

Update BSW Health Table
File: H_CRP_AOC_DBSW.xls
Author: dsalt-hp



Procedure Summary

Objectives

The procedure provides a generic tool that can be used to modify entries in the BSW health table through TC(8,4,10,3). The list of ACC components for which the BSW maintains the health status is given in a table at the back of this procedure. The TC provides three options for modifying the status of an ACC component by commanding one of the following flags:

- F0 - forcing the health status of the component
(0 = unhealthy, 1= healthy)
- F1 - forcing the enable/disable status of the component
(0 = disabled, 1 = enabled)
- F2 - control of autonomous health and status updating by the BSW for the selected component
(0 = disabled, 1 = enabled).

The TC includes three masking flags (M0 - M2) which determine whether or not the corresponding control flag is taken into account.

USAGE:

Modifications of the health table may be necessary either to recover from spurious unhealthy declarations or to modify the status of components for which suspect behaviour has been detected. Detailed indications of contingencies in which the procedure may need to be used are given in TN-0179.

Summary of Constraints

1. The TC provides the possibility to update the status of a single component multiple times or to manipulate the control flags for more than one component in a single TC. In general, these options should not be used and are never required in ACC contingency recoveries.
2. For the TTR/RM interrupt components (TtrRmIntrptA, TtrRmIntrptB) updating of the status more than once in the single TC is not allowed by the BSW and will cause the TC to be rejected.
3. The table of component ID's is provided (based on BSW ICD). TN-0179 provides details on the use of MARS IO groups in the ACC.
4. The status of the component for which modifications are being carried out should be verified before and after the execution of the TC. TM parameters, all of which are available in the ACMS ETM packet, are included in the table for all of the ACC components managed by the BSW.

Spacecraft Configuration

Start of Procedure

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End of Procedure

Reference File(s)

