

**HERSCHEL
FLIGHT OPERATIONS PLAN**

**VOLUME 6
FCP Related Nominal Flight Control Procedures**

HIFI FCP's

PT-HMOC-OPS-FOP-6001-OPS-OAH

Issue 3.1

05/09/11



DOCUMENT APPROVAL

The Approval Page for all Volumes of the FOP can be found in Volume 1.



DISTRIBUTION LIST

The Distribution List for all Volumes of the FOP can be found in Volume 1.

CHANGE SUMMARY

Date	FOP Issue	Version	Modification Description	Author	SPR Ref
01/08/2008		1	Created	mvoegele-hp	
04/08/2008		2	Updated for Issue 1.0	mvoegele-hp	
05/08/2008	1.0	3	Changed title	mvoegele-hp	
02/02/2009	2.0	4	Updated change control history for Issue 2.0	mvoegele-hp	
06/03/2009	2.1	5	Updated change control history for Issue 2.1	mvoegele-hp	
26/03/2009	2.2	6	Updated change control history for Issue 2.2	mvoegele-hp	
23/04/2009	2.3	7	Updated change control history for Issue 2.3	mvoegele-hp	
06/05/2009	2.4	8	Updated change history for Issue 2.4	mvoegele-hp	
08/10/2009	2.5	9	Updated change control history for Issue 2.5	dbleakle-hp	
13/04/2010	3.0	10	Updated change control history for issue 3.0	mvoegele-hp	
05/09/2011	3.1	11	Updated change control history for issue 3.1	mvoegele-hp	

CHANGE RECORD SHEET

Change No.	Type of Change	Date of Issue	Section Affected	
1	1.0	06/08/08	All	
			Updated:	
			Added:	H_FCP_HIF_CLOM, H_FCP_HIF_COBS, H_FCP_HIF_CPOM, H_FCP_HIF_CRTM, H_FCP_HIF_CS2P, H_FCP_HIF_CSPK, H_FCP_HIF_CUPM, H_FCP_HIF_N1S2, H_FCP_HIF_NCXT, H_FCP_HIF_NHC1, H_FCP_HIF_NHC2, H_FCP_HIF_NHC3, H_FCP_HIF_NION, H_FCP_HIF_NLUT, H_FCP_HIF_NPS2, H_FCP_HIF_NSOF, H_FCP_HIF_NSON, H_FCP_HIF_NUT0, H_FCP_HIF_NUT1, H_FCP_HIF_NUT2, H_FCP_HIF_NUT3, H_FCP_HIF_NUT4, H_FCP_HIF_NUT5, H_FCP_HIF_NUT6, H_FCP_HIF_NUT7, H_FCP_HIF_NUT8, H_FCP_HIF_NUT9, H_FCP_HIF_NUTA, H_FCP_HIF_NUTB, H_FCP_HIF_NUTC, H_FCP_HIF_NUTD, H_FCP_HIF_NUTE, H_FCP_HIF_NUTF, H_FCP_HIF_NUTG, H_FCP_HIF_NUTH, H_FCP_HIF_R1S2, H_FCP_HIF_RCXT, H_FCP_HIF_RHC1, H_FCP_HIF_RHC2, H_FCP_HIF_RHC3, H_FCP_HIF_RION, H_FCP_HIF_RLUT, H_FCP_HIF_RPS2, H_FCP_HIF_RS21, H_FCP_HIF_RSOF, H_FCP_HIF_RSON, H_FCP_HIF_RUT0, H_FCP_HIF_RUT1, H_FCP_HIF_RUT2, H_FCP_HIF_RUT3, H_FCP_HIF_RUT4, H_FCP_HIF_RUT5, H_FCP_HIF_RUT6, H_FCP_HIF_RUT7, H_FCP_HIF_RUT8, H_FCP_HIF_RUT9, H_FCP_HIF_RUTA, H_FCP_HIF_RUTB, H_FCP_HIF_RUTC, H_FCP_HIF_RUTD, H_FCP_HIF_RUTE, H_FCP_HIF_RUTF, H_FCP_HIF_RUTG, H_FCP_HIF_RUTH, H_FCP_OBS_3110, H_FCP_OBS_3111, H_FCP_OBS_3112, H_FCP_OBS_3122, H_FCP_OBS_3142, H_FCP_OBS_3143, H_FCP_OBS_3144, H_FCP_OBS_3162, H_FCP_OBS_3164
Deleted:				
2	2.0	02/02/09	All – Complete re-print for Issue 2.0	
			Updated:	H_FCP_HIF_CSPK, H_FCP_HIF_N1S2, H_FCP_HIF_NCXT, H_FCP_HIF_NHC1, H_FCP_HIF_NION, H_FCP_HIF_NPS2, H_FCP_HIF_NSOF, H_FCP_HIF_NSON, H_FCP_HIF_NUT4, H_FCP_HIF_R1S2, H_FCP_HIF_RCXT, H_FCP_HIF_RHC1, H_FCP_HIF_RHC2, H_FCP_HIF_RION, H_FCP_HIF_RPS2, H_FCP_HIF_RS21, H_FCP_HIF_RSOF, H_FCP_HIF_RSON, H_FCP_OBS_3110, H_FCP_OBS_3112, H_FCP_OBS_3122, H_FCP_OBS_3142, H_FCP_OBS_3143, H_FCP_OBS_3144,

