

CRITICAL ITEMS LIST

PAGE 3 OF 4

REFERENCE DESIGNATOR: N/A

PROJECT: PAD

SUBSYSTEM: N/A

NAME/QUANTITY: ARMS/4

LRU NAME/QUANTITY: PAD ASSEMBLY/1

EFFECTIVITY: ALL ORBITERS

DRAWING REFERENCE: 10159-10363-01, B2; 10119-20350-01, 02 LRU PART NUMBER: 10159-10053-01

FAILURE MODE NUMBER PAD-007	CRITICALITY 2/2	FAILURE EFFECT	RETENTION RATIONALE
FUNCTION Structural support of PAD		END ITEM Unable to dock PAD on end effector MISSION Unable to perform EVA task CREW / VEHICLE None INTERFACE None	A. DESIGN: Arm material is Al alloy 7075-T-7351. Bolt material is CRES 303 with a diameter of .375 in. These materials will not gall. Structural analysis report no. 91-1976, per certification plan no. JSC-24802. B. TEST <ul style="list-style-type: none"> • PDA <ul style="list-style-type: none"> - Functional checkout and test - Interface with striker bar • Certification <ul style="list-style-type: none"> - Vibration test to certification plan requirements for 1 minute per axis (minimum) - Functional test at - 180 °F - Thermal analysis performed at + 200 °F to verify proper tolerances
FAILURE MODE AND CAUSE <u>Mode:</u> Arms fail to rotate <u>Cause(s):</u> Galling, contamination			
REDUNDANCY SCREENS A - N/A B - N/A C - N/A	REMAINING PATHS N/A		
MISSION PHASE On-orbit	TIME TO EFFECT Immediate		

(Continued on next page.)

PREPARED BY: D. A. Crouch

REVISION

SUPERSEDING DATE:

DATE: 8/91

0-5

50402370
ATTACHMENT
PAGE 34 OF 36

CRITICAL ITEMS LIST

REFERENCE DESIGNATOR: N/A

PROJECT PAD

SUBSYSTEM: N/A

NAME/QUANTITY: ARMS/4

LRU NAME/QUANTITY PAD ASSEMBLY/1

EFFECTIVITY: ALL ORBITERS

DRAWING REFERENCE: 18159-20362-01, 02; 18159-20358-01, 02 LRU PART NUMBER: 18159-18053-01

FAILURE MODE NUMBER PAD-007 (Concluded)	CRITICALITY Z/Z	
RETENTION RATIONALE (CONCLUDED)		
<p>C. INSPECTION:</p> <ul style="list-style-type: none"> • Manufacturing <ul style="list-style-type: none"> - Inspect dimensions, workmanship, and configuration for conformance to drawing and cleanliness requirement (generally clean) • PDA <ul style="list-style-type: none"> - Inspect for damage or material degradation - Verify successful completion of interface test - Verify dimensions, workmanship, and configuration conformance to drawing and cleanliness requirement (generally clean) • PIA <ul style="list-style-type: none"> - Inspect for damage; and to ensure proper installation, verify that knob is torqued to 20-40 in-lb and that lock is engaged. <p>D. FAILURE HISTORY: None</p> <p>E. GROUND TURNAROUND:</p> <ul style="list-style-type: none"> • Inspect for damage or material degradation • Verify successful completion of interface test • Verify dimensions, workmanship, and configuration conformance to drawing and cleanliness requirement (generally clean) 	<p>F. OPERATIONAL USE:</p> <ul style="list-style-type: none"> • No other crew actions are necessary to latch PFR to PAD 	

9-0

PREPARED BY: D. A. Crouch

REVISION:

SUPERSEDING DATE

DATE 8/91