Update ACC PM PROM ground image from memory dump
File: H_FCP_OBS_2241.xls
Author: lstefanov-hp

Procedure Summary

Objectives

This Herschel OBSM nominal procedure is used to perform an ACC PM PROM ground image update from memory dump. The procedure assumes the whole ACC PM PROM is dumped. The memory dump is commanded using TC(6,5) and the memory locations content is received on ground in TM(6,6) packets.

The procedure assumes that the command stack has already been generated using the OBSM system and is ready for loading on the Manual Stack. The command stack generation activity is not covered by this procedure.

Summary of Constraints

ACC in Operational Mode

Memory areas are dumped through TC(6,5); this TC will be delayed when there is an ongoing:
- TC(6,2) Load Memory Using Absolute Addresses
- TC(6,5) Dump Memory Using Absolute Addresses
- TC(6,9) Check Memory Using Absolute Addresses
- TC(8,4,1,1) Copy Memory

Spacecraft Configuration

Start of Procedure

ACC in Operational Mode

End of Procedure

Same as start, except:
- ACC PM PROM memory dump executed

Reference File(s)

Input Command Sequences

Output Command Sequences

OFCP2241

Referenced Displays

ANDs **GRDs** **SLDs**

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
13/01/09	2	1	Created	lstefanov-hp	
13/04/09	2.3	2	1. corrected typo in steps 3.1: 'pmcsops' replaced by 'hmcsops'□ 2. step 3.3 updated: 1st comment updated to include MemID in address	lstefanov-hp	

