

MSFC PRACA : 2003-02-12 07:54

MSFC Problem Reporting and Corrective Action (PRACA) System

WHOLE RECORD REPORT(+ ADDENDUM)

MSFC Record # A01003	In-Flight Anomaly Number --	Contractor Report Number S-035	JSC# --	KSC# --
Problem Title WELD ROD TYPE CO-MINGLED				
EICN# --	ELEMENT ET	Contractor MMSS	FSCM# --	FCRIT 1
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 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 A
HARDWARE NCA	NOMENCLATURE WELD WIRE - WELD ROD	PART# VARIOUS	SER/LOT# N/A	MANUFACTURER VARIOUS
Test/Operation X - ALE	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System STRUCTURAL	Defect MT - TYPE W	Material --	Work Contact J. FINCHER	Fail Date 11/26/1979
Received at MSFC 01/30/1980	Date Isolated --	FMEA Reference 1.1	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET 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 10/14/1980	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
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 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 --					
Related Document Type --	Related Document ID --				
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MSFC ALERT NO. MSFC-A-79-04 1. THE ALERT REF'ED THE FINDING OF CO-MINGLED INCO 718 WELD ROD WITH INCO 62, INCO 82 OR A SERIES 600 ROD WHICH CAUSED A STRUCTURAL FAILURE ON A SPACE SHUTTLE ENGINE. SUBSEQUENT MSFC DIRECTION HAS EXTENDED THIS ALERT TO ENCOMPASS ALL FUSION WELDING 2. NASA/MSFC LETTER SA32/702-80 IDENTIFIED THAT A LOT OF INCO-718 WELD WIRE AT ARROWHEAD PRODUCTS WAS FOUND TO BE CO-MINGLED BY 15% WITH HAYNES 188					
Contractor Investigation/Resolution 1. CAUSE - CONTROLS UNTILIZED BY SOME MANUFACTURERES OR SUPPLIERS OF WELD ROD & WELD WIRE DURING VAIROUS PROCESS STEPS MAY INCREASE THE POTENTIAL FOR CO-MINGLING OF VARIOUS TYPES OF FILLER WIRE 2. RESOLUTION - IMPLEMENTED THE FOLLOWING POSITIVE CONTROLS WHICH ASSURE CORRECT FILLER WIRE TYPE HAS BEEN UTILIZED FOR EACH FUSION WELD ON THE ET. A) REVERIFY ALL 2319 ALUMINUM WELD WIRE/WELD ROD & DOCUMENT. (MAF) B) REQUIRE SAMPLING BEFORE & AFTER WELDING, IF WELD WIRE FROM SPOOLS (MAF) C) IMPLEMENT DC&R ACTIONS AS PERMANENT CHANGE TO EXISTING PROCESS CONTROLS. (REF OD ET/MFG-163) D) STRUCTURAL ENG'RG & QUAL ENG'RG DISPSOTION ALL PRODUCTION WELDS ALREADY COMPLETED. (REF MEMO 80M0-0832, -0620). E) REQUIRE SUPPLIERS PERFORMING FUSION WELDS TO VERIFY FILLER WIRE TYPE PRIOR TO USE & AFTER USE FOR SPOOLS. F) MSFC-STD-655, (STD-					

WELD FILLER METAL CONTROL OF) CHANGE PROPOSAL TO BE IMPLEMENTED TO INCLUDE SUPPLIER PRODUCT ASSURANCE REQNT. (ETM-64-119) G) STRUCTURAL ENGR'G PERFORMED AN ANALY OF FACTOR OF SAFETY ON CRIT WELDS & DISPOSITONED SUBJECT WELDS. (REF DC&R P-80-02-ET-6 & MEMO 3723-80-071) H) AUTOMATED METHOD ESTABLISHED TO ACCOMPLISH VERIFICATION OF 2319 FILLER WIRE TYPE AS AN INLINE OPERATION. (REF RFF-7-8-80). I) INVESTIGATED IMPACT IF HAYNESS 188 WERE USED IN LIEU OF THE REQUIRED INCONEL 718. BASED UPON PROOF LOAD TESTS & MARGINS OF SAFETY, THE ENGR'NG ANALY DOES NOT REFLECT ANY STRENGTH DEFICIEN- CIES. (REF MEMO 3512-80-124). EFFECTIVITY - ET-1 & SUBS. 10/30/80 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A01003	IFA# --	Contractor RPT# S-035	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 # A01060	In-Flight Anomaly Number --	Contractor Report Number S-037	JSC# --	KSC# --
Problem Title FLANGE SEALING SURFACE SCRATCHES				
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# N/A	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE FLANGE SEALING SURF	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System STRUCTURAL	Defect DA - ROUGH	Material --	Work Contact J. FINCHER	Fail Date 01/03/1980
Received at MSFC 02/12/1980	Date Isolated --	FMEA Reference 1.1	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-4 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 05/26/1982	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design R. ZAGRODSKY	Chief Engineer --	S & MA D. NEWMAN	Project C. CRANE	Project MGR --

Approval					
Design B. DAVIS	Chief Engineer --	S & MA D. NEWMAN	Project R. ABRAHAM	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 06/17/1982	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 --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description A RECURRENCE OF FLANGE SEALING SURFACES SCRATCHES DICTATES CERTAIN ACTIONS SINCE THE CORRECTIVE ACTIONS AS SPECIFIED ON MARS HAS NOT ELIMINATED THE PROBLEM. THESE OCCURRENCES PERTAIN TO PROPULSN LINES, TANK MANHOLES, FLANGES AND TANK PROPULSION LINE INTERFACES. REF: MARS T24080					
Contractor Investigation/Resolution 5/28/82 CAUSE - NORMAL PROCESS OF REMOVING COVER PLATES, INSTALLING PROCESS TOOLS & HANDLING MAKES THESE ITEMS SUSCEPTIBLE TO DAMAGE 5/28/82 RESOLUTION - THE SEQ. OF IN-HOUSE OPERATIONS & TOOLING USAGE DICTATES SEALING SURFACES BE EXPOSED. ANY CONTACT MADE WITH THE SEALING SURFACE BY BOLTS, ALIGNMNET PINS, ETC., CAN INFLICT DAMAGE HOWEVER EXTRA PRECAUTIONS HAVE BEEN TAKEN AS FOLLOWS: (1) TOOLING COVERS HAVE BEEN MODIFIED TO MINIMIZE COVER INSTALLATION & REMOVAL. (2) VENDOR REQMNTS INSTRUCT INSPECTION BE MADE OF SEAL- ING SURFACES IMMEDIATELY BEFORE SHIPPING COVER INSTALLATION (TIP SH 007). (3) ENGR'G ACCEPTANCE CRITERIA HAS BEEN ESTABLISH (SRI M-004) FOR FLANGE REWORK. RECURRENCE CONTROL - THE ABOVE MENTIONED CHANGES. PROVIDE R/C TO MINIMIZE SEALING SURFACE DAMAGE. ALL DEFECTS DISCOVERED WILL BE WORKED BY MRB ACTION PER SRI M-004. 6/1/82 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

