Update ACC SGM ground image from memory dump
File: H_FCP_OBS_2449.xls
Author: Liviu Stefanov

Procedure Summary

Objectives

This Herschel OBSM nominal procedure is used to perform the dump of the ACC SGM memory areas and the update of the corresponding ground image. The memory dump is commanded using TC(6,5) and the memory locations content is received on ground in TM(6,6) packets.
The procedures covers both ACC SGM A and SGM B.

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 SGM A or/and SGM B memory dump executed

Reference File(s)

Input Command Sequences

Output Command Sequences

OFCP244A
OFCP244C

Referenced Displays

ANDs **GRDs** **SLDs**

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
18/02/08	1	1	Created	lstefanov-hp	
30/12/08	2	2	1. updated TC Seq. names and descriptions 2. current steps 4 and 14 updated: separate sub-steps created for BSW WP, ASW WP, BSW NP and ASW NP dump command stacks manipulation	lstefanov-hp	

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13/04/09	2.3	3	1. corrected typo in steps 4.1, 4.3, 4.5, 4.7, 14.1, 14.3, 14.5 and 14.7: 'pmcsops' replaced by 'hmcsops'	lstefanov-hp	

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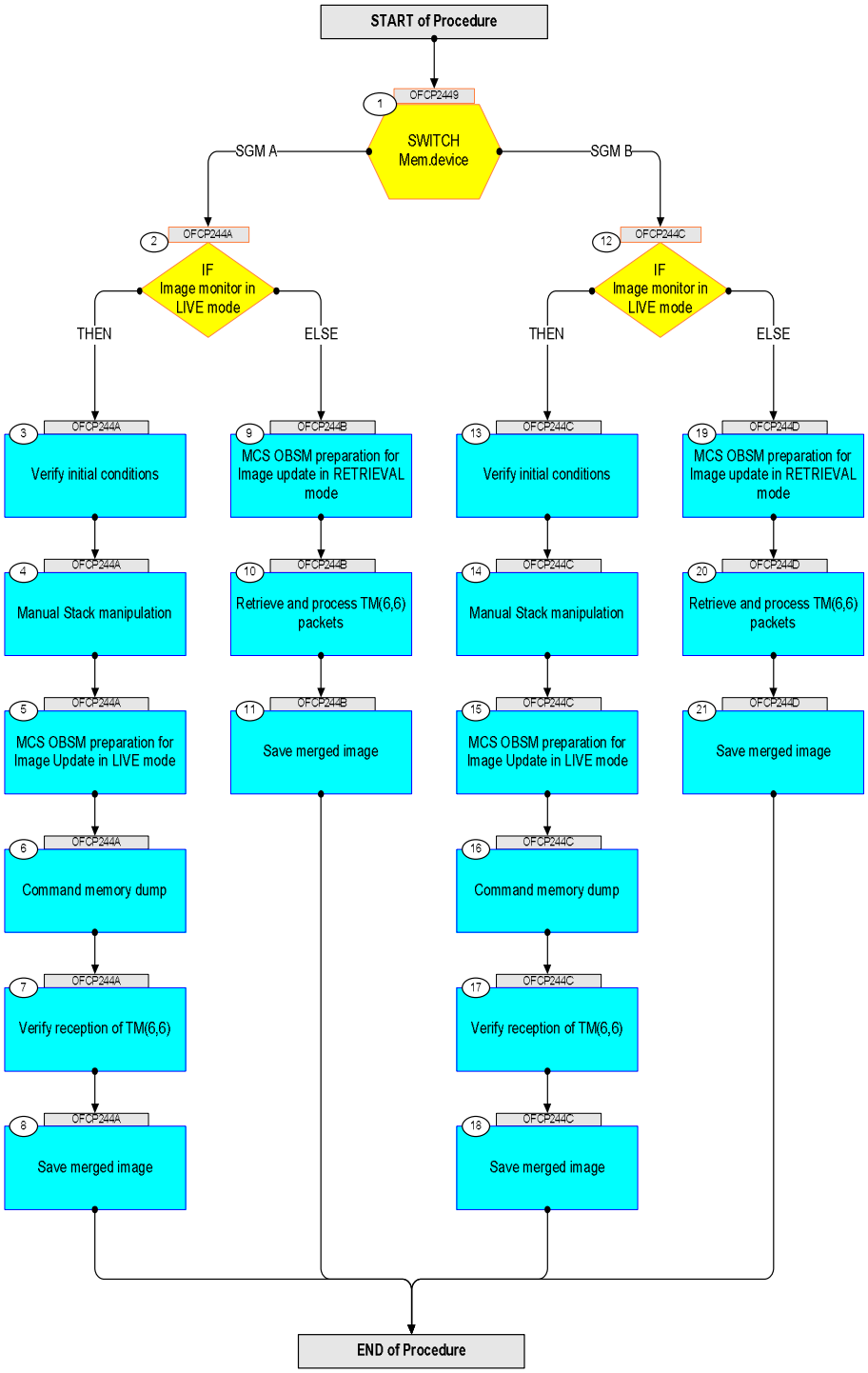
Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Beginning of Procedure			
	OFCP2449	*TC Seq. Name :* OFCP2449 (ACC SGM GI update) ACC SGM A or B Gnd image update *TimeTag Type:* *Sub Schedule ID:*			
1		SWITCH Mem.device type: [Switch]		Next Step: SGM A 2 SGM B 12	
		End of Sequence			
	OFCP244A	*TC Seq. Name :* OFCP244A (ACC SGM A Dmp A) ACC SGM A Gnd image update in Live mode *TimeTag Type: B* *Sub Schedule ID:*			
2		IF Image monitor in LIVE mode type: [If]		Next Step: THEN 3 ELSE 9	
3		Verify initial conditions		Next Step: 4	
		Check: - ACC in Operational Mode			
		ACMS SOE to confirm ACC mode			
4		Manual Stack manipulation		Next Step: 5	
		IMPORTANT: - On each SGM A and B, the memory **area** is split in **two parts** where the **first part** is **write protected** and **second part** is **unprotected**. - **Each** protected and unprotected area is divided into **one part** allocated to the **ASW** and **one part** allocated to the **BSW**			
		The allocation of the 4 SGM memory areas - BSW Write Protected - ASW Write Protected - BSW Not Protected - ASW Not Protected is defined through HPSDB parameters: **SGM_ASW_BEG_P_ADDR** Start address of the protected part of the ASW SGM, byte offset within SGM **SGM_BSW_BEG_ADDR** Start address of the non protected BSW part of the SGM, byte offset within SGM **SGM_ASW_BEG_ADDR_VALUE** Start address of the non protected part of the ASW SGM, byte offset within SGM			

