

BSM\_ON - Switch ON the BSM  
 File: H\_FCP\_SPI\_BSMN.xls  
 Author: R. Biggins



## Procedure Summary

### Objectives

The objective of this procedure is to switch ON the Beam Steering Mechanism (BSM) and transition to BSM\_ON mode

### Summary of Constraints

n/a

### Spacecraft Configuration

#### Start of Procedure

SPIRE is in REDY mode

#### End of Procedure

SPIRE is in BSM\_ON mode

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HFSBSMN

### Referenced Displays

**ANDs**      **GRDs**      **SLDs**  
 ZAZ90999

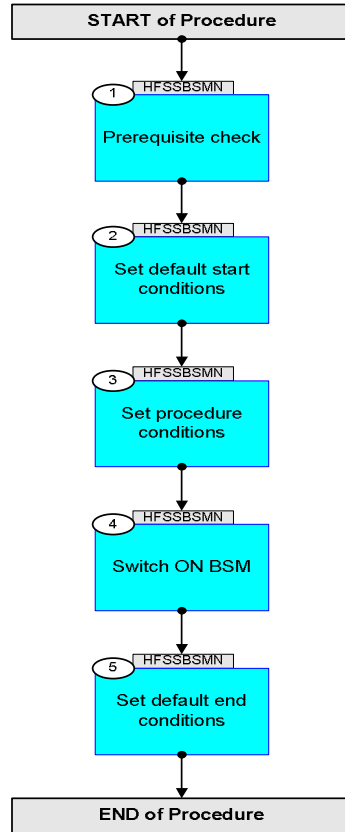
### Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
07/08/07		1	Created	R. Biggins	
15/01/08		2	Update due to initial testing against simulator: <input type="checkbox"/> - TCs updated due to new DB <input type="checkbox"/> - Bus profile selection TC added	R. Biggins	
24/01/08		3	Update due to changes in input file (BSM_ON: version 3) <input type="checkbox"/> - Execution times removed	R. Biggins	
22/02/08		4	Update due to testing against MOC Simulator: <input type="checkbox"/> - Time Tags updated <input type="checkbox"/> - BBID/OBSID TM checks added <input type="checkbox"/> - Editorial updates	R. Biggins	
03/03/08		5	Update due to comments by S. Sidher: <input type="checkbox"/> - Update to Define_New_HK_Report parameters	R. Biggins	
19/05/08	1	6	Updates due to SVT-1 testing: <input type="checkbox"/> - TM parameters added to RESET_DRCU_COUNTERS telecommand (step 3) <input type="checkbox"/> - DEFINE_NEW_HK_REPORT parameter [TABLE_ID] updated (=1) <input type="checkbox"/> - Default OBSID value updated to 0x0000 0000 <input type="checkbox"/> - AND updated for all TM parameters <input type="checkbox"/> - comments added	R. Biggins	
25/03/09	2.2	6.01	Validation : Checking	L.Lucas-hp	

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## Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<b>Beginning of Procedure</b>				
TC Seq. Name : HFSBSMN (Switch ON BSM)				
TimeTag Type: N Sub Schedule ID:  □				
1		Prerequisite check		Next Step: 2
		Verify Telemetry  <b>MODE</b> <b>SM00M500</b>	<b>= REDY</b>	AND=ZAZ90999
		Verify Telemetry  <b>CHOPSENSPWR</b> <b>SMC0W515</b>	<b>= OFF</b>	AND=ZAZ90999
		Verify Telemetry  <b>JIGGSENSPWR</b> <b>SMJ0W515</b>	<b>= OFF</b>	AND=ZAZ90999
2		Set default start conditions		Next Step: 3
		Note that a <b>TM(5,1)</b> packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.01	SET_OBS_STEP  <b>SET_OBS_STEP</b>  Command Parameter(s) : <b>OBSERVATION_STEP</b> <b>SP03N500</b>  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	<b>SC003500</b>  <b>0 &lt;hex&gt;</b>	
	ET=+ UT=+00.00.01	SET_BBID  <b>SET_BBID</b>  Command Parameter(s) : <b>BUILDING_BLOCK_ID</b> <b>SP01N500</b>  Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	<b>SC001500</b>  <b>80010001 &lt;hex&gt;</b>	
		Verify Telemetry  <b>BBFULLTYPE</b> <b>SM2LN500</b>	<b>= ClearObs</b>	AND=ZAZ90999
	ET=+ UT=+00.00.01	SET_OBS_STEP  <b>SET_OBS_STEP</b>  Command Parameter(s) : <b>OBSERVATION_STEP</b> <b>SP03N500</b>  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	<b>SC003500</b>  <b>1 &lt;hex&gt;</b>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SET_OBSID  Command Parameter(s) : OBSERVATION_ID  Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID  SP00N500  B0000000 <hex>	
		Verify Telemetry  OBSID SM10N500	= B0000000 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP  SP03N500  0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID  Command Parameter(s) : BUILDING_BLOCK_ID  Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID  SP01N500  80000000 <hex>	
		Verify Telemetry  BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999
	ET=+ UT=+00.00.01	SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP  SP03N500  0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID  Command Parameter(s) : BUILDING_BLOCK_ID  Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID  SP01N500  80020001 <hex>	
		Verify Telemetry  BBFULLTYPE SM2LN500	= StartObs	AND=ZAZ90999
3		Set procedure conditions		Next Step: 4

