

Recovery from SM with return to PMA or PMB
File: H_CRP_AOC_XS2A.xls
Author: dsalt-hp



Procedure Summary

Objectives

The objective of this Herschel ACMS contingency procedure is to restore the nominal configuration of the ACC and the ACMS after a transition to Survival Mode.

The procedure involves the following activities:

- verify ACMS mode, GYRE selection & associated LCLs
- verify status of PM relays
- restore CDMU/TTC Nominal Configuration
- disable CDMU response to AIR via EAT
- GYRE switch ON & selection, as necessary
- change Nominal RCS configuration, if necessary
- open LVA or LVB, as necessary
- selection of PM for recovery, as required
 - recover to PMAnom + PMBsurv, from PMB in SM
 - recover to PMAonly, from PMA in SM
 - recover to PMAnom + PMBsurv, from PMA in SM
 - recover to PMBnom + PMAsurv, from PMB in SM
 - recover to PMBonly, from PMB in SM
 - recover to PMBnom + PMAsurv, from PMA in SM
- verify Sun acquisition, gyro health & boot report
- enable CDMU response to AIR via EAT
- synchronise ACC
- configure ACMS to resume routine operations

Summary of Constraints

It is assumed that the RM trigger was not caused by ACMS hardware and that no change in the nominal unit configuration is necessary. Cases in which the nominal ACMS configuration must be modified while the subsystem is in SM will be covered by a separate procedure.

It is also assumed that RCS-B is used in SM and so any RCS reconfiguration should be performed by other procedures

Spacecraft Configuration

Start of Procedure

Spacecraft initial configuration
- ACMS in SM

End of Procedure

Spacecraft final configuration
- ACMS in nominal SAM with nominal configuration of hardware (including RCS)

Reference File(s)

Input Command Sequences

HFADRM1
HFADRM2

Output Command Sequences

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NULLSEQ0
 HRAXS2AA
 HRAXS2AB
 HRAXS2AC
 HRAXS2AD
 HRAXS2AE
 HRAXS2AF
 HRAXS2AG
 HRAXS2AH
 NULLSEQ2

Referenced Displays

ANDs	GRDs	SLDs
ZAA01999		
ZAA02999		
WALC2584		
WALC1584		
ZAZ52999		
ZAZ53999		
ZAZA0999		
ZAZ7M999		
ZAZAI999		
ZAA06999		
ZAA07999		
ZAD12999		
ZAZ9T999		
ZAAM2999		

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
14/01/2009		1	Created	dsalt-hp	
15/01/2009		2	Step 11 added for time-tagging of RM Enable TCs to ensure S/C safety if TC link lost with both PMs switched OFF Sequences simplified (reduced number) as a consequence	dsalt-hp	
18/01/2009		3	Procedure updated to reflect comments from TAS-I: - RM Programming Set commanding moved to before PM recovery activities - for branches to recover on alternate PM, time-tagged safety TCs to enable RMs now used instead of time-tags on PM switch-OFF/ON TCs - for branches to recover on same PM, steps now completely changed to avoid PM switch-OFF/ON activities	dsalt-hp	
19/01/2009		4	Updated from TAS-I comments to: - replace GYRE steps with call to H_CRP_AOC_4RPW - include time-tagged RM Enable TCs before RM Disable step - decrease time-tags to 5 min for RM Enable TCs and delete TM - re-enable CDMU polling for both PMs - include time-tagged TC for PM Bit_0 to Survival	dsalt-hp	

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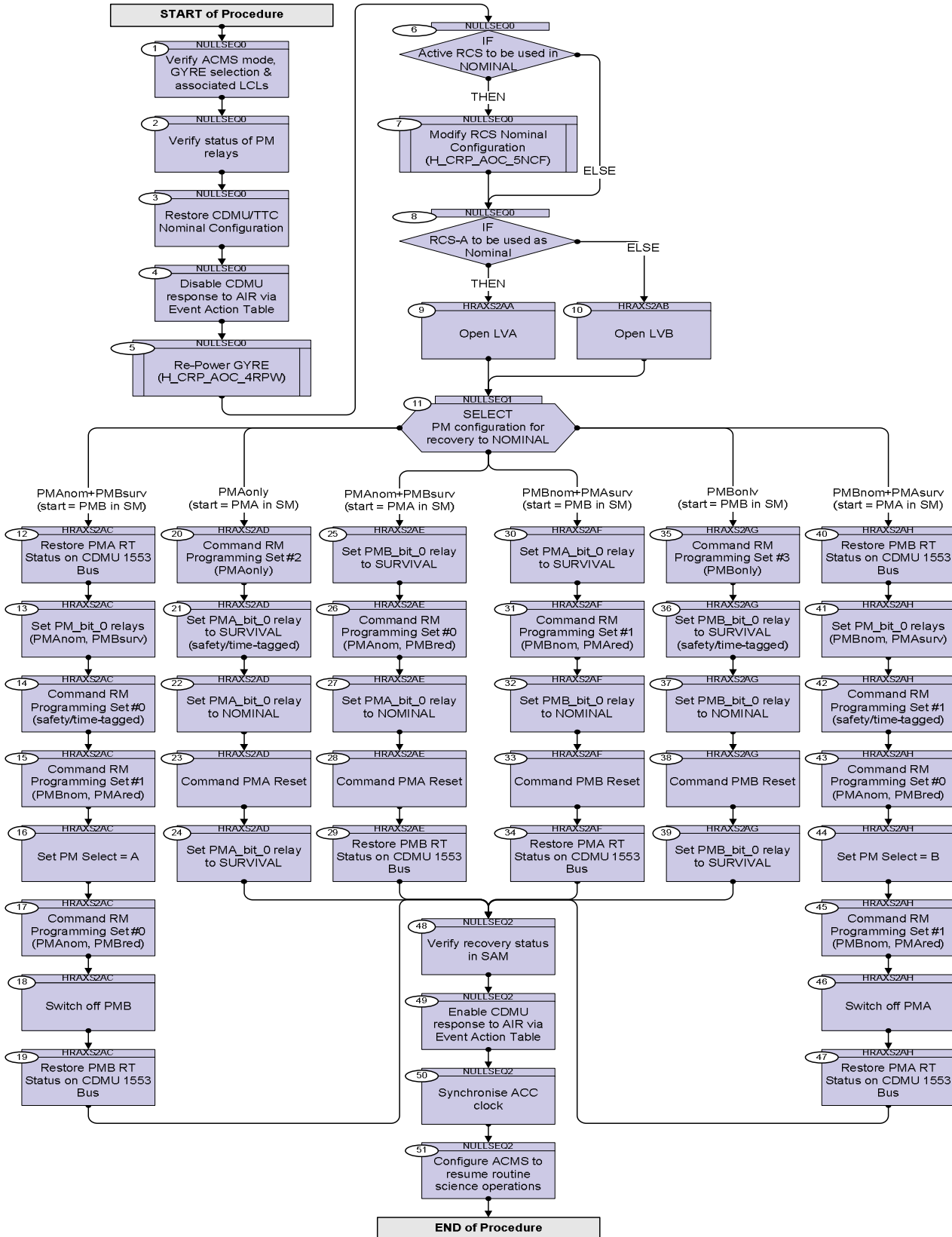


21/01/2009		5	Time-tagged TCs for CBMU polling added to Step 7 & 30, plus correction of TC & TM in Step 32.2 for RM Programming Set #1	dsalt-hp	
02/02/2009	2	6	Checked-in for FOP release (02/02/09)	dsalt-hp	
28/02/2009		7	Major revision to include: <ul style="list-style-type: none"> - option for RCS reconfiguration in NOMINAL - opening of LVB - two new branches (Step 28-33 & Step 34-39) to enable recovery on same PM and setting the other PM as SURVIVAL 	dsalt-hp	
05/03/2009	2.1	8	Correction of attached tables	dsalt-hp	
12/03/2009	2.2	9	TM verifications for Step 16-18 & Step 52-54 consolidated to last step(s) in order to reduce period when S/C has no attitude control	dsalt-hp	
30/03/2009		10	Updates to sequences for PM configuration branches that switch between PMs (Step 11-16 & Step 35-40) in order to remove risks from single-point failures (i.e. CDMU failures that could take out both the MTL and the TC link)	dsalt-hp	
18/04/2009	2.3	11	Updated to bring activities in-line with Planck: <ul style="list-style-type: none"> - PM switch-over recovery activities (Step 12-19 & 38-45) include steps to restore polling on CDMU 1553 RT - dummy activity to restore CDMU/TTC nominal config (Step 3) - dummy activity to disable CDMU response to AIR (Step 4) - dummy activity to enable CDMU response to AIR (Step 49) - activities added to synchronise ACC (Step 50), plus restore OBDB updates & resume routine operations (Step 51) 	dsalt-hp	
05/05/2009	2.4	12	Title of Step 8 reworded to remove any ambiguity	dsalt-hp	
10/07/2009		13	TCs to define RT configuration in Step 12, 19, 38, 45 corrected to ensure RTs not declared unhealthy Step 51 updated to include options for switching SW image and updating key OBDB parameters overwritten by any PM reset	dsalt-hp	
15/07/2009	2.5	14	TCs to configure ACC RTs in Step 12, 19, 38, 45 not exported in associated sequences (N.B. they are retained as examples, with actual reconfigurations being performed by CDMS SOE).	dsalt-hp	
26/07/2010		15	Details in Step 51 updated to include list of TPFs to be provided by Flight Dynamics to enable routine scienc operations.	dsalt-hp	
29/07/2010	3.1	16	Steps 29 & 34 included to declare failed ACC RT valid on CDMU 1553 bus. TCs in Step 12, 19, 40, 47 now exported within associated sequences to declare relevant ACC RT valid on CDMU 1553 bus	dsalt-hp	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= ON	AND=WALC2584
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= ON	AND=WALC2584
		Verify Telemetry RcsLvA_L47_1S WM12E565	= ON	AND=WALC2584
		Verify Telemetry AccLvB_L48_1S WMA2E565	= ON	AND=WALC2584
		Check LV status for GYR units		
		Verify Telemetry GyroA_L13_S WM92A565	= ON	AND=WALC1584
		Verify Telemetry GyroB_L14_S WM22A565	= ON	AND=WALC1584
2		Verify status of PM relays		Next Step: 3
		Verify Telemetry PM_relay_0 AEG43050	<to be read>	AND=ZAZ52999
		Verify Telemetry ACC_A_MODE AEE8G050	<to be read>	AND=ZAZ52999
		Verify Telemetry ACC_A_IMAGE AEE8H050	<to be read>	AND=ZAZ52999
		Verify Telemetry ACC_B_MODE AEE8Z050	<to be read>	AND=ZAZ52999
		Verify Telemetry ACC_B_IMAGE AEE8J050	<to be read>	AND=ZAZ52999
2.1		Uplink Sequence HFADRM1		<input type="checkbox"/>
		Execute Sequence HFADRM1 GetRmAstatusReport v02 Sequence Grouping = - This Sequence Reference is not included in the generated sequence SSID : 0		SEQ
2.1.1		Check status of PMA relays		<input type="checkbox"/>
		Verify Telemetry PMA Bit 0 sts AEW07109	<to be read>	AND=ZAZ53999
		Verify Telemetry PMA Bit 1 sts AEW0C109	<to be read>	AND=ZAZ53999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RMH_ATPTR AEWLY109	<to be read>	AND=ZAZ53999
		Verify Telemetry RMH_PAPPTR AEWLZ109	<to be read>	AND=ZAZ53999
2.2		Verify status of PMA relays		<input type="checkbox"/>
2.2.1		Uplink Sequence HFADRM2		<input type="checkbox"/>
		Execute Sequence HFADRM2 GetRmBstatusReport v02 Sequence Grouping = - This Sequence Reference is not included in the generated sequence SSID : 0		SEQ
2.2.2		Check status of PMB relays		<input type="checkbox"/>
		Verify Telemetry PMA Bit 0 sts AEW07109	<to be read>	AND=ZAZ53999
		Verify Telemetry PMA Bit 1 sts AEW0C109	<to be read>	AND=ZAZ53999
		Verify Telemetry RMH_ATPTR AEWLY109	<to be read>	AND=ZAZ53999
		Verify Telemetry RMH_PAPPTR AEWLZ109	<to be read>	AND=ZAZ53999
3		Restore CDMU/TTC Nominal Configuration		Next Step: 4
		To be discussed with CDMU and TCC SOEs: - Telemetry rate to be reconfigured from 500 bps to 5 kbps or higher (if link budget allows) - Telecommanding bitrate to be reconfigure from 125 bps to 4 kbps (if link budget allows) - CDMU mode transition from SAM to Nominal - Disable or leave disabled all subschedule IDs of the MTL (in response to the AIR signal the CDMU is expected to have disabled the MTL) - Enable MTL for subschedule ID 21 only (= ACMS contingency subschedule ID)		
3.1		Verify TLM rate		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry TME_BITRATE DEMRF160	>= 5 kbps	AND=ZAZA0999
3.2		Verify TC bitrate		<input type="checkbox"/>
		Verify Telemetry RX1 125-4K Stat RMB17442	= 4 kbps (if RX1 in use)	AND=ZAZA0999
		Verify Telemetry RX2 125-4K Stat RMB18442	= 4 kbps (if RX1 in use)	AND=ZAZA0999
		Verify Telemetry XpndRx1Use DEL56170	<to be read>	AND=ZAZ7M999
		Verify Telemetry XpndRx2Use DEL60170	<to be read>	AND=ZAZ7M999
3.3		Verify that CDMU is in nominal mode		<input type="checkbox"/>
		Verify Telemetry CurrentMode DEL34170	= Nominal	AND=ZAZAI999
3.4		Verify expected MTL status - MTL enabled for ACMS APIDs - MTL enabled for ACMS contingency SID 21 - MTL disabled for ACMS nominal SID 20		<input type="checkbox"/>
		1. Open the Onboard Queue Display on the Mission Control System (Task 'OBQD' on the 'Commanding' tab on the Application Launcher) 2. If the CDMU SOE is not available send the command below to request the MTL status 3. Filter on APID 512 in the OBQD and verify that the MTL has been cleared from all ACMS commands		
		4. Check that ACMS APIDs 512 and 514 are not listed under 'DISABLED APIDS' on the OBQD 5. Check that ACMS contingency SID 21 is <u>not</u> listed under 'DISABLED SUB-SCHEDULES' on the OBQD 6. Check that ACMS nominal SID 20 is listed under 'DISABLED SUB-SCHEDULES' on the OBQD 7. Check that the 'GLOBAL STATUS' reports ENABLED on the OBQD		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch												
		<p>***** WARNING *****</p> <p>The following TC is assumed to be sent by CDMS SOE and is included here for information only. It is therefore <u>NOT exported</u> with this sequence</p>														
		<p>Execute Telecommand</p> <p style="text-align: right;">RetStatusOfCmdSchedule</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE ReportStatusOfCmdSchedule, TC(11,18), no appl. data This Telecommand will not be included in the export</p>	DCT25170													
4		Disable CDMU response to AIR via Event Action Table		Next Step: 5												
4.1		Uplink TCs to Disable CDMU response to AIR		<input type="checkbox"/>												
		<p>***** WARNING *****</p> <p>The following TCs are assumed to be sent by CDMS SOE and are included here for information only. They are therefore <u>NOT exported</u> with this sequence</p>														
		<p>Execute Telecommand</p> <p style="text-align: right;">ReptEvtActTable</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6) This Telecommand will not be included in the export</p>	DCT86170													
		<p>Execute Telecommand</p> <p style="text-align: right;">DisableActions</p> <p>Command Parameter(s) :</p> <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td style="padding-left: 40px;">EventId</td> <td style="padding-left: 40px;">DH236170</td> <td style="padding-left: 40px;">DH146170</td> <td style="padding-left: 40px;">CDMS (Def)</td> <td style="padding-left: 40px;">37888 <dec></td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td style="padding-left: 40px;">EventId</td> <td style="padding-left: 40px;">DH236170</td> <td style="padding-left: 40px;">DH146170</td> <td style="padding-left: 40px;">CDMS (Def)</td> <td style="padding-left: 40px;">37889 <dec></td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE Disable Actions TC(19,5) This Telecommand will not be included in the export</p>	APID_for_EAT_TC	EventId	DH236170	DH146170	CDMS (Def)	37888 <dec>	APID_for_EAT_TC	EventId	DH236170	DH146170	CDMS (Def)	37889 <dec>	DCT85170	
APID_for_EAT_TC	EventId	DH236170	DH146170	CDMS (Def)	37888 <dec>											
APID_for_EAT_TC	EventId	DH236170	DH146170	CDMS (Def)	37889 <dec>											