Input Command Sequences

Output Command Sequences

HRADBSW1
 HRADBSW2
 HRADBSW3
 HRADBSW4
 HRADBSW5
 HRADBSW6

Referenced Displays

ANDs GRDs SLDs
 ZAA09999

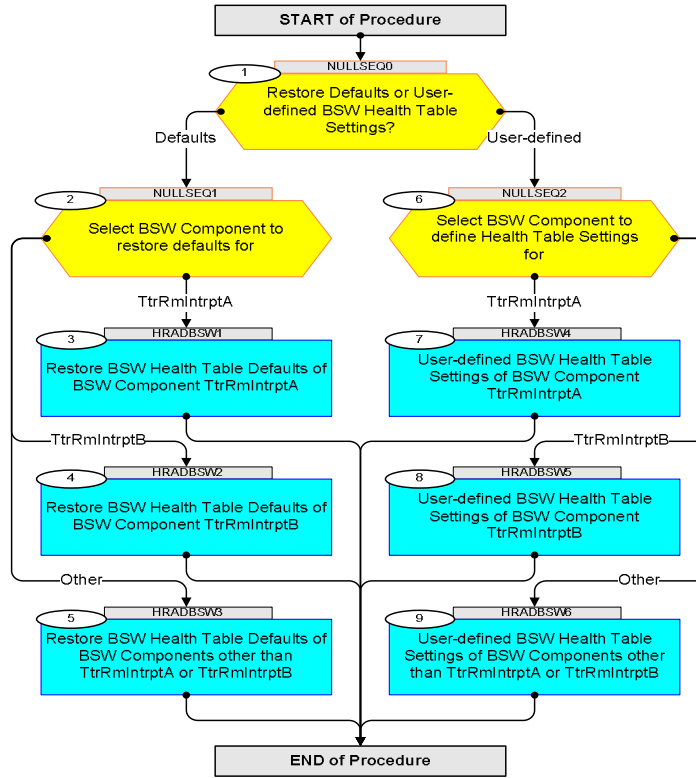
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
24/03/09		1	Created	dsalt-hp	
24/03/09	2.2	2	Sequence name correction	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 : NULLSEQ0 () TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
1		Restore Defaults or User-defined BSW Health Table Settings?		Next Step: Defaults 2 User-defined 6
1.1		Default BSW health table settings		<input type="checkbox"/>
		Component health status = HEALTHY Component enabled/disabled status = ENABLED Component's autonomous control = ENABLED		
1.2		Restore Defaults or User-defined BSW Health Table Settings?		<input type="checkbox"/>
		Defaults -> GO TO STEP 2 User-defined -> GO TO STEP 6		
TC Seq. Name : NULLSEQ1 () TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
2		Select BSW Component to restore defaults for		Next Step: TtrRmIntrptA 3 TtrRmIntrptB 4 Other 5
		TtrRmIntrptA -> GO TO STEP 3 TtrRmIntrptB -> GO TO STEP 4 Other BSW component (see list at the back) -> GO TO STEP 6		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.02	Execute Telecommand UpdateHealthTable Command Parameter(s) : COMP AH100050 M2 AH057050 F2 AH017050 Subsch. ID : 20 Det. descr. : Update Health Table	AC822050 TtrRmIntrptA Update Status ENABLED	
3.4		Verify updated status of the component		<input type="checkbox"/>
		Verify Telemetry TtrRmIntA_UpdEn AEFT1050	= ENABLED	AND=ZAA09999
		Verify Telemetry TtrRmIntA_Enabl AEFT2050	= ENABLED	AND=ZAA09999
		Verify Telemetry TtrRmIntA_Healt AEFT3050	= Healthy	AND=ZAA09999
<p>TC Seq. Name : HRADBSW2 (DefaultHealthTblRmIn)</p> <p>TimeTag Type: N Sub Schedule ID: <input type="checkbox"/></p>				
4		Restore BSW Health Table Defaults of BSW Component TtrRmIntrptB		Next Step: END
4.1		Load sequence HRADBSW2 on the Manual Stack		<input type="checkbox"/>
4.2		Verify status of the component		<input type="checkbox"/>
		Verify Telemetry TtrRmIntB_UpdEn AEFT4050	<to be read>	AND=ZAA09999
		Verify Telemetry TtrRmIntB_Enabl AEFT5050	<to be read>	AND=ZAA09999
		Verify Telemetry TtrRmIntB_Healt AEFT6050	<to be read>	AND=ZAA09999
4.3		Uplink entire block of commands (tagged with release times)		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	Execute Telecommand UpdateHealthTable Command Parameter(s) : COMP AH100050 M0 AH055050 F0 AH015050 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : Update Health Table	AC822050 TtrRmIntrptB Update Status Healthy	
	ET=+ UT=+00.00.02	Execute Telecommand UpdateHealthTable Command Parameter(s) : COMP AH100050 M1 AH056050 F1 AH016050 Subsch. ID : 20 Det. descr. : Update Health Table	AC822050 TtrRmIntrptB Update Status ENABLED	
	ET=+ UT=+00.00.02	Execute Telecommand UpdateHealthTable Command Parameter(s) : COMP AH100050 M2 AH057050 F2 AH017050 Subsch. ID : 20 Det. descr. : Update Health Table	AC822050 TtrRmIntrptB Update Status ENABLED	
4.4		Verify updated status of the component		<input type="checkbox"/>
		Verify Telemetry TtrRmIntB_UpdEn AEFT4050	= ENABLED	AND=ZAA09999
		Verify Telemetry TtrRmIntB_Enabl AEFT5050	= ENABLED	AND=ZAA09999
		Verify Telemetry TtrRmIntB_Healt AEFT6050	= Healthy	AND=ZAA09999
<p>TC Seq. Name : HRADBSW3 (DefaultHealthTblGene)</p> <p>TimeTag Type: N Sub Schedule ID: Formal Parameter List : COMP BswCmpId=</p>				