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		For ACMS **ASW v.4.0** and **BSW v.2.0**: **SGM_ASW_BEG_P_ADDR = 80 hex** **SGM_BSW_BEG_ADDR = 40000 hex** **SGM_ASW_BEG_ADDR_VALUE = 86100 hex**			
		For ACMS **ASW v.4.0** and **BSW v.2.0**,the definitions of the 4 SGM memory areas are: **SGM BSW WP** Start Address = **0.0000** hex Length = **80** hex **SGM ASW WP** Start Address = **0.0080** hex Length = **3FF80** hex			
		SGM BSW NP Start Address = **4.0000** hex Length = **46100** hex **SGM ASW NP** Start Address = **8.6100** hex Length = **39F00** hex			
		IMPORTANT: All **accesses to SGM** memory must be **32-bit** transfers, **aligned** to **32-bit** boundaries.			
4.1		Load command stack file for SGM A BSW Write Protected part on top of Manual Stack			
		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			
		Select file **ASGMAMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ASGMAMEM 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: ASGMAMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ASGMAMEM1, ID 0003, Version 001 associated to the memory image: ASGMAMEM_DI_0002001_C_ASGMAMEM1_0003001_2007_337T093320.sun043			
4.2		Check memory dump command stack loaded			
		For a **full** ACC SGM BSW WP area **dump**: **Start Address** = **0.0000 hex** **End Address** = **0.007F hex** **Length** = **80 hex**			
		Check that loaded stack contains: **1** TC **AC063109**			
		Display the Manual Stack in 'Full mode' and check the **Memory ID, Start Address** and **Length** parameters in the AC063109 command: **Memory ID = 00B hex** **Start Address = 0.0000 hex** **Length = 80 hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID** **AH6M0109** **00B0 <hex>** **Start Address** **AH6M1109** **0000 <hex>** (Def) **Length SAU** **AH6M3109** **80 <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**	
4.3		Load command stack file for SGM A ASW Write Protected part on top of Manual Stack			
		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			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Select file **ASGMAMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ASGMAMEM 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: ASGMAMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ASGMAMEM1, ID 0003, Version 001 associated to the memory image: ASGMAMEM_DI_0002001_C_ASGMAMEM1_0003001_2007_337T093320.sun043			
4.4		Check memory dump command stack loaded			
		For a **full** ACC SGM ASW WP area **dump**: **Start Address = 0.0080 hex** **End Address = 3.FFFF hex** **Length = 3FF80 hex**			
4.4.1		Check number of memory dump commands in the stack			
		Check that loaded stack contains: **4** TCs **AC063109**			
4.4.2		Check Memory ID			
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the AC063109 command(s) is set to **00B hex**: **Memory ID = 00B hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		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** **00Bx <hex>** **0 <hex>** (Def) **0 <hex>** (Def)	**TC**	
4.4.3		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** = **0.0080 hex** **Length** = **FFFC hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		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** **00B0 <hex>** **0080 <hex>** **FFFC <hex>**	**TC**	
4.4.4		Check start address and length of the last dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the last AC063109 command: **Start Address** = **3.0074 hex** **Length** = **FF8C hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		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** **00B3 <hex>** **0074 <hex>** **FF8C <hex>**	**TC**	
4.5		Load command stack file for SGM A BSW Not Protected part on top of Manual Stack			
		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			
		Select file **ASGMAMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ASGMAMEM 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: ASGMAMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ASGMAMEM1, ID 0003, Version 001 associated to the memory image: ASGMAMEM_DI_0002001_C_ASGMAMEM1_0003001_2007_337T093320.sun043			
4.6		Check memory dump command stack loaded			
		For a **full** ACC SGM BSW NP area **dump**: **Start Address** = **4.0000 hex** **End Address** = **8.60FF hex** **Length** = **46100 hex**			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
4.6.1		Check number of memory dump commands in the stack			
		Check that loaded stack contains: **5** TCs **AC063109**			
4.6.2		Check Memory ID			
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the AC063109 command(s) is set to **00B hex**: **Memory ID = 00B hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID** **AH6M0109** **00Bx <hex>** **Start Address** **AH6M1109** **0 <hex>** (Def) **Length SAU** **AH6M3109** **0 <hex>** (Def) *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**	
4.6.3		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** = **4.0000 hex** **Length** = **FFFC hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		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** **00B4 <hex>** **0000 <hex>** (Def) **FFFC <hex>**	**TC**	
4.6.4		Check start address and length of the last dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the last AC063109 command: **Start Address** = **7.FFF0 hex** **Length** = **6110 hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		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** **00B7 <hex>** **FFF0 <hex>** **6110 <hex>**	**TC**	
4.7		Load command stack file for SGM A ASW Not Protected part on top of Manual Stack			