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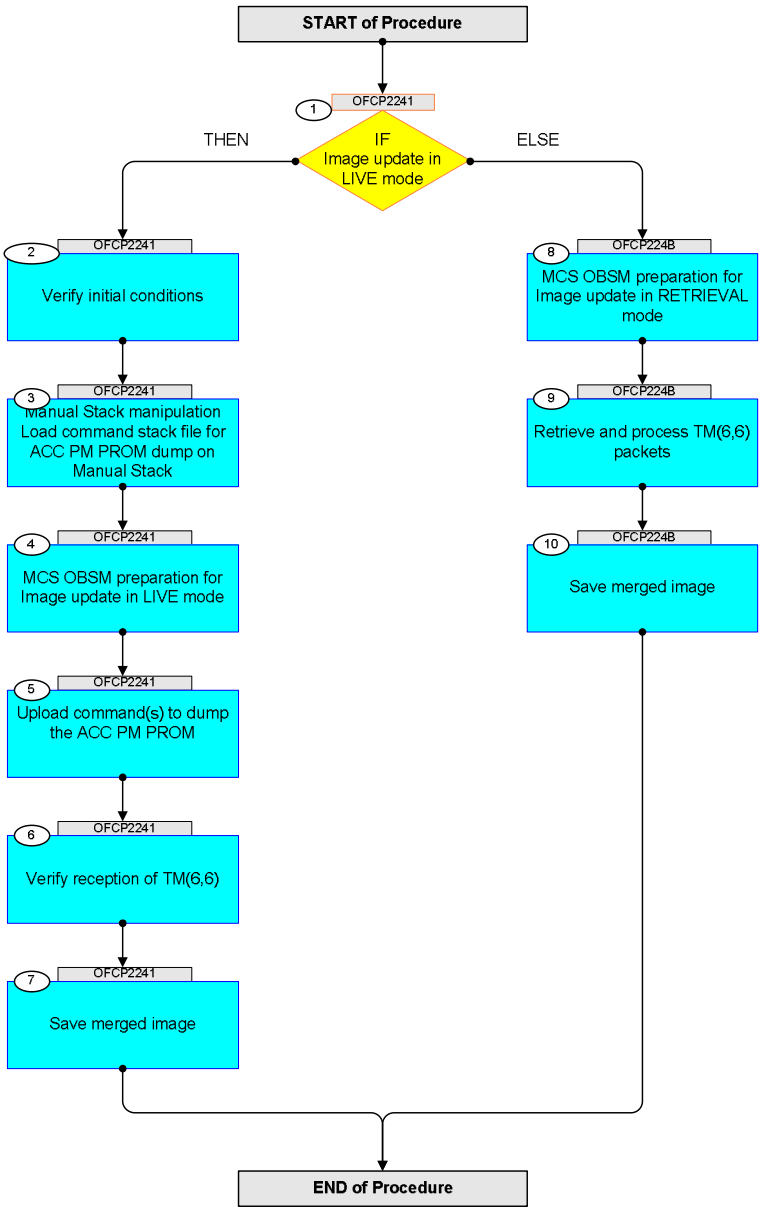
Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Beginning of Procedure			
	OFCP2241	*TC Seq. Name :* OFCP2241 (ACC PROM GI update) ACC PM PROM Gnd image update in LIVE mode *TimeTag Type: B* *Sub Schedule ID:*			
1		IF Image update in LIVE mode type: [If]		Next Step: THEN 2 ELSE 8	
2		Verify initial conditions		Next Step: 3	
		Check: - ACC in Operational mode			
		ACMS SOE to confirm ACC mode			
3		Manual Stack manipulation Load command stack file for ACC PM PROM dump on Manual Stack		Next Step: 4	
		NOTE: The current procedure assumes that the memory dump in Live mode is performed using commands with immediate execution.			
		Select the File -> **LoadStack** option from the main menu of the Manual Stack window			
3.1		IF ACC PM A			
		Select file **ACCUPRPG_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ACCUPRPG as indicated by the OBSM engineer			
		IMPORTANT: XXXXYYYY = Image ID(X) and Version(Y) - depend on image used for stack generation YYYY_DDD hhmmss - depend on stack generation time machine - depends on the name of the machine used for stack generation			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		File name **examples** - No model associated to the memory image: ACCUPRPG_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ACCUPRPG1, ID 0003, Version 001 associated to the memory image: ACCUPRPG_DI_0002001_C_ACCUPRPG1_0003001_2007_337T093320.sun043			
3.2		ELSE ACC PM B			
		Select file **ACCUPRPB_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ACCUPRPB as indicated by the OBSM engineer			
		IMPORTANT: XXXXYYYY = Image ID(X) and Version(Y) - depend on image used for stack generation YYYY_DDD hhmmss - depend on stack generation time machine - depends on the name of the machine used for stack generation			
		File name **examples** - No model associated to the memory image: ACCUPRPB_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ACCUPRPB1, ID 0003, Version 001 associated to the memory image: ACCUPRPB_DI_0002001_C_ACCUPRPB1_0003001_2007_337T093320.sun043			
3.3		Check memory dump command stack loaded			
		For a **full** ACC PM PROM **dump** (**Memory ID** = **0000** included in the address): **Start Address** = **0000.0000 hex** **End Address** = **0000.FFFF hex** **Length** = **10000 hex**			
		Note: Following steps assume a **full** ACC PM PROM **dump**. IF one or several partial dumps of the ACC PM PROM are commanded, the number of dump TCs, start address and length will be different.			