				H_FCP_OBS_3162, H_FCP_OBS_3164
			Added:	H_FCP_HIF_CLEM, H_FCP_HIF_NS21, H_FCP_OBS_3140, H_FCP_OBS_3141, H_FCP_OBS_3145, H_FCP_OBS_3150, H_FCP_OBS_3151, H_FCP_OBS_3160, H_FCP_OBS_3241
			Deleted:	
3	2.1	06/03/09	All – Complete re-print for Issue 2.1	
			Updated:	H_FCP_HIF_CLOM, H_FCP_HIF_COBS, H_FCP_HIF_CPOM, H_FCP_HIF_CRTM, H_FCP_HIF_CUPM, H_FCP_HIF_NHC1, H_FCP_HIF_NHC2, H_FCP_HIF_NHC3, H_FCP_HIF_NION, H_FCP_HIF_NLUT, H_FCP_HIF_RHC1, H_FCP_HIF_RHC2, H_FCP_HIF_RHC3, H_FCP_HIF_RION, H_FCP_HIF_RLUT
			Added:	
			Deleted:	
4	2.2	26/03/09	Front Page, Change Summary, Change Record Sheet and List of Procedures replaced.	
			Updated:	
			Added:	H_FCP_HIF_CCRC
			Deleted:	
5	2.3	23/04/09	All – Complete re-print for Issue 2.3	
			Updated:	H_FCP_HIF_NION, H_FCP_HIF_NPS2, H_FCP_HIF_NSON, H_FCP_HIF_RION, H_FCP_HIF_RPS2, H_FCP_HIF_RSON, H_FCP_OBS_3140, H_FCP_OBS_3141, H_FCP_OBS_3142, H_FCP_OBS_3143, H_FCP_OBS_3144, H_FCP_OBS_3145
			Added:	H_FCP_HIF_HEAT, H_FCP_HIF_LDIS, H_FCP_HIF_LENA
			Deleted:	
6	2.4	06/05/09	Front Page, Change Summary, Change Record Sheet and List of Procedures replaced.	
			Updated:	H_FCP_HIF_CCRC, H_FCP_HIF_RCXT
			Added:	
			Deleted:	
7	2.5	07/10/09	Front Page, Change Summary, Change Record Sheet and List of Procedures replaced.	
			Updated:	H_FCP_HIF_CLOM, H_FCP_HIF_COBS, H_FCP_HIF_CPOM, H_FCP_HIF_CRTM, H_FCP_HIF_CUPM, H_FCP_HIF_HEAT, H_FCP_HIF_NHC2, H_FCP_HIF_RCXT, H_FCP_HIF_RION, H_FCP_HIF_RPS2, H_FCP_HIF_RSON, H_FCP_OBS_3110, H_FCP_OBS_3111, H_FCP_OBS_3112, H_FCP_OBS_3141, H_FCP_OBS_3143
			Added:	H_FCP_HIF_CCLR, H_FCP_HIF_DLOT, H_FCP_HIF_ELOT
			Deleted:	
8	3.0	13/04/10	Complete re-print	
			Updated:	H_FCP_HIF_CCLR, H_FCP_HIF_CCRC, H_FCP_HIF_CRTM, H_FCP_HIF_CS2P, H_FCP_HIF_CUPM, H_FCP_HIF_HEAT, H_FCP_HIF_LDIS, H_FCP_HIF_LENA, H_FCP_HIF_NUT5, H_FCP_HIF_NUT7,