		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			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Select file **ASGMAMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ASGMAMEM 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: ASGMAMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ASGMAMEM1, ID 0003, Version 001 associated to the memory image: ASGMAMEM_DI_0002001_C_ASGMAMEM1_0003001_2007_337T093320.sun043			
4.8		Check memory dump command stack loaded			
		For a **full** ACC SGM ASW NP area **dump**: **Start Address = 8.6100 hex** **End Address = B.FFFF hex** **Length = 39F00 hex**			
4.8.1		Check number of memory dump commands in the stack			
		Check that loaded stack contains: **4** TCs **AC063109**			
4.8.2		Check Memory ID			
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the AC063109 command(s) is set to **00B hex**: **Memory ID = 00B hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		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** **00Bx <hex>** **0 <hex>** (Def) **0 <hex>** (Def)	**TC**	
4.8.3		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** = **8.6100 hex** **Length** = **FFFC hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		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** **00B8 <hex>** **6100 <hex>** **FFFC <hex>**	**TC**	
4.8.4		Check start address and length of the last dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the last AC063109 command: **Start Address** = **B.60F4 hex** **Length** = **9F0C hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand **Dump Memory**	**AC063109**	**TC**	
		Command Parameter(s) : **Memory ID** **AH6M0109** **00BB <hex>** **Start Address** **AH6M1109** **60F4 <hex>** **Length SAU** **AH6M3109** **9F0C <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			
5		MCS OBSM preparation for Image Update in LIVE mode		Next Step: 6	
		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.			
5.1		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.			
5.2		Select image to be updated			
		Select the image to be updated for the memory device **ASGMAMEM.** The 'Image UPDATE' window opens.			
5.3		Start dump TM processing			
		In **LIVE** mode, processing of incoming real-time telemetry starts automatically after the image selection.			
6		Command memory dump		Next Step: 7	
		Uplink the **AC063109** memory dump commands with **ARM-GO**			
		For each command, one or more TM(6,6) packets must be received on ground.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
7		Verify reception of TM(6,6)		Next Step: 8	
		Note: One or more TM(6,6) packets will be received for each memory dump command uplinked.			
		Verify Packet Reception Memory Dump - Absolute Addresses - SAU 8 Packet Mnemonic : MemDmpAbsAdd APID : 512 Type : 6 Subtype : 6 PI1 : PI2 :			
7.1		Check OBSM dump packet processing			
		Check that the OBSM is processing the incoming memory dump packets.			
8		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			
	OFCP244B	*TC Seq. Name :* OFCP244B (ACC SGM A Dmp B) ACC SGM A Gnd image update in Retrieval mode *TimeTag Type:* *Sub Schedule ID:* □			
9		MCS OBSM preparation for Image update in RETRIEVAL mode		Next Step: 10	
		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.			
9.1		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.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
9.2		Select image to be updated			
		Select the image to be updated for the memory device **ASGMAMEM.** The 'Image UPDATE' window opens.			
9.3		Start dump TM packets processing			
		Set **retrieval start** and **stop time** and start retrieval of TM packets using the **PLAY buttons**.			
10		Retrieve and process TM(6,6) packets		Next Step: 11	
		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.			
10.1		Check OBSM dump packet processing			
		Check that the OBSM is processing the retrieved memory dump packets.			
11		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			
	OFCP244C	*TC Seq. Name :* OFCP244C (ACC SGM B Dmp C) ACC SGM B Gnd image update in Live mode *TimeTag Type: B* *Sub Schedule ID:* □			
12		IF Image monitor in LIVE mode type: [If]		Next Step: ELSE 19 THEN 13	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
13		Verify initial conditions		Next Step: 14	
		Check: - ACC in Operational Mode			
		ACMS SOE to confirm ACC mode			
14		Manual Stack manipulation		Next Step: 15	
		IMPORTANT: - On each SGM A and B, the memory **area** is split in **two parts** where the **first part** is **write protected** and **second part** is **unprotected**. - **Each** protected and unprotected area is divided into **one part** allocated to the **ASW** and **one part** allocated to the **BSW**			
		The allocation of the 4 SGM memory areas - BSW Write Protected - ASW Write Protected - BSW Not Protected - ASW Not Protected is defined through HPSDB parameters: **SGM_ASW_BEG_P_ADDR** Start address of the protected part of the ASW SGM, byte offset within SGM **SGM_BSW_BEG_ADDR** Start address of the non protected BSW part of the SGM, byte offset within SGM **SGM_ASW_BEG_ADDR_VALUE** Start address of the non protected part of the ASW SGM, byte offset within SGM			
		For ACMS **ASW v.4.0** and **BSW v.2.0**: **SGM_ASW_BEG_P_ADDR = 80 hex** **SGM_BSW_BEG_ADDR = 40000 hex** **SGM_ASW_BEG_ADDR_VALUE = 86100 hex**			
		For ACMS **ASW v.4.0** and **BSW v.2.0**,the definitions of the 4 SGM memory areas are: **SGM BSW WP** Start Address = **0.0000** hex Length = **80** hex **SGM ASW WP** Start Address = **0.0080** hex Length = **3FF80** hex			
		SGM BSW NP Start Address = **4.0000** hex Length = **46100** hex **SGM ASW NP** Start Address = **8.6100** hex Length = **39F00** hex			
		IMPORTANT: All **accesses to SGM** memory must be **32-bit** transfers, **aligned** to **32-bit** boundaries.			