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		Execute Telecommand <p style="text-align: right;">ReptEvtActTable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6) This Telecommand will not be included in the export	DCT86170																	
4.2		Verify update of CDMU Event Action Table 1. Open the Onboard Event and Action Display on the Mission Control System (Task 'OEAD' on the 'Commanding' tab on the Application Launcher) 2. Entries to look at in the OEAD are: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TC ID</th> <th style="text-align: left;">Description</th> <th style="text-align: left;">Event ID</th> <th style="text-align: left;">Action</th> </tr> <tr> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> <th style="text-align: left;">-----</th> </tr> </thead> <tbody> <tr> <td>DCN20170</td> <td>FdirAccAlarm</td> <td>37888</td> <td>D/D</td> </tr> <tr> <td>DCN20170</td> <td>FdirAccAlarm</td> <td>37889</td> <td>D/D</td> </tr> </tbody> </table> 3. Action status for both entries should report 'D/D' (= disabled/disabled). 1st stage indicates that the disable command has been sent, 2nd stage indicates that the disable has been confirmed in the Event Action Table report.	TC ID	Description	Event ID	Action	-----	-----	-----	-----	DCN20170	FdirAccAlarm	37888	D/D	DCN20170	FdirAccAlarm	37889	D/D		☐
TC ID	Description	Event ID	Action																	
-----	-----	-----	-----																	
DCN20170	FdirAccAlarm	37888	D/D																	
DCN20170	FdirAccAlarm	37889	D/D																	
5		Re-Power GYRE (H_CRP_AOC_4RPW) Decide which GYR Electronics is to be used in the nominal modes and then use the following procedure to switched ON and configure the selected unit Execute Procedure: H_CRP_AOC_4RPW Re-power GYRE		Next Step: 6																
6		IF Active RCS to be used in NOMINAL		Next Step: THEN 7 ELSE 8																
7		Modify RCS Nominal Configuration (H_CRP_AOC_5NCF)		Next Step: 8																

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p><i>This activity assumes one of the RCS branches has been diagnosed as UNHEALTHY and so cannot be used in the nominal modes.</i></p> <p>Use the appropriate steps an TC sequence of following procedure to ensure the healthy RCS branch is used in NOMINAL</p>		
		<p>Execute Procedure: H_CRP_AOC_5NCF Modify RCS Nominal Configuration</p>		
8		<p>IF RCS-A to be used as Nominal</p>		<p>Next Step: THEN 9 ELSE 10</p>
<p>TC Seq. Name : HRAXS2AA (OpenLVA)</p> <p>TimeTag Type: Sub Schedule ID: <input type="checkbox"/></p>				
9		<p>Open LVA</p>		<p>Next Step: 11</p>
		<p>Execute Telecommand</p> <p style="text-align: right;">RCS-A LV OPEN</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">RCSCfg DF86 Cmd AH8R3001 Enable 86</p> <p style="padding-left: 40px;">RCSCfg DD86 Cmd AH8R4001 Enable 86</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) Command RCS config - RCS-A LV OPEN</p>	<p>ACZB1109</p>	
		<p>Execute Telecommand</p> <p style="text-align: right;">Fire Cmd RCS config</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">FireFun DF86Cmd AH8F1001 Enable 86</p> <p style="padding-left: 40px;">FireFun DD86Cmd AH8F2001 Enable 86</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(8,4) Fire Command - Fire Cmd RCS config</p>	<p>ACZ2M109</p>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Wait 30 seconds to allow the status of LVA to be reflected in telemetry		
		Verify Telemetry RCS-A LV open AMTL1109	= TRUE	AND=ZAA06999
		Verify Telemetry RCS-A LV closed AMTL2109	= FALSE	AND=ZAA06999
<p>TC Seq. Name : HRAXS2AB (OpenLVB)</p> <p>TimeTag Type: N</p> <p>Sub Schedule ID:</p> <p>□</p>				
10		Open LVB		Next Step: 11
		Execute Telecommand RCS-B LV OPEN ACZB3109		
		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-B LV OPEN		
		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		
		Wait 30 seconds to allow the status of LVB to be reflected in telemetry		
		Verify Telemetry RCS-B LV open AMTL3109	= TRUE	AND=ZAA07999
		Verify Telemetry RCS-B LV closed AMTL4109	= FALSE	AND=ZAA07999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<p><i>TC Seq. Name : NULLSEQ1 (Null Sequence 1)</i></p> <p><i>TimeTag Type:</i> <i>Sub Schedule ID:</i></p> <p style="text-align: center;">□</p>				
11		<p><i>SELECT</i> <i>PM configuration for recovery to NOMINAL</i></p>		<p><i>Next Step:</i> <i>PMBnom+PMAsurv</i> <i>(start = PMB in SM) 30</i> <i>PMAonly</i> <i>(start = PMA in SM) 20</i> <i>PMBonly</i> <i>(start = PMB in SM) 35</i> <i>PMAnom+PMBsurv</i> <i>(start = PMB in SM) 12</i> <i>PMAnom+PMBsurv</i> <i>(start = PMA in SM) 25</i> <i>PMBnom+PMAsurv</i> <i>(start = PMA in SM) 40</i></p>
		<p><i>This selection depends upon the current PM in use (as read in Step 2) and the one to be used to return to nominal mode (as determined by the investigation into the anomaly that caused the transition to SM)</i></p> <p><i>PMB in SM, PMA in NOM & PMB in SURV -> GO TO STEP 11</i> <i>PMA in SM, PMA in NOM & SURV -> GO TO STEP 21</i> <i>PMA in SM, PMA in NOM & PMB in SURV -> GO TO STEP 28</i></p> <p><i>PMB in SM, PMB in NOM & PMA in SURV -> GO TO STEP 34</i> <i>PMB in SM, PMB in NOM & SURV -> GO TO STEP 40</i> <i>PMA in SM, PMB in NOM & PMA in SURV -> GO TO STEP 47</i></p>		
		<p>***** WARNING *****</p> <p>The selected branch/sequence must be completed before the time-tagged TCs are executed</p>		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand ConfigureSDBFDIR Command Parameter(s) : RTA DH011161 M0 DH030161 M1 DH031161 M2 DH032161 M3 DH033161 M4 DH034161 M5 DH035161 M6 DH036161 M7 DH037161 F0 DH018161 F1 DH019161	DC005161 ACC A Update status Update status Update status Update status Update status Ignore Flag Ignore Flag Ignore Flag ON Alive	
		F2 DH020161 F3 DH021161 F4 DH022161 F5 DH023161 F6 DH024161 F7 DH025161 M12 DH051161 M_C DH043161 M8 DH038161 M9 DH039161 M10 DH040161 M11 DH041161 F12 DH050161 CNT DH042161 F8 DH026161	Well TC Well TM Valid Non-vital REDUNDANT OFF Ignore Flag Ignore CNT Ignore Flag Ignore Flag Ignore Flag Ignore Flag DISABLED LoopCnt1 Bus A	
		F9 DH027161 F10 DH028161 F11 DH029161 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : Configure SDB FDIR	Unhealthy Unhealthy ENABLED	
12.3		Verify update of PM RT status on CDMU 1553 bus		□
		Verify Telemetry ACCA_On_Off DEF6G160	= ON	AND=ZAD12999
		Verify Telemetry ACCA_Dead_Alive DEF6H160	= Alive	AND=ZAD12999
		Verify Telemetry ACCAWell_SickTC DEF6Z160	= Well	AND=ZAD12999
		Verify Telemetry ACCAWell_SickTM DEF6J160	= Well	AND=ZAD12999
		Verify Telemetry ACCAValid_Inval DEF6K160	= Valid	AND=ZAD12999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
13		Set PM_bit_0 relays (PMAnom, PMBsurv)		Next Step: 14
		<p>***** ALERT *****</p> <p>When loading this sequence on the Manual Stack, the operator will be asked to define the execution time for the "safety" TCs in Step 14.</p> <p>This time should be <u>10 minutes in the future</u> in order to give the operator sufficient margin to execute all the TCs in this sequence.</p>		
13.1		Set PMA_bit_0 relay to NOMINAL		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: center;">ACC_A_Nom_ACC_PMA_Bit_0</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : Set ACC A Nominal Mode = Reset ACC PM A Bit 0 - High Level	DCH13170	
		Verify Telemetry <p style="text-align: center;">ACC_A_MODE AEE8G050</p>	= Nominal	AND=ZAZ52999
13.2		Set PMB_bit_0 relay to SURVIVAL		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: center;">ACC_B_Srv_ACC_PMB_Bit_0</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : Set ACC B Survival Mode = Set ACC PM B Bit 0 - High Level	DCH16170	
		Verify Telemetry <p style="text-align: center;">ACC_B_MODE AEE8Z050</p>	= Survival	AND=ZAZ52999
14		Command RM Programming Set #0 (safety/time-tagged)		Next Step: 15

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>This step selects the RM Programming Set corresponding to the PM configuration: PM A nominal, PM B redundant.</p> <p>A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are:</p> <p>Table 11-7 Programmable Alarm Pattern Table Table 11-9 Attempt Table</p>		
		<p>***** ALERT *****</p> <p><u>CHECK with the CDMU SOE that the MTL is fully functional and able to support these time-tagged TCs</u></p>		
		<p>Note the number of TCs currently on the MTL</p>		
		<p>Verify Telemetry</p> <p style="text-align: center;">Mtl1sts DEH26170</p>	= Running	AND=ZAZ9T999
		<p>Verify Telemetry</p> <p style="text-align: center;">MtlTcCnt DE82F170</p>	n cmds	AND=ZAZ9T999
14.1		Select RM A Programming Set #0		<input type="checkbox"/>
		<p>The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.</p>		
		<p><u>NOTE: These 4 TCs are uplinked to the MTL as a safety precaution to ensure a Level 4 can trigger and so a transition to SM is possible</u></p>		
	ET=+00.00.00 UT=+	<p>Execute Telecommand</p> <p style="text-align: center;">Ext_ACC_RM_A_Disable</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <p>Subsch. ID : 10 Det. descr. : External ACC RM A Disable - Mission Specific</p>	DCM22170	

