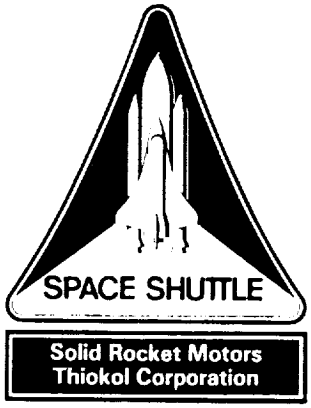
CR-184051



TWR- 18764/13

SPACE SHUTTLE REDESIGNED SOLID ROCKET MOTOR CERTIFICATE OF QUALIFICATION (COQ) DATA REPORT

August 1990

APPROVED BY NASA: SA51-395-90, 13 SEPT. 1990

Prepared for:

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FORM TC 4677 (REV 1-88)

DOC NO. TWR-18764/13 VOL REV

TITLE

Space Shuttle Redesigned Solid Rocket Motor Certificate of Qualification (COQ) Data Report

Prepared By:

15 Aug 1990

SYSTEMS ASSURANCE CONTROL

Approved By:

8/15/90

Systems Assurance

Systems Integration & Engineering

Design Engineering

Systems Management

9/20/90

Release

Thiokol CORPORATION

SPACE OPERATIONS

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PREFACE

The following COQs were submitted with this data report:

COQ	COMPONENT SUBSYSTEM	SUBMITTAL DATE	EFFECTIVITY
18764-01	Case, Stiffener Rings	17 AUG 90	RSRM-13-17
18764-14	Joint Protection System	17 AUG 90	RSRM-13

The remaining COQs were submitted previously and approved for subsequent flights as follows:

COQ	COMPONENT SUBSYSTEM	APPROVAL DATE	EFFECTIVITY
18764-02	Case Joints	22 Jun 90	RSRM-12 & 13
18764-03	Igniter	1 DEC 89	RSRM-8 - 13
18764-04	Propellant	22 Jun 90	RSRM-12 & 13
18764-05	Liner	22 Jun 90	RSRM-12 & 13
18764-06	Internal Insulation	1 DEC 89	RSRM-8 - 13
18764-07	Thermal Protection System	24 JUL 89	RSRM-4 - 13
18764-08	Systems Tunnel	29 JAN 90	RSRM-9 - 13
18764-09	Nozzle Assembly	22 Jun 90	RSRM-12 & 13
18764-10	Flex Bearing	1 DEC 89	RSRM-8 - 13
18764-11	Aft Exit Cone	22 Jun 90	RSRM-12 & 13
18764-12	Safe and Arm Device	22 Jun 90	RSRM-12 & 13
18764-13	Instrumentation	22 Jun 90	RSRM-12 & 13

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1.0 INTRODUCTION

The Space Shuttle Redesigned Solid Rocket Motor (RSRM) Certification Program provides confidence that the RSRM and its components/subsystems meet or exceed Mission Oriented Requirements when manufactured per design requirements and specified/approved processes. Certification is based on documented results of tests, analyses, inspections, similarity and demonstrations. Compliance Statements are written to provide certification rationale in place of unreleased documentation. This report provides evidencing information to certify that each RSRM component/subsystem satisfies design, mission related requirements and objectives as specified in the Prime Equipment Contract End Item Detail Specification (CEI) CPW1-3600A.

This report was revised to eliminate duplication from flight set to flight set, such as, introductions, illustrations, etc. Only information necessary to support the current COQ issue is included. For complete background information and illustrations see TWR-18764 and TWR-18764/05.

2.0 PURPOSE

The purpose of this document is to provide information to support the Certificate of Qualification (COQ) MSFC form 511. This information gives objective evidence to verify that each component/subsystem of the RSRM satisfies all certification requirements.

3.0 - 5.6

See TWR-18764 and TWR-18764/05 for a complete listing.

6.0 CERTIFICATION HISTORY

The certification history for the RSRM program is shown in tables 6.0-1 and 6.0-2. These tables include a component/subsystem description, effectivities, submittal dates, MSFC approval dates, NASA COQ numbers and remarks.

TABLE 6.0-1
CERTIFICATION HISTORY FOR
RSRM-1 thru RSRM-3

COMPONENT/SUBSYSTEM DESCRIPTION	EFFECTIVITIES	SUBMITTAL DATE	APPROVAL DATE	COQ NUMBER	REMARKS
RSRM Segment Assembly	360X001	5 AUG 88	23 AUG 88	17499-01	
	360X002	19 OCT 88	30 OCT 88	18762-01	
	360x003	6 DEC 88	25 JAN 89	18763-01	
Case	360X001	5 AUG 88	23 AUG 88	17499-02	
	360X002 & 360X003	12 OCT 88	24 OCT 88	18762-02	
Case Assembly Field Joint	360X001	9 AUG 88	23 AUG 88	17499-03	
	360X002 & 360X003	17 OCT 88	30 OCT 88	18762-03	
Case Assembly Nozzle Joint	360X001	9 AUG 88	23 AUG 88	17499-04	
	360X002 & 360X003	17 OCT 88	30 OCT 88	18762-04	
Case Assembly Factory Joint	360X001	5 AUG 88	23 AUG 88	17499-05	
	360X002 & 360X003	12 OCT 88	30 OCT 88	18762-05	
Case Assembly Igniter Joint	360X001	5 AUG 88	23 AUG 88	17499-06	
	360X002 & 360X003	17 OCT 88	30 OCT 88	18762-06	
Stiffener Rings	360X001	1 AUG 88	23 AUG 88	17499-07	
	360X002 & 360X003	12 OCT 88	24 OCT 88	18762-07	
Propellant	360X001	29 JUL 88	23 AUG 88	17499-08	
	360X002 & 360X003	12 OCT 88	30 OCT 88	18762-08	
Liner	360X001	29 JUL 88	23 AUG 88	17499-09	
	360X002 & 360X003	6 OCT 88	24 OCT 88	18762-09	
Internal Insulation	360X001	1 AUG 88	23 AUG 88	17499-10	
	360X002 & 360X003	13 OCT 88	30 OCT 88	18762-10	
Thermal Protection System	360X001	5 AUG 88	23 AUG 88	17499-11	
	360X002	22 SEP 88	9 NOV 88	18762-11	
	360X003	14 DEC 88	25 JAN 88	18763-11	
Systems Tunnel	360X001	4 AUG 88	23 AUG 88	17499-12	
	360X002 & 360X003	19 OCT 88	30 OCT 88	18762-12	
Nozzle Assembly	360X001	9 AUG 88	23 AUG 88	17499-13	
	360X002	25 OCT 88	2 NOV 88	18762-13	
	360X003	15 DEC 88	25 JAN 88	18763-13	

TABLE 6.0-1(cont)
CERTIFICATION HISTORY FOR
RSRM-1 thru RSRM-3

COMPONENT/SUBSYSTEM DESCRIPTION	EFFECTIVITIES	SUBMITTAL DATE	APPROVAL DATE	COQ NUMBER	REMARKS
Flex Bearing Assembly	360X001	5 AUG 88	23 AUG 88	17499-14	
	360X002 & 360X003	19 OCT 88	30 OCT 88	18762-14	
Aft Exit Cone	360X001	6 AUG 88	23 AUG 88	17499-15	
	360X002 & 360X003	26 OCT 88	2 NOV 88	18762-15	
Igniter	360X001	8 AUG 88	23 AUG 88	17499-16	
	360X002 & 360X003	20 OCT 88	30 OCT 88	18762-16	
Safe & Arm Device	360X001	3 AUG 88	23 AUG 88	17499-17	
	360X002	26 OCT 88	2 NOV 88	18762-17	
	360X003	20 JAN 89	25 JAN 89	18763-17	
Operational Pressure Transducer	360X001	4 AUG 88	23 AUG 88	17499-18	
	360X002	19 OCT 88	30 OCT 88	18762-18	
	360X003	12 DEC 88	25 JAN 89	18763-18	
Joint Protection System	360X001	9 AUG 88	23 AUG 88	17499-19	
	360X002	27 OCT 88	8 NOV 88	18762-19	
	360X003	16 DEC 88	25 JAN 89	18763-19	
Development Flight Instrumentation	360X001	4 AUG 88	23 AUG 88	17499-20	
	360X002	19 SEP 88	30 OCT 88	18762-20	
	360X003	12 DEC 88	25 JAN 89	18763-20	

TABLE 6.0-2 (cont.)
CERTIFICATION HISTORY FOR
RSRM-4 AND SUBSEQUENT

COMPONENT/SUBSYSTEM DESCRIPTION	EFFECTIVITIES	SUBMITTAL DATE	APPROVAL DATE	COQ NUMBER	REMARKS
Case Segments and Stiffener Rings	360X004	30 MAR 89	11 APR 89	18764-01	See TWR-18764
	360X005	30 JUN 89	24 JUL 89	18764-01A	See TWR-18764/05
	360X006	25 AUG 89	22 SEP 89	18764-01B	See TWR-18764/06
	360X007	6 OCT 89	24 OCT 89	18764-01C	See TWR-18764/07
	360X008	3 NOV 89	1 DEC 89	18764-01D	See TWR-18764/08
	360X009	21 DEC 89	29 JAN 90	18764-01E	See TWR-18764/09
	360X010	23 FEB 90	20 MAR 90	18764-01F	See TWR-18764/10
	360X011 & 360X012	23 MAR 90	04 APR 90	18764-01G	See TWR-18764/11
Case Assembly Joints	360X004	30 MAR 89	11 APR 89	18764-02	See TWR-18764
	360X005	30 JUN 89	24 JUL 89	18764-02A	See TWR-18764/05
	360X006 & 360X007	25 AUG 89	22 SEP 89	18764-02B	See TWR-18764/06
	360X008	3 NOV 89	1 DEC 89	18764-02C	See TWR-18764/08
	360X009 & 360X010	21 DEC 89	29 JAN 89	18764-02D	See TWR-18764/09
	360X011	23 MAR 90	04 APR 90	18764-02E	See TWR-18764/11
	360X012 & 360X013	25 MAY 90	22 JUN 90	18764-02F	See TWR-18764/12
Igniter	360X004 & 360X005	28 MAR 89	11 APR 89	18764-03	See TWR-18764
	360X006 & 360X007	25 AUG 89	22 SEP 89	18764-03A	See TWR-18764/06
	360X008 - 360X013	3 NOV 89	1 DEC 89	18764-03B	See TWR-18764/08
Propellant	360X004 - 360X006	10 MAR 89	11 APR 89	18764-04	See TWR-18764
	360X007 - 360X011	6 OCT 89	24 OCT 89	18764-04A	See TWR-18764/07
	360X012 & 360X013	25 MAY 90	22 JUN 90	18764-04B	See TWR-18764/12
Liner	360X004 - 360X006	10 MAR 89	11 APR 89	18764-05	See TWR-18764
	360X007 - 360X011	6 OCT 89	24 OCT 89	18764-05A	See TWR-18764/07
	360X012 & 360X013	25 MAY 90	22 JUN 90	18764-05B	See TWR-18764/12
Internal Insulation	360X004	20 MAR 89	11 APR 89	18764-06	See TWR-18764
	360X005 - 360X007	30 JUN 89	24 JUL 89	18764-06A	See TWR-18764/05
	360X008 - 360X013	3 NOV 89	1 DEC 89	18764-06B	See TWR-18764/08
Thermal Protection System	360X004	30 MAR 89	11 APR 89	18764-07	See TWR-18764
	360X005 - 360X013	30 JUN 89	24 JUL 89	18764-07A	See TWR-18764/05
Systems Tunnel	360X004	28 MAR 89	11 APR 89	18764-08	See TWR-18764
	360X005	30 JUN 89	24 JUL 89	18764-08A	See TWR-18764/05
	360X006 - 360X008	25 AUG 89	22 SEP 89	18764-08B	See TWR-18764/06
	360X009 - 360X013	21 DEC 89	29 JAN 90	18764-08C	See TWR-18764/09
Nozzle Assembly	360X004	30 MAR 89	11 APR 89	18764-09	See TWR-18764
	360X005	30 JUN 89	24 JUL 89	18764-09A	See TWR-18764/05

TABLE 6.0-2 (cont.)
CERTIFICATION HISTORY FOR
RSRM-4 AND SUBSEQUENT

COMPONENT/SUBSYSTEM DESCRIPTION	EFFECTIVITIES	SUBMITTAL DATE	APPROVAL DATE	COQ NUMBER	REMARKS
	360X006 & 360X007	25 AUG 89	22 SEP 89	18764-09B	See TWR-18764/06
	360X008	3 NOV 89	1 DEC 89	18764-09C	See TWR-18764/08
	360X009	21 DEC 89	29 JAN 90	18764-09D	See TWR-18764/09
	360X010 & 360X011	23 FEB 90	20 MAR 90	18764-09E	See TWR-18764/10
	360X012 & 360X013	25 MAY 90	22 JUN 90	18764-09F	See TWR-18764/12
Flex Bearing	360X004 & 360X005	31 MAR 89	11 APR 89	18764-10	See TWR-18764
	360X006 & 360X007	25 AUG 89	22 SEP 89	18764-10A	See TWR-18764/06
	360X008 - 360X013	3 NOV 89	1 DEC 89	18764-10B	See TWR-18764/08
Aft Exit Cone	360X004 & 360X005	29 MAR 89	11 APR 89	18764-11	See TWR-18764
	360X006 & 360X007	25 AUG 89	22 SEP 89	18764-11A	See TWR-18764/06
	360X008	3 NOV 89	1 DEC 89	18764-11B	See TWR-18764/08
	360X009	21 DEC 89	29 JAN 90	18764-11C	See TWR-18764/09
	360X010 & 360X011	23 FEB 90	20 MAR 90	18764-11D	See TWR-18764/10
	360X012 & 360X013	25 MAY 90	22 JUN 90	18764-11E	See TWR-18764/12
Safe & Arm Device	360X004 & 360X005	29 MAR 89	11 APR 89	18764-12	See TWR-18764
	360X006 & 360X007	25 AUG 89	22 SEP 89	18764-12A	See TWR-18764/06
	360X008	3 NOV 89	1 DEC 89	18764-12B	See TWR-18764/08
	360X009	21 DEC 89	29 JAN 90	18764-12C	See TWR-18764/09
	360X010	23 FEB 90	20 MAR 90	18764-12D	See TWR-18764/10
	360X011	23 MAR 90	04 APR 90	18764-12E	See TWR-18764/11
	360X012 & 360X013	25 MAY 90	22 JUN 90	18764-12F	See TWR-18764/12
Instrumentation	360X004 & 360X005	30 MAR 89	11 APR 89	18764-13	See TWR-18764
	360X006 & 360X007	25 AUG 89	22 SEP 89	18764-13A	See TWR-18764/06
	360X008	3 NOV 89	1 DEC 89	18764-13B	See TWR-18764/08
	360X009	21 DEC 89	29 JAN 90	18764-13C	See TWR-18764/09
	360X010 & 360X011	23 FEB 90	20 MAR 90	18764-13D	See TWR-18764/10
	360X012 & 360X013	25 MAY 90	22 JUN 90	18764-13E	See TWR-18764/12
Joint Protection System	360X004	27 MAR 89	11 APR 89	18764-14	See TWR-18764
	360X005	30 JUN 89	24 JUL 89	18764-14A	See TWR-18764/05
	360X006 & 360X007	25 AUG 89	22 SEP 89	18764-14B	See TWR-18764/06
	360X008	3 NOV 89	1 DEC 89	18764-14C	See TWR-18764/08
	360X009	21 DEC 89	29 JAN 90	18764-14D	See TWR-18764/09
	360X010 - 360X013	23 FEB 90	20 MAR 90	18764-14E	See TWR-18764/10
	360X012 & 360X013	25 MAY 90	22 JUN 90	18764-14F	See TWR-18764/12

7.0 CERTIFICATION DOCUMENTATION

The certification documentation information provides evidence to verify that each component/subsystem of the RSRM satisfies all certification requirements.

The certification documentation is presented as follows:

SECTION	COMPONENT/SUBSYSTEM
7.1	Assembled motor
7.2	Case, Case Joints, Stiffener Rings
7.3	Igniter
7.4	Propellant
7.5	Liner
7.6	Internal Insulation
7.7	Thermal Protection System
7.8	Systems Tunnel
7.9	Nozzle, Flex Bearing, Aft Exit Cone
7.10	Safe and Arm Device
7.11	Instrumentation
7.12	Joint Protection System

7.1 ASSEMBLED MOTOR

The assembled motor data report contains an End Item Parts List (EIPL), Hardware Test Matrix (HTM) and CPI tables. The EIPL for the assembled motor includes all top level hardware configurations for the shipping segments, all component/subsystem assemblies at their top level assembly and any part numbers that are not covered by the subsequent sections. Notes indicate which component section EIPL presents a detailed hardware listing of the top level part.

Major changes between 360X012 and 360X013 are as follows:

ECP SRM 1805R3 - Locking Leak Check Port Plugs on Factory Joints

Incorporates locking leak check port plugs into the factory joints of the LH (A) aft segment of 360X013 and all subsequent motor sets, replacing the 1U100269-01 leak check port plug with the 1U100269-03 plug which has the locking feature.

ECP SRM 2046 - Igniter Adapter/Chamber Acceptance Criteria Update

Adds minor diameter and pitch diameter requirements to threaded hole inspection. In the event that a threaded hole does not pass initial "GO" gage inspection, pitch diameter and minor diameter will be inspected prior to initiating a DR. Opens nonsealing surface defect criteria for adapter flanges and chamber surface from 0.010 to 0.015 in. Opens defect criteria on adapter through holes from 0.005 to 0.015. Redefines the sealing surface of the chamber and adapter and simplifies the measurements made to locate these surfaces. Ports located at 198, 305, 337.5 and 115 deg will be inspected for defects in sealing surfaces. Raised metal is allowed in nonsealing surfaces areas when it is below the minimum full thread requirement and is not in the interface area. Opens the special bolt hole O-ring sealing surface diameter from 0.628 to 0.630.

ECP SRM 2257R1 - FJPS Redesign

Redesign of the RSRM Field Joint Protection System (FJPS).

Eliminated:

Moisture Seal

Polysulfide Adhesive
Vent Adhesive
Vent Valves
Extruded Cork

The redesigned FJPS was implemented on all field joints of 360X013. The new design was bonded to the base paint coat. Cosmetic coat was sanded off to primer base.

ECP SRM 2275 - Add primer paint to pin retainer band to prevent case corrosion

Apply STW5-3226 primer to the interior surface of the pin retainer band and to the surfaces of the clevis in contact with the band. No masking will be made in the area of primer application. This change applies to factory joints only.

ECP SRM 2296 - Igniter Installation Preparation

Adds dimensions for both outer and inner joint putty layup. Implements use of standard measuring instrument (straightedge) to verify that no putty extends above the chamber flange in the inner joint. Incorporates use of 1U51916-09 grease in place of STW5-2942 grease. Three diamond shaped guide pins were used to align gasket and adapter, adapter was lowered by crane and hydraset, and chamber was held in place with shop aids. Outer bolt torque sequence in the planning was changed from a circular pattern to a crisscross pattern.

ECP SRM 2326 - Changes to Case Refurbishment Specifications

Redefines the field joint vent port (135 deg) sealing surface. The top 0.040 in. of the conical section is no longer defined as a sealing surface. Imposes a height of 0.004 in. on raised metal in nonsealing surface zones at the bottom of the last thread in the nozzle exit cone and segment field joint leak check (45 deg) ports. Also, defines thread runouts that may be interpreted as raised metal in the segment field joint vent ports (135 deg). The "J" dimension has been increased, and the conical surface face angle tolerances and the depth measurements which define this angle have been relaxed. The sealing surfaces of both factory and field joint O-ring grooves have been redefined. The forward walls of both primary and secondary O-ring grooves are no longer defined as sealing surfaces, but rather surfaces over which an O-ring must pass. The sealing surface dimensions of both the inner clevis leg and the inner tang diameter have been decreased.

