

FAILURE MODES AND EFFECTS ANALYSIS PAGE 1 OF 6

REFERENCE DESIGNATOR:
 NAME/QUANTITY: Relief Valve-(1)
 DRAWING REFERENCE: SED46105222

PROJECT: Orbiter
 LRU NAME/QUANTITY: LBNPDS (1)
 LRU PART NUMBER: SED46105085

SUBSYSTEM: LBNP
 EFFECTIVITY: All Orbiters

FAILURE MODE NUMBER LBNP-2	CRITICALITY 3/1R		FAILURE EFFECT	FAILURE DETECTION METHOD
FUNCTION Relieve vacuum if vacuum in the LBNP tank exceeds 65 MM Hg		END ITEM LBNP chamber will be exposed to a higher than expected vacuum		FLIGHT 1. Pressure Meter (Electrical) 2. Pressure Meter (Mechanical) 3. Subject sensation/observer input 4. Blood pressure measurement SED42104770-307 5. EKG
FAILURE MODE AND CAUSE Relief valve fails to open Cause: 1. Defective material 2. Broken Spring 3. Contamination		MISSION Loss of DSO objective		
REUNDANCY SCREENS A - PASS B - N/A C - PASS		REMAINING PATHS 1. LBNP Controller (first failure) 2. Manual relief valve		GROUND Yes EKG Measurement CORRECTIVE ACTION 1. Open manual relief valve 2. Manually separate waist seal 3. Quick Disconnects #1-4
MISSION PHASE ORBIT		TIME TO EFFECT SECONDS	TIME TO CORRECT SECONDS	
		CREW/VEHICLE Possible crewmember injury if blood pressure and/or heart rate is reduced beyond acceptable limits		REMARKS Relief valve opens at 65 mm Hg \pm 5% and flows 3.55 CFMAT this pressure. It will reclose at 57 mm Hg \pm 5%
		INTERFACE		