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																					
5		Restore BSW Health Table Defaults of BSW Components other than TtrRmIntrptA or TtrRmIntrptB		Next Step: END																					
5.1		Load sequence HRADBSW3 on the Manual Stack		<input type="checkbox"/>																					
		<p>When loading this command sequence on the Manual Stack, it will ask you to enter values for the formal parameters inside the sequence. The formal parameters are:</p> <p>BswCmpId = Component ID in BSW; check table at the back of this procedure for the ID of the required component</p>																							
5.2		Verify status of the component that is to be changed; the telemetry parameters associated to the component are listed in the table at the back (see columns 'Parameter' and 'Short description') together with an AND reference (see column AND)		<input type="checkbox"/>																					
5.3		Uplink command		<input type="checkbox"/>																					
		Execute Telecommand <p style="text-align: center;">UpdateHealthTable</p> Command Parameter(s) : <table style="margin-left: 40px;"> <tr> <td>COMP</td> <td>AH100050</td> <td>BswCmpId</td> </tr> <tr> <td>M0</td> <td>AH055050</td> <td>Update Status</td> </tr> <tr> <td>M1</td> <td>AH056050</td> <td>Update Status</td> </tr> <tr> <td>M2</td> <td>AH057050</td> <td>Update Status</td> </tr> <tr> <td>F0</td> <td>AH015050</td> <td>Healthy</td> </tr> <tr> <td>F1</td> <td>AH016050</td> <td>ENABLED</td> </tr> <tr> <td>F2</td> <td>AH017050</td> <td>ENABLED</td> </tr> </table> <p>TC Control Flags :</p> <p style="margin-left: 100px;">GBM IL DSE --Y -- ---</p>	COMP	AH100050	BswCmpId	M0	AH055050	Update Status	M1	AH056050	Update Status	M2	AH057050	Update Status	F0	AH015050	Healthy	F1	AH016050	ENABLED	F2	AH017050	ENABLED	AC822050	
COMP	AH100050	BswCmpId																							
M0	AH055050	Update Status																							
M1	AH056050	Update Status																							
M2	AH057050	Update Status																							
F0	AH015050	Healthy																							
F1	AH016050	ENABLED																							
F2	AH017050	ENABLED																							
		Subsch. ID : 20 Det. descr. : Update Health Table																							
5.4		Verify updated status of the component that was just changed; the telemetry parameters associated to the component are listed in the table at the back (see columns 'Parameter' and 'Short description') together with an AND reference (see column AND)		<input type="checkbox"/>																					