TABLE 7.1-1 END ITEM PARTS LIST - FORWARD SHIPPING SEGMENT

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO	NOTES
1U76989-05	Segment Forward-TPS, Lid (L.H.)		3	8
1U76989-06	Segment Forward-TPS, Lid (R.H.)		3	8

SUB LEVEL PART NUMBER	PART DESCRIPTION	NOTES
1U50131-13	Case Segment, Cylinder	1
1U51473-03	Case Segment, Forward	1
1U52983-02	Case Seg, Capture Cylinder	1
1U75164-08	Igniter, Rocket Motor Modified L.H.	2
1U75243-07	Tunnel Assembly, Forward Segment	5
1U75348-03	Case Assembly, Forward Segment	3
1U76570-03	Sub Assy,R.H. Fwd, GEI Instr.(R.H.)	4
1U76571-04	Sub Assy,L.H. Fwd, GEI Instr.(L.H.)	4
1U76666-01	Case Assy, Fwd Segment Insulated	6
1U76674-01	Segment, RSRM, Loaded, Fwd	
1U76674-02	Lined Case	
1U76699-03	Mod. Ign. Sys., Fwd Seg Assy (L.H.)	3
1U76699-04	Mod. Ign. Sys., Fwd Seg Assy (R.H.)	3
1U76897-07	Bracket/Igniter Heater Assy (L.H.)	7
1U76897-08	Bracket/Igniter Heater Assy (L.H.)	7
1U76979-01	Segment, Fwd Cable Assy	7
1U76986-01	Segment, Fwd TPS	8
L-P-523,Type II,CLI	Film, FEP	
STW5-2788	Paint, Silkscreen	
STW5-3223	Inhibitor	6
STW5-3224	Liner	9
STW5-3343	Propellant	10

NOTE 1 : See Case End Item Parts List (EIPL)
NOTE 2 : See Igniter EIPL
NOTE 3 : See Case Joints EIPL
NOTE 4 : See Instrumentation EIPL
NOTE 5 : See Systems Tunnel EIPL
NOTE 6 : See Internal Insulation EIPL
NOTE 7 : See Joint Protection System EIPL
NOTE 8 : See Thermal Protection System EIPL
NOTE 9 : See Liner EIPL
NOTE 10: See Propellant EIPL
NOTE 11: See Nozzle Assembly EIPL

TABLE 7.1-2 END ITEM PARTS LIST - FORWARD CENTER SHIPPING SEGMENT

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO	NOTES
1U76990-03	Segment Fwd. Ctr.-TPS, Lid (L.H.)			8
1U76990-04	Segment Fwd. Ctr.-TPS, Lid (R.H.)			8

SUB LEVEL PART NUMBER	PART DESCRIPTION	NOTES
1U52982-03	Case Seg, Capt. Cyl, (Lt.Wt.)	1
1U75244-06	Tunnel Assy, Ctr Fwd Segment	5
1U75356-03	Case Assy, Center Segment	3
1U76572-03	Subassy, (R.H.) Fwd Ctr GEI Instr.	4
1U76573-03	Subassy, (L.H.) Fwd Ctr GEI Instr.	4
1U76667-01	Case Assy, Ctr Seg Insulated	6
1U76675-01	Segment, RSRM Loaded, Center	
1U76675-02	Lined Case	
1U76980-01	Segment, Fwd Ctr Cable Assy	7
1U76987-01	Segment, Fwd Ctr TPS	8
L-P-523,Type II,CLI	Film, FEP	
STW5-2672	Coating, Black	
STW5-2776	Paint, Polyethlene, Black	
STW5-2788	Coating, Silkscreen	
STW5-3223	Inhibitor	6
STW5-3224	Liner	9
STW5-3225 Type II	Coating, Black	
STW5-3343	Propellant	10

NOTE 1 : See Case End Item Parts List (EIPL)
NOTE 2 : See Igniter EIPL
NOTE 3 : See Case Joints EIPL
NOTE 4 : See Instrumentation EIPL
NOTE 5 : See Systems Tunnel EIPL
NOTE 6 : See Internal Insulation EIPL
NOTE 7 : See Joint Protection System EIPL
NOTE 8 : See Thermal Protection System EIPL
NOTE 9 : See Liner EIPL
NOTE 10: See Propellant
NOTE 11: See Nozzle Assembly EIPL

TABLE 7.1-3 END ITEM PARTS LIST - AFT CENTER SHIPPING SEGMENT

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO	NOTES
1U76991-03	Segment, Aft Ctr-TPS, Lid (R.H.)			8
1U76991-04	Segment, AFt Ctr-TPS, Lid (L.H.)			8

SUB LEVEL PART NUMBER	PART DESCRIPTION	NOTES
1U50717-05	Case, Segment, Cylinder, Light Wt	1
1U52982-03	Case, Seg, Capture, (Lt.Wt.)	1
1U75356-03	Case Assy, Center Segment	3
1U75813-06	Tunnel Assy, Aft Ctr Segment	5
1U76574-03	Sub Assy, R.H. Aft Ctr, GEI Instr	4
1U76575-03	Sub Assy, L.H. Aft Ctr, GEI Instr	4
1U76667-01	Case Assy, Ctr Seg Insulated	6
1U76675-01	Segment, RSRM Loaded Center	
1U76675-02	Lined Case	
1U76981-01	Segment Aft Ctr, Cable Assy	7
1U76988-01	Segment, Aft Ctr-TPS	8
L-P-523,Type II,CLI	Film, FEP	
STW5-2672	Coating, Black	
STW5-2776	Coating, Black	
STW5-2788	Coating, Silkscreen	
STW5-3223	Inhibitor	6
STW5-3224	Liner	9
STW5-3225, Type II	Coating, Black	
STW5-3343	Propellant	10

NOTE 1 : See Case End Item Parts List (EIPL)
NOTE 2 : See Igniter EIPL
NOTE 3 : See Case Joints EIPL
NOTE 4 : See Instrumentation EIPL
NOTE 5 : See Systems Tunnel EIPL
NOTE 6 : See Internal Insulation EIPL
NOTE 7 : See Joint Protection System EIPL
NOTE 8 : See Thermal Protection System EIPL
NOTE 9 : See Liner EIPL
NOTE 10: See Propellant EIPL
NOTE 11: See Nozzle Assembly EIPL

TABLE 7.1-4 END ITEM PARTS LIST - AFT SHIPPING SEGMENT

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO	NOTES
1U76657-03	Segment, Aft-TPS, Lid (L.H.)		2	8
1U76756-01	Segment, Aft-TPS, Lid (R.H.)			8

SUB LEVEL PART NUMBER	PART DESCRIPTION	NOTES
1U50129-11	Case Segment, Aft	1
1U50130-11	Case Seg., Attach (Lt.Wt.)	1
1U50715-05, 06	Case Seg., Stiffener (Lt. Wt.)	1
1U50767-01	Base, Cable Mounting	
1U51711-01	Plug Protective, Nozzle	11
1U51845-01	Plug	
1U52336-01	Clamp, Cable Restraint	
1U52337-01	Clamp, Cable Restraint	
1U52341-08	Cable, Severance	11
1U52342-01	Bracket, Cable	
1U52342-02	Bracket, Cable	
1U52861-12	Nozzle Assy, Final	11
1U75245-09, 10	Cable Installation Aft Seg	
1U75246-09, 10	Tunnel Assy, Aft Segment	5
1U75370-03	Barrel Assembly, Aft Segment	
1U75544-01	Radius Mold	
1U75642-01	Aft Dome, Painted	
1U76497-03, 04	Segment, Aft-TPS	8
1U76580-03	Sub Assy ,R.H. Aft Seg GEI Instr	4
1U76581-04	Sub Assy, L.H. Aft Seg GEI Instr	4
1U76668-01, 05	Case Assy, Aft Seg Insulated	6
1U76669-01, 05	Barrel Assembly, Coated	3
1U76673-01	Aft Dome Insulated	
1U76676-01, 09	Segment, RSRM Loaded, Aft	
1U76676-02, 10	Lined Case	
1U76757-03, 04	Nozzle Assy, Aft Segment	3
L-P-523, Typ II, CL I	Film FEP	
STW5-2776	Coating, Polyethylene	
STW5-2788	Paint, Silkscreen	
STW5-3224	Liner	9
STW5-3225	Coating, Black	
STW5-3343	Propellant	10

NOTE 1: See Case End Item Parts List (EIPL)
NOTE 2: See Igniter EIPL
NOTE 3: See Case Joints EIPL
NOTE 4: See Instrumentation EIPL
NOTE 5: See Systems Tunnel EIPL
NOTE 6: See Internal Insulation EIPL
NOTE 7: See Joint Protection System EIPL
NOTE 8: See Thermal Protection System EIPL
NOTE 9: See Liner EIPL
NOTE 10: See Propellant EIPL
NOTE 11: See Nozzle Assembly EIPL

TABLE 7.1-5 HARDWARE TEST MATRIX - SEGMENT ASSEMBLY

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1A	FLT 1B	FLT 2A	FLT 2B	FLT 3A	FLT 3B	CURRENT FLIGHTS	CURRENT FLIGHTS
ROCKET MOTOR, FORWARD SEGMENT	1U75421-01	x												
	1U75421-02		x											
	1U76138-01			x										
	1U75421-03				x									
	1U76138-02					x								
	1U75663-01						x							
	1U75664-01							x						
	1U76150-01								x					
	1U76151-01									x				
	1U76550-01										x			
	1U76551-01											x		
	1U76989-05												13	
	1U76989-06													13
ROCKET MOTOR, CENTER FWD SEG FORWARD	1U76040-01	x												
	1U75351-02		x											
	1U76139-100			x										
	1U75351-03				x									
	1U75940-01					x								
	1U75665-01						x							
	1U75666-01							x						
	1U76152-01								x					
	1U76153-01									x				
	1U76552-01										x			
	1U76553-01											x		
	1U76990-03												13	
	1U76990-04													13
ROCKET MOTOR, CENTER AFT SEG AFT	1U75933-01	x												
	1U75972-02		x											
	1U75843-01			x										
	1U75972-03				x									
	1U75941-01					x								
	1U75667-01						x							
	1U75668-01							x						
	1U76154-01								x					
	1U76155-01									x				
	1U76554-01										x			
	1U76555-01											x		
	1U76991-03												13	
	1U76991-04													13
ROCKET MOTOR, AFT SEGMENT SEGMENT	1U75432-01	x												
	1U76375-01		x											
	1U75845-01			x										
	1U76350-01				x									
	1U75789-01					x								
	1U75669-01						x							
	1U75670-01							x						
	1U76156-01								x					
	1U76157-01									x				
	1U76556-01										x			
	1U76557-01											x		
	1U76657-03												13	
	1U76756-01													13

7.2 CASE

The case segments used on flight 360X013 are the same design configuration as that of flight 360X012. Several deviations were added to the HCM, applicable to subsequent flight sets, to allow a COQ effectivity beyond one flight.

CASE JOINTS

The Joint configurations for flight 360X013 are the same design configuration as that of flight 360X012. Several deviations were added to the HCM, applicable to subsequent flight sets, to allow a COQ effectivity beyond one flight.

The field joint temperatures are maintained at 75 deg. F minimum prior to launch by the joint protection system. In case of failure of the redundant JPS heaters, Launch Commit Criteria (LCC) minimum temperatures of the primary o-ring are established on a flight-by-flight basis using calculated o-ring squeeze. These LCC minimum temperatures may be lower than the 75 deg. F qualification temperatures. Deviation RDW-0618 has been generated and will be implemented in the event of failure of the redundant JPS heaters.

STIFFENER RINGS

The stiffener rings for flight 360X013 are the same design configuration as that of flight 360X012.

TABLE 7.2-1 END ITEM PARTS LIST - CASE SEGMENTS

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO	RH USE	LH USE	NOTES
1U50129-11	Case Seg., Aft	AA	46	3	3	
1U50130-11	Case Seg., Attach (Lt.Wt.)	U	37	4	4	
1U50131-13	Case Seg., Cyl. (Std.Wt.)	V	38	2	5	
1U50715-05	Case Seg., Stiffnr. (Lt.Wt.)	D	17		2	
1U50715-06	Case Seg., Stiffnr. (Lt. Wt.)	D	18			
1U50717-05	Case Seg., Cyl. (Lt. Wt.)	C	25	5,1	2,3	
1U51473-03	Case Seg. Fwd. (Std. Wt.)	F	25		1	
1U52982-03	Case Seg., Capt. Cyl. (Lt. Wt.)	C	21	1		
1U52983-02	Case Seg., Capt. Cyl. (Std. Wt.)	D	12			

TABLE 7.2-2 END ITEM PARTS LIST - STIFFENER RINGS

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U76802-04	Aft Segment Build-up, RSRM	B	5

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U50230-19	Splice Plate		
1U50230-25	Plate		
1U51207-04	Screw		
1U51207-05	Screw		
1U51207-07	Screw		
1U51207-08	Screw		
1U52501-01	Insulated Stiffener Ring		
1U52501-04	Insulated Stiffener Ring		
1U52501-05	Insulated Stiffener Ring		
1U52502-01	Stiffener Ring (alternate for -04)		
1U52502-04	Stiffener Ring	3	3
1U52502-05	Stiffener Ring		
1U52502-06	Stiffener Ring (alternate for -05)		
1U52502-07	Stiffener Ring	1	1
1U52502-08	Stiffener Ring	1	1
1U52503-02	Splice Plate	3	3
1U52503-04	Splice Plate (alternate for -02)	3	3
1U52503-05	Splice Plate		
1U52504-02	Adapter	1	1
1U52504-05	Adapter	4	4
1U52505-01	Plate, Stiffener		
1U52505-02	Plate, (alternate for -01)	3	3
1U52506-02	Splice Plate (painted)		
1U52506-03	Splice Plate (painted)		
1U52507-02	Adapter Plate, Painted		
1U52508-01	Plate (painted)		
1U52510-01	Bolt		
1U52734-01	Bolt, Shoulder		
1U52734-02	Bolt, Shoulder		
1U52734-03	Bolt, Shoulder		
1U52734-04	Bolt, Shoulder		
1U52777-01	Washer, Countersunk		
AN960C616	Washer		
AN960C816	Washer		
MS20002C8	Washer		
MS21042-L6	Nut		
MS21045-L8	Nut, Self Locking		
STW5-2672	Coating, White		
STW5-2942	Lubricant		
STW5-2995	Primer		
STW5-3225, TY 1	Coating, Epoxy (white)		
STW5-3226	Primer, Eproxy		
STW7-3657	Lubricant, Extra Refined		

TABLE 7.2-3 END ITEM PARTS LIST - CASE JOINTS

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U75348-03	Case Assy., Forward	B	12
1U75356-03	Segment Assy., Center Segment	B	12
1U75370-03	Barrel Assy., Aft Segment	B	17
1U76668-01	Case Assy., Aft Segment Insulated		3
1U76668-05	Case Assy., Aft Segment Insulated	A	12
1U76699-03, -04	Modified Ignition, Sys., Fwd Seg.	A	5
1U76757-03	Nozzle Assy., Aft Segment		
1U76757-04	Nozzle Assy., Aft Segment		3
1U76803-03	Assy. and Closeout-KSC	B	22

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U100269-01	Plug		
1U100269-03	Plug, Machine Thread		
1U50129-11	Case Seg., Aft		
1U50130-11	Case Seg. Std. Attach		
1U50131-13	Case Segment, Cylinder	2	5
1U50159-02	Plug, Closure		
1U50185-08	Case Seg., Stiffnr (Std.Wt.)	3	3
1U50228-15	Packing, Preformed		
1U50228-20	Packing, Preformed		
1U50228-22	Packing, Preformed		
1U50228-25	Packing, Preformed		
1U50228-44	Packing, Preformed		
1U50510-02	Screw (Alt. for 1U75756-02)		
1U50715-05	Case Seg., Stiffnr (Lt.Wt.)		3
1U50715-06	Case Seg. Stiffnr. (alt for -05)		
1U50716-08	Case Seg. Attach (Lt.Wt.)	3	3
1U50716-09	Case Seg. Attach (Alt for -08)		
1U50717-05	Case, Seg, Cyl, Light-Weight	5,1	2,3
1U51055-12	Pin, Straight, Headless (GFE)	1	1
1U51473-03	Case Segment, Forward	2	1
1U51473-04	Case Seg. Fwd (Alt. for -03)		
1U51569-01	Machine bolt		
1U51668-01	Plug, Dual Seal		
1U51899-04, 08 - 22	Retainer, Pin-Field Joint		
1U51927-02	Gasket (Gask-O-Seal)		
1U52861-12	Nozzle Final Assembly		
1U52982-03	Capture Cyl Lt-Wt Case Segment		1
1U52983-02	Capture Cyl Lt-Wt Case Segment		1
1U75150-25	Packing, Performed		
1U75167-01	Bolt, Machine, Alt to -04		
1U75167-02	Bolt, Machine, Alt. to -05		
1U75167-04	Bolt, Machine		
1U75167-05	Bolt, Machine		
1U75374-01	Packing with Retainer		
1U75374-02	Packing with Retainer		
1U75756-02	Screw		
1U75801-01	Packing, Lubricated		
1U75801-02	Packing, Lubricated		
1U75801-14	Packing, Lubricated		
1U75801-15	Packing, Lubricated		
1U75801-16	Packing, Lubricated		
1U76034-01	Bolt, Alt. to -02		
1U76034-02	Bolt, Case/Nozzle		
1U76425-01	Plug, Adjustable		
1U76425-02	Plug, Adjustable		
1U76425-03	Plug, Adjustable		
1U76673-01	Aft Dome Insulated		
1U77137-01	Gasket		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U82699-01	Assembly, Retainer Band, Pin		
1U82840-01	Alt. to 1U82699-01.		
1U82840-02	Retainer Band, Pin Assembly		
1U82840-03	Retainer Band, Pin Assembly		
1U82842-01	Retainer		
1U82843-02	Trunion, Threaded		
1U82843-03	Trunion, Low Profile		
AN960-416L	Washer		
MIL-S-8802, CL.B	Sealant		
MS16562	Pin, Spring		
MS20995C20	Lockwire		
MS20995C32	Wire, safety or lock		
MS21206-C12	Washer		
NAS1351N4H36S	Screw Cap, Socket Head		
STW3-3353	Joint Filler		
STW4-2951	Coating		
STW4-2955	Lubricant, air-drying		
STW4-3266	Putty		
STW4-3311	Adhesive, Polysulfide		
STW5-2788	Coating		
STW5-3225, Ty.1	Epoxy Poly Coating		
STW5-3226	Primer		
STW5-3479	Adhesive, Pressure Sensitive		
STW7-3657	Lubricant, Extra Refined		

TABLE 7.2-4 HARDWARE TEST MATRIX - CASE ASSEMBLY SEGMENTS

HARDWARE DESCRIPTION	PART NUMBER	STA	ATA	TPTA 1_1	TPTA 2_2	TPTA 2_1	HT	HB	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Forward Std. Wt.	1U51473-01	x							x	x	x	x	x	x	x	x	
	1U51473-03																13
	1U51473-04																
Cylinder Std. Wt.	1U50131-11								x	x	x	x	x	x	x	x	
	1U50131-13																13
Capture Cyl. Std. Wt.	1U52983-01								x	x	x	x	x	x	x	x	
	1U52983-02																13
Cylinder Lt. Wt.	1U50717-03		x						x	x	x	x	x	x	x	x	
	1U50717-05																13
Capture Cyl. Lt. Wt.	1U52982-02	x	x	x	x	x			x	x	x	x	x	x	x	x	
	1U52982-03																13
Stiffener Lt. Wt.	1U50715-02	x		x	x	x						x					
	1U50715-03								x	x	x		x	x	x	x	
	1U50715-05																13
	1U50715-06																13
(Std.Wt.)	1U50185-08																
Attach Lt. Wt.	1U50716-06	x	x	x	x	x			x	x	x	x	x	x	x	x	
	1U50716-08																
	1U50716-09																
(Std.Wt.)	1U50130-11																13
Aft-Std. Wt.	1U50129-10	x															
	1U50129-11			x	x	x			x	x	x	x	x	x	x	x	13

HT = HYDRO TEST; HB = HYDRO-BURST TEST

TABLE 7.2-5 HARDWARE TEST MATRIX - FIELD JOINTS

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
FWD INSULATED SEG	1U75423-01	x								
FWD INSULATED SEG	1U75423-02		x		x		x		x	
FWD INSULATED SEG	1U75423-03							x		
FWD INSULATED SEG	1U75423-04			x						
FWD INSULATED SEG	1U75423-06					x				
FWD INSULATED SEG	1U76666-01									13
CTR INSULATED SEG	1U75428-01	x								
CTR INSULATED SEG	1U75428-01	x								
CTR INSULATED SEG	1U75428-100		x							
CTR INSULATED SEG	1U75428-02			x	x		x			
CTR INSULATED SEG	1U75428-03							x		
CTR INSULATED SEG	1U75428-04								x	
CTR INSULATED SEG	1U75428-07					x				
CTR INSULATED SEG	1U76667-01									13
AFT INSULATED SEG	1U75434-01	x								
AFT INSULATED SEG	1U75434-03		x	x						
AFT INSULATED SEG	1U75434-04				x					
AFT INSULATED SEG	1U75434-02						x	x		
AFT INSULATED SEG	1U75434-05							x	x	
AFT INSULATED SEG	1U75434-06					x				
AFT INSULATED SEG	1U76668-01									13
AFT SEGMENT INSULATED	1U76668-05									13
PRESSURE SENSITIVE ADHESIVE	STW4-3431	x								
PRESSURE SENSITIVE ADHESIVE	STW5-3479		x	x	x	x	x	x	x	13
EXTRUSION, JOINT FILLER	STW3-3353	x	x	x	x	x	x	x	x	13
VENT PORT PLUG	1U100269-01	x								
VENT PORT PLUG	1U76386		x	x			x	x	x	
VENT PORT PLUG	1U50159-02		x	x	x	x	x	x	x	13
VENT PORT PLUG	1U76425				x	x				13
LK CHK PORT PLUG	1U100269-01	x	x	x	x		x	x	x	
LK CHK PORT PLUG	1U100269-03						x			13
LVDT ASSEMBLY	7U76020-10					x				
PRI & SEC O-RING	1U75150-25	x	x	x	x	x	x	x	x	
PRI & SEC O-RING	1U75801-01									13
CAPTURE O-RING	1U75150-11	x	x	x	x	x	x	x	x	
CAPTURE O-RING	7U76367				x					
CAPTURE O-RING	1U75801-02									13
PINS	1U51055	x	x	x	x	x	x	x	x	13
PIN RETAINER BAND	1U82699-01	x								
PIN RETAINER BAND	1U82840-01		x	x	x		x	x	x	
PIN RETAINER BAND	1U82840-02					x				13
LEAK TEST	STW7-3447	x	x	x	x	x	x	x	x	13
LEAK TEST	STW7-3661		x	x	x		x	x	x	13
LEAK TEST	STW7-2853					x				

TABLE 7.2-6 HARDWARE TEST MATRIX - FACTORY JOINTS

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Forward Segment Assy	1U75348-01	x								
Forward Segment Assy	1U75348-02		x	x	x		x	x	x	
Forward Segment Assy	1U75348-03					x				13
Center Segment Assy	1U75356-01	x								
Center Segment Assy	1U75356-100		x							
Center Segment Assy	1U75356-02		x	x	x		x	x	x	
Center Segment Assy	1U75356-03					x				13
Aft Segment Barrel Assy	1U75318-02				x					
Aft Segment Barrel Assy	1U75370-01	x								
Aft Segment Barrel Assy	1U75370-02		x	x			x	x	x	
Aft Segment Barrel Assy	1U75370-03									13
Aft Segment Barrel Assy	1U76848-02									13
Aft Segment Insulated	1U75434-01	x								
Aft Segment Insulated	1U75434-03		x	x						
Aft Segment Insulated	1U75434-04				x					
Aft Segment Insulated	1U75434-02						x	x		
Aft Segment Insulated	1U75434-05							x	x	
Aft Segment Insulated	1U75434-06					x				
Aft Segment Insulated	1U76668-01									13
Aft Segment Insulated	1U76668-05									13

TABLE 7.2-7 HARDWARE TEST MATRIX - NOZZLE/CASE JOINT

HARDWARE DESCRIPTION	PART NUMBER	NJE 1A	NJE 2A	NJE 2B	NJE 3A	NJE 3B	TPTA 1_1	TPTA 1_2	TPTA 2_1	TPTA 2_2	TPTA 1_3	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Test	Closed Vessel	x	x	x	x	x	x	x	x	x	x									
Case Joint	HPM	x																		
	Radial Bolt		x	x	x	x	x	x	x	x	x									
Insulation	Baffle		x	x	x	x	x	x	x	x	x									
Test Defects	Vaccum Putty	x																		
	Shoe Lace		x	x	x	x		x	x	x										
	Channel		x	x	x	x	x	x	x	x	x									
	Wiper O-ring				x	x		x	x	x										
	Primary O-ring					x				x										
O-ring Material	Poly Siloxane	x																		
	Fluorocarbon	x	x	x	x	x	x	x	x	x	x									
Temperature	Joint	73	73	72	73	66	82	75.9	118.6	71.8	82.0									
Fixed Housing	1U52945											X	X	X	X	X	X	X	X	13
Aft Dome (Insul)	1U75641											X	X	X	X	X	X	X	X	
Aft Dome (Insul)	1U76673																			13
Blt Machine (Axl)	1U76034											X	X	X	X	X	X	X	X	13
Blt Machine (Rad)	1U75167-05											X	X	X	X	X	X	X	X	13
Blt Machine (Rad)	1U75167-04																			13
Blt Machine (Rad)	1U75167-02																			13
Blt Machine (Rad)	1U75167-01																	X	X	13
O-ring Primary	1U75150-26											X	X	X	X	X	X	X	X	
O-ring Primary	1U75801-15																			13
O-ring Wiper	1U75150-27											X	X	X	X	X	X	X	X	
O-ring Wiper	1U75801-14																			13
O-ring Secondary	1U75150-28											X	X	X	X	X	X	X	X	
O-ring Secondary	1U75801-16																			13
Vent Port Plug	1U76386-01												X	X		X	X			
Vent Port Plug	1U76386-04					X												X	X	
Vent Port Plug	1U76425-02																			13
Vent Port Plug	1U76425-03																			13
Vent Port Plug, Closure Screw	1U50159-02					X							X	X	X	X	X	X	X	13
LEAK TEST	STW7-3448												X	X	X	X	X	X	X	13
LEAK TEST	STW7-3661												X	X	X	X	X	X	X	13

