

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07002	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-078	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> DEFECTIVE LO2 ULLAGE PRESSURE TRANSDUCER				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1R
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (1) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-5	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> /A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LO2 ULL PRES TRNSDCR	<b>PART#</b> PD7400106-079	<b>SER/LOT#</b> 0000880	<b>MANUFACTURER</b> TAVIS
<b>Test/Operation</b> M - MFG	<b>Prevailing Condition</b> F - FUNCTIONAL	<b>F / U</b> UC	<b>Fail Mode</b> ET - MEAS ANOMALY	<b>Cause</b> DH - DES-HDW
<b>System</b> ELECTRICAL	<b>Defect</b> EM - ELADJ	<b>Material</b> B - CIRCBD	<b>Work Contact</b> J. ADAMS	<b>Fail Date</b> 07/12/1983
<b>Received at MSFC</b> 08/04/1983	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.1.1.9	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> ET - MEAS ANOMALY		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-5 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/10/1995	<b>CN RSLV SBMT</b> 07/26/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 1 - DES -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				

<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> J. BREWER	<b>Project MGR</b> --	
<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 09/19/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: DURING NORMAL IN-PROCESS TESTING ON LWT-5 A LO2 ULLAGE PRESS TRANSDUCER USED FOR GROUND TESTING ONLY WAS FOUND DEFECTIVE. THE TRANSDUCER ELECTRICAL OUTPUT INDICATED A PRESS. MARGIN .09 PSIG HIGHER THAN THAT WHICH WAS APPLIED					
<b>Contractor Investigation/Resolution</b>  CAUSE - SHIFTS IN THE GAIN OF AN INTEGRATED CIRCUIT THAT IS AN INTERNAL PART OF THE TRANSDUCER. 8/5/83 - THIS CRIT 1 PROB IS NOT CONSIDERED TO BE A CONSTRAINT TO STS-8, LWT-2 BECUASE THE FAILED UNIT FAILED PRIOR TO THE FEMA DOC. REQ'D SCREENS. ALSO THE FAILURE WAS ONLY OUT OF THE TOL BAND BY 4 HUNDREDTHS MARGIN & THE TANK IS IN NO DANGER. THIS DECISION HAS BEEN COORDINATED WITH THE ET PROJECT OFFICE - G.P. BRIDWELL 9/27/83 - NOT A CONSTRAINT TO LWT-4 SAME AS STATED ABOVE - ____G. P BRIDWELL____. 1/6/84 - NOT A CONSTRAINT TO LWT-3 SAME AS STATED ABOVE FOR LWT-2 & LWT-4. THIS CHANGE IS CONCURRED BY THE E.T. PROJ. OFFICE - ____G. P. BRIDWELL 1-10-84____. 2/23/84 - NOT A CONSTRAINT TO LWT-5, RATIONALE SAME AS STATED ABOVE. THIS CHANGE DECISION IS CONCURRB BY THE E.T. PROJECT OFFICE - ____G. P. BRIDWELL 2-24-84____. 3/8/84 PRB STATUS - CAUSED BY FAILURE OF OP AMP IN TRANSDUCER UNIT. FA OF FAILED OP AMP IN PROCESS AT MMC DENVER FACILITY. ALL TRANSDUCER UNITS IN STORES WERE CHECKED & THOSE NOT ACCEPTABLE WERE RETURNED TO VENDOR. NO CONSTRAINT TO ANY ET. FAILED TRANSDUCER WAS DETECTED BY NORMAL IN-PROCESS TESTING PRIOR TO FMEA REQ'D TESTS. REMEDIAL ACTION INVOLVES USING ACCEPTABLE					

UNITS OR ONES FROM A NEW LOT. SEE ENCL 1, PGS 10 & 11, FOR OTHER DETAILS. CAPS CLOSURE DATA TBD. 4/19/84 - THIS CRIT 1 PROB IS NOT CONSIDERED A LAUNCH CONSTRAINT TO STS-14, LWT-6 BECAUSE UNITS FAILED PRIOR TO SCREENING, & DISCREPANCY WAS MARGINAL. THIS DECISION HAS BEEN COORDINATED WITH THE ET PROJECT OFFICE - G. P. BRIDWELL. 6/29/84 - MMC IN PROCESS OF ISSUING A CHANGE SUMMARY TO ACCEPT PARTS BASED ON PREVIOUS SUCCESSFUL USE. RESOLUTION - THE FIRST DISCREPANT PRESS TRANSDUCER WAS DISCOVERED DURING ACCEPTANCE TESTING OF AN EXTERNAL TANK IN MAF BLDG 420. A DC&R INSPECTION OF TRANSDUCERS HELD IN INVENTORY STORES FOUND ADDITIONAL DISCREPANT UNITS. A FAILURE ANALY WAS PERFORMED ON 4 FAILED TRANSDUCERS & IT WAS DETER- MINED THE CAUSE OF THE FAILURE WAS A "LOT" OF INTEGRATED CIRCUITS MFR'D BY NATIONAL SEMICONDUCTOR. ALL TRANSDUCERS FROM THE SUSPECT LOT WERE TESTED USING THE "LESS THAN 50 MILLIVOLTS SHIFT CRITERION." ALL QUESTIONABLE UNITS WERE RETURNED TO THE VENDOR FOR REWORK. 1) A SCAR HAS BEEN ISSUED TO THE VENDOR CITING THE FAILURE OF THE TRANSDUCERS TO MEET EXISTING DWG REQMENTS. 2) THE E.T. END ITEM SPEC IS BEING REVISED PER CHANGE SUMMARY B01668 TO ALLOW USE OF CATEGORY 3 COMPONENTS IN THE PD7400106-079 TRANSDUCER. STATUS - LWT-6,7,8,10,12 & 14 - TEST DATA USING THE "LESS THAN 50 MILLIVOLT SHIFT CRITERION" (AND OTHER NORMAL TEST CRITERIA) WAS REVIEWED. ALL TRANSUDCERS WERE FOUND ACCEPTABLE. LWT-9 & 13 - NORMAL AND "LESS THAN 50 MILLIVOLT TEST CRITERIA" WAS REVIEWED, ONE TRANSDUCER FAILED, WAS REPLACED BY ONE FROM A DIFFERENT (NOT SUSPECT) LOT CHECKED OUT SUCCESSFULLY, IS ACCEPTABLE. LWT-11,15 & SUBS - ALL TANKS USE TRANSDUCERS FROM A LATER (NOT SUSPECT) LOT OR OLDER UNITS HAVE BEEN SUBJECTED TO NEW TEST CRITERIA SUCCESSFULLY

**MSFC Response/Concurrence**

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07002	<b>IFA#</b> --	<b>Contractor RPT#</b> E-078	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> PD7400106-079	<b>Asmnt Part Name</b> G02 ULL. PRESS XDUCR	<b>Asmnt Serial/Lot#</b> 880			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1R	<b>CAUSE CD</b> DH - DES-HDW	<b>FAIL MODE</b> EG - SIG HI OR LO		
<b>Asmnt FMEA</b> 3.2.1.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> E	<b>FMEA SCSE</b> 5		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07106	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> S-063	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> NOSE CONE/HORN INTERFERENCE				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A B (X) C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-5	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> NOSE CONE & FAIRING	<b>PART#</b> 80911041200-019	<b>SER/LOT#</b> LWT-5	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> M - MFG	<b>Prevailing Condtion</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> MU - MECH TOLRNCE	<b>Cause</b> DH - DES-HDW
<b>System</b> AERODYNAMIC	<b>Defect</b> MC - MISFIT	<b>Material</b> S - STRUCT	<b>Work Contact</b> K. KILLIAN	<b>Fail Date</b> 07/18/1983
<b>Received at MSFC</b> 08/26/1983	<b>Date Isolated</b> --	<b>FMEA Reference</b> 1.1.4	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> MU - MECH TOLRNCE		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-5 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/09/1995	<b>CN RSLV SBMT</b> 01/16/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 1 - DES -- --
<b>Assignee</b>				
<b>Design</b> J. NICHOLS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> M. PESSIN	<b>Project MGR</b> --
<b>Approval</b>				

<b>Design</b> J. NICHOLS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> M. PESSIN	<b>Project MGR</b> --	
<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 01/30/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: MARS T-50178 DURING PERFORMANCE OF FIT CHECK OF THE NOSE CONE ON LWT-5 INTEFERENCE OCCURRED BETWEEN THE NOSE CONE & VENT HORN CASTINGS A SIMILAR INCIDENT WAS REPORTED ON LWT-4 AT KSC & THE HORNS WERE RE-ADJUSTED TO PERMIT NOSE CONE INSTALLATION. AN ADDITIONAL CONCERN IS FLATNESS OF THE NOSE CONE BOLTING RING WHICH DISPLAYED IRREGULARITIES IN THE FREE STATE WHICH PREVENT A FLUSH FIT WITH THE O-GIVE NOSE CAP					
<b>Contractor Investigation/Resolution</b>  CAUSE - ACCUMULATION OF ENGR'G TOLERANCE. 1/16/84 RESOLUTION - SYSTEMS ENGR'G CONDUCTED A TOL. STUDY TO DETERMINE THE AFFECTS OF ACCUMULATION BETWEEN THE NOSE CONE STRUCTURE, GO2 VENT DUCT, O-GIVE COVER PLATE, & TPS APPLICATIONS RELATING TO THESE ASSYS, ALSO A MASTER LAYOUT WAS PREPARED. THE RESULTS OF THIS STUDY ARE DOCUMENTED IN MEMO 3521-83-2062. THE WORST CASE TOL. AFFECTS INDICATED (A) INTERFERENCE BETWEEN NOSE CONE STIF- FNER & THE GO2 VENT DUCT LOUVER. (B) INSUFFICIENT MOVEMENT OF GO2 VENT DUCT LOUVERS AT O-GIVE ATTACH POINTS (C) INSUFFICIENT MOVEMENT OF GO2 VENT DUCT LOUVERS AT O-GIVE COVER-PLATE. RECURRENCE CONTROL - ENGR'G CHANGE SUMMARY ECS B01633 CORRECTED INTERFERENCES, CLARIFIED INADE- QUATELY SPECIFIED NOSE CONE FLANGE FLATNESS & DRILLING INSTRUCTIONS, & CORRECTED OTHER ANOMALIES 1/23/84 - CLOSURE DISTRIBUTED					
<b>MSFC Response/Concurrence</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07106	<b>IFA#</b> --	<b>Contractor RPT#</b> S-063	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --							
<b>Asmnt Part#</b> 80911041202	<b>Asmnt Part Name</b> NOSE CONE FAIRING	<b>Asmnt Serial/Lot#</b> LWT-5										
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1	<b>CAUSE CD</b> DH - DES-HDW	<b>FAIL MODE</b> MU - MECH TOLRNCE									
<b>Asmnt FMEA</b> 4.1.2.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> A	<b>FMEA SCSE</b> 2									
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --									
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --									
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --										
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --										
<b>MAJOR DESIGN CHANGES</b>												
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --											
<b>ASSESSMENT TEXT</b>												

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07258	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> T-036	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> OIL CONTAMINATION BETWEEN SKIN & DOUBLER				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (2) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-13	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> SKIN DOUBLER	<b>PART#</b> 80913000401	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> AVCO
<b>Test/Operation</b> M - MFG	<b>Prevailing Condition</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> MSI - INSULATION	<b>Cause</b> MPE - MFG-PRC-ENVR
<b>System</b> TPS	<b>Defect</b> CN - CONTAM	<b>Material</b> F - INSUL	<b>Work Contact</b> R. MELLOR	<b>Fail Date</b> 07/27/1983
<b>Received at MSFC</b> 09/23/1983	<b>Date Isolated</b> --	<b>FMEA Reference</b> 1.2	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-18 & SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 05/16/1990	<b>CN RSLV SBMT</b> 09/11/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> G. CAVALARIS	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b>	<b>Chief Engineer</b>	<b>S &amp; MA</b>	<b>Project</b>	<b>Project MGR</b>

J. NICHOLS	--	D. NEWMAN	G. CAVALARIS	--	
<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 09/24/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
OIL CONTAMINATION BETWEEN SKIN AND DOUBLER ON LWT-13 & 14. OIL ALSO FOUND BETWEEN SKIN AND STRINGERS BELOW DOUBLERS					
<b>Contractor Investigation/Resolution</b>					
CAUSE:(A) DURING MACHINING OPERATIONS AT AVCO, MASTANT PULLED BACK TO ACCOMPLISH SPOTFACE MACHINING. (B) AVCO CLEANING PROCESS DOES NOT REMOVE OIL FROM ENTRAPPED AREAS AFTER MACHINING OPERATIONS.11/21/83 PRB STATUS - PLUG PULLS & ULTRAVIOLET LIGHT TESTS DID NOT REVEAL ANY CONTAMINATION - LWT-4 CLEARED, INSPECTION AT KSC BY FEB. 1984 ON LWT-3, 5, & 6. 3/8/84 PRB STATUS - PERFORMED ULTRAVIOLET INSPECTION OF LWT-3 THRU 5 & 7 THRU 12. NO EVIDENCE OF HYDROCARBON CONTAMINATION. 9/11/84 CORRECTIVE ACTIONS - (1) TANKS BUILT PRIOR TO DISCOVERY OF OIL CONTAMINATION LWT-3 THRU 12 WERE INSPECTED BY PLUG PULL TESTS IN LIKELY AREAS OF OIL CONTAMINATION. NO FAILURES WERE ENCOUNTERED. (2) TANKS ON WHICH SOFI WAS APPLIED AFTER THE PROBLEM WAS FOUND LWT-13 & 14 WERE HEATED AND/OR SOLVENT WIPED PRIOR TO INTERTANK SOFI SPRAY. ADDITIONAL LWT-13 THRU LWT-17 WERE VERIFIED CLEAN IMMEDIATELY PRIOR TO FOAM APPLICATION BY VISUAL AND UV LIGHT INSPECTION. RECURRENCE CONTROL: (1) IMPROVED MASKING OF PANELS DURING MILLING OPERATIONS (2) CUTTING OILS NOT USED IN MILLING OPERATIONS BEGINNING WITH LWT-18 AND SUBS					
<b>MSFC Response/Concurrence</b>					



MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

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<b>MSFC Report#</b> A07258	<b>IFA#</b> --	<b>Contractor RPT#</b> T-036	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 80913000401	<b>Asmnt Part Name</b> SKIN DOUBLER	<b>Asmnt Serial/Lot#</b> N/A			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 3	<b>CAUSE CD</b> MPE - MFG-PRC-ENVR	<b>FAIL MODE</b> MI - INSULATION		
<b>Asmnt FMEA</b> N/A	<b>Asmnt FM</b> N/A	<b>FMEA CSE</b> N/A	<b>FMEA SCSE</b> N/A		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07484	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-079	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> IMPROPER THREADS ON CRYOGENIC FEEDTHRU CONN				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> Y	<b>Misc Codes</b> A (2) B (X) C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> CRYOGENIC CONNECTOR	<b>PART#</b> 81L2-2	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> DEUTSCH
<b>Test/Operation</b> L - FLD	<b>Prevailing Condtion</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> EV - NOT-TO-SPEC	<b>Cause</b> MAW - MFG-ASY-WORK
<b>System</b> ELECTRICAL	<b>Defect</b> MD - M SIZE	<b>Material</b> L - FASTNR	<b>Work Contact</b> J. ADAMS	<b>Fail Date</b> 09/22/1983
<b>Received at MSFC</b> 10/27/1983	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.2.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> EV - NOT-TO-SPEC		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-3 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved</b> <b>Defer Until Date</b> --	<b>Contractor Req Defer</b> <b>Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/13/1995	<b>CN RSLV SBMT</b> 12/07/1983	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				

<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> C. TILLERY	<b>Project MGR</b> --	
<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 12/21/1983	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: THE MALE & FEMALE THREADS OF (3) 81L2-2 ELECT. CONNECTORS WERE FOUND TO BE IMPROPERLY MFR'D. THE THREADS WERE MFR'D IN A MANNER THAT RESULTED IN LESS THREAD ENGAGEMENT THAN THE APPLICABLE STD CALLSFOR. IT IS POSSIBLE THAT CONNECTORS WITH THREADS HAVING GREATER DEFECTS THAN KNOWN TO EXIST, WHEN INSTALLED ON AN E.T. COULD RESULT IN A CRYOGENIC FLUID LEAK					
<b>Contractor Investigation/Resolution</b>  CAUSE - VENDOR ERROR - THREADS IMPROPERLY MFR'D. 10/27/83 - CONSTRAINT TO STS-9, LWT-4 IS LIFTED BASED ON STRESS ANALY OF TORQUE REQ'D TO SHEAR THREADS GREATLY EXCEEDS INSTALLATION TORQUE; THEREFORE, CONNECTORS AS INSTALLED WILL REMAIN INTACT DURING FLT. THIS CONSTRAINT STATUS HAS BEEN CO-ORDINATED WITH THE E.T. PROJ OFFICE - ____G. P BRIDWELL 11-2-83____. 12/7/83 RESOLUTION - THE DEFECTIVE CONNECTOR THREADS WERE DISCOVERED DURING A STOCK CHECK FOR A DIFFERENT, & MINOR, UNRELATED PROB. SUBSEQUENT INSPECTION PER DC&R FOUND THAT ALL CONNECTORS IN STOCK WERE DEFECTIVE FOR 1 OR MORE REASONS. THE ONLY TYPE OF DEFECT THAT WAS CAUSE FOR CONCERN WAS LESS THREAD ENGAGEMENT ON THE MOUNTING THREADS THAN THE APPLICABLE STDS REQUIRE. STRESS ANALYSIS OF THE CONN. INSTALLATIONS ON THE TANK DETERMINED THAT AN ADEQUATE SAFETY MARGIN EXISTED IN ALL INSTALLATIONS, REGARDLESS OF THE THREAD CONDITION (WORST CONDITION), IF THE CONNECTOR MET THE INSTALLATION TORQUE RECURRENCE CONTROL - THE VENDOR HAS BEEN REQUIRED, BY THE MMC					

PROCUREMENT QUAL DEPT, TO VERIFY THAT THE CONNECTOR THREADS MEET THE APPLICABLE STDS ON EVERY CONNECTOR AT THE TIME IT IS ACCEPTED BY MMC THE VENDOR HAS BEEN REQ'D TO PROVIDE C/A'S FOR THE VARIOUS DEFECTS BY SCAR. DEFECTIVE CON- NECTORS HAVE BEEN REMOVED FROM STOCK OR REPAIRED BY MARS. 12/8/83 - CLOSURE DISTRIBUTED

**MSFC Response/Concurrence**

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07484	<b>IFA#</b> --	<b>Contractor RPT#</b> E-079	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 81L2-2	<b>Asmnt Part Name</b> CRYOGENIC CONNECTOR	<b>Asmnt Serial/Lot#</b> N/A			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1	<b>CAUSE CD</b> MAW - MFG-ASY-WORK	<b>FAIL MODE</b> EV - NOT-TO-SPEC		
<b>Asmnt FMEA</b> 3.11.1.4	<b>Asmnt FM</b> 4	<b>FMEA CSE</b> N/A	<b>FMEA SCSE</b> N/A		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07563	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-080	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> RSS BATTERY VOLTAGE SENSOR, SHORT TO GROUND				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (2) B (X) C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-4	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> ELECTRICAL CABLE	<b>PART#</b> 80931003704-059	<b>SER/LOT#</b> 0000091	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> L - FLD	<b>Prevailing Condition</b> F - FUNCTIONAL	<b>F / U</b> F	<b>Fail Mode</b> EL - SHORT	<b>Cause</b> MP - MFG-PRC
<b>System</b> ELECTRICAL	<b>Defect</b> DC - BROKEN	<b>Material</b> E - EL C/W	<b>Work Contact</b> R. LUNDEN	<b>Fail Date</b> 11/03/1983
<b>Received at MSFC</b> 11/16/1983	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.2	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> KSC		<b>Symptom</b> EL - SHORT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-3 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/13/1995	<b>CN RSLV SBMT</b> 10/11/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> J. BREWER	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 11/19/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
A "SHORT TO GROUND" ELECTRICAL FAILURE OCCURRED IN THE RANGE SAFETY SYSTEM ON LWT-4 WHILE ON LAUNCH PAD AT KSC					
<b>Contractor Investigation/Resolution</b>					
<p>CAUSE - FAILURE WAS DUE TO CABLE INSULATION DAMAGE, DISCOVERED DURING TROUBLESHOOTING OF RSS BATTERYCIRCUIT. INDICATED 0.6 VOLTS WHEN SHOULD INDICATE 37 VOLTS. 11/21/83 PRB STATUS - F.A. CONTINUING, INVESTIGATING WIRE DAMAGE &amp; FAB. PROCESS. 1/17/84 - STS-11, LWT-3, LAUNCH CONSTRAINT IS LIFTED BASED ON THE FOLLOWING RATIONALE: ANALYSIS HASDETERMINED THE ONLY FLIGHT SAFETY ISSUES ARE SRB IGNITION &amp; SEPARATION. THESE FUNCTIONS CANNOT BE CHECKED DURING FINAL LAUNCH PREPARATIONS, AND ANY ENSUING SHORT (CAUSED BY MOISTURE COMBINED WITH A WIRE DEFECT) COULD NOT BE DETECTED DURING THIS PERIOD OF TIME. RATIONALE FOR ACCEPTANCE FOR FLIGHT WITH THESE CONDITIONS ARE: (A) COMPLETE REDUNDANCY FOR THESE FUNCTIONS FOR BOTH RIGHT AND LEFT SRB'S (B) PROBABILITY OF TWO (2) DEFECTS OCCURRING &amp; BEING COMBINED WITH MOISTURE RESULTING IN TWO (2) SHORTS CAUSING LOSS OF ONE FUNCTION IS 4 OUT OF 100,000. (C) REVIEW OF ET CABLE TRAY HOUSING SRB FUNCTIONS INDICATES THAT NO WATER WOULD BE ALLOWED TO ACCUMULATE DUE TO DRAIN PROVISIONS. (D) PRELAUNCH TESTING HAS REVEALED NO EVIDENCE OF WIRING DEFECTS. (E) CONTINUED TESTING OF OTHER ET/SRB FUNCTIONS USING THE SAME WIRE AND EXPOSED TO THE SAME ENVIRONMENTAL CONDITIONS WILL SERVE AS AN INDICATOR OF WIRING INTEGRITY. THE RATIONALE AS STATED ABOVE AND THE SUCCESSFUL PERFORMANCE OF NINE OTHER ET'S BUILT SIMILARLY AREBASIS FOR LIFTING STS-11, ET-10, LWT-3 LAUNCH CONSTRAINT. THIS CHANGE HAS BEEN CO-ORDINATED WITH THE ET</p>					

PROJECT OFFICE. G. P. BRIDWELL 1/27/84 1/30/84 - (ADDED PER MR BRIDWELL'S REQUEST) ADDITIONAL RATIONALE FOR LIFTING STS-11, LWT-3, LAUNCH CONSTRAINT PROVIDED BY MMC STATES: WIRE TESTS SHOW PUNCTURED WIRES SUBMERGED IN A SALINE/WATER SOLUTION REQUIRED FROM 10 TO 2,600 MINUTES (AVG. 90 MIN.) FOR A HARD SHORT (LESS THAN 1050 OHMS RESISTANCE TO GRN) TO OCCUR. SRB FIRE COMMAND PULSES ARE 14.6 MILLISECS. THEREFORE NO KNOWN FAILURE MECHANISM EXISTS ATER TEST JUST PRIOR TO LAUNCH 2/23/84 - CONSTRAINT FOR STS-13 IS LIFTED BASED ON SAME RATIONALE AS STATED ABOVE FOR STS-11, LWT-3;ADDITIONALLY, A SINGLE FAILURE OF WIRING WILL NOT INHIBIT SRB IGNITION CIRCUITS OR SRB SEPARATION CIRCUITS DUE TO REDUNDANCY. THIS CHANGE HAS BEEN COORDINATED WITH THE E.T. PROJECT OFFICE - \_\_\_\_G. P. BRIDWELL 2-24-84\_\_\_\_. 3/8/84 PRB STATUS - NOT DISCUSSED IN DETAIL (PREVIOUSLY REVIEWED AT PRB'S & FRR'S). NO CONSTRAINT TO ANY ET. ALL ET WIRE & CABLES ARE SUBJECTED TO SEVERAL TESTS. DELAY IN CLOSING CAPS DUE TO MMC TOOLING & FACILITY CHANGES. MR M. PESSIN/SA32 REQUESTED MMC TO EFFECT IMMEDIATE IN-HOUSE COORDINATION TO EXPEDITE THE FACILITY (WORK TABLES) CHANGES & IF THERE IS A PROB TO CONTACT HIM AS HE CONSIDERS THIS TO BE AN URGENT ISSUE. 4/19/84 - LAUNCH CONSTRAINT FOR STS-14, LWT-6, IS LIFTED BASED ON THE SAME RATIONALE AS PREVIOUSLY STATED FOR STS-11 & 13. THIS CHANGE HAS BEEN COORDINATED WITH THE ET PROJECT OFFICE - \_\_\_\_G. P. BRIDWELL\_\_\_\_. 9/6/84 - PRB STATUS, PER MMC ALL R/C ACTIONS COMPLETED; CAPS TO BE SUBMITTED TO MSFC BY 9-11-84. 9/13/84 - LAUNCH CONSTRAINT FOR STS-17, LWT-8, IS LIFTED ON RATIONALE AS PREVIOUSLY STATED FOR STS-1& 13. THIS DECISION HAS BEEN CO-ORDINATED WITH THE ET PROJECT OFFICE - \_\_\_\_G. P BRIDWELL\_\_\_\_. 10/15/84 RESOLUTION - AS A RESULT OF THE ORIGINAL ON THE LAUNCH PAD FAILURE, A SWEEPING REVIEW OF ALL FACTORS THAT COULD AFFECT RELIABILITY OF WIRE HARNESES WAS CONDUCTED. THE PRODUCTION CYCLE FROM MFR'G OF THE WIRE THRU THE SHIPPING OF THE COMPLETED E.T. WAS COVERED SIGNIFICANT IMPROVE- MENTS WERE INCORP'D AS DETAILED IN CAPS C/A DISCUSSION. RECURRENCE CONTROL - INCLUDED IMPROVED HANDLING OF WIRE, IMPROVED TOOLING, IMPROVED WORKING TRAIN- ING/CERTIFICATION, DESIGN CHANGES IN CRITIAL CIRCUITS, IMPROVED CABLE TRAY DRAINAGE, AND IMPROVED CABLE TESTING METHODS (REF OPERATIONS DIRECTIVE 203050 SUP L ET/MGT-286 REV 002)

#### MSFC Response/Concurrence

#### MSFC Problem Reporting and Corrective Action (PRACA) System ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07563	<b>IFA#</b> --	<b>Contractor RPT#</b> E-080	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 80931003704-059	<b>Asmnt Part Name</b> ELECTRICAL CABLE	<b>Asmnt Serial/Lot#</b> 91			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1	<b>CAUSE CD</b> MP - MFG-PRC	<b>FAIL MODE</b> EL - SHORT		
<b>Asmnt FMEA</b> N/A	<b>Asmnt FM</b> N/A	<b>FMEA CSE</b> N/A	<b>FMEA SCSE</b> N/A		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b>	<b>Associated LRU#</b>	<b>Associated LRU#</b>			

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MAJOR DESIGN CHANGES		
APRV DATE	DESCRIPTION OF CHANGES	
--	--	
ASSESSMENT TEXT		



MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07581	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> T-038	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> LH2 AFT DOME VOIDS IN PLUG PULL REPAIRS				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (2) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-10	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LH2 TANK	<b>PART#</b> 80974048409	<b>SER/LOT#</b> LWT-10	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> M - MFG	<b>Prevailing Condition</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> MSI - INSULATION	<b>Cause</b> MAP - MFG-ASY-INST
<b>System</b> TPS	<b>Defect</b> CX - VOID	<b>Material</b> F - INSUL	<b>Work Contact</b> C. WILLIAMS	<b>Fail Date</b> 10/27/1983
<b>Received at MSFC</b> 11/17/1983	<b>Date Isolated</b> --	<b>FMEA Reference</b> 1.2.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-4 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved</b> <b>Defer Until Date</b> --	<b>Contractor Req Defer</b> <b>Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 03/17/1992	<b>CN RSLV SBMT</b> 12/11/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> G. CAVALARIS	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b>	<b>Chief Engineer</b>	<b>S &amp; MA</b>	<b>Project</b>	<b>Project MGR</b>

B. DAVIS	--	D. NEWMAN	E. BRYAN	--	
<b>PAC Assignee</b> G. MILLER	<b>PAC Review Complete</b> GM	<b>MSFC Closure Date</b> 01/11/1985	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
REF: DURING REMOVAL OF DISCREPANT NCFI FOAM FROM LWT-10 DISCOVERED PLUG PULL REPAIRS HAD CORE HOLE VOIDS APPROX 1 IN. DEEP BY 1.3 IN. DIA					
<b>Contractor Investigation/Resolution</b>					
<p>CAUSE - CORE PULL PLUG HOLES IMPROPERLY FILLED DURING PREVIOUS REPAIR OPERATIONS. HOLES WERE FILLED WITH SINGLE POUR PDL APPLICATION RATHER THAN MULTIPLE POURS AS REQ'D BY STP-1518. 11/21/83 PRB STATUS - CAPS AS WRITTEN CONFUSES PROB OF VOIDS FOUND IN PLUG PULL REPAIRS WITH NCFI FOAM THICKNESS PROB. MR. D. NEWMAN REQUESTED MMC CLARIFY CAPS. ALSO MR D. NEWMAN QUESTIONED WHY CAPS NOT WRITTEN ON THIN FOAM. 3/8/84 PRB STATUS - OCCURRED ON LWT-10. SINGLE POUR PDL APPLICATION WAS PERFORMED RATHER THAN A MULTIPLE POUR. RC INVOLVED REVISION OF STP-1518 (WHICH WAS OPEN TO INTERPRETATION) TO REQ. A 2 STEP POUR FOR AFT DOME PLUG PULL REPAIRS. LWT-5 HAS BEEN CLEARED BY ENGR'G RATIONALE FOR 0023 OF POSSIBLE VOIDS (DOCUMENTED IN MEMO 3570-83-60). MCC EXPECTS TO HAVE CAPS CLOSURE BY 3-12-84. 9/6/84 PRB STATUS - PROBLEM IN REWORK AT KSC CAUSED BY IMPROPERLY MODIFIED TOOLS - MMC ENGR'G TO MONITOR KSC REPAIRS. ECD EXTENDED TO 2-15-85. 12/12/84 CAUSE OF PROBLEM - A SINGLE POUR PDL APPLICATION WAS USED TO REPAIR THE PLUG PULL HOLES. THIS METHOD WAS FOUND TO BE INADEQUATE TO PROPERLY FILL PLUG PULLS REPAIRED IN THE OVERHEAD POSITION. RESOLUTION - AFTER DISCOVERY OF THE UNFILLED CAVITIES ON LWT-10 AFT DOME, WHICH WERE THE RESULT OF THE INADEQUACIES OF THE SINGLE STEP OVERHEAD PDL CLOSE-OUT, ENGR'G REVISED DWG 80974048409 TO REQUIRE A 2 STEP PDL CLOSE-OUT. THIS REPAIR METHOD WAS</p>					

IMPLEMENTED FOR LWT-7 & UP. SUBSEQUENT EVALUATION DIRECTED BY CAPS TASKS III & IV SHOWED THAT THE 2 STEP REPAIR WAS ALSO INADEQUATE. AN ACCEPTABLE REPAIR METHOD (PLUG DISPLACEMENT) WAS DEVELOPED, THOROUGHLY EVALUATED, & SUBSEQUENTLY VALIDATED FOR PRODUCTION USE. THE TECHNIQUE ESTABLISHED WAS TO MAKE A POLYSTYRENE PLUG 2 IN. THICK BY THE DIA. OF THE HOLE & USE IT LIKE A HYD PISTON. WHEN USED TO FILL A STRAIGHT 3 IN HOLE THE TECHNIQUE IS SIMPLICITY IN ITSELF. THE 1ST STEP IS TO TAKE A STYRENE PLUG OF A DIA. SLIGHTLY SMALLER THEN THE HOLE & BORE A HOLE THRU THE CENTER FOR THE SEMKIT NOZZLE. THIS PLUG, WITH THE NOZZLE IN PLACE IS THEN INSERTED INTO THE HOLE UNTIL IT BOTTOMS OUT. THE PLUG IS THEN TAPED TO THE FOAM SO THAT IT MAY FREELY MOVE OUT UNTIL IT BECOMES FLUSH WITH THE SURFACE. WHEN THE PLUG REACHES THE SURFACE IT IS HELD BY THE TAPE FROM FALLING TOTAL-LY OUT OF THE WAY. IN THIS FASHION THE PLUG ALLOWS FOR FOAM RELIEF AROUND CIRCUMFERENCE BUT STILL ACTS AS A CLOSED MOLD. ONCE THE PLUG IS IN PLACE A SEMKIT IS ACTIVATED & SCREWED INTO THE NOZZLE. THE PLUG/SEMKIT COMBINATION IS HELD WITH SLIGHT PRESSURE FROM MOVING FREELY OUT OF THE HOLE. AFTER SUFFICIENT PRESSURE HAS BUILT UP & PUSHED THE PLUG HALF THE WAY OUT OF THE HOLE, THE SEMKIT IS REMOVED & THE FOAM IS ALLOWED TO FINISH ITS RISE UNIMPEDED TO THE LIMITS OF THE TAPE. WHEN THE PLUG HAS CLEARED THE HOLE IT ALLOWS THE EXCESS FOAM TO VENT. ONCE THE FOAM HAS CURED 1 HR., THE TAPE IS REMOVED & THE PLUG CUT OFF. WHAT IS LEFT IS A FOAM CLOSEOUT WHICH CAN EASILY BE MACHINED TO THE SURFACE. THE ADVANTAGES TO THIS TECHNIQUE ARE MAINLY THE OPERATION IS ONE STEP, WHICH MAKES IT FAST. IT IS FOOLPROOF SINCE THE EXPANSION OF THE FOAM IS WHAT MOVES THE PLUG AS WELL AS THE AIR OUT OF THE HOLE & IT IS CLEAR SINCE NO EXCESSIVE MASKING IS NEEDED TO KEEP THE FOAM BLEEDOUT OFF THE SURFACE. WHEN FILLING A 2 STEP HOLE, LIKE THAT FOUND ON A STD PORTAPULL HOLE, YOU SIMPLY USE A DIFFERENT TYPE PLUG. THE PLUG USED FOR THIS REPAIR IS BUILT LIKE A COLLAPSIBLE TWO STAGE PISTON. THE OUTER PISTON IS INSERTED FLUSH WITH THE 3 IN. BASE THE INNER PISTON IS PUSHED FLUSH TO THE TANK SKIN. ALL OTHER STEPS ARE THE SAME EXCEPT WHEN IT COMES TO RESTRICTING THE MOVEMENT OF THE PISTON OUT OF THE HOLE. ONCE THE SEMKIT IS INSERTED, THE FOAM RISING 1ST MOVES THE INNER PISTON FLUSH WITH THE OUTER PISTON WHICH THEN MOVES OUT AS A UNIT UNTIL IT REACHES THE TAPE LIMIT. EXISTING AFT DOME PLUG PULL REPAIRS ON ALL VEHICLES WERE EVALUATED BY ENGR'G. AFTER EVALUATION OF THE REPAIR LOCATION & THE REMAINING NCFI UNDER THE SPOT-FACE, ALL UNACCEPTABLE AREAS WERE REPAIRED USING AN ACCEPTABLE METHOD (EITHER HAND-PACKED SLA FOLLOWED BY PDL, OR BY PLUG DISPLACEMENT PDL POUR). ALL VEHICLES (LWT-4 & SUBS) HAVE BEEN CLEARED FOR USE. RECOMMEND THAT THIS PROBLEM REPORT BE CLOSED

#### MSFC Response/Concurrence

#### MSFC Problem Reporting and Corrective Action (PRACA) System ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07581	<b>IFA#</b> --	<b>Contractor RPT#</b> T-038	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 80974048409	<b>Asmnt Part Name</b> LH2 AFT DOME FOAM	<b>Asmnt Serial/Lot#</b> LWT-10			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1	<b>CAUSE CD</b> MAP - MFG-ASY-INST	<b>FAIL MODE</b> MI - INSULATION		
<b>Asmnt FMEA</b> 5.1.1.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> B	<b>FMEA SCSE</b> 3		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		

<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	
<b>MAJOR DESIGN CHANGES</b>			
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --		
<b>ASSESSMENT TEXT</b>			

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07768	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> T-037	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> BLISTERS IN BX250 FOAM ON LH2 FWD DOME				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (5) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-8	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LH2 FWD DOME	<b>PART#</b> 80974018409	<b>SER/LOT#</b> 0000008	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> M - MFG	<b>Prevailing Condition</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> MSI - INSULATION	<b>Cause</b> MAE - MFG-ASY-ENVR
<b>System</b> TPS	<b>Defect</b> CX - VOID	<b>Material</b> F - INSUL	<b>Work Contact</b> R. HAWKINS	<b>Fail Date</b> 12/08/1983
<b>Received at MSFC</b> 01/11/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 1.2.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-8 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 01/03/1992	<b>CN RSLV SBMT</b> 06/27/1985	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> E. BRYAN	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b>	<b>Chief Engineer</b>	<b>S &amp; MA</b>	<b>Project</b>	<b>Project MGR</b>

B. DAVIS	--	D. NEWMAN	J. CAVALARIS	--	
<b>PAC Assignee</b> G. MILLER	<b>PAC Review Complete</b> GM	<b>MSFC Closure Date</b> 07/25/1985	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
REF: BLISTERS WERE NOTED IN BX250 ON THE LH2 FWD DOMES OF HWT-6 & LWT-8. THE BLISTERS WERE DISCOVERED DURING AN INSPECTION OF THE INTERTANK					
<b>Contractor Investigation/Resolution</b>					
CAUSE - UNDER INVESTIGATION, REF FAILURE ANALY T68232. 9/6/84 - PRB STATUS, PER MMC OPEN TASKS INCLUDE DC&R'S TO INSPECT ALL TANKS INVESTIGATION OF SPRAY APPLICATION METHODS CONTINUING. ECD-1-30-85, WILL PROBABLY SLIP. 3/6/85 STATUSED AT PRB MTG 2-25-85 AS FOLLOWS - MMC PLANS ON MONITORING 3 MORE TANKS (LWT-22, -23, & -24) USING MODIFIED SPRAY & LOWER INLET TEMP. 3/14/85 ET CLEARANCES - LWT-3,5 THRU 7 ARE NOT SUSPECT AT THIS TIME. THE SOFI BLISTERS HAVE OCCURRED ON HWT-6 & LWT-8. THE LWT-1 THRU 7 BX250 WAS AUTOMATICALLY APPLIED WITH THE BINKS GUN. LWT-8 BLISTERS ARE DOCUMENTED ON MARS T-68232 REWORK & REPAIR ACTIONS HAVE BEEN COMPLETED. LWT-9 SUSPECTED BLISTERS WERE DOCUMENTED ON MARS T-68888 & THE SOFI WAS FOUND TO BE PROPERLY BONDED & ACCEPTABLE BY TESTS. LWT-10 DEBOND DETECTED & REPAIRED AT KSC. REF DC&R T-84-014 LWT-11 DEBOND DETECTED & REPAIRED AT KSC. REF DC&R T-84-014. LWT-12 DEBOND DETECTED & REPAIRED AT MAF. REF MARS T-70854. LWT-13, 14 INSPECTED BY DC&R PLUG PULLS. NO DEBONDS. (REF DC&R T-84-012). LWT-15 DEBOND DETECTED & REPAIRED AT MAF. (REF DC&R T-84-012). LWT-16, THRU 24 INSPECTED BY DC&R PLUG PULLS. NO DEBONDS. (REF DC&R T-84-026A). 6/5/85 PRB STATUS 4-16-85 MTG - PLAN TO MONITOR 3 MORE TANKS (LWT-22, 23 & 24) USING MODIFIED SPRAY & LOWER INLET TEMP. HAVE TESTED LWT-23. ECD IS					

