

Modify RCS Survival Configuration
File: H_CRP_AOC_5SCF.xls
Author: dsalt-hp



Procedure Summary

Objectives

The objective of this Herschel ACMS procedure is to modify the RCS Survival configuration to the alternate branch (i.e. A or B).

The procedure involves the following activities:

- check initial RCS status and current "survival" branch
- disable mode check, if already in Survival
- switch ON the RCS heating for branch to be selected (calls H_FCP_AOC_5CBH)
- open LV for the branch to be selected
- arm FCVs for the branch to be selected
- declare selected branch as Survival in RMA and RMB
- verify selected branch function
- disarm FCVs of current nominal branch (to be deselected)
- close LV of current nominal branch (to be deselected)
- switch OFF the RCS heating of the deselected branch
- if ACMS mode is SCM, disarm FCVs
- enable mode check, if already in Survival

NOTE: As the procedure is likely to be executed in a time critical situation, there is a minimum amount of branching. However, if alternate TCs are required (e.g. for a non-nominal SAS configuration) specific details are given in comments

Summary of Constraints

1. S/C in any ACMS mode (i.e. SM/SAM/OCM/SCM)
2. All associated thruster LCLs must be switched ON
 - Catbed Heater (CBH) LCLs 17 & 18
 - Flow Control Valve (FCV) LCLs 45 & 46
 - Latch Valve (LV) LCLs 47 & 48

Spacecraft Configuration

Start of Procedure

ACMS in any mode (SM/SAM/OCM/SCM)

End of Procedure

ACMS in same mode but Survival RCS branch now reconfigured

Reference File(s)

Input Command Sequences

Output Command Sequences

HRA5SCFX
HRA5SCFB
HRA5SCFA
HRA5SCFY

Referenced Displays

ANDs GRDs SLDs

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 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



ZAA01999
 ZAA02999
 WALC1584
 WALC2584
 ZAA04999
 ZAAM0999
 ZAA07999

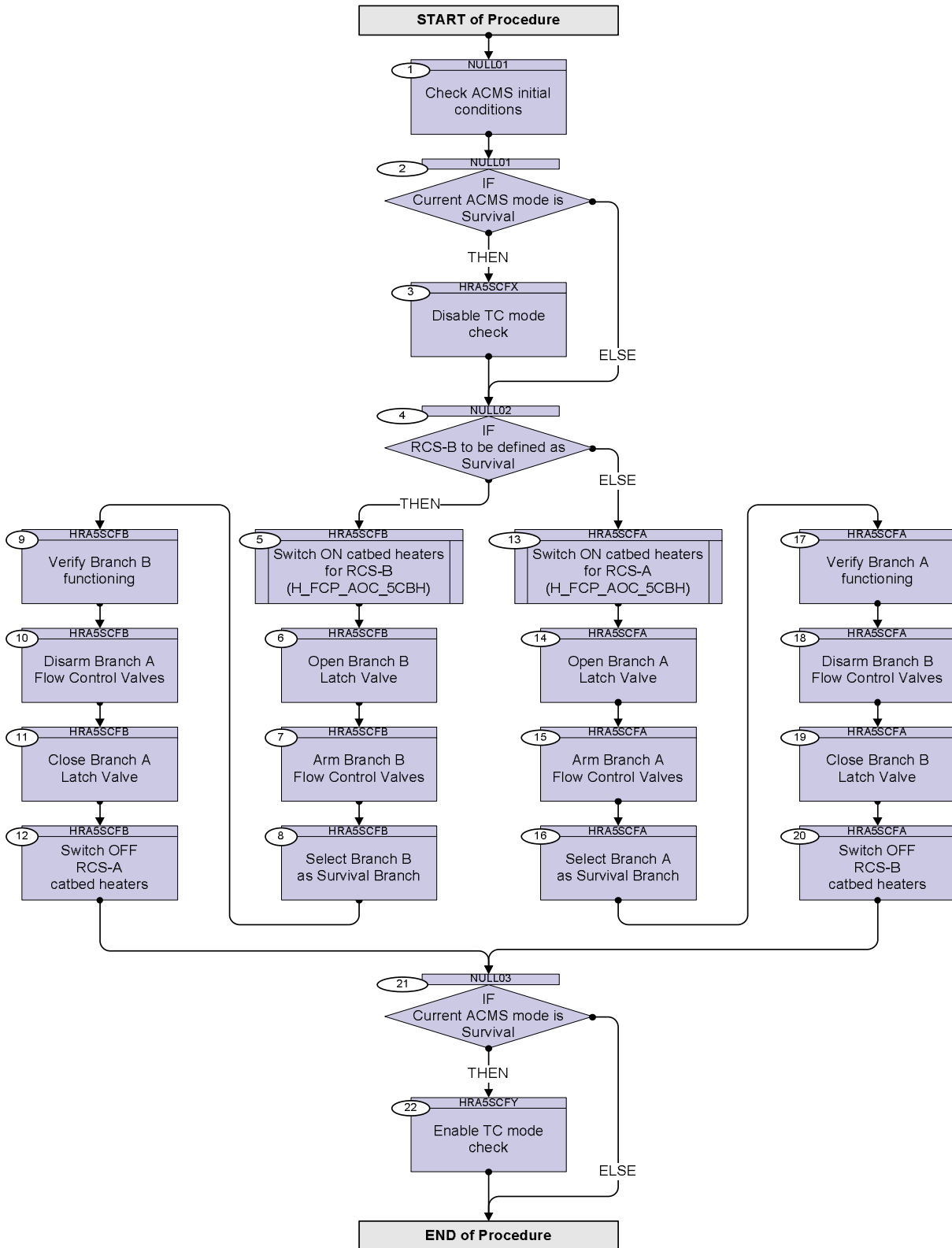
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
21/07/09	2.5	1	Created	dsalt-hp	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name :NULL01 (Null Sequence 01)				
TimeTag Type: Sub Schedule ID: □				
1		Check ACMS initial conditions		Next Step: 2
1.1		Check ACMS Mode configuration		□
		Verify Telemetry SpacecraftMode AESME002	<to be read>	AND=ZAA01999
		Verify Telemetry AcmsMode AESMG002	<to be read>	AND=ZAA01999
		Verify Telemetry AcmsSubstate AESMF002	<to be read>	AND=ZAA01999
1.2		Check FDIR status		□
		Verify Telemetry FdirMode AESMJ002	<to be read>	AND=ZAA01999
		Verify Telemetry SirStatus AESMM002	= FALSE	AND=ZAA01999
		Verify Telemetry CirStatus AESML002	= FALSE	AND=ZAA01999
1.3		Check RCS configuration status		□
		Verify Telemetry RcsInUse AESMV002	<to be read>	AND=ZAA01999
		Verify Telemetry Nom Conf RCS AESCF002	<to be read>	AND=ZAA01999
		Verify Telemetry Surv Conf RCS AESCM001	<to be read>	AND=ZAA01999
		Verify Telemetry RCSA Health Sts AESK1002	<to be read>	AND=ZAA02999
		Verify Telemetry RCSB Health Sts AESK2002	<to be read>	AND=ZAA02999
1.4		Check RCS power status		□