TABLE 7.2-8 HARDWARE TEST MATRIX - IGNITER/CASE JOINT

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Ignition System Segment Assy	1U75421-01	X								
Ignition System Segment Assy	1U75421-02		X							
Ignition System Segment Assy	1U75882-01			X						
Ignition System Segment Assy	7U76547-01				X					
Ignition System Segment Assy	1U75882-02					X				
Ignition System Segment Assy	1U75165-01						X			
Ignition System Segment Assy	1U75165-02							X		
Ignition System Segment Assy	1U75165-03								X	
Ignition System Segment Assy	1U76699-03									13
Ignition System Segment Assy	1U76699-04									13
Machine Bolt	1U51569-01	X	X	X	X	X	X	X	X	13
Washer, countersunk	MS21206C12	X	X	X	X	X	X	X	X	13
Gasket, outer (Gask-O-Seal)	1U51927-01	X	X	X	X	X	X	X	X	
	1U51927-02									13

TABLE 7.2-9 HARDWARE TEST MATRIX - STIFFENER RINGS

HARDWARE DESCRIPTION	PART NUMBER	QM6	QM7	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Stiffener Ring	1U52502-04	x	x	x	x	x	x	13
Stiffener Ring	1U52502-07	x	x	x	x	x	x	13
Stiffener Ring	1U52502-08	x	x	x	x	x	x	13
Splice Plate	1U50230-19	x	x	x	x	x	x	13
Adapter Plate	1U52504-05	x	x	x	x	x	x	13
Plate	1U50230-25	x	x	x	x	x	x	13
Bolt, Shoulder	1U52734-01	x	x	x	x	x	x	13
Bolt, Shoulder	1U52734-02	x	x	x	x	x	x	13
Bolt, Shoulder	1U52734-03	x	x	x	x	x	x	13
Bolt, Shoulder	1U52734-04	x	x	x	x	x	x	13
Nut	MS21042-L6	x	x	x	x	x	x	13
Nut, Self Locking	MS21045-L8	x	x	x	x	x	x	13
Washer	AN960C616	x	x	x	x	x	x	13
Washer	AN960C816	x	x	x	x	x	x	13
Washer	MS20002C8	x	x	x	x	x	x	13
Washer, Counter Sunk	1U52777-01	x	x	x	x	x	x	13

TABLE 7.2-10
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
CASE ASSEMBLY/STIFFENER RINGS/JOINTS

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
3.2 Characteristics	x			
3.2.1 Performance	x			
3.2.1.1 General Performance	x			
3.2.1.1.2 Motor Characteristics	x			
3.2.1.2 Pressure Seals	Anal	TWR-15723: Vol.II, AGV-1.0	TWR-17991	Closed
	Anal	TWR-15723: Vol.III, AHV-9.0	TWR-17265	Closed
	Test	WTP-0103	TWR-16190	Closed
	Test	TWR-15723: Vol.II, SMX-1.0	TWR-17280	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II, TLX-3.1	TWR-17453	Closed
	Test	TWR-15723: Vol.II, TGX-7.3	TWR-17563	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
	Test	TWR-15723: Vol.II, SGX-9.0	TWR-17991	Closed
	Test	TWR-15723: Vol.II, TJX-3.2	TWR-18000	Closed
	Test	TWR-15723: Vol.II, TGX-7.2	TWR-18075	Closed
	Test	TWR-15723: Vol.II, TGX-7.4	TWR-18428	Closed
	Test	TWR-15723: Vol.II, TGX-7.5	TWR-18624	Closed
	Insp	TWR-15723: Vol.II, IGA-1.0	S40242M, S40242N	Closed
3.2.1.2.1 Case Field Joints & Nozzle to Case Joint Seals	x			
3.2.1.2.1.a Sealing	Anal	TWR-15723: Vol.III, AHV-4.0,6.0	TWR-17118	Closed
	Test	N/A	NSTS-16007	Closed
	Test	TWR-15723: Vol.II, TLX-3.1	TWR-17453	Closed
	Test	TWR-15723: Vol.II, TGX-10.0	TWR-16829	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II, TGX-7.3	TWR-17563	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
	Test	TWR-15723: Vol.II, TGX-7.1A	TWR-17927	Closed
	Test	TWR-15723: Vol.II, SGX-9.0	TWR-17991, EE51(88-283)	Closed
	Test	TWR-15723: Vol.II, TJX-3.2	TWR-18000	Closed
	Test	TWR-15723: Vol.II, TGX-7.2	TWR-18075	Closed
	Test	TWR-15723: Vol.II, TGX-7.4	TWR-18428	Closed
	Test	TWR-15723: Vol.II, TGX-7.5	TWR-18624	Closed
3.2.1.2.1.b Temperature range	Anal	TWR-15723: Vol.IX, ASV-3.0	TWR-16097	Closed
	Anal	N/A	TWR-17033	Closed
	Anal	N/A	TWR-17416	Closed
	Test	TWR-15723: Vol.II, SGX 9.0	TWR-17991	Closed

"CS" indicates reference to a closure statement provided by the cognizant engineer that states compliance or rationale to satisfy the requirement for this flight.

TABLE 7.2-10
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
CASE ASSEMBLY/STIFFENER RINGS/JOINTS

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
	Test	N/A	NSTS-16007	Closed
	Test	TWR-15723: Vol.II, TJX-3.2	TWR-18000	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II TLX-3.1	TWR-17453	Closed
	Test	TWR-15723: Vol.II, TGX-7.3	TWR-17563	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
	Test	TWR-15723: Vol.II, TGX-7.5	TWR-18624	Closed
	Test	TWR-15723: Vol.II, TGX-7.2	TWR-18075	Closed
	Test	TWR-15723: Vol.II, TGX-7.4	TWR-18428	Closed
3.2.1.2.1.c Seal Verification	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-10.0	TWR-16829	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II, TGX-7.3	TWR-17563	Closed
	Test	TWR-15723: Vol.II, TGX-7.4	TWR-18428	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
3.2.1.2.1.d Bore Seals	Test	TWR-15723: Vol.II, TGX-10.0	TWR-16829	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373, RDW-0541	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
	Test	TWR-15723: Vol.II, TJX-3.2	TWR-18000	Closed
3.2.1.2.1.e Sealing Margin	Anal	TWR-15723: Vol.III, AHV-4.0,6.0	TWR-17118	Closed
	Test	TWR-15723: Vol.II, SGX-9.0	TWR-17991	Closed
3.2.1.2.1.f Nozzle to Case Joint O-ring	Anal	N/A	TWR-15832	Closed
	Anal	TWR-15723: Vol.II, ALV-1.0	TWR-15832	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
3.2.1.3 Case	x			
3.2.1.3.a MEOP	Anal	TWR-15723: Vol.III, AHV-2.0-8.0	TWR-17118	Closed
	Test	TWR-15723: Vol.III, THX-7.0	TWR-17405	Closed
	Test	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed

TABLE 7.2-10
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
CASE ASSEMBLY/STIFFENER RINGS/JOINTS

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
	Test	TWR-15723: Vol.II, TLX-6.0	TWR-17469	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
3.2.1.3.b Structural Integrity	x			
3.2.1.3.b.1 Case Membrane	Anal	TWR-15723: Vol.III, AHV-11.0	TWR-16873	Closed
	Anal	TWR-15723: Vol.III, AHV-2.0-8.0	TWR-17118	Closed
	Test	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
3.2.1.3.b2 Case Joints	Anal	TWR-15723: Vol.III, AHV-11.0	TWR-16873	Closed
	Anal	TWR-15723: Vol. III, AHV-3.0-6.0	TWR-17118	Closed
	Test	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
3.2.1.3.c Case Risers	Anal	TWR-15723: Vol.III, AHV-8.0	TWR-17118	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
	Test	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
3.2.1.3.f Mating Joints	Demo	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
	Demo	TWR-15723: Vol.II, TGX-10.0	TWR-16829	Closed
	Demo	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Demo	TWR-15723: Vol.III, TGX-7.1A	TWR-17927	Closed
	Demo	TWR-15723: Vol.II, TGX-7.2	TWR-18075	Closed
3.2.1.3.h Entry of Rain	Insp	TWR-15723: Vol.IX, TSX-2.0	TWR-17242	Closed
3.2.1.3.j Biaxial Improvement	Anal	TWR-15723: Vol.III, AHV-7.0,8.0	TWR-17118	Closed
3.2.1.3.k Pressure Drop	Anal	TWR-15723: Vol.III, AHV-7.0,8.0	TWR-17118	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
3.2.1.6.F Electrical Bonding	Simi	TWR-15723: Vol.II, AKW-1.0	TWR-18617	Closed
3.2.1.6.2.2 Cable Mounting Brackets	Insp	TWR-15723: Vol.II, IGA-76.0	TWR-16717	Closed
3.2.1.9 Reusability	x			
3.2.1.9.a Case	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Anal	TWR-15723: Vol.III, AHV-11.0	TWR-16873, RDW-0528R5	Closed
	Anal	TWR-15723: Vol.III, AHV-7.0, 8.0	TWR-17118	Closed
	Anal	TWR-15723: Vol.III, AHV-13.0	TWR-17597, TWR-19821, RDW-0599R2	Close
	Simi	TWR-15723: Vol.II, ALW-1.0	TWR-17469	Closed
	Test	TWR-15723: Vol.II, TLX-6.0	TWR-17469	Closed
3.2.1.12 Case Factory Joint External Seal	Test	TWR-15723: Vol.IV, TSX-2.0	TWR-17242	Closed
3.2.2 Physical	x			
3.2.2.2.1 Control Weight (Inert)	Anal	TWR-15723: Vol.II, AGV-5.0	TWR-10211-94	Closed
	Anal	TWR-15723: Vol.II, AGV-6.0	TWR-16877	Closed
	Anal	TWR-15723: Vol.II, AGV-8.0	TWR-17358, TWR-17359	Closed

TABLE 7.2-10
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
CASE ASSEMBLY/STIFFENER RINGS/JOINTS

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
3.2.3.1 Primary Structure, Thermal Protection, Pressure Vessels	Anal	TWR-15723: Vol.III, AHV-2.0-8.0	TWR-17718	Closed
	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Anal	TWR-15723: Vol.III, AHV-11.0	TWR-16873	Closed
	Anal	TWR-15723: Vol.III, AHV-9.0	TWR-17265	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
	Test	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TLX-6.0	TWR-17469	Closed
	Test	TWR-15723: Vol.II, TGX-7.3	TWR-17563	Closed
	Test	TWR-15723: Vol.II, TGX-19.0	TWR-17592	Closed
	Test	TWR-15723: Vol.II, TGX-7.2	TWR-18075	Closed
	Test	TWR-15723: Vol.II, TGX-7.4	TWR-18428	Closed
3.2.4 Maintainablility	Anal	TWR-15723: Vol.II, AGV-16.0	TWA-1066	Closed
3.2.5 Operational Availability	x			
3.2.5.6 Useful Life	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
	Simi	TWR-15723: Vol.II, AMW-1.0	TWR-18239, TWR-17808	Closed
	Anal	TWR-15723: Vol.II, AHV-11.0	TWR-16873, RDW-0569R2, RDW-0569R3	Closed
	Anal	N/A	TWR-17367	Closed
	Anal	TWR-15723: Vol.III, AHV-13.0	TWR-17597, RDW-0599R2	Closed
	Anal	TWR-15723: Vol.II, AGV-1.0	TWR-17991	Closed
	Test	TWR-15723: Vol.II, TGX-20.0	RDW-0569R2,R3 RDW-0596R2,R3	Closed
	Test	TWR-15723: Vol.II, SMX-1.0	TWR-17082	Closed
	Test	TWR-15723: Vol.II, SGX-9.0	TWR-17991	Closed
3.2.5.7 Recovery and Refurbishment	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808, RDW-0528R5	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
	Anal	TWR-15723: Vol.II, AGV-22.0	TWR-17880	Closed
	Simi	TWR-15723: Vol.II, AMW-1.0	TWR-18239, TWR-17808	Closed
3.2.6.5 Debris Prevention	Anal	TWR-15723: Vol.III, AHV-7.0,8.0	TWR-17118	Closed
	Anal	TWR-15723: Vol.III, AHV-9.0	TWR-17265	Closed
3.2.7 Environment	x			
3.2.7.1 Natural Environment	x			
3.2.7.1.a Prelaunch	x			
3.2.7.1.a1 Solar Radiation	Anal	TWR-15723: Vol.V, AOV-3.0	TWR-17009	Closed
3.2.7.1.a2 Air Temperature	Anal	TWR-15723: Vol.V, AOV-3.0	TWR-17009	Closed
	Test	TWR-15723: Vol.II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol.II, TGX-11.0	TWR-18045	Closed

TABLE 7.2-10
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
CASE ASSEMBLY/STIFFENER RINGS/JOINTS

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
3.2.7.1.a3 Wind	Anal	TWR-15723: Vol.V, AOV-3.0	TWR-17009	Closed
3.2.7.1.a4 Humidity	Anal	TWR-15723: Vol.II, AGV-11.0	RDW-0603, RDW-0603R1	Closed
3.2.7.1.a5 Rain	Anal	TWR-15723: Vol.IX, ASV-2.0	TWR-18136	Closed
	Test	N/A	TWR-11915	Closed
	Test	TWR-15723: Vol.IX, TSX-2.0	TWR-17242	Closed
3.2.7.1.a6 Salt air	Simi	TWR-15723: Vol.II, AHW-1.0	TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
3.2.7.1.a7 Ozone	Anal	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
3.2.7.1b Launch and ascent	x			
3.2.7.1.b1 Wind	Anal	TWR-15723: Vol.V, AOV-3.0	STS-84-0575: Section 3.1	Closed
3.2.7.1.c Recovery	x			
3.2.7.1.c1 Air/Sea Temperature	Anal	TWR-15723: Vol.III, AHV-2.0,7.0,8.0	TWR-17118	Closed
3.2.7.1.c2 Salinity	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808, TWR-11915	Closed
	Anal	TWR-15723: Vol.III, AHV-2.0,7.0,8.0	TWR-17118	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
3.2.7.2 Induced Environment	x			
3.2.7.2.1 Thermal	x			
3.2.7.2.1.a Prelaunch	Anal	TWR-15723: Vol.V, AOV-3.0	TWR-17009	Closed
3.2.7.2.1.b Launch/Ascent	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16526	Closed
	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16527, TWR-19050	Closed
	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16496	Closed
3.2.7.2.1.c Re-entry	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16526	Closed
	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16527, TWR-19050	Closed
	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16496	Closed
3.2.7.2.1.d Plume Induced	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16526	Closed
	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16527, TWR-19050	Closed
	Anal	TWR-15723: Vol.III, AHT-3.0	TWR-16496	Closed
3.2.7.2.2 Loads	x			
3.2.7.2.2.a Prelaunch Through Separation	Anal	TWR-15723: Vol.III, AHV-2.0-8.0	TWR-17118	Closed
	Anal	TWR-15723: Vol.III, AHV-9.0	TWR-17265	Closed
	Test	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
	Test	TWR-15723: Vol.II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol.VII, TQX-1.0	TWR-17872	Closed
3.2.7.2.2.b Post Separation Through recovery	Anal	TWR-15723: Vol.III, AHV-2.0-6.0,8.0	TWR-17118	Closed
	Anal	TWR-15723: Vol.VII, TQX-1.0	TWR-17872	Closed
3.2.8 Transportability / Transportation	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Anal	TWR-15723: Vol.III, AHV-13.0	TWR-17597, TWR-19821, RDW-0599R2	Closed
3.2.8.a Size and Weight	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Anal	TWR-15723: Vol.III, AHV-13.0	TWR-17597, RDW-599R2	Closed
3.2.8.b Stresses	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Simi	TWR-15723: Vol.III, AHV-9.0	TWR-17265	Closed

TABLE 7.2-10
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
CASE ASSEMBLY/STIFFENER RINGS/JOINTS

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
	Anal	TWR-15723: Vol.III, AHV-13.0	TWR-17597, TWR-19821, RDW-0599R2	Closed
3.2.8.c Natural Environments	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Anal	TWR-15723: Vol.II, AGV-19.0	TWR-17322, TWR-17323, TWR-17324	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
3.2.9 Storage	x			
3.2.9.1 Post Acceptance Requirements	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AMW-1.0	TWR-18239, TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
3.3.1.1 Selection of Materials, Parts and Processes	Insp	TWR-15723: Vol.II, IGA-107.0	CS 02-01	Closed
	Test	CTP-0141	TWR-19912	Closed
3.3.5.5 Static Electricity and Lightning Protection	Anal	TWR-15723: Vol.II, AGV-21.0	S41384AR3	Closed
	Test	CTP-0082	TWR-16390	Closed
3.3.6 Mechanical	x			
3.3.6.1 Design Safety Factors	x			
3.3.6.1.1 Structural Safety Factors	Anal	TWR-15723: Vol.III, AHV-2.0-8.0	TWR-17118, RDW-0596R2	Closed
	Anal	TWR-15723: Vol.III, AHV-14.0	RDW-0607, RDW-0621R1	Closed
	Anal	TWR-15723: Vol.III, AHV-9.0	TWR-17265	Closed
	Test	TWR-15723: Vol.III, SHX-1.0	RDW-0607, RDW-0621R1	Closed
	Test	TWR-15723: Vol.II, TLX-6.0	TWR-17469	Closed
3.3.6.1.1.1 General Safety Factors	Simi	TWR-15723: Vol.II, ALW-1.0	TWR-17469	Closed
	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AMW-1.0	TWR-18239, TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
	Anal	TWR-15723: Vol.III, AHV-2.0-8.0	TWR-17118, RDW-0607, RDW-0621R1	Closed
	Anal	TWR-15723: Vol.III, AHV-9.0	TWR-17265, RDW-0579R2,-0626,-0607,-0621R1	Closed
	Test	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
	Test	TWR-15723: Vol.II, TLX-6.0	TWR-17469	Closed
3.3.6.2 Allowable Mechanical Properties	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AMW-1.0	TWR-18239, TWR-17808	Closed
	Anal	TWR-15723: Vol.III, AHV-14.0	RDW-0607, RDW-0621R1	Closed
	Anal	TWR-15723: Vol.III, AHV-12.0	TWR-16821	Closed
	Anal	TWR-15723, Vol.III, AHV-11.0	TWR-16873, RDW-0607, RDW-0621R1	Closed
	Anal	TWR-15723: Vol.III, AHV-9.0	TWR-17265	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
	Test	TWR-15723: Vol.III, SHX-1.0	RDW-0607, RDW-0621R1	Closed
	Test	TWR-15723: Vol.IV, SNX-17.0	TWR-16961, TWR-18011 Supp. A,B, & E	Closed
3.3.6.3 Ultimate Combined Loads	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AMW-1.0	TWR-18239, TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
	Anal	TWR-15723: Vol.III, AHV-2.0-8.0	TWR-17118, RDW-0607, RDW-0621R1	Closed

TABLE 7.2-10
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
CASE ASSEMBLY/STIFFENER RINGS/JOINTS

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
	Anal	TWR-15723: Vol.III, AHV-9.0	TWR-17265, RDW-0579R2, RDW-0626	Closed
3.3.6.4 Proof Pressure Factors	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Anal	TWR-15723: Vol.III, AHV-11.0	TWR-16873	Closed
	Test	TWR-15723: Vol.II, TLX-6.0	TWR-17469	Closed
	Test	TWR-15723: Vol.III, THX-3.0	TWR-16752	Closed
3.3.6.4.1 Proof Factor Determination	Anal	TWR-15723: Vol.III, AHV-11.0	TWR-16873	Closed
	Test	TWR-15723: Vol.III, THX-7.0	TWR-17405	Closed
3.3.6.5 Life Factors	Simi	TWR-15723: Vol.III, AHW-1.0	TWR-17808	Closed
	Simi	TWR-15723: Vol.II, AGW-1.0	TWR-18617	Closed
	Anal	TWR-15723: Vol.II, AGV-3.0	RDW-0607, RDW-0621R1	Closed
	Anal	TWR-15723: Vol.III, AHV-11.0	TWR-16873, RDW-0607, RDW-0621R1	Closed
	Anal	TWR-15723: Vol.III, AHV-7.0	TWR-17118	Closed
3.3.6.8 Adhesive Bonding	Insp	TWR-15723: Vol.II, IGA-597.0	RDW-0555R2,R3	Closed
3.3.6.10 Locking Threaded Parts	Insp	TWR-15723: Vol.II, IGB-76.0	RDW-0617	Closed
	Insp	TWR-15723: Vol.II, TGX-21.1	TWR-17639	Closed
3.3.8 Materials	Insp	TWR-15723: Vol.II, IGA-384.0	CS 02-02	Closed
3.3.8.1 Moisture, Fungus Resistance and Oxidation	Insp	TWR-15723: Vol.II, IGA-385.0	CS 02-03	Closed
3.3.8.2 Corrosion of Metal Parts	x			
3.3.8.2.a Corrosion Protection	Insp	TWR-15723: Vol.II, IGA-389.0	RDW-0627	Closed
3.3.8.2.b Stress corrosion	Test	TWR-15723: Vol.III, SHX 1.0	RDW 0607, RDW-0621R1	Closed
	Anal	TWR-15723: Vol.III, AHV-11.0	TWR-16873	Closed
	Anal	TWR-15723: Vol.III, AHV-14.0	RDW-0607, RDW-0621R1	Closed
3.3.8.3 Flammability, Odor and Offgassing	Insp	TWR-15723: Vol.II, IGA-538.0	CS 02-04	Closed
3.3.9 Contamination Control	Insp	TWR-15723: Vol.II, IGB-85.0	RDW-0551R2,R3	Closed

7.3 Igniter

The igniter and the igniter adapter used on flight 12 thru 13 are identical to those used on flights 10 and 11. The only difference between the -04 Igniter assembly used on previous flights and the -08 used for flights 10 thru 13 is the inner gasket undergoes a 72 hour inspection in a plexiglass fixture (see ECP SRM-1998). This inspection resulted in the gasket being reidentified to a -02 instead of a -01. Deviation RDW-0528R4, which addressed reusable components and limited the effectivity to flight 10, was revised to RDW-0528R5 with an effectivity of flights 11 thru 13. The Igniter was previously submitted for flight 8 and was subsequently certified for use through flight 13.

