

SMEC_INIT
 File: H_COP_SPI_SMIR.xls
 Author: L.Lucas-hp



Procedure Summary

Objectives

The purpose of this procedure is a SMEC Initialisation Test on the RED
 Based on Procedure :
 SMEC_INIT (v4)

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

Sub-Mode: SMEC_ON

End of Procedure

Sub-Mode: SMEC_INIT

Reference File(s)

Input Command Sequences

Output Command Sequences

HCSSMIR

Referenced Displays

ANDs	GRDs	SLDs
SAS0_559		
ZAZ90999		
SA_1_559		
SA_6_559		

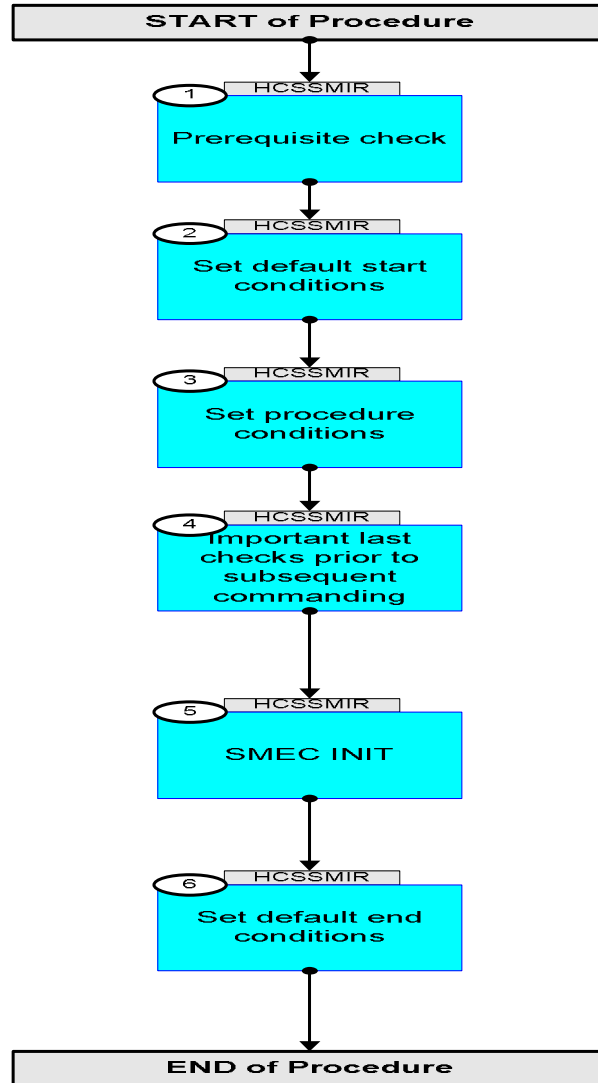
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
22/12/08		1	Created	L.Lucas-hp	
28/01/09	2	2	Removed ETs for ease of loading onto Manual Stack	L.Lucas-hp	

SMEC_INIT
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Procedure Flowchart Overview



SMEC_INIT File: H_COP_SPI_SMIR.xls Author: L.Lucas-hp	 
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
Beginning of Procedure					
HCSSMIR <i>TC Seq. Name : HCSSMIR (SMEC_INIT)</i> <i>TimeTag Type: Y</i> <i>Sub Schedule ID:</i> <div style="text-align: center;">□</div>					
1		Prerequisite check		Next Step: 2	
1.1		HSC/ICC input			
		Verify that the HSC has supplied a valid OBSID value: OBS_ID = 0xnnnn nnnn			
		Note: Check with the Instrument Team for the SMECFFoffset to use for 1st SEND_DRCU_COMMAND TC			
		Verify Telemetry SMECFFOFFSET SMS0A515		AND=SAS0_559	
2		Set default start conditions		Next Step: 3	
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands			
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP <i>Command Parameter(s) :</i> OBSERVATION_STEP SP03N500 <i>Subsch. ID : 370</i> <i>Det. descr. : SET OBSERVATION STEP</i>	SC003500	TC	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID <i>Command Parameter(s) :</i> BUILDING_BLOCK_ID SP01N500 <i>Subsch. ID : 370</i> <i>Det. descr. : SET BUILDING BLOCK IDENTIFIER</i>	SC001500	TC	
		Verify Telemetry BBFULLTYPE SM2LN500	= ClearObs	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP <i>Command Parameter(s) :</i> OBSERVATION_STEP SP03N500 <i>Subsch. ID : 370</i> <i>Det. descr. : SET OBSERVATION STEP</i>	SC003500	TC	