Update ACC SGM ground image from memory dump
File: H_FCP_OBS_2449.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
14.1		Load command stack file for SGM B BSW Write Protected part on top of Manual Stack			
		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			
		Select file **ASGMBMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ASGMBMEM 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: ASGMBMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ASGMBMEM1, ID 0003, Version 001 associated to the memory image: ASGMBMEM_DI_0002001_C_ASGMBMEM1_0003001_2007_337T093320.sun043			
14.2		Check memory dump command stack loaded			
		For a **full** ACC SGM BSW WP area **dump**: **Start Address = 0.0000 hex** **End Address = 0.007F hex** **Length = 80 hex**			
		Check that loaded stack contains: **1** TC **AC063109**			

Update ACC SGM ground image from memory dump
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Display the Manual Stack in 'Full mode' and check the **Memory ID, Start Address** and **Length** parameters in the AC063109 command: **Memory ID = 00E hex** **Start Address = 0.0000 hex** **Length = 80 hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID AH6M0109 00E0 <hex>** **Start Address AH6M1109 0000 <hex>** (Def) **Length SAU AH6M3109 80 <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**	
14.3		Load command stack file for SGM B ASW Write Protected part on top of Manual Stack			
		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			
		Select file **ASGMBMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ASGMBMEM 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: ASGMBMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ASGMBMEM1, ID 0003, Version 001 associated to the memory image: ASGMBMEM_DI_0002001_C_ASGMBMEM1_0003001_2007_337T093320.sun043			
14.4		Check memory dump command stack loaded			
		For a **full** ACC SGM ASW WP area **dump**: **Start Address** = **0.0080 hex** **End Address = 3.FFFF hex** **Length = 3FF80 hex**			
14.4.1		Check number of memory dump commands in the stack			
		Check that loaded stack contains: **4** TCs **AC063109**			
14.4.2		Check Memory ID			
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the AC063109 command(s) is set to **00E hex**: **Memory ID = 00E hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID** **AH6M0109** **00Ex <hex>** **Start Address** **AH6M1109** **0 <hex>** (Def) **Length SAU** **AH6M3109** **0 <hex>** (Def) *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**	
14.4.3		Check start address and length of the first dump command in the stack			