TABLE 7.3-1 END ITEM PARTS LIST - IGNITER ASSEMBLY

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U75164-08	Igniter Rocket Motor Modified	B	11

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U50046-01	Igniter Initiator Insulation		
1U50150-16	Igniter Adapter Assembly		
1U50152-03	Initiator Chamber Lined		
1U50152-04	Initiator Chamber Insulated		
1U50152-06	Initiator Chamber Assy Loaded		
1U50152-07	Initiator Chamber Assy Loaded		
1U50154-01	Igniter Initiator Chamber		
1U50253-03	Identification Plate		
1U50257-01	Tube		
1U50262-01	Igniter Initiator Nozzle Insert		
1U50278-12	Igniter Adapter	1	2
1U51369-02	Washer		
1U51475-01	Machine Thread Plug		
1U51569-01	Bolt		
1U51688-03	Igniter Insert		
1U51894-01	Disk Seal		
1U51926-01	Inner Gasket		
1U75161-01	Igniter Chamber		
1U75162-01	Igniter Chamber Assy Insulated		
1U75163-01	Igniter Chamber Assy		
1U75163-02	Igniter Chamber Assy Loaded		
1U75374-01	Packing with Retainer		
1U76598-01	Bolt, Machine, Ultrasonic		
1U76602-01	Bolt, Modified		
MIL-A-46050	Adhesive		
MS16562-62	Spring Pin		
MS16562-64	Spring Pin		
MS20995C32	Safety Wire		
MS9048-358	Spring Pin		
STW4-2621	Igniter Adapter Insulation		
STW4-2806	Silicone Grease		
STW4-2955	Lubricant		
STW4-3266	Putty		
STW5-2652	Silica Cloth Phenolic		
STW5-2664	Primer		
STW5-2667	Chopped Silica Cloth		
STW5-2678	Sealant		
STW5-2712	Adhesive		
STW5-2833	Propellant		
STW5-3224	Initiator Chamber Liner		
STW5-3225, TY I	Coating		
STW5-3226	Primer		
TT-L-50 TY II	Clear Coating		

TABLE 7.3-2 HARDWARE TEST MATRIX - IGNITER ASSEMBLY

HARDWARE DESCRIPTION	PART NUMBER	MIQ	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Igniter Assembly	1U75166-02		X	X	X	X	X				
Igniter Assembly	1U75164-01	X						X	X		
Igniter Assembly	1U75164-08									X	11-13
Chamber Assembly	1U75163-01	X	X	X	X	X	X	X	X	X	11-13
Loaded Initiator Chamber Assy	1U50152-07	X	X	X	X	X	X	X	X	X	11-13
Adapter Assembly Insulated	1U50150-15		X	X	X	X	X				
Adapter Assembly Insulated	1U50150-16							X	X	X	11-13
Adapter Assembly Insulated	1U75698-01	X									

MIQ = MODIFIED IGNITER QUALIFICATION

7.4 PROPELLANT

The segment propellant (TP-H1148IV) and igniter propellant (TP-H1178) for flight 13 are the same as presented in the flight 12 COQ (Ref. TWR-18764/12). The following tables contain the current flight configuration and qualification criteria.

TABLE 7.4-1 END ITEM PARTS LIST - PROPELLANT

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
STW5-2833	TP-H1178, Propellant, Igniter	D	10
STW5-3343 Type IV	TP-H1148IV, Propellant, Case	A	8

TABLE 7.4-2 HARDWARE TEST MATRIX - PROPELLANT

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Propellant	TP-H1148IV	x	x	x	x	x	x	x	x	13

TABLE 7.4-3
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
PROPELLANT

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
3.2.1 Performance	x			
3.2.1a Altitude	Anal	TWR-15723: Vol. V, AOV-8.0	TWR-16940	Closed
3.2.1b Thermal	Anal	TWR-15723: Vol. V, AOV-8.0	TWR-16940	Closed
3.2.1.1.1 Ignition Characteristics	x			
3.2.1.1.1.1 Ignition Interval	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol. II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15273: Vol. II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol. II, TGX-12.0	TWR-17272	Closed
3.2.1.1.1.2 Pressure Rise Rate	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol. II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol. II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol. II, TGX-12.0	TWR-17272	Closed
3.2.1.1.2.1 Nominal Thrust-Time Curve	Anal	TWR-15723: Vol. V, AOV-8.0	TWR-16940	Closed
	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol. II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol. II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol. II, TGX-12.0	TWR-17272	Closed
3.2.1.1.2.2 Performance Tolerance & Limits	Anal	TWR-15723: Vol. V, AOV-8.0	TWR-16592, TWR-16940	Closed
	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol. II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol. II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol. II. TGX-12.0	TWR-17272	Closed
	Anal	TWR-15723: Vol. II, AGV-23.0	TWR-16940	Closed
	Test	TWR-15723: Vol. V, SOX-3.0	STW7-3344	Closed
3.2.1.1.2.3 Thrust Differential	Anal	N/R	TWR-14415	Closed
	Anal	N/R	TWR-18371	Closed
	Anal	TWR-15723: Vol. V, AOV-8.0	TWR-16940	Closed
3.2.1.1.2.4 Impulse Gates	Anal	TWR-15723: Vol. V, AOV-8.0	TWR-16940	Closed
	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol. II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol. II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol. II, TGX-12.0	TWR-17272	Closed
3.2.1.7 Propellants	Test	TWR-15723: Vol. V, SOX-1.0	TWR-16961, TWR-18011 Sup. B, TWR-17057	Closed
	Test	TWR-15723: Vol. VII, TQX-2.0	TWR-17941	Closed
	Test	TWR-15723: Vol. VII, TQX-1.0	TWR-17872	Closed
	Test	TWR-15723: Vol. VII, SQX-2.0	TWR-16106	Closed
	Test	TWR-15723: Vol. V, SOX-3.0	STW7-3344, Mgt. Procedure: 2630-33-00007	Closed
3.2.2 Physical	x			
3.2.2.2 Mass Properties	x			
3.2.2.2.2 Propellant Weight	Anal	TWR-15723: Vol. II, AGV-5.0	TWR-10211-95	Closed
	Test	TWR-15723: Vol. II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed

"CS" Indicates reference to a closure statement provided by the cognizant engineer that states compliance or rationale to satisfy the requirement for this flight.

TABLE 7.4-3
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
PROPELLANT

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
	ANAL	TWR-15723: VOL. II, AGV-8.0	TWR-17358, TWR-17359	Closed
3.2.5 Operational Availability	x			
3.2.5.6 Useful Life	Siml	TWR-15723: Vol. V, AOW-1.0	TWR-18233	Closed
	Anal	TWR-15723: Vol. V, AOV-4.0	TWR-16961, RDW-0569R2	Closed
	Test	TWR-17721	TWR-17039, RDW-0569R2	Closed
	Test	TWR-17720	TWR-17039, RDW-0569R2	Closed
	Test	TWR-15723: Vol. II, TGX-20.0	TWR-16961, RDW-0569R2	Closed
3.2.7 Environment	x			
3.2.7.1 Natural Environment	Anal	N/R	TWR-17009	Closed
3.2.7.1a. Prelaunch	x			
3.2.7.1a.1 Solar Radiation	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-17009	Closed
3.2.7.1a.2. Air Temperature	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-17009	Closed
	Anal	N/R	TWR-17323	Closed
3.2.7.1a.3 Wind	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-17009	Closed
3.2.7.1a.4 Humidity	Anal	TWR-15723: Vol. II, AGV-11.0	RDW-0603	Closed
3.2.7.1a.6 Salt air	Siml	TWR-15723: Vol. V, AGW-1.0	TWR-18617, TWR-18233	Closed
3.2.7.1a.7 Ozone	Anal	TWR-15723: Vol.V, AOW-1.0	TWR-18617	Closed
3.2.7.2 Induced Environment	Anal	N/R	TWR-17009	Closed
3.2.7.2.1 Thermal	x			
3.2.7.2.1a. Prelaunch	Anal	N/R	TWR-17009	Closed
3.2.9 Storage	x			
3.2.9.1 Post Acceptance Requirements	Siml	TWR-15723: Vol. V, AOW-1.0	TWR-18233	Closed
	Insp	TWR-15723: Vol. II, IGA-97.0	RDW-0569R2	Closed
3.3.1.1 Selection of Materials, Parts and Processes	Insp	TWR-15723: Vol. II, IGA-107.0	CS 04-05	Closed
	Test	TWR-15723: Vol. II, SOX-1.0	TWR-18011 Supp. B	Closed
3.3.6 Mechanical	x			
3.3.6.1 Design Safety Factors	x			
3.3.6.1.1 Structural SF	Anal	TWR-15723: Vol. V, AOV-4.0	TWR-16961	Closed
3.3.6.1.1.2 Bond Safety Factors	x			
3.3.6.1.1.2d. Propellant and propellant / liner bond	Siml	TWR-15723: Vol. V, AOW-1.0	TWR-18233, RDW-0573R2	Closed
	Anal	TWR-15723: Vol. V, AOV-4.0	TWR-17039	Closed
	Anal	N/R	TWR-18011 Sup. B	Closed
	Anal	TWR-15723: Vol. V, AOV-5.0	TWR-16961	Closed
	Anal	N/R	TWR-17057, RDW-0573R2	Closed
3.3.6.2 Allowable Mechanical Properties	Siml	TWR-15723: Vol. V, AOW-1.0	TWR-18233, CS 04-03, RDW-0573R2	Closed
	Anal	TWR-15723: Vol. V, AOV-4.0	TWR-16961, TWR-17057, RDW-0573R2	Closed
	Anal	TWR-15723: Vol. V, AOV-9.0	TWR-16961	Closed
	Test	TWR-15723: Vol. V, SOX-1.0	TWR-16961, TWR-18011 Supp.B	Closed
3.3.8 Materials	Insp	TWR-15723: Vol. II, IGA-384.0	CS 04-05	Closed
3.3.8.3 Flammability, Odor and Offgassing	Insp	TWR-15723: Vol. II, IGA-385.0	CS 04-06	Closed

TABLE 7.4-3
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
PROPELLANT

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
3.3.8.3 Moisture and Fungus Resistance	Insp	TWR-15723: Vol. II, IGA-538.0	CS 04-05	Closed
3.3.9 Contamination Control	Insp	TWR-16564	RDW-0551R2	Closed

7.5 LINER

The liner (STW5-3224) flight configuration and qualification criteria for flight 13 is identical to that presented in flight 12 COQ (Ref. TWR-19764/12). The following tables shows the current as built configuration and qualification criteria.

TABLE 7.5-1 END ITEM PARTS LIST - LINER

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
STW5-3224	Liner, SRM, Space Shuttle Project	N/C	5

TABLE 7.5-2 HARDWARE TEST MATRIX - LINER

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Liner	STW5-3224	x	x	x	x	x	x	x	x	13

7.6 INTERNAL INSULATION

The internal insulation for flight 13 is the same as presented in flight 11 COQ (Ref. TWR-18764/11). The following reflects the current as built configuration and certification criteria.

TABLE 7.6-1 END ITEM PARTS LIST - INTERNAL INSULATION

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
N/A			

SUB LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
STW4-2531	Extrusion Inhibitor Filler	B	15
STW4-2535	Insulation, Dome Filler Extrusion	B	15
STW4-2545	Insulation	A	13
STW4-2621	Insulation (NBR)	G	31
STW4-2868	Insulation (Carbon Fiber EPDM)	E	18
STW4-3442	Extrusion, J-seal Tang (NBR)	N/C	3
STW4-3443	Extrusion, J-seal Clevis (NBR)	N/C	4
STW5-2664	Adhesive Primer	B	10
STW5-2712	Adhesive	B	7
STW5-2798	Adhesive	A	5
STW5-3223	Inhibitor	N/C	1

TABLE 7.6-2 HARDWARE TEST MATRIX - INTERNAL INSULATION

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Dome Filler Extr	STW4-2535	X	X	X	X	X	X	X	X	10-13
NBR Insulation	STW4-2621	X	X	X	X	X	X	X	X	10-13
Extr, Fwd Inhib	STW4-2531	X	X	X	X	X	X	X	X	10-13
CFF/EPDM Insul	STW4-2868	X	X	X	X	X	X	X	X	10-13
Castable Inhib	STW5-3223	X	X	X	X	X	X	X	X	10-13
NBR Inhibitor	STW4-2545	X	X	X	X	X	X	X	X	10-13
Extr, J-seal Tang (NBR)	STW4-3442		X	X	X	X	X	X	X	10-13
Extr, J-seal Clevis	STW4-3443		X	X	X	X	X	X	X	10-13
Adhesive Primer	STW5-2664	X	X	X	X	X	X	X	X	10-13
Adhesive	STW5-2712	X	X	X	X	X	X	X	X	10-13
Adhesive	STW5-2798	X	X	X	X	X	X	X	X	10-13

7.7 THERMAL PROTECTION SYSTEM

The thermal protection system (TPS) for flight 13 is the same as presented in the flight 5 COQ (Ref. TWR-18764/05). The following tables contain the current flight configuration and qualification criteria.

TABLE 7.7-1 END ITEM PARTS LIST - THERMAL PROTECTION SYSTEM

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
n/A			

SUB LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
STW4-2528	T-ring Cap Extrusion	A	12
STW4-2529	Insulation, EPDM	A	11
STW4-2536	EPDM Thermal Insulation	A	11
STW4-2700	Cork Insulation	D	20
STW4-3174	Thermal Extrusion Insulation	A	9
STW4-3218	Adhesive	A	3
STW4-3299	Hatband Joint Extrusion	A	8
STW5-2664	Primer	B	10
STW5-2798	Adhesive	A	5
STW5-2811	Adhesive	D	13
STW5-2975	Potting Compound	N/C	4
STW5-2994	Coating	N/C	3
STW5-3183	Ablation Compound	N/C	3
STW5-3225	Coating	B	5
STW5-3226	Primer	B	3

TABLE 7.7-2 HARDWARE TEST MATRIX - THERMAL PROTECTION SYSTEM

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Cork Insulation	STW4-2700	X	X	X	X	X	X	X	X	11-13
K5NA Ablation Compound	STW5-3183	X	X	X	X	X	X	X	X	11-13
Thermal Extrusion Insul	STW4-3174		X	X		X	X	X	X	11-13
EPDM	STW4-2536	X	X	X	X	X	X	X	X	11-13
T-Ring Cap Extrusion	STW4-2528		X	X		X	X	X	X	11-13
Potting Compound	STW5-2975	X	X	X	X	X	X	X	X	11-13
EPDM Insulation	STW4-2529		X	X	X	X	X	X	X	11-13
EPDM Extrusion	STW4-2530		X	X	X		X	X	X	
Insul., Extruded Cork	1U82836-01	X	X	X		X	X	X	X	
Adhesive	STW4-3218	X	X	X	X	X	X	X	X	11-13
Primer	STW5-3226	X	X	X	X	X	X	X	X	11-13
Coating	STW5-2994	X	X	X	X	X	X	X	X	11-13
Primer	STW5-2664	X	X	X	X	X	X	X	X	11-13
Adhesive	STW5-2798	X	X	X	X	X	X	X	X	11-13
Coating	STW5-3225	X	X	X	X	X	X	X	X	11-13
Adhesive, Epoxy	STW5-2811	X	X	X	X	X	X	X	X	11-13
EPDM Hatband Extr STW4-3299	TY.I	X	X	X	X	X	X	X	X	11-13
EPDM Hatband Extr STW4-3299	TY.II	X	X	X	X	X	X	X	X	11-13
EPDM Hatband Extr STW4-3299	TY.III	X	X	X	X	X	X	X	X	11-13

7.8 SYSTEMS TUNNEL

The systems tunnel assemblies used on flight 13 are the same design configuration as those of flight 12. See TWR-18764/09 for certification data.

TABLE 7.8-1 END ITEM PARTS LIST - SYSTEMS TUNNEL

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U75243-07	Tunnel Assy, Forward Segment	C	23
1U75244-06	Tunnel Assy, Center Segment Fwd.	C	21
1U75246-09	Tunnel Assy, Aft Segment	C	20
1U75246-10	Tunnel Assy, Aft Segment	C	20
1U75813-06	Tunnel Assy, Center Segment Aft	C	24
1U76803-03	RSRM Assy and Closeout-KSC	B	22

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
10182-0276-103	Floor Assembly (GFE)		
10182-0276-104	Floor Assembly (GFE) Alt.		
10182-0277-103	Floor Assembly (GFE)		
10182-0277-104	Floor Assembly (GFE) Alt.		
10182-0278-104	Floor Assembly (GFE)		
10182-0278-105	Floor Assembly (GFE)		
10182-0278-108	Floor Assembly (GFE) Alt.		
10182-0279-101	Floor Assembly (GFE)		
10182-0279-102	Floor Assembly (GFE) Alt.		
10182-0280-102	Floor Assembly (GFE)		
10182-0280-103	Floor Assembly (GFE) Alt.		
10182-0281-104	Floor Assembly (GFE)		
10182-0281-105	Floor Assembly (GFE) Alt.		
10182-0282-102	Floor Assembly (GFE)		
10182-0282-103	Floor Assembly (GFE) Alt.		
10182-0283-103	Floor Assembly (GFE)		
10182-0283-104	Floor Assembly (GFE) Alt.		
10182-0284-102	Floor Assembly (GFE)		
10182-0284-103	Floor Assembly (GFE) Alt.		
10182-0285-102	Floor Assembly (GFE)		
10182-0285-103	Floor Assembly (GFE) Alt.		
10182-0286-101	Floor Assembly (GFE)		
10182-0286-102	Floor Assembly (GFE) Alt.		
10182-0297-103	Floor Assembly (GFE)		
10182-0297-104	Floor Assembly (GFE) Alt.		
10182-0298-103	Floor Assembly (GFE)		
10182-0298-104	Floor Assembly (GFE) Alt.		
10182-0299-103	Floor Assembly (GFE)		
10182-0299-104	Floor Assembly (GFE) Alt.		
10182-0300-103	Floor Assembly (GFE)		
10182-0300-104	Floor Assembly (GFE) Alt.		
10182-0302-103	Floor Assembly (GFE)		
10182-0302-104	Floor Assembly (GFE) Alt.		
10182-0302-104	Floor Assembly (GFE) Alt.		
10182-0303-103	Floor Assembly (GFE)		
10182-0303-104	Floor Assembly (GFE) Alt.		
10182-0304-103	Floor Assembly (GFE)		
10182-0304-104	Floor Assembly (GFE) Alt.		
10182-0305-102	Floor Assembly (GFE)		
10182-0305-103	Floor Assembly (GFE) Alt.		
10182-0327-103	Floor Assembly (GFE)		
10182-0327-104	Floor Assembly (GFE) Alt.		
10182-0328-102	Floor Assembly (GFE)		
10182-0328-103	Floor Assembly (GFE) Alt.		
10182-0411-101	Floor Assembly (GFE)		
10182-0411-102	Floor Assembly (GFE) Alt.		
10182-0414-101	Floor Assembly (GFE)		
10182-0414-102	Floor Assembly (GFE) Alt.		
10182-0415-101	Floor Assembly (GFE)		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
10182-0415-102	Floor Assembly (GFE) Alt.		
10182-0416-101	Floor Assembly (GFE)		
10182-0416-102	Floor Assembly (GFE) Alt.		
1U51864-01	Plate		
1U82841-05	Splice Plate Assembly		
1U82841-07	Splice Plate Assembly		
1U82841-08	Splice Plate Assembly		
1U82841-11	Splice Plate Assembly		
1U82847-01	Floor Plate Assembly		
1U82847-02	Floor Plate Assembly		
1U82847-03	Floor Plate Assembly		
1U82847-04	Floor Plate Assembly		
1U82847-05	Floor Plate Assembly		
1U82847-06	Floor Plate Assembly		
1U82847-07	Floor Plate Assembly		
1U82847-08	Floor Plate Assembly		
1U82847-09	Floor Plate Assembly		
1U82847-10	Floor Plate Assembly		
1U82847-11	Floor Plate Assembly		
1U82847-12	Floor Plate Assembly		
1U82847-13	Floor Plate Assembly		
1U82847-14	Floor Plate Assembly		
1U82847-15	Floor Plate Assembly		
1U82847-16	Floor Plate Assembly		
1U82847-17	Floor Plate Assembly		
1U82847-18	Floor Plate Assembly		
1U82847-19	Floor Plate Assembly		
AN960C416L	Washer, Flat		
MIL-C-5541, CL. 1a	Chemical Coating		
MIL-S-8802, CL b2	Sealing Compound		
MS35307-305	Screw		
NAS1352N4-10	Screw, Cap, Sockethead		
NAS1352N4-14	Screw, Cap, Sockethead		
NAS1587-4C	Washer		
NAS1587-4L	Washer, Plain		
STW4-2736	Insulation		
STW4-2874	Conductive Adhesive		
STW4-2955	Dry Lubricant		
STW4-3218	Adhesive		
STW5-2664	Primer, Adhesive		
STW5-2798	Adhesive		
STW5-2914	Primer Coating		
STW5-3215	Adhesive Primer		
STW5-3225, TY. I	Top Coat		
STW5-3226	Primer		
Z-4140	Grommet		
Z-4144	Grommet		
ZX-4306	Grommet		

TABLE 7.8-2 HARDWARE TEST MATRIX - SYSTEMS TUNNEL

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Tunnel Assy, Fwd Seg (Alum)	1U75243-01						x			
Tunnel Assy, Fwd Seg (Alum)	1U75243-02							x		
Tunnel Assy, Fwd Seg (Alum)	1U75243-03								x	
Tunnel Assy, Fwd Seg (Alum)	1U75243-07									13
Tunnel Assy, Ctr Seg Fwd	1U75244-01						x			
Tunnel Assy, Ctr Seg Fwd	1U75244-02							x		
Tunnel Assy, Ctr Seg Fwd	1U75244-03								x	
Tunnel Assy, Ctr Seg Fwd	1U75244-06									13
Tunnel Assy, Ctr Seg Aft	1U75813-01						x			
Tunnel Assy, Ctr Seg Aft	1U75813-02							x		
Tunnel Assy, Ctr Seg Aft	1U75813-03								x	
Tunnel Assy, Ctr Seg Aft	1U75813-06									13
Tunnel Assy, Aft Segment	1U75246-01						x			
Tunnel Assy, Aft Seg	1U75246-02							x		
Tunnel Assy, Aft Seg	1U75246-03							x	x	
Tunnel Assy, Aft Seg	1U75246-09									13
Tunnel Assy, Aft Seg	1U75246-10									13
Tunnel Assy, Fwd (Alum)	1U76138-01			x						
Tunnel Assy, Fwd Ctr (Alum)	1U76139-100			x						
Tunnel Assy, Aft Ctr (Alum)	1U75843-01			x						
Tunnel Assy, Segment (Alum)	1U75845-01			x						
Tunnel Assy, Aft Ctr Segment	1U82848-01									
Tunnel Assy, Ctr Seg (Alum)	1U75426-02	x								
Tunnel Assy, Fwd (Alum)	1U76138-02					x				
Tunnel Assy, Fwd Ctr (Alum)	1U76139-02					x				
Tunnel Assy, Aft Ctr (Alum)	1U75843-02					x				
Adhesive Primer	STW5-3215	x		x		x	x	x	x	13
RSRM Assy and closeout-KSC	1U76803									13

7.9 Nozzle

The 1U52861-12 nozzle assembly installed on flights 11 thru 13 is identical to those used on flight sets 6 thru 10. Deviation RDW-0528R4, which addressed reusable components and limited effectivity to flight 10, was replaced by RDW-0528R5 with an effectivity thru flight 13. This deviation also applies to the flex bearing and aft exit cone. The Nozzle Assembly COQ was previously submitted and certified for use through flight 13.