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand <p style="text-align: center;">Change RMA prog set</p> <i>Command Parameter(s) :</i> ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 1068 <hex> ProgSet AttpAdd AHFP6001 1048 <hex>	ACZGV109	
		<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) - Change RMA prog set		
	ET=+00.00.02 UT=+	Execute Telecommand <p style="text-align: center;">Fire Change RM ProgSet</p> <i>Command Parameter(s) :</i> FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86	ACZ9M109	
		<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 Change RM ProgSet		
	ET=+00.00.02 UT=+	Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_A_Enable</p> <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <i>Subsch. ID : 10</i> Det. descr. : External ACC RM A Enable - Mission Specific	DCM21170	
14.2		Set RM B Programming Set #0		□
		The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.		
		NOTE: These 4 TCs are uplinked to the MTL as a <u>safety precaution to ensure a Level 4 can trigger and so a transition to SM is possible</u>		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.02 UT=+	Execute Telecommand Ext_ACC_RM_B_Disable TC Control Flags : Subsch. ID : 10 Det. descr. : External ACC RM B Disable - Mission Specific GBM IL DSE --Y -- ---	DCM25170	
	ET=+00.00.05 UT=+	Execute Telecommand Change RMB prog set Command Parameter(s) : ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 1068 <hex> ProgSet AttpAdd AHFP6001 1048 <hex> TC Control Flags : Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMB prog set GBM IL DSE --Y -- ---	ACZGW109	
	ET=+00.00.02 UT=+	Execute Telecommand Fire Change RM ProgSet Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Change RM ProgSet GBM IL DSE --Y -- ---	ACZ9M109	
	ET=+00.00.02 UT=+	Execute Telecommand Ext_ACC_RM_B_Enable TC Control Flags : Subsch. ID : 10 Det. descr. : External ACC RM B Enable - Mission Specific GBM IL DSE --Y -- ---	DCM24170	
14.3		WAIT for Time-Tagged Queue confirmation		<input type="checkbox"/>
		WAIT for confirmation that these TCs have been successfully placed on the Mission Time-Line		
		Request confirmation form CDMU engineer		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>IF: confirmation is not possible</p> <p>THEN: abort this procedure</p> <p>ELSE: proceed to next step</p>		
		<p><i>Check the number of TCs currently on the MTL has increased as expected</i></p> <p><i>(N.B. As other time-tagged TCs may have just been executed, this may not be obvious)</i></p>		
		<p>Verify Telemetry</p> <p style="text-align: center;">MtlSts DEH26170</p>	= Running	AND=ZAZ9T999
		<p>Verify Telemetry</p> <p style="text-align: center;">MtlTcCnt DE82F170</p>	n+8 cmds	AND=ZAZ9T999
15		<p>Command RM Programming Set #1 (PMBnom, PMared)</p>		Next Step: 16
		<p><i>This step selects the RM Programming Set corresponding to the PM configuration: PM B nominal, PM A redundant.</i></p> <p><i>A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are:</i></p> <p style="margin-left: 40px;"><i>Table 11-10 Programmable Alarm Pattern Table</i> <i>Table 11-12 Attempt Table</i></p>		
15.1		<p>Select RM A Programming Set #1</p>		□
		<p><i>The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.</i></p>		
		<p>Execute Telecommand</p> <p style="text-align: center;">Ext_ACC_RM_A_Disable</p> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- --</p> <p>Subsch. ID : 10 Det. descr. : External ACC RM A Disable - Mission Specific</p>	DCM22170	

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: center;">Change RMA prog set</p> Command Parameter(s) : ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 10B0 <hex> ProgSet AttpAdd AHFP6001 1090 <hex> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMA prog set	ACZGV109	
		Execute Telecommand <p style="text-align: center;">Fire Change RM ProgSet</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 Change RM ProgSet	ACZ9M109	
		Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_A_Enable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 10 Det. descr. : External ACC RM A Enable - Mission Specific	DCM21170	
15.2		Verify Update via RM A Status Report		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: center;">Get RM-A status</p> Command Parameter(s) : RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-A status	ACZZ4109	

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Fire Change RM ProgSet 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 Change RM ProgSet	ACZ9M109	
		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	
15.4		Verify Update via RM B Status Report		<input type="checkbox"/>
		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	
		Verify Telemetry RMH_PAPPTR AEW1Z109	= PMB=N__PMA=R	AND=ZAAM2999
		Verify Telemetry RMH_ATPTR AEW1Y109	= PMB=N__PMA=R	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT0 AEW2G109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT1 AEW2H109	= 0 <dec>	AND=ZAAM2999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RMH_ATCNT2 AEW2J109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT3 AEW2K109	= 0 <dec>	AND=ZAAM2999
16		Set PM Select = A		Next Step: 17
		Execute Telecommand Select_ACC_PM_A TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Select ACC PM A - High Level	DCH61170	
17		Command RM Programming Set #0 (PMAnom, PMBred)		Next Step: 18
		<i>This step selects the RM Programming Set corresponding to the PM configuration: PM A nominal, PM B redundant.</i> <i>A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are:</i> Table 11-7 Programmable Alarm Pattern Table Table 11-9 Attempt Table		
17.1		Select RM A Programming Set #0		□
		<i>The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.</i>		
		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	

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: center;">Change RMA prog set</p> Command Parameter(s) : ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 1068 <hex> ProgSet AttpAdd AHFP6001 1048 <hex>	ACZGV109	
		TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMA prog set		
		Execute Telecommand <p style="text-align: center;">Fire Change RM ProgSet</p> Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86	ACZ9M109	
		TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Change RM ProgSet		
		Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_A_Enable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : External ACC RM A Enable - Mission Specific	DCM21170	
17.2		Verify Update via RM A Status Report		□
		Execute Telecommand <p style="text-align: center;">Get RM-A status</p> Command Parameter(s) : RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86	ACZZ4109	
		TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-A status		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																													
19.2		Uplink command, to restore nominal PM RT status on CDMU 1553 bus		<input type="checkbox"/>																																													
		<p>***** WARNING *****</p> <p>As the following TC modifies the ACC RT validity flag on the CDMU 1553 bus, the CDMS SOE <u>must</u> be informed that it is about to be uplinked prior to its release.</p>																																															
		Execute Telecommand <p style="text-align: center;">ConfiguresDBFDIR</p> Command Parameter(s) : <table style="margin-left: 40px;"> <tr><td>RTA</td><td>DH011161</td><td>ACC B</td></tr> <tr><td>M0</td><td>DH030161</td><td>Update status</td></tr> <tr><td>M1</td><td>DH031161</td><td>Update status</td></tr> <tr><td>M2</td><td>DH032161</td><td>Update status</td></tr> <tr><td>M3</td><td>DH033161</td><td>Update status</td></tr> <tr><td>M4</td><td>DH034161</td><td>Update status</td></tr> <tr><td>M5</td><td>DH035161</td><td>Ignore Flag</td></tr> <tr><td>M6</td><td>DH036161</td><td>Ignore Flag</td></tr> <tr><td>M7</td><td>DH037161</td><td>Ignore Flag</td></tr> <tr><td>F0</td><td>DH018161</td><td>ON</td></tr> <tr><td>F1</td><td>DH019161</td><td>Alive</td></tr> </table>	RTA	DH011161	ACC B	M0	DH030161	Update status	M1	DH031161	Update status	M2	DH032161	Update status	M3	DH033161	Update status	M4	DH034161	Update status	M5	DH035161	Ignore Flag	M6	DH036161	Ignore Flag	M7	DH037161	Ignore Flag	F0	DH018161	ON	F1	DH019161	Alive	DC005161													
RTA	DH011161	ACC B																																															
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M5	DH035161	Ignore Flag																																															
M6	DH036161	Ignore Flag																																															
M7	DH037161	Ignore Flag																																															
F0	DH018161	ON																																															
F1	DH019161	Alive																																															
		<table style="margin-left: 40px;"> <tr><td>F2</td><td>DH020161</td><td>Well TC</td></tr> <tr><td>F3</td><td>DH021161</td><td>Well TM</td></tr> <tr><td>F4</td><td>DH022161</td><td>Valid</td></tr> <tr><td>F5</td><td>DH023161</td><td>Non-vital</td></tr> <tr><td>F6</td><td>DH024161</td><td>REDUNDANT</td></tr> <tr><td>F7</td><td>DH025161</td><td>OFF</td></tr> <tr><td>M12</td><td>DH051161</td><td>Ignore Flag</td></tr> <tr><td>M_C</td><td>DH043161</td><td>Ignore CNT</td></tr> <tr><td>M8</td><td>DH038161</td><td>Ignore Flag</td></tr> <tr><td>M9</td><td>DH039161</td><td>Ignore Flag</td></tr> <tr><td>M10</td><td>DH040161</td><td>Ignore Flag</td></tr> <tr><td>M11</td><td>DH041161</td><td>Ignore Flag</td></tr> <tr><td>F12</td><td>DH050161</td><td>DISABLED</td></tr> <tr><td>CNT</td><td>DH042161</td><td>LoopCnt1</td></tr> <tr><td>F8</td><td>DH026161</td><td>Bus A</td></tr> </table>	F2	DH020161	Well TC	F3	DH021161	Well TM	F4	DH022161	Valid	F5	DH023161	Non-vital	F6	DH024161	REDUNDANT	F7	DH025161	OFF	M12	DH051161	Ignore Flag	M_C	DH043161	Ignore CNT	M8	DH038161	Ignore Flag	M9	DH039161	Ignore Flag	M10	DH040161	Ignore Flag	M11	DH041161	Ignore Flag	F12	DH050161	DISABLED	CNT	DH042161	LoopCnt1	F8	DH026161	Bus A		
F2	DH020161	Well TC																																															
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M_C	DH043161	Ignore CNT																																															
M8	DH038161	Ignore Flag																																															
M9	DH039161	Ignore Flag																																															
M10	DH040161	Ignore Flag																																															
M11	DH041161	Ignore Flag																																															
F12	DH050161	DISABLED																																															
CNT	DH042161	LoopCnt1																																															
F8	DH026161	Bus A																																															
		<table style="margin-left: 40px;"> <tr><td>F9</td><td>DH027161</td><td>Unhealthy</td></tr> <tr><td>F10</td><td>DH028161</td><td>Unhealthy</td></tr> <tr><td>F11</td><td>DH029161</td><td>ENABLED</td></tr> </table> <p>TC Control Flags :</p> <p style="margin-left: 40px;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : Configure SDB FDIR</p>	F9	DH027161	Unhealthy	F10	DH028161	Unhealthy	F11	DH029161	ENABLED																																						
F9	DH027161	Unhealthy																																															
F10	DH028161	Unhealthy																																															
F11	DH029161	ENABLED																																															
19.3		Verify update of PM RT status on CDMU 1553 bus		<input type="checkbox"/>																																													
		Verify Telemetry <table style="margin-left: 40px;"> <tr><td>ACCB_On_Off</td><td>DEF71160</td><td>= ON</td></tr> </table>	ACCB_On_Off	DEF71160	= ON		AND=ZAD12999																																										
ACCB_On_Off	DEF71160	= ON																																															

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry ACCB_Dead_Alive DEF72160	= Alive	AND=ZAD12999
		Verify Telemetry ACCBWell_SickTC DEF73160	= Well	AND=ZAD12999
		Verify Telemetry ACCBWell_SickTM DEF74160	= Well	AND=ZAD12999
		Verify Telemetry ACCBValid_Inval DEF75160	= Valid	AND=ZAD12999
<p>TC Seq. Name : HRAXS2AD (PMAstartPMAnom_surv)</p> <p>TimeTag Type: Y Sub Schedule ID: <input type="checkbox"/></p>				
20		Command RM Programming Set #2 (PMAonly)		Next Step: 21
		<p>***** ALERT *****</p> <p>When loading this sequence on the Manual Stack, the operator will be asked to define the execution time for the "safety" TCs in Step 21.</p> <p>This time should be <u>10 minutes in the future</u> in order to give the operator sufficient margin to execute all the TCs in this sequence.</p>		
		<p>This step selects the RM Programming Set corresponding to the PM configuration: PM A nominal, PM B defect.</p> <p>A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are:</p> <p>Table 11-13 Programmable Alarm Pattern Table Table 11-15 Attempt Table</p>		
20.1		RM A update		<input type="checkbox"/>
20.1.1		Disable RM A		<input type="checkbox"/>

