ESA UNCLASSIFIED - Proprietary Information - ESA IPR

Doc No. :	n/a
Fop Issue :	n/a
Issue Date:	n/a

MMO Operational Heater Control Start by OBCP
File: JX-FCP-003.xls
Author: a.dietz-bc

Procedure Summary

Objectives

The objective of this OBCP is to switch MMO to the MMO cruise standby mode of the MMO cruise active mode from the MMO cruise initial mode.

Note this OBCP is also started as part of the MMO switch to Standby mode (see procedure JX-FCP-001).

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

MMO in Cruise Initial Mode

End of Procedure

MMO in Cruise Standby Mode

Reference File(s)

Input Command Sequences

Output Command Sequences

AJXF003A

Referenced Displays

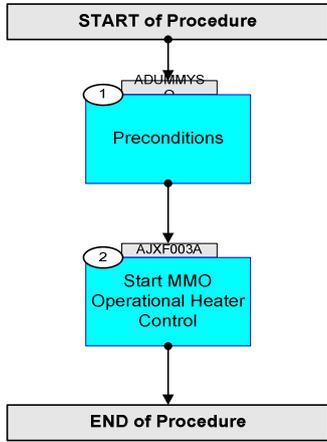| ANDs	GRDs	SLDs
DJXA0001		(None)
DJXA0002		

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
20/02/2017		1	Created	a.dietz-bc	
12/04/2017		1.01	Update of AND display information	a.dietz-bc	
13/12/2017		2	Update of TM descriptions after database changes.	a.dietz-bc	
13/12/2017		2.01	Added note on the expected TM status at the end.	a.dietz-bc	

ESA UNCLASSIFIED - Proprietary Information - ESA IPR

Doc No.   :   n/a
Fop Issue :   n/a
Issue Date: n/a

MMO Operational Heater Control Start by OBCP
File: JX-FCP-003.xls
Author: a.dietz-bc

Procedure Flowchart Overview

```
                    ┌─────────────────────────┐
                    │    START of Procedure    │
                    └─────────────────────────┘
                                 │
                           ADUMMYS
                    ┌─────────────────────────┐
              ①     │                         │
                    │      Preconditions       │
                    │                         │
                    └─────────────────────────┘
                                 │
                               AJXF003A
                    ┌─────────────────────────┐
              ②     │      Start MMO           │
                    │   Operational Heater     │
                    │       Control            │
                    └─────────────────────────┘
                                 │
                    ┌─────────────────────────┐
                    │     END of Procedure     │
                    └─────────────────────────┘
```

ESA UNCLASSIFIED - Proprietary Information - ESA IPR

Doc No.   :   n/a
Fop Issue :   n/a
Issue Date: n/a

MMO Operational Heater Control Start by OBCP
File: JX-FCP-003.xls
Author: a.dietz-bc

Step	Label/Time	Activity/Remarks/Branch	CK	Display
		Beginning of Procedure		
	ADUMMYSQ	Beginning of Sequence **Preconditions** TimeTag type : B		
1		**Preconditions** *Next step(s):* -> **2**		
1.1		**Check MMO in initial mode**		
		Check that the MMO is in Cruise active mode.		
		Verify Telemetry **NPWD1601** MMO-CNV-A-ON-ST **= On**		AND=DJXA0001 PKT=YCD0Z066
		Verify Telemetry **NRUD4002** MMO_CNV_A_RLY_ST-A **= Main**		AND=DJXA0001 PKT=YCD0Z068
		OR		
		Verify Telemetry **NPWD1602** MMO-CNV-B-ON-ST **= On**		AND=DJXA0001 PKT=YCD0Z066
		Verify Telemetry **NRUD3002** MMO_CNV_B_RLY_ST-A **= Main**		AND=DJXA0001 PKT=YCD0Z068
		Check that the operational heater control is not yet started.		
		Verify Telemetry **NJXD0022** TCS_MODE_ST **= STBY**		AND=DJXA0002 PKT=YCL0Z001
		Verify Telemetry **NJXD0024** PCD_DRU_PSU_A_ON_OF **= OFF**		AND=DJXA0002 PKT=YCL0Z001
		Verify Telemetry **NJXD0025** PCD_DRU_PSU_B_ON_OF **= OFF**		AND=DJXA0002 PKT=YCL0Z001

ESA UNCLASSIFIED - Proprietary Information - ESA IPR

Doc No.   :   n/a
Fop Issue :   n/a
Issue Date: n/a

MMO Operational Heater Control Start by OBCP
File: JX-FCP-003.xls
Author: a.dietz-bc

Step	Label/Time	Activity/Remarks/Branch	CK	Display
	ADUMMYSQ	End of Sequence		
	AJXF003A	Beginning of Sequence **MMO HTR CTL OBCP** TimeTag type : B		
2		**Start MMO Operational Heater Control** ***Next step(s):*** -> **END**		
	+00.00.00	**Execute Telecommand** **ZJXK4242 Start OBCP: MMO Op. Heater Control Start** TC Control Flags: GBM IL DSE **--Y -- ---**		
		The start of the MMO Operational Heater Control Start OBCP will be signalled by the following event:		
		Verify Packet Reception **YCDV36B4 DMS OBCP Load and Start Success** TM(**5**,**1**), APID **167** (**10/7**) PI1=**14004** PI2=**0**		
		NCDBFA4H OBCP Identifier **= 4242 <dec>**		(None)
		The OBCP checks that the MMO is already in Cruise Initial mode, check the operational heater control status and the DRU temperature, before it starts the operational heater control.		
		The end of the OBCP will be signalled by the following event:		
		Verify Packet Reception **YCDV36B0 DMS OBCP has been stopped** TM(**5**,**1**), APID **167** (**10/7**) PI1=**14000** PI2=**0**		
		NCDBFA0H OBCP Identifier **= 4242 <dec>**		(None) PKT=YCDV36B0
		The OBCP should be finished within 3 minutes.		
		Verify that the operational heater control is started.		
		Verify Telemetry **NJXD0022** TCS_MODE_ST **= NMNL**		AND=DJXA0002 PKT=YCL0Z001

ESA UNCLASSIFIED - Proprietary Information - ESA IPR

Doc No.   :   n/a
Fop Issue :   n/a
Issue Date: n/a

MMO Operational Heater Control Start by OBCP
File: JX-FCP-003.xls
Author: a.dietz-bc

Step	Label/Time	Activity/Remarks/Branch	CK	Display
		Verify Telemetry **NJXD0024** PCD_DRU_PSU_A_ON_OF **= ON**		AND=DJXA0002 PKT=YCL0Z001
		OR		
		Verify Telemetry **NJXD0025** PCD_DRU_PSU_B_ON_OF **= ON**		AND=DJXA0002 PKT=YCL0Z001
		Note that it is expected that the PCD_DRU_PSU_A will be switched on. In case the B unit is on, a failure must have occurred on the A unit.		
	AJXF003A	End of Sequence		

End of Procedure