Flex Bearing

The 1U52840-03, that is made from the 1U51060 flex bearing, or the 1U52840-01 flex bearing is the basic configuration used for certification and is the same as the 1U52840-10. The difference in dash number is due to the instrumentation added to the -10 bearing. The 1U52840-10 bearing was previously used on flights 4 thru 10. The Flex Bearing was previously submitted for flight 8 and was subsequently certified for use through flight 13.

Aft Exit Cone

The aft exit cone assembly 1U76039-12,-13 is the same configuration as was used on flight 9 and 10. Testing to extend the storage life of Linear Shaped Charge(LSC) on the nozzle severance system has been completed and the age requirements satisfied. The Aft Exit Cone Assembly COQ was submitted and subsequently certified for use through flight 13.

TABLE 7.9-1 END ITEM PARTS LIST - FORWARD NOZZLE ASSEMBLY

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U52861-12	Nozzle Assembly	D	32

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U50159-02	Plug		
1U50228-25	Packing		
1U50568-01	Throat Assembly		
1U50568-02	Throat Ring		
1U50568-03	Inlet Ring		
1U50568-11	Throat-Inlet Assy Nozzle		
1U51058-01	Cable, Lightning Bypass, Nozzle		
1U51061-02	Snubber Segment, Nozzle		1
1U51061-04	Snubber Segment, Nozzle		
1U51063-03	Ring, Snubber Support		
1U51064-02	Shim		
1U51065-02	Shim		
1U51066-02	Retainer, Axial Shim	2	1
1U51130-05	Ring, Inner		
1U51130-06	Ring, Outer		
1U51130-09	Bearing Protector		
1U51173-10	Cowl, Boot & Housing Assembly		
1U51174-11	Housing and Boot Assy		
1U51369-02	Washer		
1U51916-16	Lubricant		
1U52837-01	Exit Cone Housing	1	1
1U52838-03,-01	Hsg Assy, Cowl		
1U52839-01	Exit Cone Assembly		
1U52839-02	Exit Cone		
1U52840-10	Flex Brg Assy		
1U52855-12	Nose-Throat Assy, Nozzle		
1U52856-11	Nose-Throat-Brg Assy		
1U52857-10	Nose-Throat-Brg-Cowl Assy		
1U52858-13	Nose-Throat-Brg-Cowl-Hsg Assy		
1U52862-02	Insulation		
1U52862-09	Housing Assembly		
1U52863-01	Nose-Inlet Assembly		
1U52863-02	Nose Cap		
1U52863-03	Nose-Ring, Fwd		
1U52863-04	Inlet Ring-Aft		
1U52867-01	Plug		
1U52945-02,-04	Fixed Housing		
1U75150-01	Packing, Preformed		
1U75150-02	Packing, Preformed		
1U75150-05	Packing		
1U75150-06	Packing		
1U75150-07	Packing		
1U75150-08	Packing		
1U75150-09	Packing		
1U75150-10	Packing		
1U75374-01	Packing with Retainer		
1U75398-01	Housing		
1U75545-01	Cowl, Flexible Boot		
1U75546-01	Boot, Flexible Bearing		
1U75546-02	Ring, Inner		
1U75546-03	Ring, Outer		
1U75547-01	Housing, Throat, Support, Nozzle		
1U75756-01	Screw		
1U75756-03	Screw		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U75756-04	Screw		
1U75756-05	Screw		
1U75756-06	Screw		
1U75756-07	Screw		
1U75756-09	Screw		
1U75756-10	Screw		
1U76065-03	Screw		
1U76065-04	Screw		
1U76385-01	Screw		
AN960-1016L	Washer		
AN960-416	Washer		
AN960-416L	Washer		
DYP37	Screw		
L-P-523, TY II, CL.I	Film, FEP		
MIL-A-46106, TY I	Primer		
MIL-C-5541, CL. 1A	Coating		
MIL-I-23594, TY I	Teflon Tape		
MIL-R-9299	Phenolic Resin		
MIL-S-46050,TY I CL 2	Adhesive		
MIL-S-8802, CL B-2	Sealant		
MS124700	Insert		
MS124736	Helicoil		
MS16562-77, 265	Pin Spring		
MS3367-2-9	Tie Down Strap		
STW4-2621	Insulation		
STW4-2871	Carbon Fabric		
STW4-2874	Conductive Adhesive		
STW4-2951	Protective Coating		
STW4-3218	Adhesive		
STW5-2650	Insulation Compound		
STW5-2651	Insulator		
STW5-2665	Adhesive		
STW5-2723	Adhesive, Silicone Rubber		
STW5-2725	Primer, Silicone Rubber		
STW5-2738	Silicone Rubber		
STW5-2788	Paint, Silk Screen		
STW5-2813	Sealing Compound		
STW5-2830	Adhesive		
STW5-2914	Primer		
STW5-2922	Coating		
STW5-2931	Adhesive		
STW5-2936	Primer		
STW5-2942	Lubricant		
STW5-3225, TY I	Coating		
STW5-3226	Primer		
STW5-3279	Carbon Cloth Phenolic		
STW5-3292, TY II	Adhesive		
STW5-3621 TY II	Glass Phenolic		
STW5-3621, TY III	Carbon Cloth Phenolic Tape		
STW7-2865 TY I	Thermal Insulation Compound		
TT-P-1757, TY I,CL.Y	Primer		

TABLE 7.9-2 END ITEM PARTS LIST - FLEX BEARING

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U52840-10	Bearing Assy	D	29

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U50097-01	Shim		
1U50097-02	Shim		
1U50097-03	Shim		
1U50097-04	Shim		
1U50097-05	Shim		
1U50097-06	Shim		
1U50097-07	Shim		
1U50097-08	Shim		
1U50097-09	Shim		
1U50097-10	Shim		
1U52833-01	Aft End Ring		
1U52834-01	Fwd End Ring		
1U52840-01	Bearing Assembly		
1U52840-02	Bearing Assembly		
STW5-2656	Adhesive Primer		
STW5-2657	Adhesive		
STW5-2664	Primer, Adhesive		
STW5-2665	Adhesive		
STW5-2782	Rubber, Tycement		
STW5-2783	Cement, Natural Rbr Base		
STW5-2943	Natural Rubber		
STW5-3225, Ty.I	Coating Epoxy		
STW5-3226	Primer Epoxy		

TABLE 7.9-3 END ITEM PARTS LIST - AFT EXIT CONE

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U76039-12	Exit Cone Assembly, L.H.	A	16
1U76039-13	Exit Cone Assembly, R.H.	A	16

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U50510-10	Screw, Cap, Sockethead		
1U50510-11	Screw, Cap, Sockethead		
1U50510-12	Screw, Cap, Sockethead		
1U50767-01	Base, Cable Minting		
1U50771-01	Insulator, Cork		
1U51139-01	Spacer, Plate		
1U51242-05	Bracket, Nozzle Actuator	1	1
1U51243-02	Shell, Exit Cone Aft		
1U51245-01	Clamp, Loop		
1U51246-01	Strap, Retaining		
1U51301-02	Retainer		
1U51373-01	Tube Explos Lead		
1U51406-01	Standoff Blast Shield		
1U51406-07	Standoff Blast Shield		
1U51406-08	Standoff Blast Shield		
1U51407-03	Flap, Blast Shield		
1U51805-01	Insulator Retainer		
1U51839-04	Spacer Blast Shield		
1U51873-01	Wiring Harness		
1U51937-01	Shim, Compliance Ring		
1U52242-01	Ring, Compliance, Nozzle	1	1
1U52288-04	Ferrule, Crimp		
1U52290-02	Cable, Nozzle Severance		
1U52302-01	Blast Shield		
1U52305-01	Tube Ordinance Cable		
1U52307-02	Clamp, Initiator		
1U52308-01	Nut		
1U52353-01	Protective Cover		
1U52354-01	Bracket, Cable		
1U52354-02	Bracket, Cable		
1U52371-01	Adapter Assembly		
1U52372-01	Adapter Assembly		
1U52641-01	Retainer		
1U52700-01	Ring Segment, Nozzle Assembly		
1U52700-02	Ring Segment, Nozzle Assembly		
1U52700-03	Ring Segment, Nozzle Assembly		
1U52842-01	Shell, Exit Cone, Aft		
1U52842-03	Shell, Exit Cone, Aft	1	1
1U75691-01,06,07,10	HLCAL Col Oversize Insert		
1U75692-01,05,06,07	HLCAL Col Twinsert		
1U75692-11,15,16,17	HLCAL Col Twinsert		
1U75739-01	Exit Cone GEI Harness		
1U75740-01	Exit Cone GEI Harness		
1U76065-04	Screw, Cap, Sockethead		
1U76121-15,-16	Exit Cone Subassembly		
1U76123-01	Aft Exit Cone Assembly		
1U76123-02	Aft Exit Cone Liner		
1U76123-03	Metal Assembly		
1U76861-01	Exit Cone GEI Harness		
38030-6F-20D	Screw Button Head		
38030E-4F-8D	Screw, Button Head		
38031-96C-8	Screw, Button HD Capm		
78176-10-26	Bolt		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
79095-10-14	Bolt		
83-362533	Marker, Cable		
AN960XC816	Washer		
L-T-80	Tape, Al Foil		
M23053/5-305-9	Insulation Sleeving		
M23053/5-308-9	Sleeve, Heat Reactive		
MIL-A-46050, TY1 CL.2	Adhesive		
MIL-C-5541, CL.1A	Alodine Coating		
MIL-R-9299	Resin, Phenolic, Laminate		
MIL-S-22473, GR.H	Sealing Compound		
MIL-S-46163, TY.2 GRM	Locking Compound		
MIL-S-8802, CL.B-2	Sealant		
MS122087	Insert		
MS124696	Insert		
MS124696	Insert		
MS124700	Insert		
MS20995C20	Safety Wire		
MS21209-F1015	Insert		
MS21980-187	Ferrule, Outer		
MS21981-109	Ferrule, Inner		
MS27473E12F35P	Connector Plug		
MS3367-1-9	Strap, Tie Down		
MS3367-2-2	Strap, Tie Down		
MS9881-14	Nut		
MSFC-SPEC-222,T	Potting Compound		
NAJ6C12-3P	Connector, Strength Plug		
NBS9GE8-2SE	Connector, Strength Plug		
NJ-J22	Jiffy Connector		
NLS-GSP-22D	Plug, Sealing Grommet		
NLS-S-12	Backshell Stn Relief		
QQ343S22S1T	Copper Wire		
SEB26100094-201	Detonator		
SN60W063RAP3	Solder		
STW3-3134	Tubing, Polyurethane		
STW3-3137, TY.3	Cable, Electrical, Double		
STW4-2601	Epoxy Resin		
STW4-2636	Floats Pulp		
STW4-2679	Silicon Dioxide		
STW4-2679	Silicon Dioxide		
STW4-2680	Curing Agent		
STW4-2736	EPDM, Shilica Filled		
STW4-2919	Nylon Thread		
STW4-3218	High Temp Adhesive		
STW5-2651	Cone Structure, Glass Cl.		
STW5-2678	Sealant		
STW5-2788	Marking Enamel, Black		
STW5-2811	Adhesive		
STW5-2835	Potting Compound		
STW5-2878	Epoxy Adhesive		
STW5-2898	Adhesive		
STW5-2914	Primer		
STW5-2922	Bostik Coating		
STW5-2931	Adhesive		
STW5-2942	O-ring Lubricant		
STW5-2975	Potting Compound		
STW5-2976	Flexible Adhesive		
STW5-2994	Coating		
STW5-3135	Molding Compound, Pol		
STW5-3136	Foam, Urethane		
STW5-3183	Ablation Compound		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
STW5-3215	Adhesive Primer		
STW5-3253	Sealant, Polysulfide		
STW5-3279	Carbon CLoth Phenolic		
STW5-3292,TY.II	Adhesive, Epoxy		
STW5-3621 TY II	Carbon Cloth		
TT-P-1757, TY I, CL Y	Primer, Zinc Coating		
V6N229	Wire, White		
V6N24N3NB	Cable, Shielded		

TABLE 7.9-4 HARDWARE TEST MATRIX - FORWARD NOZZLE ASSEMBLY

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Nozzle Assembly	1U52861-03	X								
Nozzle Assembly	1U52861-101		X							
Nozzle Assembly	1U52861-09			X						
Nozzle Assembly	7U76362-01				X					
Nozzle Assembly	1U52861-10					X				
Nozzle Assembly	1U52861-100						X			
Nozzle Assembly	1U52861-04							X	X	
Nozzle Assembly	1U52861-12									11-13

TABLE 7.9-5 HARDWARE TEST MATRIX - FLEX BEARING ASSEMBLY

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Flex Bearing	1U76637-01					X				
	1U52840-04						X			
	1U52840-06	X								
	1U52840-07							X	X	
	1U52840-08		X		X					
	1U52840-09			X						
	1U52840-10									8 - 13

TABLE 7.9-6 HARDWARE TEST MATRIX - AFT EXIT CONE ASSEMBLY

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Ring Segment	1U52306-01						X			
Ring Segment	1U52306-02						X			
Ring Segment	1U52700-02			X	X			X	X	11-13
Ring Segment	1U52700-01			X	X			X	X	11-13
Ring Segment	1U52700-03			X	X	X		X	X	11-13
Severance System	1U52290-02			X		X	X	X	X	11-13
Clamp	1U51245-01			X		X	X	X	X	11-13
Strap	1U51246-01			X		X	X	X	X	11-13
Screws	38030E-4F-8D			X		X	X	X	X	11-13
Cable Mounting	1U50767-01			X		X	X	X	X	11-13
Strap Tie Down	MS3367-1-9			X		X	X	X	X	11-13
Strap Tie Down	MS3367-2-2			X		X	X	X	X	11-13
Adhesive	STW4-3218			X		X	X	X	X	11-13
Potting Compound	STW5-2975			X		X	X	X	X	11-13
Sealing Compound	MIL-S-8802			X		X	X	X	X	11-13
Detonator	SEB26100094-201			*		*	*	*	*	*
Exit Cone Assy	7U75416-01	X								
Exit Cone Assy	7U75359-01		X							
Exit Cone Assy	7U75827-01			X						
Exit Cone Assy	7U75860-04					X				
Exit Cone Assy-LH	1U76039-01						X			
Exit Cone Assy-RH	1U76039-03						X			
Exit Cone Assy-LH	1U76309-04							X		
Exit Cone Assy-RH	1U76309-05							X		
Exit Cone Assy-LH	1U76309-06								X	
Exit Cone Assy-RH	1U76309-07								X	
Exit Cone Assy-LH	1U76309-12									11-13
Exit Cone Assy-RH	1U76309-13									11-13

7.10 SAFETY AND ARMING DEVICE

The Safety and Arming devices (S&A) used on flight 13 are identical in configuration and fabrication to those presented on flight 12 COQ. The following data contains the current as-built configuration and qualification criteria.

TABLE 7.10-1 END ITEM PARTS LIST - SAFE AND ARM DEVICE

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U52295-04	Safety and Arming Device	C	14
1U76803-03	Assembly and Closeout - KSC	B	22

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1554	Flux		
1U50228-18	Packing		
1U50228-25	Packing		
1U50228-46	Washer		
1U50266-02	Arming Monitor Assembly	02	02
1U50492-05	Label		
1U50600-01	Actuator		
1U50601-01	Switch Deck Assembly		
1U50602-01	Switch Deck Assembly		
1U50608-01	Armature Assembly		
1U50609-01	Housing		
1U50610-01	Gear Housing		
1U50611-01	Shaft		
1U50612-01	Housing, Motor		
1U50614-01	Contact, Electrical		
1U50615-01	Contact, Electrical		
1U50616-01	Contact, Electrical		
1U50617-01	Sleeve		
1U50618-01	Arm		
1U50619-01	Switch Deck		
1U50620-01	Contact Support		
1U50621-01	Shaft		
1U50621-02	Shaft		
1U50621-03	Pin		
1U50622-01	Drive Support		
1U50623-01	Stop Plate		
1U50624-01	Arm, Indicator		
1U50625-01	Retainer		
1U50626-01	Commutator		
1U50627-01	Shaft		
1U50628-01	Gear		
1U50630-01	Plate, Retaining, Bearing		
1U50631-01	Lamination		
1U50632-01	Winding		
1U50633-01	Winding		
1U50633-02	Winding		
1U50634-01	Shaft Assembly		
1U50635-01	Shaft		
1U50636-01	Brush Plate Assembly		
1U50637-01	Holder, Brush		
1U50639-01	Retainer		
1U50640-01	Clutch Plate		
1U50641-01	Terminal, Lug		
1U50642-01	Shim		
1U50642-02	Shim		
1U50643-01	Bearing		
1U50644-04	Bearing		
1U50645-01	Pin		
1U50646-01	Insulator		
1U50647-01	Spring		
1U50648-01	Shim		
1U50648-02	Shim		
1U50649-01	Bushing		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U50650-01	Eylet		
1U50651-01	Shim		
1U50652-01	Washer		
1U50654-01	Window		
1U50655-01	Insulator		
1U50656-01	Commutator		
1U50657-01	Bearing, Sleeve		
1U50658-01	Wedge		
1U50661-01	Disk, Clutch		
1U50664-03	Bearing		
1U50664-04	Bearing		
1U50665-01	Gear		
1U50665-02	Gear		
1U50665-04	Gear, Spur		
1U50665-05	Pinion		
1U50665-06	Pinion		
1U50666-01	Retainer, Bearing Molding		
1U50667-01	Spring		
1U50668-01	Plate, Retaining		
1U50669-01	Brush, Electrical Contact		
1U50670-01	Contact, Electrical		
1U50671-01	Decal		
1U50672-01	Screw		
1U50673-01	Decal		
1U50674-01	Shim		
1U50674-02	Shim		
1U50674-03	Shim		
1U50675-01	Insulator		
1U50676-01	Shim		
1U50677-01	Washer		
1U50678-01	Bearing		
1U50679-01	Insulator		
1U50680-02	Shim		
1U50681-01	Washer		
1U50682-01	Housing		
1U50683-01	Plate, Stop		
1U50684-01	Plate, Retaining		
1U50686-01	Cover		
1U50686-02	Cover		
1U50687-01	Washer		
1U50688-01	Rotor		
1U50688-02	Rotor		
1U50691-01	Cover, Booster Assembly		
1U50691-02	Cover, Booster		
1U50693-01	Spacer, Plate		
1U50694-01	Cushion		
1U50695-01	Connector Assembly		
1U50697-01	Plate, Rotor		
1U50697-02	Plate		
1U50697-03	Stop		
1U50788-01	Bearing		
1U50794-01	Seal		
1U50795-02	Tube Assembly		
1U50796-01	Fitting		
1U50797-01	Pin		
1U50798-01	Plug		
1U51267-01	Plate Identification		
1U51569-02	Bolt, Machine		
1U51671-01	Plate, Identification		
1U51695-01	Cap		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U51701-01	Basket		
1U51702-01	Basket Assembly		
1U51703-01	Basket Assembly		
1U51733-01	Ring, Retaining		
1U51925-02	Gasket-Safe and Arm		
1U52291-01	Housing		
1U52293-03	Barrier-Booster Assembly	02	02
1U52294-03	Barrier-Booster Assembly		
1U52296-01	Packing		
1U525322-01	Plate, Identification		
6001	Varnish		
6001-S	Solvent		
AMS-3410D	Flux Material		
AWG 3	Sleeving		
AWG 33	Wire, Magnet		
AWG 34	Wire, Magnet		
C9-4215	Casting Resin		
DC 200	Lubricant		
Dow Corning-71984	Lubricant Fluid		
EE 4215, BLK	Casting Resin		
HD3501	Catalyst		
HD3561	Catalyst		
IMCOR 812	Tape .005 x .25		
M16878/27BEE 919	Wire		
M16878/27BEE 925	Wire, 19 Strand		
M16878/27BEE 929	Wire		
M16878/27BEE 939	Wire		
M16878/27BEE 949	Wire		
M16878/27BEE 959	Wire		
M16878/27BEE 969	Wire		
M16878/27BEE 979	Wire		
M16878/27BEE 989	Wire		
M16878/27BEE 999	Wire		
M83248/1-007	Packing		
M83248/1-012	Packing		
M83248/1-013	Packing		
M83248/1-015	Packing		
M83248/1-017	Packing		
M83248/1-019	Packing		
M83248/1-032	Packing		
M83248/1-033	Packing		
M83248/1-034	Packing		
M83248/1-901	Packing		
MIL-F-14256	Flux		
MIL-G-27617 TY I	Lubricant		
MIL-I-15126 Type GFT	Tape 3/8 Wide		
MIL-I-15126 Type PFT	Tape .005 x .25		
MIL-I-23053	Sleeving Shrink		
MIL-L-6085	Oil		
MIL-M-14 Type SDG	Molding		
MIL-T-26317	Tape		
MIL-T-27730	Sealant		
MIL-T-43435	Tape-Lacing		
MMM-A-134, Type I	Epoxy		
MS16555-619	Pin		
MS16625-5056	Cap		
MS171524	Pin		
MS171528	Pin		
MS19060-18	Ball		
MS20995-C20	Lockwire		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
MS24585-C5	Spring		
MS24693-C3	Screw		
MS24693-C7	Screw		
MS27294-1	Cap		
MS28774-006	Ring		
MS28774-010	Retainer		
MS28774-015	Retainer		
MS33540	Fastener		
MS35275-213	Screw		
MS51377-2	Valve Core		
MS51607-1	Valve Stem		
MS51958-60	Screw, Pan Head		
MS51959-2	Screw		
MS51959-4	Screw		
MS9105-13	Shaft		
MS9902-01	Plug		
NAJ0H12-8P	Receptacle		
NAJ0H8-35P	Connector		
NAS1190E06P8	Screw		
NAS1351C3H10	Screw		
NAS1351C3H8	Screw		
NAS1352C04H4	Screw		
NAS1352C04H6	Screw		
NAS1352C04H8	Screw		
NAS1352C04LL4	Screw		
NAS1352C04LL6	Screw		
NAS1352C08H8	Screw		
NAS1352C08LL20	Screw		
QQ-B-654, GR5	Filler Metal		
QQ-S-571	Solder		
QQ-T-371	Tin		
SED26100107-301	Initiator		
STW4-2955	Lubricant		
STW5-2702	Ignition Granules		
STW5-2885	B-KNO3 Pellets		
STW5-2942	Lubricant		
STW5-2984	Torque Seal		
STW5-3241	Back Fill Gas		
TT-E-529	Paint		
TT-L-50, Type II	Coating		
TT-P-1757	Primer		
V-T-276	Thread		

TABLE 7.10-2 HARDWARE TEST MATRIX - S&A

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	TEM 4	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
S & A Device	1U52295-01	X	X								
S & A Device	1U52295-02			X	X	X		X	X		
S & A Device	1U52295-03									X	
S & A Device	1U52295-04						x				13
Arming Monitor Assy	1U50266-01	X	X								
Arming Monitor Assy	1U50266-02			X	X	X		X	X	X	13
B B Assy	1U52294-01	X	X	X	X			X			
B B Assy	1U52294-02					X		X	X	X	
B B Assy	1U52294-03						x				13
Gask-o-Seal	1U51925-01	X	X	X	X	X		X	X	X	13
Gask-o-Seal	1U51925-02										13
Bolt	1U51569-02	X	X	X	X	X		X	X	X	13
SII	SED26100107	X	X	X	X	X		X	X	X	13

7.11 INSTRUMENTATION

GROUND ENVIRONMENT INSTRUMENTATION

The Ground Environment Instrumentation (GEI) on flight 13 is identical in configuration and fabrication to those used on flights 6 thru 11 except that the top level parts have been changed to reflect the fact that different case segments were used in the fabrication of the motor. For a more complete description of the GEI see TWR-18764.

