

SWA SVT-1 EAS1 File: IA-SVT-151.xls Author: daniel lakey	
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**Procedure Summary**

**Objectives**

SWA SVT-1 EAS1

**Summary of Constraints**

n/a

**Spacecraft Configuration**

**Start of Procedure**

Type Pre-condition Here

**End of Procedure**

Type Post-condition Here

**Reference File(s)**

**Input Command Sequences**

**Output Command Sequences**

AIAV151A

**Referenced Displays**

ANDs      GRDs      SLDs

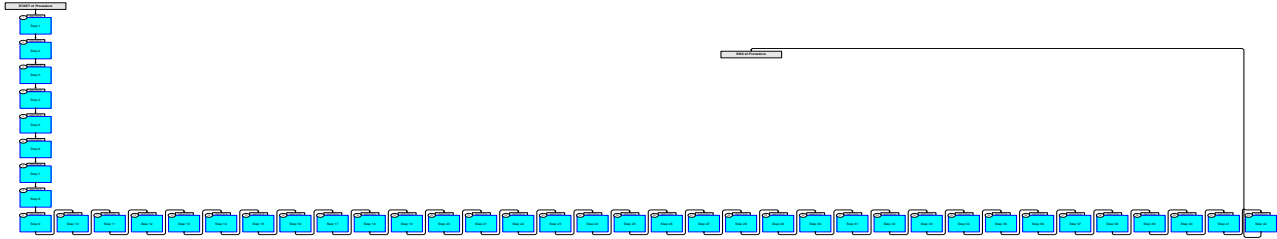
**Configuration Control Information**

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
02/11/2018		0.01	Initial check-in	dlakey	M7
02/11/2018		0.01	Renamed to SVT range	dlakey	M7
02/11/2018		1	Updated absolute -> relative times	dlakey	M7

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### Procedure Flowchart Overview



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Step	Label/Time	Activity/Remarks/Branch	CK	Display
<b>Beginning of Procedure</b>				
Beginning of Sequence				
	<b>AIAV151A</b>	<b>SWA SVT-1 EAS1</b>  TimeTag type : B		
<b>1</b>		<b>Step 1</b>  <i>Next step(s):</i> -> 2		
		Power on EAS1		
	+00.00.00	Send SWA_TC_EAS1_ON ZIA58755 SWA_TC_EAS1_ON TC Control Flags: GBM IL DSE --Y NC ---		
<b>2</b>		<b>Step 2</b>  <i>Next step(s):</i> -> 3		
		Enable EAS1 HK		
	+00.01.00	Send SWA_TC_HK_EN ZIA58050 SWA_TC_HK_EN TC Control Flags: GBM IL DSE --Y NC ---  Command Parameters : PIA58050 TMSID = EAS1_SENS_HK		
<b>3</b>		<b>Step 3</b>  <i>Next step(s):</i> -> 4		
		Clear Sequence Shared RAM		
	+00.00.30	Send SWA_TC_EAS1_CLEAR_RAM ZIA58763 SWA_TC_EAS1_CLEAR_RAM TC Control Flags: GBM IL DSE --Y NC ---		