4-22-85. 6/5/85 PRB STATUS 5-16-85 MTG - NOT DISCUSSED IN DETAIL. CAPS CLOSURE IS BEING PREPARED AT MMC. EXPECT TO SUBMIT CLOSURE TO MSFC BY 5-31-85. 7/1/85 PRB STATUS 6-20-85 MTG - ALL C/A'S HAVE BEEN COMPLETED CAPS CLOSURE IS ENROUTE TO MSFC/PAS. BLISTERS WERE CAUSED BY OVERHEATING OF THE LH2 FWD DOME DURING BARREL & AFT DOME SOFI APPLICATION. 7/1/85 RESOLUTION - FAILURE ANALYSIS T-68232 DETERMINED THE CAUSE OF THE BX 250 BLISTERS TO BE EXCESSIVE HEATING AIR TEMPS USED FOR SOFI APPLICATION IN CELLS "C" & "D". HEATING AIR TEMPS & FLOW RATES WERE ESTABLISHED WHICH WOULD RAISE THE LH2 SUBSTRATE TO ENGR'G PARAMETERS FOR SOFI APPLICATION, WITHOUT ALLOWING THE SUBSTRATE TEMPS TO RISE ABOVE 200 DEGS F. THE MAXIMUM HEATING AIR TEMPS WERE 190 DEGS F IN CELL "C" & 210 DEGS F IN CELL "D". THE SPRAY PROCEDURES NOW REQUIRE QC VERIFICATION THAT ESTABLISHED TEMPS ARE NOT EXCEEDED. PLUG PULL TEST WERE PERFORMED ON THE LH2 FWD DOMES OF LWT-16 THRU LWT-24 TO VERIFY THAT LOWERING THE HEATING AIR TEMPS WAS EFFECTIVE IN ELIMINATING THE BLISTERS. NO DEBONDS WERE DETECTED DURING THE TESTING. RECOMMEND THIS PROBLEM REPORT BE CLOSED

**MSFC Response/Concurrence**

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07768	<b>IFA#</b> --	<b>Contractor RPT#</b> T-037	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 80974018410	<b>Asmnt Part Name</b> LH2 FWD DOME BX250	<b>Asmnt Serial/Lot#</b> 8			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 3	<b>CAUSE CD</b> MAE - MFG-ASY-ENVR	<b>FAIL MODE</b> MI - INSULATION		
<b>Asmnt FMEA</b> 5.3.1.2	<b>Asmnt FM</b> 2	<b>FMEA CSE</b> B	<b>FMEA SCSE</b> 3		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07802	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> T-040	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> CABLE TRAY COVER (MA255)				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (3) B (X) C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-3	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> COVER CABLE TRAY	<b>PART#</b> 80971048425-020	<b>SER/LOT#</b> 0000049	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> L - FLD	<b>Prevailing Condtion</b> N - INSPECTION	<b>F / U</b> F	<b>Fail Mode</b> MSI - INSULATION	<b>Cause</b> DHO - DES-HDW-LOAD
<b>System</b> TPS	<b>Defect</b> DD - DETACH	<b>Material</b> F - INSUL	<b>Work Contact</b> R. JONES	<b>Fail Date</b> 01/09/1984
<b>Received at MSFC</b> 01/24/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 1.2	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> KSC		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-3 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved</b> <b>Defer Until Date</b> --	<b>Contractor Req Defer</b> <b>Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/15/1995	<b>CN RSLV SBMT</b> 10/14/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 1 - DES -- --
<b>Assignee</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> G. CAVALARIS	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b>	<b>Chief Engineer</b>	<b>S &amp; MA</b>	<b>Project</b>	<b>Project MGR</b>



B. DAVIS	--	D. NEWMAN	G. CAVALARIS	--	
<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 11/09/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
REF: DURING INSPECTION OF LWT-3 CABLE TRAY COVERS PER DC&R T-83-014 1 COVER S/N 049 SHOWED MA25S HAD DELAMINATED AROUND 95% OF THE EDGE, UP TO 1.6 IN. TOWARD THE MIDDLE OF THE COVER (REF AR K-3098)					
<b>Contractor Investigation/Resolution</b>					
10/15/84 CAUSE: STRESS INCURRED FROM ABLATOR SHRINKAGE DURING CURE COMBINED WITH SUBSEQUENT HANDLING AND INSTALLATION STRESS. 1/24/84 - STS-11, LWT-3 LAUNCH CONSTRAINT IS LIFTED BASED ON THE FOLLOWING RATIONAL: THE DELAMI- NATED COVER S/N 049 AN SUSPECT COVERS S/N 048 & S/N 052 WERE REPLACED WITH COVERS S/N 047, 079 & 143 WHICH WERE CAREFULLY INSPECTED. THIS CHANGE HAS BEEN COORDINATED WITH THE E.T PROJ OFFICE - _____G. P. BRIDWELL_____. 2/23/84 - STS-13, LWT-5 LAUNCH CONSTRAINT IS LIFTED BASED DC&R T-84-014 INSPECTION ALSO FLEXURE TESTS PER B01647-E-R1 VERIFIED RESISTANCE TO DELAMINATION THIS CHANGE HAS BEEN COORDINATED WITH THE E.T. PROJECT OFFICE - _____G. P. BRIDWELL 2-24-84_____. 3/8/84 PRB STATUS - CAUSE HAS NOT BEEN DETERMINED. SUSPECT THE DELAMINATION IS CAUSED BY STRESSES INCURRED FROM SHRINKAGE WHEN THE ABLATOR CURES, COMBINED WITH SUBSEQUENT HANDLING & INSTALLATION STRESS OVERSPRAY ON PARTS BETWEEN SUCCESSIVE COATINGS MAY ALSO CONTRIBUTE TO FAILURE. SEE ENCL 1, PGS 7, 8 & 9 FOR INVESTIGATIONS IN WORK & OTHER DETAILS. THE COVER FOR LWT-5 HAS PASSED A FLEXURE TEST WHICH VERIFIED RESISTANCE TO DELAMINATION. TWO OTHER VISUAL INSPECTION ARE SCHEDULED PRIOR TO LAUNCH. MCC WILL RAPIFAX COPY OF TEST PROGRAM TO MSFC & ALSO PROVIDE DATA AS IT BECOMES AVAILABLE. RELATED CHANGES TO THE NOSE CONE					

FAIRING WILL BE ADDED TO THE CAPS (FRR ACTION ITEM). 4/19/84 - STS-14, LWT-6 LAUNCH CONSTRAINT IS LIFTED BASED ON RATIONAL THAT ALL COVERS MUST PASS THE FLEXURE TEST PRIOR TO ACCEPTANCE. THIS CHANGE HAS BEEN COORDINATED WITH THE ET PROJECT OFFICE - \_\_\_\_G. P. BRIDWELL\_\_\_\_. 9/6/84 - PRB STATUS, MSFC REC'D CLOSURE, HOWEVER CAPS DOES NOT DISCUSS FLEXURE TEST. 9/13/84 - STS-17, LWT-8 LAUNCH CONSTRAINT IS LIFTED BASED ON RATIONAL THAT ALL COVERS MUST PASS FLEXURE TEST PRIOR TO ACCEPTANCE THIS DECISION HAS BEEN CO-ORDINATED WITH THE ET PROJECT OFFICE - \_\_\_\_G P. BRIDWELL\_\_\_\_. 10/15/84 RESOLUTION: DEBONDED MA25S ABLATOR ON CABLE TRAY COVERS ON LWT-3 HIGH-LIGHTED A MAJOR NON-CONFORMANCE CONCERN FOR ALL COMPONENTS INSULATED WITH THIS MATERIAL. THESE DEBONDED COVERS WERE REPLACED AT KSC WITH CLOSELY INSPECTED COVERS TO SUPPORT THE LAUNCH SCHEDULE. ALL OTHER COVERS AT KSC WERE RETURNED TO MAF FOR FLEXURE TESTS TO VERIFY BOND INTEGRITY. THE FLEXURE TEST DEFLECTS THE COVER IN A 150 INCH RADIUS CONVEXED TOOL FOR 24 HRS ANY DEBONDS/DELAMINATIONS ARE REPAIRED AND RETESTED UNTIL COVERS ARE ACCEPTABLE. RECURRENCE CONTROL: PROCESS/DRAWING REVISIONS, STP/PI 1516 WAS PER B01647 DRAWINGS WERE REVISED TO REQUIRE THE MA25S ABLATOR BE PREFABRICATED AND BONDED PER PI6005-2 (GX6300 ADHESIVE) TO THE COVERS (RATHER THAN CURING ON THE COVERS). DRAWINGS ALSO REFLECTED THE FLEXURE TEST REQUIREMENTS ADDITIONALLY PACKAGING/SHIPPING REQUIREMENTS WERE REVISED TO INCLUDE SPECIAL SHIPPING BOXES AND RESTRAINT PLATES ATTACHED TO THE COVERS ADDITIONAL DRAWING/REQUIREMENT CHANGES TO OTHER COMPONENTSUTILIZING MA25S RESULTED FROM THIS FAILURE REPORT (REF CAPS T-040B PAGE 9 PARA 3

#### MSFC Response/Concurrence

#### MSFC Problem Reporting and Corrective Action (PRACA) System ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07802	<b>IFA#</b> --	<b>Contractor RPT#</b> T-040	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 80971048425	<b>Asmnt Part Name</b> CABLE TRAY CVR TPS	<b>Asmnt Serial/Lot#</b> 49			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1	<b>CAUSE CD</b> DHO - DES-HDW-LOAD	<b>FAIL MODE</b> MI - INSULATION		
<b>Asmnt FMEA</b> 5.8.10.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> B	<b>FMEA SCSE</b> 9		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07847	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> P-046	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> LO2 UMBILICAL, MISALINEMENT, MISC DISCREPANCIES				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (1) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> MULTIPLE	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LO2 UMBILICAL	<b>PART#</b> V527-415273-014	<b>SER/LOT#</b> 0000022	<b>MANUFACTURER</b> GFP/ROCKWELL
<b>Test/Operation</b> L - FLD	<b>Prevailing Condition</b> F - FUNCTIONAL	<b>F / U</b> UC	<b>Fail Mode</b> UC - UNSAT	<b>Cause</b> DH - DES-HDW
<b>System</b> PROPULSION	<b>Defect</b> MC - MISFIT	<b>Material</b> Y - OPER-N	<b>Work Contact</b> C. CAMPBELL	<b>Fail Date</b> 09/30/1983
<b>Received at MSFC</b> 01/26/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 2.6	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> NONE				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved</b> <b>Defer Until Date</b> --	<b>Contractor Req Defer</b> <b>Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/13/1995	<b>CN RSLV SBMT</b> 10/19/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 0 - EXPL -- --
<b>Assignee</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> M. PESSIN	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> P. BRIDWELL	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 10/30/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  DURING THE PERIOD FROM 5-3-82 THRU 8-1-83 (48) NONCONFORMANCE REPORTS WERE WRITTEN ON THE LO2 & LH2 UMBILICAL DISCONNECTS WHICH WERE GFP TO MMC. THIS CAPS IS EXPANDED TO ADDRESS THESE PROBLEMS. REF: LO2 PRESSURIZATION LINE QUICK DISCONNECT FLANGE IS CLOCKED APPROX 15 DEG OUT OF TRUE POSI- TION. MISALIGNMENT OF FLANGES WOULD NOT PERMIT INSTALLATION OF PRESSURIZATION LINE SEGMENTS. ALTHOUGH THIS PARTICULAR SITUATION IS NOT A RECURRING PROB, CONDITIONS OF THIS NATURE HAVE CREATED MAJOR PRODUCTION IMPACTS. OTHER DISCREPANCIES TO BE ADDRESSED BY THIS CAPS, ARE: TOP COAT & FOAM, DEFECTIVE/DAMAGED SEALS, LEAKING SEALS, CLEANING DAMAGE, & OTHER SUCH PROBS					
<b>Contractor Investigation/Resolution</b>  CAUSE - DEFECTIVE GFP HARDWARE BEING SHIPPED TO MAF FOR INSTALLATION ON ET. 3/8/84 PRB STATUS - CAPS ACTION ITEM - D. NEWMAN/SA32 REPORTED THAT THE ACTION ITEM ASSOCIATED WITH CAPS P-046 (LO2/LH2 UMBILICAL DISCONNECT PROB REPORTS) HAS BEEN COMPLETED. HE REPORTED THAT THE MTG BETWEEN MSFC, ROCKWELL, MMC & KSC REPRESENTATIVES WAS CONDUCTED COMPLETION OF THE ACTION ITEMS RESULTING FROM THE MTG, & DOCUMENTED IN THE MINS., SHOULD IMPROVE THE PRACA (PROB REPORTING & C/A) SYSTEM 10/16/84 RESOLUTION - MEETINGS WERE HELD BETWEEN RI, MMC, MSFC, & JSC REPRESENTATIVES & SPECIFIC ACTIONS WERE ASSIGNED RELATED TO GFP HARDWARE PROBLEMS. THE PRIMARY OBJECTIVES WAS TO: ESTABLISH A FORMAL R/C SYSTEM THRU THE MAF PROJECT OFFICE & COORDINATE WITH THE COGNIZANT ORGANIZATIONS R/I AND/OR MSFC R.C. WITH MMC. THIS ACTION HAS BEEN ACCOMPLISHED. RECURRENCE CONTROL - HAS BEEN ESTABLISHED FOR FUTURE					

PROBLEMS OF THIS NATURE (REF MMC 84MO-0249)

**MSFC Response/Concurrence**

MSFC Problem Reporting and Corrective Action (PRACA) System

**ASSESSMENT ADDENDUM REPORT**

<b>MSFC Report#</b> A07847	<b>IFA#</b> --	<b>Contractor RPT#</b> P-046	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --							
<b>Asmnt Part#</b> MC284-390	<b>Asmnt Part Name</b> L02 UMBILICAL	<b>Asmnt Serial/Lot#</b> 22										
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 3	<b>CAUSE CD</b> DH - DES-HDW	<b>FAIL MODE</b> EV - NOT-TO-SPEC									
<b>Asmnt FMEA</b> N/A	<b>Asmnt FM</b> N/A	<b>FMEA CSE</b> N/A	<b>FMEA SCSE</b> N/A									
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --									
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --									
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --										
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --										
<b>MAJOR DESIGN CHANGES</b>												
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --											
<b>ASSESSMENT TEXT</b>												