OPERATIONAL PRESSURE TRANSDUCERS

The Operational Pressure Transducers (OPT) and their related hardware used on flights 12 thru 13 are identical in configuration and fabrication to those used on previous flights.

TABLE 7.11-1 END ITEM PARTS LIST - GEI / OEI

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U76570-03	Instrumentation Inst, RH Fwd	A	9
1U76571-03	Instrumentation Inst, LH Fwd	A	9
1U76572-03	Instrumentation Inst, RH Fwd Ctr	A	8
1U76573-03	Instrumentation Inst, LH Fwd Ctr	A	8
1U76574-03	Instrumentation Inst, RH Aft Ctr	A	10
1U76575-03	Instrumentation Inst, LH Aft Ctr	A	11
1U76580-03	Instrumentation Inst, RH Aft	NC	5
1U76581-04	Instrumentation Inst, LH Aft	NC	7
1U76802-03	Aft Segment Build-up, RSRM	B	5
1U76803-03	Assembly & Closeout-KSC	B	21
1U76861-01	Instrumentation Inst, LH Exit Cone	A	8
1U76862-01	Instrumentation Inst, RH Exit Cone	A	8

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
16A03055-01	Temperature Sensor		
1U50767-01	Base, Cable Mounting		
1U51373-01	Tube		
1U52308-01	Nut		
1U52354-01,-02	Bracket, Cable		
1U75731-02	GEI Wiring Harness, LH Fwd Seg		
1U75731-03	Cable Harness, LH Fwd Skirt		
1U75732-02	GEI Wiring Harness, RH Fwd Seg		
1U75732-03	Cable Harness, RH Fwd Skirt		
1U75733-02	GEI Wiring Harness, LH Fwd Ctr Seg		
1U75734-02	GEI Wiring Harness, RH Fwd Ctr Seg		
1U75735-02	GEI Wiring Harness, LH Aft Ctr Seg		
1U75736-02	GEI Wiring Harness, RH Aft Ctr Seg		
1U75737-01	Harness, Wiring		
1U75738-01	Wiring Harness		
1U75739-01	Harness, Cable		
1U75740-01	Harness, Cable		
1U76037-02	Harness, Wiring		
1U76038-01	Harness, Wiring		
M23053/5-305-9	Insulation Sleeving		
MIL-S-8802, Cl B-2	Sealant		
MIL-T-4053	Tape, Glass Cloth		
MS21980-187	Ferrule, Outer		
MS21981-109	Inner Ferrule		
MS3367-2-2	Strap, Tie-down Red		
MS3367-2-9	Strap, Tie-Down Natural		
NJ-J22	Jiffy Connector		
QQB575R36T0171	Shield, Braided		
STW4-2700	Cork Retaining Strip		
STW4-2874	Adhesive, Conductive		
STW4-3218	Adhesive (EA934NA)		
STW5-2788	Coating		
STW5-2878	Adhesive (EC-2216 B/A)		
STW5-2994	Paint, Polyethylene		
STW5-3183	Ablation Compound		
STW5-3215	Primer		
V6N220	Wire		
V6N229	Wire		
V6N24N3NB	Cable, TST		

TABLE 7.11-2 END ITEM PARTS LIST - OPERATIONAL PRESSURE TRANSDUCER

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U76699-03	Modified Ignition System	A	6
1U76699-04	Modified Ignition System	A	6

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U50188-07	Transducer, Pressure	1	
1U50188-10	Transducer, Pressure (1000 psia)	4	4
1U50228-15	Preformed Packing		
1U50228-20	Preformed Packing		
1U50228-22	Preformed Packing		
1U51369-02	Washer		
1U51450-01	Special Bolt	2	2
1U51450-03	Special Bolt	5	5
1U51668-01	Plug, dual seal		
1U75374-01,-02	Packing with Retainer		
1U76487-01	Transducer Bolt Assembly		
1U76487-03	Transducer Bolt Assembly		
660-015R10N142A	Cap		
MS20995C32	Safety Wire		
STW4-2955	Molykote Grease		
STW5-2984	Torque Seal		

TABLE 7.11-3 HARDWARE TEST MATRIX - INSTRUMENTATION - GEI/OEI

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Adhsv EC-2216 B/A	STW5-2878	x	x	x	x	x	x	x	x	11-13
Adhsv EA934 NA	STW4-3218	x	x	x	x	x	x	x	x	11-13
Adhsv ECCO Bond	STW4-2874	x	x		x	x				
Adhesive (Primer)	STW5-3215					x		x	x	11-13
Ablation Compound	STW5-3183	x		x		x	x	x	x	11-13
Sealant	MIL-S-2247				x		x	x		
Sealant	MIL-S-8802,CB-2	x			x				x	11-13
Sealant	M-Coat A	x	x	x						
Cable Test	V6N24N3NB						x			11-13
Cable Test	V6N24N2NB				x					
Glass Cloth Tape	MIL-T-4053				x		x			11-13
Base Cable Mount	1U50767-01	x	x		x		x	x	x	11-13
Base Cable Mount	1U51216-05								x	
Base Cable Mount	1U51216-04								x	
Cork	STW4-2700				x		x	x	x	11-13
Polyethylene Pnt.	STW5-2994	x						x	x	11-13
Strap, Tie Down	MS3367-2-2						x	x	x	11-13
Strap, Tie Down	MS3367-2-9						x	x	x	11-13
Strap, Tie Down	MS3367-3-9	x	x	x	x					
Temp Sensor	16SA03055-1	x	x	x	x	x	x	x	x	11-13
Bracket, Cable	1U52342-01						x	x		
Bracket, Cable	1U52342-02						x	x		
Bracket, Cable	1U52354-01									11-13
Bracket, Cable	1U52354-03						x	x	x	
Bracket, Cable	1U52354-04								x	
Slv Heat Reactive	M23053/5-305-9						x	x	x	11-13
Slv Heat Reactive	M23053/5-310-9						x			
Slv Heat Reactive	M23053/5-309-9						x			
Slv Heat Reactive	M23053/5-311-9						x			
Slv Heat Reactive	M23053/5-308-9						x			
Slv Heat Reactive	M23053/12-412				x					
Wire	V6N229				x		x	x	x	11-13
Wire	V6N220				x		x	x	x	11-13
Wire	HREL63	x	x	x	x					
Wire	Constantan									
Wire	2842-7	x	x	x						
Wire	617-123	x	x	x						
Wire	CFW-147-0055-A		x							
Wire	HML									
Wire	Cupron		x							
Wire	1U75749-01			x	x		x			
Ferrule, Outer	MS21980-187						x	x	x	11-13
Ferrule, Inner	MS21981-109						x	x	x	11-13

TABLE 7.11-4 HARDWARE TEST MATRIX - INSTRUMENTATION - OPT

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Pressure Transducer	1U50188-07	X	X	X		X				
Pressure Transducer	1U50188-10				X	X	X	X	X	11-13
Transdcr Blt Assy	1U76487-01				X	X	X	X	X	11-13
Transdcr Blt Assy	1U76487-03				X	X	X	X	X	11-13
Transdcr Blt Assy	1U76488-01				X	X				
Transdcr Blt Assy	1U76488-02				X	X				
Transdcr Blt Assy	1U50731-10		X	X						
Transdcr Blt Assy	1U50731-09		X	X						
Transdcr Blt Assy	1U50731-01	X	X	X						
Transdcr Blt Assy	1U50731-03	X								
Transdcr Blt Assy	1U50731-04	X								
Transdcr Blt Assy	1U50731-05	X								
Transdcr Blt Assy	1U50731-08									
Special Bolt	1U51450-03				X	X	X	X	X	11-13
Special Bolt	1U51450-01	X	X	X						
O-ring Packing	1U50228-01	X	X	X	X	X	X	X	X	11-13
O-ring Packing	1U50228-15	X	X	X	X	X	X	X	X	11-13
O-ring Packing	1U50228-22	X	X	X	X	X	X	X	X	11-13
O-ring Packing	MS28778-4	X	X	X						
O-ring Packing	MS28778-5	X								
O-ring Packing	1U51732-02	X	X	X	X	X	X	X	X	11-13
O-ring Packing	1U75374-01	X			X	X	X	X	X	11-13
Plug	1U51668-01	X					X	X	X	11-13
Plug	AN814-55									
Safety Wire	MS20995C32	X	X	X	X	X	X	X	X	11-13
O-ring Lubricant Cart.	1U51916-09	X	X	X	X	X	X	X	X	11-13
Molykote Lubricnt	STW4-2955	X	X	X	X	X	X	X	X	11-13
Torque Seal	STW5-2984	X	X	X	X	X	X	X	X	11-13
Protective Cap	660-015R10N142A	X					X	X	X	11-13
Special Washer	1U51369-02	X	X	X	X	X	X	X	X	11-13

7.12 JOINT PROTECTION SYSTEM

360X013 has incorporated on all field joints the new joint protection system that was used on the 360X012 B AFT joint. This FJPS was redesigned to reduce installation timelines at Kennedy Space Center and to simplify or eliminate installation problems related to the present design of ethylene-propylene-diene-monomer (EPDM) moisture seal/extruded cork combination. It also eliminates the vent valves, the vacuum bagging process, and the need for a separate moisture seal. Figure 7.12-1 shows the redesign configuration as it was certified for flight use on the forward field joint of TEM-06. For additional information refer to TWR-17654 Technical Evaluation Motor NO. 6 (TEM-6) Final Test Report.

The field joint heaters and the igniter-to-case joint heater, (igniter-case-joint heater to be incorporated on later flights), have been enhanced by changing the leadwire insulation from Teflon to Kapton, to eliminate the coldsplice joint which has caused short-circuit failures on both previous versions of these heaters. These heaters were tested and certified per CTP-0218 and reported in TWR-60135 Qualification of the Enhanced Redesigned RSRM Field Joint and Igniter-to-case Joint Heaters Final Test Report.

Deviations RDW-0583R5 and RDW-0600R1 which deal with extruded cork are no longer applicable to the JPS subsystem since the new design eliminated their use.

Rockwell waiver S4138AR3 against CEI paragraph 3.3.5.5, Static Electricity and Lighting Protection, expires on Sept. 21, 1990. At this time new requirements will be issued against this waiver. New waivers will be issued, as necessary, when requirements are evaluated. JPS testing has not yet been completed so new waivers will be issued at that time.

The following data contains the current as-built configuration and qualification criteria.

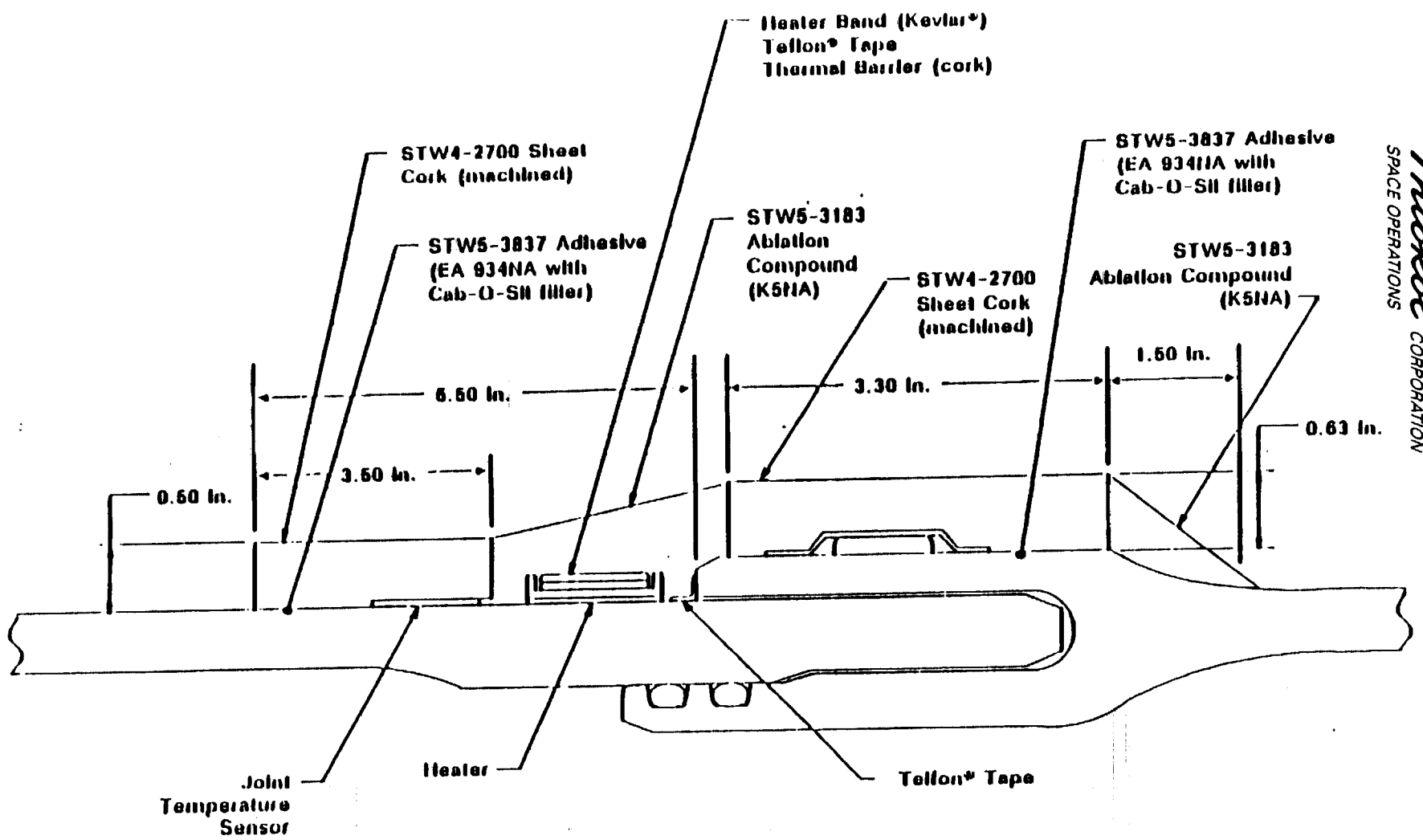

Figure 12-1 Redesigned FJPS on Forward Field Joint

AD27366a

TABLE 7.12-1 END ITEM PARTS LIST - JOINT PROTECTION SYSTEM

TOP LEVEL PART NUMBER	PART DESCRIPTION	REV	ECO
1U76802-04	Aft Segment Build-Up, RSRM, KSC	B	5
1U76803-03	Assembly & Closeout - KSC	B	22
1U76897-07, -08	Igniter Heater & Brkt. Instl. FWD	B	4A
1U76969-01	Heater-Igniter to Case Joint		2A
1U76979-01	Power Cable Instl. JPS Fwd. Seg.		1A
1U76980-01	Power Cable Instl. JPS Ctr Fwd Seg.		1A
1U76981-01	Power Cable Instl. JPS Ctr Aft Seg.		1A
1U77252-01	Heater-Field Joint		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
1U50767-01	Base, Cable Mounting		
1U75347-05	Cushion		
1U75790-01	Primary Cable Sensor		
1U75791-01	Redundant Sensor Cable		
1U75805-01	Heater Sensor Assembly		
1U75805-02	Heater Sensor Assembly		
1U75810-01	Retainer, Cable Tie		
1U75943-01	Sensor Element Assembly		
1U76344-01	Clamp-T-Bolt		
1U76345-01	Cork Strip		
1U76434-01	Retainer Assembly		
1U76702-01	Cable Assbly, Power, Elect.- Heater		
1U76702-02	Cable Assbly, Power, Elect.- Heater		
1U76703-01	Cable Assbly, Power, Elect.- Heater		
1U76703-02	Cable Assbly, Power, Elect.- Heater		
1U76704-01	Cable Assbly, Power, Elec.,Branched		
1U76704-02	Cable Assbly, Power, Elec.,Branched		
1U76705-01	Cable Assbly, Power, Elec.,Branched		
1U76705-02	Cable Assbly, Power, Elec.,Branched		
1U76706-01	Cable Assmbly, Power, Elec.-Heater		
1U76706-02	Cable Assmbly, Power, Elec.-Heater		
1U77114-01	Strap, Heater		
1U77115-01	Coupling, Heater Strap		
1U77119-01	Link		
1U77120-01	Clip		
1U77157-01	Thermal Barrier, Heat		
1U77160-01	Cork Strip (AFT)		
1U77160-02	Cork Strip (FWD)		
1U82837-01	Moisture Seal Strap		
ASTM B 168	UNS N06600, .002 Thk, Cr, Anl		
ASTM B33	Copper Wire		
ASTM D 3368	FEP Film .002-.010 Thk		
CF-EI-2S	Foil, .0028 thk		
EUT/361 CM	Marker		
M23053/1-201-0	Insul. Sleeving, Elec.		
M23053/5-104-0	Shrink, Sleeve		
M23053/5-105-9	Sleeving		
M23053/5-108-9	Sleeving		
M23053/5-307-9	Insulation Sleeving, Electrical		
M7078/26-14-2	Cable Elec. Shielded		
M7078/28-24-3	Shielded Cable		
M81381/10-24-N0	Leadwire		
M81381/10-26-N0	Wire		
M85049/24-13W	Backshell, 90 Deg. RFI		
M85049/24-9W	Backshell, 90 Deg, RFI		
MIL-C-27500	Cable, Elec, Shielded		
MIL-I-15126	Insul. tape, Elec.		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
MIL-I-23053	Insulation Sleeving, Electrical		
MIL-I-23594	Teflon Tape Type I		
MIL-I-631 TY G,	Insulation, Elec.		
MIL-M-24041, CAT A	Mold. and Pot. Cmpd. PEU TY I or II		
MIL-N-46025	Nickel Strip		
MIL-P-46112, Ty.II	Plastic		
MIL-R-6855, CLASS 2	Tubing		
MIL-S-46163 Ty II	Compound, Thread Locking		
MIL-S-8802 TY I	Sealing Compound B-2 or B-1/2		
MIL-T-4053	Tape		
MIL-T-43435, TY I	Tape		
MIL-T-87128, Size FF	Thread		
MIL-T-87130, TY VI	Webbing		
MIL-Y-1140 FORM 2	Cord		
MS20995C32	Lockwire		
MS3180-14C	Protective cap		
MS3180-16	Protective Cap		
MS3180-16C	Cap, Proctective		
MS3180-18C	Protective Cap		
MS3181-14C	Cover, Prot, Rcpt		
MS3181-18C	Protective Cap		
MS3367-2-6	Tie, Cable		
MS3367-2-9	Strap, Tiedown		
MS3367-3-9	Strap, Tiedown		
MS3367-5-0	Strap, Tiedown		
MS3471L14-4S	Receptacle Connector		
MS3471L14-4SW	Receptacle Connector		
MS3471L18-8S	Connector, Receptable		
MS3471L18-8SW	Connector, Receptacle		
MS3474L18-8P	Receptacle Connector		
MS3474L18-8PW	Receptacle Connector		
MS3474L18-8S	Connector, Recptacle		
MS3474L18-8SW	Connector, Receptacle		
MS3475L14-4P	Connector, Plug		
MS3475L14-4PW	Connector, Plug		
MS3475L18-8P	Connector, Plug		
MS3475L18-8PW	Connector, Plug		
MS3475L18-8S	Connector Plug		
MS3475L18-8SW	Connector Plug		
MS3476L16-26P	Connector, Plug		
MS3476L16-26PW	Connector, Plug		
MSFC-SPEC-222	Resin Compounds, Epoxy		
NB-GSP-12	Sealing Plug		
NB-GSP-20	Plug, Seal		
NB-RFI-12-3	Backshell, RFI		
NB-RFI-14-3	Backshell		
NB-RFI-16-3	Backshell		
NB-RFI-18-3	Backshell		
NB-RFI-18-5	Backshell, RFI		
NB-S-16	Strain Relief		
NB6E16-26PNT	Plug Connector		
NB6E16-26PWT	Connector, Plug		
NB6GE14-4PNT	Connector, Plug		
NB6GE14-4PWT	Connector		
NB6GE18-8PNT	Plug Connector		
NB6GE18-8PWT	Plug Connector		
NB6GE18-8SNT	Connector Plug		
NB6GE18-8SWT	Connector Plug		
NB7E18-8PNT	Receptacle Connector		
NB7E18-8PWT	Receptacle Connector		

SUB LEVEL PART NUMBER	PART DESCRIPTION	RH USE	LH USE
NB7E18-8SNT	Receptacle Connector		
NB7E18-8SWT	Receptacle Connector		
NJ-J22	Connector		
NJ-P22	Coctact		
QQ-C-576	Ribbon, .0025 thk x .150 w		
QQB575F36N0125	Braid, Wire		
RR-W-360, Ty.I, CL I	Wire Fabric, Industrial		
SN 10 WRAP 2	Solder		
SN 60 WRAP 3	Solder		
STW4-2679	Microfine Silicon Dioxide		
STW4-2700	Cork Sheet		
STW4-2736	Insulation		
STW4-2874	Adhesive		
STW4-3218	Adhesive		
STW4-3347	Heat Transfer Cement		
STW4-3444	Foil, Copper		
STW4-3611	Tape		
STW4-3784	Primer		
STW4-3785	Primer		
STW5-2664	Primer		
STW5-2798	Adhesive		
STW5-2994	Paint		
STW5-3183	Ablation Compound		
STW5-3215	Primer, adhesive		
STW5-3226	Primer		
STW5-3837	Adhesive		
TMS-1003	Wire, Element		
TT-L-50, Type II	Lacquer, Clear		

