

Enable/Disable RWS Low Speed Zone avoidance
 File: H_FCP_AOC_DRWL.xls
 Author: dsalt-hp



Procedure Summary

Objectives

The objective of this Herschel ACMS procedure is to either enable or disable RWL Low Speed Zone avoidance.

The procedure involves the following activities:

- disable RWL Low Speed Zone avoidance
- enable RWL Low Speed Zone avoidance
- check updated OBDB value

Summary of Constraints

Main Constraints:
 - None

Spacecraft Configuration

Start of Procedure

RWL Low Speed Zone avoidance disabled or enabled

End of Procedure

RWL Low Speed Zone avoidance enabled (previously disabled)
 RWL Low Speed Zone avoidance disabled (previously enabled)

Reference File(s)

Input Command Sequences

Output Command Sequences

HFADRWLA
 HFADRWLB

Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZ63999

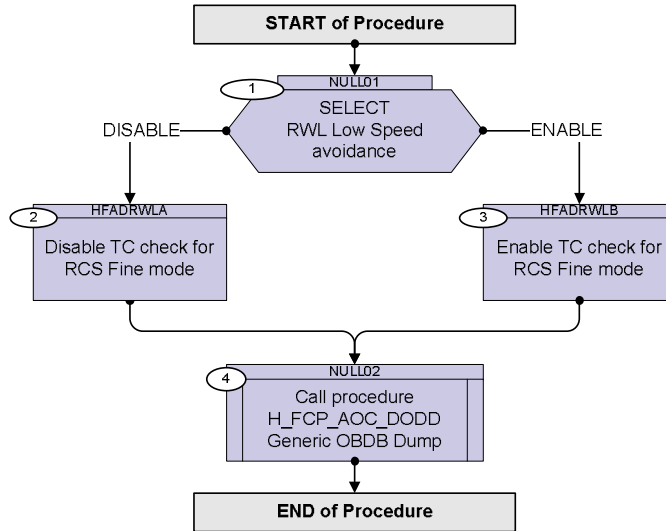
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
23/03/09	2.2	1	Created	dsalt-hp	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch												
Beginning of Procedure																
TC Seq. Name : NULL01 (Null sequence 01) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>																
1		SELECT RWL Low Speed avoidance		Next Step: DISABLE 2 ENABLE 3												
TC Seq. Name : HFADRWLA (DisableLowSpeedAvoid) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>																
2		Disable TC check for RCS Fine mode		Next Step: 4												
2.1		Activate loading Execute Telecommand <div style="text-align: center;">Start database loading</div> Command Parameter(s) : <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">ASW Function ID</td> <td style="width: 30%;">AHFUN001</td> <td style="width: 30%;">DB loading (Def)</td> </tr> <tr> <td>DbLoad DF86 Cmd</td> <td>AH8D1001</td> <td>Enable 86</td> </tr> <tr> <td>DbLoad DD86 Cmd</td> <td>AH8D2001</td> <td>Enable 86</td> </tr> <tr> <td>DbLoad Nr Cmds</td> <td>AHF DL001</td> <td>1 <dec></td> </tr> </table> TC Control Flags : <div style="text-align: center;"> GBM IL DSE --Y -- -- </div> Subsch. ID : 20 Det. descr. : TC_START_DATABASE_LOAD	ASW Function ID	AHFUN001	DB loading (Def)	DbLoad DF86 Cmd	AH8D1001	Enable 86	DbLoad DD86 Cmd	AH8D2001	Enable 86	DbLoad Nr Cmds	AHF DL001	1 <dec>	ACDS1001	<input type="checkbox"/>
ASW Function ID	AHFUN001	DB loading (Def)														
DbLoad DF86 Cmd	AH8D1001	Enable 86														
DbLoad DD86 Cmd	AH8D2001	Enable 86														
DbLoad Nr Cmds	AHF DL001	1 <dec>														
		Following the Start_database_loading command the following commands must each be sent within C_ALL_OPS_ASW_CRIT_CMD_TIMEOUT (=180 seconds default) of the previous command to avoid the started status of the function timing-out.														
2.2		Load values		<input type="checkbox"/>												

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <div style="text-align: right;">Load databaseReal</div> Command Parameter(s) : DbLoad DF86 Cmd AH8D1001 Enable 86 DbLoad DD86 Cmd AH8D2001 Enable 86 DbLoad StartInd AHFDS001 196 <dec> DbLoad Nr Wrds AHFDN001 1 <dec> (Def) DbLoad Dwd Real AHFDZ001 0.0 <dec> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 20 Det. descr. : TC(8,4) - Load database Real	ACZTY109	
2.3		Activate values		<input type="checkbox"/>
		Execute Telecommand <div style="text-align: right;">Fire critical command</div> Command Parameter(s) : FireFun DF86Cmd AH8F1001 Enable 86 FireFun DD86Cmd AH8F2001 Enable 86 FireFun CritFID AHFFH001 201 <dec> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 20 Det. descr. : TC_FIRE_COMMAND	ACFC1001	
TC Seq. Name : HFADRWLB (EnableLowSpeedAvoid) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
3		Enable TC check for RCS Fine mode		Next Step: 4
3.1		Activate loading		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: center;">Start database loading</p> Command Parameter(s) : ASW Function ID AHFUN001 DbLoad DF86 Cmd AH8D1001 DbLoad DD86 Cmd AH8D2001 DbLoad Nr Cmds AHFDL001 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC_START_DATABASE_LOAD	ACDS1001 DB loading (Def) Enable 86 Enable 86 1 <dec>	
		Following the Start_database_loading command the following commands must each be sent within C_ALL_OPS_ASW_CRIT_CMD_TIMEOUT (=180 seconds default) of the previous command to avoid the started status of the function timing-out.		
3.2		Load values		□
		Execute Telecommand <p style="text-align: center;">Load databaseReal</p> Command Parameter(s) : DbLoad DF86 Cmd AH8D1001 DbLoad DD86 Cmd AH8D2001 DbLoad StartInd AHFDS001 DbLoad Nr Wrds AHFDN001 DbLoad Dwd Real AHFDZ001 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC(8,4) - Load database Real	ACZTY109 Enable 86 Enable 86 196 <dec> 1 <dec> (Def) 20.0 <dec>	
3.3		Activate values		□
		Execute Telecommand <p style="text-align: center;">Fire critical command</p> Command Parameter(s) : FireFun DF86Cmd AH8F1001 FireFun DD86Cmd AH8F2001 FireFun CritFID AHFFH001 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 20 Det. descr. : TC_FIRE_COMMAND	ACFC1001 Enable 86 Enable 86 201 <dec>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<p>TC Seq. Name : NULL02 (Null sequence 02)</p> <p>TimeTag Type: Sub Schedule ID: <input type="checkbox"/></p>				
4		Call procedure H_FCP_AOC_DODD Generic OBDB Dump		Next Step: END
		<p>NOTE: This procedure enables a direct dump of the OBDB from RAM or Safe-Guard Memory (SGM), as well as reading the OBDB via diagnostic telemetry (DTM) packets</p>		
		<p><u>Relevant details for use with H FCP AOC DODD</u></p> <p>Based upon the latest ASW ICD (H-P-4-TASW-IF-0002, Issue 3 G), this procedure loads the following parameters into specific OBDB offset locations in RAM: H_H_NOM_AUX_RWL_STICTION_SPEED is at OBDB offsets 196 These are located in Block 1 of the OBDB</p> <p>This parameter is not copied in SGM</p>		
4.1		Dump via DTM		<input type="checkbox"/>
		<p><u>Relevant details for use with H FCP AOC DODD</u></p> <p>The following parameters H_H_NOM_AUX_RWL_STICTION_SPEED is at OBDB offsets 196 These are located in Block 1 of the OBDB</p>		
		Use sequence HFADODDA		
		<p>NOTE: The contents of diagnostic packet A3DH0BDB1109 {DTM with Herschel OBDB data} are spread over a group of 4 monitoring displays:</p> <p>ZAZ60999 DTMOBDB1_1 ZAZ61999 DTMOBDB1_2 ZAZ62999 DTMOBDB1_3 ZAZ63999 DTMOBDB1_4 <- values are in this display</p>		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>NOTE: This step enables diagnostic packets that contain data from specific blocks of the OBDB, where each block contains 250 onboard database parameters.</p> <p>The Herschel onboard database currently contains 2134 parameters and there are 8 diagnostic packets defined to cover the first 2000 entries. In HP-4-TASW-IF-0002 (ACC ASW_ICD) section 6.1 you can find a list of Herschel OBDB parameters ordered by offset.</p>		
		<p>Verify Telemetry</p> <p style="text-align: center;">HRwsStictSpeed AEDF1002</p>	<p>= 0.0 rd/s = 20.0 rd/s</p>	AND=ZAZ63999
4.2		<p>Dump from RAM</p>		□
		<p><u>Relevant details for use with H_FCP_AOC_DODD</u></p> <p>Based upon the latest ASW ICD (H-P-4-TASW-IF-0002, Issue 3 G), this procedure loads the following parameters into specific OBDB offset locations in RAM: H_H_NOM_AUX_RWL_STICTION_SPEED is at OBDB offsets 196</p> <p>The <u>absolute address</u> of offset 196 is therefore: 020A = Memory ID D228 = Start Address</p>		
		<p><u>Use sequence HFADODDL</u> to dump <u>all</u> the OBDB in RAM, or edit: Start Address = CF18 Length = 8552</p>		
		<p>NOTE: The RAM memory address for a parameter with a given OBDB ID can be calculated as follows: RAM address = OBDB start address + parameter offset; OBDB start address = address of Asw_DatabaseManager_Obj + 12; parameter offset = OBDB ID * 4.</p> <p>Parameter ID's are listed in the ASW ICD (H-P-4-TASW-IF-002).</p> <p>Asw_Databasemanager_Obj is an ASW container structure used in the management of the OBDB and its address has to be obtained from the linker memory map valid for the software build currently used onboard.</p>		
4.3		<p>Dump from SGM</p>		□

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>Relevant details for use with H FCP AOC DODD</p> <p>This step can be ignored - parameter not copied to SGM</p>		
		<p><i>NOTE:</i> The address of a parameter with a given ID can be calculated as follows:</p> <p><i>SGMA</i> Address = 0xBA0000 + (ParamID-1) * 4</p> <p><i>SGMB</i> Address = 0xEA0000 + (ParamID-1) * 4</p> <p>Parameter ID's refer to the listing of SGM OBDB parameters in the ASW ICD (H-P-4-TASW-IF-0002) and are not the same as the ID's in the RAM OBDB.</p>		
End of Procedure				