

CRITICAL ITEMS LIST

Reference Designator:
Name/Quantity: Mask Shell
Drawing Reference: MXM 43

Project: Quick Don Mask Assy.
LRU Name/Quantity: QDMA
LRU Part Number:

Subsystem:
Effectivity: ALL ORBITERS

Failure Mode Number QDMA-FM-009	Criticality 1 R/2	Failure Effect	Retention Rationale
Function Provides breathing oral nasal cavity and eye protection.		End Item Free flow of mask regulator. Excessive consumption of oxygen	1. DESIGN FEATURES TO MINIMIZE FAILURE MODE A. The mask material is fabricated of silastic silicone (639VL) rubber with a minimum age life of 6 years. B. Mask designed to withstand a pull force of not less than 35 pounds. 2 TEST OR ANALYSIS TO DETECT FAILURE MODE A. Acceptance Test (1) Normal outward leakage test. Specification: Less than 0.1 l/min. (2) Emergency outward leakage test. Specification: Less than 1.0 l/min. (3) Mask/regulator inward test at 4.0 in. H ₂ O of water suction. Specification: Less than 0.2 l/min. B. Certification (1) Certified 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. (3) Mask subjected to a pull force on the attachment fittings of 35 pounds after which a complete functional test was performed. C. Turnaround Testing (per PDA/PIA procedure) (1) Complete PDA testing performed every 24 months or before every flight. Testing includes positive pressure, flow, inward and outward leakage tests. (2) Replacement of mask face piece every 6 years including system overhaul.
Failure Mode and Cause Leakage 1. Detective/ damaged material		Mission None	
Redundancy Screens Remaining Paths Requires previous single point Orbiter failure. A-P B-N/A C-P		Crew/Vehicle Possible loss of crewmember due to inability of mask to maintain positive pressure in free flow condition.	
Mission Phase Orbiter Emergency		Interface Excessive PPO ₂ in cabin	
Time to Effect Seconds		Time to Correct None	

CRITICAL ITEMS LIST

L.S. Gov 1

Reference Designator:
Name/Quantity: Mask Shell
Drawing Reference: MXM 43

Project: Quick Don Mask Assy.
LRU Name/Quantity: ODMA
LRU Part Number:

Subsystem:
Effectivity: ALL ORBITERS

Failure Mode Number QDMA-FM-009	Criticality 1R/2	Failure Effect	Retention Rationale
Function Provides breathing oral nasal cavity and eye protection.		End Item Free flow of mask regulator. Excessive consumption of oxygen	(3) INSPECTION A. Manufacturing (1) Verify all materials, parts and assembly processes meet requirements. (2) Visual inspection of parts for defects. B. Turnaround Inspection (1) Visual inspection of parts for defects. (2) Replacement of mask face piece every 6 years. (3) Verify external cleanliness to level GC per JSCM 5322. 4. FAILURE HISTORY This mask is used in commercial applications (Grumman Gulfstream, Boeing 747-400 and military applications (C-130). No service failures reported. 5. OPERATIONAL USE A. Operational Effect of Failure: Potential loss of crewmember due to inability of mask to maintain positive pressure in free flow condition. B. Crew Action: Crew can attempt to repair damaged area with gray or multipurpose tape. C. Crew Training: Crew is trained in the correct function and use of the ODMA. D. Mission Constraint: None. E. Inflight Checkout: None.
Failure Mode and Cause Leakage 1. Defective/damaged material		Mission None	
Redundancy Screens A-P B-N/A C-P		Crew/Vehicle Possible loss of crewmember due to inability of mask to maintain positive pressure in free flow condition.	
Remaining Paths Requires previous single point Orbiter failure.		Interface 	
Mission Phase Orbiter Emergency	Time to Effect Seconds	Time to Correct None	

DATE: 4/92 REVISION: BASIC

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