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3.3.1		Check number of memory dump commands in the stack			
		Check that loaded stack contains: **2** TCs **AC063109**			
3.3.2		Check Memory ID			
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the AC063109 commands is set to **0000 hex**: **Memory ID = 0000 hex** **Note**: The Memory ID of the target memory device is stored in the 16-bit long Mem ID TC parameter.			
		Execute Telecommand **Dump Memory** *Command Parameter(s) :* **Memory ID** **AH6M0109** **Start Address** **AH6M1109** **Length SAU** **AH6M3109** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses This Telecommand will not be included in the export	**AC063109** **0000 <hex>** (Def) **<hex>** (Def) **<hex>** (Def)	**TC**	
3.3.3		Check start address and length of the first dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the first AC063109 command: **Start Address** = **0000 hex** **Length** = **FFFF hex** **Note**: The Memory ID of the target memory device is stored in the 16-bit long Mem ID TC parameter.			
		Execute Telecommand **Dump Memory** *Command Parameter(s) :* **Memory ID** **AH6M0109** **Start Address** **AH6M1109** **Length SAU** **AH6M3109** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses This Telecommand will not be included in the export	**AC063109** **0000 <hex>** (Def) **0000 <hex>** (Def) **FFFF <hex>**	**TC**	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
3.3.4		Check start address and length of the second dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the second AC063109 command: **Start Address** = **FFFF hex** **Length = 0001 hex** **Note**: The Memory ID of the target memory device is stored in the 16-bit long Mem ID TC parameter.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID AH6M0109** **0000 <hex>** (Def) **Start Address AH6M1109** **FFFF <hex>** **Length SAU AH6M3109** **1 <hex>** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 20* Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses This Telecommand will not be included in the export		**TC**	
4		MCS OBSM preparation for Image update in LIVE mode		Next Step: 5	
		Note: It is assumed that the OBSM application is already running and the OBSM Desktop is displayed on the MCS client. Starting the OBSM application is not covered by the current procedure.			
4.1		Select 'Image UPDATE' from the menu			
		Select the **Image** menu of the ***OBSM Desktop***. From the Image menu, select **Update**. The 'Image Catalog' window opens.			
4.2		Select image to be updated			
4.2.1		IF ACC PM A			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Select the image to be updated for the memory device **ACCUPRPG.** The 'Image UPDATE' window opens.			
4.2.2		ELSE ACC PM B			
		Select the image to be updated for the memory device **ACCUPRPB.** The 'Image UPDATE' window opens.			
4.3		Start dump TM processing			
		In **LIVE** mode, processing of incoming real-time telemetry starts automatically after the image selection.			
5		Upload command(s) to dump the ACC PM PROM		Next Step: 6	
		Uplink the **AC063109** memory dump command(s) with **ARM-GO**			
		After successful execution of the command, several TM(6,6) packets must be received on ground.			
6		Verify reception of TM(6,6)		Next Step: 7	
		Note: Several TM(6,6) packets will be received for the memory dump command uplinked.			
		Verify Packet Reception Memory Dump - Absolute Addresses - SAU 8 Packet Mnemonic : MemDmpAbsAdd APID : 512 Type : 6 Subtype : 6 PI1 : PI2 :			
6.1		Check OBSM dump packet processing			
		Check that the OBSM is processing the incoming memory dump packets.			
7		Save merged image		Next Step: END	

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		Save merged image with **new ID**.			
		End of Sequence			
	OFCP224B	*TC Seq. Name :*OFCP224B (ACC PROM GI update B) ACC PM PROM Gnd image update in Retrieval mode *TimeTag Type:* *Sub Schedule ID:* □			
8		MCS OBSM preparation for Image update in RETRIEVAL mode		Next Step: 9	
		Note: It is assumed that the OBSM application is already running and the OBSM Desktop is displayed on the MCS client. Starting the OBSM application is not covered by the current procedure.			
8.1		Select 'Image UPDATE' from the menu			
		Select the **Image** menu of the ***OBSM Desktop***. From the Image menu, select **Update**. The 'Image Catalog' window opens.			
8.2		Select image to be updated			
8.2.1		IF ACC PM A			
		Select the image to be updated for the memory device **ACCUPRPG.** The 'Image UPDATE' window opens.			
8.2.2		ELSE ACC PM B			
		Select the image to be updated for the memory device **ACCUPRPB.** The 'Image UPDATE' window opens.			
8.3		Start dump TM packets processing			

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		Set **retrieval start** and **stop time** and start retrieval of TM packets using the **PLAY buttons**.			
9		Retrieve and process TM(6,6) packets		Next Step: 10	
		Use the **STEP** button to retrieve and process the TM(6,6) packets, packet by packet and starting from the time shown in the packet time field.			
		OR			
		Use the **PLAY** button to retrieve and process the TM(6,6) packets in automated mode. Pressing the PLAY button, the display will start to retrieve and process packets, starting from the time shown in the packet time field. This processing will stop automatically when a packet is received which creation time is greater than the one contained in the end time field.			
10		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			
		End of Procedure			