Update ACC SGM ground image from memory dump
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the first AC063109 command: **Start Address** = **0.0080 hex** **Length = FFFC hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID AH6M0109 00E0 <hex>** **Start Address AH6M1109 0080 <hex>** **Length SAU AH6M3109 FFFC <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**	
14.4.4		Check start address and length of the last dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the last AC063109 command: **Start Address** = **3.0074 hex** **Length = FF8C hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID AH6M0109 00E3 <hex>** **Start Address AH6M1109 0074 <hex>** **Length SAU AH6M3109 FF8C <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**	
14.5		Load command stack file for SGM B BSW Not Protected part on top of Manual Stack			

Update ACC SGM ground image from memory dump
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		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			
		Select file **ASGMBMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ASGMBMEM 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: ASGMBMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ASGMBMEM1, ID 0003, Version 001 associated to the memory image: ASGMBMEM_DI_0002001_C_ASGMBMEM1_0003001_2007_337T093320.sun043			
14.6		Check memory dump command stack loaded			
		For a **full** ACC SGM BSW NP area **dump**: **Start Address = 4.0000 hex** **End Address = 8.60FF hex** **Length = 46100 hex**			
14.6.1		Check number of memory dump commands in the stack			
		Check that loaded stack contains: **5** TCs **AC063109**			
14.6.2		Check Memory ID			

Update ACC SGM ground image from memory dump
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the AC063109 command(s) is set to **00E hex**: **Memory ID = 00E hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID** **AH6M0109** **00Ex <hex>** **Start Address** **AH6M1109** **0 <hex>** (Def) **Length SAU** **AH6M3109** **0 <hex>** (Def) *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**	
14.6.3		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** = **4.0000 hex** **Length** = **FFFC hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID** **AH6M0109** **00E4 <hex>** **Start Address** **AH6M1109** **0000 <hex>** (Def) **Length SAU** **AH6M3109** **FFFC <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**	
14.6.4		Check start address and length of the last dump command in the stack			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the last AC063109 command: **Start Address** = **7.FFF0 hex** **Length = 6110 hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID AH6M0109 00E7 <hex>** **Start Address AH6M1109 FFF0 <hex>** **Length SAU AH6M3109 6110 <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**	
14.7		Load command stack file for SGM B ASW Not Protected part on top of Manual Stack			
		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			
		Select file **ASGMBMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine** from directory /home/hmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/ASGMBMEM 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			