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Component health status = HEALTHY Component enabled/disabled status = ENABLED Component's autonomous control = ENABLED		
TC Seq. Name : NULLSEQ2 () TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
6		Select BSW Component to define Health Table Settings for		Next Step: TtrRmIntrptA 7 TtrRmIntrptB 8 Other 9
		TtrRmIntrptA -> GO TO STEP 7 TtrRmIntrptB -> GO TO STEP 8 Other BSW component (see list at the back) -> GO TO STEP 9		
TC Seq. Name : HRADBSW4 (UserDefHealthTblRmIn) TimeTag Type: N Sub Schedule ID: Formal Parameter List : F0 HlthStat= F1 EnabStat= F2 AutoStat= <input type="checkbox"/>				
7		User-defined BSW Health Table Settings of BSW Component TtrRmIntrptA		Next Step: END
7.1		Load sequence HRADBSW4 on the Manual Stack		<input type="checkbox"/>
		When loading this command sequence on the Manual Stack, it will ask you to enter values for the formal parameters inside the sequence. The formal parameters are: HlthStat = Forces the health status of the component; 0 <dec> = Unhealthy 1 <dec> = Healthy		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.02	Execute Telecommand UpdateHealthTable Command Parameter(s) : COMP AH100050 M2 AH057050 F2 AH017050 Subsch. ID : 20 Det. descr. : Update Health Table	AC822050 TtrRmIntrptA Update Status AutoStat	
7.4		Verify updated status of the component		<input type="checkbox"/>
		Verify Telemetry TtrRmIntA_UpdEn AEFT1050	<as commanded>	AND=ZAA09999
		Verify Telemetry TtrRmIntA_Enabl AEFT2050	<as commanded>	AND=ZAA09999
		Verify Telemetry TtrRmIntA_Healt AEFT3050	<as commanded>	AND=ZAA09999
<p>TC Seq. Name : HRADBSW5 (UserDefHealthTblRmIn)</p> <p>TimeTag Type: N Sub Schedule ID: Formal Parameter List : F0 HlthStat= F1 EnabStat= F2 AutoStat=</p>				
8		User-defined BSW Health Table Settings of BSW Component TtrRmIntrptB		Next Step: END
8.1		Load sequence HRADBSW5 on the Manual Stack		<input type="checkbox"/>
		When loading this command sequence on the Manual Stack, it will ask you to enter values for the formal parameters inside the sequence. The formal parameters are: HlthStat = Forces the health status of the component; 0 <dec> = Unhealthy 1 <dec> = Healthy		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		EnabStat = Forces the enable/disable status of the component; 0 <dec> = Disabled 1 <dec> = Enabled AutoStat = Control of autonomous health and status updating by the BSW for the selected component; 0 <dec> = Disabled 1 <dec> = Enabled		
8.2		Verify status of the component		<input type="checkbox"/>
		Verify Telemetry TtrRmIntB_UpdEn AEFT4050	<to be read>	AND=ZAA09999
		Verify Telemetry TtrRmIntB_Enabl AEFT5050	<to be read>	AND=ZAA09999
		Verify Telemetry TtrRmIntB_Healt AEFT6050	<to be read>	AND=ZAA09999
8.3		Uplink entire block of commands (tagged with release times)		<input type="checkbox"/>
	ET=+ UT=+00.00.00	Execute Telecommand <p style="text-align: right;">UpdateHealthTable</p> Command Parameter(s) : COMP AH100050 M0 AH055050 F0 AH015050 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : Update Health Table	AC822050	TtrRmIntrptB Update Status HlthStat
	ET=+ UT=+00.00.02	Execute Telecommand <p style="text-align: right;">UpdateHealthTable</p> Command Parameter(s) : COMP AH100050 M1 AH056050 F1 AH016050 Subsch. ID : 20 Det. descr. : Update Health Table	AC822050	TtrRmIntrptB Update Status EnabStat