TABLE 7.12-2 HARDWARE TEST MATRIX - JOINT PROTECTION SYSTEM

HARDWARE DESCRIPTION	PART NUMBER	DM9	QM6	QM7	PV1	QM8	TEM 4	TEM 5	TEM 6	TEM 7	FLT 1	FLT 2	FLT 3	CURRENT FLIGHTS
Heater	1U75346-01	x	x	x	x	x					x	x	x	
Heater	1U76698-01					x							x	
Igniter Heater	1U76341-01				x	x							x	
Igniter Heater	1U76341-02					x								
Sensor Assembly	1U75805-01	x	x	x	x	x					x	x	x	13
Sensor Assembly	1U75805-02	x	x	x	x	x					x	x	x	13
Thermal Barrier	1U82838-01	x	x	x	x	x					x	x	x	
EPDM Weather Seal	1U82835-01	x	x	x	x	x					x	x	x	
EPDM Weather Seal	1U82839-01	x	x	x	x	x					x	x	x	
Kevlar Strap	1U82837-01	x	x	x		x					x	x	x	13
Kevlar Strap	1U82837-02	x	x	x		x					x	x	x	
Kevlar Strap	1U82837-04													
Extruded Cork	1U75820-01	x	x	x		x					x	x	x	
Extruded Cork	1U82836-01	x	x	x		x					x	x	x	
Vent Valve	1U76192-01	x	x	x		x					x	x	x	
Cable Assembly	1U75933-01	x												
Cable Assembly	1U75933-02		x	x										
Cable Assembly	1U76040-01	x												
Cable Assembly	1U76040-02		x	x										
Cable Assembly	1U75956-01										x			
Cable Assembly	1U75956-02											x		
Cable Assembly	1U75956-03											x		
Cable Assembly	1U75957-01										x			
Cable Assembly	1U75957-02											x		
Cable Assembly	1U75957-03											x		
Cable Assembly	1U76348-03												x	
Cable Assembly	1U76376-03												x	
Cable Assembly	1U76376-04												x	
Cable Assembly	1U76377-03												x	
Cable Assembly	1U76377-05												x	
Cable Assembly	1U76979-01							x						13
Cable Assembly	1U76981-01							x						13
Cable Assembly	1U76980-01							x						13
Igniter Heater	1U76969-01						x							13
Heater	1U76967-01						x							
Cork Strip	1U77160-01								x					13
Cork Strip	1U77160-02								x					13
Heater	1U77252-01								x					13
Kevlar Strap	1U77114-01								x					13
Thermal Barrier	1U77157-01								x					13

TABLE 7.12-3
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
JOINT PROTECTION SYSTEM

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
3.2 Characteristics	x			
3.2.1 Performance	x			
3.2.1.3 Case	x			
3.2.1.3h Rain	Test	TWR-15723: Vol. IX, TSX-2.0	TWR-17242	Closed
	Test	TWR-15723: Vol. IX, TSX-2.0	TWR-50021	Closed
3.2.1.5.3 Igniter Heater	Anal	TWR-15723: Vol. IX, ASV-7.0	TWR-16404	Closed
	Anal	TWR-15723: Vol. IX, ASV-8.0	TWR-16405	Closed
	Test	TWR-15723: Vol. II, TGX-19.0	TWR-17592	Closed
	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol. IX, TSX-8.0	TWR-18800, TWR-60135	Closed
	Test	TWR-15723: Vol. IX, TGX-21.3	TWR-19899	Closed
	Test	TWR-15723: Vol. IX, TGX-21.4	TWR-17649	Closed
	Test	TWR-15723: Vol. IX, TSX 10.0	TWR-19941	Closed
3.2.1.6 Electrical and Instrumentation	x			
3.2.1.6a. Electrical Power	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
3.2.1.6d. Circuitry	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
3.2.1.6e. Electromagnetic compatibility	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
3.2.1.6f. Electrical bonding	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
3.2.1.6g EEE parts	Simi	TWR-15723: Vol. IX, ASW-1.0	TWR-18374, RDW-0571	Closed
3.2.1.6.2.3 Ground Environmental Instrumentation	Anal	TWR-15723: Vol. IX, ASV-3.0	TWR-16097	Closed
	Anal	TWR-15723: Vol. IX, ASV-7.0	TWR-16404	Closed
	Demo	TWR-15723: Vol. IX, TSX-1.0	TWR-15763	Closed
	Demo	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
3.2.1.11 Case Field Joint Environmental Protection System	x			
3.2.1.11a Maintain Case Field Joint at 75 Degrees	Anal	TWR-15723: Vol. IX, ASV-3.0	TWR-16097, TWR-50018	Closed
	Anal	TWR-15723: Vol. IX, ASV-5.0	TWR-17253	Closed
	Anal	TWR-15723: Vol. IX, ASV-5.0	TWR-17415	Closed
	Test	TWR-15723: Vol. IX, TGX 21.3	TWR-19899	Closed
	Anal	TWR-15723: Vol. IX, ASV-5.0	TWR-17418	Closed
	Anal	WTP-0080	TWR-16574	Closed
	Test	TWR-15723: Vol. IX, TSX-1.0	TWR-15763	Closed
	Test	TWR-15723: Vol. IX, TSX 5.0	TWR-60135	Closed
	Test	N/A	TWR-17272	Closed
	Test	TWR-15723: Vol. II, TGX-3.0	TWR-17371	Closed
	Test	TWR-15723: Vol. II, TGX-4.0	TWR-17372	Closed
	Test	TWR-15723: Vol. II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol. II, TGX-19.0	TWR-17592	Closed
	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
	Test	TWR-15723: Vol. IX, SSX-9.0	TWR-17098	Closed
	Test	TWR-15723: Vol. IX, TGX-21.4	TWR-17649	Closed

"CS" Indicates reference to a closure statement provided by the cognizant engineer that states compliance or rationale to satisfy the requirement for this flight.

TABLE 7.12-3
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
JOINT PROTECTION SYSTEM

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
	Test	TWR-15723: Vol. IX, TSX-10.0	TWR-19941	Closed
	Test	TWR-15723: VOL. II TGX-21.5	TWR-17654	Closed
	Anal	TWR-15723: Vol. IX, ASV-3.0	TWR-50018	Closed
3.2.1.11b Prevent Accumulation of Rain	Anal	TWR-15723: Vol. IX, ASV-1.0, ASV-2.0	TWR-18136	Closed
	Test	TWR-15723: Vol. IX, TSX-2.0	TWR-17242	Closed
	Test	TWR-15723: Vol. IX, TSX-2.0	TWR-50021	Closed
	Test	WTP-0076	TWR-18181	Closed
3.2.1.11d Remain intact through flight	Anal	TWR-15723: Vol. IX, ASV-1.0 & -2.0	TWR-18136, L223:FY89:508	Closed
	Anal	TWR-15723: Vol. IX, ASV-4.0	TWR-16496	Closed
	Anal	TWR-15723: Vol. IX, ASV-12	TWR-19679	Closed
	Test	WTP-0080	TWR-16574	Closed
	Test	TWR-15723: Vol. IX, SSX-12.0	TWR-17245	Closed
	Test	ETP-0232	TWR-18305	Closed
	Test	TWR-15723: Vol. IX, SSX-8.0	TWR-17243	Closed
	Test	TWR-15723: Vol. IX, SSX-3.0	TWR-17273	Closed
	Test	TWR-15723: Vol. IX, SSX-10.0	TWR-17229	Closed
	Test	TWR-15723: Vol. IX, TSX-7.0	TWR-18181	Closed
	Anal	TWR-15723: VOL. IX, ASV-1.0	TWR-50019	Closed
3.2.1.11.1 Electrical Characteristics	x			
3.2.1.11.1.2 Power Supply	Test	TWR-15723: Vol. IX, TSX-1.0	TWR-15763	Closed
	Test	TWR-15723: Vol. IX, TSX-8.0	TWR-18800	Closed
	Test	N/A	TWR-17272	Closed
	Test	TWR-15723: Vol. IX, TSX-1.0	TWR-17415	Closed
3.2.1.12 Case Factory Joint External Seal	Test	TWR-15723: Vol. IX, TSX-2.0	TWR-17242	Closed
	Test	TWR-15723: Vol. IX, SSX-2.0	TWR-17231	Closed
	Test	N/A	TWR-17272	Closed
	Test	TWR-15723: Vol. IX, SSX-8.0	TWR-17243	Closed
3.2.4 Maintainability	Anal	TWR-15723: Vol. II, AGV-16.0	TWA-1066, TWR-13880	Closed
3.2.5 Operational Availability	x			
3.2.5.1 Assembly/Disassembly of Segments	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
	Demo	TWR-15723: Vol. II, DGX-17.0	TWR-17371	Closed
	Demo	TWR-15723: Vol. II, DGX-18.0	TWR-17372	Closed
	Demo	TWR-15723: Vol. II, DGX-19.0	TWR-17373	Closed
	Demo	TWR-15723: Vol. II, DGX-20.0	TWR-17592	Closed
3.2.5.6 Useful Life	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
	Anal	TWR-15723: Vol. II, AGV-16.0	TWA-1066	Closed
	Test	TWR-15723: Vol. II, TGX-20.0	RDW-0569R2	Closed
	Test	TWR-15723: Vol. IX, SSX-10.0	TWR-17229	Closed
3.2.6.5 Debris Prevention	Anal	TWR-15723: Vol. IX, ASV-2.0	TWR-18136	Closed
	Anal	TWR-15723: Vol. IX, ASV-2.0	TWR-17243, TWR-50019	Closed
	Anal	TWR-15723: Vol. IX, ASV-12	TWR-19679	Closed

TABLE 7.12-3
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
JOINT PROTECTION SYSTEM

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
	Anal	TWR-15723: Vol. IX, ASV-4.0	TWR-16495	Closed
	Anal	N/A	TWR-18871	Closed
	Test	TWR-15723: Vol. IX, SSX-12.0	TWR-17245	Closed
3.2.7 Environment	x			
3.2.7.1 Natural Environment	x			
3.2.7.1a Prelaunch	x			
3.2.7.1a.1 Solar Radiation	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-18136, TWR-17009	Closed
3.2.7.1a.2. Air Temperature	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-18136, TWR-17009	Closed
	Test	TWR-15723: Vol. II, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol. II, TGX-8.0	TWR-17371	Closed
	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
	Anal	TWR-15723: Vol. IX, AVS-12	TWR-19679	Closed
3.2.7.1a.3 Wind	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-17009	Closed
3.2.7.1a.4. Humidity	Anal	TWR-15723: Vol. II, ASV-2.0	TWR-18136, RDW-0603	Closed
3.2.7.1a.5 Rain	Anal	TWR-15723: Vol. II, ASV-2.0	TWR-18136	Closed
	Test	TWR-15723: Vol. IX, TSX-2.0	TWR-50021	Closed
3.2.7.1a.6. Salt Air	Simi	TWR-15723: Vol. IX, ASW-1.0	TWR-18136	Closed
3.2.7.1a.7. Ozone	Anal	TWR-15723: Vol. II, AGW-1.0	TWR-18617	Closed
3.2.7.1b. Launch and ascent	x			
3.2.7.1b.1. Wind	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-17009	Closed
3.2.7.1c. Recovery	x			
3.2.7.1c.1. Air/sea temperature	Anal	TWR-15723: Vol. IX, ASV-6.0	TWR-18136	Closed
3.2.7.1c.2. Salinity	Simi	TWR-15723: Vol. II, AGW-1.0	TWR-18617	Closed
3.2.7.2 Induced Environment	x			
3.2.7.2.1 Thermal	x			
3.2.7.2.1a. Prelaunch	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-17009	Closed
3.2.7.2.1b. Launch/ascent	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-17009, TWR-16496 & TWR-18871	Closed
	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-50017	Closed
3.2.7.2.1c. Re-entry	Anal	TWR-15723: Vol. IX, ASV-6.0	TWR-18136	Closed
	Anal	TWR-15723: Vol. V, AOV-3.0	TWR-16496	Closed
3.2.7.2.2 Loads	x			
3.2.7.2.2a Prelaunch through separation	Anal	TWR-15723: Vol. IX, ASW-1.0	TWR-18136, L223:FY89:508, TWR-50019	Closed
	Test	TWR-15723: Vol. IX, SSX-12.0	TWR-17245	Closed
	Anal	TWR-15723: Vol. IX, ASV-12	TWR-19679	Closed
	Anal	TWR-15723: Vol. IX, ASV-6.0	TWR-16801	Closed
3.2.7.2.2b. Post Separation Through Recovery	Anal	TWR-15723: Vol. IX, ASV-6.0	TWR-18136, TWR-16801, L223:FY89:508	Closed
	Anal	TWR-15723: Vol. IX, ASV-6.0	TWR-50019	Closed
3.2.8 Transportation / Transportability	Anal	TWR-15723: Vol. IX, ASV-2.0	TWR-18136	Closed
3.2.8.a Transportability	Siml	TWR-15723: Vol. IX, ASV-2.0	TWR-18374	Closed
3.2.8.b Transportation loads	Siml	TWR-15723: Vol. IX, ASV-1.0	TWR-18374, TWR-50019	Closed
3.2.9 Storage	x			
3.2.9.1 Post Acceptance Requirements	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374, RDW-0569R2	Closed

TABLE 7.12-3
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
JOINT PROTECTION SYSTEM

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
3.2.9.1a Vertical or Horizontal Storage	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
3.2.9.1b 180 day Launch Pad stay	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
3.3 Design and Construction Standards	x			
3.3.1.1 Selection of Materials, Parts, and Processes	Test	N/A	TWR-19052, TWR-40258	Closed
	Test	N/A	TWR-18011 Supp. B & E	Closed
	Test	N/A	TWR-18136	Closed
	Test	N/A	TWR-18305	Closed
	Test	TWR-15723: Vol. IX, TSX-2.0	TWR-17242	Closed
	Test	N/A	TWR-18181	Closed
	Test	TWR-15723: Vol. IX, SSX-14.0	TWR-18480	Closed
	Test	TWR-15723: Vol. IX, SSX-11.0	TWR-17230	Closed
	Test	N/A	TWR-17270	Closed
3.3.5.1 Electromagnetic Interference	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
3.3.5.2 Electrical Bonding	Test	TWR-15723: Vol. II, TGX-4.0	TWR-17372	Closed
3.3.5.5 Static Electricity & Lightning Protection	Anal	TWR-15723: Vol. II, AGV-21.0	EMA-87-R-63	Closed
	Test	TWR-15723: Vol. IX, TGX-5.0	TWR-17373	Closed
	Test	TWR-15723: Vol. IX, SSX-13.0	TWR-17098	Closed
	Test	TWR-15723: Vol. II, TGX-4.0 & TGX-5.0	S41384AR3	Closed
	Test	TWR-15723: Vol. II, TGX-6.0	TWR-17591	Closed
3.3.5.6 Harness and Cables	Test	TWR-15723: Vol. IX, TGX-21.4	TWR-17649	Closed
	Test	TWR-15723. Vol. IX, TSX-10.0	TWR-19941	Closed
3.3.6.1.1 Structural SF	Anal	TWR-15723: Vol. IX, ASV-1.0	TWR-18136, TWR-50019	Closed
	Anal	TWR-15723: Vol. IX, ASV-8.0	TWR-16405	Closed
	Anal	TWR-15723: Vol. IX, AVS-12	TWR-19679	Closed
	Test	TWR-15723: Vol. IX, SSX-1.0	TWR-18305	Closed
	Test	TWR-15723: Vol. IX, SSX-3.0	TWR-18252	Closed
3.3.6.1.1.1 General Safety Factors	Simi	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
	Anal	TWR-15723: Vol. IX, ASV-8.0	TWR-16405	Closed
	Anal	TWR-15723: Vol. IX ASV-12	TWR-19679	Closed
	Anal	TWR-15723: Vol. IX, ASV-1.0	TWR-18136, TWR-17036, TWR-18871, TWR-50019	Closed
	Test	TWR-15723: Vol. IX, SSX-1.0	TWR-18305	Closed
	Test	TWR-15723: Vol. IX, SSX 8.0	TWR-17243	Closed
	Test	TWR-15723: Vol. IX, SSX-12.0	TWR-17245	Closed
	Test	TWR-15723: Vol. IX, SSX-3.0	TWR-18252	Closed
3.3.6.1.1.2 Bond Safety Factors	x			
3.3.6.1.1.2.b. Adhesive bonds	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
	Anal	TWR-15723: Vol. IX, ASV-1.0	TWR-18136, L223:FY89:508, TWR-19679	Closed
	Anal	TWR-15723: Vol. IX, ASV-1.0	TWR-50019	Closed
	Anal	TWR-15723: Vol. IX, ASV-12	TWR-19679	Closed
	Anal	N/A	TWR-18871	Closed
	Test	TWR-15723: Vol. IX, SSX-1.0	TWR-18305	Closed

TABLE 7.12-3
REDESIGNED SOLID ROCKET BOOSTER MOTOR
HARDWARE CERTIFICATION MATRIX
JOINT PROTECTION SYSTEM

REQUIREMENT	METHOD	IMPLEMENTING	EVIDENCING	STATUS
	Test	TWR-15723: Vol. IX, SSX-3.0	TWR-18252	Closed
3.3.6.2 Allowable Mechanical Properties	Siml	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
	Anal	TWR-15723: Vol. IX, ASV-8.0	TWR-16405	Closed
	Anal	TWR-15723: Vol. IX, ASV-1.0 & ASV-2.0	TWR-18136, TWR-50019	Closed
	Anal	N/A	TWR-18871	Closed
	Test	N/A	TWR-18480, TWR-18181, TWR-18011 A,B, & E	Closed
	Test	TWR-15723: Vol. IX, SSX-3.0	TWR-17273	Closed
	Test	TWR-15723: Vol. IX, SSX-11.0	TWR-17230	Closed
3.3.6.3 Ultimate Combined Loads	Siml	TWR-15723: Vol. II, AGW-1.0	TWR-18617	Closed
	Anal	TWR-15723: Vol. IX, ASV-1.0 & 2.0	TWR-18136, TWR-50019	Closed
	Anal	TWR-15723: Vol. IX, ASV-12	TWR-19679	Closed
	Anal	N/A	TWR-18871	Closed
3.3.6.5 Life Factors	Anal	TWR-15723: Vol. IX, ASW-1.0	TWR-18374	Closed
	Anal	TWR-15723: Vol. IX, ASV-1.0, ASV-2.0	TWR-18136, TWR-50019	Closed
	Test	TWR-15723: Vol. IX, SSX-12.0	TWR-17245	Closed
3.3.6.8 Adhesive Bonding	Insp	TWR-15723: Vol. II, IGA-597.0	RDW-0555R2	Closed
3.3.8 Materials	Insp	TWR-15723: Vol. II, IGA-384.0	TWR-40258	Closed
3.3.8.1 Moisture & Fungus Resistance	Insp	TWR-15723: Vol. II, IGA-385.0, 386.0	TWR-40258	Closed
3.3.8.2 Corrosion of Metal Parts	x			
3.3.8.2a Corrosion Protection	Insp	TWR-15723: Vol. II, IGA-389.0	TWR-40258	Closed
3.3.8.2b Stress Corrosion	Insp	TWR-15723: Vol. II, IGA-532.0	TWR-40258	Closed
	Test	TWR-15723: Vol. IX, TSX-7.0	TWR-18136	Closed
3.3.8.3 Flammability, Odor, and Offgassing	Insp	TWR-15723: Vol. II, IGA-538.0	TWR-40258	Closed
3.3.9 Contamination Control	Insp	TWR-15723: Vol. II, IGB-85.0	RDW-0551R2	Closed

TABLE 7.13 REFERENCED DOCUMENTS LIST

DOCUMENT NUMBER	REVISION	DOCUMENT DESCRIPTION OR TITLE	RELEASE STATUS
2630-33-00007		MTI Management Procedure: Propellant Burn Rate	Yes
2831-FY89-M48		Burn Rate and Mechanical Properties Data for RSRM-4	Yes
CTP-0050	A	Qualification Test OPT Overpressure	Yes
CTP-0051		Qualification Test Plan for DFI/OFI/OGI Cables	Yes
CTP-0053	A	Qualification Test Plan for Current Jumper Assy Test	Yes
CTP-0075	A	Qual. Test Plan, S&A Performance Under Power Spike	Yes
CTP-0082	B	Qual. Test Plan for Inflight Lightning Path Test	Yes
CTP-0105	B	Space Shuttle TEM #5 Static Test Plan	Yes
CTP-0141	A	Test Plan to Evaluate Dow Corning 321 Dry Film Lubr.	Yes
EMA-87-R-63		Lightning Protection Analysis	Yes
ETP-0090		Aluminum Systems Tunnel	Yes
ETP-0179		Temp. and Humdty. effcts on Silane Primer Bonds	Yes
ETP-0232		Extruded Cork EPDM Rubber Test Plan	Yes
L223:FY89:508		Interoffice Memo: Closure CEI para 3.2.1.11d, 3.2.3.1	Yes
MFSC 16A00100D		MFSC Lightning Protection Analyses	Yes
MIP-STW7-2869	B	Special Bolt 1U51450, Refurb., Acceptance Criteria for	Yes
NSTS-16007	D	Launch Commit Criteria	Yes
OMRSD File V Vol. I		Operation Maintenance Requirements & Specs. Document	Yes
RDW-0528	R5	Reusability for Initial Flights	Yes
RDW-0541		Nozzle-to-Case Joint O-ring	Approved
RDW-0549		Deviation: Welding	Approved
RDW-0551	R2	Hardware built without complete contamination controls	Approved
RDW-0551	R3	Hardware Built Without Complete Contamination Controls	No
RDW-0555	R2	Hardware Bonding	Approved
RDW-0555	R3	Hardware Bonded without Adhesive Bonding Controls	Approved
RDW-0569	R2	Materials 5 year storage life.	Approved
RDW-0569	R3	Materials do not Meet 5 Year Storage life	Approved
RDW-0571		EEE Component Selection	Approved
RDW-0573	R2	Deviation: Forward Segment Transition Regions SF.	Approved
RDW-0579	R2	Deviation, Safety Factors, Loads	Approved
RDW-0580	R6	Safety and Arming Device NSTS 08060 Drop Test Require.	Approved
RDW-0596	R2	Deviation: Material Characterization, Polysulfide	Approved
RDW-0596	R3	No Material Characterization for Polysulfide Adhesive	Approved
RDW-0599	R2	Transportation Loads	Approved
RDW-0600	R1	Deviation: FJPS Structural Analysis	Approved
RDW-0601		General S.F., adhesive bond S.F.	Approved
RDW-0603		Deviation: Humidity Tests	Approved
RDW-0603	R3	Humidity tests not Performed	Approved
RDW-0604	R2	FWD Exit Cone and AFT Exit Cone Safety Factors	Approved
RDW-0606		Transportation Monitoring Requirements Not Met	No
RDW-0607		Deviation: Fracture Mechanics Analysis	Approved
RDW-0608	R1	Reusability	Approved
RDW-0610		Five Year Storage S & A	Approved
RDW-0613		Deviation, Improper wire used in cables	Approved
RDW-0615	R1	Insulation Safety Factor In FWD Segment Not Met	Approved
RDW-0616	R1	S & A Five Year Storage Verification Not Complete	Approved
RDW-0617		Leak check port plugs not positively locked	Approved
RDW-0621	R1	Fracture Mechanics Anal. of the RSRM Case Joint & Ignit	*
RDW-0626		Igniter Outer Bolts do not Meet 1.40 SF.	Approved
RDW-0627		Protective Finishes per MSFC-SPEC-250 Not Met	*
RWW-0443		Waiver, Harness and Cables	Approved
S40242M		RSRM CIL Waiver Change Request	Yes
S40242N		RSRM CIL Waiver Change Request	Yes
S41383		Waiver: Lightning Protection Criteria	Approved
S41384AR3		Waiver: NSTS 20007, Lightning Protection Verification	Approved
S94991A		PRCBD, RSRM S&A Device Test Requirements	Yes
STS-84-0575		SS IVBC-3 Aerodynamic Heating Databook SRB - Ascent	Yes
STW3-2654	E	Space Shuttle SRM Safety and Arming Device	Yes
STW7-2888		Proof Testing of Rocket Motor Nozzle Fixed Housing	Yes