Modify RCS Survival Configuration
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<i>LCL's 17 - 18 power the catbed heaters of the two RCS branches.</i>		
		Verify Telemetry CBH_N_L17_S WMA2H565	= ON	AND=WALC1584
		Verify Telemetry CBH_N_L17_I WMA13565	>= 0.0 A <= 0.069 A	AND=WALC1584
		Verify Telemetry CBH_R_L18_S WM12H565	= OFF	AND=WALC1584
		Verify Telemetry CBH_R_L18_I WM113565	= 0.0 A	AND=WALC1584
		<i>LCL's 45 - 46 power the flow control valves of the two RCS branches.</i>		
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_2S WM22J565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_I WM209565	>= 0.0 A <= 3.08 A	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_2S WM92J565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_I WM909565	>= 0.0 A <= 3.08 A	AND=WALC2584
		<i>LCL's 47 - 48 power the latch valves of the two RCS branches.</i>		
		Verify Telemetry RcsLvA_L47_1S WM12E565	= ON	AND=WALC2584
		Verify Telemetry AccLvA_L47_2S WM12J565	= ON	AND=WALC2584
		Verify Telemetry AccLvA_L47_I WM110565	>= 0.0 A <= 0.83 A	AND=WALC2584
		Verify Telemetry AccLvB_L48_1S WMA2E565	= ON	AND=WALC2584
		Verify Telemetry AccLvB_L48_2S WMA2J565	= ON	AND=WALC2584
		Verify Telemetry AccLvB_L48_I WMA10565	>= 0.0 A <= 0.83 A	AND=WALC2584

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		NOTE: All of these LCL's must be closed throughout the mission. An explicit check is added before any operation involving the RCS to protect against inadvertent switching of these LCL's.		
1.5		Check catbed heaters status		<input type="checkbox"/>
		NOTE: There are no heater ON/OFF status parameters in the essential and mode-specific telemetry packets. To check that the heaters are ON/OFF, you will have to check the catbed temperature parameters. A heated catbed reaches a temperature of ~473 K.		
		Verify Telemetry A1D1 Ttemp act AETTA001	Steady state OFF = ~303 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry A2D2 Ttemp act AETTB001	Steady state OFF = ~303 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry C1F1 Ttemp act AETTC001	Steady state OFF = ~303 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry C2F2 Ttemp act AETTD001	Steady state OFF = ~303 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry C3U1 Ttemp act AETTE001	Steady state OFF = ~373 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry C4U2 Ttemp act AETTF001	Steady state OFF = ~373 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry A1D1 Ttmp unuse AETUA001	Steady state OFF = ~303 K Steady state ON = ~473 K	AND=ZAA04999

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry A2D2 Ttmp unuse AETUB001	Steady state OFF = ~303 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry C1F1 Ttmp unuse AETUC001	Steady state OFF = ~303 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry C2F2 Ttmp unuse AETUD001	Steady state OFF = ~303 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry C3U1 Ttmp unuse AETUE001	Steady state OFF = ~373 K Steady state ON = ~473 K	AND=ZAA04999
		Verify Telemetry C4U2 Ttmp unuse AETUF001	Steady state OFF = ~373 K Steady state ON = ~473 K	AND=ZAA04999
2		IF Current ACMS mode is Survival		Next Step: THEN 3 ELSE 4
<p>TC Seq. Name :HRA5SCFX (Disable_SM_TCcheck)</p> <p>TimeTag Type: Sub Schedule ID: □</p>				
3		Disable TC mode check		Next Step: 4
		Execute Telecommand DisChkMode-StateFID 161 Command Parameter(s) : DisChk DF86Cmd AH8C1001 DisChk DD86Cmd AH8C2001 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 20 Det. descr. : TC(8,1) - Disable Command check- DisChkMode-StateFID 161	ACY8L109 Enable 86 Enable 86	