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	RESET_DRCU_COUNTERS  RESET_DRCU_COUNTERS  Subsch. ID : 370 Det. descr. : RESET DRCU COUNTERS	SCD00505	
		Verify that the TRESET parameter has the same value as the THSK parameter  TRESET SM01T500	same as THSK	AND=ZAZ90999
		THSK SM00T500	any	AND=ZAZ90999
		Note that a <b>TM(5,1)</b> packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.01	SET_OBS_STEP  SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP SP03N500  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500  1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID  SET_OBSID  Command Parameter(s) : OBSERVATION_ID SP00N500  Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SC000500  OBS_ID	
		Verify Telemetry  OBSID SM10N500	OBS_ID	AND=ZAZ90999
	ET=+ UT=+00.00.01	SET_OBS_STEP  SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP SP03N500  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500  0 <hex>	
	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>	
		Verify Telemetry  BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	Execute Telecommand  CLEAR_HK_REPORT  Command Parameter(s) : PCKTID_CLEARHK SPR6N500  Subsch. ID : 370 Det. descr. : CLEAR HOUSEKEEPING PARAMETER REPORT DEFINITION	SCR01500  301 <hex>	
		Verify: Packet has stopped being produced Nominal_HK_Parameter_Report Packet Details: APID: 1282 Type: 3 Subtype: 25 PI1: 769 PI2:	SNOMHK000559	
	ET=+ UT=+00.00.04	Execute Telecommand  DEFINE_NEW_HK_REPORT  Command Parameter(s) : HKPCKTID_DEFINENEWHK SPR0N500 HKSID_DEFINENEWHK SPR1N500 HKINTERVAL_DEFINENEWHK SPR2N500 HKREPEAT_DEFINENEWHK SPR3N500 TABLEID_DEFINENEWHK SPR4N500  Subsch. ID : 370 Det. descr. : DEFINE NEW HOUSEKEEPING PARAMETER REPORT	SCR00500  301 <hex> 301 <hex> 3E8 <hex> 1 <hex> 1 <hex>	
		Verify: Packet is being produced Nominal_HK_Parameter_Report Packet Details: APID: 1282 Type: 3 Subtype: 25 PI1: 769 PI2:	SNOMHK000559	
	ET=+ UT=+00.00.01	SET_OBS_STEP  SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP SP03N500  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500  0 <hex>	
	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  81000001 <hex>	
		Verify Telemetry  BBFULLTYPE SM2LN500	= BSM_SwitchOn	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SET_OBS_MODE  SET_OBS_MODE  Command Parameter(s) : OBSERVING_MODE                      SP02N500  Subsch. ID : 370 Det. descr. : SET OBSERVING MODE	SC002500  201 <hex>	
		Verify Telemetry  MODE                      SM00M500	= BSM_ON	AND=ZAZ90999
4		Switch ON BSM		Next Step: 5
	ET=+ UT=+00.00.01	Execute Telecommand  SelectActiveSCBP  Command Parameter(s) : SCBP                      DH049160  Subsch. ID : 10 Det. descr. : Select Active SCBP from SCBP Table	DC819160  SCBP_03	
		Verify Telemetry  BSW_SDB_ActProf                      DEF5F160	= 3 <dec>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetCSensorPwr  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                      SPD4N505 OVERRIDE                      SPD9N505  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  90C00001 <hex> 0 <hex> (Def)	
		Verify Telemetry  CHOPSENSPWR                      SMC0W515	= ON	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJSensorPwr  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                      SPD4N505 OVERRIDE                      SPD9N505  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  91400001 <hex> 0 <hex> (Def)	
		Verify Telemetry  JIGGSENSPWR                      SMJ0W515	= ON	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	Send DRCU command to SetChopLoopMode SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE           SPD9N505  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  90C20003 <hex> 0 <hex> (Def)	