SMEC_INIT
 File: H_COP_SPI_SMIR.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID SC000500 00000000 <hex>	TC	
		Verify Telemetry OBSID SM10N500	= 00000000 <hex>	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 80000000 <hex>	TC	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 80020001 <hex>	TC	
		Verify Telemetry BBFULLTYPE SM2LN500	= StartObs	AND=ZAZ90999	
3		Set procedure conditions		Next Step: 4	
	ET=+ UT=+00.00.00	RESET_DRCU_COUNTERS Subsch. ID : 370 Det. descr. : RESET DRCU COUNTERS	RESET_DRCU_COUNTERS SCD00505	TC	
		Verify that the TRESET parameter has the same value as the THSK parameter TRESET SM01T500	same as THSK	AND=SA_1_559	
		THSK SM00T500	any	AND=SA_1_559	
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands			

SMEC_INIT
 File: H_COP_SPI_SMIR.xls
 Author: L.Lucas-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 1 <hex>	TC	
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID SC000500 OBS_ID	TC	
		Verify Telemetry OBSID SM10N500	OBS_ID	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 80000000 <hex>	TC	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 82000001 <hex>	TC	
		Verify Telemetry BBFULLTYPE SM2LN500	= Initialise_FTS	AND=SA_6_559	
4		Important last checks prior to subsequent commanding		Next Step: 5	
		Note: Check with the Instrument Team for the SMECFFOffset to use for 1st SEND_DRCU_COMMAND TC			
		Verify Telemetry SMECFFOFFSET SMS0A515		AND=SAS0_559	

SMEC_INIT
 File: H_COP_SPI_SMIR.xls
 Author: L.Lucas-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
5		SMEC INIT		Next Step: 6	
	ET=+ UT=+00.00.03	SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SEND_DRCU_COMMAND SCD06505 90557A44 <hex> 0 <hex> (Def)	TC	
		Verify TM parameter value agrees with commanded value SMECFFOFFSET SMS0A515		AND=SAS0_559	
		Note: This TC may need to be sent more than once			
		Note: Check with the Instrument Team for the SMECFFgain to use for the next SEND_DRCU_COMMAND TC			
		Verify Telemetry SMECFFGAIN SMS5N515		AND=SAS0_559	
	ET=+ UT=+00.00.15	SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SEND_DRCU_COMMAND SCD06505 90541901 <hex> 0 <hex> (Def)	TC	
		Verify TM parameter value agrees with commanded value SMECFFGAIN SMS5N515		AND=SAS0_559	
		Note: This TC may need to be sent more than once			
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SEND_DRCU_COMMAND SCD06505 90450000 <hex> 0 <hex> (Def)	TC	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SEND_DRCU_COMMAND SCD06505 90460000 <hex> 0 <hex> (Def)	TC	

SMEC_INIT
 File: H_COP_SPI_SMIR.xls
 Author: L.Lucas-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90490001 <hex> 0 <hex> (Def)	TC	
	ET=+ UT=+00.00.10	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90490004 <hex> 0 <hex> (Def)	TC	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 90490001 <hex> 0 <hex> (Def)	TC	
		The next set of SEND_DRCU_COMMAND TCs set the SMEC control loop parameters			
		Note: Check with the Instrument Team the value of each parameter before sending a TC			
		Set the SMEC LVDT scale factor			
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 905f23be <hex> 0 <hex> (Def)	TC	
		Set the SMEC slew rate limiter			
	ET=+ UT=+00.00.02	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 9051012c <hex> 0 <hex> (Def)	TC	

SMEC_INIT
 File: H_COP_SPI_SMIR.xls
 Author: L.Lucas-hp



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Set the SMEC integration limit			
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
		Set the SMEC derivative filter			
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
		Set the SMEC Kd			
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
		Close the SMEC loop on the encoders			
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
	ET=+ UT=+00.00.02	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
		Set the SMEC Kp and Ki			

SMEC_INIT
 File: H_COP_SPI_SMIR.xls
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.05	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE ---- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 904a07d0 <hex> 0 <hex> (Def)	TC	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE ---- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 904d03e8 <hex> 0 <hex> (Def)	TC	
	ET=+ UT=+00.00.01	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 TC Control Flags : GBM IL DSE ---- Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.00	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 TC Control Flags : GBM IL DSE ---- Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80000000 <hex>	TC	
	ET=+ UT=+00.00.01	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 TC Control Flags : GBM IL DSE ---- Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.00	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 TC Control Flags : GBM IL DSE ---- Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 89090001 <hex>	TC	

SMEC_INIT
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.02	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505	TC	

SMEC_INIT
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 91c3ffff <hex> 0 <hex> (Def)	TC	
		Verify Telemetry SMECFPOFFSET SMS0A515		AND=SAS0_559	
6		Set default end conditions		Next Step: END	
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands			
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80000000 <hex>	TC	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80030001 <hex>	TC	
		Verify Telemetry BBFULLTYPE SM2LN500	= EndObs	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 1 <hex>	TC	

SMEC_INIT
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID SC000500 00000000 <hex>	TC	
		Verify Telemetry OBSID SM10N500	= 00000000 <hex>	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	TC	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 80000000 <hex>	TC	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999	
End of Sequence					
End of Procedure					