

CIL  
 ENU CRITICAL ITEMS LIST

12/24/91 SUPERSEDES 10/31/90

ANALYST:

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NAME P/N OFF	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
CONTAMINANT COMPACT CARTRIDGE, ITEM 480 S4792600-80 (1)	2/1R	480FN02: Restricted flow.  CAUSE: Entrained particulate from suit.	END ITEM: Increase in flow resistance and pressure drop across cartridge due to particu- le entrainment.  GFE INTERFACE: Drop in P1SS ventilation flow due to clogging of Teflon screen, (inlet).  MISSION: Perminate EVA.  CREW/VEHICLE: None for single failure. Possible loss of crewman with loss of EBF.	A. Design - A uniformly distributed flow through the inlet screen, coupled with the large surface area of the teflon filter, prevents clogging of the screen during the 7 hour mission.  B. Test - POA: A flow Delta P test is performed per REMU-60-003. A flow of 9.0 - 11.0 lbs/hr. oxygen at a maximum inlet pressure of 21.2 psia is established for the item and a rho Delta P value calculated. This is repeated for flows of 19-21 lbs/hr and 29-31 lbs/hr both at a maximum inlet pressure of 21.2 psia. The rho delta P values, when plotted on a graph of the rho Delta P versus flowrate, must fall within the acceptable region.  Certification: Certification testing completed which fulfills the particulate contamination requirements of the CCC S/AD. S/AD S4792600/2 Design Note 6, Particulate Contamination. The item completed the 15 year structural vibration and shock certification requirements along with post vibration dusting test during 12/86. No Class I Engr. Changes have been incorporated since this configuration was certified.  C. Inspection - The filter is 100% inspected to meet dimensional and drawing requirements.  D. Failure History - J-ENU-480-004 (9/26/82) During a pre-installation acceptance test, the measured pressure drop was high. The investigation revealed that an error was made in plotting the flow vs. Delta P curve. The specification was corrected and the failed unit was acceptable.  H-ENU-480-002 (9/4/84). High vent loop pressure drop was indicated due to an improperly calibrated static manometer. The operator was cautioned to set the manometer to zero.  E. Ground Turnaround -

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	Z/1R	4887402:		<p>Tested per FEMU-R-001, OCC Vent Loop Pressure Drop versus flow.</p> <p>F. Operational Use - Crew Response - PreEVA: Troubleshoot problem. Guff and wipe down EMU, SWAP LAMP using spare cartridge. Continue prep. EVA: When CNS data confirm loss of vent flow, terminate EVA. Special Training - Standard EMU training covers this failure mode. Operational Considerations - Flight rules define go/no go criteria related to EMU ventilation flow. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.</p>