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

MSFC Report# A01060	IFA# --	Contractor RPT# S-037	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 # A01118	In-Flight Anomaly Number --	Contractor Report Number S-038	JSC# --	KSC# --
Problem Title LH2 TANK CORROSION				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (1) 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 EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-2	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LH2 TANK	PART# 82604000000	SER/LOT# ET-2	MANUFACTURER MMC
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System STRUCTURAL	Defect --	Material --	Work Contact R. MELLOR	Fail Date 01/26/1980
Received at MSFC 02/25/1980	Date Isolated --	FMEA Reference 1.1.1	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-3, ET-4 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 07/29/1981	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
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 09/03/1981	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. DURING TANK ENTRY EVIDENCE OF CORROSION WAS DOCUMENTED ON THE -Z SIDE OF THE SYPHON MANHOLE AND AT STA 2058 IN THE AREA OF THE AFT DOME 2. REF - MARS T29875. 3. CONSTRAINT - ET-2					
Contractor Investigation/Resolution 1) CAUSE - MOISTURE ACCUMULATION IN THE LOW AREAS OF THE AFT DOME DUE TO LOCALIZED COOLING BY AIR DUCTS BLOWING COLD AIR DIRECTLY ON THE DOME, WHICH WAS AT 60% RH & 75 TO 80 DEGS F DURING TPS APPLI-CATION IN CELL "C". 2) RESOLUTION - CORROSION DUE TO MOISUTURE ACCUMULATION AS EXHIBITED ON ET-2 WILL BE PREVENTED BY MONITORING & CONTROLLING TANK ENVIRONMENT & TEMP DURING TPS APPLICATION. THE MPP HAS BEEN REVISED TO REQUIRE PIT CELL RELATIVE HUMIDITY BE MAINTAINED AT 60% R.H. MAX., THE DEW POINT INSIDE THE LO2 & LH2 TANKS IS TO BE MAINTAINED AT A MIN., WHEN THE TANKS ARE OPENED TO OUTSIDE ENVIRONMENT A PURGE IS REQ'D FACILITIES & SUPPORT EQUIPMENT WILL BE PROVIDED TO MEET THE NEW ENVIRONMENTAL REQMNTS. THE AIR CONDITIONING EQUIPMENT MODS WILL PREVENT COOL AIR IMPINGEMENT DIRECTLY ON THE LH2 AFT DOME. MONITORING EQUIPMENT WILL BE UTILIZED TO ASSURE ENVIRONMENTAL CONDITIONS ARE MAINTAINED WITHIN THE REQMNTS. 3) CORRECTIVE ACTION - ET-2 WAS REWORKED PER MARS T29875, CORROSION WAS REMOVED & CHEM FILM APPLIED PER SR1 C-002. 4) RECURRENCE CONTROL - ET-3 MPP WAS REVISED TO REQUIRE R.H. OF 60% MAX. & MIN. DEW POINT REQMNTS IMPOSED FOR LO2 & LH2 TANKS ET-4 - PURGE SYSTEMS REQMNTS & TOOLING COVER CHANGE OUT SEQUENCES ADDED TO MPP TO MAINTAIN					

MIN. DEW POINT. 8/14/81 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A01118	IFA# --	Contractor RPT# S-038	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 # A01250	In-Flight Anomaly Number --	Contractor Report Number E-029	JSC# --	KSC# --
Problem Title LO2 ECO SENSOR ANOMALY				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A (1) B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# N/A	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LO2 TANK	PART# 82602000000	SER/LOT# N/A	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LO2 LEVEL SENSOR	PART# MC432-0205-0014	SER/LOT# 126	MANUFACTURER SIMMONDS
Test/Operation Q - QAL	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact J. RAMSO	Fail Date 03/15/1980
Received at MSFC 04/01/1980	Date Isolated --	FMEA Reference 3.1.1.1	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL		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 10/02/1980	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 10/23/1980	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) DURING MPTA FIRING 8, LO2 FEEDLINE ECO SENSOR 4, HAD A DRY INDICATION TWO SECS AFTER ECO SENSORS 1, 2 , AND 3. 2) REF - MARS T32651					
Contractor Investigation/Resolution 1) CAUSE - A) DYNAMIC TESTING AT WYLE LABS FAILED TO REVEAL CAUSE OF DELAY BETWEEN SENSING ELEMENTS. B) TWENTY-EIGHT FLOW CYCLES IN LO2 QUAL TEST FIXTURE FAILED TO REVEAL CAUSE OF DELAY. C) REF ROCKWELL INTERNATIONAL DR HB6600-000. D) POST-TEST INSPECTION REVEALED NO ANOMALIES. UNIT SENT BACK TO SUPPLIER FOR RECLEANING & ACCEPTANCE TESTING. E) UNIT REDESIGNED AS A RESULT OF PREVIOUS RELATED FAILURE. 2) RESOLUTION - THE .0002 DIAMETER MOLYBDENUM/RHENIUM ELEMENT SENSING WIRE IS SUSCEPTIBLE TO SEVERE OXIDATION IN THE AREAS WHERE THE WIRE IS SUBJECTED TO LOCALIZED STRESS. THE LOX ECO SENSOR, PER MCR 7116, WILL BE REDESIGNED USING 0.0005 DIAMETER PLATINUM WIRE. THE NEW LOX SENSORS WILL BE IDENTIFIED AS MC432-0205-0022. THE PLATINUM SENSING WIRE IS PRESENTLY QUALIFIED & USED IN ALL OF THE POINT LEVEL SENSORS LOCATED INSIDE OF THE EXTERNAL TANK. THE NEW CONFIGURATION WITH PLATINUM WIRE HAS SUCCESSFULLY COMPLETED THE DELTA QUAL FLOW TESTS AT WYLE LABS/HUNTSVILLE, AL. THE NEW LOX ECO SENSORS ARE EFFECTIVE ON STS-1 & SUBS, & WILL BE REPLACED ON MPTA AS SOON AS PARTS ARE AVAILABLE REFERENCE ROCKWELL INTER- NATIONAL CORRECTIVE ACTION RECORD (CAR) AB5397-010					

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

MSFC Report# A01250	IFA# --	Contractor RPT# E-029	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 # A01273	In-Flight Anomaly Number --	Contractor Report Number T-007-3	JSC# --	KSC# --
Problem Title ABLATOR FAILED TO BOND				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (4) 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 HAND COMPTED ABLATR	PART# STP/PI 1510	SER/LOT# N/A	MANUFACTURER MMC
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact P. WESTPHAL	Fail Date 10/19/1979
Received at MSFC 04/01/1980	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 04/01/1980	Defer Date --	Add Date --	R/C Codes 0 - EXPL -- --
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 J. ODOM	Project MGR --
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 05/05/1980	Status E - CLOSED-E	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) PI 1510 ABLATOR APPLIED TO ELEVONS ET-3 COMPONENTS WERE REJECTED ON VARIOUS MARS BECAUSE PLUG PULL TENSION TEST ON TEST PANEL FAILED AFTER NORMAL 48 HOUR ROOM TEMP CURE. THE ABLATOR WAS RETESTED FIVE DAYS AFTER INITIAL FAILURE & WAS FOUND ACCEPTABLE. 2) REF - MARS SEVERAL, T25089 (TYPICAL)				
Contractor Investigation/Resolution				
1) CAUSE - THE PI 1510 REQMNTS HAVE BEEN CONFIRMED BY INVESTIGATION VIA THIS CAPS. 2) RESOLUTION - THE FREQUENCY OF OCCURRENCE OF THIS FAILURE MODE IS NEGLIGIBLE & DOES NOT WARRANT FURTHER ACTION, & CAPS IS THEREFORE CLOSED WITHOUT RECURRENCE CONTROL. EFFECTIVITY - NONE. 4/1/80 - CLOSURE DISTRIBUTED				
MSFC Response/Concurrence				

