

MSFC PRACA : 2003-02-12 07:54

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

MSFC Record # A01683	In-Flight Anomaly Number --	Contractor Report Number T-009	JSC# --	KSC# --
Problem Title BARRY MOUNT HAD EPOXY PRIMER LIFT-OFF CRES SUBSTRATE				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1
HCRIT --	Sys_Lvl N	Misc Codes A (3) B C D E (X) F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE BARRY MOUNT	PART# 826710281088	SER/LOT# N/A	MANUFACTURER MMC
Test/Operation L - FLD	Prevailing Condition --	F / U F	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact D. WESTPHAL	Fail Date 10/29/1979
Received at MSFC 07/07/1980	Date Isolated --	FMEA Reference 1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-1 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 11/30/1981	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --
Approval				

Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 12/10/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description 1) REFERENCE: MAR T29609 2) EPOXY PRIMER ON THE TOP HALF OF BARRY MOUNT ON ET-1 WAS REJECTED ON MARS T29609. STRIPPING OF THE SLA OFF OF THE PART REVEALED EXTENSIVE PRIMER LIFT OFF FROM THE CRES SUBSTRATE WITH THE PRIMER REMAINING ADHERED TO THE SLA. LAUNCH CONSTRAINT: NONE					
Contractor Investigation/Resolution 1) CAUSE: IMPROPER PREPARATION OF METAL SUBSTRATE PRIOR TO PRIMER APPLICATION AS REQUIRED BY PI 5013 METHOD 10. 2) RESOLUTION: A) GENERATED DC&R TO CHECK THE PRIMER ON FORTY-FIVE BARRY MOUNTS STAGED FOR ET-2. COMPLETE. B) R&QE DETERMINE SAMPLE SIZE TO BE USED FOR EVALUATING ET-1 BARRY MOUNT. COMPLETE. C) GENERATED DE&R 7-80-01A TO TEST THE PRIMER ADHERENCE ON THE SAMPLE OR BARRY MOUNT TOP HALVES ON ET-1. COMPLETE - FOURTEEN OUT OF EIGHTEEN BARRY MOUNTS HAD SIGNIFICANT PRIMER DEBOND. AS A RESULT, ALL 48 ET-1 BARRY MOUNTS WERE REMOVED & REPLACED. COMPLETE (REF PRA'S P-ET-1-ST- 0255 & P-ET-ST-254 & O.D ET/MGMT-172). D) MATERIALS ENGINEERING REVERIFY METHOD 10 OF PI 5013 WITH TEST PROGRAM. COMPLETE. REPORT ETTR-101 CONCLUDED THAT METHOD 10 WOULD PROVIDE SURFACE THAT WOULD PRODUCE GOOD PRIMER ADHERENCE. E) MATERIALS ENGINEERING PERFORM TEST PROGRAM TO DUPLICATE ET-1 BARRY MOUNT PRIMER FAILURES & TO DETERMINE CAUSE OF FAILURE. COMPLETE. TEST REVEALED THAT THE UNITS HAD NOT BEEN PROPERLY ABRADED - FAILURE MODE WAS DUPLICATED IN LABORATORY (REF MEMO 3516-80-068). F) REVIEW ET-1 &					

ET-2 BARRY MOUNT BUILD RECORDS (MAF) TO ISOLATE & IDENTIFY CAUSE OF PRIMER FAILURE. COMPLETE. DISCOVERY WAS THAT 38 OF THE ET-1 BARRY MOUNTS HAD BEEN CLEANED & PRIMED IN THE TPS AREA. G) TPS MATERIALS ENGINEERING INSPEC PRIMER ON THREE BARRY MOUNTS INSTALLED ON THERMAL CONDUCT- ANCE TEST TANK TO EVALUATE PRIMER ADHERENCE SUBSEQUENT TO CRYOGENIC EXPOSURE. COMPLETE. BARRY MOUNTS PASSED PRIMER TEST. H) REVIEW THE BUILD RECORDS FOR ALL CRES PARTS USED ON ET-1 THAT RECEIVED TPS & PREPARE MATRIX THAT DISPLAYS SPECIFIC PROCESSES USED FOR CLEANING & APPLICATION OF TPS. COMPLETE. NIFICANT INFO PROVIDED. I) KSC PERFORM PRIMER ADHESION TEST ON 25 PRIMED STAINLESS STEEL SUBSTRATES OTHER THAN BARRY MOUNTS & FIVE TITANIUM SUBSTRATES. COMPLETE. NO SIGNIFICANT FAILURES. J) RELIABILITY & MATERIALS ENGINEERING REVIEW BARRY MOUNT PROCESSING AT BARRY CONTROLS. COM- PLETE. NO SIGNIFICANT FINDING. K) PROPULSION ENGINEERING PERFORM SPRING RATE TEST OF BARRY MOUNTS TO DETERMINE NEED FOR MATCHED PAIR REQUIREMENT. COMPLETE. MATCHED PAIR NOT REQUIRED. L) GENERATE OPERATIONS DIRECTIVE TO REQUIRE THAT PARTS MUST NOT BE EPOXY PRIMED IN THE TPS AREAS & THAT CLEANED PARTS MUST BE ADEQUATELY PROTECTED. COMPLETE. (REF O.D. ET/MGNT-179 & STP 5013, ADMT 6). M) QUALITY ENGINEERING GENERATE A WORKMANSHIP STANDARD SHOWING PROPER SUBSTRATE PREPARATION PER PI 5013, METHOD 10. (IN-WORK). N) QUALITY ENGINEERING REVISED MPP'S FOR BARRY MOUNTS TO PROVIDE SPECIFIC INSTRUCTIONS FOR SUB- STRATE INSTRUCRIONS FOR SUBSTRATE PREPARATION (IN-WORK). O) MATERIALS ENGINEERING REVISE STP 5013 METHOD 10 TO CLARIFY REWORK PROCEDURE IF TIME LIMIT IS EXCEEDED. COMPLETE. (REF STP 5013 AMENDMENT 6). 5/8/81 - MMC PRESENTED CAPS T009 AS "LIFTED" CONSTRAINT FOR STS-2 BECAUSE PRIMER ON ET-2 BARRY MOUNTS PASSED SCRAPE TEST PER DC&R T-80-02. MSFC ET PROJECT CONCURRED. 12/1/81 RESOLUTION - INVESTIGATION DETERMINED ET-1 BARRY MOUNTS WITH FAILED PRIMER RESULTED FROM OMISSION OF PROPER SUBSTRATE PREPARATION. STP 5013 METHOD 10 WAS REVISED TO CLARIFY CLEANING PREPARATION REQMNT. RECURRENCE CONTROL - PRIMER FAILURE WAS LIMITED TO ET-1 MOUNTS WHICH WERE NOT PROPERLY PREPARED PRIOR TO PRIMER APPLICATION, HOWEVER TO PRECLUDE RECURRENCE THE FOLLOWING DOCUMENTS WERE REVSIED/ ISSUED TO ASSURE PROPER PREPARATION: O.D. ET/MGMT-179, STP 5013 AMENDMENT 6, PI 5013 METHOD 10 12/1/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A01683	IFA# --	Contractor RPT# T-009	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A01741	In-Flight Anomaly Number --	Contractor Report Number E-041	JSC# --	KSC# --
Problem Title OUTPUT BITE MEASUREMENTS UNSTABLE				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE MULTIPLEXER	PART# PD400478-029	SER/LOT# 0000004	MANUFACTURER GULTON
Test/Operation L - FLD	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact S.C. BRAGG	Fail Date 06/20/1980
Received at MSFC 07/18/1980	Date Isolated --	FMEA Reference 3.3.2	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-1 THRU ET-6				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 06/09/1981	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --
Approval				

Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 07/07/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS PV3-003281, T1154 PCM OUTPUT BITE MEASUREMENT (BITES 1,5,6,7,8,9,10) WERE UNSTABLE, BUT STILL WITHIN SPECIFICATION LIMITS DURING TEST PER T1154. INSTABILITY NOT REPETITIVE, OCCURRED RANDOMLY, APPARENTLY DEPENDING ON POWER-ON CONDITIONS/TRANSIENTS. DURING UNSTABLE PERIODS 3500 HZ OSCILLATIONS WERE NOTED ON INPUT POWER BUS					
Contractor Investigation/Resolution CAUSE: PENDING F/A BY SUPPLIER - GULTON. CAUSE OF FAILURE WAS LACK OF ADEQUATE PHASE MARGIN IN THE PREREGULATOR CIRCUIT OF THE "B" SIDE SUPPLY. THIS CONDITION WAS ATTRIBUTED TO COMPONENT TOLERANCE BUILD-UP - ET-1 (S/N 4) WHICH FAILED WAS REWORKED TO RESTORE ACCEPTABLE PERFORMANCE & WAS SUBJECTED TO FULL ATP & RETURNED TO KSC SPARES. - ET-2/SUBS/KSC SPARES UNITS WERE CYCLED TO VENDOR FOR MODIFICATION & RETURN PER DO 1369. - NO ACTION WILL BE TAKEN ON NONFLT DESIGNATED HDWR (S/N 1,2,3). RECURRENCE CONTROL - ENGR'G CHANGE D01369 & ATP REVISIONS AT VENDOR'S FACILITY WILL PRECLUDE DELI- VERY OF FUTURE HDWR WITH THIS POTENTIAL LATENT DEFECT. 6/15/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

MSFC Report# A01741	IFA# --	Contractor RPT# E-041	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

MSFC Problem Reporting and Corrective Action (PRACA) System

WHOLE RECORD REPORT(+ ADDENDUM)

MSFC Record # A01866	In-Flight Anomaly Number --	Contractor Report Number S-042	JSC# --	KSC# --
Problem Title LH2 FEEDLINE INSTL MISMATCH				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE LH2 FEEDLINE	PART# 82624401026-009	SER/LOT# N/A	MANUFACTURER MMC
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System STRUCTURAL	Defect MD - M SIZE	Material --	Work Contact R. BURNETT	Fail Date 05/15/1980
Received at MSFC 08/26/1980	Date Isolated --	FMEA Reference 1.1.1	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-6 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 10/28/1980	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design E. BRYAN	Chief Engineer --	S & MA D. NEWMAN	Project M. PESSIN	Project MGR --
Approval				

Design J. NICHOLS	Chief Engineer --	S & MA C. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 11/12/1980	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -----	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T32033 THE HOLE PATTERN IN THE LH2 AFT DOME WAS MISLOCATED TO THE EXTENT THAT THE SIPHON DUCT COULD NOT BE INSTALLED PER DWG. WHEN BOLTING THE DUCT TO THE FENCE, THE MISLOCATED HOLES PREVENTED PROPER ALIGN-MENT OF THE TUBE WITH THE LOWER OUTLET FITTING					
Contractor Investigation/Resolution CAUSE: MISLOCATION OF HOLE PATTERN WAS CAUSED BY THE BEAM ASSY TOOL NOT PROPERLY LOCATING THE FENCE DRILL PLATE PARALLEL TO THE SIPHON TUBE MANHOLE FACE PADS. ANOTHER CONTRIBUTING FACTOR WAS THE REMOVAL FACE PADS. ANOTHER CONTRIBUTING FACTOR WAS THE REMOVAL OF A SHIM IN THE BEAM ASSY TOOL WHICH WAS IN PLACE ON PREVIOUS DOME DRILLING OPERATIONS RESOLUTION - DIMENSIONAL MEASRMNTS OF ET-3 & ET-5 RESULTED IN NO OUT OF TOL DIM'S ALSO THE SIPHON TUBE ASSY'S WERE INSPECTED & FOUND ACCEPTABLE. SINCE ET-1 THROUGH ET-5 SIPHON TUBE INSTALLATIONS WERE MADE WITH THE SAME TOOLING CONFIGURATION, ET-1 THROUGH ET-5 ARE CONSIDERED ACCEPTABLE BASED ON ET-3 & ET-5 MEASRMNTS. INVESTIGATION OF THE ET-6 HOLE PATTERN USING THE DRILLING TOOL (WITH SHIM IN PLACE) SHOWED THE HOLE PATTERN SHIFTED OUT OF POSITION. MARS T32033 PLUGGED THE MISLOCATED HOLE PATTERN & REDRILLED THE HOLES IN THE PROPER LOCATION RECURRENCE CONTROL - THE TOOLING DRAWING WAS REVISED TO MAKE THE .57 SHIM A PERMANENT PART OF THE TOOLING (T02A7018). ENGNR'G DWGS REVISED TO REMOVED 'REF DIM'S' FROM ET INSTALLATION DWG & REQMNT ADDED FOR BELLOWS MEASRMNT OF OFFSET, COMPRESSION & EXTENSION (82624401009 DCN					

