

CRITICAL ITEMS LIST

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U.S. GOV'T
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REFERENCE DESIGNATOR:
NAME/QUANTITY: Orbiter Mask Assy
DRAWING REFERENCE: SD11100265-701702

PROJECT: Emergency Oxygen Mask Assy
LRU NAME/QUANTITY: EOMA
LRU PART NUMBER: SD011100275-301, -302, -303

SUBSYSTEM:
EFFECTIVITY: All Orbiters

FAILURE MODE NUMBER EOMA-FM-003	CRITICALITY 1R/2	FAILURE EFFECT	RETENTION RATIONALE
FUNCTION Provides oxygen connection from oxygen supply to mask.		END ITEM Excessive consumption of oxygen.	<p>1. DESIGN FEATURES TO MINIMIZE FAILURE MODE</p> <p>A. The material outside of the hose is flame resistant silicone with wire wrap reinforcement. The cover is flame resistant PBI, and the molded ends are flame resistant silicones.</p> <p>B. Hoses are designed for a burst pressure of 450 psig min.</p> <p>C. Wall thickness is equal to .125 inches.</p> <p>D. Safety factor of 4.5 min. (operating pressure 100 psig max.)</p> <p>2. TEST OR ANALYSIS TO DETECT FAILURE MODE</p> <p>A. Acceptance Testing</p> <p>(1) All hoses are proof tested by the vendor to 150 psi.</p> <p>(2) All hoses are leak tested to 150 psi.</p> <p>(3) The silicone material is certified by the supplier. PBI material is GFE to the vendor.</p> <p>B. Certification</p> <p>(1) Hoses are designed and certified to applicable portions of MIL-H-81581/3.</p> <p>(2) Burst test to at least 4.5 max operating pressure (450 psig)</p> <p>(3) Hoses are certified by similarity, hoses or like hoses have flown on space flights since Gemini and have utilized crew oxygen hoses on all STS flights.</p>
FAILURE MODE AND CAUSE Leakage: Cause: 1. Damaged "O" rings at connections. 2. Defective material.		MISSION None.	
REUNDANCY SCREENS A - P B - N/A C - P		CREW/VEHICLE Possible loss of crewmember due to premature depletion of oxygen.	
REMAINING PATHS Requires previous single point Orbiter failure.		INTERFACE Excessive PPO ₂ in cabin.	
MISSION PHASE	TIME TO EFFECT	TIME TO CORRECT	
Orbiter Emergency	Seconds	N/A	

PREPARED BY:

REVISION:

SUPERSEDING DATE:

DATE:

SD0237H
ATTACHMENT -
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CRITICAL ITEMS LIST

REFERENCE DESIGNATOR:
 NAME/QUANTITY: Breathe/None Assy!
 DRAWING REFERENCE: SDD1100265-2011202

PROJECT: Emergency Oxygen Mask Assy
 LRU NAME/QUANTITY: EQMA
 LRU PART NUMBER: SDD1100275-301-301-305

SUBSYSTEM:
 EFFECTIVITY: All Orbits

FAILURE MODE NUMBER EQMA-FM-003	CRITICALITY 1R/2	FAILURE EFFECT	RETENTION RATIONALE					
FUNCTION Provides oxygen connection from oxygen supply to mask.		END ITEM Excessive consumption of oxygen.	C. Turnaround Testing (Per PDA/PIA ISC 22130) (1) Hoses are leak tested at 70 psi every 24 months (2) Hoses are proof tested at 150 psi every 24 months 3. INSPECTION A. Manufacturing (1) Visual inspection. (2) Verify marking, cleanliness and packaging. B. Turnaround Inspection (Per PDA/PIA ISC 22130) (1) Visually inspected for damage. (2) Verify hoses are proof and leak tested at required intervals. 4. FAILURE HISTORY No known failure in this or similar programs. Similar hoses have flown on previous STS flights. 5. OPERATIONAL USE A. Operational effect of failure: Potential loss of crewmember due to premature depletion of air and contaminated atmosphere. B. Crew action: No work around if failure occurs C. Crew training: None D. Mission constraint: None E. In-flight: None					
FAILURE MODE AND CAUSE Leakage: Cause: 1. Damaged "O" rings at connections 3. Defective material		MISSION None.						
REDUNDANCY SCREENS A - P B - N/A C - P		CREW/VEHICLE Possible loss of crewmember due to premature depletion of oxygen.						
REMAINING PATHS Requires previous single point Orbiter failure.		INTERFACE Excessive PPO ₂ in cabin.						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">MISSION PHASE</th> <th style="width: 33%;">TIME TO EFFECT</th> <th style="width: 33%;">TIME TO CORRECT</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Orbiter Emergency</td> <td style="text-align: center;">Seconds</td> <td style="text-align: center;">N/A</td> </tr> </tbody> </table>		MISSION PHASE		TIME TO EFFECT	TIME TO CORRECT	Orbiter Emergency	Seconds	N/A
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PREPARED BY:

REVISION:

SUPERSEDING DATE:

DATE: