

SpireEngCheckPM Daily  
 File: H\_COP\_SPI\_DCKS.xls  
 Author: L.Lucas-hp



## Procedure Summary

### Objectives

At the behest of SPIRE ICC this procedure to check the SPIRE Memory area in case of bit-flips is to be performed during every DTCP, provided SPIRE is in REDY mode.

Based on procedure:  
 Name: SpireEngCheckPM  
 Version number:1  
 Generated: 14 July 2010

### Summary of Constraints

n/a

### Spacecraft Configuration

#### Start of Procedure

SPIRE mode = REDY

#### End of Procedure

SPIRE mode = REDY

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HCSDCKSS  
 HCSDCKSF

### Referenced Displays

**ANDs**      **GRDs**      **SLDs**  
 ZAZD4999  
 SAM4\_500

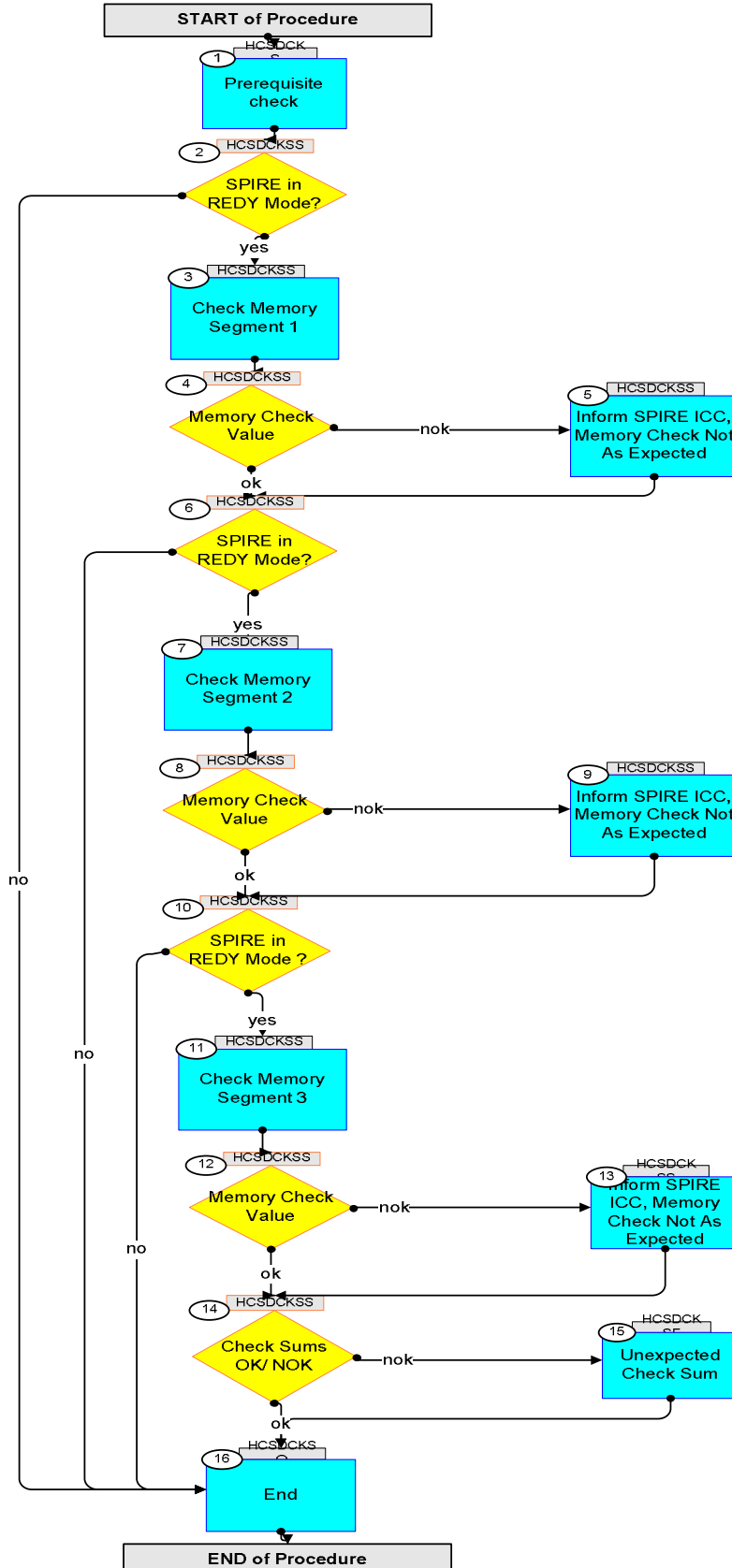
### Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
16/07/2010	3.1	1	Created	L.Lucas-hp	