"R"). THE SIPHON TUBE DWG WAS REVISED TO REQUIRE A 'TRUE DIMENSION' ON POINT 'A' & 'C' (H30633-382) MANUFACTURING ENGR REVISED MPP TO REQUIRE BELLOWS INSPECTION PER ENG DWG & ALSO REQUIRE MPP TO PROVIDE DETAIL INSTRUCTIONS ON METHOD TO SET UP BEAM ASSY TOOL FOR PROPER DRILLING
11/4/80 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A01866	IFA# --	Contractor RPT# S-042	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A01868	In-Flight Anomaly Number --	Contractor Report Number E-033	JSC# --	KSC# --
Problem Title PRESSURE TRANSDUCER FAILED				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE LH2 ULL PRESS TRN	PART# PD7400097-039	SER/LOT# 150	MANUFACTURER BOURNS
Test/Operation L - FLD	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact M. SIRIANNI	Fail Date 02/26/1980
Received at MSFC 08/26/1980	Date Isolated --	FMEA Reference 3.1.2.9	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-1 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 08/16/1988	CN RSLV SBMT 12/08/1980	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --
Approval				

Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 12/20/1980	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T31645 DASH 039 S/N 150 FAILED ON ET-1 AT KSC DURING PERFORMANCE OF OMI-T1154. THE UNIT READ 9.6 PSIA. DASH 039 S/N 275 - KSC SPARE UNIT FAILED RESISTANCE CHECKS, INDICATING WIPER HAD MOVED FROM NORMAL POSITION					
Contractor Investigation/Resolution 1) CAUSE: REFERENCE CAVITY LEAKAGE PER F/A T-31645. 2) RESOLUTION: THE DASH 039 & 029 UNITS ARE OF SIMILAR CONSTRUCTION, THEREFORE ALL CORRECTIVE ACTIONS WILL APPLY TO BOTH UNITS. THE REMAINING DASH 039 & 029 UNITS IN STOCK AT KSC WERE TESTED & NO DEFECTS FOUND. THE UNITS THAT ARE INSTALLED ON ET-1 HAVE BEEN/ARE SUBJECTED TO PERIODIC OMI CHECKS PERFORMED LPS. THIS ANOMOLY WAS DETECTED DURING RUN 2 OF OMI T1154: RUN 3 OF OMI T1154 WAS PERFORMED IN JULY 1980 WITH NO ANOMALIES IT IS FELT THAT THE OMI CHECKS WILL DETECT ANY BAD UNITS INSTALLED ON ET-1, THEREFORE, NO FURTHER ACTION IS REQUIRED FOR ET-1. FOR ET-2 & SUBS. SET-7C31-AT PROCEDURE, PCN 1, WAS IMPLEMENTED TO PROVIDE THREE POINT CALIBRATION TO DETECT ANY SHIFT IN REFERENCE CAVITY. EFFECTIVITY: ET-1, OMI'S TO DETECT ANY FAULT. ET-2 & SUBS, MANUFACTURING PROCEDURE CHANGE SET-7C31-AT, PCN 1. 12/17/80 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

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

MSFC Report# A01868	IFA# --	Contractor RPT# E-033	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A01989	In-Flight Anomaly Number --	Contractor Report Number E-040	JSC# --	KSC# --
Problem Title INTERMITTENT FAILURE OF GAS TEMP PROBE				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE GAS TEMP PROBE	PART# 74L1-1	SER/LOT# 77292	MANUFACTURER HY-CAL
Test/Operation A - ATP	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact S. BRAGG	Fail Date 04/29/1980
Received at MSFC 09/20/1980	Date Isolated --	FMEA Reference 3.1.1.8	IFA: Mission Phase --	Mission Elapsed Time --
Location HY-CAL		Symptom --		Time Cycle --
Effectivity Text ET-3 THRU ET-6				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 03/26/1981	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --
Approval				

Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 05/05/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T11642, T25340, & T25341 1. ATP FAILURE S/N 77292. UNIT INTERMITTENTLY FAILED 30 SECONDS AFTER START OF VIBRATION TESTING, CONTINUING THROUGHOUT THE 3 MINUTE TESTING. FAILED 4-29-80. 2. FOUR UNITS S/N TAG #8, 1, 4 & 97 FAILED RESISTANCE CHECKS AFTER THERMAL SHOCK PART OF ATP TEST- ING. FAILED 5-21-80. 3. ATP FAILURE S/N TAG #2, UNIT FAILED OPEN 30 SECONDS AFTER START OF VIBRATION TESTING. FAILED 5-23-80					
Contractor Investigation/Resolution 1. CAUSE: FAULTY JUNCTION AS A RESULT OF INCORRECT WELD PROCESS, TANTALUM PLUG OMITTED. 2. RESOLUTION: HY-CAL DEVISED A NEW WELDING PROCESS WHICH CONSISTS OF WETTING THE THERMOCOUPLE PLATINUM-RHODIUM WIRES, FUSING THE PLATNUM-RHODIUM PLUG WITH THE WIRES & WELDING TO THE TANTALUM SLEEVE (DWG A-15051 REVISED). TWO UNITS SUBJECTED TO THERMAL SHOCK TESTING & ONE UNIT TO Z AXIS QUAL VIBRATION LEVELS, ALL PASSED SUCCESSFULLY. 3/27/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

MSFC Report# A01989	IFA# --	Contractor RPT# E-040	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02028	In-Flight Anomaly Number --	Contractor Report Number P-037	JSC# --	KSC# --
Problem Title PRESSURE DROP ACROSS FILTER / VALVE ASSY NOT TO SPEC				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE FILTER VALVE ASSY	PART# 82621011039-009	SER/LOT# N/A	MANUFACTURER CIRCLE SEAL
Test/Operation Q - QAL	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System PROPULSION	Defect --	Material --	Work Contact R. BURNETT	Fail Date 07/23/1980
Received at MSFC 09/30/1980	Date Isolated --	FMEA Reference 2.2.5	IFA: Mission Phase --	Mission Elapsed Time --
Location VENDOR		Symptom --		Time Cycle --
Effectivity Text --				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 10/16/1980	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design R. ZAGRODZKY	Chief Engineer --	S & MA D. NEWMAN	Project C. CRANE	Project MGR --
Approval				

Design R. ZAGRODZKY	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 10/30/1980	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description 1) REFERENCES - MARS T10284 2) DURING QUALIFICATION TEST OF FILTER ON 82621011039-009 CHECK VALVE ASSEMBLY PER CIRCLE SEAL QTP 169 REV A, PARA 5.3, THE PRESSURE DROP ACROSS THE FILTER WAS RECORDED AT 12.7 PSI THE PRESSURE DROP IS LIMITED BY SPEC TO 10 PSI MAX					
Contractor Investigation/Resolution 1) CAUSE - TEST SPEC ABOVE SPECIFIES FLOW RATE FOR DRY AIR TO BE 75 SCFM AT 100 PSIG, TO MEASURE PRESSURE DROP ACROSS THE FILTER. THE FLOW RATE FOR DRY AIR SHOULD HAVE BEEN 27.88 SCFM. 2) RESOLUTION - PROPULSION ENGINEERING CORRECTED THE FLOW RATE TO 27.88 SCFM. CIRCLE SEAL RERAN THE TEST & THE FILTER PRESSURE DROP DID NOT EXCEED 10 PSI MAX TEST CONTINUING FOR REQUALIFICATION TEST COMPLETED 10-2-80 10/30/80 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

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

MSFC Report#	IFA#	Contractor RPT#	JSC#	KSC#	EICN#
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A02028	--	P-037	--	--	--
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02050	In-Flight Anomaly Number --	Contractor Report Number E-044	JSC# --	KSC# --
Problem Title COAX CONNECTOR DISCONTINUITY				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE COAXIAL CONNECTOR	PART# PD9100047-170	SER/LOT# N/A	MANUFACTURER MALCO-MICRO
Test/Operation L - FLD	Prevailing Condition --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact J. KENNEDY	Fail Date 05/27/1980
Received at MSFC 10/09/1980	Date Isolated --	FMEA Reference 3.2.5	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-2 THRU ET-6				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 11/30/1981	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --

Approval					
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project D. DICKERSON	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 01/11/1982	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity --	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description 1) REF: MARS T346979 & KSC PV3-003447 2) DURING OMI T1160-R2 TESTING OPERATIONS ON ET-1 AT KSC, MEASUREMENTS TO 8D9947H & T41P9992A INDICATED FLUCTUATIONS DURING PERIODS WHEN ET COMMANDS WERE ISSUED TIME DOMAIN REFLECTOMETER (TDR) TESTING IDENTIFIED DISCONTINUITY IN THE COAX CONNECTORS INSTALLED IN THE COAX CABLES ASSO- CIATED WITH THE AFOREMENTIONED MEASUREMENTS. FURTHER TROUBLESHOOTING IDENTIFIED SIX ADDITIONAL PROBLEMS					
Contractor Investigation/Resolution CAUSE - 1) LOWER THAN SPECIFIED TORQUE, 2) CONTAMINATION & CORROSION, & 3) SPREADING OF SOCKET LINES SPLICE CONNECTORS. INVESTIGATION - MAF HAS DEVELOPED A TEST PLAN WHICH ENCOMPASSES MULTIPLE TESTS & OTHER ACTIONS TO IDENTIFY CAUSE & DETERMINE CORRECTIVE ACTIONS. THESE ACTIONS ARE AS FOLLOWS: (1) VISUAL INSPEC- TIONS, (2) PREVIBRATION TESTING, (3) VIBRATION TESTING, (4) SALT FOG TESTING, (5) CAPACITANCE & MEGGER TESTS, (6) SPECIAL COAX ASSEMBLY TEST, (7) MAF STOCK CHECK CONNECTOR PD9100047-170, (8) MAF STOCK CHECK OF COAX CABLES PD9100047-XXX, (9) FAILURE ANALYSIS OF COAX CONNECTORS PD9100047-170 (10) TDR TEST ACCEPTANCE CRITERIA, & (11) DATA REVIEWS. 12/1/81 RESOLUTION - INVESTIGATION PERFORMED ON CONNECTORS REMOVED FROM ET-1 SHOWED ALL					