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Fire Change RM ProgSet 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 Change RM ProgSet	ACZ9M109	
20.2.3		Enable RM B		<input type="checkbox"/>
		Enabling of the RM's is carried out by calling a low level utility procedure.		
		Execute Telecommand Ext_ACC_RM_B_Enable TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : External ACC RM B Enable - High Priority Standard	DCA24170	
		Verify Telemetry RMB_fromTTR-RMA AEE93050 = ENABLED		AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050 = ENABLED		AND=ZAA07999
20.2.4		Verify Update via RM B Status Report		<input type="checkbox"/>
		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	

Recovery from SM with return to PMA or PMB
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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	
		Verify Telemetry RMH_PAPPTR AEW1Z109	= PMA_only	AND=ZAAM2999
		Verify Telemetry RMH_ATPTR AEW1Y109	= PMA_only	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT0 AEW2G109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT1 AEW2H109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT2 AEW2J109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT3 AEW2K109	= 0 <dec>	AND=ZAAM2999
21		Set PMA_bit_0 relay to SURVIVAL (safety/time-tagged)		Next Step: 22
		***** ALERT ***** <u>CHECK with the CDMU SOE that the MTL is fully functional and able to support these time-tagged TCs</u>		
		<i>Note the number of TCs currently on the MTL</i>		
		Verify Telemetry Mtl1Sts DEH26170	= Running	AND=ZAZ9T999
		Verify Telemetry MtlTcCnt DE82F170	n cmds	AND=ZAZ9T999
		NOTE: This TC is uplinked to the MTL as a <u>safety precaution against loss of the TC link followed by an anomaly causing another reconfiguration</u>		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.00 UT=+	Execute Telecommand ACC_A_Srv_ACC_PMA_Bit_0 TC Control Flags : Subsch. ID : 10 Det. descr. : Set ACC A Survival Mode = Set ACC PM A Bit 0 - High Level GBM IL DSE --Y -- ---	DCH14170	
21.1		WAIT for Time-Tagged Queue confirmation		<input type="checkbox"/>
		WAIT for confirmation that this TC has been sucessfully placed on the Mission Time-Line		
		Request confirmation form CDMU engineer		
		IF: confirmation is not possible THEN: abort this procedure ELSE: proceed to next step		
		Check the number of TCs currently on the MTL has increased as expected (N.B. As other time-tagged TCs may have just been executed, this may not be obvious)		
		Verify Telemetry MtlSts DEH26170	= Running	AND=ZAZ9T999
		Verify Telemetry MtlTcCnt DE82F170	n+1 cmds	AND=ZAZ9T999
22		Set PMA_bit_0 relay to NOMINAL		Next Step: 23
		Execute Telecommand ACC_A_Nom_ACC_PMA_Bit_0 TC Control Flags : Subsch. ID : 10 Det. descr. : Set ACC A Nominal Mode = Reset ACC PM A Bit 0 - High Level GBM IL DSE --Y -- ---	DCH13170	
		Verify Telemetry ACC_A_MODE AEE8G050	= Nominal	AND=ZAZ52999
23		Command PMA Reset		Next Step: 24

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand PM A Reset TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific	ACY42109	
24		Set PMA_bit_0 relay to SURVIVAL		Next Step: 48
		Execute Telecommand ACC_A_Srv_ACC_PMA_Bit_0 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : Set ACC A Survival Mode = Set ACC PM A Bit 0 - High Level	DCH14170	
		Verify Telemetry ACC_A_MODE AEE8G050	= Survival	AND=ZAZ52999
		***** ALERT ***** Inform CDMU SOE that the "PM Bit_0 to Survival" time-tagged TCs (uplinked in Step 21) should now be deleted from the MTL.		
TC Seq. Name : HRAXS2AE (PMAstartPMAnomPMBsurv) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
25		Set PMB_bit_0 relay to SURVIVAL		Next Step: 26
		Execute Telecommand ACC_B_Srv_ACC_PMB_Bit_0 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : Set ACC B Survival Mode = Set ACC PM B Bit 0 - High Level	DCH16170	
		Verify Telemetry ACC_B_MODE AEE8Z050	= Survival	AND=ZAZ52999

Recovery from SM with return to PMA or PMB
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 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
26		Command RM Programming Set #0 (PMAnom, PMBred)		Next Step: 27
		<p>This step selects the RM Programming Set corresponding to the PM configuration: PM A nominal, PM B redundant.</p> <p>A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are:</p> <p>Table 11-7 Programmable Alarm Pattern Table Table 11-9 Attempt Table</p>		
26.1		RM A update		<input type="checkbox"/>
26.1.1		Disable RM A		<input type="checkbox"/>
		Disabling of the RM's is carried out by calling a low level utility procedure.		
		Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_A_Disable</p> TC Control Flags : <p style="text-align: center;">GBM IL DSE --Y -- --</p> Subsch. ID : 10 Det. descr. : External ACC RM A Disable - High Priority Standard	DCA22170	
		Verify Telemetry <p style="text-align: center;">RMA_fromTTR-RMA AEE91050</p> <p style="text-align: right;">= DISABLED</p>		AND=ZAA07999
		Verify Telemetry <p style="text-align: center;">RMA_fromTTR-RMB AEE92050</p> <p style="text-align: right;">= DISABLED</p>		AND=ZAA07999
26.1.2		Select RM A Programming Set #0		<input type="checkbox"/>
		The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Get RM-A status Command Parameter(s) : RMStat DF86Cmd AH841001 RMStat DD86Cmd AH842001 TC Control Flags : Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-A status GBM IL DSE --Y -- ---	ACZZ4109 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	
		Verify Telemetry RMH_PAPPTR AEW1Z109	= PMA=N__PMB=R	AND=ZAAM2999
		Verify Telemetry RMH_ATPTR AEW1Y109	= PMA=N__PMB=R	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT0 AEW2G109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT1 AEW2H109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT2 AEW2J109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT3 AEW2K109	= 0 <dec>	AND=ZAAM2999
26.2		RM B update		<input type="checkbox"/>
26.2.1		Disable RM B		<input type="checkbox"/>
		Disabling of the RM's is carried out by calling a low level utility procedure.		
		Execute Telecommand Ext_ACC_RM_B_Disable TC Control Flags : Subsch. ID : 10 Det. descr. : External ACC RM B Disable - High Priority Standard GBM IL DSE --Y -- ---	DCA25170	

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <div style="text-align: right;">Ext_ACC_RM_B_Enable</div> TC Control Flags : Subsch. ID : 10 Det. descr. : External ACC RM B Enable - High Priority Standard <div style="text-align: right;">GBM IL DSE --Y -- --</div>	DCA24170	
		Verify Telemetry <div style="text-align: right;">RMB_fromTTR-RMA AEE93050</div>	= ENABLED	AND=ZAA07999
		Verify Telemetry <div style="text-align: right;">RMB_fromTTR-RMB AEE94050</div>	= ENABLED	AND=ZAA07999
26.2.4		Verify Update via RM B Status Report		<input type="checkbox"/>
		Execute Telecommand <div style="text-align: right;">Get RM-B status</div> Command Parameter(s) : <div style="text-align: right;">RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86</div> TC Control Flags : Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-B status <div style="text-align: right;">GBM IL DSE --Y -- --</div>	ACZZ5109	
		Verify Packet Reception <div style="text-align: center;">TM 8-6 for RM Status parametrized</div> Packet Details: <div style="text-align: right;">APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1</div>	A86_RMStatus	
		Verify Telemetry <div style="text-align: right;">RMH_PAPPTR AEWLZ109</div>	= PMA=N__PMB=R	AND=ZAAM2999
		Verify Telemetry <div style="text-align: right;">RMH_ATPTR AEWLY109</div>	= PMA=N__PMB=R	AND=ZAAM2999
		Verify Telemetry <div style="text-align: right;">RMH_ATCNT0 AEW2G109</div>	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry <div style="text-align: right;">RMH_ATCNT1 AEW2H109</div>	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry <div style="text-align: right;">RMH_ATCNT2 AEW2J109</div>	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry <div style="text-align: right;">RMH_ATCNT3 AEW2K109</div>	= 0 <dec>	AND=ZAAM2999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
27		Set PMA_bit_0 relay to NOMINAL		Next Step: 28
		Execute Telecommand ACC_A_Nom_ACC_PMA_Bit_0 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Set ACC A Nominal Mode = Reset ACC PM A Bit 0 - High Level	DCH13170	
		Verify Telemetry ACC_A_MODE AEE8G050	= Nominal	AND=ZAZ52999
28		Command PMA Reset		Next Step: 29
		Execute Telecommand PM A Reset TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(2,3) - PM A Reset - Mission Specific	ACY42109	
29		Restore PMB RT Status on CDMU 1553 Bus		Next Step: 48
		***** ALERT ***** Cross check with CDMS SOE to confirm the RT status of the PM that is currently switched OFF, in order to ensure communications will be fully restored should it be switched ON by some future event.		
29.1		Acknowledge PM RT status on CDMU 1553 bus		☐
		Verify Telemetry ACCB_On_Off DEF71160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCB_Dead_Alive DEF72160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCBWell_SickTC DEF73160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCBWell_SickTM DEF74160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCBValid_Inval DEF75160	<to be read>	AND=ZAD12999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																													
29.2		Uplink command, to restore nominal PM RT status on CDMU 1553 bus		<input type="checkbox"/>																																													
		<p>***** WARNING *****</p> <p>As the following TC modifies the ACC RT validity flag on the CDMU 1553 bus, the CDMS SOE <u>must</u> be informed that it is about to be uplinked prior to its release.</p>																																															
		Execute Telecommand <p style="text-align: center;">ConfigureSDBFDIR</p> Command Parameter(s) : <table style="width: 100%; border: none;"> <tr><td style="width: 30%;">RTA</td><td style="width: 30%;">DH011161</td><td style="width: 40%;">ACC B</td></tr> <tr><td>M0</td><td>DH030161</td><td>Update status</td></tr> <tr><td>M1</td><td>DH031161</td><td>Update status</td></tr> <tr><td>M2</td><td>DH032161</td><td>Update status</td></tr> <tr><td>M3</td><td>DH033161</td><td>Update status</td></tr> <tr><td>M4</td><td>DH034161</td><td>Update status</td></tr> <tr><td>M5</td><td>DH035161</td><td>Ignore Flag</td></tr> <tr><td>M6</td><td>DH036161</td><td>Ignore Flag</td></tr> <tr><td>M7</td><td>DH037161</td><td>Ignore Flag</td></tr> <tr><td>F0</td><td>DH018161</td><td>ON</td></tr> <tr><td>F1</td><td>DH019161</td><td>Alive</td></tr> </table>	RTA	DH011161	ACC B	M0	DH030161	Update status	M1	DH031161	Update status	M2	DH032161	Update status	M3	DH033161	Update status	M4	DH034161	Update status	M5	DH035161	Ignore Flag	M6	DH036161	Ignore Flag	M7	DH037161	Ignore Flag	F0	DH018161	ON	F1	DH019161	Alive	DC005161													
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F9	DH027161	Unhealthy																																															
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29.3		Verify update of PM RT status on CDMU 1553 bus		<input type="checkbox"/>																																													
		Verify Telemetry <table style="width: 100%; border: none;"> <tr><td style="width: 30%;">ACCB_On_Off</td><td style="width: 30%;">DEF71160</td><td style="width: 40%;">= ON</td></tr> </table>	ACCB_On_Off	DEF71160	= ON	= ON	AND=ZAD12999																																										
ACCB_On_Off	DEF71160	= ON																																															

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry ACCB_Dead_Alive DEF72160	= Alive	AND=ZAD12999
		Verify Telemetry ACCBWell_SickTC DEF73160	= Well	AND=ZAD12999
		Verify Telemetry ACCBWell_SickTM DEF74160	= Well	AND=ZAD12999
		Verify Telemetry ACCBValid_Inval DEF75160	= Valid	AND=ZAD12999
<p>TC Seq. Name : HRAXS2AF (PMBstartPMBnomPMA surv)</p> <p>TimeTag Type: N Sub Schedule ID: <input type="checkbox"/></p>				
30		Set PMA_bit_0 relay to SURVIVAL		Next Step: 31
		Execute Telecommand ACC_A_Srv_ACC_PMA_Bit_0 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : Set ACC A Survival Mode = Set ACC PM A Bit 0 - High Level	DCH14170	
		Verify Telemetry ACC_A_MODE AEE8G050	= Survival	AND=ZAZ52999
31		Command RM Programming Set #1 (PMBnom, PMared)		Next Step: 32
		This step selects the RM Programming Set corresponding to the PM configuration: PM B nominal, PM A redundant. A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are: Table 11-10 Programmable Alarm Pattern Table Table 11-12 Attempt Table		
31.1		RM A update		<input type="checkbox"/>

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
31.1.1		Disable RM A		<input type="checkbox"/>
		Disabling of the RM's is carried out by calling a low level utility procedure.		
		Execute Telecommand Ext_ACC_RM_A_Disable TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : External ACC RM A Disable - High Priority Standard	DCA22170	
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= DISABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= DISABLED	AND=ZAA07999
31.1.2		Select RM A Programming Set #1		<input type="checkbox"/>
		The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.		
		Execute Telecommand Change RMA prog set Command Parameter(s) : ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 10B0 <hex> ProgSet AttpAdd AHFP6001 1090 <hex> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMA prog set	ACZGV109	