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.02	Execute Telecommand UpdateHealthTable Command Parameter(s) : COMP AH100050 M2 AH057050 F2 AH017050 Subsch. ID : 20 Det. descr. : Update Health Table	AC822050 TtrRmIntrptB Update Status AutoStat	
8.4		Verify updated status of the component		<input type="checkbox"/>
		Verify Telemetry TtrRmIntB_UpdEn AEFT4050	<as commanded>	AND=ZAA09999
		Verify Telemetry TtrRmIntB_Enabl AEFT5050	<as commanded>	AND=ZAA09999
		Verify Telemetry TtrRmIntB_Healt AEFT6050	<as commanded>	AND=ZAA09999
<p>TC Seq. Name : HRADBSW6 (UserDefHealthTblGene)</p> <p>TimeTag Type: N Sub Schedule ID: Formal Parameter List : COMP BswCmpId= F0 HlthStat= F1 EnabStat= <input type="checkbox"/> F2 AutoStat=</p>				
9		User-defined BSW Health Table Settings of BSW Components other than TtrRmIntrptA or TtrRmIntrptB		Next Step: END
9.1		Load sequence HRADBSW6 on the Manual Stack		<input type="checkbox"/>
		<p>When loading this command sequence on the Manual Stack, it will ask you to enter values for the formal parameters inside the sequence. The formal parameters are:</p> <p>BswCmpId = Component ID in BSW; check table at the back of this procedure for the ID of the required component</p> <p>HlthStat = Forces the health status of the component; 0 <dec> = Unhealthy 1 <dec> = Healthy</p>		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																		
		<p>EnabStat = Forces the enable/disable status of the component; 0 <dec> = Disabled 1 <dec> = Enabled</p> <p>AutoStat = Control of autonomous health and status updating by the BSW for the selected component; 0 <dec> = Disabled 1 <dec> = Enabled</p>																																				
9.2		Verify status of the component that is to be changed; the telemetry parameters associated to the component are listed in the table at the back (see columns 'Parameter' and 'Short description') together with an AND reference (see column AND)		<input type="checkbox"/>																																		
9.3		Uplink command		<input type="checkbox"/>																																		
		Execute Telecommand <p style="text-align: center;">UpdateHealthTable</p> Command Parameter(s) : <table style="margin-left: 100px; border: none;"> <tr> <td style="padding-right: 20px;">COMP</td> <td>AH100050</td> <td style="padding-right: 20px;">BswCmpId</td> <td>AC822050</td> </tr> <tr> <td>M0</td> <td>AH055050</td> <td>Update Status</td> <td></td> </tr> <tr> <td>M1</td> <td>AH056050</td> <td>Update Status</td> <td></td> </tr> <tr> <td>M2</td> <td>AH057050</td> <td>Update Status</td> <td></td> </tr> <tr> <td>F0</td> <td>AH015050</td> <td>HlthStat</td> <td></td> </tr> <tr> <td>F1</td> <td>AH016050</td> <td>EnabStat</td> <td></td> </tr> <tr> <td>F2</td> <td>AH017050</td> <td>AutoStat</td> <td></td> </tr> </table> <p>TC Control Flags :</p> <table style="margin-left: 100px; border: none;"> <tr> <td>GBM</td> <td>IL</td> <td>DSE</td> </tr> <tr> <td>--Y</td> <td>--</td> <td>---</td> </tr> </table>	COMP	AH100050	BswCmpId	AC822050	M0	AH055050	Update Status		M1	AH056050	Update Status		M2	AH057050	Update Status		F0	AH015050	HlthStat		F1	AH016050	EnabStat		F2	AH017050	AutoStat		GBM	IL	DSE	--Y	--	---		
COMP	AH100050	BswCmpId	AC822050																																			
M0	AH055050	Update Status																																				
M1	AH056050	Update Status																																				
M2	AH057050	Update Status																																				
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GBM	IL	DSE																																				
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		Subsch. ID : 20 Det. descr. : Update Health Table																																				
9.4		Verify updated status of the component that was just changed; the telemetry parameters associated to the component are listed in the table at the back (see columns 'Parameter' and 'Short description') together with an AND reference (see column AND)		<input type="checkbox"/>																																		
End of Procedure																																						

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CmpldRaw	Component ID	Component	Parameter	Short description	AND
0	TtrRmBoardA	RMA memory (excluding SGM)	AEFSZ050	TtrRmA_Healthy	ZAA09999
			AEFSH050	TtrRmA_Enabled	ZAA09999
			AEFSG050	TtrRmA_UpdateEn	ZAA09999
1	TtrRmBoardB	RMB memory (excluding SGM)	AEFSL050	TtrRmB_Healthy	ZAA09999
			AEFSK050	TtrRmB_Enabled	ZAA09999
			AEFSJ050	TtrRmB_UpdateEn	ZAA09999
2	TtrRmIntrptA	RMA interrupt status	AEFT3050	TtrRmIntA_Healt	ZAA09999
			AEFT2050	TtrRmIntA_Enabl	ZAA09999
			AEFT1050	TtrRmIntA_UpdEn	ZAA09999
3	TtrRmIntrptB	RMB interrupt status	AEFT6050	TtrRmIntB_Healt	ZAA09999
			AEFT5050	TtrRmIntB_Enabl	ZAA09999
			AEFT4050	TtrRmIntB_UpdEn	ZAA09999
4	TtrRmSgmA	SGM A	AEFTZ050	TtrRmSgmA_Healt	ZAA09999
			AEFTH050	TtrRmSgmA_Enabl	ZAA09999
			AEFTJ050	TtrRmSgmA_UpdEn	ZAA09999
5	TtrRmSgmB	SGM B	AEFTL050	TtrRmSgmB_Healt	ZAA09999
			AEFTK050	TtrRmSgmB_Enabl	ZAA09999
			AEFTJ050	TtrRmSgmB_UpdEn	ZAA09999