MSFC Report# A01273	IFA# --	Contractor RPT# T-007-3	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 # A01319	In-Flight Anomaly Number --	Contractor Report Number E-031	JSC# --	KSC# --
Problem Title LIQUID LEVEL SENSOR INDICATED WET WHEN DRY				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (1) B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LO2 TANK	PART# 82602000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LO2 LEVEL SENSOR	PART# MC-432-0205-0005	SER/LOT# 128	MANUFACTURER SIMMONDS
Test/Operation Q - QAL	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact J. RAUSO	Fail Date 04/04/1980
Received at MSFC 04/16/1980	Date Isolated --	FMEA Reference 3.1.1.1	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL		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 05/11/1981	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 G. BRIDWELL	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 05/29/1981	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 T32921, ROCKWELL CAR A-9753-010 2. DURING SF-7(02) THE 3% DTI LO2 SENSOR (A48X9861W) INDICATED WET CONDITION WHEN TANK WAS DRY					
Contractor Investigation/Resolution 1. CAUSE - FAILURE ANALY INDICATED SENSING ELEMENT FAILED OPEN DUE TO A TENSION BREAK. 2. RESOLUTION/RECURRENCE CONTROL - REDESIGN OF THE BUILD PROCESS WHICH ADDED SLACK TO THE PLATINUM WELIMINATE THE TENSION 5/13/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

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

MSFC Report# A01319	IFA# --	Contractor RPT# E-031	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 # A01320	In-Flight Anomaly Number --	Contractor Report Number E-032	JSC# --	KSC# --
Problem Title LIQUID LEVEL SENSOR INDICATED WET WHEN DRY				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (1) B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LO2 TANK	PART# 82602000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LO2 LEVEL SENSOR	PART# MC-432-0205-0005	SER/LOT# 152	MANUFACTURER SIMMONDS
Test/Operation Q - QAL	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact J. RAUSO	Fail Date 04/04/1980
Received at MSFC 04/16/1980	Date Isolated --	FMEA Reference 3.1.1.3	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL		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 05/11/1981	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 G. BRIDWELL	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 05/29/1981	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 T32913 & CAPS S-031 2. DURING SF-8 THE 98% LO2 SENSOR DID NOT INDICATE DRY AFTER LO2 IN THE TANK DROPPED BELOW SENSOR LOCATION					
Contractor Investigation/Resolution					
1. CAUSE - FAILURE ANALY INDICATED SENSING ELEMENT FAILED OPEN DUE TO A TENSION BREAK. 2. RESOLUTION/RECURRENCE CONTROL - REDESIGN OF THE BUILD PROCESS WHICH ADDED SLACK TO THE PLATINUM WELIMINATE THE TENSION 5/13/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

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

MSFC Report# A01320	IFA# --	Contractor RPT# E-032	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 # A01353	In-Flight Anomaly Number --	Contractor Report Number P-036	JSC# --	KSC# --
Problem Title ET-TANK 7 PROPULSION LINES CONTAMINATION				
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# N/A	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE ET-TANK & PROP LINES	PART# VARIOUS	SER/LOT# N/A	MANUFACTURER N/A
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System PROPULSION	Defect --	Material --	Work Contact J. FINCHER	Fail Date 03/24/1980
Received at MSFC 04/23/1980	Date Isolated --	FMEA Reference 2.1.1	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 05/26/1982	Defer Date --	Add Date --	R/C Codes 2 - MFG -- --
Assignee				
Design R. ZAGRODSKY	Chief Engineer --	S & MA D. NEWMAN	Project C. CRANE	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 06/22/1982	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: CONTAMINANTS OBSERVED IN PROPULSION LINES AS REC'D FROM VENDORS INDICATES INADEQUATE PROCESS CONTROLS. ISOLATED CASES OF INTERNAL CONTAMINATION HAVE BEEN OBSERVED DURING IN-HOUSE PROCESSING OF PROPULSION LINES					
Contractor Investigation/Resolution 5/28/82 CAUSE - (1) ANALY OF CONTAMINATION IN LINES REVEALED RESIDUE FROM PRECLEANING SOLUTIONS REMAINED IN LINES AFTER CLEANING OPERATIONS. THEREFORE CLEANING METHODS WERE INADEQUATE. (2) IN-HOUSE (MMC) CONTAMINATION RESULTED FROM IMPROPER IMPLEMENTATION OF ESTABLISHED CLEANLINESS CONTROLS. 5/28/82 RESOLUTION - LINES WERE ANALYZED & WHITE RESIDUE FOUND TO BE ALKALINE CLEANER NOT REMOVED DURING PRECLEANING OPERATIONS. VENDOR HAS IMPLEMENTED FACILITY REWORK & PROCEDURAL CHANGES TO ELIMINATE PROB. REF SCAR 3722-80-056. REQMENTS WERE ESTABLISHED TO INSPECT LINES AFTER ALL PROCESSES ARE COMPLETED, INCLUDING DRYING BEFORE CLOSURE FOR SHIPMENT. STP 5008 & 5011 WERE REVISED TO CLARIFY CLEANLINESS REQMENTS RELATING TO VISUAL OBSERVATIONS CLEAN INSPECTION AREA WAS PROVIDED FOR USE AFTER ELECTRICAL & TPS HARDWARE INSTALLATION ON LINE. RECURRENCE CONTROL - (1) VENDOR REQMENTS CLARIFIED. (2) IN-PROCESS INSPECTION POINTS ESTABLISHED (3) STP REVISED TO CLARIFY INSPECTION CRITERIA. EFFECTIVITY - ET-1 AND SUBS. 5/28/82 - CLOSURE DISTRIBUTED					

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

MSFC Report# A01353	IFA# --	Contractor RPT# P-036	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 # A01360	In-Flight Anomaly Number --	Contractor Report Number E-030	JSC# --	KSC# --
Problem Title LO2 ECO SENSOR FAILED				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A (1) 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 LO2 TANK	PART# 82602000000	SER/LOT# N/A	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LO2 LEVEL SENSOR	PART# MC432-0205-0014	SER/LOT# 116	MANUFACTURER SIMMONDS
Test/Operation L - FLD	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact J. RAMSO	Fail Date 04/02/1980
Received at MSFC 04/24/1980	Date Isolated --	FMEA Reference 3.1.2.11	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 10/02/1980	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 10/21/1980	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. REF: KSC PR NO. PV3-003124. 2. WHILE PERFORMING OMI T-1160 AT KSC, ECO SENSOR #116 READ OPEN					
Contractor Investigation/Resolution					
1. CAUSE - PENDING F/A TO BE PERFORMED AT GFP SUPPLIER - SIMMONDS. (A) INITIAL FAILURE ANALYSIS PERFORMED BY SIMMONDS PRECISION IDENTIFIED THE FAILURE AS OVERCURRENT APPLICATION. (B) F/A REPERFORMED BY G.E SYRACUSE, N.Y. IDENTIFIED THE FAILURE OF THE MOLYBDENUM RHENIUM/SENS-ING ELEMENT TO BE CORROSION, & NOT OVER CURRENT APPLICATION. (C) CORROSION CONSTITUENTS BEING INVESTIGATED BY SIMMONDS, GE, & ROCKWELL INTERNATIONAL. 2) RESOLUTION - THE .0008 DIAMETER MOLYBDENUM/RHENIUM ELEMENT SENSING WIRE IS SUSCEPTIBLE TO SEVERE OXIDATION IN THE AREAS WHERE THE WIRE IS SUBJECTED TO LOCALIZED STRESS. THE LOX ECO SENSOR, PER MCR 7116, WILL BE REDESIGNED USING 0.0005 DIAMETER PLATINUM WIRE THE NEW LOX ECO SENSORS WILL BE IDENTIFIED AS MC432-0205-0022. THE PLATINUM SENSING WIRE IS PRESENTLY QUALIFIED & USED IN ALL THE POINT LEVEL SENSORS LOCATED INSIDE OF THE EXTERNAL TANK. THE NEW CONFIGURATION WITH PLATINUM WIRE HAS SUCCESSFULLY COMPLETED THE DELTA QUAL FLOW TESTS AT WYLE LABS/HUNTSVILLE, AL. THE NEW LOX ECO SENSORS ARE EFFECTIVE ON STS-1AND SUBS, AND WILL BE REPLACED ON MPTA AS SOON AS PARTS ARE AVAILABLE. REFERENCE ROCKWELL INTER- NATIONAL CORRECTIVE ACTION RECORD (CAR) A85397-010					

