

CRITICAL ITEMS LIST

ASSY NOMENCLATURE: **ET DOOR LATCH TOOL**
 ASSY P/N: **SG039118691-301**

SYSTEM: **ORBITER**
 SUBSYSTEM: **EVA EQUIPMENT**

REVISION: **1**
 PAGE: **4 of 1**

FMEA		NAME, QTY & DRAWING REF DESIGNATION	CRITY	FAILURE MODE AND CAUSE	FAILURE EFFECT ON	RATIONALE FOR ACCEPTANCE
REF	REV					
28		LATCH (1) SD039118690-001	1/1	<p>Mode: Sticks in engaged position</p> <p>Cause: • Contamination • Defective material</p>	<p>END ITEM Shall not stick, cannot engage in manual override mechanism</p> <p>CREW VEHICLE Possible loss of crew vehicle door latches cannot be released, resulting in the inability to close E1 doors</p>	<p>1. DESIGN FEATURES TO MINIMIZE FAILURE MODE</p> <ul style="list-style-type: none"> a. Constructed of high strength, 17-4 stainless steel b. Tolerances used on parts to minimize variability due to temperature extremes at test locations <p>2. TEST OR ANALYSIS TO DETECT FAILURE MODE</p> <ul style="list-style-type: none"> a. <u>Acceptance</u> Functional Test - Complete functional testing to verify handle/handle assembly will move freely, rotate smoothly, and release for stowage, barrel and shell are locked together when in the full retract position, the shell extends and locks freely b. <u>Qualification</u> <ul style="list-style-type: none"> (1) Qualification test consists of interlocking with at least one Orbiter, including one complete cycle (lock deployment and latch retraction) at both latch locations (2) Cycle life - subjected to 15 complete cycles as defined below by the definition of one cycle <ul style="list-style-type: none"> (a) Allen Wrench - Fourteen complete revolutions consisting of maximum torque of 30m (disposal) (b) Extension/retraction of shell including latch engagement (c) Ten complete revolutions of spanner wrench (3) Thermal qualification testing to verify this tool for a low and temperature environment of 200 F to 350 F c. <u>Interrogation</u> Complete functional testing will be performed once ready to be utilized on E1/E2 and to ensure tool functions properly

CRITICAL ITEMS LIST

ASSY NOMENCLATURE: ET DOOR LATCH TOOL
 ASSY P/N: SED39110697-001

SYSTEM ORBITER
 SUBSYSTEM EVA EQUIPMENT

REVISION
 PAGE 5 OF 82

FMEA		NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT OR	RATIONALE FOR ACCEPTANCE
REF	REV					
28		LATCH (1) ----- S0039110690-001	1/1	Mode: Sticks in engaged position Cause: - Contamination - Defective material	CREW TEAM Shaft will not stroke, cannot engage in manual override mechanism CREW VEHICLE Possible loss of crew vehicle Door latches cannot be released, resulting in the inability to close ET doors	3. INSPECTION <ul style="list-style-type: none"> • Manufacturing <ul style="list-style-type: none"> (1) Quality Assurance verification of compliance for materials (requirements) (2) Verified conformance to drawings at built configuration (3) Visual inspection of tool for damage (4) Verified proper operation of tool (5) Functional test (PIA) performed (6) Verified visibly clean • Turnaround <ul style="list-style-type: none"> (1) Inspect for visible damage, contamination, and clean according to PIA (2) Verify completion of functional test for acceptance 4. FAILURE HISTORY None

SLICE
 ATTACHMENT 1
 PAGE 27 OF 34

CRITICAL ITEMS LIST

ASSY NOMENCLATURE: E1 DOOR LATCH ROOM

SYSTEM ORBITER

REV: 000000

ASSY P/N: SED39118691-301

SUBSYSTEM: EVA EQUIPMENT

PAGE: 4 OF 12

AREA		NAME, QTY & DRAWING REF DESIGNATION	CRITY	FAILURE MODE AND CAUSE	FABRI EFFECT ON	RATIONALE FOR ACCEPTANCE
REF	REV					
78		LATCH (1) ----- SDD39118691-001	1/1	Mode: Sticks in engaged position Cause: • Contamination • Defective material	END ITEM Shaft will not stroke, cannot engage in manual override mechanism CREW VEHICLE Possible loss of crew vehicle Door latches cannot be released, resulting in the inability to close all doors	5. OPERATIONAL USE 4. <u>Operational Effect of Failure</u> : The EVA crew will cannot be rescued if the latch cannot be released. b. <u>Crew Action</u> : Force latch in with hammer or use grips. c. <u>Crew Training</u> : None d. <u>Mission Constraint</u> : None identified e. <u>In Flight Checklist</u> : Verify proper operation before transitioning to work site.