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4		<p><b>Step 4</b></p> <p><i>Next step(s):</i> -&gt; 5</p>		
		Write master control register		
	+00.00.30	<p>Send SWA_TC_EAS1_MASTER_REG_WRITE ZIA58776 SWA_TC_EAS1_MASTER_REG_WRITE</p> <p>TC Control Flags: GBM IL DSE --Y NC ---</p> <p>Command Parameters : PIA60423 BYTE_0 = 0x00 &lt;hex&gt; PIA60424 BYTE_1 = 0x00 &lt;hex&gt; PIA60425 BYTE_2 = 0x60 &lt;hex&gt;</p>		
		Turn EAS1 preamp1 on		
	+00.00.30	<p>Send SWA_TC_EAS1_PRE_AMP_WRITE ZIA58777 SWA_TC_EAS1_PRE_AMP_WRITE</p> <p>TC Control Flags: GBM IL DSE --Y NC ---</p> <p>Command Parameters : PIA58066 PRE_AMP1 = ON (Def) PIA58067 PRE_AMP2 = OFF</p>		
5		<p><b>Step 5</b></p> <p><i>Next step(s):</i> -&gt; 6</p>		
		Turn EAS1 preamp2 on		
	+00.00.30	<p>Send SWA_TC_EAS1_PRE_AMP_WRITE ZIA58777 SWA_TC_EAS1_PRE_AMP_WRITE</p> <p>TC Control Flags: GBM IL DSE --Y NC ---</p> <p>Command Parameters : PIA58066 PRE_AMP1 = ON (Def) PIA58067 PRE_AMP2 = ON (Def)</p>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
6		<p><b>Step 6</b></p> <p><i>Next step(s):</i> -&gt; 7</p>		
		Upload sequence table		
	+00.00.30	<p>Send SWA_TC_EAS1_SEQ_TABLE_UPLOAD ZIA58772 SWA_TC_EAS1_SEQ_TABLE_UPLOAD</p> <p>TC Control Flags: GBM IL DSE --Y NC ---</p>		
7		<p><b>Step 7</b></p> <p><i>Next step(s):</i> -&gt; 8</p>		
		Set the deflection scan ratio table		
	+00.00.30	<p>Send SWA_TC_EAS1_SET_DEFL_SCAN_RATIO ZIA58765 SWA_TC_EAS1_SET_DEFL_SCAN_RATIO</p> <p>TC Control Flags: GBM IL DSE --Y NC ---</p> <p>Command Parameters :</p> <p>PIA60474 VAL_0 = 0x80 &lt;hex&gt; PIA60475 VAL_1 = 0x00 &lt;hex&gt; PIA60578 VAL_2 = 0x00 &lt;hex&gt; PIA60589 VAL_3 = 0x00 &lt;hex&gt; PIA60600 VAL_4 = 0x00 &lt;hex&gt; PIA60611 VAL_5 = 0x00 &lt;hex&gt; PIA60622 VAL_6 = 0x80 &lt;hex&gt; PIA60633 VAL_7 = 0x00 &lt;hex&gt; PIA60644 VAL_8 = 0x00 &lt;hex&gt;</p> <p>PIA60655 VAL_9 = 0x00 &lt;hex&gt; PIA60476 VAL_10 = 0x00 &lt;hex&gt; PIA60487 VAL_11 = 0x00 &lt;hex&gt; PIA60498 VAL_12 = 0x70 &lt;hex&gt; PIA60509 VAL_13 = 0x00 &lt;hex&gt; PIA60520 VAL_14 = 0x00 &lt;hex&gt; PIA60531 VAL_15 = 0x00 &lt;hex&gt; PIA60542 VAL_16 = 0x00 &lt;hex&gt; PIA60553 VAL_17 = 0x00 &lt;hex&gt; PIA60564 VAL_18 = 0x60 &lt;hex&gt; PIA60575 VAL_19 = 0x00 &lt;hex&gt; PIA60579 VAL_20 = 0x00 &lt;hex&gt; PIA60580 VAL_21 = 0x00 &lt;hex&gt; PIA60581 VAL_22 = 0x00 &lt;hex&gt; PIA60582 VAL_23 = 0x00 &lt;hex&gt;</p>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		PIA60583 VAL_24 = 0x50 <hex>		
		PIA60584 VAL_25 = 0x00 <hex>		
		PIA60585 VAL_26 = 0x00 <hex>		
		PIA60586 VAL_27 = 0x00 <hex>		
		PIA60587 VAL_28 = 0x00 <hex>		
		PIA60588 VAL_29 = 0x00 <hex>		
		PIA60590 VAL_30 = 0x40 <hex>		
		PIA60591 VAL_31 = 0x00 <hex>		
		PIA60592 VAL_32 = 0x00 <hex>		
		PIA60593 VAL_33 = 0x00 <hex>		
		PIA60594 VAL_34 = 0x00 <hex>		
		PIA60595 VAL_35 = 0x00 <hex>		
		PIA60596 VAL_36 = 0x30 <hex>		
		PIA60597 VAL_37 = 0x00 <hex>		
		PIA60598 VAL_38 = 0x00 <hex>		
		PIA60599 VAL_39 = 0x00 <hex>		
		PIA60601 VAL_40 = 0x00 <hex>		
		PIA60602 VAL_41 = 0x00 <hex>		
		PIA60603 VAL_42 = 0x20 <hex>		
		PIA60604 VAL_43 = 0x00 <hex>		
		PIA60605 VAL_44 = 0x00 <hex>		
		PIA60606 VAL_45 = 0x00 <hex>		
		PIA60607 VAL_46 = 0x00 <hex>		
		PIA60608 VAL_47 = 0x00 <hex>		
		PIA60609 VAL_48 = 0x00 <hex>		
		PIA60610 VAL_49 = 0x00 <hex>		
		PIA60612 VAL_50 = 0x00 <hex>		
		PIA60613 VAL_51 = 0x20 <hex>		
		PIA60614 VAL_52 = 0x00 <hex>		
		PIA60615 VAL_53 = 0x00 <hex>		
		PIA60616 VAL_54 = 0x00 <hex>		
		PIA60617 VAL_55 = 0x00 <hex>		
		PIA60618 VAL_56 = 0x00 <hex>		
		PIA60619 VAL_57 = 0x30 <hex>		
		PIA60620 VAL_58 = 0x00 <hex>		
		PIA60621 VAL_59 = 0x00 <hex>		
		PIA60623 VAL_60 = 0x00 <hex>		
		PIA60624 VAL_61 = 0x00 <hex>		
		PIA60625 VAL_62 = 0x00 <hex>		
		PIA60626 VAL_63 = 0x40 <hex>		
		PIA60627 VAL_64 = 0x00 <hex>		
		PIA60628 VAL_65 = 0x00 <hex>		
		PIA60629 VAL_66 = 0x00 <hex>		
		PIA60630 VAL_67 = 0x00 <hex>		
		PIA60631 VAL_68 = 0x00 <hex>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		PIA60632 VAL_69 = 0x50 <hex> PIA60634 VAL_70 = 0x00 <hex> PIA60635 VAL_71 = 0x00 <hex> PIA60636 VAL_72 = 0x00 <hex> PIA60637 VAL_73 = 0x00 <hex> PIA60638 VAL_74 = 0x00 <hex> PIA60639 VAL_75 = 0x60 <hex> PIA60640 VAL_76 = 0x00 <hex> PIA60641 VAL_77 = 0x00 <hex> PIA60642 VAL_78 = 0x00 <hex> PIA60643 VAL_79 = 0x00 <hex> PIA60645 VAL_80 = 0x00 <hex> PIA60646 VAL_81 = 0x70 <hex> PIA60647 VAL_82 = 0x00 <hex> PIA60648 VAL_83 = 0x00 <hex>  PIA60649 VAL_84 = 0x00 <hex> PIA60650 VAL_85 = 0x00 <hex> PIA60651 VAL_86 = 0x00 <hex> PIA60652 VAL_87 = 0x80 <hex> PIA60653 VAL_88 = 0x00 <hex> PIA60654 VAL_89 = 0x00 <hex> PIA60656 VAL_90 = 0x00 <hex> PIA60657 VAL_91 = 0x00 <hex> PIA60658 VAL_92 = 0x00 <hex> PIA60659 VAL_93 = 0x80 <hex> PIA60660 VAL_94 = 0x00 <hex> PIA60661 VAL_95 = 0x00 <hex>		
8		Step 8  Next step(s): -> 9		
		Set the Hemisphere high voltage		
	+00.00.30	Send SWA_TC_EAS1_SET_HEM_HIGH_VOLT ZIA58767 SWA_TC_EAS1_SET_HEM_HIGH_VOLT TC Control Flags: GBM IL DSE --Y NC ---  Command Parameters : PIA60441 HV_0 = 0x02 <hex> PIA60442 HV_1 = 0x9C <hex> PIA60443 HV_2 = 0x80 <hex>		
9		Step 9  Next step(s): -> 10		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		Set the Hemisphere voltage ratio		
	+00.00.30	<pre>Send SWA_TC_EAS1_SET_HEM_VOLT_RATIO ZIA58766 SWA_TC_EAS1_SET_HEM_VOLT_RATIO TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60469 VR_0 = 0xDE &lt;hex&gt; PIA60470 VR_1 = 0xB8 &lt;hex&gt; PIA60471 VR_2 = 0x51 &lt;hex&gt;</pre>		
10		<p>Step 10</p> <p>Next step(s): -&gt; 11</p>		
		Set the VGF ratio upload		
	+00.00.30	<pre>Send SWA_TC_EAS1_SET_VGF_RATIO_UP ZIA58768 SWA_TC_EAS1_SET_VGF_RATIO_UP TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60460 VGF_0 = 0 &lt;dec&gt; PIA60461 VGF_1 = 0 &lt;dec&gt; PIA60462 VGF_2 = 0 &lt;dec&gt; PIA60463 VGF_3 = 0 &lt;dec&gt; PIA60464 VGF_4 = 0 &lt;dec&gt; PIA60465 VGF_5 = 0 &lt;dec&gt; PIA60466 VGF_6 = 0 &lt;dec&gt; PIA60467 VGF_7 = 0 &lt;dec&gt; PIA60468 VGF_8 = 0 &lt;dec&gt;</pre>		
11		<p>Step 11</p> <p>Next step(s): -&gt; 12</p>		
		Write the VGF setting control		



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Step	Label/Time	Activity/Remarks/Branch	CK	Display
	+00.00.30	Send SWA_TC_EAS1_VGF_SET_CTRL ZIA58770 SWA_TC_EAS1_VGF_SET_CTRL TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA59035 SET_VAL = 0 <dec> (Def)		
12		Step 12  Next step(s): -> 13		
		Start the sequence table		
	+00.00.30	Send SWA_TC_EAS1_START_SEQ_TABLE ZIA58773 SWA_TC_EAS1_START_SEQ_TABLE TC Control Flags: GBM IL DSE --Y NC ---		
13		Step 13  Next step(s): -> 14		
		Set the maximum voltage for the MCP		
	+00.00.30	Send SWA_TC_EAS1_SET_MCP_MAX_HV ZIA58783 SWA_TC_EAS1_SET_MCP_MAX_HV TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60169 MAX_VAL = 0x800 <hex>		
14		Step 14  Next step(s): -> 15		
		Set the new voltage for the MCP		

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	+00.00.30	Send SWA_TC_EAS1_SET_MCP_HV ZIA58784 SWA_TC_EAS1_SET_MCP_HV TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60218 NEW_VAL = 0x400 <hex>		
15		Step 15  Next step(s): -> 16		
		Load the grid voltage		
	+00.00.30	Send SWA_TC_EAS1_GRID_CTRL_WRITE ZIA58781 SWA_TC_EAS1_GRID_CTRL_WRITE TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60423 BYTE_0 = 0x00 <hex> PIA60424 BYTE_1 = 0x08 <hex> PIA60425 BYTE_2 = 0x00 <hex>		
16		Step 16  Next step(s): -> 17		
		Load the voltage offsets		
	+00.00.30	Send SWA_TC_EAS1_SET_ANAL_VOLT_OFFSET ZIA58769 SWA_TC_EAS1_SET_ANAL_VOLT_OFFSET TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60411 AVO_0 = 0x00 <hex> PIA60412 AVO_1 = 0x00 <hex> PIA60415 AVO_2 = 0x00 <hex> PIA60416 AVO_3 = 0x00 <hex> PIA60417 AVO_4 = 0x00 <hex> PIA60418 AVO_5 = 0x00 <hex> PIA60419 AVO_6 = 0x00 <hex> PIA60420 AVO_7 = 0x00 <hex> PIA60421 AVO_8 = 0x00 <hex>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		PIA60422 AVO_9 = 0x00 <hex> PIA60413 AVO_10 = 0x00 <hex> PIA60414 AVO_11 = 0x00 <hex>		
17		Step 17  Next step(s): -> 18		
		Upload dither		
	+00.00.30	Send SWA_TC_EAS1_UPLOAD_DITHER ZIA58754 SWA_TC_EAS1_UPLOAD_DITHER TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60736 DR_0 = 0x0 <hex> PIA60737 DR_1 = 0x0 <hex> PIA60738 DR_2 = 0x0 <hex>		
18		Step 18  Next step(s): -> 19		
		Set Pre-Amp 1 control data		
	+00.00.30	Send SWA_TC_EAS1_SET_PRE_AMP_DATA ZIA58774 SWA_TC_EAS1_SET_PRE_AMP_DATA TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60013 PRE_AMP_ID = PRE-AMP1 (Def) PIA60429 CMD_DATA_0 = 0x00 <hex> PIA60430 CMD_DATA_1 = 0x0F <hex> PIA60431 CMD_DATA_2 = 0xF0 <hex>		
19		Step 19  Next step(s): -> 20		
		Set Pre-Amp 2 control data		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
	+00.00.30	Send SWA_TC_EAS1_SET_PRE_AMP_DATA ZIA58774 SWA_TC_EAS1_SET_PRE_AMP_DATA TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60013 PRE_AMP_ID = PRE-AMP2 PIA60429 CMD_DATA_0 = 0x00 <hex> PIA60430 CMD_DATA_1 = 0x0F <hex> PIA60431 CMD_DATA_2 = 0xF0 <hex>		
20		Step 20  Next step(s): -> 21		
		Load the threshold values		
	+00.00.30	Send SWA_TC_EAS1_SET_PREAMP_DATA ZIA58797 SWA_TC_EAS1_SET_PREAMP_DATA TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60174 CMD_DATA_TH1 = 0x5F40 <hex> PIA60185 CMD_DATA_TH2 = 0x5F41 <hex> PIA60196 CMD_DATA_TH3 = 0x5F42 <hex> PIA60200 CMD_DATA_TH4 = 0x5F43 <hex> PIA60201 CMD_DATA_TH5 = 0x5F44 <hex> PIA60202 CMD_DATA_TH6 = 0x5F45 <hex> PIA60203 CMD_DATA_TH7 = 0x6586 <hex> PIA60204 CMD_DATA_TH8 = 0x6587 <hex> PIA60205 CMD_DATA_TH9 = 0x66C8 <hex>  PIA60175 CMD_DATA_TH10 = 0x5F49 <hex> PIA60176 CMD_DATA_TH11 = 0x5F4A <hex> PIA60177 CMD_DATA_TH12 = 0x5F4B <hex> PIA60178 CMD_DATA_TH13 = 0x5F4C <hex> PIA60179 CMD_DATA_TH14 = 0x5F4D <hex> PIA60180 CMD_DATA_TH15 = 0x5F4E <hex> PIA60181 CMD_DATA_TH16 = 0x5F4F <hex> PIA60182 CMD_DATA_TH17 = 0x5F40 <hex> PIA60183 CMD_DATA_TH18 = 0x5F41 <hex> PIA60184 CMD_DATA_TH19 = 0x5F42 <hex> PIA60186 CMD_DATA_TH20 = 0x5F43 <hex> PIA60187 CMD_DATA_TH21 = 0x5F44 <hex> PIA60188 CMD_DATA_TH22 = 0x5F45 <hex> PIA60189 CMD_DATA_TH23 = 0x5F46 <hex> PIA60190 CMD_DATA_TH24 = 0x5F47 <hex>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		PIA60191 CMD_DATA_TH25 = 0x5F48 <hex> PIA60192 CMD_DATA_TH26 = 0x5F49 <hex> PIA60193 CMD_DATA_TH27 = 0x5F4A <hex> PIA60194 CMD_DATA_TH28 = 0x5CCB <hex> PIA60195 CMD_DATA_TH29 = 0x5F4C <hex> PIA60197 CMD_DATA_TH30 = 0x5F4D <hex> PIA60198 CMD_DATA_TH31 = 0x5F4E <hex> PIA60199 CMD_DATA_TH32 = 0x5F4F <hex>		
21		Step 21  Next step(s): -> 22		
		Set hemisphere voltage look-up table		
	+00.00.30	Send SWA_TC_EAS1_SET_HEM_VOLT_LUT ZIA58764 SWA_TC_EAS1_SET_HEM_VOLT_LUT TC Control Flags: GBM IL DSE --Y NC ---  Command Parameters : PIA60474 VAL_0 = 0x0 <hex> PIA60475 VAL_1 = 0x0 <hex> PIA60578 VAL_2 = 0x0 <hex> PIA60589 VAL_3 = 0x0 <hex> PIA60600 VAL_4 = 0x0 <hex> PIA60611 VAL_5 = 0x0 <hex> PIA60622 VAL_6 = 0x0 <hex> PIA60633 VAL_7 = 0x0 <hex> PIA60644 VAL_8 = 0x0 <hex>  PIA60655 VAL_9 = 0x0 <hex> PIA60476 VAL_10 = 0x0 <hex> PIA60487 VAL_11 = 0x0 <hex> PIA60498 VAL_12 = 0x0 <hex> PIA60509 VAL_13 = 0x0 <hex> PIA60520 VAL_14 = 0x0 <hex> PIA60531 VAL_15 = 0x0 <hex> PIA60542 VAL_16 = 0x0 <hex> PIA60553 VAL_17 = 0x0 <hex> PIA60564 VAL_18 = 0x0 <hex> PIA60575 VAL_19 = 0x0 <hex> PIA60579 VAL_20 = 0x0 <hex> PIA60580 VAL_21 = 0x0 <hex> PIA60581 VAL_22 = 0x0 <hex> PIA60582 VAL_23 = 0x0 <hex>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		PIA60583 VAL_24 = 0x0 <hex>		
		PIA60584 VAL_25 = 0x0 <hex>		
		PIA60585 VAL_26 = 0x0 <hex>		
		PIA60586 VAL_27 = 0x0 <hex>		
		PIA60587 VAL_28 = 0x0 <hex>		
		PIA60588 VAL_29 = 0x0 <hex>		
		PIA60590 VAL_30 = 0x0 <hex>		
		PIA60591 VAL_31 = 0x0 <hex>		
		PIA60592 VAL_32 = 0x0 <hex>		
		PIA60593 VAL_33 = 0x0 <hex>		
		PIA60594 VAL_34 = 0x0 <hex>		
		PIA60595 VAL_35 = 0x0 <hex>		
		PIA60596 VAL_36 = 0x0 <hex>		
		PIA60597 VAL_37 = 0x0 <hex>		
		PIA60598 VAL_38 = 0x0 <hex>		
		PIA60599 VAL_39 = 0x0 <hex>		
		PIA60601 VAL_40 = 0x0 <hex>		
		PIA60602 VAL_41 = 0x0 <hex>		
		PIA60603 VAL_42 = 0x0 <hex>		
		PIA60604 VAL_43 = 0x0 <hex>		
		PIA60605 VAL_44 = 0x0 <hex>		
		PIA60606 VAL_45 = 0x0 <hex>		
		PIA60607 VAL_46 = 0x0 <hex>		
		PIA60608 VAL_47 = 0x0 <hex>		
		PIA60609 VAL_48 = 0x0 <hex>		
		PIA60610 VAL_49 = 0x0 <hex>		
		PIA60612 VAL_50 = 0x0 <hex>		
		PIA60613 VAL_51 = 0x0 <hex>		
		PIA60614 VAL_52 = 0x0 <hex>		
		PIA60615 VAL_53 = 0x0 <hex>		
		PIA60616 VAL_54 = 0x0 <hex>		
		PIA60617 VAL_55 = 0x0 <hex>		
		PIA60618 VAL_56 = 0x0 <hex>		
		PIA60619 VAL_57 = 0x0 <hex>		
		PIA60620 VAL_58 = 0x0 <hex>		
		PIA60621 VAL_59 = 0x0 <hex>		
		PIA60623 VAL_60 = 0x0 <hex>		
		PIA60624 VAL_61 = 0x0 <hex>		
		PIA60625 VAL_62 = 0x0 <hex>		
		PIA60626 VAL_63 = 0x0 <hex>		
		PIA60627 VAL_64 = 0x0 <hex>		
		PIA60628 VAL_65 = 0x0 <hex>		
		PIA60629 VAL_66 = 0x0 <hex>		
		PIA60630 VAL_67 = 0x0 <hex>		
		PIA60631 VAL_68 = 0x0 <hex>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		PIA60632 VAL_69 = 0x0 <hex>		
		PIA60634 VAL_70 = 0x0 <hex>		
		PIA60635 VAL_71 = 0x0 <hex>		
		PIA60636 VAL_72 = 0x0 <hex>		
		PIA60637 VAL_73 = 0x0 <hex>		
		PIA60638 VAL_74 = 0x0 <hex>		
		PIA60639 VAL_75 = 0x0 <hex>		
		PIA60640 VAL_76 = 0x0 <hex>		
		PIA60641 VAL_77 = 0x0 <hex>		
		PIA60642 VAL_78 = 0x0 <hex>		
		PIA60643 VAL_79 = 0x0 <hex>		
		PIA60645 VAL_80 = 0x0 <hex>		
		PIA60646 VAL_81 = 0x0 <hex>		
		PIA60647 VAL_82 = 0x0 <hex>		
		PIA60648 VAL_83 = 0x0 <hex>		
		PIA60649 VAL_84 = 0x0 <hex>		
		PIA60650 VAL_85 = 0x0 <hex>		
		PIA60651 VAL_86 = 0x0 <hex>		
		PIA60652 VAL_87 = 0x0 <hex>		
		PIA60653 VAL_88 = 0x0 <hex>		
		PIA60654 VAL_89 = 0x0 <hex>		
		PIA60656 VAL_90 = 0x0 <hex>		
		PIA60657 VAL_91 = 0x0 <hex>		
		PIA60658 VAL_92 = 0x0 <hex>		
		PIA60659 VAL_93 = 0x0 <hex>		
		PIA60660 VAL_94 = 0x0 <hex>		
		PIA60661 VAL_95 = 0x0 <hex>		
		PIA60662 VAL_96 = 0x0 <hex>		
		PIA60663 VAL_97 = 0x0 <hex>		
		PIA60664 VAL_98 = 0x0 <hex>		
		PIA60665 VAL_99 = 0x0 <hex>		
		PIA60477 VAL_100 = 0x0 <hex>		
		PIA60478 VAL_101 = 0x0 <hex>		
		PIA60479 VAL_102 = 0x0 <hex>		
		PIA60480 VAL_103 = 0x0 <hex>		
		PIA60481 VAL_104 = 0x0 <hex>		
		PIA60482 VAL_105 = 0x0 <hex>		
		PIA60483 VAL_106 = 0x0 <hex>		
		PIA60484 VAL_107 = 0x0 <hex>		
		PIA60485 VAL_108 = 0x0 <hex>		
		PIA60486 VAL_109 = 0x0 <hex>		
		PIA60488 VAL_110 = 0x0 <hex>		
		PIA60489 VAL_111 = 0x0 <hex>		
		PIA60490 VAL_112 = 0x0 <hex>		
		PIA60491 VAL_113 = 0x0 <hex>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		PIA60492 VAL_114 = 0x0 <hex>		
		PIA60493 VAL_115 = 0x0 <hex>		
		PIA60494 VAL_116 = 0x0 <hex>		
		PIA60495 VAL_117 = 0x0 <hex>		
		PIA60496 VAL_118 = 0x0 <hex>		
		PIA60497 VAL_119 = 0x0 <hex>		
		PIA60499 VAL_120 = 0x0 <hex>		
		PIA60500 VAL_121 = 0x0 <hex>		
		PIA60501 VAL_122 = 0x0 <hex>		
		PIA60502 VAL_123 = 0x0 <hex>		
		PIA60503 VAL_124 = 0x0 <hex>		
		PIA60504 VAL_125 = 0x0 <hex>		
		PIA60505 VAL_126 = 0x0 <hex>		
		PIA60506 VAL_127 = 0x0 <hex>		
		PIA60507 VAL_128 = 0x0 <hex>		
		PIA60508 VAL_129 = 0x0 <hex>		
		PIA60510 VAL_130 = 0x0 <hex>		
		PIA60511 VAL_131 = 0x0 <hex>		
		PIA60512 VAL_132 = 0x0 <hex>		
		PIA60513 VAL_133 = 0x0 <hex>		
		PIA60514 VAL_134 = 0x0 <hex>		
		PIA60515 VAL_135 = 0x0 <hex>		
		PIA60516 VAL_136 = 0x0 <hex>		
		PIA60517 VAL_137 = 0x0 <hex>		
		PIA60518 VAL_138 = 0x0 <hex>		
		PIA60519 VAL_139 = 0x0 <hex>		
		PIA60521 VAL_140 = 0x0 <hex>		
		PIA60522 VAL_141 = 0x0 <hex>		
		PIA60523 VAL_142 = 0x0 <hex>		
		PIA60524 VAL_143 = 0x0 <hex>		
		PIA60525 VAL_144 = 0x0 <hex>		
		PIA60526 VAL_145 = 0x0 <hex>		
		PIA60527 VAL_146 = 0x0 <hex>		
		PIA60528 VAL_147 = 0x0 <hex>		
		PIA60529 VAL_148 = 0x0 <hex>		
		PIA60530 VAL_149 = 0x0 <hex>		
		PIA60532 VAL_150 = 0x0 <hex>		
		PIA60533 VAL_151 = 0x0 <hex>		
		PIA60534 VAL_152 = 0x0 <hex>		
		PIA60535 VAL_153 = 0x0 <hex>		
		PIA60536 VAL_154 = 0x0 <hex>		
		PIA60537 VAL_155 = 0x0 <hex>		
		PIA60538 VAL_156 = 0x0 <hex>		
		PIA60539 VAL_157 = 0x0 <hex>		
		PIA60540 VAL_158 = 0x0 <hex>		