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

MSFC Report# A01360	IFA# --	Contractor RPT# E-030	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 # A01361	In-Flight Anomaly Number --	Contractor Report Number S-039	JSC# --	KSC# --
Problem Title LO2 TANK 0-2 WELDS EXCEED MISMATCH TOLERANCE				
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 TANK	PART# 8262100000-009	SER/LOT# ET-5	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LO2 TANK	PART# 8262000000	SER/LOT# ET-5	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LO2 TANK ASSY	PART# 8262100000-009	SER/LOT# ET-5	MANUFACTURER MMC
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System STRUCTURAL	Defect MD - M SIZE	Material --	Work Contact J. FINCHER	Fail Date 02/12/1980
Received at MSFC 04/24/1980	Date Isolated --	FMEA Reference 1.1.3	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 03/26/1981	Defer Date --	Add Date --	R/C Codes 5 - TRNG -- --
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 07/23/1981	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 T30988 2. THE 0-2 WELD EXCEEDS THE 0.052 MISMATCH TOLERANCE & THE 6.5 DEGS PEAKING TOLERANCE (7 DEGS ALLOWED WITH NO MISMATCH). IN FIFTY-THREE LOCATIONS OUT OF ONE HUNDRED THIRTY, PEAKING EXCEEDED THE TOLERANCE (ET-5 LO2 TANK)					
Contractor Investigation/Resolution 1. CAUSE: THE DESIGN OF THE PARTS (OGIVE) & THE THICKNESS (.220") TEND TO CAUSE PEAKING IN THE WELD JOINT FROM THE SHRINKAGE RESULTING FROM WELD PROCESS. 2. RESOLUTION: MANDREL REWORK SIGNIFICANTLY REDUCED MISMATCH. MINIMUM MANDREL PRESSURE WILL BE USED FOR WELDING & OUT-OF-TOLERANCE PEAKING WILL BE REMOVED USING MAG HAMMER PER SRI LWT-1 LO2 ASSY WILL INCORPORATE A WELD SCHEDULE CERTIFICATION BASED UPON TWO PASSES IN LIEU OF THREE FOR HWT. FILL & PENETRATION WILL BE COMBINED IN ONE PASS. 3/30/81 - CLOSURE DISTRIBUTED. 4/14/81 - MSFC AWAITING LWT-1 WELD OF LO2 TANK BY MMC PRIOR TO CLOSING CAPS. WELD SCHEDULED FOR JUNE, 1981. THE TWO PASS WELD WILL BE EVALUATED AT THAT TIME. 7/16/81 - LWT WELD WITH TWO PASS WAS ACCOMPLISHED & RESULTS WERE SATISFACTORY. CAPS OK FOR CLOSURE					
MSFC Response/Concurrence					

ASSESSMENT ADDENDUM REPORT

MSFC Report# A01361	IFA# --	Contractor RPT# S-039	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 # A01447	In-Flight Anomaly Number --	Contractor Report Number T-007-101	JSC# --	KSC# --
Problem Title SPRAYABLE ABLATOR NOT TO SPEC				
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 SPRAYABLE ABLATOR	PART# STP/PI 1506	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. MELLOR	Fail Date 03/01/1979
Received at MSFC 05/09/1980	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 05/09/1980	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 05/21/1980	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 --					
Related Document Type --	Related Document ID --				
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T20515 (TYPICAL) SPRAYABLE ABLATOR FAILS TO MEET SPECIFICATION REQUIREMENTS FOR PHYSICAL PROPERTIES. 1. THE ABLATOR APPLIED DOES NOT ACHIEVE FULL PROPERTIES (HARDNESS/TENSILE STRENGTH) AT OR NEAR THE SUBSTRATE. 2. THE CURRED ABLATOR TENDS TO EXCEED MAXIMUM DENSITY REQUIREMENTS. CONSTRAINT: NONE					
Contractor Investigation/Resolution CAUSE: 1) CURE TIME VARIES WITH MATERIAL THICKNESS. 2) MATERIAL INCOMPATIBILITY BETWEEN SILICONE RESINS & EQUIPMENT USED IN HANDLING & MASKING PREVENTS CURING OF SLA. 3) INCOMPLETE EMPLOYEE TRAINING PROGRAM. RESOLUTION: 1) REVISED PI 1506, REV 2, TO DEFINE MIX TIMES VERSUS BATCH SIZE MIX, TO ADD CURE TIME VS MATERIAL THICKNESS INFORMATION, TO CLARIFY TEST TECHNIQUE FOR VISCOSITY, & TO PROVIDE THE TECHNIQUE TO PRECLUDE J414 TAPE FROM PREVENTING CURE OF FLIGHT SLA. 2) INSTRUCTIONS TO REMOVE THOSE MATERIALS WHICH PREVENT SILICONE RESIN CURE HAVE BEEN REMOVED FROM THE ABLATOR PREPARATION AREA WITH STRICT REQUIREMENTS AGAINST THEIR USE. REF. ION 3741-79-1056. 3) A COMPREHENSIVE TRAINING PROGRAM HAS BEEN IMPLEMENTED FOR ABLATOR APPLICATION (INCLUDES SPRAY TECHNIQUE, USE OF EQUIPMENT, ETC.). REF MMC-ET-SE08A-D. 4) A LIST OF EQUIPMENT PROBLEMS HAS BEEN SUPPLIED TO FACILITIES FOR CORRECTION. REF MEMO 3660-79-501. IN CONCLUSION RESULTS					

OF CAPS ACTION HAS SHOWN A SHARP IMPROVEMENT IN TENSILE & HARDNESS TESTING FOR SPRAYABLE ABLATOR. ALL CAPS ACTIONS ARE COMPLETED, THIS CAPS IS CLOSED. 5/9/80 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