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## Procedure Flowchart Overview



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## Procedure Flowchart Overview

END of Procedure

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<b>Beginning of Procedure</b>				
<p><i>TC Seq. Name : HCS DCKS (DailyCheckMemSegs)</i></p> <p><i>TimeTag Type: Y</i>  <i>Sub Schedule ID:</i></p> <p style="text-align: center;">□</p>				
1		Prerequisite check		Next Step: 2
		SPIRE MUST be in REDY mode to perform this procedure		
		Ensure the following displays are avialable to you, AND SAM4_500: MEMORY CHECK REPORT TM Packet History		
		Between sending each command TM <b>must</b> be checked. Note the TM value will be overwritten each time the command is sent, so it is important to check the TM between sending each command.		
1.1		Check SPIRE Mode		□
		Verify SPIRE Mode before continuing <b>MODE</b> <b>SM00M500</b>	<b>= REDY</b>	AND=ZAZD4999
<p><i>TC Seq. Name : HCS DCKSS (DailyCheckMemSeg1)</i></p> <p><i>TimeTag Type: B</i>  <i>Sub Schedule ID:</i></p> <p style="text-align: center;">□</p>				
2		SPIRE in REDY Mode?		Next Step: yes 3 no 16
		SPIRE MUST be in REDY mode to perform these memory checks		
		Verify SPIRE Mode before continuing <b>MODE</b> <b>SM00M500</b>	<b>= REDY</b>	AND=ZAZD4999
		Make note of this value for later comparison <b>CHK_MCHK</b> <b>SMMBN500</b>		AND=SAM4_500
3		Check Memory Segment 1		Next Step: 4
		Verify SPIRE Mode before continuing <b>MODE</b> <b>SM00M500</b>	<b>= 512 &lt;dec&gt;</b>	AND=ZAZD4999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	CHECK_MEMORY_RAW  CHECK_MEMORY  Command Parameter(s) : MEMORYID_CHECKMEM           SPM9N500 STARTADDR_CHECKMEM         SPMAN500 NSAU_CHECKMEM                SPMBN500  TC Control Flags :  GBM IL DSE --Y -- --  Subsch. ID : 370 Det. descr. : CHECK MEMORY USING ABSOLUTE ADDRESSES	SCM02500  0 <hex> 4000 <hex> 174B <hex>	
		After sending this command, wait 10 seconds; then check for reception of a 1,7 in the Packet History and the new value of TM SMMBN500		
4		Memory Check Value		Next Step: nok 5 ok 6
		Is Memory Check Value As Expected?		
		Verify New Value  CHK_MCHK            SMMBN500	= E9C4 <hex>	AND=SAM4_500
5		Inform SPIRE ICC, Memory Check Not As Expected		Next Step: 6
		If the value of TM SMMBN500 is not a expected, please inform SPIRE ICC.		
6		SPIRE in REDY Mode?		Next Step: yes 7 no 16
		SPIRE MUST be in REDY mode to perform these memory checks		
		Verify SPIRE Mode before continuing  MODE                SM00M500	= REDY	AND=ZAZD4999
		Make note of this value for later comparison  CHK_MCHK            SMMBN500		AND=SAM4_500
7		Check Memory Segment 2		Next Step: 8