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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		PIA60541 VAL_159 = 0x0 <hex> PIA60543 VAL_160 = 0x0 <hex> PIA60544 VAL_161 = 0x0 <hex> PIA60545 VAL_162 = 0x0 <hex> PIA60546 VAL_163 = 0x0 <hex> PIA60547 VAL_164 = 0x0 <hex> PIA60548 VAL_165 = 0x0 <hex> PIA60549 VAL_166 = 0x0 <hex> PIA60550 VAL_167 = 0x0 <hex> PIA60551 VAL_168 = 0x0 <hex> PIA60552 VAL_169 = 0x0 <hex> PIA60554 VAL_170 = 0x0 <hex> PIA60555 VAL_171 = 0x0 <hex> PIA60556 VAL_172 = 0x0 <hex> PIA60557 VAL_173 = 0x0 <hex>  PIA60558 VAL_174 = 0x0 <hex> PIA60559 VAL_175 = 0x0 <hex> PIA60560 VAL_176 = 0x0 <hex> PIA60561 VAL_177 = 0x0 <hex> PIA60562 VAL_178 = 0x0 <hex> PIA60563 VAL_179 = 0x0 <hex> PIA60565 VAL_180 = 0x0 <hex> PIA60566 VAL_181 = 0x0 <hex> PIA60567 VAL_182 = 0x0 <hex> PIA60568 VAL_183 = 0x0 <hex> PIA60569 VAL_184 = 0x0 <hex> PIA60570 VAL_185 = 0x0 <hex> PIA60571 VAL_186 = 0x0 <hex> PIA60572 VAL_187 = 0x0 <hex> PIA60573 VAL_188 = 0x0 <hex>  PIA60574 VAL_189 = 0x0 <hex> PIA60576 VAL_190 = 0x0 <hex> PIA60577 VAL_191 = 0x0 <hex>		
22		Step 22  Next step(s): -> 23		
		Select the strahl bin		
	+00.00.30	Send SWA_TC_EAS1_STHRAL_SEL ZIA58796 SWA_TC_EAS1_STHRAL_SEL TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60173 STRAHL_ID = 0x18 <hex>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
23		<p><b>Step 23</b></p> <p><i>Next step(s):</i> -&gt; 24</p>		
		Set Moment elab		
	+00.00.30	<p>Send SWA_TC_EAS1_SET_MOM_ELAB ZIA58786 SWA_TC_EAS1_SET_MOM_ELAB</p> <p>TC Control Flags: GBM IL DSE --Y NC ---</p> <p>Command Parameters : PIA60338 TH1 = 0x05 &lt;hex&gt; PIA60339 TH2 = 0x10 &lt;hex&gt;</p>		
24		<p><b>Step 24</b></p> <p><i>Next step(s):</i> -&gt; 25</p>		
		HK data request		
	+00.00.30	<p>Send SWA_TC_EAS1_HK_DATA_REQ ZIA58782 SWA_TC_EAS1_HK_DATA_REQ</p> <p>TC Control Flags: GBM IL DSE --Y NC ---</p>		
25		<p><b>Step 25</b></p> <p><i>Next step(s):</i> -&gt; 26</p>		
		Switch EAS1 off		
	+00.02.00	<p>Send SWA_TC_EAS1_OFF ZIA58756 SWA_TC_EAS1_OFF</p> <p>TC Control Flags: GBM IL DSE --Y NC ---</p>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
26		<b>Step 26</b>  <i>Next step(s):</i> -> 27		
		Modify DPU configuration parameters		
	+00.01.00	Send SWA_TC_DPU_MODIFY_CONF_PARS ZIA58706 SWA_TC_DPU_MODIFY_CONF_PARS TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60133 NUM_OF_PARS = 1 <dec> PIA60136 PAR_ID = 0x1003 <hex> PIA60135 PAR_DESC_SIZE = 6 <dec> PIA60134 PAR_DESC = 0xDE <hex> PIA60134 PAR_DESC = 0xB8 <hex> PIA60134 PAR_DESC = 0x51 <hex> PIA60134 PAR_DESC = 0x02 <hex> PIA60134 PAR_DESC = 0x9C <hex> PIA60134 PAR_DESC = 0x80 <hex>		
27		<b>Step 27</b>  <i>Next step(s):</i> -> 28		
		Accept DPU configuration parameter change		
	+00.00.30	Send SWA_TC_DPU_ACCEPT_CONF_PARS ZIA58708 SWA_TC_DPU_ACCEPT_CONF_PARS TC Control Flags: GBM IL DSE --Y NC ---		
28		<b>Step 28</b>  <i>Next step(s):</i> -> 29		
		Power on EAS1 using macros		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
	+00.00.30	Send SWA_TC_EAS1_PWR_ON ZIA58760 SWA_TC_EAS1_PWR_ON TC Control Flags: GBM IL DSE --Y NC ---		
29		Step 29 Next step(s): -> 30		
		Start the POST service macro		
	+00.01.00	Send SWA_TC_EAS1_START_SERVICE_MACRO ZIA58934 SWA_TC_EAS1_START_SERVICE_MACRO TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60739 EAS1_MACRO_ID = POST		
30		Step 30 Next step(s): -> 31		
		EAS1 to IDLE mode		
	+00.00.30	Send SWA_TC_EAS1_IDLE_MODE ZIA58753 SWA_TC_EAS1_IDLE_MODE TC Control Flags: GBM IL DSE --Y NC ---		
31		Step 31 Next step(s): -> 32		
		EAS1 to RUN mode		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
	+00.00.30	Send SWA_TC_EAS1_RUN_MODE ZIA58758 SWA_TC_EAS1_RUN_MODE TC Control Flags: GBM IL DSE --Y NC ---		
		EAS1 to Engineering mode 2		
	+00.00.30	Send SWA_TC_EAS1_ENG2_MODE ZIA58788 SWA_TC_EAS1_ENG2_MODE TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60165 MCP_WAIT = 10 <dec>		
32		Step 32  Next step(s): -> 33		