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07878	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> S-064	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> INCLUSIONS AND POROSITY, LO2 & LH2 TANKS				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-15	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LO2 & LH2 TANKS	<b>PART#</b> 80912000000	<b>SER/LOT#</b> LWT-15	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> M - MFG	<b>Prevailing Condtion</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> UC - UNSAT	<b>Cause</b> MN - MFG-ISP
<b>System</b> STRUCTURAL	<b>Defect</b> XN - NA	<b>Material</b> H - WELD	<b>Work Contact</b> J. FINCHER	<b>Fail Date</b> 01/14/1984
<b>Received at MSFC</b> 02/03/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 1.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-3, 5 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 05/07/1992	<b>CN RSLV SBMT</b> 10/05/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> J. NICHOLS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> M. PESSIN	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> J. NICHOLS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> M. PESSIN	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 10/26/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -----	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: AFTER COMPLETION OF HYDROSTATIC TEST, RE-X-RAY INDICATIONS (OXIDE INCLUSIONS & POROSITY) WERE EVI- DENT ON THE OAF-3 WELD IN AN AREA AROUND THE 63 FT LOCATION. THESE DEFECTS WERE ERRONEOUSLY RECORDEDON THE RADIOGRAPHIC INSPECTION REPORT (0938-307) AS BEING LOCATED IN THE 64 FT AREA. THE 64 FT AREA WAS SHAVED PRIOR TO PROOF TEST. THE ACTUAL DEFECT AREA (63 FT) WAS NOT SHAVED PRIOR TO PROOF TEST & THE DEFECTS REMAINED THERE DURING PROOF TEST					
<b>Contractor Investigation/Resolution</b>  CAUSE - WELD DEFECTS WERE INADVERTENTLY OMITTED DURING REPAIR BECAUSE THE RADIOGRAPHIC INSPECTION REPORTED THE DEFECTS 1 FT OFF FROM THE TRUE LOCATION. THE ERRONEOUS AREA WAS SHAVED & FOUND TO BE CLEAR OF DEFECTS ON RE-X-RAY & THUS RECORDS REFLECT AN ACCEPTANCE. 9/6/84 - PRB STATUS, MMC TO REVISE CAPS TO INCLUDE C/A'S. ECD 9-15-84. CORRECTION ACTION - NOTED DISCREPANCY WAS CORRECTED & IS ACCEPTABLE. ALL IN PROCESS EXTERNAL TANKS WERE SUBJECTED TO RE-REVIEW OF ALL X-RAYS TO DETERMINE IF ANY ABNORMAL CHARACTERISTICS WERE OVER- LOOKED IN THE ORIGINAL REVIEW. ONE INCONSISTENCY WAS FOUND & CORRECTED. RECURRENCE CONTROL - CLARIFICATION OF RADIOGRAPHIC, SHAVE LIST (DOCUMENT FORM MAF/MMA 37-109) HAS BEEN REVISED TO REQUIRE QC VERIFICATION THAT AREAS SHAVED MATCH THOSE LISTED ON THE FORM. PERSONNEL CERTIFICATION WAS REVIEWED & IS ADEQUATE. RECENTLY ADDED YEARLY CERTIFICATION REQMNT STRENGTHENS ADEQUACY OF CERTIFICATION & QUALFICATION					
<b>MSFC Response/Concurrence</b>					

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MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

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<b>MSFC Report#</b> A07878	<b>IFA#</b> --	<b>Contractor RPT#</b> S-064	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 80902000000	<b>Asmnt Part Name</b> L02 & LH2 TANKS	<b>Asmnt Serial/Lot#</b> LWT-15			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1	<b>CAUSE CD</b> MN - MFG-ISP	<b>FAIL MODE</b> UC - UNSAT		
<b>Asmnt FMEA</b> 6.2.1.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> D	<b>FMEA SCSE</b> 1		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					



MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07893	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> T-039	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> UNCURED PI-1506 SLA				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LH2 RECIR LINE TPS	<b>PART#</b> 80971028411-019	<b>SER/LOT#</b> 0000018	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> M - MFG	<b>Prevailing Condtion</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> MSI - INSULATION	<b>Cause</b> MPP - MFG-PRC-INST
<b>System</b> TPS	<b>Defect</b> DD - DETACH	<b>Material</b> F - INSUL	<b>Work Contact</b> R. BOUNDS	<b>Fail Date</b> 12/07/1983
<b>Received at MSFC</b> 02/08/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 1.2.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> NONE				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 01/15/1992	<b>CN RSLV SBMT</b> 08/15/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> G. CAVALARIS	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b>	<b>Chief Engineer</b>	<b>S &amp; MA</b>	<b>Project</b>	<b>Project MGR</b>

J. NICHOLS	--	D. NEWMAN	G. BRIDWELL	--	
<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 09/04/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
REF: SMALL AREAS OF UNCURED PI-1506, SLA WERE NOTED ON 3 OR 4 CRYOFLETER SPECIMENS REPRESENTING THE LH2 RECIRCULATION LINE					
<b>Contractor Investigation/Resolution</b>					
CAUSE - GUM LABELS ATTACHED TO THE BOTTOM OF THE PANELS CONTAIN AN ADHESIVE WHICH CAUSES CURE INHIBITION OF THE SLA. 8/15/84 RESOLUTION - FAILURE ANALY CONFIRMED THE SMALL AREAS OF UNCURRED SCA ON LH2 RECIR LINE TEST SPECIMENS WERE CAUSED BY GUM LABEL ADHESIVE WHICH INHIBITED SLA CURE IN THESE AREAS. SEVERAL OTHER IDENTIFICATION METHODS WERE EVALUATED (VIBRA-ETCH, RIGID TAG & OPOC INK MARKER) HOWEVER GUM LABELS WERE PREFERRED WITH THE ADDED REQMT THAT LABELS BE PLACED A MINIMUM OF .5 IN. FROM TEST PANEL EDGE. SLA NEAR THE EDGE CURES RAPIDLY PERMITTING THIS METHOD TO CONTINUE (REF PAD 3725-001). RECURRENCE CONTROL - PRODUCT ASSURANCE DIRECTIVE 3725-001 WAS REVISED TO REQUIRE 0.5 IN BETWEEN EDGE OF TEST PANEL & GUM LABEL					
<b>MSFC Response/Concurrence</b>					

<b>MSFC Report#</b> A07893	<b>IFA#</b> --	<b>Contractor RPT#</b> T-039	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 80971028411	<b>Asmnt Part Name</b> LH2 RECIR C LINE TPS	<b>Asmnt Serial/Lot#</b> 18			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 3	<b>CAUSE CD</b> MPP - MFG-PRC-INST	<b>FAIL MODE</b> MI - INSULATION		
<b>Asmnt FMEA</b> 5.8.5.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> B	<b>FMEA SCSE</b> 4		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07957	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-023-1	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> ET EXTERNAL LEAKAGE DURING LEAK CHECK				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> Y	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> ET-1	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> ET-1	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> L - FLD	<b>Prevailing Condtion</b> --	<b>F / U</b> F	<b>Fail Mode</b> --	<b>Cause</b> --
<b>System</b> ELECTRICAL	<b>Defect</b> --	<b>Material</b> --	<b>Work Contact</b> J. FINCHER	<b>Fail Date</b> 06/08/1979
<b>Received at MSFC</b> 07/01/1979	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.1.2.9	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> --		<b>Time Cycle</b> --
<b>Effectivity Text</b> ET-1 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 10/07/1987	<b>CN RSLV SBMT</b> 07/01/1979	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> N/A	<b>Chief Engineer</b> --	<b>S &amp; MA</b> N/A	<b>Project</b> N/A	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 07/01/1979	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: ULLAGE TRANSDUCER ON FWD LH2 DOME ("B" NUT LEAK) DISPLAYED LKGE DURING LEAK CHECK PROCEDURE SET. 8015-AT					
<b>Contractor Investigation/Resolution</b>  CAUSE - IMPROPER FLARE POLISH DURING FLARING OPERATIONS. CORRECTIVE ACITON - FLARE SAVE WAS INSTALLED AT FLARE INTERFACE ON 303A4 TRANSDUCERS. SYS CHECKED GOOD. RESOLUTION/RECURRENCE CONTROL - LIASION CALL M-390-140 ISSUED & ANSWERED TO CLARIFY TUBE FLARE POLISH REQMNTS					
<b>MSFC Response/Concurrence</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07957	<b>IFA#</b> --	<b>Contractor RPT#</b> E-023-1	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> --	<b>Asmnt Part Name</b> --	<b>Asmnt Serial/Lot#</b> --			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> --	<b>CAUSE CD</b> --	<b>FAIL MODE</b> --		
<b>Asmnt FMEA</b>	<b>Asmnt FM</b>	<b>FMEA CSE</b>	<b>FMEA SCSE</b>		

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Asmnt FMEA	Asmnt FM	FMEA CSE	FMEA SCSE
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Asmnt FMEA	Asmnt FM	FMEA CSE	FMEA SCSE
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Correlated Part#	Correlated Part#	Correlated Part#	
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Associated LRU#	Associated LRU#	Associated LRU#	
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MAJOR DESIGN CHANGES			
APRV DATE	DESCRIPTION OF CHANGES		
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ASSESSMENT TEXT			

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07958	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-023-2	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> ET EXTERNAL LEAKAGE DURING LEAK CHECK				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> Y	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> ET-1	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> ET-1	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> L - FLD	<b>Prevailing Condtion</b> --	<b>F / U</b> F	<b>Fail Mode</b> --	<b>Cause</b> --
<b>System</b> ELECTRICAL	<b>Defect</b> --	<b>Material</b> --	<b>Work Contact</b> J. FINCHER	<b>Fail Date</b> 06/08/1979
<b>Received at MSFC</b> 07/01/1979	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.2.3	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> --		<b>Time Cycle</b> --
<b>Effectivity Text</b> ET-1 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 10/07/1987	<b>CN RSLV SBMT</b> 07/01/1979	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 5 - TRNG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> N/A	<b>Chief Engineer</b> --	<b>S &amp; MA</b> N/A	<b>Project</b> N/A	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 07/01/1979	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: DURING PERFORMANCE OF LEAK CHECK PROCEDURE SET 8015-AT (302A1J1) FEED THRU CONNECTOR FWD LH2 DOME DISPLAYED LKGE					
<b>Contractor Investigation/Resolution</b>  CAUSE - SEAL HAD SLIGHT SCRATCH ON SEALING SURFACE. CORRECTIVE ACTION - SEAL WAS REPLACED - SYSTEM RECHECKED SUCCESSFULLY RESOLUTION/RECURRENCE CONTROL - PERSONNEL INSTRUCTED ON PROPER SEAL INSTALLATION					
<b>MSFC Response/Concurrence</b>					

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MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

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<b>MSFC Report#</b> A07958	<b>IFA#</b> --	<b>Contractor RPT#</b> E-023-2	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> --	<b>Asmnt Part Name</b> --	<b>Asmnt Serial/Lot#</b> --			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> --	<b>CAUSE CD</b> --	<b>FAIL MODE</b> --		
<b>Asmnt FMEA</b>	<b>Asmnt FM</b>	<b>FMEA CSE</b>	<b>FMEA SCSE</b>		



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<b>Asmnt FMEA</b>	<b>Asmnt FM</b>	<b>FMEA CSE</b>	<b>FMEA SCSE</b>					
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<b>Asmnt FMEA</b>	<b>Asmnt FM</b>	<b>FMEA CSE</b>	<b>FMEA SCSE</b>					
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<b>Correlated Part#</b>	<b>Correlated Part#</b>	<b>Correlated Part#</b>						
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<b>Associated LRU#</b>	<b>Associated LRU#</b>	<b>Associated LRU#</b>						
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<b>MAJOR DESIGN CHANGES</b>								
<b>APRV DATE</b>	<b>DESCRIPTION OF CHANGES</b>							
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<b>ASSESSMENT TEXT</b>								

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07959	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-023-3	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> ET EXTERNAL LEAKAGE DURING LEAK CHECK				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> Y	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> ET-1	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> ET-1	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> L - FLD	<b>Prevailing Condtion</b> --	<b>F / U</b> F	<b>Fail Mode</b> --	<b>Cause</b> --
<b>System</b> ELECTRICAL	<b>Defect</b> --	<b>Material</b> --	<b>Work Contact</b> J. FINCHER	<b>Fail Date</b> 06/08/1979
<b>Received at MSFC</b> 07/01/1979	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.1.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> --		<b>Time Cycle</b> --
<b>Effectivity Text</b> ET-1 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 10/07/1987	<b>CN RSLV SBMT</b> 07/01/1979	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 5 - TRNG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> N/A	<b>Chief Engineer</b> --	<b>S &amp; MA</b> N/A	<b>Project</b> N/A	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 07/01/1979	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: DURING PERFORMANCE OF SET-8015-AT INSTRUMENTATION BOSS ON LO2 ANTIGEYSER LINE DISPLAYED LKGE					
<b>Contractor Investigation/Resolution</b>  CAUSE - SEAL WAS IMPROPERLY INSTALLED - IN REVERSE POSTION. CORRECTIVE ACTION - SEAL REPLACED - SYSTEM LEAK CHECK - NO LKGE RESOLUTION/RECURRENCE CONTROL - PERSONNEL INSTRUCTED ON PROPER SEAL INSTALLATION					
<b>MSFC Response/Concurrence</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07959	<b>IFA#</b> --	<b>Contractor RPT#</b> E-023-3	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> --	<b>Asmnt Part Name</b> --	<b>Asmnt Serial/Lot#</b> --			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> --	<b>CAUSE CD</b> --	<b>FAIL MODE</b> --		
<b>Asmnt FMEA</b>	<b>Asmnt FM</b>	<b>FMEA CSE</b>	<b>FMEA SCSE</b>		