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.08	CHECK_MEMORY_RAW  CHECK_MEMORY  Command Parameter(s) : MEMORYID_CHECKMEM           SPM9N500 STARTADDR_CHECKMEM         SPMAN500 NSAU_CHECKMEM                SPMBN500  TC Control Flags :  GBM IL DSE --Y -- --  Subsch. ID : 370 Det. descr. : CHECK MEMORY USING ABSOLUTE ADDRESSES	SCM02500  0 <hex> 6000 <hex> FFFF <hex>	
		After sending this command, wait 10 seconds; then check for reception of a 1,7 in the Packet History and the new value of TM SMMBN500		
8		Memory Check Value		Next Step: ok 10 nok 9
		Is Memory Check Value As Expected?		
		Verify New Value  CHK_MCHK                SMMBN500	= 5DC1 <hex>	AND=SAM4_500
9		Inform SPIRE ICC, Memory Check Not As Expected		Next Step: 10
		If the value of TM SMMBN500 is not a expected, please inform SPIRE ICC.		
10		SPIRE in REDY Mode ?		Next Step: yes 11 no 16
		SPIRE MUST be in REDY mode to perform these memory checks		
		Verify SPIRE Mode before continuing  MODE                SM00M500	= REDY	AND=ZAZD4999
		Make note of this value for later comparison  CHK_MCHK                SMMBN500		AND=SAM4_500
11		Check Memory Segment 3		Next Step: 12

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.08	CHECK_MEMORY_RAW  CHECK_MEMORY  Command Parameter(s) : MEMORYID_CHECKMEM           SPM9N500 STARTADDR_CHECKMEM         SPMAN500 NSAU_CHECKMEM                SPMBN500  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 370 Det. descr. : CHECK MEMORY USING ABSOLUTE ADDRESSES	SCM02500  0 <hex> 15FFF <hex> 59 <hex>	
		After sending this command, wait 10 seconds; then check for reception of a 1,7 in the Packet History and the new value of TM SMMBN500		
12		Memory Check Value		Next Step: nok 13 ok 14
		Is Memory Check Value As Expected?		
		Verify New Value  CHK_MCHK            SMMBN500	= 305F <hex>	AND=SAM4_500
13		Inform SPIRE ICC, Memory Check Not As Expected		Next Step: 14
		If the value of TM SMMBN500 is not a expected, please inform SPIRE ICC.		
14		Check Sums OK/ NOK		Next Step: nok 15 ok 16
		Were ALL of the Check Sum values as expected?		
		If any memory check value was not as expected the SPIRE SubSchedule Must be disabled		
TC Seq. Name :HCS DCKSF (MemoryCheckSegFails)  TimeTag Type: N Sub Schedule ID:  <input type="checkbox"/>				
15		Unexpected Check Sum		Next Step: 16
		If any checksum was not as expected, the SPIRE subschedule must be disabled and SPIRE ICC informed		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Disabling the subschedule is achieved in three stages; report and check status of subschedules, disable SPIRE subschedules (100 and 370), check status of subschedules.		
15.1		Check the OBDQ Display		<input type="checkbox"/>
		Check the OBDQ Display to confirm the current status of the subschedules.		
15.2		Report the Status of the SubSchedules		<input type="checkbox"/>
		Execute Telecommand <b>RetStatusOfCmdSchedule</b> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE ReportStatusOfCmdSchedule, TC(11,18), no appl. data	DCT25170	
		Check the OBQD and note which subschedules are disabled.		
15.3		Disable the SPIRE Subschedule (and meta).		<input type="checkbox"/>
		Execute Telecommand <b>DisableRelOfTcs_Templ</b> Command Parameter(s) : N_Repetition DH041170 2 <dec> SubscheduleId DH053170 100 <dec> SubscheduleId DH053170 370 <dec> M_nrOfApidS DH054170 0 <dec> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE DisableReleaseOfTcs, TC(11,2)	DCT23170	
15.4		Report the Status of the SubSchedules		<input type="checkbox"/>
		Execute Telecommand <b>RetStatusOfCmdSchedule</b> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE ReportStatusOfCmdSchedule, TC(11,18), no appl. data	DCT25170	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Wait ~ 12 seconds, if the OBDQ does not update, click Refresh/Reload/Update. Check the OBQD and check subschedules 100 and 370 have been disabled.		
15.5		Inform SPIRE ICC		<input type="checkbox"/>
		Inform SPIRE ICC that a Memory check failed and the SPIRE subschedule has been disabled.		
<p>TC Seq. Name :HCSDCSQ (CheckMemoryQuit)</p> <p>TimeTag Type: Sub Schedule ID:</p> <p><input type="checkbox"/></p>				
16		End		Next Step: END
		That's All Folks! See you again tomorrow		
<b>End of Procedure</b>				