		Run the post-engineering mode macro		
	+00.02.00	Send SWA_TC_EAS1_START_SERVICE_MACRO ZIA58934 SWA_TC_EAS1_START_SERVICE_MACRO TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60739 EAS1_MACRO_ID = POST_ENG		
		EAS1 to Engineering mode 3		
	+00.00.30	Send SWA_TC_EAS1_ENG3_MODE ZIA58789 SWA_TC_EAS1_ENG3_MODE TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60101 STARTING_MCP = 0 <dec> PIA60100 FINAL_MCP = 0xFF <hex> PIA60102 STEP_MCP = 0xF <hex> PIA60437 FIRST_RAMP_TIME = 0xA <hex> PIA60444 INTERMEDIATE_RAMP_TIME = 1 <dec> PIA60165 MCP_WAIT = 2 <dec> PIA60760 HEMBIN = 0x20 <hex> PIA60761 DEFNUM = 0x8 <hex> PIA60762 CTRL = SWEEP_MACRO (Def)		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
33		<p style="text-align: center;"><b>Step 33</b></p> <p><i>Next step(s):</i> -&gt; 34</p>		
		Run the post-engineering mode macro		
	+00.04.00	<pre>Send SWA_TC_EAS1_START_SERVICE_MACRO ZIA58934 SWA_TC_EAS1_START_SERVICE_MACRO TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60739 EAS1_MACRO_ID = POST_ENG</pre>		
		EAS1 to Engineering mode 4		
	+00.00.30	<pre>Send SWA_TC_EAS1_ENG4_MODE ZIA58790 SWA_TC_EAS1_ENG4_MODE TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60104 START_TH_LEVEL = 0x724 &lt;hex&gt; PIA60103 END_TH_LEVEL = 0x477 &lt;hex&gt; PIA60105 TH_STEP = 0x200 &lt;hex&gt; PIA60106 MCP_VAL = 0x0 &lt;hex&gt; PIA60165 MCP_WAIT = 0xA &lt;hex&gt; PIA60851 ACQ_TIME = 2 &lt;dec&gt; PIA60760 HEMBIN = 0x20 &lt;hex&gt; PIA60761 DEFNUM = 0x8 &lt;hex&gt;</pre>		
34		<p style="text-align: center;"><b>Step 34</b></p> <p><i>Next step(s):</i> -&gt; 35</p>		
		Run the post-engineering mode macro		
	+00.02.00	<pre>Send SWA_TC_EAS1_START_SERVICE_MACRO ZIA58934 SWA_TC_EAS1_START_SERVICE_MACRO TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60739 EAS1_MACRO_ID = POST_ENG</pre>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		EAS1 to Engineering mode 5		
	+00.00.30	Send SWA_TC_EAS1_ENG5_MODE ZIA58791 SWA_TC_EAS1_ENG5_MODE TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60454 PA1_STIM_LEV = 0xFF <hex> PIA60455 PA2_STIM_LEV = 0xFF <hex> PIA60040 START_TH_LEVEL = 0x724 <hex> PIA60039 END_TH_LEVEL = 0x477 <hex> PIA60041 TH_STEP = 0x76 <hex> PIA60106 MCP_VAL = 0x0 <hex> PIA60171 MCP_WAIT = 0xA <hex> PIA60165 MCP_WAIT = 2 <dec>		
35		Step 35  Next step(s): -> 36		
		Run the post-engineering mode macro		
	+00.02.00	Send SWA_TC_EAS1_START_SERVICE_MACRO ZIA58934 SWA_TC_EAS1_START_SERVICE_MACRO TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60739 EAS1_MACRO_ID = POST_ENG		
		EAS1 to Engineering mode 6		
	+00.00.30	Send SWA_TC_EAS1_ENG6_MODE ZIA58792 SWA_TC_EAS1_ENG6_MODE TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60457 STIM_HIGH_LEVEL = 0xFF <hex> PIA60458 STIM_LOW_LEVEL = 0x32 <hex> PIA60459 STIM_STEP = 0x29 <hex> PIA60106 MCP_VAL = 0x0 <hex> PIA60171 MCP_WAIT = 0xA <hex> PIA60165 MCP_WAIT = 2 <dec>		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
36		<p style="text-align: center;"><b>Step 36</b></p> <p><i>Next step(s):</i> -&gt; 37</p>		
		Run the post-engineering mode macro		
	+00.02.00	<pre>Send SWA_TC_EAS1_START_SERVICE_MACRO ZIA58934 SWA_TC_EAS1_START_SERVICE_MACRO   TC Control Flags:     GBM IL DSE     --Y NC ---   Command Parameters : PIA60739 EAS1_MACRO_ID = POST_ENG</pre>		
		EAS1 to Engineering mode 8		
	+00.00.30	<pre>Send SWA_TC_EAS1_ENG8_MODE ZIA58794 SWA_TC_EAS1_ENG8_MODE   TC Control Flags:     GBM IL DSE     --Y NC ---   Command Parameters : PIA60735 VR = 0xFF &lt;hex&gt; PIA60716 HV = 0x32 &lt;hex&gt; PIA60165 MCP_WAIT = 0x10 &lt;hex&gt;</pre>		
37		<p style="text-align: center;"><b>Step 37</b></p> <p><i>Next step(s):</i> -&gt; 38</p>		
		Run the post-engineering mode macro		
	+00.02.00	<pre>Send SWA_TC_EAS1_START_SERVICE_MACRO ZIA58934 SWA_TC_EAS1_START_SERVICE_MACRO   TC Control Flags:     GBM IL DSE     --Y NC ---   Command Parameters : PIA60739 EAS1_MACRO_ID = POST_ENG</pre>		
		EAS1 to Engineering mode 9		