TABLE 7.13 REFERENCED DOCUMENTS LIST

DOCUMENT NUMBER	REVISION	DOCUMENT DESCRIPTION OR TITLE	RELEASE STATUS
STW7-3344		Standardization of SS Project SRM Propellant	Yes
STW7-3449		Adhesive Bonding	No
STW7-3497	A	RSRM Nozzle Flex Bearing	Yes
TWA-1066	H	SS SRM Systems Maintenance Analysis Document	Yes
TWR-10192	F	Material Selection and Control Plan for Sace Shuttle	Yes
TWR-10211-86		Mass Properties Quarterly Status Space Shuttle SRM	Yes
TWR-10211-94		Mass Properties Quarterly Status Report	Yes
TWR-10211-95		Mass Properties Quarterly Status Report	Yes
TWR-10405		Similarity Report for OFI & DFI Pressure Transducers	Yes
TWR-11048		Thermal Evaluation of an SRM Center Segment	Yes
TWR-11091		Thermal Analysis of the SRM Center Segment	Yes
TWR-11103		Safety and Arming Device Test Plan Qualification Tests	Yes
TWR-11196	A	Analysis of Prototype S/S Flexible Bearing	Yes
TWR-11559		Test Report SRM Ign. Chamber & Adapter Assy Hydroburst	Yes
TWR-11712		Test Plan SRM Rail Transp. and Rail Coupling Test	Yes
TWR-11913		Test Plan SRM Rail Transp. & Rail Coupling Test GTM-4	Yes
TWR-11915		SS SRM Corrosion Resistance Preservative	Yes
TWR-12130		Qual. Test, High Output Pressure Transducer	Yes
TWR-12198		Safery and Arming Device Qualification Test	Yes
TWR-12343		Test Results For SRM Inert Forward Segment	Yes
TWR-12646	2	Test Plan for SS Development Motor No. 5 Static Test	Yes
TWR-12731		Storage Lige Operation Pressure Transducer	Yes
TWR-12932	C	Final Report - S & A Device Shipping Storage Container	Yes
TWR-13157		Delta Qual Nozzle Severance System	Yes
TWR-13219		S & A Device Test Plan for Full Scale Final Evaluation	Yes
TWR-13220		Full Scale Final Evaluation (Lot AAA) (Delta Qual)	Yes
TWR-13230	I	S/S SRM Qual. Test Report for Nozz. Severance System	Yes
TWR-13380		Predicted Ballistic Perf. Characteristics for SS	Yes
TWR-13694	B	RSRM Aluminum Systems Tunnel Structural Analysis	Yes
TWR-13880	B	SRM Operational Logistics Support Plan	Yes
TWR-14279		SRM Propellant Process Hazards	Yes
TWR-14415	J	Historical Ballistics/Hardware Assessment Database	Yes
TWR-15520		Five Year Aging of TP-H1148	Yes
TWR-15723	C	Development and Verification Plan for the RSRM	Yes
TWR-15763		Joint Flexible Heater Thermal Test	Yes
TWR-15832		SRM Launch Constraints	Yes
TWR-16097	A	Thermal Analysis/Verification of Joint Heater Design	Yes
TWR-16100	A	Structural Analysis of SRM Modified Ignition System	Yes
TWR-16101	A	Structural Analysis of SRM Modified Ignition System	Yes
TWR-16106		SRM 3224 Liner/SRM Igniter Qualification	Yes
TWR-16167		Insulation Similarity Analysis	Yes
TWR-16190	A	Factory Joint Insulation Seal Integrity	Yes
TWR-16278	A	SRM Internal Insulation Design Database	Yes
TWR-16339	B	Thermal Analysis of SRM Igniter Design Changes	Yes
TWR-16380		TPTA 1.3 Quick Look Report	Yes
TWR-16390		In Flight Lightning Path Test Report	Yes
TWR-16404		Igniter Heater Thermal Analysis	Yes
TWR-16405		Igniter Heater Structural Anal.	Yes
TWR-16495	A	Comments on MSFC-HDBK505 Rev A as it applied to RSRM	Yes
TWR-16496	B	Thermal Response: Redesigned Field & Factory Joints	Yes
TWR-16517	C	Thermal Performance, Steel System Tunnel	Yes
TWR-16526	A	Thermal Response of Stiffener Rings and Stubs	Yes
TWR-16527		Thermal Response of SRM Case Acreage	Yes
TWR-16538		Thermal Analysis of RSRM Nozzle Plug	Yes
TWR-16541		Nozzle plug Temp, Humidity, Pressure Test Report	Yes
TWR-16542		RSRM Nozzle Foam Plug High Rate Press. Final Test Rep.	Yes
TWR-16563		Structural Analysis of RSRM Nozzle Plug	Yes
TWR-16564	A	Contamination Control Plan	Yes
TWR-16572		STS 61-B (SRM-23) Nozzle Component Postflight Report	Yes

TABLE 7.13 REFERENCED DOCUMENTS LIST

DOCUMENT NUMBER	REVISION	DOCUMENT DESCRIPTION OR TITLE	RELEASE STATUS
TWR-16574		Field Joint Heater Test-11 Final Test Report	Yes
TWR-16604	A	Launch Pad Natural Environments	Yes
TWR-16671		Aluminum Systems Tunnel Bonding System	Yes
TWR-16717	A	Design Compliance Report for ICD-3-44005 Rev D	Yes
TWR-16739		Thermal Environments, MTI to KSC and Vandenburg	Yes
TWR-16742	A	RSRM Internal Insulation Design Definition Analysis	Yes
TWR-16752		STA-3 Engineering Test Report	Yes
TWR-16755		NJES 2A Final Test Report	Yes
TWR-16766	A	Thermal Fields Around Space Shuttle	Yes
TWR-16768		JAD-2 Final Test Report	Yes
TWR-16801	A	Structural Loads Book	Yes
TWR-16821		SRM Structural Material Handbook	Yes
TWR-16829		ATA Final Test Report	Yes
TWR-16831		Flex Bearing Temp/Torque Report	Yes
TWR-16851		Fungus Resistance of Aluminum System Tunnel Materials	Yes
TWR-16873	A	Fracture Control Plan for SS RSRM Case	Yes
TWR-16874	A	Fracture Control Plan for the SS RSRM Ignition System	Yes
TWR-16875	A	Fracture Control Plan for Space Shuttle RSRM Nozzle	*
TWR-16877	B	RSRM Mass Properties Uncertainty Analysis	Yes
TWR-16913-2		Forward-to-Aft Exit Cone Joint Leak Test Failure	Yes
TWR-16940	C	RSRM Ballistics Performance Assessment	Yes
TWR-16942		Test Report 1.4 x MEOP Hydroproof Test	Yes
TWR-16948	A	Loads For Use In PLI2 Structure Analysis	Yes
TWR-16961	B	RSRM Propellant/Liner/Insul. Struct. Analy. Summary	Yes
TWR-16969	B	External Cork Insulation Bondline Analysis	Yes
TWR-16975	B	RSRM Nozzle Stress Report	Yes
TWR-17009	A	Global Thermal Environment Analysis	Yes
TWR-17011		NJES 2B Final Test Report	Yes
TWR-17015	B	Case Field Joint Redesign Flow/Thermal Analysis	Yes
TWR-17016	B	Nozzle/Case Joint Redesign Flow Thermal Analysis	Yes
TWR-17033		Flow/Thermal Analysis of the Onpad .SR13	Yes
TWR-17035		External TPS Analysis of SRM Stiffener Rings and Stubs	Yes
TWR-17036	B	RSRM Factory Joint Insulation	Yes
TWR-17038	A	Insulation/Case Unbond Structural Analysis	Yes
TWR-17039		Mechanical Properties of SRM Propellant Grain Materials	Yes
TWR-17057	B	Propellant Grain Structural Integrity	Yes
TWR-17063	A	Thermal Evaluation of Development Flight Instr.	Yes
TWR-17082		RSRM CDR Summary Report, Seal Design	Yes
TWR-17098		Test Report Joint Heater Thermal Conductive Adhesive	Yes
TWR-17118 Sup. A,F	A	RSRM Case Structural Analysis	Yes
TWR-17127	B	Structural Analysis for Accelerometer Mounting Block	Yes
TWR-17190	B	Test Report: S-Joint Resiliency Test	Yes
TWR-17195	B	Structural Analysis of SRM Igniter Grain	Yes
TWR-17203		Aft Segment Inclusion, DM-9	Yes
TWR-17219	A	Aero/Thermal Analysis of the RSRM Nozzle	Yes
TWR-17221	A	Thermal Response of Nozzle Exit Cone and LSC Assembly	Yes
TWR-17226		DM-8 Sys. Tunnel Floor Plate Pull Test	Yes
TWR-17228		DM-9 Sys. Tunnel Floor Plate Pull Test	Yes
TWR-17229		FJPS Vent Valve Aging and Functional Test Results	Yes
TWR-17230		Cork Extrusion Mechanical Characterization Test Report	Yes
TWR-17231		DM-9 FJPS Weatherseal Pull Test Results	Yes
TWR-17242		Moisture Seal Integrity Test Final Report	Yes
TWR-17243		FJPS Windtunnel Test Report	Yes
TWR-17245		Heater Assembly Vibration Test Report	Yes
TWR-17247	B	Internal Insulation Qualification Report	Yes
TWR-17250		Nozzle Center Line Offset	Yes
TWR-17253		Summary of Electrical Analysis for FJPS	Yes
TWR-17265	B	RSRM Ignition System Structural Analysis	Yes
TWR-17269		DM-9 Post Fire Hardware Evaluation	Yes

TABLE 7.13 REFERENCED DOCUMENTS LIST

DOCUMENT NUMBER	REVISION	DOCUMENT DESCRIPTION OR TITLE	RELEASE STATUS
TWR-17270		QM-6 FJPS Post-Test Inspection Final Report	Yes
TWR-17270 VOL V		QM-6 Nozzle Post Test Inspection Final Report	Yes
TWR-17271		QM-7 Post Test Hardware Evaluation	Yes
TWR-17272		Flight Motor Set 360L001 (STS-26R) Final Report	Yes
TWR-17272 Vol. VII		Flight Set 360L002 JPS Final Report	Yes
TWR-17273	A	Cable Bracket Bonds Structural Analysis	Yes
TWR-17276		Factory Joint Seal Integrity	Yes
TWR-17280		Igniter Gask-O-Seal Resiliency Test Report	Yes
TWR-17311		RSRM Nozzle Snubber Vectoring Clearance Study	Yes
TWR-17317	A	CEI Compliance Report, RSRM Nozzle	Yes
TWR-17322		Transport Thermal Analysis of Aft Segment	Yes
TWR-17323	A	RSRM Center Segment Transp. from MTI Space Oper to KSC	Yes
TWR-17324		RSRM FWD Segment Transportation from MTI to KSC	Yes
TWR-17326		Transp. Thermal Analysis - Nozzle/Aft Exit Cone	Yes
TWR-17331		Mass Properties History Log Space Shuttle QM-8	Yes
TWR-17358		Mass Properties History Log Space Shuttle 360Q013 (LH)	Yes
TWR-17359		Mass Properties History Log Space Shuttle 360Q013 (RH)	yes
TWR-17367		Seal Material Properties Data Book	Yes
TWR-17371		DM-9 Test Report	Yes
TWR-17371	A	DM-9 Final Test Report	Yes
TWR-17372	A	QM-6 Final Test Report	Yes
TWR-17373	A	QM-7 Final Test Report	Yes
TWR-17405		Test Results and Three Dimensional Analysis	Yes
TWR-17415		JPS Heater Watt Density Analysis/Test Report	Yes
TWR-17416	A	SRB Aft Skirt Hot Gas Purge Analysis	Yes
TWR-17418		Heater Power Density Analysis, Tayco Part 266-4664	Yes
TWR-17453		Nozzle Joint Envrmnt. Stimulator 3B Final Test Report	Yes
TWR-17463		Nozzle Joint Envrmnt. Simulator 3A Final Test Report	Yes
TWR-17469	A	NJES H3 Test Report	Yes
TWR-17526		Nozzle Nose Inlet Structural Test Report	Yes
TWR-17528	A	OPT/DFI Similarity Analysis	Yes
TWR-17563		Transient Pressure Test Article 2.1 Test Report	Yes
TWR-17591		QM-8 Test Report	Yes
TWR-17591 VOL V	A	QM-8 Final Test Report, Nozzle	Yes
TWR-17591 VOL VI		QM-8 FINAL TEST REPORT, IGNITION SYSTEM	Yes
TWR-17592		PVM-1 Final Test Report	Yes
TWR-17592 VOL VI		PVM-1 FINAL TEST REPORT, IGNITION SYSTEM	Yes
TWR-17597		RSRM Case Structural Analysis Handling Transportation	No
TWR-17611		ETM-1A Post Fire Evaluation	Yes
TWR-17639		TEM-03 Final Test Report	Yes
TWR-17644		Technical Eval. Motor No. 4 (TEM-4) Final Test Report	Yes
TWR-17649		TEM-05 Static Test Final Test Report	Yes
TWR-17654		Technical Evaluation Motor No. 6 (TEM-6) Final Test Rep	Yes
TWR-17720		RSRM TP-H1148 Propellant Characterization Requirements	Yes
TWR-17721		RSRM TP-H1178 Igniter Propellant Characterization	Yes
TWR-17729		RSRM Material Selection & Control Documentation	Yes
TWR-17741		Final Report for SRM Pyrotechnic Basket Assy Life Ext.	Yes
TWR-17795		Over-Pressure Test for OPT	Yes
TWR-17796	A	Lightning Transient Test	Yes
TWR-17797		EMC/EMI DFI Test Report	Yes
TWR-17798		Mech/Elect Test of Bonding Strap Report	No
TWR-17808		Case Similarity Analysis	Yes
TWR-17855-2		SRM Significant Problem Report No. DR4-5 (5 day)	Yes
TWR-17872		Modified Igniter Qualification Test Final Report	Yes
TWR-17880		RSRM Teardown and Analysis Plan	Yes
TWR-17927	A	Transient Pressure Test Article	Yes
TWR-17941		SS RSRM Ignition System Modified Igniter LAT No. 38	Yes
TWR-17991	A	RSRM Seal Design Summary Report	Yes
TWR-17992		RSRM Seal Leak Design Summary Report	Yes

TABLE 7.13 REFERENCED DOCUMENTS LIST

DOCUMENT NUMBER	REVISION	DOCUMENT DESCRIPTION OR TITLE	RELEASE STATUS
TWR-18000		Joint Environment Simulator 3C Final Test Report	Yes
TWR-18011 A,B,E	A	RSRM Structural Mechanical Properties Data Book	Yes
TWR-18012		RSRM Propellant Grain Transportation Structural Integ.	Yes
TWR-18045		Flight Readiness Firing	Yes
TWR-18063		Alum. Sys. Tunnel Ground strap Adhesive Qual. Test Rep.	Yes
TWR-18075		Transient Pressure Test Article Final Test Report	Yes
TWR-18076		Moisture Seal Test Report	Yes
TWR-18085		DFI/OFI Cable Assembly Test	Yes
TWR-18088		Useful Life and Storagee Effects Analysis for DFI/OFI	Yes
TWR-18089		Material and EEE Parts Selection Analysis for DFI/OFI	Yes
TWR-18091	A	Debris Prevention Analysis for DFI/OFI/OEI	Yes
TWR-18133	A	RSRM Internal Insulation Analysis	Yes
TWR-18136	A	RSRM FJPS Structural Analysis and Component Testing	Yes
TWR-18147		S & A Device Global Analysis	Yes
TWR-18157	A	S & A Device Similarity Analysis	Yes
TWR-18181		Test Results SRM FJP Kevlar Strap	Yes
TWR-18218		Replacement of EPDM With K5NA On Stiffener Stubs	Yes
TWR-18233		Similarity Analysis for Propellant/Liner	Yes
TWR-18239		SS RSRM modified igniter rocket motor simil. analysis	Yes
TWR-18242-2		DM-9 Wedgeout	Yes
TWR-18250		Igniter Seals Thermal Environmental Analysis	Yes
TWR-18252		Heater Cable Bracket Bond Evaluation Test Results	Yes
TWR-18256	A	RSRM Ignition System Special Bolt Structural Analysis	Yes
TWR-18305		Extruded Cork/EA-934/NA KL-60-225 EPDM Rubber Bondline	Yes
TWR-18309-2		Erosion, Forward Exit Cone, DM-9	Yes
TWR-18371		Performance of Motors DM-8 and DM-9	Yes
TWR-18374	A	Similarity Analysis for RSRM JPS	Yes
TWR-18407		QM-8 Quick Look Report	Yes
TWR-18409		Test Rep. Hydrogen Embrtlmnt. Testing of Silane Primer	Yes
TWR-18428		TPTA 2.2 Final Test Report	Yes
TWR-18447		Reprt Temp. & Humdty effcts on Silane Primer Bonds	Yes
TWR-18450	A	Similarity Analysis for RSRM Systems Tunnel	Yes
TWR-18480	A	FJPS Moisture Seal Characterization Test Results	Yes
TWR-18525		Global Analysis OFI/DFI	Yes
TWR-18617		Similarity Analysis for RSRM Assembled Motor	Yes
TWR-18624		TPTA 1.3 Final Test Report	Yes
TWR-18643		Test Report for a Hydroburst of an Igniter Assembly	Yes
TWR-18684		Acceptance Test Report S/S Flex Bearing (S/N 4R1)	Yes
TWR-18707		Acceptance Test Report S/S Flex Bearing (S/N 1R5)	Yes
TWR-18708		RSRM Segment/Railcar Scanner Test Report	Yes
TWR-18733		S & A Performance Under Power Spike Conditions	Yes
TWR-18800		Igniter Heater Function Test	Yes
TWR-18821		RSRM Exit Cone Severance System Similarity Analysis	Yes
TWR-18832		RSRM Segment/Railcar Scanner Test Report	Yes
TWR-18871		JPS/Igniter Heater Cable Structural Bond Analysis	Yes
TWR-18879	B	Removal of Cork Lid Over DFI & GEI Instru. Cables	Yes
TWR-19050		Thrmal Respns of the Aft Dome Nzzl Husng; Re-enrty Heat	Yes
TWR-19052		Thermal Performance of Extruded Cork on Field Joint	Yes
TWR-19281		QM-8 Systems Tunnel Pull Test Final Report	Yes
TWR-19333		Final Test Report for -04 S & A (CTP-0131, REV. C)	No
TWR-19540		Structural Integrity Analysis of RSRM 360H005 Aft Seg.	Yes
TWR-19679		Replacement of Cork with K5NA over Kevlar Strap Clips	Yes
TWR-19821		Preload Stress Analysis RSRM Handling Rings Tang End	Yes
TWR-19872		Systems Tunnel LSC Lightning Strike Final Test Report	Yes
TWR-19899		Qual. Of Improved Joint Heaters Final Test Report	yes
TWR-19912		Evaluation of Dow Corning 321 Dry Film Lubricant	Yes
TWR-19941		Qual. RSRM F.J. Heater & Ign. to Case J.H. Power Cables	Yes
TWR-40258		Re-Designed FJPS Material Qualification Summary	Yes
TWR-50017		In-Flight Therm. Anal. of the Redsigned FJPS	Yes

TABLE 7.13 REFERENCED DOCUMENTS LIST

DOCUMENT NUMBER	REVISION	DOCUMENT DESCRIPTION OR TITLE	RELEASE STATUS
TWR-50018	A	Thermal Anal./Verification of SRM JPS Redesign Concept	Yes
TWR-50019		FJPS Redesign Concept 1 Structural Analysis	Yes
TWR-50021		Redesigned FJPS Moisture Qual. Final Test Report	Yes
TWR-60051		RSRM Carbon Fiber-Filled EPDM Structural Integrity	Yes
TWR-60122		Flash Report for -04 S & A (CTP-0131, Rev. C)	Yes
TWR-60135		Qual. of Enhanced Redesigned F.J. & Ign. Joint heaters	Yes
TWR-60380		Instrumentation Similarity Analysis	Yes
TWR-61086		Systems Tunnel CEI Compliance With MIL-STD Parts & Lock	Yes
TWR-61101		Systems Tunnel Material Qualification Summary	Yes
WTP-0076	B	Field Joint Protective Strap Test Plan	Yes
WTP-0080	A	Field Joint Heater Test II Weather Seal Shuttle/Vacuum	Yes
WTP-0103		Verification of SRM Factory Joint Pressure Seal	Yes
WTP-0125		Extending the Shelf Life of SRM Pyrotechnic Basket	Yes
WTP-0195		Systems Tunnel LSC Lightning Strike Test Plan	Yes

* = SUBMITTED FOR CUSTOMER APPROVAL

APPENDIX A

COMPLIANCE STATEMENTS

Thiokol CORPORATION
SPACE OPERATIONS

CS 02-01
COMPLIANCE STATEMENT
COQ 18764-02
RSRM CASE, STIFFENER RINGS, CASE JOINTS

APPLICABLE PARAGRAPH: 3.3.1.1 Selection of Materials, Parts and Processes

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IGA-107.0 The hardware complies with the intent of TWR-10192 and SE-019-094-2H.

10/5/89
Systems Integration & Project Engineering

10/16/89
Program Integration

Thiokol CORPORATION
SPACE OPERATIONS

CS 02-02
COMPLIANCE STATEMENT
COQ 18764-02
RSRM CASE, STIFFENER RINGS, CASE JOINTS

APPLICABLE PARAGRAPH: 3.3.8 Materials

SUMMARY SHEET	VERIFICATION SUMMARY
IGA-384.0	The Case/Stiffener Rings/Case Joints comply with this requirement. Whenever age sensitive materials have been used, a schedule for the replacement of those materials has been established.

Systems Integration & Project Engineering — 14/5/89

Case Program Management — Ken Willis 5 Oct '89

Thiokol CORPORATION
SPACE OPERATIONS

CS 02-03
COMPLIANCE STATEMENT
COQ 18764-02
RSRM CASE, STIFFENER RINGS, CASE JOINTS

APPLICABLE PARAGRAPH: 3.3.8.1 Moisture, Fungus Resistance and Oxidation

SUMMARY SHEET	VERIFICATION SUMMARY
IGA-385.0	Case/Stiffener Rings/Case Joint components are in compliance with this requirement. Whenever a material has been used that is sensitive to moisture, fungus or oxidation, proper steps have been taken to ensure the integrity of the parts and/or the part have been properly designated as limited life items.

Dale Betts 10/5/89
Systems Integration & Project Engineering

Ken Wiels 5 Oct '89
Case Program Management

CS 02-04
COMPLIANCE STATEMENT
COQ 18764-02
RSRM CASE, STIFFENER RINGS, CASE JOINTS

APPLICABLE PARAGRAPH: 3.3.8.3 Flammability, Odor and Off-gassing

SUMMARY SHEET	VERIFICATION SUMMARY
IGA-538.0	Case/Stiffener Rings/Case Joints hardware components are in compliance with this requirement. The materials used in the Case/Stiffener Rings/Case Joints were selected in accordance with NHB 8060.1B.

Systems Integration & Project Engineering — 10/5/89

Case Program Management — Ken Wills Oct. '89