CONTAINED CONTAMINATION, 1 CONNECTOR EXHIBITED TEFLON DIELECTRIC COLD FLOW. VIB TESTING DID NOT ADVERSELY AFFECT PERFORMANCE. SALT FOG TESTING PRODUCED CORROSION AS EXHIBITED ON ET-1. CAPACITANCE & TESTS RESULTED IN 6 FAILURES 1 SHORTED & 4 OPEN DUE TO LOOSE CONNECTORS. ASSY TEST INDICATED AGING OF TEFLON CAUSED INSERT GROWTH CHECK OF MAF STOCK REVEALED CONNECTORS WERE CONTAMINATED, EXIST- ED CORROSIN, TEFLON WAS NOT PER DWG, & POOR WORKMANSHIP WAS EVIDENT FAILURE ANALY OF ET-1 CABLE CONCLUDED CONTAMINATION WAS MINIMAL, TORQUE APPLIED TO TEFLON INSERT & RESULTANT COLDFLOW TENDS TO DISTORT SOCKET CONTACTS, HEAT APPLIED TO SEAL CABLE ASSYS STIMULATES ADDITIONAL FLOW OF TEFLON INSERT. FLOWING OF TEFLON RESULTING IN RELAXING OF CONNECTOR TORQUE WAS THE MAJOR CONTRIBUTOR TO CONNECTOR FAILURE. RECURRENCE CONTROL - L/C M330 IS A PROCESS CHANGE RESULTING FROM CONNECTOR TORQUE RELAXING ALSO P5 6501 IMPLEMENTS A TORQUING TOOL TO ASSURE PROPER TORQUE OF CONNECTOR. TO CORRECT THE ADDITIONAL DISCREAPNCIES FOUND DURING THE INVESTIGATION THE FOLLOWING CHANGES WERE ALSO INITIATED. - STP 6508 ADMEN-16 IMPROVES STORAGE PROCESS PKGE'G & REQ'S THE FEEDTHRU CONNECTOR BE REPLACED AFTER EACH ONE-TIME-USE. - CONTACT CORROSION WAS SILVER SULFIDE THEREFORE CONTACT MTRL WAS CHANGED FROM SILVER TO BERYLCIUM COPPER PER MMC LTR MMC-80M0-2419. - STOCK WAS PURGED OF ALL OLD PARTS PER MARS T-42056. - THE QUAL ACCEPTANCE PLAN WAS REVISED AMENDMENT 12 TO ASSURE PARTS MEET CRITERIA. ALSO ET-1502 MANUAL 12/17/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A02050	IFA# --	Contractor RPT# E-044	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02074	In-Flight Anomaly Number --	Contractor Report Number T-010	JSC# --	KSC# --
Problem Title INSTRUMENT ISLAND GAPS				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1
HCRIT --	Sys_Lvl Y	Misc Codes A B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-3	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LO2 & LH2 TANK	PART# N/A	SER/LOT# ET-3	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE INSTRUMENT ISLAND	PART# 82674018011	SER/LOT# VARIOUS	MANUFACTURER A&M ENG
Test/Operation L - FLD	Prevailing Condition --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact CADIERE	Fail Date 02/28/1980
Received at MSFC 10/20/1980	Date Isolated --	FMEA Reference 1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-2 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 06/24/1981	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --

Approval					
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 07/09/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T21283 PLUS 12 OTHERS TYPCIAL DURING INSTALLATION OF ET-3 LH2 AFT DOME INSLANDS, IT WAS NOTED THAT A 0.05 TO 0.12 INCH GAP 3 BETWEEN THE INSTRUMENT ISLAND SHROUDS & TANK CLIPS. FURTHER INVESTIGATIONS INDICATE THAT LOCAL TANK DISTORTIONS (DIMPLING) RESULT AFTER INSTALLATION TORQUE SEQ'S. TANK DIMPLING COUPLED WITH INTERNAL PRESSURES & CRYOGENIC TEMPS ARE SEVERE ENOUGH TO CAUSE CRACKING AND/OR DELAMINATIONS OF THE TPS ADJACENT TO INSTRUMENT ISLAND LOCATIONS					
Contractor Investigation/Resolution CAUSE: A) INADEQUATE ISLAND FABRICATION PROCESS. B) INSTRUMENT ISLAND MOLD TOOL (T31K7132) MOUNTING PADS INTERFERING WITH INSTRUMENT ISLAND SHROUD. C) INADEQUATE ENGR'G CRITERIA FOR ACCEPTABLE ISLAND INSTALLATION. RESOLUTION: THE CORRECTIVE ACTIONS IMPLEMENTED FOR CLOSURE OF CAPS T-010 ARE EXTENSIVE. T-010 REV B FOR EXACT DESCRIPTION THE FOLLOWING IS A SUMMARY. COMPONENT LEVEL - A) ALLOW SHIMMING AROUND SHROUD TO EQUILIZE THE GAP. B) ELIMINATED ISLAND CAVITY OVERCHARGE BY PREDETERMINING AMOUNT OF PDL FOAM. C) ABLATOR MTRL ON INSTRUMENT ISLAND SHROUD RE- MAINS ON MASTER TOOL THRU CURING. D) FABRICATED A FIT CHECK TOOL NO. T31K7725/LO2 & T31K7724/LH2 AFT DOMES. TANK LEVEL - A) FABRICATED A LO2 OGIVE TEMPLATE FOR VERIFICATION OF CONTOUR CONFORMITY B) REVISED ENG DWG DEFINING ALLOWABLE MIN. GAP AT 120 DEG. INTERVALS					

BETWEEN ATTACH CLIPS. INSTRUMENT ISLAND HDWR STATUS FOR ET-1 THRU ET-4
IS DETAILED IN CAPS T-010 REV B, UNDER "HARDWARE SUMMARY IMPACT"
6/30/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A02074	IFA# --	Contractor RPT# T-010	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

MSFC Problem Reporting and Corrective Action (PRACA) System

WHOLE RECORD REPORT(+ ADDENDUM)

MSFC Record # A02157	In-Flight Anomaly Number --	Contractor Report Number S-045	JSC# --	KSC# --
Problem Title ET - ORBITER CROSSBEAM MISALIGNMENT				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-2	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE --	PART# --	SER/LOT# --	MANUFACTURER --
HARDWARE NCA	NOMENCLATURE ET CROSSBEAM	PART# 82671028051	SER/LOT# ET-2	MANUFACTURER MMC
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System STRUCTURAL	Defect MD - M SIZE	Material --	Work Contact B. CEDIERE	Fail Date 07/09/1980
Received at MSFC 11/06/1980	Date Isolated --	FMEA Reference 1.1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-3 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 05/12/1982	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design J. NICHOLS	Chief Engineer --	S & MA D. NEWMAN	Project M. PESSIN	Project MGR --
Approval				

Design J. NICHOLS	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 05/21/1982	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T33551-ET2 INSTALLATION OF THE ET-2 EXTERNAL TANK - ORBITER CROSSBEAM CABLE TRAY COVERS REVEALED MULTIPLE DIS- CREPANCIES. WHEN THE TRAY COVERS WERE ALIGNED WITH THEIR RESPECTIVE MOUNTING HOLES, THEY EXHIBITED APPROX .250 IN. MISALIGNMENT. AS A RESULT OF THIS DISCREPANCY, NINE COVERS ON ET-2 WERE SLOTTED TO ACCOMMODATE INSTALLATION					
Contractor Investigation/Resolution CAUSE - UNDER INVESTIGATION. CAUSE - TRAYS WERE FAB'D & INSPECTED IN A RESTRAINED CONDITION BY THE VENDOR, BUT ARE INSTALLED A UNRETRAINED MODE. 5/12/82 RESOLUTION - ENGR'G REVIEWED DWG TOLERANCE & REVISED TOLERANCE, NEW PARTS WERE BUILT TO REVISED DWGS, INSPECTED, & INSTALLED WITH PROPER FIT. RECURRNCE CONTROL - ENGR'G DWGS WERE REVISED TO INCREASE TOLERANCE EXISTING PARTS WERE SLOTTED PER DC&R & MPP EFFECTIVITY - ET-2 THRU ET-6 - HOLES WERE FIT CHECKED & SLOTTED AS REQ'D TO PERMIT INSTALLATION. LWT-1 & SUBS - CHANGES TO ENGR DWGS WILL BE EFFECTIVE WITH LWT-1 HWD. 5/13/82 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

MSFC Report# A02157	IFA# --	Contractor RPT# S-045	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02228	In-Flight Anomaly Number --	Contractor Report Number T-017	JSC# --	KSC# --
Problem Title PHENOLIC BLOCKS DEBONDED				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1
HCRIT --	Sys_Lvl Y	Misc Codes A (2) B C D E (X) F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE CABLE TRAYS	PART# VARIOUS	SER/LOT# N/A	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE PHENOLIC BLOCK	PART# 82671028016	SER/LOT# N/A	MANUFACTURER TOLO
Test/Operation L - FLD	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact F. RAMSEY	Fail Date 10/13/1980
Received at MSFC 11/20/1980	Date Isolated --	FMEA Reference 1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-3 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 12/08/1981	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --

Approval					
Design H. COLDWATER	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 01/11/1982	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description 1) REF: MARS T38111 (TYPICAL) 2) DURING INSPECTION OF CABLE TRAYS ON ET-1, IT WAS DISCOVERED THAT ONE PHENOLIC BLOCK PN 82671028016-013 HAD DEBONDED FROM THE SUBSTRATE. SUBSEQUENTLY A TOTAL INSPECTION OF ALL CABLE TRAY ASSEMBLIES WAS MADE & FIVE MORE PHENOLIC BLOCKS WERE FOUND DEBONDED					
Contractor Investigation/Resolution 1) CAUSE: UNDER INVESTIGATION BUT SUSPECTED CAUSES OF DEBONDING ARE: 1) CONTAMINATION BETWEEN PRIMER & ALUMINUM. 2) ADHESIVE FAILURE BETWEEN PHENOLIC BLOCK & PRIMER SURFACE. 3) IMPROPER SURFACE PREPARATION OF ALUMINUM AND/OR PHENOLIC BLOCK. 4) EXCESSIVE ADHESIVE ON TOP EDGE OF BLOCK CAUSING SHEARING ACTION. 2) RESOLUTION: INVESTIGATION: ET-1 - DURING INSPECTION OF THE CABLE TRAY ASSY ON STS-1 AT KSC, A TOTAL OF SIX BLOCKS WERE FOUND DEBONDED. ALL BLOCKS WERE REPLACED & BONDED PER PI 6001-Z. CONSTRAINT LIFTED FOR STS-1. ET-2 - DC&R T-80-013 WAS DIRECTED AT ET-2 TO CHECK THE INTEGRITY OF THE BONDING PROCESS OF PI 6001-2. FIVE BLOCKS WERE FOUND DEBONDED & REPLACED PER PI 6001-2. SINCE ALL BLOCKS HAVE BEEN INSPECTED & THE DEFECTIVE BLOCKS REPAIRED, CONSTRAINT FOR STS-2 IS LIFTED. THIS CHANGE HAS BEEN COORDINATED WITH ET PROJECT OFFICE. ET PROJECT MANAGER: ____J. B. ODOM____. 12/11/81 RESOLUTION - FAILURE OF SPACER BLOCKS ON THE CABLE TRAYS & COVERS WERE					

