PRINT DATE: 08/28/89

SHUTTLE CRITICAL ITEMS LIST - ORBITER NUMBER: GO-AA-202000-00-002-01

REVISION# 1 89/08/25

SUBSYSTEM: GALLILEO RPM TANK MONITOR

ITEM NAME: TOGGLE SWITCH, 2P3P

CRITICALITY OF THIS FAILURE MODE: 1S

■ FAILURE MODE:
SWITCH FAILS OPEN, ONE OR MORE POLES

MISSION PHASE:
LS LANDING SAFING

■ VEHICLE/PAYLOAD/KIT EFFECTIVITY: 104 ATLANTIS STS-34

■ CAUSE:
STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, THERMAL STRESS

■ CRITICALITY 1/1 DURING INTACT ABORT ONLY? N

■ REDUNDANCY SCREEN A) N/A
■ B) N/A
■ C) N/A

PASS/FAIL RATIONALE:
■ A)

■ B)

■ C)

- FAILURE EFFECTS -

■ (A) SUBSYSTEM:
SYSTEM FAILS TO FUNCTION. POSSIBLE UNDETECTED RUNAWAY TANK OVERPRESSURE

■ (B) INTERFACING SUBSYSTEM(S):
POSSIBLE TANK RUPTURE, FIRE/EXPLOSION.

■ (C) MISSION:
POSSIBLE LOSS OF THE GALILEO/IUS PAYLOAD.

■ (D) CREW, VEHICLE, AND ELEMENT(S):
POSSIBLE LOSS OF THE ORBITER, POSSIBLE LOSS OF LIFE.

■ (E) FUNCTIONAL CRITICALITY EFFECTS:
LOSS OF SYSTEM FUNCTIONS. POSSIBLE UNDETECTED RUNAWAY TANK OVERPRESSURE TANK RUPTURE, POSSIBLE FIRE/EXPLOSION, POSSIBLE LOSS OF THE ORBITER, POSSIBLE LOSS OF LIFE.

- DISPOSITION RATIONALE -

(A) DESIGN
THE SWITCH IS AN MS25307-212. THE DESIGN IS EXTREMELY WELL PROVEN AND RELIABLE.

(B)TEST
ACCEPTANCE TEST SPECIFICATION IS APPROVED BY QUALITY ASSURANCE AND VERIFIES SWITCH PERFORMANCE.

(C)INSPECTION
THE SWITCHES ARE INSPECTED FOR WEIGHT, WORKMANSHIP, FINISH, DIMENSIONS, CONSTRUCTION, CLEANINESS, IDENTIFICATION MARKING AND CERTIFIED MATERIALS AND PROCESSES. ACCEPTANCE TEST PROCEDURE ARE APPROVED BY QUALITY ASSURANCE.

(D) FAILURE HISTORY
NO GENERIC FAILURES

(E) OPERATIONAL USE
CONTINGENCY ONLY IN THE EVENT OF ABORT WITH THE GALILEO ON BOARD. THE SWITCH IS USED APPLY POWER TO THE SYSTEM OF INTERESTR (1 TANK AT A TIME). AN AVIALABLE BATTERY BACK WILL BE AVAILABLE AT THE ABORT SITE.

- APPROVALS -

RELIABILITY ENGINEERING	W. R. MARLOWE	W. R. Marlowe
DESIGN ENGINEERING	L. COLEMAN	
QUALITY ENGINEERING	C. ROLLINS	
NASA RELIABILITY		
NASA SUBSYSTEM MANAGER		
NASA QUALITY ASSURANCE		