ACMS GYR + CRS Cal Slews in SCM (LGA)
File: H_COP_AOC_0634.xls
Author: dsalt-hp

## Procedure Summary

### Objectives

The objective of this Herschel ACMS commissioning procedure is to
perform the ACMS GYR+CRS calibration slews in SCM, which requires
use of the LGA.

The procedure involves the following activities:
- define/enable the necessary DTM packets, if necessary
  (calls H_FCP_AOC_D3FD)
- perform 8 calibration slews to the following attitudes
  (calls H_FCP_AOC_3S01)
  - SAA 65 deg, as much as possible about ACA Y-axis
  - SAA 115 deg, as much as possible about ACA Y-axis
  - go back to original position
  - roll -2.5 deg, as much as possible about ACA X-axis
  - roll +2.5 deg, as much as possible about ACA X-axis
  - Sun Centered position
  - +20 deg slew, purely about the ACA Z-axis
  - Sun Centered position
- disable/delete DTM
  (calls H_FCP_AOC_D3FD)

### Summary of Constraints

To be executed in accordance with the Herschel commissioning plan
and associated timeline

### Spacecraft Configuration

**Start of Procedure**

S/C in SCM

**End of Procedure**

S/C in SCM

### Reference File(s)

**Input Command Sequences**

**Output Command Sequences**
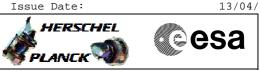
### Referenced Displays

**ANDs        GRDs        SLDs**

### Configuration Control Information

| DATE | FOP ISSUE | VERSION | MODIFICATION DESCRIPTION | AUTHOR | SPR REF |
|------|-----------|---------|--------------------------|--------|---------|
| 22/04/09 | 2.3 | 1 | Created | dsalt-hp | |

Status      : Version 1 - Unchanged
Last Checkin: 22/04/09

ACMS GYR + CRS Cal Slews in SCM (LGA)
File: H_COP_AOC_0634.xls
Author: dsalt-hp

## Procedure Flowchart Overview

```
                    ┌────────────────────────────┐
                    │      START of Procedure     │
                    └────────────────────────────┘
                                  │
            ┌─1─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Configure DTM for FD - enable DTM_3
                │  │        (H_FCP_AOC_D3FD)
                └──┴──────────────────────────────┘
                                  │
            ┌─2─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Perform SCM Fine Pointing -  Slew #1
                │  │        (H_FCP_AOC_3S01)
                └──┴──────────────────────────────┘
                                  │
            ┌─3─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Perform SCM Fine Pointing - Slew #2
                │  │        (H_FCP_AOC_3S01)
                └──┴──────────────────────────────┘
                                  │
            ┌─4─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Perform SCM Fine Pointing - Slew #3
                │  │        (H_FCP_AOC_3S01)
                └──┴──────────────────────────────┘
                                  │
            ┌─5─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Perform SCM Fine Pointing - Slew #4
                │  │        (H_FCP_AOC_3S01)
                └──┴──────────────────────────────┘
                                  │
            ┌─6─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Perform SCM Fine Pointing - Slew #5
                │  │        (H_FCP_AOC_3S01)
                └──┴──────────────────────────────┘
                                  │
            ┌─7─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Perform SCM Fine Pointing - Slew #6
                │  │        (H_FCP_AOC_3S01)
                └──┴──────────────────────────────┘
                                  │
            ┌─8─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Perform SCM Fine Pointing - Slew #7
                │  │        (H_FCP_AOC_3S01)
                └──┴──────────────────────────────┘
                                  │
            ┌─9─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Perform SCM Fine Pointing - Slew #8
                │  │        (H_FCP_AOC_3S01)
                └──┴──────────────────────────────┘
                                  │
            ┌10─┐      NULLSEQ0
            └───┤  ┌──────────────────────────────┐
                │  │ Configure DTM for FD - disable DTM_3
                │  │        (H_FCP_AOC_D3FD)
                └──┴──────────────────────────────┘
                                  │
                    ┌────────────────────────────┐
                    │       END of Procedure      │
                    └────────────────────────────┘
```

ACMS GYR + CRS Cal Slews in SCM (LGA)
File: H_COP_AOC_0634.xls
Author: dsalt-hp

| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|---|---|---|---|---|
| | | **Beginning of Procedure** | | |
| | | *TC Seq. Name :NULLSEQ0 ( )* <br><br> *TimeTag Type:* <br> *Sub Schedule ID:* | | |
| 1 | | *Configure DTM for FD - enable DTM_3* <br> *(H_FCP_AOC_D3FD)* | | Next Step: <br> 2 |
| | | ***** ALERT *** <br><br> This step may be skipped if the DTM is still defined and enabled (i.e. was not disabled/deleted at the end of the initial calibration activities)* | | |
| | | *Execute procedure H_FCP_AOC_D3FD (Configure DTM for FD) to define and enable selected DTM packets, as necessary* <br><br> *Use DTM_3 (Step 6) to define and enable diagnostic CRS calibration packets for STR1 (SPID=240007990)* | | |
| | | Execute Procedure: <br> **H_FCP_AOC_D3FD** <br> **Configure DTM for FD** | | |
| | | *NOTE:* <br> *FD will use the DTM to calculate new values of the relevant OBDB parameters to update GYR biases* | | |
| 2 | | *Perform SCM Fine Pointing -  Slew #1* <br> *(H_FCP_AOC_3S01)* | | Next Step: <br> 3 |
| | | *Execute procedure H_FCP_AOC_3S01 (Perform SCM Fine Pointing) using the specific instance of TPF=SFP generated by FD to command a Slew #1:* <br> *- SAA 65 deg, as much as possible purely about the ACA Y-axis* | | |
| | | Execute Procedure: <br> **H_FCP_AOC_3S01** <br> **Perform SCM Fine Pointing** | | |
| 3 | | *Perform SCM Fine Pointing - Slew #2* <br> *(H_FCP_AOC_3S01)* | | Next Step: <br> 4 |