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<b>Asmnt FMEA</b>	<b>Asmnt FM</b>	<b>FMEA CSE</b>	<b>FMEA SCSE</b>					
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<b>Asmnt FMEA</b>	<b>Asmnt FM</b>	<b>FMEA CSE</b>	<b>FMEA SCSE</b>					
--	--	--	--					
<b>Correlated Part#</b>	<b>Correlated Part#</b>	<b>Correlated Part#</b>						
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<b>Associated LRU#</b>	<b>Associated LRU#</b>	<b>Associated LRU#</b>						
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<b>MAJOR DESIGN CHANGES</b>								
<b>APRV DATE</b>	<b>DESCRIPTION OF CHANGES</b>							
--	--							
<b>ASSESSMENT TEXT</b>								

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07960	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-023-4	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> ET EXTERNAL LEAKAGE DURING LEAK CHECK				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> Y	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> ET-1	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> ET-1	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> L - FLD	<b>Prevailing Condtion</b> --	<b>F / U</b> F	<b>Fail Mode</b> --	<b>Cause</b> --
<b>System</b> ELECTRICAL	<b>Defect</b> --	<b>Material</b> --	<b>Work Contact</b> J. FINCHER	<b>Fail Date</b> 06/08/1979
<b>Received at MSFC</b> 07/01/1979	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.1.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> --		<b>Time Cycle</b> --
<b>Effectivity Text</b> ET-1 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 10/07/1987	<b>CN RSLV SBMT</b> 07/01/1979	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> N/A	<b>Chief Engineer</b> --	<b>S &amp; MA</b> N/A	<b>Project</b> N/A	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 07/01/1979	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: DURING PERFORMANCE OF LEAK CHECK PER SET 8015 - AT LKGE AT SENSOR, LO2 MANHOLE COVER					
<b>Contractor Investigation/Resolution</b>  CAUSE - SEAL INSTALLED IN REVERSE POSTION. CORRECTIVE ACTION - SEAL REPLACED, SYSTEM LEAK CHECK - NO LKGE. RESOLUTION/RECURRENCE CONTROL - PERSONNEL INSTRUCTED ON PROPER SEAL INSTALLATION					
<b>MSFC Response/Concurrence</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A07960	<b>IFA#</b> --	<b>Contractor RPT#</b> E-023-4	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> --	<b>Asmnt Part Name</b> --	<b>Asmnt Serial/Lot#</b> --			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> --	<b>CAUSE CD</b> --	<b>FAIL MODE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		

Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --
Correlated Part# --	Correlated Part# --	Correlated Part# --	
Associated LRU# --	Associated LRU# --	Associated LRU# --	
MAJOR DESIGN CHANGES			
APRV DATE --	DESCRIPTION OF CHANGES --		
ASSESSMENT TEXT			

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07994	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-081-1	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> LIQUID LEVEL SENSOR FAILED ATP THERMAL SHOCK				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (1) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LH2 LEVEL SENSOR	<b>PART#</b> 74L4-2	<b>SER/LOT#</b> 146	<b>MANUFACTURER</b> SIMMONDS
<b>Test/Operation</b> A - ATP	<b>Prevailing Condtion</b> F - FUNCTIONAL	<b>F / U</b> F	<b>Fail Mode</b> EL - SHORT	<b>Cause</b> MP - MFG-PRC
<b>System</b> ELECTRICAL	<b>Defect</b> XN - NA	<b>Material</b> S - STRUCT	<b>Work Contact</b> C. LYNCH	<b>Fail Date</b> 01/14/1984
<b>Received at MSFC</b> 02/29/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.1.2.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> SIMMONDS		<b>Symptom</b> EL - SHORT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-5 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 05/07/1992	<b>CN RSLV SBMT</b> 10/05/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> J. BREWER	<b>Project MGR</b> --



<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 10/30/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -----	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  REF: LH2 LEVEL SENSOR 74L4-2 FAILED DURING ATP THERMAL SHOCK TESTING REF MARS T-53518					
<b>Contractor Investigation/Resolution</b>  CAUSE - INADEQUATE VENDOR CONTROL OF WELDING. 3/1/84 - THIS FAILURE IS NOT CONSIDERED A LAUNCH CONSTRAINT TO STS-13, LWT-5, BECAUSE THE FAILURE WAS DETECTED DURING NORMAL ATP TESTING; ALSO, PREVIOUS SENSORS HAVE PERFORMED SUCCESSFULLY ON LWT-1 THRU 4 (EXCEPT 1 REF E-073, A06335). THIS DECISION IS CONCURRED BY THE E.T. PROJECT OFFICE - ____G P. BRIDWELL 3-3-84____. 3/8/84 PRB STATUS - FAILURES INVOLVED 1 LH2 & 2 LO2 SENSORS AT THE VENDOR'S FACILITY. CAUSED BY VENDOR FAB PROBS. NO CONSTRAINTS TO ANY ET. THE 3 FAILED SENSORS WERE DETECTED DURING NORMAL VENDOR ACCEPTANCE TESTING. RC ACTION INCLUDES DEVELOPING IMPROVED PROCESS PLANS BY THE VENDOR. 4/19/84 - THIS FAILURE IS NOT CONSIDERED A LAUNCH CONSTRAINT TO STS-14, LWT-6. THIS DECISION IS CONCURRED BY THE ET PROJECT OFFICE - ____G. P. BRIDWELL____. 9/6/84 - PRB STATUS, MMC CLOSURE CAPS TO BE SUBMITTED TO MSFC BY 9-11-84. 10/8/84 RECURRENCE CONTROL - VENDOR PROCESS PLAN WAS REVISED TO ACCURATELY CONTROL RESISTANCE WELD- ING TIME DURATION & CURRENT TO REQ'D SPECS					
<b>MSFC Response/Concurrence</b>					

<b>MSFC Report#</b> A07994	<b>IFA#</b> --	<b>Contractor RPT#</b> E-081-1	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 74L4-2	<b>Asmnt Part Name</b> LH2 LEVEL SENSOR	<b>Asmnt Serial/Lot#</b> 146			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1R	<b>CAUSE CD</b> MP - MFG-PRC	<b>FAIL MODE</b> EL - SHORT		
<b>Asmnt FMEA</b> 3.6.1.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> A	<b>FMEA SCSE</b> 5		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07997	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-081-2	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> LIQUID LEVEL SENSOR FAILED RESISTANCE TEST ATP				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (1) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LO2 LEVEL SENSOR	<b>PART#</b> 74L4-1	<b>SER/LOT#</b> 46	<b>MANUFACTURER</b> SIMMONDS
<b>Test/Operation</b> A - ATP	<b>Prevailing Condtion</b> F - FUNCTIONAL	<b>F / U</b> F	<b>Fail Mode</b> EL - SHORT	<b>Cause</b> MP - MFG-PRC
<b>System</b> ELECTRICAL	<b>Defect</b> MW - MISWIR	<b>Material</b> E - EL C/W	<b>Work Contact</b> C. LYNCH	<b>Fail Date</b> 01/14/1984
<b>Received at MSFC</b> 02/29/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.1.1.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> SIMMONDS		<b>Symptom</b> ET - MEAS ANOMALY		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-5 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/13/1995	<b>CN RSLV SBMT</b> 10/05/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> J. BREWER	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 10/30/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
REF: FAILED RESISTANCE TEST WHEN ELE. WIRE CAME OFF SUPPORT PIN DURING CLEANING STEPS AT END OF ATP					
<b>Contractor Investigation/Resolution</b>					
CAUSE - VENDOR ERROR, INADEQUATE CONTROL OF WIRE INSTALLATION. 3/1/84 - THIS FAILURE IS NOT A CONSTRAINT TO STS-13, LWT-5 BECAUSE THE FAILURE OCCURRED DURING NORMAL ATP SCREENING. ON PREVIOUS FLTS (LWT-1 THRU 4) ONLY 1 FAILURE HAS OCCURRED (REF E-073, A06335). THIS DECISION IS CONCURRED BY THE E.T. PROJECT OFFICE - ____G. P. BRIDWELL 3-3-84____ 3/8/84 PRB STATUS - FAILURES INVOLVED 1 LH2 & 2 LO2 SENSORS AT THE VENDOR'S FACILITY. CAUSED BY VENDOR FAB PROBS. NO CONSTRAINTS TO ANY ET. THE 3 FAILED SENSORS WERE DETECTED DURING NORMAL VENDOR ACCEPTANCE TESTING. RC ACTION INCLUDES DEVELOPING IMPROVED PROCESS PLANS BY THE VENDOR. 4/19/84 - THIS FAILURE IS NOT CONSIDERED A LAUNCH CONSTRAINT TO STS-14, LWT-5. THIS DECISION IS CONCURRED BY THE ET PROJECT OFFICE - ____G. P. BRIDWELL____. 9/6/84 - PRB STATUS, PER MMC, CAPS CLOSURE TO BE SUBMITTED TO MSFC BY 9-11-84. 10/5/84 RECURRENCE CONTROL - VENDOR PROCESS PLAN REVISED TO INCLUDE INSTRUCTIONS TO INSTALL WIRE IN GROOVE & BY VERIFYING CORRECT INSTALLATION INSPECTION					
<b>MSFC Response/Concurrence</b>					

<b>MSFC Report#</b> A07997	<b>IFA#</b> --	<b>Contractor RPT#</b> E-081-2	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 74L4-1	<b>Asmnt Part Name</b> L02 LEVEL SENSOR	<b>Asmnt Serial/Lot#</b> 46			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1R	<b>CAUSE CD</b> MP - MFG-PRC	<b>FAIL MODE</b> EN - OPEN		
<b>Asmnt FMEA</b> 3.6.1.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> A	<b>FMEA SCSE</b> 5		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A07998	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-081-3	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> LIQUID LEVEL SENSOR FAILED ATP DIELECTRIC TEST				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 1
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (1) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LO2 LEVEL SENSORS	<b>PART#</b> 74L4-1	<b>SER/LOT#</b> 29	<b>MANUFACTURER</b> SIMMONDS
<b>Test/Operation</b> A - ATP	<b>Prevailing Condtion</b> F - FUNCTIONAL	<b>F / U</b> F	<b>Fail Mode</b> EK - OUT-OF-PHASE	<b>Cause</b> MP - MFG-PRC
<b>System</b> ELECTRICAL	<b>Defect</b> MW - MISWIR	<b>Material</b> E - EL C/W	<b>Work Contact</b> C. LYNCH	<b>Fail Date</b> 01/14/1984
<b>Received at MSFC</b> 02/29/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.1.1.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> SIMMONDS		<b>Symptom</b> EL - SHORT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-5 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/13/1995	<b>CN RSLV SBMT</b> 10/05/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b>	<b>Chief Engineer</b>	<b>S &amp; MA</b>	<b>Project</b>	<b>Project MGR</b>

G. PLATT	--	D. NEWMAN	J. BREWER	--	
<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 10/30/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
REF: LIQUID LEVEL SENSOR 74L4-1 FAILED ATP DIELECTRIC TEST. INSULATION OVER STEEL TERMINALS PENETRATED BY TERMINAL & TERMINAL CONTACTED COVER REF MARS T-53511					
<b>Contractor Investigation/Resolution</b>					
CAUSE - INADEQUATE VENDOR CONTROL OF TERMINAL FORMING OPERATIONS 3/1/84 - THIS FAILURE IS NOT A LAUNCH CONSTRAINT TO STS-13, LWT-5, BECAUSE FAILURE WAS DETECTED DURING NORMAL ATP TESTING & PREVIOUS SENSORS HAVE FLOWN ON LWT-1 THRU LWT-4 WITH ONLY 1 FAILURE, REF E-073 THIS DECISION IS CONCURRED BY THE E.T. PROJECT OFFICE - ____G. P BRIDWELL 3-3-84____. 3/8/84 PRB STATUS - FAILURES INVOLVED 1 LH2 & 2 LO2 SENSORS AT THE VENDOR'S FACILITY. CAUSED BY VENDOR FAB PROBS. NO CONSTRAINTS TO ANY ET. THE 3 FAILED SENSORS WERE DETECTED DURING NORMAL VENDOR ACCEPTANCE TESTING. RC ACTION INCLUDES DEVELOPING IMPROVED PROCESS PLANS BY THE VENDOR. 4/19/84 - THIS FAILURE IS NOT CONSIDERED A LAUNCH CONSTRAINT TO STS-14, LWT-6. THIS DECISION IS CONCURRED BY THE ET PROJECT OFFICE - ____G. P. BRIDWELL____. 9/6/84 - PRB STATUS, PER MMC, CAPS CLOSURE TO BE SUBMITTED TO MSFC BY 9-11-84. 10/5/84 RECURRENCE CONTROL - VENDOR PROCESS PLAN REVISED TO ASSURE PROPER TERMINAL FORMING					
<b>MSFC Response/Concurrence</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

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<b>MSFC Report#</b> A07998	<b>IFA#</b> --	<b>Contractor RPT#</b> E-081-3	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 74L4-1	<b>Asmnt Part Name</b> L02 LEVEL SENSOR	<b>Asmnt Serial/Lot#</b> 29			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1R	<b>CAUSE CD</b> MP - MFG-PRC	<b>FAIL MODE</b> EL - SHORT		
<b>Asmnt FMEA</b> 3.6.1.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> A	<b>FMEA SCSE</b> 5		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					



MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A08020	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> T-042	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> PRIMER, NOT PER REQUIREMENTS				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (2) B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> EXTERNAL TANK	<b>PART#</b> 82601000000	<b>SER/LOT#</b> LWT-12	<b>MANUFACTURER</b> MMC
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> LOX TANK	<b>PART#</b> 80912005000-009	<b>SER/LOT#</b> LWT-12	<b>MANUFACTURER</b> MMC
<b>Test/Operation</b> M - MFG	<b>Prevailing Condtion</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> MSI - INSULATION	<b>Cause</b> ETE - EI-TEST-ENVR
<b>System</b> TPS	<b>Defect</b> DD - DETACH	<b>Material</b> F - INSUL	<b>Work Contact</b> F. RAMSEY	<b>Fail Date</b> 10/13/1983
<b>Received at MSFC</b> 03/09/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 1.2.3	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MMC		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> LWT-27 AND SUBS				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 02/14/1995	<b>CN RSLV SBMT</b> 05/06/1985	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> E. BRYAN	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b>	<b>Chief Engineer</b>	<b>S &amp; MA</b>	<b>Project</b>	<b>Project MGR</b>

