety greater than =25 exists between the bolts attaching the bolt-catcher to the ET block and the maximum loading during ascent. (Ref. BPC-ANAL-003-87).

The forward bolt catcher is qualified for use by test and analysis as documented in USBI COQ A-STR-7120-1.

## B. TESTING

O No testing is performed applicable to this failure mode.

## C. INSPECTION

O No inspection applicable to this failure mode.

## D. FAILURE HISTORY

O Criticality Category 1

o No SRB failure history for this failure mode.

FM Code: 60-02-13A-A01

S40232K  
ATTACHMENT -  
Page 347 of 559

Date: April 19, 1989

E. OPERATIONAL USE

o Not applicable to this failure mode.