

SPIRE-CP-FUNC-SMEC-01-LVDT-R SMEC Encoder/LVDT Sensor Check.  
File: H\_COP\_SPI\_LSCR.xls  
Author: L.Lucas-hp



## Procedure Summary

### Objectives

This procedure will perform a SMEC Encoder/LVDT Sensor Check (RED).

Based on procedure: SPIRE-CP-FUNC-SMEC-01-LVDT-R  
Name:Mode\_SMECFunc01\_LVDT  
Version number:1  
Generated:27/03/2009

### Summary of Constraints

Should be done before ejection of the cryo-cover.

Cooler is recycled, the detector temperatures are at <300 mK and as stable as possible.

### Spacecraft Configuration

#### Start of Procedure

Mode = REDY

#### End of Procedure

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HCSLSCR

### Referenced Displays

ANDs      GRDs      SLDs  
SA\_6\_559  
ZAZ90999

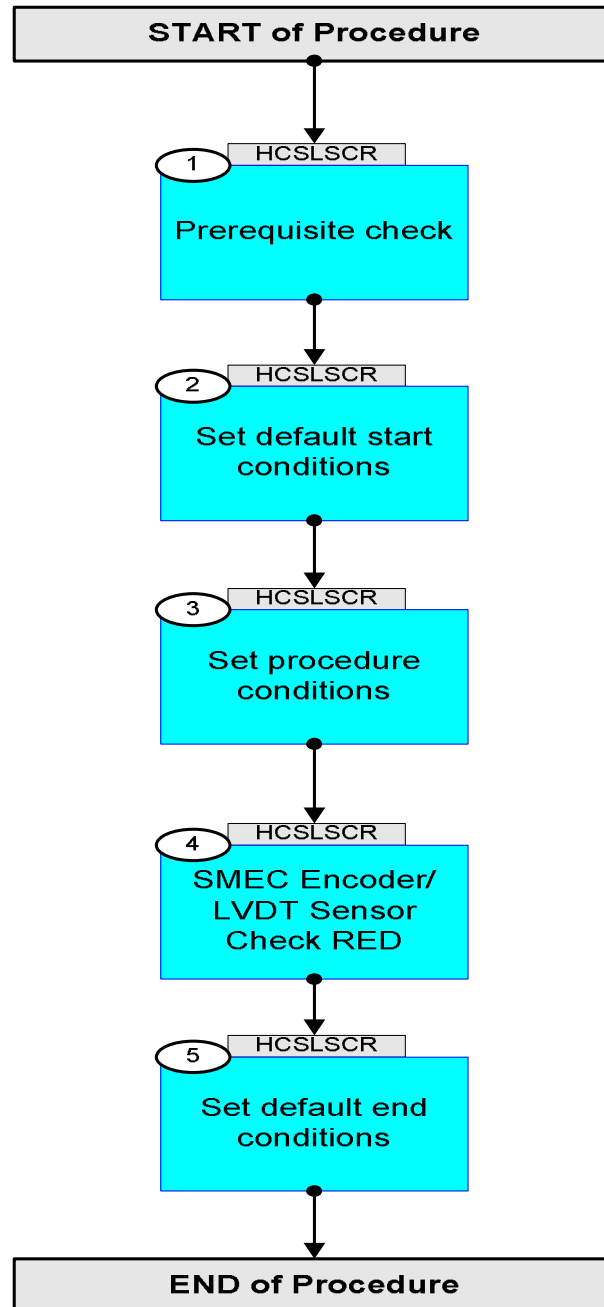
### Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
19/04/09		1	Created	L.Lucas-hp	
21/04/09	2.3	1.01	Validation : Text Updates	L.Lucas-hp	
04/05/09	2.4	2	Removed ET	L.Lucas-hp	

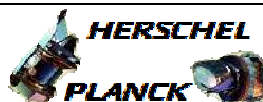
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## Procedure Flowchart Overview

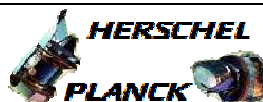


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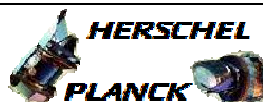
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<b>Beginning of Procedure</b>				
TC Seq. Name :HCSLSCR (LVDT Sensor RED)  TimeTag Type: Y Sub Schedule ID:  <input type="checkbox"/>				
1		Prerequisite check		Next Step: 2
1.1		HSC/ICC input		<input type="checkbox"/>
		Verify that the HSC has supplied a valid OBSID value:  OBS_ID = 0xnnnn nnnn		
1.2		Verify TM		<input type="checkbox"/>
		Verify Telemetry  SMECLVDTPWR SMS1W515	= 0 <hex>	AND=SA_6_559
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=+00.00.00	SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP  SC003500  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  SC001500  80010001 <hex>	
		Verify Telemetry  BBFULLTYPE SM2LN500	= ClearObs	AND=ZAZ90999