Update ACC SGM ground image from memory dump
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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: ASGMBMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT ASGMBMEM1, ID 0003, Version 001 associated to the memory image: ASGMBMEM_DI_0002001_C_ASGMBMEM1_0003001_2007_337T093320.sun043			
14.8		Check memory dump command stack loaded			
		For a **full** ACC SGM ASW NP area **dump**: **Start Address** = **8.6100 hex** **End Address = B.FFFF hex** **Length = 39F00 hex**			
14.8.1		Check number of memory dump commands in the stack			
		Check that loaded stack contains: **4** TCs **AC063109**			
14.8.2		Check Memory ID			
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the AC063109 command(s) is set to **00E hex**: **Memory ID = 00E hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID** **AH6M0109** **00Ex <hex>** **Start Address** **AH6M1109** **0 <hex>** (Def) **Length SAU** **AH6M3109** **0 <hex>** (Def) *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**	
14.8.3		Check start address and length of the first dump command in the stack			

Update ACC SGM ground image from memory dump
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the first AC063109 command: **Start Address** = **8.6100 hex** **Length** = **FFFC hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID** **AH6M0109** **00E8 <hex>** **Start Address** **AH6M1109** **6100 <hex>** **Length SAU** **AH6M3109** **FFFC <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**	
14.8.4		Check start address and length of the last dump command in the stack			
		With the Manual Stack in 'Full mode', check the **Start Address** and **Length** in the last AC063109 command: **Start Address** = **B.60F4 hex** **Length** = **9F0C hex** **Note**: The Memory ID of the target memory device is stored in the MS 12 bits of the 16-bit long Mem ID TM parameter. The LS 4 bits of the same parameter carry the most significant 4 bits of the Start Address.			
		Execute Telecommand **Dump Memory** **AC063109** *Command Parameter(s) :* **Memory ID** **AH6M0109** **00EB <hex>** **Start Address** **AH6M1109** **60F4 <hex>** **Length SAU** **AH6M3109** **9F0C <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**	
15		MCS OBSM preparation for Image Update in LIVE mode		Next Step: 16	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		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.			
15.1		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.			
15.2		Select image to be updated			
		Select the image to be updated for the memory device **ASGMBMEM.** The 'Image UPDATE' window opens.			
15.3		Start dump TM processing			
		In **LIVE** mode, processing of incoming real-time telemetry starts automatically after the image selection.			
16		Command memory dump		Next Step: 17	
		Uplink the **AC063109** memory dump commands with **ARM-GO**			
		For each command, one or more TM(6,6) packets must be received on ground.			
17		Verify reception of TM(6,6)		Next Step: 18	
		Note: One or more TM(6,6) packets will be received for each memory dump command uplinked.			
		Verify Packet Reception Memory Dump - Absolute Addresses - SAU 8 Packet Mnemonic : MemDmpAbsAdd APID : 512 Type : 6 Subtype : 6 PI1 : PI2 :			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
17.1		Check OBSM dump packet processing			
		Check that the OBSM is processing the incoming memory dump packets.			
18		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			
	OFCP244D	*TC Seq. Name :* OFCP244D (ACC SGM A Dmp D) ACC SGM B Gnd image update in Retrieval mode *TimeTag Type:* *Sub Schedule ID:* □			
19		MCS OBSM preparation for Image update in RETRIEVAL mode		Next Step: 20	
		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.			
19.1		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.			
19.2		Select image to be updated			
		Select the image to be updated for the memory device **ASGMBMEM.** The 'Image UPDATE' window opens.			
19.3		Start dump TM packets processing			
		Set **retrieval start** and **stop time** and start retrieval of TM packets using the **PLAY buttons**.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
20		Retrieve and process TM(6,6) packets		Next Step: 21	
		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.			
20.1		Check OBSM dump packet processing			
		Check that the OBSM is processing the retrieved memory dump packets.			
21		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			
		End of Procedure			