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

MSFC Report# A01447	IFA# --	Contractor RPT# T-007-101	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 # A01448	In-Flight Anomaly Number --	Contractor Report Number S-040	JSC# --	KSC# --
Problem Title CORROSION OF ET-1 AT KSC				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (1) 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 EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-1	MANUFACTURER MMC
Test/Operation L - FLD	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System STRUCTURAL	Defect --	Material --	Work Contact R. MELLOR	Fail Date 03/06/1980
Received at MSFC 05/09/1980	Date Isolated --	FMEA Reference 1.1	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 12/01/1980	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 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: NONE LIGHT FILIFORM CORROSION DISCOVERED ON ET-1 SIX MONTH WITNESS PANELS & TWO DOCUMENTED INCIDENTS OF LIGHT CORROSION ON THE LO2 FEEDLINE FLANGE ON THE INTERTANK & LIGHT CORROSION ON SEVERAL LO2 17 INCHFEELINE FLANGES. CONSTRAINT: ET-1					
Contractor Investigation/Resolution CAUSE: WATER VAPOR PERMEATING THRU THE FOAM TO THE PRIMER/METAL INTERFACE. THE TRAPPED WATER LEACHES OUT CHLORINE IONS FROM THE TPS OR ONE OF ITS COMPONENTS. RESOLUTION: CORROSION INVESTIGATION ON ET-1 REVEALED INSIGNIFICANT CORROSION AFTER 11 MOS. IN THE VAB. A CORROSION CONTROL PLAN HAS BEEN IMPLEMENTED FOR CONT'D SURVEILLANCE OF ET-1 UNTIL FIRING. NEW PRIMER FOR PRIMER REWORK ON ET-1 THRU ET-4 & NEW PRIMER FOR ALL WORK ON ET-5 & SUBS					
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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A01448	--	S-040	--	--	--
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 # A01497	In-Flight Anomaly Number --	Contractor Report Number E-027	JSC# --	KSC# --
Problem Title LO2 ULLAGE PRESSURE TRANSDUCER ERRONEOUS INDICATIONS				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A (2) B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LO2 TANK	PART# 82602000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LO2 ULL PRES TRNSDCR	PART# PD7400098-029	SER/LOT# 99	MANUFACTURER GULTON
Test/Operation Q - QAL	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact M. SIRIANNI	Fail Date 02/05/1980
Received at MSFC 05/15/1980	Date Isolated --	FMEA Reference 3.1.1.9	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL		Symptom --		Time Cycle --
Effectivity Text ET-1 AND SUBS CONSTRAINT: ET-1 FRF				
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 10/21/1980	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 M. GLASS	PAC Review Complete MG	MSFC Closure Date 12/01/1980	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: CAPS E-018 & E-28, MARS T18747 (TYPICAL) SEVERAL FAILURES INCLUDING NOISY OUTPUT, INTERMITTENT OUTPUT, & INACCURATE OUTPUTS HAVE RESULTED AT MPTA & GULTON					
Contractor Investigation/Resolution					
CAUSE: GENERAL CAUSE IS CONTAMINATION OF WINDING CAUSING EXCESSIVE WEAR. RESOLUTION: IMPROVE CLEANING PROCEDURES & IMPROVE MAGNIFICATION INSPECTION. SPECIFICS ARE UNDER INVESTIGATION. 7/21/80 RESOLUTION - FAILURE ANALYSIS, INVESTIGATION INDICATED DASH 029 UNITS ACCEPTABLE FOR 'USE AS IS' WITH THE FOLLOWING RATIONALE: - ONLY ONE FAILURE OCCURRED ON MPTA WHICH WAS ATTRIBUTED TO WIPER SLOUGHING (ELEMENT MTRL CAUSING EXCESSIVE WEAR). - DASH 029 UNITS ON ET-1 SUCCESSFULLY PASSED ON-BOARD CALIBRATIONS. - THE TWO DASH 029 UNITS ON MPTA FULL DURATION FIRING SUCCESSFULLY PASSED QUAL TESTING AT DENVER, & ATP RETEST AT VENDOR RECURRENCE CONTROL - NONE, TEST DATA ANALYSIS INDICATES 029 UNITS ACCEPTABLE FOR 'USE AS IS' ON ET-1 & MPTA. ET-2 & SUBS WILL HAVE SUPPLIER IMPLEMENTED CORRECTIVE ACTIONS AS FOLLOWS: (1) IMPROVE CLEANING PROCEDURES & INSPECT WITH MAGNIFICATION. (2) CHANGE CONTACT TENSION TECHNIQUES. USE NEW GAGE TO PRECLUDE SCRATCHING ELEMENT OR WIPER (3) POLISH WIPER TO A SMOOTH FINISH. (4) MEASURE BEARING PLAY & ADJUST PER SPI REQUIREMENTS. 10/29/80 - MSFC REQUESTED ADDITIONAL QUAL					

VIBRATION TESTING PRIOR TO PROBLEM CLOSURE & COQ SIGN-OFF.QUAL TESTING
COMPLETED SUCCESSFULLY

MSFC Response/Concurrence

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

MSFC Report# A01497	IFA# --	Contractor RPT# E-027	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 # A01498	In-Flight Anomaly Number --	Contractor Report Number E-028	JSC# --	KSC# --
Problem Title LH2 ULLAGE PRESSURE TRANSDUCER HAD ERRONEOUS INDICATIONS				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A (1) B (X) C D (X) E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE LH2 TANK	PART# 82614000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE NCA	NOMENCLATURE LH2 ULL PRESS XDUCER	PART# PD7400098-039	SER/LOT# 151	MANUFACTURER GULTON
Test/Operation Q - QAL	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact M. SIRIANNI	Fail Date 08/21/1980
Received at MSFC 05/15/1980	Date Isolated --	FMEA Reference 3.1.2.9	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL		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 01/16/1981	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 03/24/1981	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: CAPS E-018 & E-027, MARS T22970 (TYPICAL) SEVERAL FAILURES INCLUDING NOISY OUTPUT, INTERMITTENT OUTPUT, & INACCURATE OUTPUTS HAVE RESULTED AT MPTA & GULTON					
Contractor Investigation/Resolution					
CAUSE - GENERAL CAUSE IS CONTAMINATION OF WINDING WHICH CAUSES EXCESSIVE WEAR, AND LONG TERM LOW LEVEL VIBRATION RESULTING IN SHORTED TURNS. RESOLUTION - A) IMPROVE CLEANING & ADD 80X MAGNIFICATION, B) COMPARE FINAL FUNCTION TEST DATA TO THE NOISE TEST (CONTACT RESISTANCE) DATA TO VERIFY INTEGRITY OF THE WIPER PATH, C) SHOCK MOUNT TRANSDUCERS PER B01203-R1. EFFECTIVITY - ET-1 & SUBS 2/23/81 - MSFC DISAGREED WITH MMC CLOSURE PER MSFC LTR EG23-PAS(NC)-81-51 REQUESTING MMC TO INVESTIGATE "ACOUSTICS" AS A POTENTIAL CAUSE. 3/23/81 RESOLUTION - ADDENDUM (IN RESPONSE TO ABOVE MSFC LTR): SINCE THE INVESTIGATION OF THE LO2 TRANSDUCERS POINTED OUT THE SUSCEPTIBILITY OF THE SENSING PORT TO ACOUSTICS, THE SENSING PORTS OF THE LH2 ULLAGE TRANSDUCERS HAVE HAD FILTERS INCORPORATED (EFFECTIVITY ET-1 & SUBS). 3/23/81 - CLOSURES DISTRIBUTED					
MSFC Response/Concurrence					

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

MSFC Report# A01498	IFA# --	Contractor RPT# E-028	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 # A01589	In-Flight Anomaly Number --	Contractor Report Number T-007-2	JSC# --	KSC# --
Problem Title ABLATOR MATERIAL NOT TO SPEC				
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	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 ABLATOR FORMULATION	PART# STP/PI 1508	SER/LOT# N/A	MANUFACTURER MMC
Test/Operation M - MFG	Prevailing Condition --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact R. MELLOR	Fail Date 03/01/1979
Received at MSFC 06/18/1980	Date Isolated --	FMEA Reference 1.2	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom --		Time Cycle --
Effectivity Text ET-3				
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 06/18/1980	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 J. ODOM	Project MGR --
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 07/14/1980	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 T20515 (TYPICAL) & CAPS T-007 (BASIC) ABLATOR MATERIALS FAIL TO CONFORM TO SPECIFICATION REQUIREMENTS FOR PHYSICAL/MECHANICAL PROPERTIES. A. ABLATOR FAILS TO CONFORM TO TENSILE/DENSITY REQUIREMENTS. B. NUMEROUS MACHINING ERRORS. C. INADEQUATE APPLICATION/DISTRIBUTION OF MATERIALS DURING MOLD APPLICATION. D. PART DAMAGE DURING IN-HOUSE INSPECTION. E. FACILITY/EQUIPMENT PROBLEMS				
Contractor Investigation/Resolution				
CAUSE: (A) IMPROPER RESIN/CATALYST RATION, INADEQUATE CURE OF MATERIAL (THICKNESS-TIME), INCON- SISTENT CORK/SILICA MICROSPHERE SIZING, & NONHOMOGENOUS MIXING. (B) INCOMPLETE TRAINING/CERTIFICATION. (C) FIRST PIECE CONFIGURATION INADEQUATE. (D) INADEQUATE HANDLING, PACKAGING/STORAGE OF COMPONENT PARTS. (E) INADEQUATE MAINTENANCE OF FACILITIES & EQUIPMENT FOR ET RATE. RESOLUTION: ABALATOR FORMATIONS HAVE SHOWN SIGNIFICANT IMPROVEMENTS RESULTING FROM THE FOLLOWING CLOSURE ACTIONS: A1. A SLA 561 THICKNESS VS CURE TIME MATRIX HAVE BEEN ESTABLISHED & INCORPORATED INTO APPROPRIATE PROCEDURES (REF MEMO 3612-79-139). A2. SOP 3636-005 WHICH IS A SUPPLEMENT TO PI'S 1506, 1508, 1509, & 1510 HAS BEEN VERIFIED & ADDED TO THE PROCEDURES. A3. NEW CAPS T-011 & T-012 DEALING WITH RTV RESINS HAS BEEN ISSUED & WILL TRACK				