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.		
		Execute Telecommand <p style="text-align: center;">Change RMB prog set</p> Command Parameter(s) : ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 10B0 <hex> ProgSet AttpAdd AHFP6001 1090 <hex> TC Control Flags : <p style="text-align: center;"> GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMB prog set	ACZGW109	
		Execute Telecommand <p style="text-align: center;">Fire Change RM ProgSet</p> Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : <p style="text-align: center;"> GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Change RM ProgSet	ACZ9M109	
31.2.3		Enable RM B		□
		Enabling of the RM's is carried out by calling a low level utility procedure.		
		Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_B_Enable</p> TC Control Flags : <p style="text-align: center;"> GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : External ACC RM B Enable - High Priority Standard	DCA24170	
		Verify Telemetry <p style="text-align: center;"> RMB_fromTTR-RMA AEE93050 = ENABLED</p>		AND=ZAA07999
		Verify Telemetry <p style="text-align: center;"> RMB_fromTTR-RMB AEE94050 = ENABLED</p>		AND=ZAA07999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
31.2.4		Verify Update via RM B Status Report		<input type="checkbox"/>
		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	
		Verify Telemetry RMH_PAPPTR AEW1Z109	= PMB=N_PMA=R	AND=ZAAM2999
		Verify Telemetry RMH_ATPTR AEW1Y109	= PMB=N_PMA=R	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT0 AEW2G109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT1 AEW2H109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT2 AEW2J109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT3 AEW2K109	= 0 <dec>	AND=ZAAM2999
32		Set PMB_bit_0 relay to NOMINAL		Next Step: 33
		Execute Telecommand ACC_B_Nom_ACC_PMB_Bit_0 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Set ACC B Nominal Mode = Reset ACC PM B Bit 0 - High Level	DCH15170	
		Verify Telemetry ACC_B_MODE AEE8Z050	= Nominal	AND=ZAZ52999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
33		Command PMB Reset		Next Step: 34
		Execute Telecommand PM B Reset TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(2,3) - PM B Reset - Mission Specific	ACY52109	
34		Restore PMA RT Status on CDMU 1553 Bus		Next Step: 48
		***** ALERT ***** Cross check with CDMS SOE to confirm the RT status of the PM that is currently switched OFF, in order to ensure communications will be fully restored should it be switched ON by some future event.		
34.1		Acknowledge PM RT status on CDMU 1553 bus		<input type="checkbox"/>
		Verify Telemetry ACCA_On_Off DEF6G160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCA_Dead_Alive DEF6H160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCAWell_SickTC DEF6Z160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCAWell_SickTM DEF6J160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCAValid_Inval DEF6K160	<to be read>	AND=ZAD12999
34.2		Uplink command, to restore nominal PM RT status on CDMU 1553 bus		<input type="checkbox"/>
		***** WARNING ***** As the following TC modifies the ACC RT validity flag on the CDMU 1553 bus, the CDMS SOE <u>must</u> be informed that it is about to be uplinked prior to its release.		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand ConfigureSDBFDIR Command Parameter(s) : RTA DH011161 M0 DH030161 M1 DH031161 M2 DH032161 M3 DH033161 M4 DH034161 M5 DH035161 M6 DH036161 M7 DH037161 F0 DH018161 F1 DH019161	DC005161 ACC A Update status Update status Update status Update status Update status Ignore Flag Ignore Flag Ignore Flag ON Alive	
		F2 DH020161 F3 DH021161 F4 DH022161 F5 DH023161 F6 DH024161 F7 DH025161 M12 DH051161 M_C DH043161 M8 DH038161 M9 DH039161 M10 DH040161 M11 DH041161 F12 DH050161 CNT DH042161 F8 DH026161	Well TC Well TM Valid Non-vital REDUNDANT OFF Ignore Flag Ignore CNT Ignore Flag Ignore Flag Ignore Flag Ignore Flag DISABLED LoopCnt1 Bus A	
		F9 DH027161 F10 DH028161 F11 DH029161 TC Control Flags : Subsch. ID : 10 Det. descr. : Configure SDB FDIR GBM IL DSE --Y -- --	Unhealthy Unhealthy ENABLED	
34.3		Verify update of PM RT status on CDMU 1553 bus		□
		Verify Telemetry ACCA_On_Off DEF6G160	= ON	AND=ZAD12999
		Verify Telemetry ACCA_Dead_Alive DEF6H160	= Alive	AND=ZAD12999
		Verify Telemetry ACCAWell_SickTC DEF6Z160	= Well	AND=ZAD12999
		Verify Telemetry ACCAWell_SickTM DEF6J160	= Well	AND=ZAD12999
		Verify Telemetry ACCAValid_Inval DEF6K160	= Valid	AND=ZAD12999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<p>TC Seq. Name : HRAXS2AG (PMBstartPMBnom_surv)</p> <p>TimeTag Type: Y Sub Schedule ID: <input type="checkbox"/></p>				
35		Command RM Programming Set #3 (PMBonly)		Next Step: 36
		<p>***** ALERT *****</p> <p>When loading this sequence on the Manual Stack, the operator will be asked to define the execution time for the "safety" TCs in Step 34.</p> <p>This time should be <u>10 minutes in the future</u> in order to give the operator sufficient margin to execute all the TCs in this sequence.</p>		
		<p>This step selects the RM Programming Set corresponding to the PM configuration: PM B nominal, PM A defect.</p> <p>A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are:</p> <p>Table 11-16 Programmable Alarm Pattern Table Table 11-18 Attempt Table</p>		
35.1		RM A update		<input type="checkbox"/>
35.1.1		Disable RM A		<input type="checkbox"/>
		Disabling of the RM's is carried out by calling a low level utility procedure.		
		<p>Execute Telecommand</p> <p style="text-align: right;">Ext_ACC_RM_A_Disable</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : External ACC RM A Disable - High Priority Standard</p>	DCA22170	
		<p>Verify Telemetry</p> <p style="text-align: center;">RMA_fromTTR-RMA AEE91050</p>	= DISABLED	AND=ZAA07999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RMA_fromTTR-RMA AEE91050	= ENABLED	AND=ZAA07999
		Verify Telemetry RMA_fromTTR-RMB AEE92050	= ENABLED	AND=ZAA07999
35.1.4		Verify Update via RM A Status Report		<input type="checkbox"/>
		Execute Telecommand Get RM-A status ACZZ4109 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		
		Verify Packet Reception TM 8-6 for RM Status parametrized Packet Details: APID: 512 Type: 8 Subtype: 6 PI1: 41600 PI2: 1	A86_RMStatus	
		Verify Telemetry RMH_PAPPTR AEW1Z109	= PMB_only	AND=ZAAM2999
		Verify Telemetry RMH_ATPTR AEW1Y109	= PMB_only	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT0 AEW2G109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT1 AEW2H109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT2 AEW2J109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT3 AEW2K109	= 0 <dec>	AND=ZAAM2999
35.2		RM B update		<input type="checkbox"/>
35.2.1		Disable RM B		<input type="checkbox"/>
		Disabling of the RM's is carried out by calling a low level utility procedure.		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Ext_ACC_RM_B_Disable TC Control Flags : Subsch. ID : 10 Det. descr. : External ACC RM B Disable - High Priority Standard GBM IL DSE --Y -- --	DCA25170	
		Verify Telemetry RMB_fromTTR-RMA AEE93050	= DISABLED	AND=ZAA07999
		Verify Telemetry RMB_fromTTR-RMB AEE94050	= DISABLED	AND=ZAA07999
35.2.2		Set RM B Programming Set #3		<input type="checkbox"/>
		The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.		
		Execute Telecommand Change RMB prog set Command Parameter(s) : ProgSet DF86Cmd AH871001 ProgSet DD86Cmd AH872001 ProgSet PAP Add AHFP5001 ProgSet AttpAdd AHFP6001 TC Control Flags : Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMB prog set GBM IL DSE --Y -- --	ACZGW109 Enable 86 Enable 86 1110 <hex> 10F8 <hex>	
		Execute Telecommand Fire Change RM ProgSet Command Parameter(s) : FireFun DF86Cmd AH8F1001 FireFun DD86Cmd AH8F2001 TC Control Flags : Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Change RM ProgSet GBM IL DSE --Y -- --	ACZ9M109 Enable 86 Enable 86	
35.2.3		Enable RM B		<input type="checkbox"/>

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RMH_ATCNT3 AEW2K109	= 0 <dec>	AND=ZAAM2999
36		Set PMB_bit_0 relay to SURVIVAL (safety/time-tagged)		Next Step: 37
		***** ALERT ***** CHECK with the CDMU SOE that the MTL is fully functional and able to support these time-tagged TCs		
		Note the number of TCs currently on the MTL		
		Verify Telemetry MtlSts DEH26170	= Running	AND=ZAZ9T999
		Verify Telemetry MtlTcCnt DE82F170	n cmds	AND=ZAZ9T999
		NOTE: This TC is uplinked to the MTL as a <u>safety precaution against loss of the TC link followed by an anomaly causing another reconfiguration</u>		
	ET=+00.00.00 UT=+	Execute Telecommand ACC_B_Srv_ACC_PMB_Bit_0 TC Control Flags : Subsch. ID : 10 Det. descr. : Set ACC B Survival Mode = Set ACC PM B Bit 0 - High Level	DCH16170	
36.1		WAIT for Time-Tagged Queue confirmation		☐
		WAIT for confirmation that this TC has been sucessfully placed on the Mission Time-Line		
		Request confirmation form CDMU engineer		
		IF: confirmation is not possible THEN: abort this procedure ELSE: proceed to next step		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>Check the number of TCs currently on the MTL has increased as expected</p> <p>(N.B. As other time-tagged TCs may have just been executed, this may not be obvious)</p>		
		<p>Verify Telemetry</p> <p style="text-align: center;">Mtl1Sts DEH26170</p>	= Running	AND=ZAZ9T999
		<p>Verify Telemetry</p> <p style="text-align: center;">MtlTcCnt DE82F170</p>	n+1 cmds	AND=ZAZ9T999
37		Set PMB_bit_0 relay to NOMINAL		Next Step: 38
		<p>Execute Telecommand</p> <p style="text-align: center;">ACC_B_Nom_ACC_PMB_Bit_0</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : Set ACC B Nominal Mode = Reset ACC PM B Bit 0 - High Level</p>	DCH15170	
		<p>Verify Telemetry</p> <p style="text-align: center;">ACC_B_MODE AEE8Z050</p>	= Nominal	AND=ZAZ52999
38		Command PMB Reset		Next Step: 39
		<p>Execute Telecommand</p> <p style="text-align: center;">PM B Reset</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 20 Det. descr. : TC(2,3) - PM B Reset - Mission Specific</p>	ACY52109	
39		Set PMB_bit_0 relay to SURVIVAL		Next Step: 48
		<p>Execute Telecommand</p> <p style="text-align: center;">ACC_B_Srv_ACC_PMB_Bit_0</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : Set ACC B Survival Mode = Set ACC PM B Bit 0 - High Level</p>	DCH16170	
		<p>Verify Telemetry</p> <p style="text-align: center;">ACC_B_MODE AEE8Z050</p>	= Survival	AND=ZAZ52999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>***** ALERT *****</p> <p>Inform CDMU SOE that the "PM Bit_0 to Survival" time-tagged TCs (uplinked in Step 34) should now be deleted from the MTL.</p>		
<p>TC Seq. Name : HRAXS2AH (PMAstartPMBnomPMA surv)</p> <p>TimeTag Type: Y Sub Schedule ID:</p> <p><input type="checkbox"/></p>				
40		Restore PMB RT Status on CDMU 1553 Bus		Next Step: 41
		<p>***** ALERT *****</p> <p>Cross check with CDMS SOE to confirm the RT status of the PM that is currently switched OFF, in order to ensure communications will be fully restored when it is switched ON by the later steps of this sequence.</p>		
40.1		Acknowledge PM RT status on CDMU 1553 bus		<input type="checkbox"/>
		Verify Telemetry ACCB_On_Off DEF71160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCB_Dead_Alive DEF72160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCBWell_SickTC DEF73160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCBWell_SickTM DEF74160	<to be read>	AND=ZAD12999
		Verify Telemetry ACCBValid_Inval DEF75160	<to be read>	AND=ZAD12999
40.2		Uplink command, to restore nominal PM RT status on CDMU 1553 bus		<input type="checkbox"/>