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Fire Disable Check Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Disable Check	ACZ7M109	
TC Seq. Name : NULL02 (Null Sequence 02) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
4		IF RCS-B to be defined as Survival		Next Step: THEN 5 ELSE 13
TC Seq. Name : HRA5SCFB (RCS_B as SUR) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
5		Switch ON catbed heaters for RCS-B (H_FCP_AOC_5CBH)		Next Step: 6
		Execute Procedure: H_FCP_AOC_5CBH Switch ON thruster catbed heaters		
6		Open Branch B Latch Valve		Next Step: 7
		Verify Telemetry RCS2 LV sts AETF2002 = CLOSED		AND=ZAA04999
6.1		Open LV for RCS-B		<input type="checkbox"/>

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 File: H_CRP_AOC_5SCF.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">RCS-B LV OPEN</p> Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - RCS-B LV OPEN	ACZB3109	
		Execute Telecommand <p style="text-align: right;">Fire Cmd RCS config</p> Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	
6.2		Verify status of LV for RCS-B		<input type="checkbox"/>
		Verify Telemetry <p style="text-align: right;">RCS2 LV sts AETF2002</p>	= OPEN	AND=ZAA04999
7		Arm Branch B Flow Control Valves		Next Step: 8
		Verify Telemetry <p style="text-align: right;">RCS2 FCV ARMsts AETF6002</p>	= DISARM	AND=ZAA04999
7.1		Arm FCV for RCS-B		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">RCS-B FCV Arm</p> Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - RCS-B FCV Arm	ACZC5109	

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Fire Cmd RCS config Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	
7.2		Verify status of FCV for RCS-B		<input type="checkbox"/>
		Verify Telemetry RCS2 FCV ARMsts AETF6002	= ARM	AND=ZAA04999
8		Select Branch B as Survival Branch		Next Step: 9
8.1		Verify RM A Nominal Configuration via Status Report		<input type="checkbox"/>
		Execute Telecommand Get RM-A status Command Parameter(s) : RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-A status	ACZZ4109	
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1	A86_RMStatus	
		NOTE: The following TM values assume a nominal ACMS configuration for the SAS and CRS. <u>If the RM reports an alternate configuration, then the TC in Step 8.3 should be modified accordingly.</u>		
		Verify Telemetry Surv Conf SAS1 AEW35109	= REDUNDANT	AND=ZAAM0999

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 File: H_CRP_AOC_5SCF.xls
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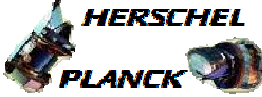




Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Surv Conf SAS2 AEW36109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf CRS AEW37109	= CRS-2	AND=ZAAM0999
		Verify Telemetry Surv Conf RCS AEW38109	= RCS-B	AND=ZAAM0999
8.2		Disable RM A		<input type="checkbox"/>
		Execute Telecommand Ext_ACC_RM_A_Disable TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : External ACC RM A Disable - Mission Specific	DCM22170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= DISABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= DISABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMA AEE93050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050	= ENABLED	AND=ZAA07999
8.3		Select RCS Branch B as Survival Branch in RM A		<input type="checkbox"/>
		NOTE: The following TC assumes a nominal ACMS configuration for the SAS and CRS. <u>If the RM reported an alternate configuration in Step 8.1, then this TC should be replaced by one of the following:</u> ACZ5S109 (SAS-NN CRS2 RCSB 0 RMA) ACZ6S109 (SAS-NR CRS2 RCSB 0 RMA) ACZ7S109 (SAS-RN CRS2 RCSB 0 RMA) ACZ1S109 (SAS-NN CRS1 RCSB 0 RMA) ACZ2S109 (SAS-NR CRS1 RCSB 0 RMA) ACZ3S109 (SAS-RN CRS1 RCSB 0 RMA) ACZ4S109 (SAS-RR CRS1 RCSB 0 RMA)		

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand SAS-RR CRS2 RCSB 0 RMA Command Parameter(s) : SMConf DF86 Cmd AH8S1001 Enable 86 SMConf DD86 Cmd AH8S2001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,1) modify SM conf THR Level 0 - SAS RR CRS2 RCSB 0 RMA	ACZ8S109	
		Verify Telemetry Surv Conf SAS AESCH001 = SAS12 R		AND=ZAA01999
		Verify Telemetry Surv Conf CRS AESCL001 = CRS-2		AND=ZAA01999
		Verify Telemetry Surv Conf RCS AESCM001 = RCS-B		AND=ZAA01999
8.4		Verify RM A Nominal Configuration via Status Report		<input type="checkbox"/>
		Execute Telecommand Get RM-A status Command Parameter(s) : RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-A status	ACZZ4109	
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1	A86_RMstatus	
		NOTE: The following TM values assume a nominal ACMS configuration for the SAS and CRS. <u>If the RM reports an alternate configuration, then check that it is coherent with the configuration commanded in Step 8.3.</u>		
		Verify Telemetry Surv Conf SAS1 AEW35109 = REDUNDANT		AND=ZAAM0999
		Verify Telemetry Surv Conf SAS2 AEW36109 = REDUNDANT		AND=ZAAM0999