DUE TO A BEAD OF ADHESIVE OVER THE SIDE BLOCKS WHICH WOULD CAUSE A SHEARING FORCE WHEN THE COVER WAS INSTALLED. TO BE ASSURED OF THE NONDEBRIS REQMENTS, ALL BLOCKS WILL BE RIVETED IN ADDITION TO BONDING RECURRENCE CONTROL - APPENDIX I TO STP 2001 & 2003 WILL RIVET BLOCKS ON ET 5 & 6, LWT-1 & SUBS WILL BE DESIGNED WITH ALUMINUM BLOCKS. DWGS WERE CHANGED TO RIVET PHENOLIC BLOCKS ET3 & UP (REF 82671028022 DCN W & Y 12/14/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A02228	IFA# --	Contractor RPT# T-017	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

MSFC Problem Reporting and Corrective Action (PRACA) System

WHOLE RECORD REPORT(+ ADDENDUM)

MSFC Record # A02283	In-Flight Anomaly Number --	Contractor Report Number S-044	JSC# --	KSC# --
Problem Title LH2 & LO2 CABLE CLIP CRACKS				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE LO2 & LH2 TANK	PART# 82604000000	SER/LOT# VARIOUS	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE CABLE CLIPS	PART# 80914900992-002	SER/LOT# N/A	MANUFACTURER MMC
Test/Operation M - MFG	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System STRUCTURAL	Defect --	Material --	Work Contact R. BURNETT	Fail Date 11/11/1980
Received at MSFC 12/03/1980	Date Isolated --	FMEA Reference 1.1	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text LWT-1 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 10/06/1981	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design J. NICHOLS	Chief Engineer --	S & MA D. NEWMAN	Project M. PESSIN	Project MGR --
Approval				

Design J. NICHOLS	Chief Engineer --	S & MA D. NEWMAN	Project M. PESSIN	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 10/15/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -----	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description 1) REF: MARS T18839, T30801, T31 443, & T05340 2) TIG SPOT WELDING OF ELECTRICAL CABLE CLIPS TO THE INSIDE OF LH2 & LO2 DOMES RESULTS IN RECURRING DISCREPANCIES OF UNDER FILL, CRACKS, MELTED CLIP EDGES, & BURN THROUGH ON CLIPS. CORRECTIVE ACTIONS HAVE NOT BEEN EFFECTIVE IN ELIMINATING THE SPOT WELD PROBLEM ON INCREMENT I DOMES					
Contractor Investigation/Resolution 1) CAUSE: (A) MANUAL METHOD OF HOLDING WELDING HEAD DURING SPOT WELDING OPERATION CAUSES UNSTABLE CONDITION WHICH IS THE MAIN CONTRIBUTOR TO WELD DEFECTS. (6) CLIPS ARE LOCATED TO BRIDGE WELDS ON ISL OF DOME ALLOWABLE GORE PANELS MISMATCH PREVENTS THE FAYING SURFACES OF DOME & CLIP TO BE A NET FIT. 2) 10/7/81 RESOLUTION: THE METHOD OF LOCATING & SPOTWELDING THE ELECTRICAL CABLE CLIPS TO ISL OF OF LH2 & LO2 DOMES RESULTED IN DEFECTIVE SPOT WELDS & MISLOCATING OF THE CLIP. THEREFORE THE CLIPS WERE REDEISGNE & A TOOL WAS DESIGNED & BUILT TO HOLD THE SPOT WELDER HEAD IN POSITION DURING THE WELD OPERATION. THESE DESIGN CHANGES HAVE CORRECTED THE PROB & ACCEPTABLE SPOT WELDS ARE BEING MADE ALSO THE CLIPS ARE CORRECTLY LOCATED. RECURRENCE CONTROL - THE CHANGES MADE AS DISCUSSED ABOVE ARE NOW STANDARD MFR'G PROCEDURE. ALL FUTURE UNITS WILL BE MFR'D IN THIS MANNER ASSURING PROPER CLIP INSTALLATION 10/7/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

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

MSFC Report# A02283	IFA# --	Contractor RPT# S-044	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02312	In-Flight Anomaly Number --	Contractor Report Number E-045	JSC# --	KSC# --
Problem Title LO2 ULLAGE TRANSDUCER HAS CRACKED GLASS INSULATOR				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE L02 ULL PRES TRNSDCR	PART# PD7400098-029	SER/LOT# N/A	MANUFACTURER GULTON
Test/Operation A - ATP	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact S. BRAGG	Fail Date 11/03/1980
Received at MSFC 12/12/1980	Date Isolated --	FMEA Reference 3.1.1.9	IFA: Mission Phase --	Mission Elapsed Time --
Location GULTON		Symptom --		Time Cycle --
Effectivity Text STS-1 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 07/15/1981	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --

Approval					
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 07/31/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T35766 ON 9-13-80, GULTON, SCD, INITIATED MARS T-35766 STATING 23 WIPER ASSEMBLIES (P/N 121-718) USED IN THE BUILD OF LO2 ULLAGE TRANSDUCERS HAD CRACKS IN THE GLASS INSULATORS. RELIABILITY ASSURANCE INVESTIGATION CONFIRMED THE CONDITION & THAT THIS CONDITION WAS SUSPECT ON ALL DELIVERED LO2 ULLAGE TRANSDUCERS					
Contractor Investigation/Resolution CAUSE - PROBABLE CAUSE IS VENDOR MANUFACTURING PROCESS. DETAILED INVESTIGATION IS IN PROCESS. INVESTIGATION - IT CAN BE ASSUMED THE PROBABILITY IS VERY HIGH, THAT THE WIPER ASSY GLASS BEAD INSULATORS (GULTON SCD P/N 121-726) ARE CRACKED ON UNITS INSTALLED ON ET-1 FURTHERMORE, BASED ON THE INSPECTION OF A 10% SAMPLE, ALL OF WHICH WERE CRACKED, ALL ASSYS MANUFACTURED TO DATE ARE ASSUMED TO BE DEFECTIVE ET-1 CONSTRAINT - CHANGES FROM STS-1 TO STS-2 WITH RATIONALE AS FOLLOWS: A) TO DATE, NO INSTANCES OF TRANSDUCER FAILURE HAVE BEEN ATTRIBUTED TO CRACKED GLASS INSULATORS. B) THE INSTALLATION OF SHOCK MOUNTED BRACKETS, WHICH DECREASES THE VIBRATION ENVIRONMENT (-12DB), REDUCES THE PROBABILITY OF ANY DEBRIS BEING DISLODGED. C) ONE UNIT KNOWN TO HAVE GLASS FRACTURES WAS TESTED AT THE VENDOR'S FACILITY. THE UNIT WAS MICRO- SCOPICALLY INSPECTED, SUBJECTED TO A 0 DEG F COLD SOAK & THEN VIBRATED AT ATP LEVELS. POST TESTING INSPECTION SHOWED NO FURTHER					

DEGRADATION OF THE CRACKS. D) A QUALIFICATION TEST UNIT (S/N 114) WAS OPENED & INSPECTED. THE GLASS BEAD WAS CRACKED. THIS WAS THE "WORST CASE" DEFECT OF ALL THE ASSYS INSPECTED. THIS UNIT HAD UNDERGONE THE VENDOR ATP PRECONDITIONING ON THE MPTA, QUAL & CONFIDENCE TESTING. THE UNIT WAS OPERATING & SERVICEABLE BEFORE DISASSEMBLY. E) THE TRANSDUCERS INSTALLED ON ET-1 ARE FUNCTIONING NORMALLY. THEY WILL BE CLOSELY MONITORED DURING FRF. F) THERE ARE FOUR TRANSDUCERS INSTALLED ON ET-1, 3 ACTIVE & 1 SPARE. EACH TRANSDUCER OPERATES A SEPARATE PRESSURIZATION CONTROL VALVE. THE SPARE GIVES THE LO2 TANK A MEASURE OF REDUNDANCY IN EVENT OF A TRANSDUCER FAILURE OF ANY TYPE PRIOR TO LIFTOFF. AFTER LIFTOFF, SHOULD A TRANSDUCER FAIL, THE TWO REMAINING TRANSDUCERS WOULD PROVIDE ADEQUATE TANK PRESSURIZATION CONTROL. 7/17/81 - RESOLUTION - ET-1: CONSTRAINT WAS REMOVED ON BASIS OF RATIONALE STATED IN TASK II OF CAPS (NO TRANSDUCER FAILURE HAS BEEN ATTRIBUTED TO CRACKED GLASS INSULATOR ANOMALLY). ET-2 AND SUBS: CONSTRAINT WAS REMOVED BASED ON REDESIGN OF TRANSDUCER TO INCLUDE POTTING THE GLASS INSULATOR NOW DESIGNATED PD7400098-079. ALSO THE VENDOR HAS AGREED TO IMPLEMENT MICROSCOPIC INSPECTION AND PULL TEST PRIOR TO POTTING OPERATION. DELTA QUALIFICATION TESTING HAS BEEN SUCCESS- FULLY PERFORMED ON THE REDESIGNED PRESSURE TRANSDUCER. NOTE: TASK VII OF CAPS E-045B HAS BEEN TRANSFERRED TO CAPS E-048C FOR TRACKING. 7/21/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A02312	IFA# --	Contractor RPT# E-045	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

MSFC Problem Reporting and Corrective Action (PRACA) System

WHOLE RECORD REPORT(+ ADDENDUM)

MSFC Record # A02313	In-Flight Anomaly Number --	Contractor Report Number S-046	JSC# --	KSC# --
Problem Title ET/ORB BIPOD INTERFERENCE				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE BIPOD ET/ORB ATTACH	PART# 82611031009-010	SER/LOT# 003	MANUFACTURER MMC
Test/Operation L - FLD	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System STRUCTURAL	Defect MD - M SIZE	Material --	Work Contact K. KILLIAN	Fail Date 11/08/1980
Received at MSFC 12/12/1980	Date Isolated --	FMEA Reference 1.1.5	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-1				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 04/16/1981	Defer Date --	Add Date --	R/C Codes A - PURG -- --
Assignee				
Design J. NICHOLS	Chief Engineer --	S & MA D. NEWMAN	Project M. PESSIN	Project MGR --

Approval					
Design J. NICHOLS	Chief Engineer --	S & MA D. NEWMAN	Project M. PESSIN	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 04/27/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description					
REF: KSC PR "A" PET-1-STS-0598 DURING THE ET/ORB FWD BIPOD INSTALLATION (82611031009-010) AT KSC ON ET-1, THERE WAS INTERFERENCE BETWEEN THE STRUT END FITTING (82611031035-003) & TANK SPINDLE (82611031428-003) SUCH THAT THE PIN (82611031028-018). COULD NOT BE INSERTED					
Contractor Investigation/Resolution					
1) CAUSE: TANK SPINDLE FITTING WHICH WAS SHIPPED ON ET-1 WAS NOT THE ONE USED IN THE ALIGN- MENT CHECK FOR THE FORWARD BIPOD FITTING. 2) RECURRENCE CONTROL: FOR ET-1, THE -Y TANK SPINDLE HOLE WAS REAMED TO FULL DRAWING TOLERANCE AND THE STRUT END FITTING INSTALLED. A REVIEW OF ALL IN-HOUSE UNITS AND A DRAWING TOLERANCE STUDY INDICATED THIS TO BE AN ET-1 PROBLEM ONLY. 4/17/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

MSFC Report# A02313	IFA# --	Contractor RPT# S-046	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02314	In-Flight Anomaly Number --	Contractor Report Number T-014	JSC# --	KSC# --
Problem Title EPOXY PRIMER EXCESSIVE FAILURES				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# VARIOUS	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE STP/PI 3003	PART# N/A	SER/LOT# N/A	MANUFACTURER TBD
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact F. RAMSEY	Fail Date 06/15/1980
Received at MSFC 12/12/1980	Date Isolated --	FMEA Reference 1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-3 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 09/16/1981	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --

Approval					
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 10/06/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity --	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description					
REF: DC&R T-80-06A & T-80-08 DC&R'S INDICATE EXCESSIVE FAILURE OF THE EPOXY PRIMER WHEN SUBJECTED TO WET TAPE TESTING PER PI 3003					
Contractor Investigation/Resolution					
1) CAUSE - SUSPECTED CONTAMINATION. INVESTIGATION PROCEEDING. 9/21/81 - CAUSE OF PAINT FAILURES IS SUSPECTED CONTAMINATION UNDER THE PRIMER & VENDORS NOT FOLLOW- ING STP'S. 9/21/81 RESOLUTION - DC&R T-80-6A WAS WRITTEN TO CHECK THE INTEGRITY OF THE EPOXY PRIMER ON PARTS ININ STOCK PRIOR TO 6-15-80. UPON COMPLETION OF THIS DC&R & DISCOVERY OF A HIGH FAILURE RATE DC&R. T-80-08 WAS RELEASED. CAPS T-014C DETERMINED THE CAUSE OF PRIMER FAILURE WAS DUE TO VENDOR PROCESS EACH VENDOR WAS SUPPLIED A LIST OF RECOMMENDATIONS & PROCUREMENT QUAL (MMC) GIVEN FOLLOW-UP RESPON- SIBILITY. A MARKED DECREASE IN THE NO. OF FAILURES HAS BEEN NOTED RESULTING FROM THESE CHANGES. THE REJECTION RATE IS NOW ACCEPTABLE. RECURRENCE CONTROL - ET-1 & ET-2 - PRIMERS WERE CHECKED WITH DRY TAPE METHOD, REWORK ACTIVITIES CONFIRMED INTEGRITY REF IOM-3616-81-269. ET-3 & SUBS - REVIEW OF STP'S & PI'S RESULTED IN A REV. TO STP/PI-3004 TO CHANGE METHOD OF PRIMER CATALYZATION TO PROVIDE A BETTER CURE. VENDOR SURVEILLANCE WILL ASSURE REVISED PROCEDURE IS COM- PLIED WITH. 9/21/81 - CLOSURE DISTRIBUTED					

MSFC Response/Concurrence**MSFC Problem Reporting and Corrective Action (PRACA) System
ASSESSMENT ADDENDUM REPORT**

MSFC Report# A02314	IFA# --	Contractor RPT# T-014	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02315	In-Flight Anomaly Number --	Contractor Report Number T-016	JSC# --	KSC# --
Problem Title LO2 INTERTANK SOFI APPLICATION ABORT				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# VARIOUS	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE INTERTANK SOFI	PART# 82671118009	SER/LOT# N/A	MANUFACTURER N/A
Test/Operation M - MFG	Prevailing Condition --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact R. HAWKINS	Fail Date 09/19/1980
Received at MSFC 12/12/1980	Date Isolated --	FMEA Reference 1.2.2	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text STS-003 THRU 0006, AND LWT-1 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 01/18/1982	Defer Date --	Add Date --	R/C Codes 3 - F/TE -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --

Approval					
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 01/29/1982	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description					
REF: MARS T28134 EACH TIME THE FOAM APPLICATION FOR THE LO2 INTERTANK HAS BEEN ATTEMPTED THERE HAS BEEN A SPRAY ABORT. THIS FOAM APPLICATION HAS A HISTORY OF NOT MEETING THE FINISHED PRODUCT REQUIREMENTS, I.E., DENSITY & WAVINESS					
Contractor Investigation/Resolution					
1/18/82 CAUSE - (1) INADEQUATE DESIGN OF TOOLING. (2) IMPROPER USE OF EQUIPMENT. (3) IMPROPER MAINTENANCE OF EQUIPMENT. (4) INADEQUATE SOFI FORMULATION. (5) INADEQUATE SPRAYING TECHNIQUE. 1/18/82 RESOLUTION - TOOLING FAILURES THAT HAVE BEEN CORRECTED THRU REDUNDANT SYSTEMS WHERE POS- SIBLE, (BACK-UP SWITCH WAS INSTALLED). A CHECKLIST HAS BEEN WRITTEN THAT SHOULD PREVENT THE RECUR- RENCE OF FAILURES SUCH AS HOSES KINKING. PREVENTATIVE MAINTENANCE PROCEDURES HAVE BEEN WRITTEN THAT WILL KEEP THE EQUIP. IN GOOD OPERATING CONDITION. PROCEDURES HAVE BEEN IMPLEMENTED THAT WILL INSURE THE INTEGRITY OF THE MTRLS PRIOR TO APPLICATION ON THE TANK. 1/19/82 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

ASSESSMENT ADDENDUM REPORT

MSFC Report# A02315	IFA# --	Contractor RPT# T-016	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02365	In-Flight Anomaly Number --	Contractor Report Number T-015	JSC# --	KSC# --
Problem Title FILLER CORK CONTAMINATION				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# VARIOUS	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE FILLER CORK	PART# MMS-Y-913A101	SER/LOT# N/A	MANUFACTURER MARYLAND
Test/Operation M - MFG	Prevailing Condition --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact F. RAMSEY	Fail Date 08/22/1980
Received at MSFC 12/19/1980	Date Isolated --	FMEA Reference 1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text NONE				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 11/03/1981	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --
Approval				

Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 12/01/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description 1) REF: CAPS T-012 2) DURING THE INVESTIGATION OF LOW FWT ON 561 SLA, AS PART OF CAPS T-012, AN INDICATION OF POSSIBLE CONTAMINATED CORK WAS DISCOVERED. FILLER CORK IS USED IN MAKING A SLA & CONTAMINATION WOULD INHIBIT THE CURE OF THE SILICONE RESINS					
Contractor Investigation/Resolution CAUSE: UNDER INVESTIGATION. 11/4/81 - REQUESTED BACKUP DATA STMY987A REFERRED TO IN CAP CLOSURE. 11/16/81 - REC'D STMY987A BACKUP DATA 11/17/81 CAUSE - FILLER CORK CONTAMINATION PROCESS CHANGE AT VENDOR, NO DEFINITIVE REQMENTS FOR REC'G INSPECTION TO TEST CORK. 11/17/81 RESOLUTION - THIS NONCONFORMANCE INVESTIGATION REVEALED QUAL CONTROL ON 561 SLA CORK MTRL WAS VERY LAX & VENDOR FACILITIES & PROCESSES VERY CONDUCTIVE FOR CORK CONTAMINATION. ALSO INSPEC- TION CRITERIA FOR FILLER CORK WAS LACKING THEREFORE TPS ENGR'G EVALUATED THE CORK PRESENTLY BEING USED & ESTABLISHED THE REQMENTS FOR MTRLS SPEC STM Y-987A SPECIFYING CORK PHYSICAL PROPERTIES. RECURRENCE CONTROL - STM Y-987A ESTABLISHES QUAL CONTROL OF FILLER CORK TO PRECLUDE FUTURE CORK PROBS OF THIS NATURE. 11/17/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

ASSESSMENT ADDENDUM REPORT

MSFC Report# A02365	IFA# --	Contractor RPT# T-015	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02470	In-Flight Anomaly Number --	Contractor Report Number E-046	JSC# --	KSC# --
Problem Title NO CONTINUITY AT CONNECTOR J2 WHEN TORQUED TO 60-IN. OZ				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (2) B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-3	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE ACCELEROMETER	PART# PD7400102-019	SER/LOT# 088	MANUFACTURER GULTON
Test/Operation M - MFG	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact J. KENNEDY	Fail Date 10/14/1980
Received at MSFC 01/16/1981	Date Isolated --	FMEA Reference 3.2.5	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-3 THRU ET-6				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 03/05/1982	Defer Date --	Add Date --	R/C Codes 4 - TEST -- --
Assignee				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --
Approval				

Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 03/29/1982	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T-38297 CONNECTOR J-2 OPENS INDICATING NO CONTINUITY THRU MATING COAX CABLE WHEN THE COAX CONNECTOR IS TORQUED TO 60 IN-OZ CONTINUITY DOES EXIST AT LOWER TORQUE VALUES					
Contractor Investigation/Resolution CAUSE - DC&R E-81-04, INSPECTION OF STOCK ITEMS, HAS IDENTIFIED THE CONDITION TO BE A VENDOR PROB- LEM THE OPENING OF THE FEMALE SOCKET CONTACT IS ENLARGED & DOES NOT PROVIDE ADEQUATE CONTACT TO PIN PRESSURE. RESOLUTION - 1-8-82 CLOSURE WAS NOT COMPLETE & ADDITIONAL INFO REQUESTED FROM MMC. 2/2/82 - MMC PROVIDED ADDENDUM TO CADS CLOSURE. RESOLUTION AS FOLLOWS: THE EFFECTIVITY FOR THE ACCELEROMETERS IS NOW ET-3 THRU ET-6 ONLY; THEREFORE, MOST OF THE HDWR HAS BEEN PROCURED. A PIN PULL TEST HAS BEEN DEVELOPED FOR USE ON THE CONNECTORS ON ET-3 THRU ET-6 TO DETERMINE ACCEPTABILITY.THOSE PINS WHICH FAIL TEST WILL BE REPLACED BY LARGER PIN WHICH ALLEVIATES THE PROB. THE TEST WILL BE PERFORMED & DOCUMENTED ON THE FOLLOWING DC&RS: A) STORES/STOCK: DC&R E-81-04 C) ET-4: DC&R E-81-08 B) ET-3: DC&R E-81-09 D) ET5 & 6: DC&R ET-82-01 THIS CAPS IS CLOSED FOR R/C. 2/10/82 - NASA DESIGN ACTIONEE DID NOT CONCUR WITH CAPS WORDING BASED ON DC&R E-82-01. 3/5/82 - REC'D REVISED CAPS. 3/8/82 RECURRENCE CONTROL - SCAR 3761-81-224 REQUIRING VENDOR C/A TO ASSURE SOCKET CONTACTS ARE DIMENSIONALLY CORRECT FOR FUTURE PURCHASES. CORRECTIVE ACTION: ET-3, DC&R E-81-09 PERFORMED AT KSC MEASURED PIN EXTRACTION PULL FORCE ON POGO TRANSDUCERS & LOW FREQ					

TRI-AXIAL TRANSDUCER. A POGO TRANSDUCER FAILED, WAS REPLACED, & TESTED ACCEPTABLE. ET-4, DC&R E-81-08 ALSO PERFORMED PIN EXTRACTION PULL FORCE MSRMNTS ON CRITICAL CONNECTORS, REF CAPS E-046D. MARS WERE WRITTEN & REPAIRS MADE BY INSTALLING OVERSIZED PINS IN THE MATING CONNEC- TORS ADDITIONALLY DC&R E-81-08RI PERFORMED CHECKS OF "WORST CASE" PIN SIZE CONBINATIONS TO ASSURE CONFIDENCE IN CIRCUIT INTEGRITY. ET-5, DC&R E-81-01 PERFORMED IDENTIFICAL TESTS AS DC&R E-81-08 ON ET-4 ADDITIONAL MICROPHONE CON- NECTORS WERE NOT TESTED DUE TO TPS CLOSEOUT. CHECKS WERE PERFORMED USING THE 'WORST CASE' CONNEC- TOR PIN OF 58 CONNECTORS CHECKED 44 FAILED. 13 WERE DISPOSITIONED FOR REPAIR AT MAF, (MATING PIN REPLACEMENT) 31 WERE DISPOSITIONED TO MATE & TDR TEST & SUBSEQUENT REPAIR BASED ON TEST RESULTS. THERATIONALE SUPPORTING THESE DISPOSITIONS WAS PREDICATED ON THE CRITICALITY OF THE MSRMNT & DATA FROM STS-1 & STS-2. ET-6, DR'S WILL BE INITIATED TO PERFORM PIN EXTRACTION PULL-FORCE MSRMNTS ON THE POGO TRANSDUCERS. IF NECESSARY REPAIR WILL BE BY INSTALLING OVERSIZED PINS IN THE MATING CONNECTOR. NO FURTHER ACTION IS DEEMED NECESSARY BASED ON FLT DATA FROM STS-1 & STS-2