PROBLEMS BETWEEN VENDOR & MAF OPERATIONS. B. EMPLOYEE TRAINING & CERTIFICATION HAS BEEN EXPANDED FROM 8 TO 30 HRS WITH REVISED/ADDED CLASS WORK & OJT. (REF MMC-ET-SE08A-D) EMPLOYEE TRAINING HAS SHOWN A MARKED IMPROVEMENT IN APPLICATION PROCESSES. C. MOVEMENT OF IN PROCESS & FINISHED PARTS ARE NOW BEING HANDLED BY PRODUCTION CONTROL DEPT. ONLY. THIS HAS GREATLY REDUCED HANDLING DAMAGE & SUBSEQUENT REWORK, FUTURE DAMAGE DUE TO HANDLING WILL BE TRACKED ON MMC CORRECTIVE ACTION DIRECTIVE FORM. D. MAINTENANCE OF FACILITIES & EQUIPMENT WILL BE AN ONGOING TASK BUT CERTAIN ACTIONS HAVE BEEN TAKEN TO DATE INCLUDING A NEW FACILITY (BLDG 130). REF MEMO 3660-79-501

MSFC Response/Concurrence

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

MSFC Report# A01589	IFA# --	Contractor RPT# T-007-2	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 # A01617	In-Flight Anomaly Number --	Contractor Report Number T-011	JSC# --	KSC# --
Problem Title SILICON RESIN FAILURES				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (1) 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 SILICON RESIN	PART# L-663 & L-664	SER/LOT# N/A	MANUFACTURER GE
Test/Operation L - FLD	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact F. RAMSEY	Fail Date 01/04/1980
Received at MSFC 06/20/1980	Date Isolated --	FMEA Reference 1.2.5	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 04/16/1981	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 J. ODOM	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 --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description REF: MARS T28415 (TYPICAL) CONTINUING FAILURES IN RECEIVING INSPECTION FOR GENERAL ELECTRIC SILICONE RESINS PER L-663 & L-664. 1) GEL TIME TOO FAST (652), 2) GEL TIME TOO SLOW (652), 3) GEL TIME CHANGES WITH AGE (652), 4) MATERIAL OUTGASES (652/655), 5) MATERIAL CONTAINS SLIME (652/655), 6) MATERIAL HAS STRANGE ODOR (652/655), & 7) MATERIAL FAILS TO MEET MINIMUM CURE. LAUNCH CONSTRAINT: NONE, CONCUR					
Contractor Investigation/Resolution CAUSE: MANUFACTURING PROCESS AND APPLICATIONS PROCEDURES RECURRENCE CONTROL: 1) REVISED STM L-663 AND L-664 TO REFLECT ALL AGREEMENTS REACHED BETWEEN GENERAL ELECTRIC AND MMC, 2) CHANGE GEL TIME TESTING CYCLE TO 3, 6, 8 AND 10 MONTHS, 3) GE ADD UPSTREAM FILTRATION TO PREVENT SLIME, USE CENTRIFUGE RATHER THAN BELL JAR TO ELIMINATE DEGASING, AND ESTABLISHED A SOURCE REPRESENTATION PROGRAM WITH GE TO WITNESS FINAL BUYOFF TESTING OF SILICONE RESINS. 4/17/81 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

ASSESSMENT ADDENDUM REPORT

MSFC Report# A01617	IFA# --	Contractor RPT# T-011	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 # A01623	In-Flight Anomaly Number --	Contractor Report Number T-012	JSC# --	KSC# --
Problem Title PI 1508/1509 ABLATOR MATERIAL FAILS TENSILE STRENGTH				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 3
HCRIT --	Sys_Lvl N	Misc Codes A (1) 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 PI-1508/1509	PART# NONE	SER/LOT# SLA 561	MANUFACTURER N/A
Test/Operation M - MFG	Prevailing Condtion --	F / U UC	Fail Mode --	Cause --
System THERMAL	Defect --	Material --	Work Contact F. RAMSEY	Fail Date 04/01/1980
Received at MSFC 06/20/1980	Date Isolated --	FMEA Reference 1.2.5	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 01/04/1982	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 R. ZAGRODSKY	Chief Engineer --	S & MA D. NEWMAN	Project J. ODOM	Project MGR --	
PAC Assignee M. GLASS	PAC Review Complete MG	MSFC Closure Date 01/22/1982	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: NONE A. CONTINUING FAILURES IN FLAT WISE TENSILE STRENGTH VALUES FOR PI 1508/1509 ABLATOR MTRL TENSILE STRENGTH VALUE SHOULD BE 30 PSI B. SLA 561 MOLD MIX PER PI 1508, 1509, & 1510 FAILED TO CURE					
Contractor Investigation/Resolution 12/15/81 CAUSE - 1. 655 RESIN NOT COMPATIBLE WITH 652 RESIN. 2 IMPROPER TEST SAMPLE PREPARATION. 3. AIR BORNE CONTAMINATION AFFECTING RESIN CURE. 4. STORAGE & HANDLING CAPABILITIES NOT PER SPEC. 5 CONTAMINATION INDUCED BY ELE. OF MIX. 1/6/82 RESOLUTION - INVESTIGATION OF POSSIBLE CAUSES REVEALED THE FOLLOWING: 1. 655/652 COMPATIBILITY TEST (LOT JH073 PER QLT-T020) CURED WITHIN 12 HRS OF BLENDING MAX REQ IS 16 HRS. 2. REVIEW OF SAMPLE PREPARATION PROCEDURE PI 1508 SHOWED NO ADVERSE CRITERIA OR READINGS. 3. AIR BORNE CONTAMINATION WHICH COULD INHIBIT CURE WAS MOSTLY SULFUR. AIR SAMPLING & PARTICULATE FALL OUT FOR A 3 MO. PERIOD WERE INCONCLUSIVE. 4. STORAGE & HANDLING ENVIRONMENTAL CONDITIONS WERE NOT PER SPEC. THE MAX STORAGE TEMP (80 DEGS F) WAS EXCEEDED (85 DEGS F+). AIR CONDITIONING WAS INSTALLED. 5. INVESTIGATION OF CONTAMINANTS INDUCED BY ELEMENTS OF MIX. IS ALSO BEING INVESTIGATED BY T-011 T-018, T-015. NEW TREND DATA SHEETS FOR BETTER MIX ROOM TRACING HAS BEEN IMPLEMENTED. RECURRENCE CONTROL - STORAGE AREA ENVIRONMENT DID NOT MEET PI REQMENTS THEREFORE AREA WAS AIR TIONED. NEW TREND DATA SHEETS WERE INITIATED TO OBTAIN BETTER DATA FOR REC'G INSPECTION, MIX ROOM DATA OF PI 1508/1509 BASE MIXES. SINCE THE					