<p>Modify RCS Survival Configuration File: H_CRP_AOC_5SCF.xls Author: dsalt-hp</p>	  
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Surv Conf CRS AEW37109	= CRS-2	AND=ZAAM0999
		Verify Telemetry Surv Conf RCS AEW38109	= RCS-B	AND=ZAAM0999
8.5		<i>Enable RM A</i>		□
		Execute Telecommand Ext_ACC_RM_A_Enable TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : External ACC RM A Enable - Mission Specific	DCM21170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMA AEE93050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050	= ENABLED	AND=ZAA07999
8.6		<i>Verify RM B Nominal Configuration via Status Report</i>		□
		Execute Telecommand Get RM-B status Command Parameter(s) : RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-B status	ACZZ5109	
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1	A86_RMStatus	

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		NOTE: The following TM values assume a nominal ACMS configuration for the SAS and CRS. If the RM reports an alternate configuration, then the TC in Step 8.8 should be modified accordingly.		
		Verify Telemetry Surv Conf SAS1 AEW35109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf SAS2 AEW36109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf CRS AEW37109	= CRS-2	AND=ZAAM0999
		Verify Telemetry Surv Conf RCS AEW38109	= RCS-B	AND=ZAAM0999
8.7		Disable RM B		□
		Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_B_Disable</p> TC Control Flags : Subsch. ID : 10 Det. descr. : External ACC RM B Disable - Mission Specific	DCM25170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMA AEE93050	= DISABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050	= DISABLED	AND=ZAA07999
8.8		Select RCS Branch B as Survival Branch in RM B		□

Modify RCS Survival Configuration
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>NOTE: The following TC assumes a nominal ACMS configuration for the SAS and CRS.</p> <p>If the RM reported an alternate configuration in Step 8.6, then <u>this TC should be replaced by one of the following:</u></p> <p>ACYPW109 (SAS-NN CRS2 RCSB 0 RMB) ACYPX109 (SAS-NR CRS2 RCSB 0 RMB) ACYPY109 (SAS-RN CRS2 RCSB 0 RMB)</p> <p>ACYPS109 (SAS-NN CRS1 RCSB 0 RMB) ACYPT109 (SAS-NR CRS1 RCSB 0 RMB) ACYPU109 (SAS-RN CRS1 RCSB 0 RMB) ACYPV109 (SAS-RR CRS1 RCSB 0 RMB)</p>		
		<p>Execute Telecommand</p> <p style="text-align: right;">SAS-RR CRS2 RCSB 0 RMB</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">SMConf DF86 Cmd AH8S1001</p> <p style="padding-left: 40px;">SMConf DD86 Cmd AH8S2001</p> <p>TC Control Flags :</p> <p style="padding-left: 100px;">GBM IL DSE</p> <p style="padding-left: 100px;">--Y -- ---</p> <p>Subsch. ID : 20 Det. descr. : TC(8,1) modify SM conf THR Level 0 - SAS RR CRS2 RCSB 0 RMB</p>	ACYPZ109	
		<p>Verify Telemetry</p> <p style="padding-left: 40px;">Surv Conf SAS AESCH001</p>	= SAS12 R	AND=ZAA01999
		<p>Verify Telemetry</p> <p style="padding-left: 40px;">Surv Conf CRS AESCL001</p>	= CRS-2	AND=ZAA01999
		<p>Verify Telemetry</p> <p style="padding-left: 40px;">Surv Conf RCS AESCM001</p>	= RCS-B	AND=ZAA01999
8.9		<p>Verify RM B Nominal Configuration via Status Report</p>		□
		<p>Execute Telecommand</p> <p style="text-align: right;">Get RM-B status</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">RMStat DF86Cmd AH841001</p> <p style="padding-left: 40px;">RMStat DD86Cmd AH842001</p> <p>TC Control Flags :</p> <p style="padding-left: 100px;">GBM IL DSE</p> <p style="padding-left: 100px;">--Y -- ---</p> <p>Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-B status</p>	ACZZ5109	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: <div style="float: right; margin-right: 50px;"> APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1 </div>	A86_RMstatus	
		NOTE: The following TM values assume a nominal ACMS configuration for the SAS and CRS. <u>If the RM reports an alternate configuration, then check that it is coherent with the configuration commanded in Step 8.8.</u>		
		Verify Telemetry Surv Conf SAS1 AEW35109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf SAS2 AEW36109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf CRS AEW37109	= CRS-2	AND=ZAAM0999
		Verify Telemetry Surv Conf RCS AEW38109	= RCS-B	AND=ZAAM0999
8.10		Enable RM B		□
		Execute Telecommand <div style="float: right; margin-right: 50px;"> Ext_ACC_RM_B_Enable </div> TC Control Flags : <div style="float: right; margin-right: 50px;"> GBM IL DSE --Y -- --- </div> Subsch. ID : 10 Det. descr. : External ACC RM B Enable - Mission Specific	DCM24170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMA AEE93050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050	= ENABLED	AND=ZAA07999
9		Verify Branch B functioning		Next Step: 10