6	TtrRmlcbRtA	Internal bus RT for RMA	AEFU3050	TtrRmlcbA_Healt	ZAA09999
			AEFU2050	TtrRmlcbA_Enabl	ZAA09999
			AEFU1050	TtrRmlcbA_UpdEn	ZAA09999
7	TtrRmlcbRtB	Internal bus RT for RMB	AEFU3050	TtrRmlcbB_Healt	ZAA09999
			AEFU2050	TtrRmlcbB_Enabl	ZAA09999
			AEFU1050	TtrRmlcbB_UpdEn	ZAA09999
14	PmlcbBcA	PM Board A Bus Controller for the internal ACC bus	AEFUZ050	PmlcbA_Healthy	ZAA09999
			AEFUH050	PmlcbA_Enabled	ZAA09999
			AEFUG050	PmlcbA_UpdateEn	ZAA09999
15	PmlcbBcB	PM Board B Bus Controller for the internal ACC bus	AEFUL050	PmlcbB_Healthy	ZAA09999
			AEFUK050	PmlcbB_Enabled	ZAA09999
			AEFUJ050	PmlcbB_UpdateEn	ZAA09999
16	PmCocosA	PMA communication RAM	AEFV3050	PmCocosA_Health	ZAA09999
			AEFV2050	PmCocosA_Enable	ZAA09999
			AEFV1050	PmCocosA_UpdEn	ZAA09999
17	PmCocosB	PMB communication RAM	AEFV6050	PmCocosB_Health	ZAA09999
			AEFV5050	PmCocosB_Enable	ZAA09999
			AEFV4050	PmCocosB_UpdEn	ZAA09999
18	PmObdhA	PMA OBDH bus	AEFVZ050	PmObdhA_Healthy	ZAA09999
			AEFVH050	PmObdhA_Healthy	ZAA09999
			AEFVG050	PmObdhA_Healthy	ZAA09999
19	PmObdhB	PMB OBDH bus	AEFVL050	PmObdhB_Healthy	ZAA09999
			AEFVK050	PmObdhB_Healthy	ZAA09999
			AEFVJ050	PmObdhB_Healthy	ZAA09999
20	PmSpwTtrRmAA	PMA Spacewire link to RMA	AEFX3050	PmSpwTtrAA_Hlth	ZAA10999
			AEFX2050	PmSpwTtrAA_Enab	ZAA10999
			AEFX1050	PmSpwTtrAA_UpdE	ZAA09999

Status : Version 2 - Unchanged

Last Checkin: 24/03/09

21	PmSpwTtrRmAB	PMA Spacewire link to RMB	AEFX6050	PmSpwTtrAB_Hlth	ZAA10999
			AEFX5050	PmSpwTtrAB_Enab	ZAA10999
			AEFX4050	PmSpwTtrAB_UpdE	ZAA10999
22	PmSpwTtrRmBA	PMB Spacewire link to RMA	AEFXZ050	PmSpwTtrBA_Hlth	ZAA10999
			AEFXH050	PmSpwTtrBA_Enab	ZAA10999
			AEFXG050	PmSpwTtrBA_UpdE	ZAA10999
23	PmSpwTtrRmAB	PMA Spacewire link to RMB	AEFXL050	PmSpwTtrAB_Hlth	ZAA10999
			AEFXK050	PmSpwTtrAB_Enab	ZAA10999
			AEFXJ050	PmSpwTtrAB_UpdE	ZAA10999
28	MarsIoGrpXA #1	MARS IO Group 1A	AEFY3050	MarsGrp01A_Hlth	ZAA10999
			AEFY2050	MarsGrp01A_Enab	ZAA10999
			AEFY1050	MarsGrp01A_UpdE	ZAA10999
29	MarsIoGrpXB #1	MARS IO Group 1B	AEFY6050	MarsGrp01B_Hlth	ZAA10999
			AEFY5050	MarsGrp01B_Enab	ZAA10999
			AEFY4050	MarsGrp01B_UpdE	ZAA10999
30	MarsIoGrpXA #2	MARS IO Group 2A	AEFYZ050	MarsGrp02A_Hlth	ZAA10999
			AEFYH050	MarsGrp02A_Enab	ZAA10999
			AEFYG050	MarsGrp02A_UpdE	ZAA10999
31	MarsIoGrpXB #2	MARS IO Group 2B	AEFYL050	MarsGrp02B_Hlth	ZAA10999
			AEFYK050	MarsGrp02B_Enab	ZAA10999
			AEFYJ050	MarsGrp02B_UpdE	ZAA10999
32	MarsIoGrpXA #3	MARS IO Group 3A	AEFZ3050	MarsGrp03A_Hlth	ZAA10999
			AEFZ2050	MarsGrp03A_Enab	ZAA10999
			AEFZ1050	MarsGrp03A_UpdE	ZAA10999
33	MarsIoGrpXB #3	MARS IO Group 3B	AEFZ6050	MarsGrp03B_Hlth	ZAA10999
			AEFZ5050	MarsGrp03B_Enab	ZAA10999
			AEFZ4050	MarsGrp03B_UpdE	ZAA10999