B. DAVIS	--	D. NEWMAN	E. BRYAN	--	
<b>PAC Assignee</b> G. MILLER	<b>PAC Review Complete</b> JF	<b>MSFC Closure Date</b> 05/21/1985	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -- - - - - -	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
REF: PRIMER, APPLIED TO LWT-12, LO2 TANK NOT PER REQMNTS OF PI-3004 ("NO MORE THEN 3 EASILY OBSERVABLE PARTICLES PER SQUARE IN.")					
<b>Contractor Investigation/Resolution</b>					
CAUSE - 1) EXCESSIVE SOFI DUST IN CELL; 2) PRIMER & SOFI OPERATIONS IN SAME CELL. 3/6/85 STATUSD AT PRB MTG 2-25-85 AS FOLLOWS - NEW CLEANING PLAN HAS BEEN APPROVED. MMC MFG IMPLEMENTATION DECISION & SCHEDULE. H JACOBS/MMC/D3742 ACCEPTED ACTION ITEM ET-37 TO OBTAIN DECISION & SCHEDULE REGARDING IMPLEMENTATION OF THE APPROVED CLEANING PLAN FOR LO2 TANKS. 3/14/85 ET CLEARANCES - LWT-12 FIRST OCCURRENCE; DOCUMENTED & ACCEPTED ON MARS T-49868. LWT-13 NO DISCREPANCIES NOTED LWT-14 NO DISCREPANCIES NOTED LWT-15 SECOND OCCURRENCE; DOCUMENTED & ACCEPTED ON MARS T-59490. LWT-16 NO DISCREPANCIES NOTED LWT-17 NO DISCREPANCIES NOTED LWT-18 NO DISCREPANCIES NOTED LWT-19 NO DISCREPANCIES NOTED LWT-20 NO DISCREPANCIES NOTED LWT-21 NO DISCREPANCIES NOTED LWT-22 NO DISCREPANCIES NOTED LWT-23 THIRD OCCURRENCE; DOCUMENTED & ACCEPTED ON MARS T-67873. 5/8/85 PRB STATUS 4-16-85 MTG - NEW CLEANING PLAN HAS BEEN APPROVED & IMPLEMENTED. CLOSURE IN WORK.5/8/85 - THE PRIMER NOT MEETING STP 3003 REQMNTS HAS BEEN ATTRIBUTED TO SOFI DUST. THE CELLS CURRENTLY USED FOR PRIMER OPERATION ARE ALSO USED FOR SOFI APPLICATION ON THE INTERTANK. PERIOD- ICALLY AN OUTSIDE CONTRACTOR IS COMMISSIONED TO THOROUGHLY CLEAN THE CELLS TO MAINTAIN THE SUB- JECTIVE CLEANLINESS LEVEL. MFR'G ENGR'G HAS DEVELOPED A STANDARD OPERATION PROCEDURE (PM-4018-02-13) FOR CELL CLEANING & VERIFICATION THAT SHOULD PREVENT					

RECURRENCE. A NEW CELL "K" IS UNDER CONSTRUCTION THAT WILL BE DEDICATED TO PRIMING OF THE LO2 TANK. THIS CELL WILL ELIMINATE THE CURRENT PROBLEM WITH CELLS "G" & "H" SINCE IT WILL NOT BE USED FOR BOTH THE PRIMER & SOFI APPLICATIONS. CELL "K" IS EXPECTED TO BE OPERATIONAL IN EARLY 1986. RESOLUTION - A STANDARD OPERATING PROCEDURE (SOP) HAS BEEN GENERATED & APPROVED FOR CELL CLEANLI- NESS & CLEANLINESS VERIFICATON PRIOR TO PRIMER APPLICATION. THE NEW PROCEDURE SHOULD PREVENT UNTIL A NEW CELL IS AVAILABLE FOR PRIMER APPLICATION. CELL "K" IS NOW UNDER CONSTRUCTION, WITH A SCHEDULED COMPLETION DATE OF EARLY 1986, WILL BE DECICATED TO PRIMING OF THE LO2 TANK. THIS SHOULD COMPLETELY ELIMINATE THE CURRENT PROBLEM WITH CELLS "G" & "H". WITH THESE CHANGES IT IS RECOMMENDED THAT THIS PROBLEM BE CLOSED

**MSFC Response/Concurrence**

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A08020	<b>IFA#</b> --	<b>Contractor RPT#</b> T-042	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> 80971118409	<b>Asmnt Part Name</b> LO2 TANK FOAM INST	<b>Asmnt Serial/Lot#</b> LWT-12			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 1	<b>CAUSE CD</b> EIC - EI-CONTAM	<b>FAIL MODE</b> MI - INSULATION		
<b>Asmnt FMEA</b> 5.5.2.1	<b>Asmnt FM</b> 1	<b>FMEA CSE</b> B	<b>FMEA SCSE</b> 3		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A08021	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> P-047	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> CONTAMINATION, ACLAR BAG BROKEN				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A (2) B (X) C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> ACLAR, PACK	<b>PART#</b> MMSY933	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> ALLIED CHEM
<b>Test/Operation</b> M - MFG	<b>Prevailing Condtion</b> N - INSPECTION	<b>F / U</b> UC	<b>Fail Mode</b> UC - UNSAT	<b>Cause</b> ES - EI-SHIP
<b>System</b> PROPULSION	<b>Defect</b> CN - CONTAM	<b>Material</b> Y - OPER-N	<b>Work Contact</b> C. CAMPBELL	<b>Fail Date</b> 11/23/1983
<b>Received at MSFC</b> 03/09/1984	<b>Date Isolated</b> --	<b>FMEA Reference</b> 2.7.2	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> MAF		<b>Symptom</b> UC - UNSAT		<b>Time Cycle</b> --
<b>Effectivity Text</b> NONE				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 10/07/1987	<b>CN RSLV SBMT</b> 10/24/1984	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 8 - SHIP -- --
<b>Assignee</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> M. PESSIN	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> B. DAVIS	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> M. PESSIN	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 11/09/1984	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -----	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>					
REF: DURING PREPARATIONS TO INSTALL SEAL, 55L2-6, NOTED INTER-ACLAR BAG BROKEN, VIOLATION OF CLEANING REQMNTS. NUMEROUS OCCURRENCES OF CLEAN COMPONENTS REQ'G RECLEANING DUE TO INTER. ACLAR BAG DAMAGE					
<b>Contractor Investigation/Resolution</b>					
10/25/84 CAUSE - FAILURE INVESTIGATION DETERMINED BAG/SEALS WERE BROKEN DUE TO : 1) OVERSTRESSING BAG TO VIEW CLEAN CARD INSIDE BAG. 2) SEAM STRESS DUE TO TIGHTLY FITTING BAGS INADVERTENTLY OPENED UNDER NORMAL USE. 3) TRANSPORTATION/HANDLING IN SUCH A WAY THAT COMPONENT WEIGHT IS CONCENTRATED ON SEAMS. 4) TEARING OPEN OUTER BAG (IN LIEU OF OPENING WITH SHEARS) RESULTING IN UNDUE STRESS ON INTER BAG. 5) COMPONENT SHARP EDGES PUNCTURING BAGS WHEN TENSION OCCURS DURING HANDLING. RESOLUTION - MTRLS & PKG'G REQMNTS WERE REVISED & IMPOSED ON VENDORS OF 'CLEAN' COMPONENTS AS FOLLOWS: (PER PRODUCTION TIP NO. 64) 1) PKG CLEAN CARDS INSIDE OUTER ACLAR BAG WHERE EASILY VIEWED WITHOUT MOVING PARTS. 2) HEAT SEALED SEAMS OF INTER BAG TO BE REINFORCED BY FOLDING & TAPING & BAGS ENLARGED (3" MIN. AROUND COMPONENT). 3) USE OF STRONGER ACLAR 22 1 1/2 MIL. BAGS (REF STP 5008 AMENDMENT 10 & 11) COMBINED WITH FOLD- ING & TAPING OF SEAM SHOULD PROTECT BAG FROM DAMAGE DUE TO COMPONENT WEIGHT. 4) PERSONEL WERE INSTRUCTED OF PROPER HANDLING/PKG'G METHODS (PER MMC 3516-84-097). 5) COMPONENTS WITH SHARP PROTRUSIONS WILL BE ADDRESSED ON AN INDIVIDUAL BASIS, HOWEVER TYPICAL APPROACH IS: 1) COVER SHARP CORNERS WITH TEFLON BLOCKS PRIOR TO PKG'G. 2) PLACE COMPONENT IN HARD CONTAINER COMPATIBLE WITH CLEAN REQMNTS. ACLAR 22 BAGS WILL BE USED EXCLUSIVELY IN THE FUTURE (REF STP 5008 AMENDMENT 10 & 11) ACLAR					

33 HAS BEEN REMOVED FROM STORES, HOWEVER DUE TO THE LARGE QUANTITY OF COMPONENTS IN STORES ALREADY IN ACLAR 33 BAGS THESE WILL BE INSPECTED & REPACKAGED ON 'AS NEEDED'S BASIS

**MSFC Response/Concurrence**

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A08021	<b>IFA#</b> --	<b>Contractor RPT#</b> P-047	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> MMSY933	<b>Asmnt Part Name</b> ACLAR	<b>Asmnt Serial/Lot#</b> N/A			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> 3	<b>CAUSE CD</b> ES - EI-SHIP	<b>FAIL MODE</b> UC - UNSAT		
<b>Asmnt FMEA</b> N/A	<b>Asmnt FM</b> N/A	<b>FMEA CSE</b> N/A	<b>FMEA SCSE</b> N/A		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A08032	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-020-1	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> ACCELEROMETER, SHORTED				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> ACCELEROMETER	<b>PART#</b> PD7400103-029	<b>SER/LOT#</b> 120	<b>MANUFACTURER</b> GULTON
<b>Test/Operation</b> Q - QAL	<b>Prevailing Condtion</b> --	<b>F / U</b> F	<b>Fail Mode</b> --	<b>Cause</b> --
<b>System</b> ELECTRICAL	<b>Defect</b> --	<b>Material</b> --	<b>Work Contact</b> SILBERT	<b>Fail Date</b> 10/19/1978
<b>Received at MSFC</b> 07/01/1979	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.3	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> AETL		<b>Symptom</b> --		<b>Time Cycle</b> --
<b>Effectivity Text</b> NONE				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 10/07/1987	<b>CN RSLV SBMT</b> 07/01/1979	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 0 - EXPL -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> N/A	<b>Chief Engineer</b> --	<b>S &amp; MA</b> N/A	<b>Project</b> N/A	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 07/01/1979	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -----	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  S/N 120; UPON COMPLETION OF X AXIS QUALIFICATION VIB. AT 73 DEG F, UNIT WAS TESTED FOR ELECTRICAL RESISTANCE PER PARA. 6.1.4 & FOUND SHORTED AFTER TEST, TORQUE WAS LOWER THAN PRESET VALUE. (MARS T08968 & F/A REPORT 827)					
<b>Contractor Investigation/Resolution</b>  CAUSE - VENDOR PERFORMED F/A; COULD NOT DETERMINE CAUSE OF FAILURE FAILURE IS UNVERIFIED. F/A REPORT 827 - S/N 120. A DESIGN REVIEW OF THE SHORTING PROB REVEALED THAT THE MOST PROBABLE CAUSE OF SHORTS IS XTAL STACK ROTATION & CONTACTING THE STACK BOLT REF. F/A REPORT T07658. THIS CONDITION CAN OCCUR DURING MULTIPLE TORQUING OPERATIONS DURING STACK SENSITIVITY COMPENSATION. VENDOR CONTROLS DURING THIS OPERATION APPEAR ADEQUATE TO PRECLUDE DAMAGED OR MISALIGNED STACKS BEING INSTALLED IN THE ACCELEROMETER HOUSING. S/N 134 & 120 WERE ANALYZED BY MMC DENVER FAILURE ANALY (F/A REPORT T07658) INCLUDED HIGH RESOLUTION X-RAY OF INTERNAL WIRING & INSPECTION OF WIRING AFTER OPENING S/N 134. THE XTAL STACK WAS FOUND ROTATED IN S/N 134. MMC DENVER COULD NOT PROVIDE ADDITIONAL INFO ON S/N 120 SINCE THE SHORT CONDITION WAS REMOVED DURING GULTON DISASSY OPERATION. BASED UPON THE FAILURE ANALY, THE LOW ATP FAILURE RATES ON ET 1-6 DELIVERED HARDWARE AND THE SUCCESSFUL QUAL TESTS, NO FURTHER ACTIVITY IS PLANNED					
<b>MSFC Response/Concurrence</b>					



MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

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<b>MSFC Report#</b> A08032	<b>IFA#</b> --	<b>Contractor RPT#</b> E-020-1	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> --	<b>Asmnt Part Name</b> --	<b>Asmnt Serial/Lot#</b> --			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> --	<b>CAUSE CD</b> --	<b>FAIL MODE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					