			<p>H_FCP_HIF_NUTB, H_FCP_HIF_RCXT, H_FCP_HIF_RHC1, H_FCP_HIF_RHC2, H_FCP_HIF_RHC3, H_FCP_HIF_RLUT, H_FCP_HIF_RSOB, H_FCP_HIF_RSON, H_FCP_HIF_RUT0, H_FCP_HIF_RUT1, H_FCP_HIF_RUT2, H_FCP_HIF_RUT3, H_FCP_HIF_RUT4, H_FCP_HIF_RUT5, H_FCP_HIF_RUT6, H_FCP_HIF_RUT7, H_FCP_HIF_RUT8, H_FCP_HIF_RUT9, H_FCP_HIF_RUTA, H_FCP_HIF_RUTB, H_FCP_HIF_RUTC, H_FCP_HIF_RUTD, H_FCP_HIF_RUTE, H_FCP_HIF_RUTF, H_FCP_HIF_RUTG, H_FCP_HIF_RUTH, H_FCP_OBS_3110, H_FCP_OBS_3143</p>
			<p>Added: H_FCP_HIF_2D1A, H_FCP_HIF_2D1B, H_FCP_HIF_2D2A, H_FCP_HIF_2D2B, H_FCP_HIF_2D3A, H_FCP_HIF_2D3B, H_FCP_HIF_2D4A, H_FCP_HIF_2D4B, H_FCP_HIF_2D5A, H_FCP_HIF_2D5B, H_FCP_HIF_2D6A, H_FCP_HIF_2D6B, H_FCP_HIF_2D7A, H_FCP_HIF_2D7B, H_FCP_HIF_C2S1, H_FCP_HIF_CCDI, H_FCP_HIF_CCEN, H_FCP_HIF_CLMD, H_FCP_HIF_CLRE, H_FCP_HIF_CORE, H_FCP_HIF_LCDI, H_FCP_HIF_LCEN, H_FCP_HIF_LTDI, H_FCP_HIF_LTEN, H_FCP_HIF_R2D1, H_FCP_HIF_S0DI, H_FCP_HIF_S0EN</p>
			<p>Deleted: H_FCP_HIF_DLOT, H_FCP_HIF_ELOT, H_FCP_HIF_N1S2, H_FCP_HIF_NCXT, H_FCP_HIF_NHC1, H_FCP_HIF_NHC2, H_FCP_HIF_NHC3, H_FCP_HIF_NION, H_FCP_HIF_NLUT, H_FCP_HIF_NPS2, H_FCP_HIF_NS21, H_FCP_HIF_NSOF, H_FCP_HIF_NSON, H_FCP_HIF_NUT0, H_FCP_HIF_NUT1, H_FCP_HIF_NUT2, H_FCP_HIF_NUT3, H_FCP_HIF_NUT4, H_FCP_HIF_NUT6, H_FCP_HIF_NUT8, H_FCP_HIF_NUT9, H_FCP_HIF_NUTA, H_FCP_HIF_NUTC, H_FCP_HIF_NUTD, H_FCP_HIF_NUTE, H_FCP_HIF_NUTF, H_FCP_HIF_NUTG, H_FCP_HIF_NUTH, H_FCP_HIF_R1S2, H_FCP_HIF_RPS2, H_FCP_HIF_RS21</p>
F 9	3.1	05/09/11	<p>Front Page, Change Summary, Change Record Sheet and List of Procedures replaced.</p>
			<p>Updated: H_FCP_HIF_2D4A, H_FCP_HIF_2D4B, H_FCP_HIF_2D5A, H_FCP_HIF_2D5B, H_FCP_HIF_2D6A, H_FCP_HIF_2D6B, H_FCP_HIF_2D7A, H_FCP_HIF_2D7B, H_FCP_HIF_CLOM, H_FCP_HIF_COBS, H_FCP_HIF_CUPM, H_FCP_HIF_R2D1, H_FCP_OBS_3110, H_FCP_OBS_3112, H_FCP_OBS_3143</p>
			<p>Added: H_FCP_HIF_BOOT, H_FCP_HIF_CSEU, H_FCP_HIF_LCU, H_FCP_OBS_3220, H_FCP_HIF_IMEM</p>
			<p>Deleted:</p>























