MSFC Response/Concurrence

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

MSFC Report# A02470	IFA# --	Contractor RPT# E-046	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02499	In-Flight Anomaly Number --	Contractor Report Number E-047	JSC# --	KSC# --
Problem Title LO2 ULLAGE PRESSURE TRANSDUCER INDICATES OPEN CIRCUIT				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl N	Misc Codes A B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE LO2 ULL PRES TRNSDCR	PART# PD7400098-029	SER/LOT# 123 & 490	MANUFACTURER GULTON
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE LO2 ULL PRES TRNSDCR	PART# PD7400098-029	SER/LOT# 123 & 490	MANUFACTURER GULTON
Test/Operation A - ATP	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact S. BRAGG	Fail Date 12/17/1980
Received at MSFC 01/28/1981	Date Isolated --	FMEA Reference 3.1.1.9	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL/CSC		Symptom --		Time Cycle --
Effectivity Text NONE				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 05/03/1989	CN RSLV SBMT 02/17/1981	Defer Date --	Add Date --	R/C Codes 4 - TEST -- --
Assignee				
Design	Chief Engineer	S & MA	Project	Project MGR

L. GUZINSKY	--	D. NEWMAN	R. ABRAHAM	--
Approval				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 03/20/1981	Status C - CLOSED	F/A Completion --
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --
FUNC MOD --	Software Effectivity -- -- -- -- --	Software Fail CD --		SUBTYPE --
				Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --			
Related Document Type --	Related Document ID --			
Related Document Title --				
Related Document Type --	Related Document ID --			
Related Document Title --				
Related Document Type --	Related Document ID --			
Related Document Title --				
Contractor Status Summary				
Reliability/Quality Assurance Concerns, Recommendations:				
Problem Description				
1) REF: MARS T38785 2) TRANSDUCER S/N 123 FAILED CALIBRATION TESTING AT NSTL/CSC. TRANSDUCER INDICATED SHORTED TURNS AT HIGH END OF RANGE. 3) TRANSDUCER S/N 490 FAILED CALIBRATION TESTING AT NSTL/CSC. TRANSDUCER INDICATED AN OPEN CIRCUIT AT THE LOW END				
Contractor Investigation/Resolution				
1) CAUSE: A) FAILURE ANALY WAS PERFORMED ON S/N 123 AT GULTON, SCD RESULTS INDICATED THAT RESISTIVE ELEMENT WAS SHORTED AT THE HIGH END (22-30 PSID) DUE TO HIGH CURRENT. B) FAILURE ANALY WAS PERFORMED ON S/N 490 AT GULTON, SCD. RESULTS INDICATED THAT RESISTIVE ELEMENT WAS OPEN AT THE LOW END (0-2 PSID) DUE TO HIGH CURRENT. 2) INVESTIGATION: FAILURE ANALY HAS SHOWN THAT EXCESSIVE CURRENT THROUGH THE ELEMENT WINDINGS OF THESE TRANSDUCERS RESULTED IN FAILURE. A COMPLETE REVIEW OF EACH UNIT'S ACCEPTANCE TEST RECORD. SHOWS THEM TO HAVE BEEN GOOD AT THE TIME OF ACCEPTANCE. THESE FACTS, ALONG WITH A REVIEW OF THE UNITS' HISTORICAL RECORDS WHICH VERIFY THAT THEY HAVE NEVER BEEN INSTALLED OR ELECTRICALLY/ PRESSURE TESTED OTHER THAN AT NSTL/CSC SINCE DELIVERY, IDENTIFY THE CAUSE OF THESE FAILURES TO HAVE BEEN OPERATOR ERRORS DURING CALIBRATION OPERATION. THEREFORE, THIS PROBLEM IS NOT CONSIDERED A CONSTRAINT TO STS-1. CAPS E-041A CLOSURE REC'D 2-17-81, BACKUP DATA				

MAILED. INVESTIGATION: CORRECTIVE ACTION DIRECTIVE (CAD) 3741-81-002 HAS BEEN GENERATED TO ESTABLISH & IM APPROPRIATE CORRECTION ACTIONS. A COPY IS ATTACHED TO THIS CAPS. COORDINATION WITH KSC REVEALS THAT BENCH CALIBRATION OF THESE UNITS IS NOT PERFORMED AT KSC. UNITS REQUIRING CALIBRATION ARE SENT TO NSTL/CSC. FURTHERMORE, MAF DOES NOT PERFORM BENCH CALIBRATION; THEY ALSO, RETURN UNITS TO NSTL/CSC. 3) RESOLUTION: THE TEST CALIBRATION PROCEDURE AT NSTL/CSC HAS BEEN CHANGED TO REFLECT A CAUTION FOR STEP (2)C WHICH ENERGIZES THE CURRENT LIMITER TO 1.0 MA ON THE TEST EQUIPMENT. IN ADDITION, TECHNICIANS HAVE BEEN VERBALLY INSTRUCTED TO USE THE CURRENT LIMITING MODE (REF REPLY TO CAD 3741-81-002). EFFECTIVITY: NONE. 3/3/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A02499	IFA# --	Contractor RPT# E-047	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

MSFC Problem Reporting and Corrective Action (PRACA) System

WHOLE RECORD REPORT(+ ADDENDUM)

MSFC Record # A02506	In-Flight Anomaly Number --	Contractor Report Number P-038	JSC# --	KSC# --
Problem Title GO2 MIDLINE ASSEMBLY LEAK				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1
HCRIT --	Sys_Lvl N	Misc Codes A B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE GO2 ASSEMBLY	PART# PD4800180-049	SER/LOT# 343	MANUFACTURER ARROWHEAD
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE GO2 MIDLINE ASSY	PART# PD4800180-049	SER/LOT# 343	MANUFACTURER ARROWHEAD
Test/Operation A - ATP	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System PROPULSION	Defect --	Material --	Work Contact J. FINCHER	Fail Date 01/09/1981
Received at MSFC 01/29/1981	Date Isolated --	FMEA Reference 2.1.3	IFA: Mission Phase --	Mission Elapsed Time --
Location ARROWHEAD		Symptom MV - EXT LEAK		Time Cycle --
Effectivity Text NONE				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 07/15/1981	Defer Date --	Add Date --	R/C Codes 0 - EXPL -- --
Assignee				
Design R. ZAGRODZKY	Chief Engineer --	S & MA D. NEWMAN	Project C. CRANE	Project MGR --
Approval				

Design R. ZAGRODZKY	Chief Engineer --	S & MA D. NEWMAN	Project C. CRANE	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 08/28/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description 1) REF: MARS T-31744 2) DURING PERFORMANCE OF ACCEPTANCE TEST PER ET-10-ATP-0012, PARA 5.3.3, A LEAK DEVELOPED AT WELD NO. 2. LINE HAD PASSED PRESSURE TEST, BUT FAILED PROOF LOAD TEST					
Contractor Investigation/Resolution 1) CAUSE: WELD REPAIRS HAD BEEN MADE IN AREA OF LEAK. NO DEFECT WAS INDICATED BY PENETRATE & X-RAY. FAILURE ANALY TO BE PERFORMED BY ARROWHEAD. 2) CONSTRAINT: NONE FOR STS-1 SINCE ET-1 LINES HAVE SUCCESSFULLY PASSED PROOF TEST. 5/8/81 - CONSTRAINT "LIFTED" FOR STS-2 ALSO SINCE LINES HAVE SUCCESSFULLY PASSED PROOF TEST. ET PROJ OFFICE CONCURS. 7/17/81 - RESOLUTION - PROOF LOAD REQUIREMENT FOR G02 PRESSURIZATION LINE MIDLINE ASSY PER ATP ET-10-ATP-0012, PARA. 5.3.3 IS 1400 POUNDS AXIAL LOAD AT 775 PSI INTERNAL. A WELD REPAIR HAD BEEN MADE ON THE PARTICULAR WELD, JOINT #2 AND PENETRANT INSPECTED AND X-RAYED NO INDICATION WAS EVIDENCED INDICATING A SUSPECT CONDITION. FAILURE ANALYSIS INDICATES CRACK DEVELOPED AS A RESULT OF UNEVEN EXPANSION OF THE TUBE CAUSING A TENSILE OVERLOAD CONDITION WITH THE FRACTURE STARTING ON THE INSIDE OF TUBE ADJACENT TO A WELD REPAIR AREA IN THE HEAT AFFECTED ZONE. TUBE AND ROD WERE CONFORMED TO BE ON THE RIGHT MATERIAL. MARS DISPOSITION TO REMOVE AND REPLACE TUBE AND COLLAR AND PERFORM FULL ACCEPTANCE AFTER COMPLETION OF WORK. 7/21/81 - CLOSURE DISTRIBUTED					

MSFC Response/Concurrence**MSFC Problem Reporting and Corrective Action (PRACA) System
ASSESSMENT ADDENDUM REPORT**

MSFC Report# A02506	IFA# --	Contractor RPT# P-038	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE MV - EXT LEAK		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02535	In-Flight Anomaly Number --	Contractor Report Number E-048	JSC# --	KSC# --
Problem Title LO2 ULLAGE TRANSDUCER OPERATED INTERMITTENTLY				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LO2 TANK	PART# 82612000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LO2 ULL PRES TRNSDCR	PART# PD7400098-029	SER/LOT# 94,115,117	MANUFACTURER GULTON
Test/Operation L - FLD	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact BRAGG	Fail Date 01/27/1981
Received at MSFC 02/04/1981	Date Isolated --	FMEA Reference 3.1.1.9	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET2 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 07/27/1981	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --

Approval					
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 09/24/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description					
<p>1) REF: CAPS E-027 & KSC PR TBD 2) A. TRANSDUCER S/N'S 94 & 115 EXPERIENCED INTERMITTENT OPERATION DURING ET-1 TANKING. B. TRANSDUCER S/N 118 SHIFTED LOW DURING ET-1 TANKING & S/N 117 SHIFTED LOW AFTER ET-1 TANKING OPERATIONS. C. TRANSDUCER S/N 651 SHIFTED LOW DURING ET-1 TANKING OPERATIONS. THIS ANOMALY OCCURRED ON 3-24-81, SUBSEQUENT TO ITEMS A & B</p>					
Contractor Investigation/Resolution					
<p>1. CAUSE: ENVIRONMENTAL CONDITIONS (ACOUSTICS) & CONTAMINATION. 2 3/24/81 - ET-1 EXONERATION/STS-1 CONSTRAINT REMOVAL. EXTENSIVE TESTING AT MAF, MMC DENVER, KSC (ET-1) & MPTA PROVED THAT INSTALLING FILTERS/SNUBBERS IN BOTH THE REF. & SENSING PORTS OF THE TRANS-DUCERS TO BE AN EFFECTIVE CORRECTIVE ACTION. THESE FILTERS HAVE BEEN INSTALLED ON THE REPLACED LO2 TRANSDUCERS ON ET-1. THIS CONSTRAINT REMOVAL HAS BEEN COORDINATED WITH ET PROJ. OFFICE. 3. 3/28/81 - ADDITIONAL ET-1 TANKING TEST ON STS-1 REVEALED ONE OF THE FOUR LO2 TRANSDUCERS 23 ED LOW SHIFT. AS A RESULT OF THIS ANOMALY, CAPS E-048 IS AGAIN A CONSTRAINT TO STS-1. THIS ACTION HAS BEEN COORDINATED WITH ET PROJ OFFICE. J.B. ODOM 4. 4/2/81 - A MANAGEMENT DECISION WAS MADE NOT TO CHANGE-OUT THE ABOVE FAILED TRANSDUCER IS PREDI- CATED ON THE FOLLOWING RATIONALE: A) OPERATIONAL DATA ACQUIRED DURING ET-1 PREFLT TANKING</p>					