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
9.1		RCS Configuration Status		<input type="checkbox"/>
		Verify Telemetry Nom Conf RCS AESCF002	= RCS-B	AND=ZAA01999
		Verify Telemetry RCSA Health Sts AESK1002	= Healthy	AND=ZAA02999
		Verify Telemetry RCSB Health Sts AESK2002	= Healthy	AND=ZAA02999
9.2		RCS Power Status		<input type="checkbox"/>
		Verify Telemetry CBH_N_L17_S WMA2H565	= ON	AND=WALC1584
		Verify Telemetry CBH_N_L17_I WMA13565	>= 0.0 A <= 0.069 A	AND=WALC1584
		Verify Telemetry CBH_R_L18_S WM12H565	= OFF	AND=WALC1584
		Verify Telemetry CBH_R_L18_I WM113565	= 0.0 A	AND=WALC1584
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_2S WM22J565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_I WM209565	<A branch consumption should be close to 0 A>	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_2S WM92J565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_I WM909565	>= 0.0 A <= 3.08 A	AND=WALC2584
		Verify Telemetry RcsLvA_L47_1S WM12E565	= ON	AND=WALC2584
		Verify Telemetry AccLvA_L47_2S WM12J565	= ON	AND=WALC2584
		Verify Telemetry AccLvA_L47_I WM110565	>= 0.0 A <= 0.83 A	AND=WALC2584

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry AccLvB_L48_1S WMA2E565	= ON	AND=WALC2584
		Verify Telemetry AccLvB_L48_2S WMA2J565	= ON	AND=WALC2584
		Verify Telemetry AccLvB_L48_I WMA10565	>= 0.0 A <= 0.83 A	AND=WALC2584
9.3		Verify Reset of Accumulated Totals		<input type="checkbox"/>
		Verify Telemetry A1D1 accu ToT AETAA001	<reset to 0>	AND=ZAA04999
		Verify Telemetry A2D2 accu ToT AETAB001	<reset to 0>	AND=ZAA04999
		Verify Telemetry C1F1 accu ToT AETAC001	<reset to 0>	AND=ZAA04999
		Verify Telemetry C2F2 accu ToT AETAD001	<reset to 0>	AND=ZAA04999
		Verify Telemetry C3U1 accu ToT AETAE001	<reset to 0>	AND=ZAA04999
		Verify Telemetry C4U2 accu ToT AETAF001	<reset to 0>	AND=ZAA04999
10		Disarm Branch A Flow Control Valves		Next Step: 11
		Verify Telemetry RCS1 FCV ARMsts AETF5002	= ARM	AND=ZAA04999
10.1		Disarm FCV for RCS-A		<input type="checkbox"/>
		Execute Telecommand RCS-A FCV Disarm ACZC3109 Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - RCS-A FCV Disarm		

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Fire Cmd RCS config Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	
10.2		Verify status of FCV for RCS-A		<input type="checkbox"/>
		Verify Telemetry RCS1 FCV ARMsts AETF5002 = DISARM		AND=ZAA04999
11		Close Branch A Latch Valve		Next Step: 12
		Verify Telemetry RCS1 LV sts AETF1002 = OPEN		AND=ZAA04999
11.1		Close LV for RCS-A		<input type="checkbox"/>
		Execute Telecommand RCS-A LV CLOSE Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - RCS-A LV CLOSE	ACZB2109	
		Execute Telecommand Fire Cmd RCS config Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
11.2		Verify status of LV for RCS-A		<input type="checkbox"/>
		Verify Telemetry RCS1 LV sts AETF1002	= CLOSED	AND=ZAA04999
12		Switch OFF RCS-A catbed heaters		Next Step: 21
		Verify Telemetry Nom Conf RCS AESCF002	= RCS-B	AND=ZAA01999
12.1		Switch OFF thruster heaters for RCS-A		<input type="checkbox"/>
		Execute Telecommand All HTR RCS-A OFF ACZE6109		
		Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86		
		TC Control Flags : GBM IL DSE --Y -- ---		
		Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - Herschel All HTR RCS-A OFF		
		Execute Telecommand Fire Cmd RCS config ACZ2M109		
		Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86		
		TC Control Flags : GBM IL DSE --Y -- ---		
		Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config		
12.2		Check RCS catbed heater status & current		<input type="checkbox"/>
		LCL's 45 - 46 power the flow control valves of the two RCS branches.		
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_2S WM22J565	= ON	AND=WALC2584

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RcsThrsA_L45_I WM209565	>= 0.0 A <= 3.08 A	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_2S WM92J565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_I WM909565	= 0.0 A	AND=WALC2584
12.3		Verify decreasing catbed temps for UNUSED branch		<input type="checkbox"/>
		Observe <u>decreasing values</u> of the catbed temperatures		
		Verify Telemetry A1D1 Ttmp unuse AETUA001	(decreasing)	AND=ZAA04999
		Verify Telemetry A2D2 Ttmp unuse AETUB001	(decreasing)	AND=ZAA04999
		Verify Telemetry C1F1 Ttmp unuse AETUC001	(decreasing)	AND=ZAA04999
		Verify Telemetry C2F2 Ttmp unuse AETUD001	(decreasing)	AND=ZAA04999
		Verify Telemetry C3U1 Ttmp unuse AETUE001	(decreasing)	AND=ZAA04999
		Verify Telemetry C4U2 Ttmp unuse AETUF001	(decreasing)	AND=ZAA04999
<p>TC Seq. Name :HRA5SCFA (RCS_A as SUR)</p> <p>TimeTag Type: Sub Schedule ID:</p> <p><input type="checkbox"/></p>				
13		Switch ON catbed heaters for RCS-A (H_FCP_AOC_5CBH)		Next Step: 14
		Execute Procedure: H_FCP_AOC_5CBH Switch ON thruster catbed heaters		
14		Open Branch A Latch Valve		Next Step: 15

