

CRITICAL ITEMS LIST

Reference Designator:

Name/Quantity: Harness Activation Switch

Drawing Reference: 412017

Project: Quick Don Mask Assy.

LRU Name/Quantity: QDMA

LRU Part Number: SE033104528-303

Subsystem: CEE

Effectivity: ALL ORBITERS

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Failure Mode Number QDMA-FM-008	Criticality 1R/2	Failure Effect	Retention Rationale
Function Inflates harness assembly for donning.		End Item Mask harness remains in inflated condition. Unable to don mask. Mission None Crew/Vehicle Possible loss of crewmember due to inability to don mask for protection from contaminated atmosphere. Interface None	<ol style="list-style-type: none"> 1. DESIGN FEATURES TO MINIMIZE FAILURE MODE <ol style="list-style-type: none"> A. Mechanism coated with non-slick lubricant to prevent jamming B. Mechanism fabricated from silicone O-rings and cupro beryllium leaf spring. Component minimum age life is 6 years. 2. TEST OR ANALYSIS TO DETECT FAILURE MODE <ol style="list-style-type: none"> A. Acceptance Test <ol style="list-style-type: none"> (1) Harness inflation test, at 60 psi supply pressure. Specification: Full inflation of harness within one second. (2) Visual inspection for evidence of damage or defect. B. Certification <ol style="list-style-type: none"> (1) Certification in accordance with TSO-C89, FAA Technical Standard Order, Protective Breathing Equipment. (2) Subjected to temperatures of 160° F for 12 hours and -67° F for 2 hours after which a complete functional test is performed. C. Turnaround Testing (per PDA/PIA procedure) <ol style="list-style-type: none"> (1) Complete PDA testing every 24 months or before flight. Testing includes mechanism cycling and harness inflation. (2) Replacement of softgoods and overhaul every 6 years. Complete PDA testing after overhaul.
Failure Mode and Cause Falls On			
<ol style="list-style-type: none"> 1. Defective material/test spring 2. Contamination 			
Redundancy Screens A-P B-N/A C-P	Remaining Paths Requires previous single point Orbiter failure.		
Mission Phase Orbiter Emergency	Time to Effect Seconds	Time to Correct N/A	

DATE: 4/92 REVISION: BASIC

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Effectivity: ALL ORBITERS

Failure Mode Number QDMA-FM-006	Criticality 1 R/2	Failure Effect	Retention Rationale
Function Inflates harness assembly for donning.		<u>End Item</u> Mask harness remains in inflated condition. Unable to don mask.	3. INSPECTION A. Manufacturing (1) Visual inspection of parts for damage or defects. (2) Verify internal cleanliness to level 100C and external cleanliness to level GC per JSCM 5322.. B. Turnaround Inspection (per PDA/PIA procedure) (1) Visually inspected for damage or defects every 24 months or prior to flight. (2) Verify testing performed at regular intervals. 4. FAILURE HISTORY This mask assembly is utilized in commercial applications (Grumman Gulfstream, Boeing 747-400). No service failures reported. 5. OPERATIONAL USE A. Operational Effect of Failure: Possible loss of crewmember due to inability to don mask for protection from atmosphere. B. Crew Action: Crew could inspect switch and attempt to clear any visual contamination. Crew could not replace or repair defective switch. C. Crew Training: Crew is trained in correct function and use of QDMA. D. Mission Constraints: None E. Inflight Checkout: None.
Failure Mode and Cause Falls On 1. Defective material/leaf spring 2. Contamination		<u>Mission</u> None	
Redundancy Screens A-P B-N/A C-P		<u>Crew/Vehicle</u> Possible loss of crewmember due to inability to don mask for protection from contaminated atmosphere.	
Remaining Paths Requires previous single point Orbiter failure.		<u>Interface</u> None	
Mission Phase	Time to Effect	Time to Correct	
Orbiter Emergency	Seconds	N/A	

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