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MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A08033	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-020-2	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> ACCELEROMETER, VIBRATED APART				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> ACCELEROMETER	<b>PART#</b> PD7400103-029	<b>SER/LOT#</b> 119	<b>MANUFACTURER</b> GULTON
<b>Test/Operation</b> Q - QAL	<b>Prevailing Condtion</b> --	<b>F / U</b> F	<b>Fail Mode</b> --	<b>Cause</b> --
<b>System</b> ELECTRICAL	<b>Defect</b> DD - DETACH	<b>Material</b> --	<b>Work Contact</b> L. SILBERT	<b>Fail Date</b> 10/19/1978
<b>Received at MSFC</b> 07/01/1979	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.3	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> AETL		<b>Symptom</b> --		<b>Time Cycle</b> --
<b>Effectivity Text</b> NONE				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 10/07/1987	<b>CN RSLV SBMT</b> 07/01/1979	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 1 - DES -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> N/A	<b>Chief Engineer</b> --	<b>S &amp; MA</b> N/A	<b>Project</b> N/A	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 07/01/1979	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -----	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  S/N 119; UNIT COMPLETED VIB AT 73 DEG F & -423 DEG F. DURING X AXIS VIB. AT 300 DEG F, Y AXIS SCREW CAME OUT, & CERMIC STACK FELL APART AFTER X & Z VIB., THE X AXIS STACK HAD LOW CAPACITANCE & A CONNECTOR LOOSENED. (MARS T07773)					
<b>Contractor Investigation/Resolution</b>  CAUSE - POTENTIAL OVERTEST AT AETL. VENDOR F/A REPORT 828 WAS INCONCLUSIVE, S/N 119. SCRIM CLOTH IS APPLIED TO STACK COVERS TO PRECLUDE STACK SEPARATION FROM THE ACCELEROMETER. REFER TO JOB UNIT H30433-309. CLOSE INSPECTION OF EPOXY BONDS ON QUAL UNITS S/N 164 & S/N 165 SHOWS NO TRACE OF DEGRADATION PRE & POST TESTING. BONDS WERE INSPECTED (10X) AFTER EACH ENVIRONMENTAL EXPOSURE BY POAR. A DESIGN REVIEW OF THE SHORTING PROB REVEALED THAT THE MOST PROBABLE CAUSE OF SHORTS IS XTAL STACK ROTATION & CONTACTING THE STACK BOLT REF. F/A REPORT #T07658. THIS CONDITION CAN OCCUR DURING MULTIPLE TORQUING OPERATIONS DURING STACK SENSITIVITY COMPENSATION. VENDOR CONTROLS DURING THIS OPERATION APPEAR ADEQUATE TO PRECLUDE DAMAGED TO MISALIGNED STACKS TO BE INSTALLED IN THE ACCELEROMETER HOUSING					
<b>MSFC Response/Concurrence</b>					

<b>MSFC Report#</b> A08033	<b>IFA#</b> --	<b>Contractor RPT#</b> E-020-2	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> --	<b>Asmnt Part Name</b> --	<b>Asmnt Serial/Lot#</b> --			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> --	<b>CAUSE CD</b> --	<b>FAIL MODE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					



MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A08034	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-020-3	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> ACCELEROMETER FAR CAPACITANCE				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> ACCELEROMETER	<b>PART#</b> PD7400103-029	<b>SER/LOT#</b> 125	<b>MANUFACTURER</b> GULTON
<b>Test/Operation</b> Q - QAL	<b>Prevailing Condtion</b> --	<b>F / U</b> F	<b>Fail Mode</b> --	<b>Cause</b> --
<b>System</b> ELECTRICAL	<b>Defect</b> --	<b>Material</b> --	<b>Work Contact</b> L. SILBERT	<b>Fail Date</b> 10/19/1978
<b>Received at MSFC</b> 07/01/1979	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.3	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> AETL		<b>Symptom</b> --		<b>Time Cycle</b> --
<b>Effectivity Text</b> NONE				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 11/27/1990	<b>CN RSLV SBMT</b> 07/01/1979	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 0 - EXPL -- --
<b>Assignee</b>				
<b>Design</b> B. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> N/A	<b>Chief Engineer</b> --	<b>S &amp; MA</b> N/A	<b>Project</b> N/A	<b>Project MGR</b> --

<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> N/A	<b>MSFC Closure Date</b> 07/01/1979	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -----	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  S/N 125; COMPLETED X, Y & Z VIB. AT 73 DEG F & -423 DEG F. AFTER VIB AT 300 DEG F, MSRMNT OF J1 & J2 INDICATED NO CAPACITANCE. ALSO ALL 3 CONNECTORS HAD MOVED. (MARS T07774)					
<b>Contractor Investigation/Resolution</b>  CAUSE - POTENTIAL OVERTEST AT AETL. F/A REPORT 829 WAS INCONCLUSIVE - S/N 125. GULTON PROCESSES WERE REVIEWED VIA TELECON - BY D. JOHNSON PQAR & L. SILBERT, PAAC & FOUND ACCEPT- ABLE FOR PRODUCTION OF ET FLT HARDWARE. QUAL TEST PERFORMED SUCCESSFULLY ON S/N'S 164 & 165. BOTH PARTS HAVE HAD POST TEST HIGH RESOLUTION X-RAYS WITHOUT FINDING A PROB					
<b>MSFC Response/Concurrence</b>					

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A08034	<b>IFA#</b> --	<b>Contractor RPT#</b> E-020-3	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> --	<b>Asmnt Part Name</b> --	<b>Asmnt Serial/Lot#</b> --			
<b>HCRIT CD</b>	<b>FCRIT CD</b>	<b>CAUSE CD</b>	<b>FAIL MODE</b>		

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<b>Asmnt FMEA</b> 3.3	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	
<b>MAJOR DESIGN CHANGES</b>			
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --		
<b>ASSESSMENT TEXT</b>			

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MSFC Problem Reporting and Corrective Action (PRACA) System  
WHOLE RECORD REPORT( + ADDENDUM)

<b>MSFC Record #</b> A08079	<b>In-Flight Anomaly Number</b> --	<b>Contractor Report Number</b> E-003	<b>JSC#</b> --	<b>KSC#</b> --
<b>Problem Title</b> TEFLON TUBE/SLEEVE				
<b>EICN#</b> --	<b>ELEMENT</b> ET	<b>Contractor</b> MMMSS	<b>FSCM#</b> --	<b>FCRIT</b> 3
<b>HCRIT</b> --	<b>Sys_Lvl</b> N	<b>Misc Codes</b> A B C D E F G H I J K L M N O		
<b>HARDWARE</b> EIM	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> LRU	<b>NOMENCLATURE</b> N/A	<b>PART#</b> N/A	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> N/A
<b>HARDWARE</b> NCA	<b>NOMENCLATURE</b> TEFLON TUBE/SLEEVE	<b>PART#</b> MULTIPLE	<b>SER/LOT#</b> N/A	<b>MANUFACTURER</b> PENNTUBE
<b>Test/Operation</b> D - DEV	<b>Prevailing Condtion</b> --	<b>F / U</b> UC	<b>Fail Mode</b> --	<b>Cause</b> --
<b>System</b> ELECTRICAL	<b>Defect</b> --	<b>Material</b> --	<b>Work Contact</b> J. DUKE	<b>Fail Date</b> 04/30/1977
<b>Received at MSFC</b> 07/01/1979	<b>Date Isolated</b> --	<b>FMEA Reference</b> 3.1.1	<b>IFA: Mission Phase</b> --	<b>Mission Elapsed Time</b> --
<b>Location</b> N/A		<b>Symptom</b> --		<b>Time Cycle</b> --
<b>Effectivity Text</b> NONE				
<b>Vehicle Effectivity Codes</b>				
<b>Vehicle 1</b> --	<b>Vehicle 2</b> --	<b>Vehicle 3</b> --	<b>Vehicle 4</b> --	<b>Vehicle 5</b> --
<b>Mission Effectivity Codes</b>				
<b>Mssn 1</b> --	<b>Mssn 2</b> --	<b>Mssn 3</b> --	<b>Mssn 4</b> --	<b>Mssn 5</b> --
<b>Estimated Completion Dates</b>				
<b>MSFC Approved Defer Until Date</b> --	<b>Contractor Req Defer Until Date</b> --	<b>LVL 3 Close</b> --	<b>Remark / Action</b> --	
<b>Investigation / Resolution Summary</b>				
<b>Last MSFC Update</b> 10/07/1987	<b>CN RSLV SBMT</b> 07/01/1979	<b>Defer Date</b> --	<b>Add Date</b> --	<b>R/C Codes</b> 2 - MFG -- --
<b>Assignee</b>				
<b>Design</b> G. PLATT	<b>Chief Engineer</b> --	<b>S &amp; MA</b> D. NEWMAN	<b>Project</b> R. ABRAHAM	<b>Project MGR</b> --
<b>Approval</b>				
<b>Design</b> N/A	<b>Chief Engineer</b> --	<b>S &amp; MA</b> N/A	<b>Project</b> N/A	<b>Project MGR</b> --



<b>PAC Assignee</b> M. GLASS	<b>PAC Review Complete</b> MG	<b>MSFC Closure Date</b> 07/01/1979	<b>Status</b> C - CLOSED	<b>F/A Completion</b> --	
<b>Problem Type</b> --	<b>SEV</b> --	<b>Program Name</b> --	<b>REVL</b> --	<b>OPRINC</b> --	
<b>FUNC MOD</b> --	<b>Software Effectivity</b> -----	<b>Software Fail CD</b> --		<b>SUBTYPE</b> --	<b>Software Closure CD</b> --
<b>RES PERSON L2</b> --	<b>Approval Signature L3</b> --				
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Related Document Type</b> --	<b>Related Document ID</b> --				
<b>Related Document Title</b> --					
<b>Contractor Status Summary</b>					
<b>Reliability/Quality Assurance Concerns, Recommendations:</b>					
<b>Problem Description</b>  RID EI-50 REQUESTED THE QUAL ASSURANCE PROVISIONS FOR CONTROL & SEGREGATION OF TFE/FEP TEFLON WIRE INSULATION FROM PROCUREMENT THRU FINAL INSTALLATION. THIS INVESTIGATION DISCLOSED THAT THIS PROB ALSO EXISTED WITH TFE/FEP TEFLON TUBING & SLEEVING. THE PROB FURTHER EXTENDED INTO THE ABILITY TO CONTROL TEFLON TUBING & SLEEVING WHICH HAD BEEN TESTED FOR LOX USAGE					
<b>Contractor Investigation/Resolution</b>  CAUSE - THE MULTIPLICITY OF TYPES WHICH COULD NOT BE DIFFERENTIATED BY VISUAL INSPECTION PRECLUDED ASSURANCE THAT THE RIGHT TEFLON WOULD BE USED IN ITS INTENDED APPLICATION. 1. REF ATTACHMENT - REVIEW ITEM DISPOSITION CLOSEOUT, ICDR RID NO. EI-50. 2. INSTALLATIONS OF TFE/FEP TEFLON MTRLS USED ON MPTA ARE CONSIDERED TO BE ACCEPTABLE BASED ON THE FOLLOWING RATIONALE: A. REC'G ACCEPTANCE PLANS WERE REVISED ON 5-3-77 TO INCLUDE MELT POINT DETERMINATION FOR ALL TEFLON MTRLS. MAF STOCK WAS INSPECTED & FOUND TO BE CORRECTLY IDENTIFIED. B. CABLE SIMILAR TO THAT INSTALLED ON MPTA WAS TESTED TO VERIFY THE TEFLON JACKET WAS PER SPEC & EACH CABLE WAS FOUND TO BE TFE JACKETED. C. TEMP PREDICTED AT STATION 465 & ABOVE THE LO2 TANK ARE ANTICIPATED TO BE +500 DEG F. THERMAL ANALY INDICATES THAT THE PREDICTED MAX. TEMP WILL EXIST AT THE FWD END OF THE TANK & THEN SUC- CESSIVELY DECREASE IN STRATIFIED LAYERS DUE TO THE MIXING OF THE HOT ULLAGE GAS WITH THE GASEOUS LO2. TESTING OF THE TFE MTRLS BY MSFC RESULTED IN FAILURE AT 500 DEG F WITH 23 AMPS APPLIED. MULTIPLE SYSTEM FAILURES WOULD BE REQ'D TO DUPLICATE THE TFE FAILURE. D. A REVIEW OF THE SUPPLIER'S PROCESS BY PROCUREMENT QUAL					

DISCLOSED THAT THE RAW MTRLS USED IN THE MFR OF THE F208 & F250 TFE TUBING/SLEEVING WERE FROM THE SAME BATCH. TUBINGS USED IN LO2 HARN- ESS ARE ROUTED TO THE CLEAN ROOM FOR CLEANING PRIOR TO ASSY OF THE COMPONENTS INTO THE CABLE ASSYS. E. THE MELTING POINT OF TFE & FEP IS DIFFERENT (TFE: 621 +/- 18 DEG F; FEP: 518 +/- 36 DEG F). ANY MTRL MIX-UP WOULD HAVE BEEN DETECTED BY THE AMOUNT OF HEAT REQ'D TO INSTALL THE SHRINK SLEEVING OR WOULD HAVE BEEN NOTED BY DEFORMATION OF THE INSULATION IF FEP INSULATED WIRE HAD BEEN USED UNDER TFE SHRINK SLEEVING

**MSFC Response/Concurrence**

MSFC Problem Reporting and Corrective Action (PRACA) System  
ASSESSMENT ADDENDUM REPORT

<b>MSFC Report#</b> A08079	<b>IFA#</b> --	<b>Contractor RPT#</b> E-003	<b>JSC#</b> --	<b>KSC#</b> --	<b>EICN#</b> --
<b>Asmnt Part#</b> --	<b>Asmnt Part Name</b> --	<b>Asmnt Serial/Lot#</b> --			
<b>HCRIT CD</b> --	<b>FCRIT CD</b> --	<b>CAUSE CD</b> --	<b>FAIL MODE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Asmnt FMEA</b> --	<b>Asmnt FM</b> --	<b>FMEA CSE</b> --	<b>FMEA SCSE</b> --		
<b>Correlated Part#</b> --	<b>Correlated Part#</b> --	<b>Correlated Part#</b> --			
<b>Associated LRU#</b> --	<b>Associated LRU#</b> --	<b>Associated LRU#</b> --			
<b>MAJOR DESIGN CHANGES</b>					
<b>APRV DATE</b> --	<b>DESCRIPTION OF CHANGES</b> --				
<b>ASSESSMENT TEXT</b>					