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RCS1 LV sts AETF1002	= CLOSED	AND=ZAA04999
14.1		Open LV for RCS-A		<input type="checkbox"/>
		Execute Telecommand RCS-A LV OPEN Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RSCSCfg DD86 Cmd AH8R4001 Enable 86 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - RCS-A LV OPEN	ACZB1109	
		Execute Telecommand Fire Cmd RCS config Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	
14.2		Verify status of LV for RCS-A		<input type="checkbox"/>
		Verify Telemetry RCS1 LV sts AETF1002	= OPEN	AND=ZAA04999
15		Arm Branch A Flow Control Valves		Next Step: 16
		Verify Telemetry RCS1 FCV ARMsts AETF5002	= DISARM	AND=ZAA04999
15.1		Arm FCV for RCS-A		<input type="checkbox"/>

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">RCS-A FCV Arm</p> <i>Command Parameter(s) :</i> RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86 <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <i>Subsch. ID : 20</i> Det. descr. : TC(8,1) Command RCS config - RCS-A FCV Arm	ACZC2109	
		Execute Telecommand <p style="text-align: right;">Fire Cmd RCS config</p> <i>Command Parameter(s) :</i> FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <i>Subsch. ID : 20</i> Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	
15.2		Verify status of FCV for RCS-A		<input type="checkbox"/>
		Verify Telemetry <p style="text-align: right;">RCS1 FCV ARMsts AETF5002 = ARM</p>		AND=ZAA04999
16		Select Branch A as Survival Branch		Next Step: 17
16.1		Verify RM A Nominal Configuration via Status Report		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">Get RM-A status</p> <i>Command Parameter(s) :</i> RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86 <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <i>Subsch. ID : 20</i> Det. descr. : TC(8,1) - Get RM-A status	ACZZ4109	

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1	A86_RMstatus	
		NOTE: The following TM values assume a nominal ACMS configuration for the SAS and CRS. <u>If the RM reports an alternate configuration, then the TC in Step 16.3 should be modified accordingly.</u>		
		Verify Telemetry Surv Conf SAS1 AEW35109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf SAS2 AEW36109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf CRS AEW37109	= CRS-2	AND=ZAAM0999
		Verify Telemetry Surv Conf RCS AEW38109	= RCS-B	AND=ZAAM0999
16.2		Disable RM A		<input type="checkbox"/>
		Execute Telecommand Ext_ACC_RM_A_Disable TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : External ACC RM A Disable - Mission Specific	DCM22170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= DISABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= DISABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMA AEE93050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050	= ENABLED	AND=ZAA07999
16.3		Select RCS Branch A as Nominal Branch in RM A		<input type="checkbox"/>

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>NOTE: The following TC assumes a nominal ACMS configuration for the SAS and CRS.</p> <p>If the RM reported an alternate configuration in Step 8.1, then <u>this TC should be replaced by one of the following:</u></p> <p>ACYRP109 (SAS-NR CRS2 RCSA 0 RMA) ACYRR109 (SAS-RN CRS2 RCSA 0 RMA) ACYRS109 (SAS-RR CRS2 RCSA 0 RMA)</p> <p>ACYRK109 (SAS-NN CRS1 RCSA 0 RMA) ACYRL109 (SAS-NR CRS1 RCSA 0 RMA) ACYRM109 (SAS-RN CRS1 RCSA 0 RMA) ACYRN109 (SAS-RR CRS1 RCSA 0 RMA)</p>		
		<p>Execute Telecommand</p> <p style="text-align: right;">SAS-RR CRS2 RCSA 1 RMA</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">SMConf DF86 Cmd AH8S1001 Enable 86 SMConf DD86 Cmd AH8S2001 Enable 86</p> <p>TC Control Flags :</p> <p style="padding-left: 100px;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 20 Det. descr. : TC(8,1) modify SM conf THR Level 1 - SAS RR CRS2 RCSA 1 RMA</p>	ACYRT109	
		<p>Verify Telemetry</p> <p style="padding-left: 40px;">Surv Conf SAS AESCH001</p>	= SAS12 R	AND=ZAA01999
		<p>Verify Telemetry</p> <p style="padding-left: 40px;">Surv Conf CRS AESCL001</p>	= CRS-2	AND=ZAA01999
		<p>Verify Telemetry</p> <p style="padding-left: 40px;">Surv Conf RCS AESCM001</p>	= RCS-A	AND=ZAA01999
16.4		<p>Verify RM A Nominal Configuration via Status Report</p>		□
		<p>Execute Telecommand</p> <p style="text-align: right;">Get RM-A status</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86</p> <p>TC Control Flags :</p> <p style="padding-left: 100px;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-A status</p>	ACZZ4109	

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1	A86_RMStatus	
		NOTE: The following TM values assume a nominal ACMS configuration for the SAS and CRS. <u>If the RM reports an alternate configuration, then check that it is coherent with the configuration commanded in Step 16.3.</u>		
		Verify Packet Telemetry (Pkt = A86_RMStatus) Nom Conf SAS1 AEW2R109 = NOMINAL		AND=ZAAM0999
		Verify Telemetry Surv Conf SAS1 AEW35109 = REDUNDANT		AND=ZAAM0999
		Verify Telemetry Surv Conf SAS2 AEW36109 = REDUNDANT		AND=ZAAM0999
		Verify Telemetry Surv Conf CRS AEW37109 = CRS-2		AND=ZAAM0999
		Verify Telemetry Surv Conf RCS AEW38109 = RCS-A		AND=ZAAM0999
16.5		Enable RM A		<input type="checkbox"/>
		Execute Telecommand Ext_ACC_RM_A_Enable TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : External ACC RM A Enable - Mission Specific	DCM21170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050 = ENABLED		AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050 = ENABLED		AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMA AEE93050 = ENABLED		AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050 = ENABLED		AND=ZAA07999
16.6		Verify RM B Nominal Configuration via Status Report		<input type="checkbox"/>