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Step	Label/Time	Activity/Remarks/Branch	CK	Display
	+00.00.30	Send SWA_TC_EAS1_ENG9_MODE ZIA58795 SWA_TC_EAS1_ENG9_MODE TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60165 MCP_WAIT = 0x10 <hex>		
38		Step 38  Next step(s): -> 39		
		Run the post-engineering mode macro		
	+00.02.00	Send SWA_TC_EAS1_START_SERVICE_MACRO ZIA58934 SWA_TC_EAS1_START_SERVICE_MACRO TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60739 EAS1_MACRO_ID = POST_ENG		
39		Step 39  Next step(s): -> 40		
		Set the master control register for manual heater on EAS1		
	+00.00.30	Send SWA_TC_EAS1_MASTER_REG_WRITE ZIA58776 SWA_TC_EAS1_MASTER_REG_WRITE TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60423 BYTE_0 = 0x00 <hex> PIA60424 BYTE_1 = 0x40 <hex> PIA60425 BYTE_2 = 0x60 <hex>		
40		Step 40  Next step(s): -> 41		

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Step	Label/Time	Activity/Remarks/Branch	CK	Display
		Turn off heater (it is off anyway so this should do nothing)		
	+00.00.30	<pre>Send SWA_TC_EAS1_MAN_HEATHER ZIA58757 SWA_TC_EAS1_MAN_HEATHER TC Control Flags: GBM IL DSE --Y NC --- Command Parameters : PIA60773 HT_0 = 0x00 &lt;hex&gt; PIA60774 HT_1 = 0x00 &lt;hex&gt; PIA60775 HT_2 = 0x00 &lt;hex&gt;</pre>		
41		<p><b>Step 41</b></p> <p><i>Next step(s):</i> -&gt; 42</p>		
		Power off EAS1		
	+00.00.30	<pre>Send SWA_TC_EAS1_PWR_OFF ZIA58761 SWA_TC_EAS1_PWR_OFF TC Control Flags: GBM IL DSE --Y NC ---</pre>		
42		<p><b>Step 42</b></p> <p><i>Next step(s):</i> -&gt; END</p>		
		A wait of 60s is now required before any other procedures can be run		
<b>AIAV151A</b>		End of Sequence		
<b>End of Procedure</b>				