HERSCHEL FOP
VOLUME 6: HIFI FCP's






































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Introduction

3.4 HIFI Flight Control Procedures

	H_FCP_HIF_2D1A	HifiManCmdSetIntoDissipative_II - 1a	1	30/03/2010
	H_FCP_HIF_2D1B	HifiManCmdSetIntoDissipative_II - 1b	2	09/04/2010
	H_FCP_HIF_2D2A	HifiManCmdSetIntoDissipative_II - 2a	2	09/04/2010
	H_FCP_HIF_2D2B	HifiManCmdSetIntoDissipative_II - 2b	2	09/04/2010
	H_FCP_HIF_2D3A	HifiManCmdSetIntoDissipative_II - 3a	2	09/04/2010
	H_FCP_HIF_2D3B	HifiManCmdSetIntoDissipative_II - 3b	2	09/04/2010
	H_FCP_HIF_2D4A	HifiManCmdSetIntoDissipative_II - 4a	3	01/07/2010
	H_FCP_HIF_2D4B	HifiManCmdSetIntoDissipative_II - 4b	2	01/07/2010
	H_FCP_HIF_2D5A	HifiManCmdSetIntoDissipative_II - 5a	2	01/07/2010
	H_FCP_HIF_2D5B	HifiManCmdSetIntoDissipative_II - 5b	2	01/07/2010
	H_FCP_HIF_2D6A	HifiManCmdSetIntoDissipative_II - 6a	2	01/07/2010
	H_FCP_HIF_2D6B	HifiManCmdSetIntoDissipative_II - 6b	2	01/07/2010
	H_FCP_HIF_2D7A	HifiManCmdSetIntoDissipative_II - 7a	2	01/07/2010
	H_FCP_HIF_2D7B	HifiManCmdSetIntoDissipative_II - 7b	2	01/07/2010
	H_FCP_HIF_BOOT	HifiManCmdRebootICU	1	24/08/2010
	H_FCP_HIF_C2S1	HifiManCmdSetIntoStandby_I	2	15/02/2010
	H_FCP_HIF_CCDI	HifiManCmd_CRC_FDIR_disable	1	04/12/2009
	H_FCP_HIF_CCEN	HifiManCmd_CRC_FDIR_enable	1	04/12/2009
	H_FCP_HIF_CCLR	Clear LOU Error Flag	3	16/02/2010
	H_FCP_HIF_CCRC	LCU checksum recalculation	3	26/11/2009
	H_FCP_HIF_CLEM	Load OBSW to EEPROM	1	04/11/2008
	H_FCP_HIF_CLMD	HifiManCmd_LCU_Full_Memory_Dump	1	19/03/2010
	H_FCP_HIF_CLOM	Load OBSW image	6	10/02/2011
	H_FCP_HIF_CLRE	HifiManCmd_LCU_RESET	1	04/12/2009
	H_FCP_HIF_COBS	OBSW functional test	6	13/04/2011
	H_FCP_HIF_CORE	HifiManCmd_LCU_lock_clear	2	02/12/2009
	H_FCP_HIF_CPOM	Patch the OBSW	5	16/06/2009
	H_FCP_HIF_CRTM	HifiManCmd_readback_LCU_table_flight	12	08/01/2010
	H_FCP_HIF_CS2P	Standby II mode to Primary mode	2	26/11/2009
	H_FCP_HIF_CSEU	HifiManCmd_OBS_SEU_check	3	01/06/2011
	H_FCP_HIF_CSPK	Simulate Peakup	5	14/01/2009
	H_FCP_HIF_CUPM	HifiManCmd_upload_LCU_patches_flight_ops	12	11/08/2011
	H_FCP_HIF_HEAT	Modify LOU heater setting	3	26/11/2009
	H_FCP_HIF_LCDI	HifiManCmd_LCU_comm_FDIR_disable	1	10/12/2009
	H_FCP_HIF_LCEN	HifiManCmd_LOU_FDIR_enable	2	16/02/2010
	H_FCP_HIF_LCU	LCU memory patch	1	01/06/2011
	H_FCP_HIF_LDIS	Disable the Local Oscillator Unit	3	02/02/2010
	H_FCP_HIF_LENA	Enable the Local Oscillator Unit	2	26/11/2009
	H_FCP_HIF_LTDI	HifiManCmd_LOU_FDIR_disable	1	10/12/2009
	H_FCP_HIF_LTEN	HifiManCmd_LOU_FDIR_enable	1	04/12/2009
	H_FCP_HIF_NUT5	Upload LCU safety table: 2251-2700	7	08/04/2010
	H_FCP_HIF_NUT7	Upload LCU safety table: 3151-3600	7	08/04/2010
	H_FCP_HIF_NUTB	Upload LCU safety table: 4951-5400	7	08/04/2010
	H_FCP_HIF_R2D1	HifiManCmdSetIntoDissipative_I	3	16/02/2011
	H_FCP_HIF_RCXT	Change context (Open/Closed Loop)	5	25/11/2009
	H_FCP_HIF_RHC1	Chopper Health Check Test #1	2	25/11/2009
	H_FCP_HIF_RHC2	Chopper Health Check Test #2	2	25/11/2009
	H_FCP_HIF_RHC3	Chopper Health Check Test #3	6	25/11/2009
	H_FCP_HIF_RION	HIFI_SwitchedOff_to_Intermediate_Redundant	8	11/09/2009
	H_FCP_HIF_RLUT	Upload LCU safety table	2	26/11/2009
	H_FCP_HIF_RSOE	Switch OFF HIFI units (Redundant)	7	25/11/2009
	H_FCP_HIF_RSON	HIFI_Intermediate_to_StandbyI_Redundant	11	15/02/2010