INITIATION OF THIS CAPS IN APRIL 1980 SUBSTANTIAL DECREASE IN THE FAILURE RATE HAS BEEN OBSERVED. 1/6/82 - CLOSURE DISTRIBUTED

MSFC Response/Concurrence

MSFC Problem Reporting and Corrective Action (PRACA) System

ASSESSMENT ADDENDUM REPORT

MSFC Report# A01623	IFA# --	Contractor RPT# T-012	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 # A01632	In-Flight Anomaly Number --	Contractor Report Number E-037	JSC# --	KSC# --
Problem Title TEMP PROBE - GAS FAILED VIBRATION QUAL				
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# 77287	MANUFACTURER HY-CAL
Test/Operation Q - QAL	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact M. SIRIANNI	Fail Date 02/27/1980
Received at MSFC 06/25/1980	Date Isolated --	FMEA Reference 3.1.1.8	IFA: Mission Phase --	Mission Elapsed Time --
Location HY-CAL		Symptom EL - SHORT		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 07/18/1980	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. NEWMEN	Project R. ABRAHAM	Project MGR --	
PAC Assignee C. NEWTON	PAC Review Complete CN	MSFC Closure Date 07/30/1980	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 REF: MARS T11641 UNIT FAILED QUALIFICATION TESTING 1.8 MINUTES INTO THE Z-AXIS VIBRATION SEGMENT. THE ANOMALY APPEARED AS AN OPEN CIRCUIT IN THE POSITIVE THERMOCOUPLE LEAD. UNIT WAS RETURNED TO MAF FOR F/A					
Contractor Investigation/Resolution CAUSE: F/A AT MAF REVEALED THE POSITIVE THERMOCOUPLE WIRE HAD SEPARATED FROM THE GROUNDED JUNCTION. SEM EXAMINATION OF WIRE END REVEALED FATIGUE STRIATIONS. PROBABLE CAUSE WAS INSUFFICIENT BERYLLIUM OXIDE FILLER AROUND THE WIRE. THIS LACK OF SUPPORT RESULTED IN WIRE FATIGUE DURING THE VIBRATION TESTING. RESOLUTION: THIS UNIT ORIGINALLY PASSED SOURCE ATP. SUBSEQUENTLY, THE UNIT WAS DESIGNATED FOR QUALITY TESTING. DURING THE VIBRATION TEST, THE UNIT FAILED. A REVIEW OF SOURCE ATP 79-1080 FOR THE 74L1-1 TEMPERATURE PROBES REVEALED INADEQUATE TESTING TO ASSURE CONFIDENCE IN UNITS BEING ACCEPTED. BASED ON THIS REVIEW, ATP 79-1080 WAS REVISED TO INCLUDE THERMAL SHOCK & VIBRATION TESTING IN THE Z AXIS TWO ADDITIONAL DESIGNATED QUALITY UNITS WERE SUBJECTED TO THE REVISED ATP & QUALIFICATION TESTING REQUIREMENTS, BOTH SUCCESSFULLY PASSED 6/26/80 - CLOSURE DISTRIBUTED					
MSFC Response/Concurrence					

ASSESSMENT ADDENDUM REPORT

MSFC Report# A01632	IFA# --	Contractor RPT# E-037	JSC# --	KSC# --	EICN# --
Asmnt Part# --	Asmnt Part Name --	Asmnt Serial/Lot# --			
HCRIT CD --	FCRIT CD --	CAUSE CD --	FAIL MODE EL - SHORT		
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 # A01657	In-Flight Anomaly Number --	Contractor Report Number E-035	JSC# --	KSC# --
Problem Title LO2 EC SENSOR INDICATED "OPEN" ON RETEST				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A (1) B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE LO2 LEVEL SENSOR	PART# MC432-0205-0008	SER/LOT# 113	MANUFACTURER SIMMONDS
Test/Operation Q - QAL	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact S. BRAGG	Fail Date 05/25/1980
Received at MSFC 07/10/1980	Date Isolated --	FMEA Reference 3.1.2.11	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL		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 10/14/1980	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 10/21/1980	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) REF: MARS T3754 & T14563 2) MEASUREMENT A48X9868K INDICATED AN OPEN CIRCUIT DURING ECO RETEST. SENSOR INSTALLED AT STATION 1965. LAUNCH CONSTRAINT: STS-1					
Contractor Investigation/Resolution 1) CAUSE - PENDING F/A BY GFP SUPPLIER - SIMMONDS PRECISION. (A) INITIAL FAILURE ANALYSIS PERFORMED BY SIMMONDS PRECISION IDENTIFIED THE FAILURE AS OVERCURRENT APPLICATION. (B) F/A REPERFORMED BY G.E SYRACUSE, N.Y. IDENTIFIED THE FAILURE OF THE MOLYBDENUM/RHENIUM SENSING ELEMENT TO BE CORROSION, & NOT OVER CURRENT APPLICATION. (C) CORROSION CONSTITUENTS BEING INVESTIGATED BY SIMMONDS, GE, & ROCKWELL INTERNATIONAL. 2) RESOLUTION - THE .0002 DIAMETER MOLYBDENUM/RHENIUM ELEMENT SENSING WIRE IS SUSCEPTIBLE TO SEVERE OXIDATION IN THE AREAS WHERE THE WIRE IS SUBJECTED TO LOCALIZED STRESS. THE LOX ECO SENSOR PER MCR 7116 WILL BE REDESIGNED USING 0.0005 DIAMETER PLATINUM WIRE. THE NEW LOX ECO SENSORS WILL BE IDENTIFIED AS MC432-0205-0022. THE PLATINUM SENSING WIRE IS PRESENTLY QUALIFIED & USED IN ALL OF THE POINT LEVEL SENSORS LOCATED INSIDE OF THE EXTERNAL TANK. THE NEW CONFIGURATION WITH PLATINUM WIRE HAS SUCCESSFULLY COMPLETED THE DELTA QUAL FLOW TESTS AT WYLE LABS/HUNTSVILLE, AL. THE NEW LOX ECO SENSORS ARE EFFECTIVE ON STS-1 & SUBS & WILL BE REPLACED ON MPTA AS SOON AS PARTS ARE AVAILABLE REFERENCE ROCKWELL INTER- NATIONAL CORRECTIVE ACTION RECORD (CAR) AB5397-010. 10/15/80 - CLOSURE DISTRIBUTED					

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

MSFC Report# A01657	IFA# --	Contractor RPT# E-035	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 # A01658	In-Flight Anomaly Number --	Contractor Report Number E-034	JSC# --	KSC# --
Problem Title TEFLON DELAMINATING FROM ECO SENSOR HOUSING				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A (1) B (X) C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE LO2 LEVEL SENSOR	PART# MC432-0205-0014	SER/LOT# 127	MANUFACTURER SIMMONDS
Test/Operation Q - QAL	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact S. BRAGG	Fail Date 05/16/1980
Received at MSFC 07/01/1980	Date Isolated --	FMEA Reference 3.1.2.11	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL		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 02/17/1981	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 03/18/1981	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 --					
Contractor Status Summary					
Reliability/Quality Assurance Concerns, Recommendations:					
Problem Description 1) REF: MARS T37532 & T37355, ALSO E-026, E-029, E-035, E-036, E-030 2) TELFON COATING DELAMINATED FROM SENSOR HOUSING. CONDITION IDENTIFIED DURING DIMENSIONAL MEAS- UREMENT FOR INSERTION LENGTH IN FEEDLINE. 3) ROCKWELL INTERNATIONAL, DOWNEY REPORTED BOTH ELEMENTS FAILED OPEN					
Contractor Investigation/Resolution 1) CAUSE: ROCKWELL INTERNATIONAL INVESTIGATION (CAR AB-7544-01), CORROSION. 2/13/81 2) STATUS: WYLE LABS CONDUCTED TEST ON ECO SENSOR WITHOUT TEFLON & SENSOR CHARACTERISTICS PROVED TO BE PER SPEC BASED ON SIGN-OFF ON COQ, MPTA TEST DATA, & WYLE LABS TEST DATA VERIFYING SENSOR CHARACTERISTICS, THE CONSTRAINT ON ET-1 IS REMOVED. CLOSURE OF CAPS FORTHCOMING. THIS CHANGE INN CONSTRAINT HAS BEEN COORDINATED WITH ET PROJECT MGR. 3) RESOLUTION: SENSOR REDESIGNED TO A -0022 CONFIGURATION WITH PLATINUM WIRE. NEW DESIGN NO LONGER REQUIRED TEFLON INSTALLATION INTERNAL TO SHROUD. VERIFICATION TESTING BY RI AT WYLE LABS, HSV, ALA CONFIRMED THE PERFORMANCE OF THE -0022 WITH TEFLON COATING DELETED ALSO, RI ADVISED MMC-MAF THAT REVISED CLEANING PROCEDURES HAVE BEEN IMPLEMENTED BY SUPPLIER. CAPS CLOSED.EFFECTIVITY: ET-1 & SUBS					
MSFC Response/Concurrence					