		Verify Telemetry  CHOPLOOPMODE                   SMC0M515	= NO_SENSOR_BEMF	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJigLoopMode SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE           SPD9N505  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  91420003 <hex> 0 <hex> (Def)	
		Verify Telemetry  JIGGLOOPMODE                   SML3M515	= NO_SENSOR_BEMF	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetCFeedForwardGain SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE           SPD9N505  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  90CD0770 <hex> 0 <hex> (Def)	
		Verify Telemetry  CHOPFFGAIN                   SMC0N515	= 0770 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJFeedForwardGain SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE           SPD9N505  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  914D0F6E <hex> 0 <hex> (Def)	
		Verify Telemetry  JIGGFFGAIN                   SMJ0N515	= 0F6E <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetChopTargetPosition SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE           SPD9N505  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  90C38000 <hex> 0 <hex> (Def)	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry <b>CHOPPOSN</b> <b>SMC0P515</b>	= 8000 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	Send DRCU command to SetJigTargetPosition <b>SEND_DRCU_COMMAND</b>  Command Parameter(s) : <b>DRCUCOMMAND</b> <b>SPD4N505</b> <b>OVERRIDE</b> <b>SPD9N505</b>  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	<b>SCD06505</b>  <b>91438000 &lt;hex&gt;</b> <b>0 &lt;hex&gt;</b> (Def)	
		Verify Telemetry <b>JIGGPOSN</b> <b>SMJ0P515</b>	= 8000 <hex>	AND=ZAZ90999
5		Set default end conditions		Next Step: END
		Note that a <b>TM(5,1)</b> packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.01	SET_OBS_STEP  <b>SET_OBS_STEP</b>  Command Parameter(s) : <b>OBSERVATION_STEP</b> <b>SP03N500</b>  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	<b>SC003500</b>  <b>0 &lt;hex&gt;</b>	
	ET=+ UT=+00.00.01	SET_BBID  <b>SET_BBID</b>  Command Parameter(s) : <b>BUILDING_BLOCK_ID</b> <b>SP01N500</b>  Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	<b>SC001500</b>  <b>80000000 &lt;hex&gt;</b>	
		Verify Telemetry <b>BBFULLTYPE</b> <b>SM2LN500</b>	= Null	AND=ZAZ90999
	ET=+ UT=+00.00.01	SET_OBS_STEP  <b>SET_OBS_STEP</b>  Command Parameter(s) : <b>OBSERVATION_STEP</b> <b>SP03N500</b>  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	<b>SC003500</b>  <b>0 &lt;hex&gt;</b>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	
	ET=+ UT=+00.00.01	SET_BBID  Command Parameter(s) : BUILDING_BLOCK_ID  Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID  SP01N500  80030001 <hex>	SC001500	
		Verify Telemetry  BBFULLTYPE	SM2LN500	= EndObs	AND=ZAZ90999
	ET=+ UT=+00.00.01	SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP  SP03N500  1 <hex>	SC003500	
	ET=+ UT=+00.00.01	SET_OBSID  Command Parameter(s) : OBSERVATION_ID  Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID  SP00N500  00000000 <hex>	SC000500	
		Verify Telemetry  OBSID	SM10N500	= 00000000 <hex>	AND=ZAZ90999
	ET=+ UT=+00.00.01	SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP  SP03N500  0 <hex>	SC003500	
	ET=+ UT=+00.00.01	SET_BBID  Command Parameter(s) : BUILDING_BLOCK_ID  Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID  SP01N500  80000000 <hex>	SC001500	
		Verify Telemetry  BBFULLTYPE	SM2LN500	= Null	AND=ZAZ90999
<b>End of Procedure</b>					