Doc No. :PT-HMOC-OPS-FOP-6001-OPS-OAH
Fop Issue : 3.0
Issue Date: 13/04/10

ACMS GYR + CRS Cal Slews in SCM (LGA)
File: H_COP_AOC_0634.xls
Author: dsalt-hp

| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|---|---|---|---|---|
| | | *Execute procedure H_FCP_AOC_3S01 (Perform SCM Fine Pointing) using the specific instance of TPF=SFP generated by FD to command Slew #2:*<br>*- SAA 115 deg, as much as possible purely about the ACA Y-axis* | | |
| | | Execute Procedure:<br>**H_FCP_AOC_3S01**<br>**Perform SCM Fine Pointing** | | |
| | | | | |
| 4 | | *Perform SCM Fine Pointing – Slew #3 (H_FCP_AOC_3S01)* | | Next Step:<br>5 |
| | | *Execute procedure H_FCP_AOC_3S01 (Perform SCM Fine Pointing) using the specific instance of TPF=SFP generated by FD to command Slew #3:*<br>*- go back to original position* | | |
| | | Execute Procedure:<br>**H_FCP_AOC_3S01**<br>**Perform SCM Fine Pointing** | | |
| | | | | |
| 5 | | *Perform SCM Fine Pointing – Slew #4 (H_FCP_AOC_3S01)* | | Next Step:<br>6 |
| | | *Execute procedure H_FCP_AOC_3S01 (Perform SCM Fine Pointing) using the specific instance of TPF=SFP generated by FD to command Slews #4:*<br>*- roll -2.5 deg, as much as possible purely about the ACA X-axis* | | |
| | | Execute Procedure:<br>**H_FCP_AOC_3S01**<br>**Perform SCM Fine Pointing** | | |
| | | | | |
| 6 | | *Perform SCM Fine Pointing – Slew #5 (H_FCP_AOC_3S01)* | | Next Step:<br>7 |
| | | *Execute procedure H_FCP_AOC_3S01 (Perform SCM Fine Pointing) using the specific instance of TPF=SFP generated by FD to command Slews #5:*<br>*- roll +2.5 deg, as much as possible purely about the ACA X-axis* | | |
| | | Execute Procedure:<br>**H_FCP_AOC_3S01**<br>**Perform SCM Fine Pointing** | | |

Doc No.    :PT-HMOC-OPS-FOP-6001-OPS-OAH
Fop Issue :                          3.0
Issue Date:                    13/04/10

ACMS GYR + CRS Cal Slews in SCM (LGA)
File: H_COP_AOC_0634.xls
Author: dsalt-hp

| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|---|---|---|---|---|
| 7 | | *Perform SCM Fine Pointing - Slew #6 (H_FCP_AOC_3S01)* | | Next Step: 8 |
| | | **Execute procedure H_FCP_AOC_3S01 (Perform SCM Fine Pointing) using the specific instance of TPF=SFP generated by FD to command Slew #6:** **- Sun Centered position** | | |
| | | Execute Procedure: **H_FCP_AOC_3S01** **Perform SCM Fine Pointing** | | |
| | | | | |
| 8 | | *Perform SCM Fine Pointing - Slew #7 (H_FCP_AOC_3S01)* | | Next Step: 9 |
| | | **Execute procedure H_FCP_AOC_3S01 (Perform SCM Fine Pointing) using the specific instance of TPF=SFP generated by FD to command Slew #7:** **- +20 deg slew , purely about the ACA Z-axis** | | |
| | | Execute Procedure: **H_FCP_AOC_3S01** **Perform SCM Fine Pointing** | | |
| | | | | |
| 9 | | *Perform SCM Fine Pointing - Slew #8 (H_FCP_AOC_3S01)* | | Next Step: 10 |
| | | **Execute procedure H_FCP_AOC_3S01 (Perform SCM Fine Pointing) using the specific instance of TPF=SFP generated by FD to command Slew #8:** **- Sun Centered position** | | |
| | | Execute Procedure: **H_FCP_AOC_3S01** **Perform SCM Fine Pointing** | | |
| | | | | |
| 10 | | *Configure DTM for FD - disable DTM_3 (H_FCP_AOC_D3FD)* | | Next Step: END |
| | | **Execute procedure H_FCP_AOC_D3FD (Configure DTM for FD) to disable and delete selected DTM packets, as necessary** **Use DTM_3 (Step 7) to disable and delete diagnostic CRS calibration packets for STR1 (SPID=240007990)** | | |
| | | Execute Procedure: **H_FCP_AOC_D3FD** **Configure DTM for FD** | | |

ACMS GYR + CRS Cal Slews in SCM (LGA)
File: H_COP_AOC_0634.xls
Author: dsalt-hp

| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | **End of Procedure** | | |