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																													
		<p>***** WARNING *****</p> <p>As the following TC modifies the ACC RT validity flag on the CDMU 1553 bus, the CDMS SOE <u>must</u> be informed that it is about to be uplinked prior to its release.</p>																																															
		<p>Execute Telecommand</p> <p style="text-align: center;">ConfigureSDBFDIR</p> <p>Command Parameter(s) :</p> <table border="0"> <tr><td>RTA</td><td>DH011161</td><td>ACC B</td></tr> <tr><td>M0</td><td>DH030161</td><td>Update status</td></tr> <tr><td>M1</td><td>DH031161</td><td>Update status</td></tr> <tr><td>M2</td><td>DH032161</td><td>Update status</td></tr> <tr><td>M3</td><td>DH033161</td><td>Update status</td></tr> <tr><td>M4</td><td>DH034161</td><td>Update status</td></tr> <tr><td>M5</td><td>DH035161</td><td>Ignore Flag</td></tr> <tr><td>M6</td><td>DH036161</td><td>Ignore Flag</td></tr> <tr><td>M7</td><td>DH037161</td><td>Ignore Flag</td></tr> <tr><td>F0</td><td>DH018161</td><td>ON</td></tr> <tr><td>F1</td><td>DH019161</td><td>Alive</td></tr> </table>	RTA	DH011161	ACC B	M0	DH030161	Update status	M1	DH031161	Update status	M2	DH032161	Update status	M3	DH033161	Update status	M4	DH034161	Update status	M5	DH035161	Ignore Flag	M6	DH036161	Ignore Flag	M7	DH037161	Ignore Flag	F0	DH018161	ON	F1	DH019161	Alive	DC005161													
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		<table border="0"> <tr><td>F2</td><td>DH020161</td><td>Well TC</td></tr> <tr><td>F3</td><td>DH021161</td><td>Well TM</td></tr> <tr><td>F4</td><td>DH022161</td><td>Valid</td></tr> <tr><td>F5</td><td>DH023161</td><td>Non-vital</td></tr> <tr><td>F6</td><td>DH024161</td><td>REDUNDANT</td></tr> <tr><td>F7</td><td>DH025161</td><td>OFF</td></tr> <tr><td>M12</td><td>DH051161</td><td>Ignore Flag</td></tr> <tr><td>M_C</td><td>DH043161</td><td>Ignore CNT</td></tr> <tr><td>M8</td><td>DH038161</td><td>Ignore Flag</td></tr> <tr><td>M9</td><td>DH039161</td><td>Ignore Flag</td></tr> <tr><td>M10</td><td>DH040161</td><td>Ignore Flag</td></tr> <tr><td>M11</td><td>DH041161</td><td>Ignore Flag</td></tr> <tr><td>F12</td><td>DH050161</td><td>DISABLED</td></tr> <tr><td>CNT</td><td>DH042161</td><td>LoopCnt1</td></tr> <tr><td>F8</td><td>DH026161</td><td>Bus A</td></tr> </table>	F2	DH020161	Well TC	F3	DH021161	Well TM	F4	DH022161	Valid	F5	DH023161	Non-vital	F6	DH024161	REDUNDANT	F7	DH025161	OFF	M12	DH051161	Ignore Flag	M_C	DH043161	Ignore CNT	M8	DH038161	Ignore Flag	M9	DH039161	Ignore Flag	M10	DH040161	Ignore Flag	M11	DH041161	Ignore Flag	F12	DH050161	DISABLED	CNT	DH042161	LoopCnt1	F8	DH026161	Bus A		
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		<table border="0"> <tr><td>F9</td><td>DH027161</td><td>Unhealthy</td></tr> <tr><td>F10</td><td>DH028161</td><td>Unhealthy</td></tr> <tr><td>F11</td><td>DH029161</td><td>ENABLED</td></tr> </table> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : Configure SDB FDIR</p>	F9	DH027161	Unhealthy	F10	DH028161	Unhealthy	F11	DH029161	ENABLED																																						
F9	DH027161	Unhealthy																																															
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F11	DH029161	ENABLED																																															
40.3		Verify update of PM RT status on CDMU 1553 bus		□																																													
		<p>Verify Telemetry</p> <table border="0"> <tr><td>ACCB_On_Off</td><td>DEF71160</td><td>= ON</td></tr> </table>	ACCB_On_Off	DEF71160	= ON		AND=ZAD12999																																										
ACCB_On_Off	DEF71160	= ON																																															
		<p>Verify Telemetry</p> <table border="0"> <tr><td>ACCB_Dead_Alive</td><td>DEF72160</td><td>= Alive</td></tr> </table>	ACCB_Dead_Alive	DEF72160	= Alive		AND=ZAD12999																																										
ACCB_Dead_Alive	DEF72160	= Alive																																															
		<p>Verify Telemetry</p> <table border="0"> <tr><td>ACCBWell_SickTC</td><td>DEF73160</td><td>= Well</td></tr> </table>	ACCBWell_SickTC	DEF73160	= Well		AND=ZAD12999																																										
ACCBWell_SickTC	DEF73160	= Well																																															

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry ACCWell_SickTM DEF74160	= Well	AND=ZAD12999
		Verify Telemetry ACCValid_Inval DEF75160	= Valid	AND=ZAD12999
41		Set PM_bit_0 relays (PMBnom, PMA surv)		Next Step: 42
		<p>***** ALERT *****</p> <p>When loading this sequence on the Manual Stack, the operator will be asked to define the execution time for the "safety" TCs in Step 40.</p> <p>This time should be <u>10 minutes in the future</u> in order to give the operator sufficient margin to execute all the TCs in this sequence.</p>		
41.1		Set PMB_bit_0 relay to NOMINAL		<input type="checkbox"/>
		Execute Telecommand ACC_B_Nom_ACC_PMB_Bit_0 DCH15170 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Set ACC B Nominal Mode = Reset ACC PM B Bit 0 - High Level		
		Verify Telemetry ACC_B_MODE AEE8Z050	= Nominal	AND=ZAZ52999
41.2		Set PMA_bit_0 relay to SURVIVAL		<input type="checkbox"/>
		Execute Telecommand ACC_A_Srv_ACC_PMA_Bit_0 DCH14170 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Set ACC A Survival Mode = Set ACC PM A Bit 0 - High Level		
		Verify Telemetry ACC_A_MODE AEE8G050	= Survival	AND=ZAZ52999
42		Command RM Programming Set #1 (safety/time-tagged)		Next Step: 43

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p><i>This step selects the RM Programming Set corresponding to the PM configuration: PM B nominal, PM A redundant.</i></p> <p><i>A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are:</i></p> <p><i>Table 11-10 Programmable Alarm Pattern Table</i> <i>Table 11-12 Attempt Table</i></p>		
		<p>***** ALERT *****</p> <p><u>CHECK with the CDMU SOE that the MTL is fully functional and able to support these time-tagged TCs</u></p>		
		<p><i>Note the number of TCs currently on the MTL</i></p>		
		<p>Verify Telemetry</p> <p style="text-align: center;">MtlSts DEH26170</p>	= Running	AND=ZAZ9T999
		<p>Verify Telemetry</p> <p style="text-align: center;">MtlTcCnt DE82F170</p>	n cmds	AND=ZAZ9T999
42.1		Select RM A Programming Set #1		<input type="checkbox"/>
		<p><i>The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.</i></p>		
		<p><u>NOTE: These 4 TCs are uplinked to the MTL as a safety precaution to ensure a Level 4 can trigger and so a transition to SM is possible</u></p>		
	ET=+00.00.00 UT=+	<p>Execute Telecommand</p> <p style="text-align: center;">Ext_ACC_RM_A_Disable</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <p>Subsch. ID : 10 Det. descr. : External ACC RM A Disable - Mission Specific</p>	DCM22170	

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand <p style="text-align: center;">Change RMA prog set</p> <i>Command Parameter(s) :</i> ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 10B0 <hex> ProgSet AttpAdd AHFP6001 1090 <hex>	ACZGV109	
		<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) - Change RMA prog set		
	ET=+00.00.02 UT=+	Execute Telecommand <p style="text-align: center;">Fire Change RM ProgSet</p> <i>Command Parameter(s) :</i> FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86	ACZ9M109	
		<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 Change RM ProgSet		
	ET=+00.00.02 UT=+	Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_A_Enable</p> <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <i>Subsch. ID : 10</i> Det. descr. : External ACC RM A Enable - Mission Specific	DCM21170	
42.2		Select RM B Programming Set #1		□
		The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.		
		NOTE: These 4 TCs are uplinked to the MTL as a <u>safety precaution to ensure a Level 4 can trigger and so a transition to SM is possible</u>		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.02 UT=+	Execute Telecommand Ext_ACC_RM_B_Disable TC Control Flags : Subsch. ID : 10 Det. descr. : External ACC RM B Disable - Mission Specific GBM IL DSE --Y -- --	DCM25170	
	ET=+00.00.05 UT=+	Execute Telecommand Change RMB prog set Command Parameter(s) : ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 10B0 <hex> ProgSet AttpAdd AHFP6001 1090 <hex> TC Control Flags : Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMB prog set GBM IL DSE --Y -- --	ACZGW109	
	ET=+00.00.02 UT=+	Execute Telecommand Fire Change RM ProgSet Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 TC Control Flags : Subsch. ID : 20 Det. descr. : TC(8,4) Fire Command - Fire Change RM ProgSet GBM IL DSE --Y -- --	ACZ9M109	
	ET=+00.00.02 UT=+	Execute Telecommand Ext_ACC_RM_B_Enable TC Control Flags : Subsch. ID : 10 Det. descr. : External ACC RM B Enable - Mission Specific GBM IL DSE --Y -- --	DCM24170	
42.3		WAIT for Time-Tagged Queue confirmation		<input type="checkbox"/>
		WAIT for confirmation that these TCs have been successfully placed on the Mission Time-Line		
		Request confirmation form CDMU engineer		

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		IF: confirmation is not possible THEN: abort this procedure ELSE: proceed to next step		
		<i>Check the number of TCs currently on the MTL has increased as expected</i> <i>(N.B. As other time-tagged TCs may have just been executed, this may not be obvious)</i>		
		Verify Telemetry <div style="text-align: right;"> MtlSts DEH26170 </div>	= Running	AND=ZAZ9T999
		Verify Telemetry <div style="text-align: right;"> MtlTcCnt DE82F170 </div>	n+8 cmds	AND=ZAZ9T999
43		Command RM Programming Set #0 (PMAnom, PMBred)		Next Step: 44
		This step selects the RM Programming Set corresponding to the PM configuration: PM A nominal, PM B redundant. A programming set is selected by changing the Attempt Pointer Register and the PAP Pointer Register. The PAP and attempt tables corresponding to this PM configuration can be found in P-HPL-NOT-00031-SE, ACC Users Manual, section 11.2, but are also copied here (see end of procedure). Tables to look at are: Table 11-7 Programmable Alarm Pattern Table Table 11-9 Attempt Table		
43.1		Select RM A Programming Set #0		□
		The addresses of the Attempt Pointer Register and the PAP Pointer Register are taken from P-HPL-NOT-00031-SE, ACC Users Manual, section 11.1, table 11-2 to 11-5.		
		Execute Telecommand <div style="text-align: right;"> Ext_ACC_RM_A_Disable </div> TC Control Flags : <div style="text-align: right;"> GBM IL DSE --Y -- -- </div> Subsch. ID : 10 Det. descr. : External ACC RM A Disable - Mission Specific	DCM22170	

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 File: H_CRP_AOC_XS2A.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: center;">Change RMA prog set</p> Command Parameter(s) : ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 1068 <hex> ProgSet AttpAdd AHFP6001 1048 <hex> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMA prog set	ACZGV109	
		Execute Telecommand <p style="text-align: center;">Fire Change RM ProgSet</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 Change RM ProgSet	ACZ9M109	
		Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_A_Enable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 10 Det. descr. : External ACC RM A Enable - Mission Specific	DCM21170	
43.2		Verify Update via RM A Status Report		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: center;">Get RM-A status</p> Command Parameter(s) : RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-A status	ACZZ4109	

Recovery from SM with return to PMA or PMB
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 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Fire Change RM ProgSet 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 Change RM ProgSet	ACZ9M109	
		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	
43.4		Verify Update via RM B Status Report		<input type="checkbox"/>
		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	
		Verify Telemetry RMH_PAPPTR AEW1Z109	= PMA=N__PMB=R	AND=ZAAM2999
		Verify Telemetry RMH_ATPTR AEW1Y109	= PMA=N__PMB=R	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT0 AEW2G109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT1 AEW2H109	= 0 <dec>	AND=ZAAM2999

Recovery from SM with return to PMA or PMB
 File: H_CRP_AOC_XS2A.xls
 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: center;">Change RMA prog set</p> Command Parameter(s) : ProgSet DF86Cmd AH871001 Enable 86 ProgSet DD86Cmd AH872001 Enable 86 ProgSet PAP Add AHFP5001 10B0 <hex> ProgSet AttpAdd AHFP6001 1090 <hex> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Change RMA prog set	ACZGV109	
		Execute Telecommand <p style="text-align: center;">Fire Change RM ProgSet</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 Change RM ProgSet	ACZ9M109	
		Execute Telecommand <p style="text-align: center;">Ext_ACC_RM_A_Enable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 10 Det. descr. : External ACC RM A Enable - Mission Specific	DCM21170	
45.2		Verify Update via RM A Status Report		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: center;">Get RM-A status</p> Command Parameter(s) : RMStat DF86Cmd AH841001 Enable 86 RMStat DD86Cmd AH842001 Enable 86 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- --</p> Subsch. ID : 20 Det. descr. : TC(8,1) - Get RM-A status	ACZZ4109	