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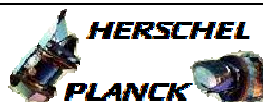
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SET_OBS_STEP  SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP SP03N500  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500  1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID  SET_OBSID  Command Parameter(s) : OBSERVATION_ID SP00N500  Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SC000500  00000000 <hex>	
		Verify Telemetry OBSID SM10N500	= 00000000 <hex>	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>	
	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
	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>	
	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  80020001 <hex>	

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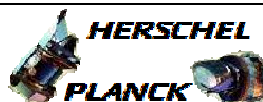
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry BBFULLTYPE SM2LN500	= StartObs	AND=ZAZ90999
3		Set procedure conditions		Next Step: 4
	ET=+ UT=+00.00.00	RESET_DRCU_COUNTERS RESET_DRCU_COUNTERS Subsch. ID : 370 Det. descr. : RESET DRCU COUNTERS	SCD00505	
		Verify that the TRESET 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=+00.00.00	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=+00.00.00	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>	

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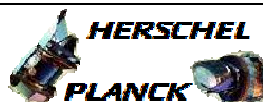
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ90999
		should the next two commands be here???		
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 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  00000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500		AND=ZAZ90999
4		SMEC Encoder/LVDT Sensor Check RED		Next Step: 5
	ET=+ UT=+00.00.03	SEND_DRCU_COMMAND 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	SCD06505  90541901 <hex> 0 <hex> (Def)	
	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  90586978 <hex> 0 <hex> (Def)	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	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 905a9c40 <hex> 0 <hex> (Def)	
	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 90410001 <hex> 0 <hex> (Def)	
	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 905f2386 <hex> 0 <hex> (Def)	
	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 905e1f5e <hex> 0 <hex> (Def)	

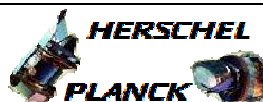
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	<p>SEND_DRCU_COMMAND</p> <p style="text-align: right;">SEND_DRCU_COMMAND</p> <p>Command Parameter(s) :</p> <p style="text-align: center;">DRCUCOMMAND                      SPD4N505 OVERRIDE                              SPD9N505</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --- -- ---</p> <p>Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU</p>	<p>SCD06505</p> <p>904d0000 &lt;hex&gt; 0 &lt;hex&gt; (Def)</p>	
	ET=+ UT=+00.00.01	<p>SEND_DRCU_COMMAND</p> <p style="text-align: right;">SEND_DRCU_COMMAND</p> <p>Command Parameter(s) :</p> <p style="text-align: center;">DRCUCOMMAND                      SPD4N505 OVERRIDE                              SPD9N505</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --- -- ---</p> <p>Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU</p>	<p>SCD06505</p> <p>91d4006b &lt;hex&gt; 0 &lt;hex&gt; (Def)</p>	
	ET=+ UT=+00.00.01	<p>SEND_DRCU_COMMAND</p> <p style="text-align: right;">SEND_DRCU_COMMAND</p> <p>Command Parameter(s) :</p> <p style="text-align: center;">DRCUCOMMAND                      SPD4N505 OVERRIDE                              SPD9N505</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --- -- ---</p> <p>Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU</p>	<p>SCD06505</p> <p>91d90058 &lt;hex&gt; 0 &lt;hex&gt; (Def)</p>	
	ET=+ UT=+00.00.01	<p>SEND_DRCU_COMMAND</p> <p style="text-align: right;">SEND_DRCU_COMMAND</p> <p>Command Parameter(s) :</p> <p style="text-align: center;">DRCUCOMMAND                      SPD4N505 OVERRIDE                              SPD9N505</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --- -- ---</p> <p>Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU</p>	<p>SCD06505</p> <p>91da006f &lt;hex&gt; 0 &lt;hex&gt; (Def)</p>	

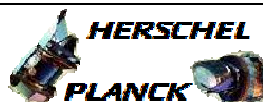


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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND                      SPD4N505 OVERRIDE                              SPD9N505  TC Control Flags :  GBM IL DSE --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  91db0057 <hex> 0 <hex> (Def)	
	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  91dc006e <hex> 0 <hex> (Def)	
	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  91dd0069 <hex> 0 <hex> (Def)	
	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  91de0065 <hex> 0 <hex> (Def)	
		Verify Telemetry SMECLVDT PWR                      SMS1W515	= 1 <hex>	AND=SA_6_559
5		Set default end conditions		Next Step: END

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		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=+00.00.00	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  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
	ET=+ UT=+00.00.00	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  Command Parameter(s) : BUILDING_BLOCK_ID SP01N500  Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500  80030001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= EndObs	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP SP03N500  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500  1 <hex>	



End of Procedure