Status : Version 2 - Unchanged

Last Checkin: 24/03/09

34	MarsIoGrpXA #4	MARS IO Group 4A	AEFZZ050	MarsGrp04A_Hlth	ZAA10999
			AEFZH050	MarsGrp04A_Enab	ZAA10999
			AEFZG050	MarsGrp04A_UpdE	ZAA10999
35	MarsIoGrpXB #4	MARS IO Group 4B	AEFZL050	MarsGrp04B_Hlth	ZAA10999
			AEFZK050	MarsGrp04B_Enab	ZAA10999
			AEFZJ050	MarsGrp04B_UpdE	ZAA10999
36	MarsIoGrpXA #5	MARS IO Group 5A	AEG03050	MarsGrp05A_Hlth	ZAA10999
			AEG02050	MarsGrp05A_Enab	ZAA10999
			AEG01050	MarsGrp05A_UpdE	ZAA10999
37	MarsIoGrpXB #5	MARS IO Group 5B	AEG06050	MarsGrp05B_Hlth	ZAA10999
			AEG05050	MarsGrp05B_Enab	ZAA10999
			AEG04050	MarsGrp05B_UpdE	ZAA10999
38	MarsIoGrpXA #6	MARS IO Group 6A	AEG0Z050	MarsGrp06A_Hlth	ZAA10999
			AEG0H050	MarsGrp06A_Enab	ZAA10999
			AEG0G050	MarsGrp06A_UpdE	ZAA10999
39	MarsIoGrpXB #6	MARS IO Group 6B	AEG0L050	MarsGrp06B_Hlth	ZAA10999
			AEG0K050	MarsGrp06B_Enab	ZAA10999
			AEG0J050	MarsGrp06B_UpdE	ZAA10999
40	MarsIoGrpXA #7	MARS IO Group 7A	AEG13050	MarsGrp07A_Hlth	ZAA10999
			AEG12050	MarsGrp07A_Enab	ZAA10999
			AEG11050	MarsGrp07A_UpdE	ZAA10999
41	MarsIoGrpXB #7	MARS IO Group 7B	AEG16050	MarsGrp07B_Hlth	ZAA10999
			AEG15050	MarsGrp07B_Enab	ZAA10999
			AEG14050	MarsGrp07B_UpdE	ZAA10999
42	MarsIoGrpXA #8	MARS IO Group 8A	AEG1Z050	MarsGrp08A_Hlth	ZAA11999
			AEG1H050	MarsGrp08A_Enab	ZAA11999
			AEG1G150	MarsGrp08A_UpdE	ZAA11999

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43	MarsIoGrpXB #8	MARS IO Group 8B	AEG1L050	MarsGrp08B_Hlth	ZAA11999
			AEG1K050	MarsGrp08B_Enab	ZAA11999
			AEG1J050	MarsGrp08B_UpdE	ZAA11999

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