Recovery from SM with return to PMA or PMB
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 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Fire Change RM ProgSet 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 Change RM ProgSet	ACZ9M109	
		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	
45.4		Verify Update via RM B Status Report		<input type="checkbox"/>
		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	
		Verify Telemetry RMH_PAPPTR AEW1Z109	= PMB=N__PMA=R	AND=ZAAM2999
		Verify Telemetry RMH_ATPTR AEW1Y109	= PMB=N__PMA=R	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT0 AEW2G109	= 0 <dec>	AND=ZAAM2999
		Verify Telemetry RMH_ATCNT1 AEW2H109	= 0 <dec>	AND=ZAAM2999

Recovery from SM with return to PMA or PMB
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 Author: dsalt-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																													
47.2		Uplink command, to restore nominal PM RT status on CDMU 1553 bus		<input type="checkbox"/>																																													
		<p>***** WARNING *****</p> <p>As the following TC modifies the ACC RT validity flag on the CDMU 1553 bus, the CDMS SOE <u>must</u> be informed that it is about to be uplinked prior to its release.</p>																																															
		Execute Telecommand <p style="text-align: center;">ConfiguresSDBFDIR</p> Command Parameter(s) : <table style="margin-left: 40px; border: none;"> <tr><td>RTA</td><td>DH011161</td><td>ACC A</td></tr> <tr><td>M0</td><td>DH030161</td><td>Update status</td></tr> <tr><td>M1</td><td>DH031161</td><td>Update status</td></tr> <tr><td>M2</td><td>DH032161</td><td>Update status</td></tr> <tr><td>M3</td><td>DH033161</td><td>Update status</td></tr> <tr><td>M4</td><td>DH034161</td><td>Update status</td></tr> <tr><td>M5</td><td>DH035161</td><td>Ignore Flag</td></tr> <tr><td>M6</td><td>DH036161</td><td>Ignore Flag</td></tr> <tr><td>M7</td><td>DH037161</td><td>Ignore Flag</td></tr> <tr><td>F0</td><td>DH018161</td><td>ON</td></tr> <tr><td>F1</td><td>DH019161</td><td>Alive</td></tr> </table>	RTA	DH011161	ACC A	M0	DH030161	Update status	M1	DH031161	Update status	M2	DH032161	Update status	M3	DH033161	Update status	M4	DH034161	Update status	M5	DH035161	Ignore Flag	M6	DH036161	Ignore Flag	M7	DH037161	Ignore Flag	F0	DH018161	ON	F1	DH019161	Alive	DC005161													
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M7	DH037161	Ignore Flag																																															
F0	DH018161	ON																																															
F1	DH019161	Alive																																															
		<table style="margin-left: 40px; border: none;"> <tr><td>F2</td><td>DH020161</td><td>Well TC</td></tr> <tr><td>F3</td><td>DH021161</td><td>Well TM</td></tr> <tr><td>F4</td><td>DH022161</td><td>Valid</td></tr> <tr><td>F5</td><td>DH023161</td><td>Non-vital</td></tr> <tr><td>F6</td><td>DH024161</td><td>REDUNDANT</td></tr> <tr><td>F7</td><td>DH025161</td><td>OFF</td></tr> <tr><td>M12</td><td>DH051161</td><td>Ignore Flag</td></tr> <tr><td>M_C</td><td>DH043161</td><td>Ignore CNT</td></tr> <tr><td>M8</td><td>DH038161</td><td>Ignore Flag</td></tr> <tr><td>M9</td><td>DH039161</td><td>Ignore Flag</td></tr> <tr><td>M10</td><td>DH040161</td><td>Ignore Flag</td></tr> <tr><td>M11</td><td>DH041161</td><td>Ignore Flag</td></tr> <tr><td>F12</td><td>DH050161</td><td>DISABLED</td></tr> <tr><td>CNT</td><td>DH042161</td><td>LoopCnt1</td></tr> <tr><td>F8</td><td>DH026161</td><td>Bus A</td></tr> </table>	F2	DH020161	Well TC	F3	DH021161	Well TM	F4	DH022161	Valid	F5	DH023161	Non-vital	F6	DH024161	REDUNDANT	F7	DH025161	OFF	M12	DH051161	Ignore Flag	M_C	DH043161	Ignore CNT	M8	DH038161	Ignore Flag	M9	DH039161	Ignore Flag	M10	DH040161	Ignore Flag	M11	DH041161	Ignore Flag	F12	DH050161	DISABLED	CNT	DH042161	LoopCnt1	F8	DH026161	Bus A		
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		<table style="margin-left: 40px; border: none;"> <tr><td>F9</td><td>DH027161</td><td>Unhealthy</td></tr> <tr><td>F10</td><td>DH028161</td><td>Unhealthy</td></tr> <tr><td>F11</td><td>DH029161</td><td>ENABLED</td></tr> </table> <p>TC Control Flags :</p> <table style="margin-left: 40px; border: none;"> <tr><td></td><td>GBM IL DSE</td><td></td></tr> <tr><td></td><td>--Y --</td><td></td></tr> </table> <p>Subsch. ID : 10 Det. descr. : Configure SDB FDIR</p>	F9	DH027161	Unhealthy	F10	DH028161	Unhealthy	F11	DH029161	ENABLED		GBM IL DSE			--Y --																																	
F9	DH027161	Unhealthy																																															
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	GBM IL DSE																																																
	--Y --																																																
47.3		Verify update of PM RT status on CDMU 1553 bus		<input type="checkbox"/>																																													
		Verify Telemetry <table style="margin-left: 40px; border: none;"> <tr><td>ACCA_On_Off</td><td>DEF6G160</td><td>= ON</td></tr> </table>	ACCA_On_Off	DEF6G160	= ON		AND=ZAD12999																																										
ACCA_On_Off	DEF6G160	= ON																																															

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry ACCA_Dead_Alive DEF6H160	= Alive	AND=ZAD12999
		Verify Telemetry ACCAWell_SickTC DEF6Z160	= Well	AND=ZAD12999
		Verify Telemetry ACCAWell_SickTM DEF6J160	= Well	AND=ZAD12999
		Verify Telemetry ACCAValid_Inval DEF6K160	= Valid	AND=ZAD12999
TC Seq. Name : NULLSEQ2 (Null Sequence 2)				
TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
48		Verify recovery status in SAM		Next Step: 49
48.1		Verify Sun acquisition		<input type="checkbox"/>
		Verify Telemetry SpacecraftMode AESME002	= Nominal	AND=ZAA01999
		Verify Telemetry AcmsMode AESMG002	= SAM	AND=ZAA01999
		Verify Telemetry AcmsSubstate AESMF002	= SAM Sun Point	AND=ZAA01999
48.2		Verify GYR health status		<input type="checkbox"/>
		<i>The check is intended to make sure that no problem has occurred during initialisation of the GYR in nominal modes.</i>		
		Verify Telemetry GYRE1 Hlth Sts AESK3002	= Healthy	AND=ZAA02999
		Verify Telemetry GYR1 Health Sts AES41002	= Healthy	AND=ZAA02999
		Verify Telemetry GYR2 Health Sts AES42002	= Healthy	AND=ZAA02999
		Verify Telemetry GYR3 Health Sts AES43002	= Healthy	AND=ZAA02999
		Verify Telemetry GYR4 Health Sts AES44002	= Healthy	AND=ZAA02999

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
48.3		Verify boot report		<input type="checkbox"/>
		Verify Packet Reception AccBsw Event 5-1 Boot Report and Reconfiguration Log Packet Details: <div style="text-align: right; margin-left: 200px;"> APID: 512 Type: 5 Subtype: 1 PI1: 134 PI2: 134 </div>	A_EvRp_534	
49		Enable CDMU response to AIR via Event Action Table		Next Step: 50
49.1		Uplink TCs to Enable CDMU response to AIR		<input type="checkbox"/>
		<p style="color: red; text-align: center;">***** WARNING *****</p> <p style="color: red;">The following TCs are assumed to be sent by CDMS SOE and are included here for information only. They are therefore <u>NOT exported</u> with this sequence</p>		
		Execute Telecommand <div style="text-align: right; margin-left: 200px;">ReptEvtActTable</div> TC Control Flags : <div style="text-align: right; margin-left: 200px;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6) This Telecommand will not be included in the export	DCT86170	
		Execute Telecommand <div style="text-align: right; margin-left: 200px;">EnableActions</div> Command Parameter(s) : <div style="text-align: right; margin-left: 200px;"> N_Repetition DH041170 2 <dec> APID_for_EAT_TC DH236170 CDMS (Def) EventId DH146170 37888 <dec> APID_for_EAT_TC DH236170 CDMS (Def) EventId DH146170 37889 <dec> </div> TC Control Flags : <div style="text-align: right; margin-left: 200px;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : TEMPLATE Enable Actions TC(19,4) This Telecommand will not be included in the export	DCT84170	
		Execute Telecommand <div style="text-align: right; margin-left: 200px;">ReptEvtActTable</div> TC Control Flags : <div style="text-align: right; margin-left: 200px;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch												
49.2		Verify Update of CDMU Event Action Table		<input type="checkbox"/>												
		<p>1. Open the Onboard Event and Action Display on the Mission Control System (Task 'OEAD' on the 'Commanding' tab on the Application Launcher)</p> <p>2. Entries to look at in the OEAD are:</p> <table border="1"> <thead> <tr> <th>TC ID</th> <th>Description</th> <th>Event ID</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>DCN20170</td> <td>FdirAccAlarm</td> <td>37888</td> <td>E/E</td> </tr> <tr> <td>DCN20170</td> <td>FdirAccAlarm</td> <td>37889</td> <td>E/E</td> </tr> </tbody> </table>	TC ID	Description	Event ID	Action	DCN20170	FdirAccAlarm	37888	E/E	DCN20170	FdirAccAlarm	37889	E/E		
TC ID	Description	Event ID	Action													
DCN20170	FdirAccAlarm	37888	E/E													
DCN20170	FdirAccAlarm	37889	E/E													
		3. Action status for both entries should report 'E/E' (= enabled/enabled). 1st stage indicates that the enable command has been sent, 2nd stage indicates that the enable has been confirmed in the Event Action Table report.														
50		Synchronise ACC clock		Next Step: 51												
		Execute Procedure: H_CRP_AOC_DOBT ACC Time Synchronisation														
51		Configure ACMS to resume routine science operations		Next Step: END												
51.1		Reset PM from Image 1 (OPTIONAL)		<input type="checkbox"/>												
		<u>As any RM recovery to Nominal mode will load the PM from Image 2, procedure H_CRP_SYS_PMSA can be used to reset the relevant PM from Image 1</u>														
		Execute Procedure: H_CRP_SYS_PMSA ACC PM Switchover														
51.2		Correct OBDB default parameters in AWS4.1		<input type="checkbox"/>												

Recovery from SM with return to PMA or PMB
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Some key OBDB parameters will be lost after any PM reset and must be restored via procedure <u>H_FCP_AOC_DDEF before switching on the STR</u> and proceeding to OCM and SCM		
		Execute Procedure: H_FCP_AOC_DDEF Update Default OBDB Values		
51.3		Restore all FD updates in OBDB		<input type="checkbox"/>
		Request Flight Dynamics to deliver the latest version of the following TPFs: - OVV (updated daily, via Uplink Unit) - SEE (updated daily, via Uplink Unit) - GDR (updated monthly, via TPF) most recent update (14/07/10) via TPF=0427_0001.GDR - GSM (updated 18/11/09, via TPF=0187_0001.GSM) - SCI (updated 24/06/09, via TPF=0042_0001.SCI) - STO (updated 04/09/09, via TPF=0144_0001.STO) - RWA (not yet updated) - STM (not yet updated) - TLP (not yet updated)		
		***** NOTE ***** These TPFs are uplinked via the following procedures H_FCP_AOC_4S41 for OVV (called in next procedure) H_FCP_AOC_3M03 for SEE (called in next procedure) H_FCP_AOC_1GDR for GDR H_FCP_AOC_1GSM for GSM H_FCP_AOC_3M02 for SCI H_FCP_AOC_1STO for STO H_FCP_AOC_4R44 for RWA H_FCP_AOC_1STM for STM H_FCP_AOC_4R01 for TLP		
51.4		Recover back to OCM or SCM		<input type="checkbox"/>
		Transition to OCM and SCM can now be performed via procedure H_FCP_AOC_XA2C		
		Execute Procedure: H_CRP_AOC_XA2C Recovery from SIR		
End of Procedure				

Recovery from SM with return to PMA or PMB
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Tables & Figures

