

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
HELMET ASSEMBLY, ITEM 105 ----- A/L 9672-03 (1)	2/2	105FM05 Condensation on helmet bubble. Inadequate anti-fog film.	END ITEM: Fogging of visual area. GFE INTERFACE: Reduced visibility. MISSION: Terminate EVA due to helmet fogging. CREW/VEHICLE: None. TIME TO EFFECT /ACTIONS: Minutes. TIME AVAILABLE: N/A TIME REQUIRED: N/A REDUNDANCY SCREENS: A-N/A B-N/A C-N/A	A. Design - A GFE supplied anti-fog film is applied to the visual area of the helmet by the crewman prior to EVA. The application procedure has been proven to be effective and is part of the crewmember's pre-EVA check list. The vent pad at the rear of the helmet is designed to direct vent flow over the visual area and prevent fogging. B. Test - Acceptance: Anti-fog is GFE. PDA: None. Certification: None. C. Inspection - After completing pre-EVA checklist, crewmember must complete a second checklist verifying application of anti-fog. D. Failure History - I-EMU-105-C001 (10/16/96) - During certification testing of "Klear Vue" permanent antifog coating, approximately 50% of inside visual surface had fogging. "Klear Vue" coating has been eliminated as a candidate for permanent antifog coating. E. Ground Turnaround - None. However, crewmembers are trained in the application of anti-fog during crew familiarization training conducted in the ETA chamber. F. Operational Use - Operational Effect of Failure: Condensation on Helmet bubble results in poor vision for crewmember. Crew Action: Turning toward sun may warm the Helmet sufficiently to evaporate the condensation. If this fails, open helmet purge valve, terminate EVA.

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-105 HELMET ASSEMBLY
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

Prepared by:
HS - Project Engineering

Approved by:
~~NASA~~ SSA/SSM

HS - Reliability

~~NASA~~ LMT/SSM

HS - Engineering Manager

~~NASA~~ SSM

~~NASA~~ MOD

~~NASA~~ Crew

7/9/02
~~NASA~~ Program Manager