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Get RM-B status Command Parameter(s) : RMStat DF86Cmd AH841001 RMStat DD86Cmd AH842001 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-B status	ACZZ5109 Enable 86 Enable 86	
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1	A86_RMStatus	
		NOTE: The following TM values assume a nominal ACMS configuration for the SAS and CRS. If the RM reports an alternate configuration, then the TC in Step 16.8 should be modified accordingly.		
		Verify Telemetry Surv Conf SAS1 AEW35109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf SAS2 AEW36109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf CRS AEW37109	= CRS-2	AND=ZAAM0999
		Verify Telemetry Surv Conf RCS AEW38109	= RCS-B	AND=ZAAM0999
16.7		Disable RM B		<input type="checkbox"/>
		Execute Telecommand Ext_ACC_RM_B_Disable TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : External ACC RM B Disable - Mission Specific	DCM25170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= ENABLED	AND=ZAA07999

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RMB_fromTTR-RMA AEE93050	= DISABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050	= DISABLED	AND=ZAA07999
16.8		Select RCS Branch A as Nominal Branch in RM B		<input type="checkbox"/>
		NOTE: The following TC assumes a nominal ACMS configuration for the SAS and CRS. If the RM reported an alternate configuration in Step 8.6, then <u>this TC should be replaced by one of the following:</u> ACYSR109 (SAS-NN CRS2 RCSA 0 RMB) ACYSS109 (SAS-NR CRS2 RCSA 0 RMB) ACYST109 (SAS-RN CRS2 RCSA 0 RMB) ACYSL109 (SAS-NN CRS1 RCSA 0 RMB) ACYSM109 (SAS-NR CRS1 RCSA 0 RMB) ACYSN109 (SAS-RN CRS1 RCSA 0 RMB) ACYSP109 (SAS-RR CRS1 RCSA 0 RMB)		
		Execute Telecommand SAS-RR CRS2 RCSA 1 RMB Command Parameter(s) : SMConf DF86 Cmd AH8S1001 SMConf DD86 Cmd AH8S2001 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,1) modify SM conf THR Level 1 - SAS RR CRS2 RCSA 1 RMB	ACYSU109 Enable 86 Enable 86	
		Verify Telemetry Surv Conf SAS AESCH001	= SAS12 R	AND=ZAA01999
		Verify Telemetry Surv Conf CRS AESCL001	= CRS-2	AND=ZAA01999
		Verify Telemetry Surv Conf RCS AESCM001	= RCS-A	AND=ZAA01999
16.9		Verify RM B Nominal Configuration via Status Report		<input type="checkbox"/>

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Get RM-B status Command Parameter(s) : RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-B status	ACZZ5109	
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1	A86_RMStatus	
		NOTE: The following TM values assume a nominal ACMS configuration for the SAS and CRS. <u>If the RM reports an alternate configuration, then check that it is coherent with the configuration commanded in Step 16.8.</u>		
		Verify Telemetry Surv Conf SAS1 AEW35109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf SAS2 AEW36109	= REDUNDANT	AND=ZAAM0999
		Verify Telemetry Surv Conf CRS AEW37109	= CRS-2	AND=ZAAM0999
		Verify Telemetry Surv Conf RCS AEW38109	= RCS-A	AND=ZAAM0999
16.10		Enable RM B		<input type="checkbox"/>
		Execute Telecommand Ext_ACC_RM_B_Enable TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : External ACC RM B Enable - Mission Specific	DCM24170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= ENABLED	AND=ZAA07999

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RMB_fromTTR-RMA AEE93050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050	= ENABLED	AND=ZAA07999
17		Verify Branch A functioning		Next Step: 18
17.1		RCS Configuration Status		<input type="checkbox"/>
		Verify Telemetry Nom Conf RCS AESCF002	<to be read>	AND=ZAA01999
		Verify Telemetry Surv Conf RCS AESCM001	= RCS-A	AND=ZAA01999
		Verify Telemetry RCSA Health Sts AESK1002	<to be read>	AND=ZAA02999
		Verify Telemetry RCSB Health Sts AESK2002	<to be read>	AND=ZAA02999
17.2		RCS Power Status		<input type="checkbox"/>
		Verify Telemetry CBH_N_L17_S WMA2H565	= ON	AND=WALC1584
		Verify Telemetry CBH_N_L17_I WMA13565	>= 0.0 A <= 0.069 A	AND=WALC1584
		Verify Telemetry CBH_R_L18_S WM12H565	= OFF	AND=WALC1584
		Verify Telemetry CBH_R_L18_I WM113565	= 0.0 A	AND=WALC1584
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_2S WM22J565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_I WM209565	<A branch consumption should be close to 0 A>	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_2S WM92J565	= ON	AND=WALC2584