Alarm no	Function	Source	Polarity	Temporization	Vote	Enable
0	Watchdog toggle	RM board (PIO 15)	Toggle	WD, 1 s	OFF	ON
1	CRS 1	External	L	ACT, 250 ms	OFF	ON
2	CRS 2	External	L	ACT, 250 ms	OFF	OFF
3	CRS 3	External	L	ACT, 250 ms	OFF	OFF
4	AAD 1	External	L	ACT, 250 ms	OFF	ON
5	AAD 2	External	L	ACT, 250 ms	OFF	ON
6	Separation Strap 1	External	H	ACT, 25 s	OFF	ON
7	Separation Strap 2	External	H	ACT, 150 s	OFF	ON
8	External 8	External	H	ACT, 0.1 ms	OFF	OFF
9	PM A CPU*	PM A	L	NA	OFF	ON
10	PM A COCOS	PM A	H	NA	OFF	ON
11	PM A Undervoltage alarm*	PM A	L	NA	OFF	ON
12	PM A Software alarm	PM A	H	NA	OFF	ON
13	PM B CPU*	PM B	L	NA	OFF	ON
14	PM B COCOS	PM B	H	NA	OFF	ON
15	PM B Undervoltage alarm*	PM B	L	NA	OFF	ON
16	PM B Software alarm	PM B	H	NA	OFF	ON
17	Select PM (High = PM B)	RM board B	H	NA	OFF	ON
18	Not used	-	H	NA	OFF	OFF
19	Not used	-	H	NA	OFF	OFF
20	Not used	-	H	NA	OFF	OFF
21	Watchdog enable	RM board A/B	H	NA	OFF	ON

Table 11-6 ACC alarm input

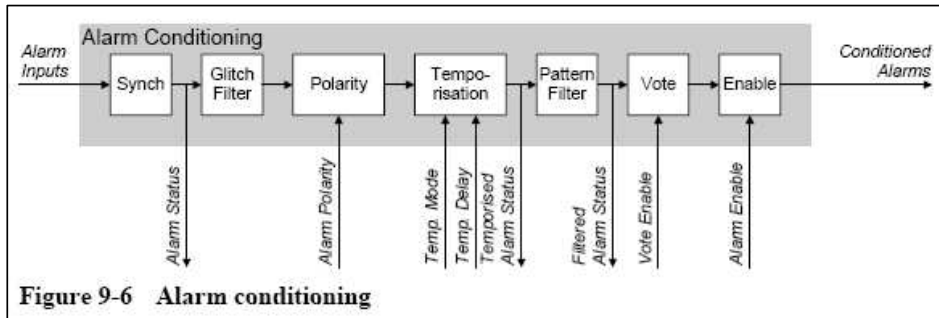


Figure 9-6 Alarm conditioning

Recovery from SM with return to PMA or PMB
 File: H_CRP_AOC_XS2A.xls
 Author: dsalt-hp



Tables & Figures

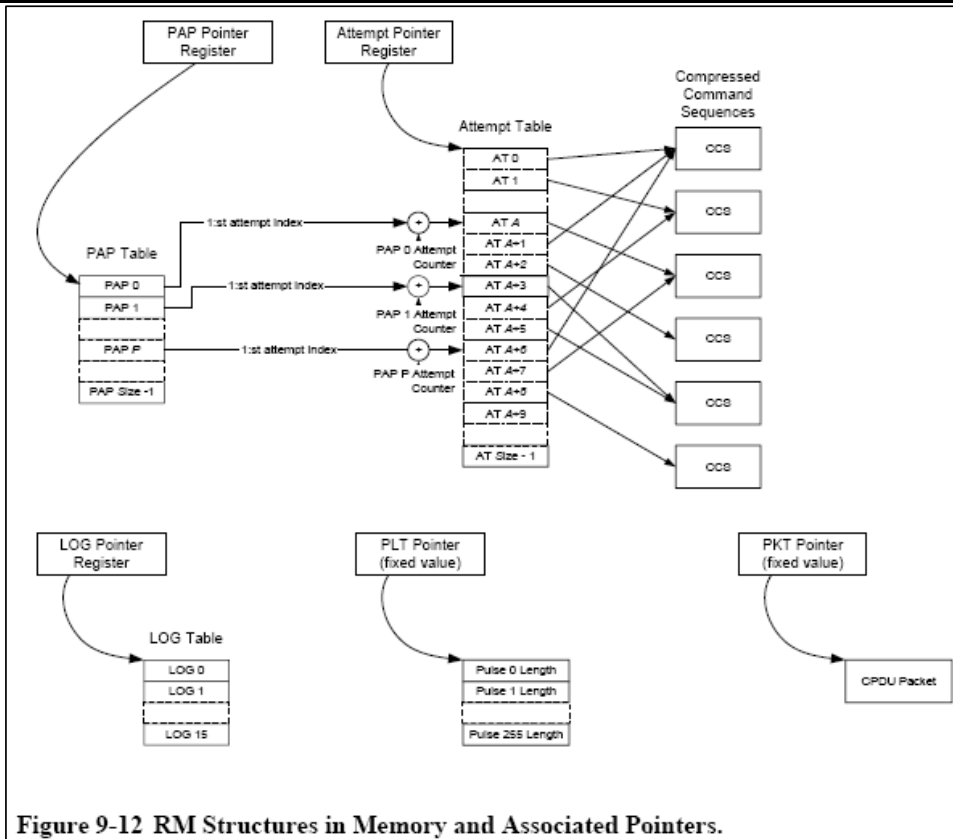
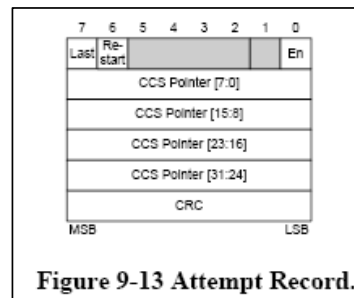
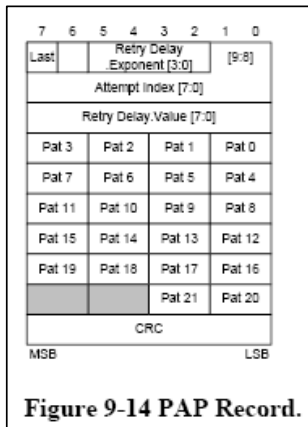


Figure 9-12 RM Structures in Memory and Associated Pointers.



Recovery from SM with return to PMA or PMB
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 Author: dsalt-hp



Tables & Figures

11.3 RM Programming Set 1: PM A as Nominal

PAP Name	Internal Alarm (PMA)	Rate Anomaly (PMA)	Attitude Anomaly (PMA)	Internal Alarm (PMB)
PAP#	0	1	2	3
Watchdog toggle	OR	X	X	OR
CRS 1	X	OR	X	X
CRS 2	X	OR	X	X
CRS 3	X	OR	X	X
AAD 1	X	X	OR	X
AAD 2	X	X	OR	X
Separation Strap 1	X	1	1	X
Separation Strap 2	X	X	1	X
External 7	X	X	X	X
PM A CPU*	OR	X	X	X
PM A COCOS	OR	X	X	X
PM A Undervoltage alarm*	OR	X	X	X
PM A Software alarm	OR	X	X	X
PM B CPU*	X	X	X	OR
PM B COCOS	X	X	X	OR
PM B Undervoltage alarm*	X	X	X	OR
PM B Software alarm	X	X	X	OR
Select PM (High = PM B)	0	0	0	1
Not used	X	X	X	X
Not used	X	X	X	X
Not used	X	X	X	X
Watchdog enable	X	X	X	X
1st Attempt	Yes	Yes	Yes	Yes
2nd Attempt	Yes	No	No	No
Further Attempt	No	No	No	No

Table 11-7

PAP#	Retry Delay
0	0.5 sec
1	2.5 sec
2	2.5 sec
3	2.5 sec

Table 11-8

PAP#	PAP Name	First Attempt	Second Attempt
0	Internal alarm (PMA)	Reset PMA (CCS 0)	Switch to PMB (CCS 1)
1	Rate anomaly (PMA)	Full reconfiguration from PMA to PMB (CCS 2)	
2	Attitude anomaly (PMA)	Full reconfiguration from PMA to PMB (CCS 2)	
3	Internal alarm (PMB)	Reset PMB after switch-over (CCS 3)	

Table 11-9

Recovery from SM with return to PMA or PMB
 File: H_CRP_AOC_XS2A.xls
 Author: dsalt-hp



Tables & Figures

11.4 RM Programming Set 2: PM B as Nominal

PAP Name	Internal Alarm (PMB)	Rate Anomaly (PMB)	Attitude Anomaly (PMB)	Internal Alarm (PMA)
PAP#	0	1	2	3
Watchdog toggle	OR	X	X	OR
CRS 1	X	OR	X	X
CRS 2	X	OR	X	X
CRS 3	X	OR	X	X
AAD 1	X	X	OR	X
AAD 2	X	X	OR	X
Separation Strap 1	X	1	1	X
Separation Strap 2	X	X	1	X
External 7	X	X	X	X
PM A CPU*	X	X	X	OR
PM A COCOS	X	X	X	OR
PM A Undervoltage alarm*	X	X	X	OR
PM A Software alarm	X	X	X	OR
PM B CPU*	OR	X	X	X
PM B COCOS	OR	X	X	X
PM B Undervoltage alarm*	OR	X	X	X
PM B Software alarm	OR	X	X	X
Select PM (High = PM B)	1	1	1	0
Not used	X	X	X	X
Not used	X	X	X	X
Not used	X	X	X	X
Watchdog enable	X	X	X	X
1st Attempt	Yes	Yes	Yes	Yes
2nd Attempt	Yes	No	No	No
Further Attempt	No	No	No	No

Table 11-10

PAP#	Retry Delay
0	0.5 sec
1	2.5 sec
2	2.5 sec
3	2.5 sec

Table 11-11

PAP#	PAP Name	First Attempt	Second Attempt
0	Internal alarm (PMB)	Reset PMB (CCS 4)	Switch to PMA (CCS 5)
1	Rate anomaly (PMB)	Full reconfiguration from PMB to PMA (CCS 6)	
2	Attitude anomaly (PMB)	Full reconfiguration from PMB to PMA (CCS 6)	
3	Internal alarm (PMA)	Reset PMA after switch-over (CCS 7)	

Table 11-12

11.5 RM Programming Set 3: PMA only

Status : Version 16 - Updated
 Last Checkin: 29/07/2010

Recovery from SM with return to PMA or PMB
 File: H_CRP_AOC_XS2A.xls
 Author: dsalt-hp



Tables & Figures

PAP Name	Internal Alarm	Rate Anomaly	Attitude Anomaly
PAP#	0	1	2
Watchdog toggle	OR	X	X
CRS 1	X	OR	X
CRS 2	X	OR	X
CRS 3	X	OR	X
AAD 1	X	X	OR
AAD 2	X	X	OR
Separation Strap 1	X	1	1
Separation Strap 2	X	X	1
External 7	X	X	X
PM A CPU*	OR	X	X
PM A COCOS	OR	X	X
PM A Undervoltage alarm*	OR	X	X
PM A Software alarm	OR	X	X
PM B CPU*	X	X	X
PM B COCOS	X	X	X
PM B Undervoltage alarm*	X	X	X
PM B Software alarm	X	X	X
Select PM (High = PM B)	X	X	X
Not used	X	X	X
Not used	X	X	X
Not used	X	X	X
Watchdog enable	X	X	X
1st Attempt	Yes	Yes	Yes
2nd Attempt	No	No	No
Further Attempt	No	No	No

Table 11-13

PAP#	Retry Delay
0	0.5 sec
1	0.5 sec
2	0.5 sec

Table 11-14

PAP#	PAP Name	First Attempt	Second Attempt
0	Internal alarm	Switch to PMA (CCS 5)	Rest PMA after switchover (CCS 7)
1	Rate anomaly	Full reconfiguration from PMB to PMA (CCS 6)	-
2	Attitude anomaly	Full reconfiguration from PMB to PMA (CCS 6)	-

Table 11-15

11.6 RM Programming Set 4: PMB only

PAP Name	Internal Alarm	Rate Anomaly	Attitude Anomaly
Status : Version 16 - Updated			
Last Checkin: 29/07/2010			

Recovery from SM with return to PMA or PMB
 File: H_CRP_AOC_XS2A.xls
 Author: dsalt-hp



Tables & Figures

PAP Name	Internal Alarm	Rate Anomaly	Attitude Anomaly
PAP#	0	1	2
Watchdog toggle	OR	X	X
CRS 1	X	OR	X
CRS 2	X	OR	X
CRS 3	X	OR	X
AAD 1	X	X	OR
AAD 2	X	X	OR
Separation Strap 1	X	1	1
Separation Strap 2	X	X	1
External 7	X	X	X
PM A CPU*	X	X	X
PM A COCOS	X	X	X
PM A Undervoltage alarm*	X	X	X
PM A Software alarm	X	X	X
PM B CPU*	OR	X	X
PM B COCOS	OR	X	X
PM B Undervoltage alarm*	OR	X	X
PM B Software alarm	OR	X	X
Select PM (High = PM B)	X	X	X
Not used	X	X	X
Not used	X	X	X
Not used	X	X	X
Watchdog enable	X	X	X
1st Attempt	Yes	Yes	Yes
2nd Attempt	No	No	No
Further Attempt	No	No	No

Table 11-16

PAP#	Retry Delay
0	0.5 sec
1	0.5 sec
2	0.5 sec

Table 11-17

PAP#	PAP Name	First Attempt	Second Attempt
0	Internal alarm	Switch to PMB (CCS 1)	Rest PMB after switchover (CCS 3)
1	Rate anomaly	Full reconfiguration from PMA to PMB (CCS 2)	-
2	Attitude anomaly	Full reconfiguration from PMA to PMB (CCS 2)	-

Table 11-18