TESTS SHOW THE THREE REMAINING SENSORS TO BE FUNCTIONING PROPERLY. B) THE INCORPORATION OF FILTERS & SHOCK ISOLATORS HAS PROVEN TO BE EFFECTIVE IN ELIMINATING THE PRIMARY CAUSES, ACOUSTICS & VIBRATIONS, THROUGH EXTENSIVE TESTING. C) LAUNCH COMMIT CRITERIA FOR ET-1 HAS BEEN CHANGED FROM THREE OF THREE OPERATIONAL LO2 ULLAGE TRANSDUCERS TO TWO OF THREE OPERATIONAL. DUE TO THE ABOVE CRITERIA, THE CONSTRAINT IS LIFTED FOR STS-1. THIS CONSTRAINT CHANGE HAS BEEN COORDINATED WITH THE ET PROJECT OFFICE. J.B. ODOM 5) 2/28/81 RESOLUTION - ET-1 INVESTIGATION IDENTIFIED THREE FAILURE MODES. A. LIFTING OF WIPERS - CAUSED BY ACOUSTICS & NONCONDUCTIVE CONTAMINATION RESULTING IN INTERMITTENT OPERATION. B. SHORTED WINDINGS - CAUSED BY EXCESSIVE WEAR OF RESISTIVE ELEMENT DUE TO ACOUSTICS EXPERIENCED IN REF PORTS OVER EXTENDED PERIODS OF USE. THE WEAR PARTICLES ARE SMEARED BETWEEN THE WINDINGS RESULTING IN SHORTS BETWEEN WINDINGS. C. DURING STS-1 TANKING FAILURE WAS ATTRIBUTED TO NONCONCENTRICITY OF WIPER & RESISTIVE ELEMENT PRO- MOTING EXCESSIVE WEAR; THEREBY, CREATING CONDUCTIVE CONTAMINATION RESULTING IN SHORTED WINDINGS. ET-2 FAILURE DURING NSTL TANKING WAS IDENTIFIED AS: SAMES AS 'C' ABOVE. BOTH FAILURES OCCURRED ON TRANSDUCERS MOUNTED AT POSITION #2 INDICATING POSITION #2 EXPERIENCES HIGHER ACOUSTICS RECURRENCE CONTROL: - FILTERS/SNUBBERS HAVE BEEN INCORPORATED IN BOTH REF & SENSING PORTS OF THE TRANSDUCERS. - INSPECTION & PROCESS WERE REVIEWED & CHANGES MADE TO EFFECTIVELY ELIMINATE CONTAMINATION. - INSTALLATION OF STEEL MESH IN NOSE CONE DIFFUSER TO REDUCE ACOUSTIC LEVEL BY 30DB. - VENT LINE NEAR POS #2 TRANSDUCER WAS COVERED WITH TPS TO DECREASE ACOUSTIC OUTPUT. - THE ORIFICE IN THE VENT LINE WAS REMOVED & A STROKE LIMITER ADDED TO VENT VALVE REDUCING THE ACOUSTIC INPUT TO THE NOSE CONE AREA. THE ABOVE MENTIONED DESIGN & PROCESS CHANGES ARE THE BASIS FOR EXONERATION OF ET-2 & HAS BEEN COOR- DINATED WITH THE ET PROJ OFFICE - G. BRIDWELL. CLOSURE OF THIS PROB IS PENDING BACK-UP DOCUMENTATION INFO & CLARIFICATION OF RECURRENCE CONTROL FORET-3 & SUBS BY MMC. 8/5/81 - REC'D UPDATED CAPS REV D DEFINING EFFECTIVITY & CLOSING TASK III. R/C AS STATED PRE- VIOUSLY IS ACCEPTABLE. 9-15-81 - AS PER TELECON REQUEST RECEIVED REVISION MEMO TO CAPS (3741-81-277) WHICH REVISES RE- CURRENCE CONTROL FOR ET-6 AND LWT-1 & SUBS. E01343 REPLACES PD7400098-079 LO2 ULLAGE PRESSURE TRANSDUCERS WITH TAVIS PD7400210-029 SENSORS FOR THESE UNITS

MSFC Response/Concurrence

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

MSFC Report# A02535	IFA# --	Contractor RPT# E-048	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02556	In-Flight Anomaly Number --	Contractor Report Number T-019	JSC# --	KSC# --
Problem Title LH2 TANK ABLATOR PANELS DEBONDED				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1
HCRIT --	Sys_Lvl Y	Misc Codes A B (X) C D E (X) F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LH2 TANK	PART# 82604000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LH2 ABLATOR PANELS	PART# 82674108008	SER/LOT# ET-1	MANUFACTURER MMC
Test/Operation L - FLD	Prevailing Condition --	F / U F	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact F. RAMSEY	Fail Date 01/23/1981
Received at MSFC 02/11/1981	Date Isolated --	FMEA Reference 1.2.1	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-2 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 07/27/1981	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G.	Project MGR --

			CAVALARIS	
Approval				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 09/18/1981	Status C - CLOSED	F/A Completion --
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --
				Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --			
Related Document Type --	Related Document ID --			
Related Document Title --				
Related Document Type --	Related Document ID --			
Related Document Title --				
Related Document Type --	Related Document ID --			
Related Document Title --				
Related Document Type --	Related Document ID --			
Related Document Title --				
Contractor Status Summary				
Reliability/Quality Assurance Concerns, Recommendations:				
Problem Description				
1) REF: KSC PR TBD 2) DURING POST-TANKING TEST INSPECTION ON ET-1/STS-1, SEVERAL CRACKS & SLA PANEL DEBONDS ON THE LH2 TANK WERE FOUND				
Contractor Investigation/Resolution				
1) CAUSE: - LACK OF DC 1200 & CONTAMINATION OF PRIMER SURFACE. - THICK GX600 ADHESIVE - BRIDGING OF PANELS OVER WIRES & TANK SURFACE IRREGULARITIES. 2) 4/1/81 - STS-S/ET-1 EXONERATION - AN INVESTIGATION & REPAIR TEAM HAVE REMOVED & REPLACE ALL DE- BONDED SLA PANELS ON STS-1 TWO MASOR TANKING OPERATIONS HAVE BEEN DONE WITH A POST-WALKDOWN INSPEC-TION WITH NO DEBOND OCCURRING. DUE TO THE ABOVE SUCCESSFUL OPERATION, THE CONSTRAINT IS LIFTED FROMSTS-1. THIS CONSTRAINT CHANGE HAS BEEN COORDINATED WITH THE ET PROJ OFFICE - JAMES B. ODOM 3) 7/28/81 RESOLUTION - ET-1 - FAILURE ANALY INVESTIGATION CARRIED OUT BY JOINT MSFC/MMC TEAM RE- PORTED IN DOCUMENT NO. 826-3570 (22 MAY 81) DETAILS TESTS & CAUSES. ET-2 - A SPECIAL TPS VERIFICATION TEST WAS PERFORMED AT NSTL IN WHICH TANK PRESSURIZATION SIMULATED 110% OF FLT STRESS LOADS TO TPS. REPAIRS WERE MADE PER MARS T-32852. CONSTRAINT FOR ET-2 WAS RE- MOVED ON BASIS OF VERIFICATION TEST & NOTED REPAIR. EXONERATION OF THIS				

CONSTRAINT CHANGE HAS BEEN COORDINATED WITH THE ET PROJ OFFICE - G BRIDWELL. 8/17/81 RECURRENCE CONTROL - ET-1 DEBONDED AREAS WERE REPAIRED AT KSC. SPECIAL TANKING TEST CARRIED OUT TO VERIFY REPAIR ET-2 SPECIAL TANKING TEST CARRIED OUT AT NSTL. ONE DEBOND RESULTED REPAIR WAS MADE AT KSC ET3 & 4 WILL BE TANKED AT KSC DURING COUNTDOWN DEMONSTRATION TESTS. TANK WILL THEN BE INSPECTED FOR EVIDENCE OF DEBONDED TPS. ET-5 & UP PI6005-2 REVISION IMPROVES MANUFACTURING TECHNIQUES & PROCESS. 8/17/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

MSFC Problem Reporting and Corrective Action (PRACA) System

ASSESSMENT ADDENDUM REPORT

MSFC Report# A02556	IFA# --	Contractor RPT# T-019	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02636	In-Flight Anomaly Number --	Contractor Report Number E-049	JSC# --	KSC# --
Problem Title TEMPERATURE PROBE FAILED ALPHA REQMNTS				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (2) B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE TEMPERATURE SENSOR	PART# PD7400095-009	SER/LOT# VARIOUS	MANUFACTURER HY-CAL
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE TEMPERATURE SENSOR	PART# PD7400095-009	SER/LOT# VARIOUS	MANUFACTURER HY-CAL
Test/Operation A - ATP	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact S. BRAGG	Fail Date 02/18/1981
Received at MSFC 03/02/1981	Date Isolated --	FMEA Reference 3.1.1.8	IFA: Mission Phase --	Mission Elapsed Time --
Location HY-CAL		Symptom --		Time Cycle --
Effectivity Text ET-1 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 09/18/1981	Defer Date --	Add Date --	R/C Codes 4 - TEST -- --
Assignee				
Design	Chief Engineer	S & MA	Project	Project MGR

L. GUZINSKY	--	D. NEWMAN	R. ABRAHAM	--
Approval				
Design L. GUZINSKY	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 09/24/1981	Status C - CLOSED	F/A Completion --
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --
FUNC MOD --	Software Effectivity -----	Software Fail CD --		SUBTYPE --
				Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --			
Related Document Type --	Related Document ID --			
Related Document Title --				
Related Document Type --	Related Document ID --			
Related Document Title --				
Related Document Type --	Related Document ID --			
Related Document Title --				
Contractor Status Summary				
Reliability/Quality Assurance Concerns, Recommendations:				
Problem Description				
<p>1) REF: MARS T39593, T39591, & T39585 2) THE UNITS IDENTIFIED IN THE ATTACHED MATRIX FAILED TO MEET THE ALPHA REQMENTS OF PD7400095-XXX AT THE TIME OF THEIR ACCEPTANCE AT THE VENDOR'S FACILITY. THESE UNITS SHOULD HAVE BEEN REJECTED DURING ATP. THE ANOMALIES WERE DISCOVERED DURING A REVIEW OF THE UNITS ACCEPTANCE DATA AT MAF. THE UNIT DASH NOS ARE THE -009'S & -089'S</p>				
Contractor Investigation/Resolution				
<p>1) CAUSE - INADEQUATE ATP TEST REQMENTS. 3/11/81 - 2) CONSTRAINT CHANGE: ELECTRICAL ENGINEERING HAS INVESTIGATED PD7400095-009 & -089 TRANSDUCERS INSTALLED ON MPTA, ET-1, AND ET-2 TO DETERMINE THE ALPHA CHARACTERISTICS ON EACH TRANSDUCER. COMPLETE DETAILS OF THIS INVESTIGATION ARE INCLUDED IN CAPS E-049A. THE RESULTS ARE: A "USE AS IS" FOR ET-1, ET-2, & MPTA AND THEREFORE NO CONSTRAINT. 9/17/81 - ELECTRICAL ENGR'G REVIEWED THE ACCEPTANCE DATA FOR THE IDENTIFIED DISCREPANCY & PROVIDED "USE AS IS" RATIONALE USING THE SAME METHOD PREVIOUSLY USED TO CLEAR ET-1, 2, & MPTA. THIS METHOD IS DEEMED SUFFICIENT TO CLEAR ET-3 & SUBS. FOR SPECIFICS ON METHOD SEE CAPS E-049B, TASK II/ ATTACHMENT 2. NOTE: ATTACHMENT #2 DOES NOT PROVIDE RATIONALE TO "USE AS IS" S/N'S 001 & 232. THESE UNITS HAVE BEEN</p>				