	H_FCP_HIF_RUT0	Upload LCU safety table: 1-450	7	10/12/2009
	H_FCP_HIF_RUT1	Upload LCU safety table: 451-900	7	10/12/2009
	H_FCP_HIF_RUT2	Upload LCU safety table: 901-1350	6	10/12/2009
	H_FCP_HIF_RUT3	Upload LCU safety table: 1351-1800	6	10/12/2009
	H_FCP_HIF_RUT4	Upload LCU safety table: 1801-2250	6	10/12/2009
	H_FCP_HIF_RUT5	Upload LCU safety table: 2251-2700	6	10/12/2009
	H_FCP_HIF_RUT6	Upload LCU safety table: 2701-3150	6	10/12/2009
	H_FCP_HIF_RUT7	Upload LCU safety table: 3151-3600	6	10/12/2009
	H_FCP_HIF_RUT8	Upload LCU safety table: 3601-4050	6	10/12/2009
	H_FCP_HIF_RUT9	Upload LCU safety table: 4051-4500	6	10/12/2009
	H_FCP_HIF_RUTA	Upload LCU safety table: 4501-4950	6	10/12/2009
	H_FCP_HIF_RUTB	Upload LCU safety table: 4951-5400	6	10/12/2009
	H_FCP_HIF_RUTC	Upload LCU safety table: 5401-5850	6	10/12/2009
	H_FCP_HIF_RUTD	Upload LCU safety table: 5851-6300	6	10/12/2009
	H_FCP_HIF_RUTE	Upload LCU safety table: 6301-6750	6	10/12/2009
	H_FCP_HIF_RUTF	Upload LCU safety table: 6751-7200	6	10/12/2009
	H_FCP_HIF_RUTG	Upload LCU safety table: 7201-7650	6	10/12/2009
	H_FCP_HIF_RUTH	Upload LCU safety table: 7651-7905	6	10/12/2009
	H_FCP_HIF_S0DI	HifiManCmd_Standby0_FDIR_disable	2	10/12/2009
	H_FCP_HIF_S0EN	HifiManCmd_Standby0_FDIR_enable	1	10/12/2009
	H_FCP_OBS_3110	Load HIFI DPU OBS in instrument Intermediate mode	15	13/04/2011
	H_FCP_OBS_3111	Patch HIFI DPU OBS in instrument Intermediate mode	3	08/09/2009
	H_FCP_OBS_3112	Load HIFI DPU OBS in instrument Rescue mode	6	14/04/2011
	H_FCP_OBS_3122	Patch and dump HIFI DPU PRAM memory	4	27/08/2008
	H_FCP_OBS_3140	Monitor dump of HIFI DPU EEPROM memory area	2	13/04/2009
	H_FCP_OBS_3141	Update HIFI DPU EEPROM ground image from memory dump	4	16/06/2009
	H_FCP_OBS_3142	Monitor dump of HIFI DPU PRAM memory area	4	13/04/2009
	H_FCP_OBS_3143	Update HIFI DPU PRAM ground image from memory dump	14	14/04/2011
	H_FCP_OBS_3144	Monitor dump of HIFI DPU DRAM memory area	4	13/04/2009
	H_FCP_OBS_3145	Update HIFI DPU DRAM ground image from memory dump	4	13/04/2009
	H_FCP_OBS_3150	Monitor dump of HIFI DPU 1553 DRAM memory area	2	27/08/2008
	H_FCP_OBS_3151	Update HIFI DPU 1553 DRAM ground image from memory dump	3	04/09/2008
	H_FCP_OBS_3160	Check HIFI DPU EEPROM memory area (checksum calculation)	1	27/08/2008
	H_FCP_OBS_3162	Check HIFI DPU PRAM memory area (checksum calculation)	3	27/08/2008
	H_FCP_OBS_3164	Check HIFI DPU DRAM memory area (checksum calculation)	3	27/08/2008
	H_FCP_OBS_3220	Patch and dump HIFI LCU memory	1	14/03/2011
	H_FCP_OBS_3241	Update HIFI LCU ground image from memory dump	2	19/01/2009

High-Level Procedures

	H_FCP_HIF_IMEM	ICU Memory Load	1	03/05/2011
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