

# CRITICAL ITEMS LIST

Reference Designator:  
Name/Quantity: Breathing Hose Assy.  
Drawing Reference: 446329

Project: Quick Don Mask Assy.  
LRU Name/Quantity: QDMA  
LRU Part Number: SED33104528-303

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Subsystem: CEE  
Effectivity: ALL ORBITERS

U.S. GOV

Failure Mode Number QDMA-FM-003	Criticality 1R/2	Failure Effect	Retention Rationale
<b>Function</b>  Provides oxygen connection from oxygen supply to mask.		<u>End Item</u> Possible loss of oxygen supply to facial cavity. Excessive consumption of oxygen  <u>Mission</u> None  <u>Crew/Vehicle</u> Possible loss of crewmember due to excessive loss of oxygen.  <u>Interface</u> Excessive PPO <sub>2</sub> in cabin.	1. DESIGN FEATURES TO MINIMIZE FAILURE MODE  A. The material on the outside of the hose is flame retardant polyamide Nomex. The hose inside liner material is silicone 75U. Life limit is 12 years B. Hose is designed for a burst pressure of 580 psig minimum (max. operating pressure 110 psig). C. Wall thickness is equal to 0.1 inches.  2. TEST OR ANALYSIS TO DETECT FAILURE MODE  A. Acceptance Testing  (1) All hoses are proof tested to 175 psig. (2) All hoses are leak tested at 70 psi. (3) Hose silicone material is certified by supplier.  B. Certification  (1) Hose/regulator system certified in accordance with TSO-C89, FAA Technical Standard Order, Protective Breathing Equipment. (2) Burst test to at least 4 times max. operating pressure.  C. Turnaround Testing (per PDA/PIA procedure)  (1) Hoses are leak tested at 70 psig every 24 months or before flight.
<b>Failure Mode and Cause</b>  Leakage/Rupture  Cause:  1. Damaged "O" rings at connection. 2. Defective material.			
<b>Redundancy Screens</b>	<b>Remaining Paths</b> Requires previous single point failure.		
A-P B-N/A C-P			
<b>Mission Phase</b>	<b>Time to Effect</b>	<b>Time to Correct</b>	
Orbiter Emergency	Seconds	N/A	

DATE: 4/92 REVISION: BASIC

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Failure Mode Number QDMA-FM-003	Criticality 1R/2	Failure Effect	Retention Rationale
<b>Function</b>  Provides oxygen connection from oxygen supply to mask.		<b>End Item</b> Possible loss of oxygen supply to facial cavity. Excessive consumption of oxygen	<b>3. INSPECTION</b>  <b>A. Manufacturing</b> (1) Visual inspection for defects or damage. (2) Verify material is certified by the manufacturer (3) Verify internal cleanliness to level 100C per JSCM 5322.  <b>B. Turnaround Inspection (per PDA/PIA procedure)</b> (1) Visually inspected for damage or defects every 24 months or prior to flight. (2) Verify hoses are proof/leak tested at required intervals.  <b>4. FAILURE HISTORY</b>  This regulator/hose assembly is used in commercial applications (Gulfstream, Boeing 747-400) and military applications (C-130) No service failures reported.  <b>5. OPERATIONAL HISTORY</b>  <b>A. Operational Effect of Failure:</b> Potential loss of crewmember due to loss of oxygen supply. No protection from contaminated atmosphere.  <b>B. Crew Action:</b> No work around if this failure occurs.  <b>C. Crew Training:</b> Crewmembers are trained in the correct function and use of the QDMA.  <b>D. Mission Constraint:</b> None.  <b>E. In-flight Checkout:</b> None
<b>Failure Mode and Cause</b>  <b>Leakage/Rupture</b>  <b>Cause:</b> 1. Damaged "O" rings at connection. 2. Defective material.		<b>Mission</b> None	
<b>Redundancy Screens</b>   <b>Remaining Paths</b> A - P   Requires previous single point failure. B - N/A C - P		<b>Crew/Vehicle</b> Possible loss of crewmember due to excessive loss of oxygen.	
<b>Mission Phase</b>   <b>Time to Effect</b>   <b>Time to Correct</b> Orbiter   Seconds   N/A Emergency		<b>Interface</b> Excessive PPO <sub>2</sub> in cabin.	

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