

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : CREW ESCAPE-EGRESS - PYRO FMEA NO P7-2A-480053-1 REV: 03/17/88

ASSEMBLY : EMERGENCY EGRESS WINDOW
P/N RI : MC325-0004
P/N VENDOR:
QUANTITY : 2

VEHICLE	102	103	104
EFFECTIVITY:	X	X	X
PHASE(S):	PL	LO	OO DO LS X

PREPARED BY:
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REDUNDANCY SCREEN: A-N/A B-N/A C-FAIL

APPROVED BY:
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ITEM:

ENERGY TRANSFER SYSTEM, SHIELDED MILD DETONATING CORD (SMDC) AND CONFINED DETONATING CORD (CDC) LINES, TIME DELAY, THRU-BULKHEAD INITIATOR, TEES, UNIONS, ELBOW FITTINGS, MILD DETONATING FUSE (MDF) AND EXPANDING TUBE ASSEMBLY (XTA)

FUNCTION:

UPON RECEIVING AN INPUT FROM EITHER T-HANDLE (INTERIOR OR EXTERIOR), ENERGY TRANSFER SYSTEM (ETS) TRANSMITS EXPLOSIVE FUNCTION TO OVERHEAD WINDOW.

FAILURE MODE:

REDUCED OR NO OUTPUT

CAUSE(S):

LOSS OF IGNITION INPUT, CONTAMINATION OF EXPLOSIVE MIX, STRUCTURAL FAILURE, EXCESSIVE GAP IN EXPLOSIVE CORD

EFFECT(S) ON:

- (A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE
- (A) LOSS OF REDUNDANT ENERGY TRANSFER SYSTEM.
- (B, C, D) NONE. POTENTIAL LOSS OF CREW IF REDUNDANT ETS FAILS.

DISPOSITION & RATIONALE:

(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE

(A) DESIGN

DUAL (REDUNDANT) ENERGY TRANSFER SYSTEMS, EITHER ONE WILL PERFORM FUNCTION.

(B) TEST

QUALIFICATION TESTS: ORIGINALLY QUALIFIED FOR OV-102 ETS (W/EJECTION SEATS), SALT FOG, RANDOM AND TRANSIENT VIBRATION, THERMAL CYCLING, PRESSURE CYCLING, SHOCK, FLEXIBILITY (CDC), HUMIDITY, +350 DEG F/-65 DEG F/AMBIENT FIRING, 8 FT DROP (TIME DELAY).

P7-2A-4

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VERIFICATION TESTS: 4 BREADBOARD TESTS AT RI/DOWNEY. SLED TEST (OV-102 - 4 STATIC AND 3 DYNAMIC SLED TESTS AT HOLLOWAN. SLED TEST (OV-103 AND SUB) - 4 OF 6 STATIC TESTS ACCOMPLISHED.

ACCEPTANCE TESTS: EXAMINATION OF PRODUCT, X-RAY, N-RAY, HELIUM LEAK TEST, TBI PRESSURE TEST, LOT ACCEPTANCE FIRINGS ON RANDOM SAMPLES.

OMRSD: NONE. HARDWARE INACCESSIBLE.

(C) INSPECTION

RECEIVING INSPECTION

ALL RAW MATERIALS ARE VERIFIED BY RECEIVING INSPECTION FOR COMPLIANCE WITH PURCHASED MATERIAL REQUIREMENTS. ALL SPECIAL PROCESSES ARE VERIFIED BY INSPECTION/CERTIFICATION.

CONTAMINATION CONTROL

CONTAMINATION CONTROL AND CORROSION PROTECTION PROCESSES AND STORAGE ENVIRONMENTS ARE MONITORED AND VERIFIED BY INSPECTION.

ASSEMBLY/INSTALLATION

VISUAL INSPECTION, IDENTIFICATION PERFORMED, PARTS PROTECTION VERIFIED BY INSPECTION.

NONDESTRUCTIVE EVALUATION

ALL COMPLETED ASSEMBLIES ARE X-RAYED AND N-RAYED FOR PROPER ASSEMBLY AND CONTINUITY. X-RAYS AND N-RAYS ARE REVIEWED BY VENDOR, DCAS, NASA QUALITY AND ENGINEERING.

CRITICAL PROCESSES

HEAT TREATING VERIFIED BY INSPECTION.

TESTING

ENERGY TRANSFER SYSTEM IS CERTIFIED BY NASA ENGINEERING AND QUALITY ASSURANCE.

HANDLING/PACKAGING

HANDLING AND PACKAGING REQUIREMENTS VERIFIED BY INSPECTION.

(D) FAILURE HISTORY

THERE HAVE BEEN NO ACCEPTANCE TEST, FIELD OR FLIGHT FAILURES ASSOCIATED WITH THIS FAILURE MODE.

(E) OPERATIONAL USE

NONE.