SCRAPPED ON MARS T-09776 & MARS T-07430. ALSO, S/N 002 WAS SHIPPED TO PROJECT "SAIL" ON DD250 IN 1977. RECURRENCE CONTROL - PARA 3.10 & 3.10.4 OF THE MMC APPROVED ATP REQ'D THAT THE ALPHA VALUE EXCEED THE LOWER LIMIT, BUT DID NOT CALL OUT THE UPPER LIMIT. TO PRECLUDE RECURRENCE, THE ATP WAS REVISED TO CALL OUT THE ALPHA LOWER & UPPER LIMITS. THE REVISED PROCEDURE WAS APPROVED ON DAS 2-24-81 9/17/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A02636	IFA# --	Contractor RPT# E-049	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02667	In-Flight Anomaly Number --	Contractor Report Number T-020	JSC# --	KSC# --
Problem Title ECCO BOND CRACKS				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (2) B C D E (X) F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LOX TANK	PART# 82612000000	SER/LOT# ET-1	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE ECCO BOND	PART# N/A	SER/LOT# N/A	MANUFACTURER MMC
Test/Operation L - FLD	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact F. RAMSEY	Fail Date 02/28/1981
Received at MSFC 03/12/1981	Date Isolated --	FMEA Reference 1.2.3	IFA: Mission Phase --	Mission Elapsed Time --
Location KSC		Symptom --		Time Cycle --
Effectivity Text ET-4,5,6, LWT-1 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 01/04/1982	Defer Date --	Add Date --	R/C Codes 1 - DES -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --

Approval					
Design R. ZAGRODSKY	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 01/21/1982	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: KSC PR ET-1-ST-0670 DURING POST TANKING INSPECTION OF STS-1, VERTICAL CRACKS ON THE LIGHTNING BAND (ECCO BOND) AT STA. 536 LOX TANK WERE NOTICED. THE CRACKS ARE LOCATED BETWEEN THE -Y TO THE -Z FOR ABOUT (4) FT. FROM THE -Y AND AT INTERVALS OF 18 INCHES WITH SOME AS FREQUENT AS 6 INCHES. ALL CRACKS WERE VERTICAL AND RAN COMPLETE WIDTH OF BAND					
Contractor Investigation/Resolution CAUSE - UNDER INVESTIGATION 7/17/81 CAUSE - SUSPECTED 1) THICKNESS OF BAND; 2) STRAIN COMPATIBILITY; 3) MTRL STABILITY 7/17/81 - CONSTRAINT "LIFTED" FOR ET2 & ET3 & SUBS, PRCB LEVEL II ACCEPTANCE OF STS-1 REMOVED CON- STRAINT (REF ET-3-OC-3760). OPERATIONS DIRECTIVE ET/MGT 222 AUTHORIZES REMOVAL OF ECCO BOND FROM ET-2. PRCB LEVEL II ACCEPTANCE OF ET-2 WITHOUT ECCO BOND REPLACEMENT RELIEVES CONSTRAINT ON STS-2 RATIONAL FOR ACCEPTANCE IS JSC07636, REV B PARA 8.0 OF END ITEM SPEC ON FAIR WEATHER FLTS. TPS ENGR'G IS PERFORMING TESTS TO DEVELOP A REVISED LIGHTNING BAND FOR FUTURE ET'S TESTING IS ESTIMATED TO BE COMPLETE IN LATE SEPT. 1/6/82 RESOLUTION - ET-1 - FLOWN AS BUILT. ET-2 & 3 - ECCO BOND REMOVED PER O.D. ET/MGT 222, REV 1. ET-4 - ECCO BOND WAIVED PER B00975H SUPPLEMENT "BD". ET-5,6, LWT-1 & UP - ECCO BOND ADHESIVE TO BE 59K SELECTED PER B00975H SUPPLEMENT "BD". STRIKE BAND REMOVED AT STA 371.0 LIGHTNING STRIKE BAND AT STA 536 HAS BEEN MODIFIED BY REMOVING 3					

LIGHTNING PLUGS ON THE +Z SIDE. (REF DCN 82671118009). RECURRENCE
CONTROL - BONDING MTRL CHANGED TO 59K ECCO BANDING CONFIGURATION
CHANGED PER DCN 82671118009. 1/6/82 - CLOUSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A02667	IFA# --	Contractor RPT# T-020	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02789	In-Flight Anomaly Number --	Contractor Report Number T-022	JSC# --	KSC# --
Problem Title INSTRUMENT ISLANDS NOT TO DWG. TOLERANCE				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-3	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE INSTRUMENT ISLAND	PART# 82671128010	SER/LOT# N/A	MANUFACTURER MMC
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact R. HAWKINS	Fail Date 03/18/1981
Received at MSFC 04/21/1981	Date Isolated --	FMEA Reference 1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-3 THRU ET-7				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 06/29/1981	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --

Approval					
Design R. ZAGRODSKY	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 07/24/1981	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description					
REF: MARS T40580, T23890, T23881 AND T40834 DURING MACHINING OF THE CAVITIES AND WIRE TROUGHS IN THE INSTRUMENT ISLAND FORM, PRODUCTION IS EXPERIENCING DIFFICULTY MAINTAINING DRAWING TOLERANCE					
Contractor Investigation/Resolution					
CAUSE: INADEQUATE WORKMANSHIP, INADEQUATE TOOLING, INADEQUATE DESIGN RESOLUTION: 1) PERSONNEL INSTRUCTED TO INSPECT TOOLING REGULARLY TO VERIFY THAT IT IS USABLE 2) REMOVED, REPLACED OR REWORKED THOSE TOOLS WORN OR NOT TO DWG - REF MEMO'S 3725-81-020, 3741-81-109, & 3614-81-116, 3) TOLERANCES FOR INSTRUMENT ISLAND CAVITIES & WIRE TROUGHS LOOSENED FROM .030 TO .060. 6/30/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

MSFC Report# A02789	IFA# --	Contractor RPT# T-022	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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 PRACA : 2003-02-12 07:54

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

MSFC Record # A02790	In-Flight Anomaly Number --	Contractor Report Number T-021	JSC# --	KSC# --
Problem Title EPOXY PRIMER LIFTED WITH REMOVAL OF POLY-TAPE				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE POLY-TAPE	PART# MMS J 414	SER/LOT# N/A	MANUFACTURER 3M
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact A. DAECH	Fail Date 03/26/1981
Received at MSFC 04/21/1981	Date Isolated --	FMEA Reference 1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-005 AND SUBS				
Vehicle Effectivity Codes				
Vehicle 1 --	Vehicle 2 --	Vehicle 3 --	Vehicle 4 --	Vehicle 5 --
Mission Effectivity Codes				
Mssn 1 --	Mssn 2 --	Mssn 3 --	Mssn 4 --	Mssn 5 --
Estimated Completion Dates				
MSFC Approved Defer Until Date --	Contractor Req Defer Until Date --	LVL 3 Close --	Remark / Action --	
Investigation / Resolution Summary				
Last MSFC Update 10/07/1987	CN RSLV SBMT 08/31/1982	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project G. CAVALARIS	Project MGR --

Approval					
Design H. COLDWATER	Chief Engineer --	S & MA D. NEWMAN	Project P. BRIDWELL	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 11/17/1982	Status C - CLOSED	F/A Completion --	
Problem Type --	SEV --	Program Name --	REVL --	OPRINC --	
FUNC MOD --	Software Effectivity -- - - - - -	Software Fail CD --		SUBTYPE --	Software Closure CD --
RES PERSON L2 --	Approval Signature L3 --				
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Related Document Type --	Related Document ID --				
Related Document Title --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description MMS J-414 TAPE IS USED TO MASK EPOXY PRIMED ALUMINUM PARTS DURING TPS OPERATIONS AND PRIMER WET TAPE TESTING. IN SEVERAL INSTANCES, EPOXY PRIMER HAS BEEN LIFTED OFF OF THE ALUMINUM SUBSTRATE WHEN THE TAPE WAS REMOVED					
Contractor Investigation/Resolution 4/27/82 CAUSE - MTRLs ENGR'G CONCLUDED THE PRIMARY CAUSE OF PRIMER DAMAGE BY MMS J-414 TAPE IS SUFFICIENT EPOXY CURE (REF MEMO 3615-81-089). LOW LEVEL CONTAMINATION WAS ALSO FOUND TO BE A CONTRIBUTING FACTOR (REF 3516-81-241). 9/7/82 RESOLUTUION - MMS-J-414 & MMS-J-546 TAPES WERE TESTED, NEITHER WAS FOUND TO CONTRIBUTE TO PRIMER DAMAGE. TESTING PROVED NEITHER TAPE CAPABLE OF REMOVING FULLY CURED & BONDED PRIME. THE PRIMARY REASON FOR PRIMER FIALURE WAS CONTAMINATION PRIOR TO PRIMER APPLICATION. SOURCES OF CON- TAMINATION ARE TAPE RESIDEUE, ADCOAT MASKANT RESIDUE, FINGER PRINTS, OIL OR CLEANING SOLUTION DRIPS.TAPE & MASKANT RESIDUES ARE PROBABLY THE CAUSE OF ISOLATED PRIMER FAILURE AROUND KEENSERTS & FAYING SURFACES. RECURRENCE CONTROL - PI-3004 WAS REVISED TO CHANGE THE METHOD OF EPOXY PRIMER CATALYZATION TO PRO- VIDE A BETTER CURE. PRODUCTION & QC PERSONNEL INSTRUCTED TO BE MORE DILIGENT IN MANUAL CLEANING EFFORT. PRODUCTION SUPERVISION & QC INFORMED TO ENFORCE THE "NO BARE HANDS ON ALUM."					

REQMT. ATTEMPTS HAVE BEEN MADE TO ISOLATE OVERHEAD CRANE OIL LKGE,
 ADDITIONAL DRAIN HOLES PROVIDED, INSPEC-TIONS OF PLATFORMS FOR STANDING
 WATER/SOLUTIONS TO BE MADE PRIOR TO LOWERING. 9/14/82 - CLOSURE
 DISTRIBUTED

MSFC Response/Concurrence

MSFC Problem Reporting and Corrective Action (PRACA) System

ASSESSMENT ADDENDUM REPORT

MSFC Report# A02790	IFA# --	Contractor RPT# T-021	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE --		
Asmnt FMEA --	Asmnt FM --	FMEA CSE --	FMEA SCSE --		
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					