ASSESSMENT ADDENDUM REPORT

MSFC Report# A01658	IFA# --	Contractor RPT# E-034	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 # A01659	In-Flight Anomaly Number --	Contractor Report Number E-036	JSC# --	KSC# --
Problem Title LO2 ECO SENSOR READ "OPEN" ON RETEST				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1R
HCRIT --	Sys_Lvl Y	Misc Codes A (1) B C D E F G H I J K L M N O		
HARDWARE EIM	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# MPTA	MANUFACTURER MMC
HARDWARE LRU	NOMENCLATURE N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE LO2 LEVEL SENSOR	PART# MC432-0205-0014	SER/LOT# 120	MANUFACTURER SIMMONDS
Test/Operation Q - QAL	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System ELECTRICAL	Defect --	Material --	Work Contact S. BRAGG	Fail Date 05/25/1980
Received at MSFC 07/01/1980	Date Isolated --	FMEA Reference 3.1.2.11	IFA: Mission Phase --	Mission Elapsed Time --
Location NSTL		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 10/10/1980	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 10/21/1980	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) REF: MARS T37535 & T32816, ALSO E-026, E-029, E-030, E-034, E-035 2) LO2 (ECO) LEVEL SENSOR AT STATION 1616 READ OPEN WHEN RETESTED LAUNCH CONSTRAINT: STS-1					
Contractor Investigation/Resolution 1) CAUSE - PENDING F/A BY GFP SUPPLIER - SIMMONDS PRECISION. (A) INITIAL FAILURE ANALYSIS PERFORMED BY SIMMONDS PRECISION IDENTIFIED THE FAILURE AS OVERCURRENT APPLICATION. (B) F/A REPERFORMED BY G.E SYRACUSE, N.Y. IDENTIFIED THE FAILURE OF THE MOLYBDENUM/RHENIUM SENSING ELEMENT TO BE CORROSION, & NO OVER CURRENT APPLICATION. (C) CORROSION CONSTITUENTS BEING INVESTIGATED BY SIMMONDS, GE, & ROCKWELL INTERNATIONAL. 2) RESOLUTION - THE .0002 DIAMETER MOLYBDENUM/RHENIUM ELEMENT SENSING WIRE IS SUSCEPTIBLE TO SEVERE OXIDATION IN THE AREAS WHERE THE WIRE IS SUBJECTED TO LOCALIZED STRESS. THE LOX ECO SENSOR, PER MCR 7116, WILL BE REDESIGNED USING 0.0005 DIAMETER PLATINUM WIRE THE NEW LOX ECO SENSORS WILL BE IDENTIFIED AS MC432-0205-0022. THE PLATINUM SENSING WIRE IS PRESENTLY QUALIFIED & USED IN ALL OF THE POINT LEVEL SENSORS LOCATED INSIDE OF THE EXTERNAL TANK. THE NEW CONFIGURATION WITH PLATINUM WIRE HAS SUCCESSFULLY COMPLETED THE DELTA QUAL FLOW TESTS AT WYLE LABS/HUNTSVILLE, AL. THE NEW LOX ECO SENSORS ARE EFFECTIVE ON STS-1 & SUBS & WILL BE REPLACED ON MPTA AS SOON AS PARTS ARE AVAILABLE. REFERENCE ROCKWELL INTER- NATIONAL CORRECTIVE ACTION RECORD (CAR) AB5397-010					

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

MSFC Report# A01659	IFA# --	Contractor RPT# E-036	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 # A01667	In-Flight Anomaly Number --	Contractor Report Number S-043	JSC# --	KSC# --
Problem Title LEAKAGE AT AFT LH2 MANHOLE COVER				
EICN# --	ELEMENT ET	Contractor MMMSS	FSCM# --	FCRIT 1
HCRIT --	Sys_Lvl Y	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 N/A	PART# N/A	SER/LOT# N/A	MANUFACTURER N/A
HARDWARE NCA	NOMENCLATURE EXTERNAL TANK	PART# 82601000000	SER/LOT# ET-2	MANUFACTURER MMC
Test/Operation A - ATP	Prevailing Condtion --	F / U F	Fail Mode --	Cause --
System STRUCTURAL	Defect --	Material --	Work Contact J. FINCHER	Fail Date 06/20/1980
Received at MSFC 07/02/1980	Date Isolated --	FMEA Reference 1.1.1	IFA: Mission Phase --	Mission Elapsed Time --
Location MAF		Symptom MV - EXT LEAK		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 04/29/1981	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 M. GLASS	PAC Review Complete MG	MSFC Closure Date 05/22/1981	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 T33601 2) DURING PERFORMANCE OF ET-2 CHECKOUT (PROCEDURE SET-8L15-AT) A LEAK WAS DETECTED AT THE AFT LH2 MANHOLE COVER (82611001026). LEAK RATE WAS IN EXCESS OF FLOW METER CAPABILITY, THEREFORE LEAK RATE IS UNKNOWN. REQUIREMENT IS NO SEAL LEAKAGE. LAUNCH CONSTRAINT: NONE					
Contractor Investigation/Resolution 1) CAUSE - ASSESSMENT INDICATES THAT LEAKAGE FAILURE WAS CAUSED BY MISALIGNMENT OF THE 55L6-2T SEAL WITH RESPECT TO THE MANHOLE COVER, THUS ALLOWING THE LEAK PORT TO BE EXPOSED TO GAS FLOW. 2) RESOLUTION - (A) MISALIGNMENT ON ET-3 THRU ET-7 IS CONTROLLED BY INSTALLATION OF (2) EACH TEFLON BUSHINGS (INSERTS) TO MAINTAIN SEAL CONCENTRICITY TO THE MANHOLE FLANGE. (B) MISALIGNMENT OF LWT-1 & UP IS CONTROLLED BY A SEAL DESIGN CHANGE TO SLOTTED HOLES. THIS DESIGN PERMITS SEAL MOVEMENT THE Y & OR Z AXIS ONLY & NOT CIRCUMFERENTIALLY. RECURRENCE CONTROL - (A) ET-3 THRU ET-7 BUSHING INSTALLATION PER CAPS S-043B ATTACHMENT 1. (B) LWT-1& UP SLOTTED HOLES PER CAPS S-043B ATTACHMENT 2					
MSFC Response/Concurrence					

MSFC Report# A01667	IFA# --	Contractor RPT# S-043	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 # 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 INSTRUCTRIONS 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#			

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