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RcsThrsB_L46_I WM909565	>= 0.0 A <= 3.08 A	AND=WALC2584
		Verify Telemetry RcsLvA_L47_1S WM12E565	= ON	AND=WALC2584
		Verify Telemetry AccLvA_L47_2S WM12J565	= ON	AND=WALC2584
		Verify Telemetry AccLvA_L47_I WM110565	>= 0.0 A <= 0.83 A	AND=WALC2584
		Verify Telemetry AccLvB_L48_1S WMA2E565	= ON	AND=WALC2584
		Verify Telemetry AccLvB_L48_2S WMA2J565	= ON	AND=WALC2584
		Verify Telemetry AccLvB_L48_I WMA10565	>= 0.0 A <= 0.83 A	AND=WALC2584
17.3		Verify Reset of Accumulated Totals		<input type="checkbox"/>
		Verify Telemetry A1D1 accu ToT AETAA001	<reset to 0>	AND=ZAA04999
		Verify Telemetry A2D2 accu ToT AETAB001	<reset to 0>	AND=ZAA04999
		Verify Telemetry C1F1 accu ToT AETAC001	<reset to 0>	AND=ZAA04999
		Verify Telemetry C2F2 accu ToT AETAD001	<reset to 0>	AND=ZAA04999
		Verify Telemetry C3U1 accu ToT AETAE001	<reset to 0>	AND=ZAA04999
		Verify Telemetry C4U2 accu ToT AETAF001	<reset to 0>	AND=ZAA04999
18		Disarm Branch B Flow Control Valves		Next Step: 19
		Verify Telemetry RCS2 FCV ARMsts AETF6002	= ARM	AND=ZAA04999
18.1		Disarm FCV for RCS-B		<input type="checkbox"/>

Modify RCS Survival Configuration
 File: H_CRP_AOC_5SCF.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">RCS-B FCV Disarm</p> Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - RCS-B FCV Disarm	ACZC6109	
		Execute Telecommand <p style="text-align: right;">Fire Cmd RCS config</p> Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	
18.2		Verify status of FCV for RCS-B		<input type="checkbox"/>
		Verify Telemetry <p style="text-align: right;">RCS2 FCV ARMsts AETF6002 = DISARM</p>	= DISARM	AND=ZAA04999
19		Close Branch B Latch Valve		Next Step: 20
		Verify Telemetry <p style="text-align: right;">RCS2 LV sts AETF2002 = OPEN</p>	= OPEN	AND=ZAA04999
19.1		Close LV for RCS-B		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">RCS-B LV CLOSE</p> Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - RCS-B LV CLOSE	ACZB4109	

Modify RCS Survival Configuration
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Fire Cmd RCS config Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	
19.2		Verify status of LV for RCS-B		<input type="checkbox"/>
		Verify Telemetry RCS2 LV sts AETF2002 = CLOSED		AND=ZAA04999
20		Switch OFF RCS-B catbed heaters		Next Step: 21
		Verify Telemetry Nom Conf RCS AESCF002 = RCS-A		AND=ZAA01999
20.1		Switch OFF thruster heaters for RCS-B		<input type="checkbox"/>
		Execute Telecommand All HTR RCS-B OFF Command Parameter(s) : RCSCfg DF86 Cmd AH8R3001 Enable 86 RCSCfg DD86 Cmd AH8R4001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,1) Command RCS config - Herschel All HTR RCS-B OFF	ACZE7109	
		Execute Telecommand Fire Cmd RCS config Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Cmd RCS config	ACZ2M109	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
20.2		Check RCS catbed heater status & current		<input type="checkbox"/>
		LCL's 45 - 46 power the flow control valves of the two RCS branches.		
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_2S WM22J565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsA_L45_I WM209565	>= 0.0 A <= 3.08 A	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_2S WM92J565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_I WM909565	= 0.0 A	AND=WALC2584
20.3		Verify decreasing catbed temps for UNUSED branch		<input type="checkbox"/>
		Observe <u>decreasing values</u> of the catbed temperatures		
		Verify Telemetry A1D1 Ttmp unuse AETUA001	(decreasing)	AND=ZAA04999
		Verify Telemetry A2D2 Ttmp unuse AETUB001	(decreasing)	AND=ZAA04999
		Verify Telemetry C1F1 Ttmp unuse AETUC001	(decreasing)	AND=ZAA04999
		Verify Telemetry C2F2 Ttmp unuse AETUD001	(decreasing)	AND=ZAA04999
		Verify Telemetry C3U1 Ttmp unuse AETUE001	(decreasing)	AND=ZAA04999
		Verify Telemetry C4U2 Ttmp unuse AETUF001	(decreasing)	AND=ZAA04999
TC Seq. Name :NULL03 (Null Sequence 03)				
TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				

Modify RCS Survival Configuration File: H_CRP_AOC_5SCF.xls Author: dsalt-hp	
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
21		<i>IF</i> <i>Current ACMS mode is Survival</i>		Next Step: THEN 22 ELSE END
TC Seq. Name :HRA5SCFY (Enable_SM_TCcheck) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
22		Enable TC mode check		Next Step: END
		Execute Telecommand <div style="text-align: right; margin-left: 200px;">EnaChkMode-StateFID 161</div> Command Parameter(s) : <div style="margin-left: 40px;"> EnaChck DF86Cmd AH8F3001 Enable 86 EnaChck DD86Cmd AH8F4001 Enable 86 </div> TC Control Flags : <div style="margin-left: 150px;"> GBM IL DSE --Y -- --- </div> Subsch. ID : 20 Det. descr. : TC(8,1) - Enable Command check - EnaChkMode-StateFID 161	ACZDH109 Enable 86 Enable 86	
End of Procedure				