OPERATIONS LOG

MISSION/TEST: Parkes SRT

DAY: SUNDAY

DATE: 1/7/71

Date/ Time	ACTION TAKEN	Initials
1000	HSK Ready for Parkes LM OB Test using SDD2 LM Primis path.	
1025	Will use 51.2 KBS vice 1.6 KBS to cut down testing time.	
	0.2 bit errors on PCM, all PLSS is good.	
	bit errors now 0.02 – no changes made	
	Modulation bit rate 50.3 KBS changed to 51.7 KBS.	
	-110 – all go	
	-115 errors 0.02	
	-118 Dropouts on EKG 1,2. errs 0.05	
1050	-119 errors 0.1 EKG 1,2 Threshold.	
	-120 PAM 1,2 threshold.	
1055	Parkes now setting up for LM-10.	
1105	Parkes checking video levels with Sydney Video. Syd. Parkes. .5 50 50; 1.5 40 45; 2 25 35; ? 10 10	
1145	Parkes testing terminated due to problems with Parkes meeting specs on LM 10.	

OPERATIONS LOG

MISSION/TEST

DAY

DATE

Date/ Time	Sub- System	COMMENTS	Initials	Action by

OLLIS

~~00 3r~~ ~~L-31~~

OPERATIONS LOG

MISSION/TEST: 1 — NCG 740.

DAY: 206

DATE: 25 JUL 4

Date/ Time	ACTION TAKEN	Initials
0034	L-37. ~~Start~~ msg X'ed.	
0100	All cog persons advised on TV coference apx 22/2400	
	~~THOS~~ ~~CHRISTY~~ ~~OK~~	
0130	Pmin advised ~~MCC~~ per SOS RIC 50	
0230	NCG 740/745 Planning & transport finally fixed.	
0500	Terminal Count Completed - (H&K. MINI (TTY))	
0600	- H/o. ~~to~~ S-Sat —	
	* Note. CAPRISS (Tracking) query - answered ISC 65.	
	* Note. 100KHz to Mag Rec from Syst Tm. - NOT RECD'D	
0604	SET clocks counting to Launch.	
0908	All updating completed and passed to TSS except alsep	
	Supps - TSS will not be able to do these until after the track. Masters of	
	SCAN Vol 1 & 502.5/Alsep PeFS in TSS for updating Mon AM.	
0915	Left note for Bruce H re changeovers L.L to J.S Fluct shift post 740	
1332	~~1405~~ Did not make Twx proformas - considered time	
	better spent reading HOB, New HSK/x flow diagrams & Supps (1st time fully!)	
	Need new S/C comm log pad from stores. MSFN No 2044.	

OPERATIONS LOG

2

MISSION/TEST: NCG 740 TERMINAL COUNT / HSK.X 790/795

DAY 206

DATE 25 JULY

Date/ Time	Sub-System	COMMENTS	Initials	Action by
2130	ALSEP	ALSEP SRT start. · HSK/HSK.X		
		HSK.X advised. HSK ready for		
		BER @ 2200Z		
2150	GODDARD START.	Per M. Ware with SRS.2 advises		
		will meet ETO 26/0200Z.		
		Note from Goddard Doc. - called		
		at 1650Z Re relay to ANS HSK		
		RIC 87. - Advised Puerto - will		
25/		process ASAP.		
2205		· OPN transmitted (25/2205Z - ref		
		ANS. HSK RIC 87		
22.20.		HSK-X. BA not tuned. ETO · 10 minutes		
		NEXT USB		
2230.		HSP. TTR post TLI / Time Correlation		
		- not entire sched		
		Ren for 24 - 24 hrs GET		
		APOLLO		
		STARTED AFT SRT. - NO PHASE		
2240.		SRT BER. ALSEP - 157 dbm AFT.		
		RS #7. RG #8. -157 ALSEP 1.		
	R 6	VCO 3 - ALSEP 1 PRIME / BYPASS 1	DECOM 4	
	R 5.	VCO 4 - ALSEP 4 AFT. / BYPASS 2	DECOM 3	
	R 7	VCO 1 - ALSEP 1		
		VCO 2 ALSEP 4		
2300		Conference for TV discussion		
2313		OPN 25/2305Z - Deletes items 1 thru 4		

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OPERATIONS LOG

3	MISSION/TEST: 760 TEST COUNT HSK. X. 790/795	DAY 206/207
		DATE 25/JULY/26.

Date/ Time	ACTION TAKEN	Initials
2320.	ALSEP PH III - complete.	
2325	SRS Complete (Alsep)	
2330.	SBI reports Alarm fuse control rack investigating will advise.	
2330.	ALSEP CONFERENCES.	
2315	Ready for sequence 0 - 2.9 → 23.48-00	
2350	Ready AOS — 131 A1 — 131. A4	
2355.	Recorders rolling.	
00002	Data can still not support sequence 2.9 downlink checks	
00197	Sequence 0 completed.	
	Computers checking out an enable	
0022	Temporary P.S. fitted control panel working.	
0026.	Thresholds too good on sequence 0 - mod indesc	
	Henry re adjusted were too go high.	Mpg
0039	Alsep signal level -129 dbm A1 & A4.	
0100	Sequence 2 complete 5 db too good.	
01.14	Launch - minus time check O.K. 13.34	
	- 01.14	
	12.20.	
0130.	Decom 3. dropped off - operator error. restored	
	after (½ minutes from Henry advised	

OPERATIONS LOG

4

MISSION/TEST: Two Ten Cont. DSKY 710/715

DAY 207

DATE 26 JULY

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		Telephone on A/G - Verification		
0219		2.25 completed PCM cont complete		
0300Z		Comtech rack green;		
0318		Wing remote GET control declared red - agreed		
		with F. Grant not to send as no impact	MPL	
0320.		Checked SV32 - for Ph III - Unable to send Through PA 3.	ALSEP TUNED (2)	
0320.		Aborted Ph III through SRT tape.		
		Bringing up Solve.		
0332		ALSEP. DROPPED OUT. *		
		MICROWAVE - disabled - USB		
		0328 - 3 x 15 secs dropouts		
		PH III SRT complete		
0350		Configuring for I/F.		
		→ Area acq not done. — *		
0401.		Decom 3 off AM - for CADFISS		
0420		Success Confirmed Track - released		
		AMA cal in progress.		
		* Net 2 patch problem at Sydney cleared.		
0448Z		Net 6 spurious inputs - Canberra confirm		
		coming into them.		
0455Z		Briefing 4 days ago approx		
		~~Prime~~ Wing site to break track to return		
		PA 3 to Apollo frequencies estimate 10 minutes		
		ready for test 0515Z		

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OPERATIONS LOG

5

MISSION/TEST: 740 Term Count via 740/745

DAY 207

DATE 26 JULY

Date/ Time	ACTION TAKEN	Initials
04597	LOS Aboyn. - going to stow for retuning PA 3.	
	* UNABLE TO A/G CSM & CMD I/F CSM via wnj - Wng PA tuned to ASEP - unable to radiate sufficient power for CSM. Wng cannot get sufficient PWR	
0575.	5 minutes to Mod index set.	
0578..	AOS. HSK-X. 129 AK 129.A.1. Decom 3 & 4. ASEP ops resumed	
	Preparation for CMD I/F	
0520.	Decom 3 Radio ASEP H.	
0523.	CMD I/F	
05.26	CMD I/F -90.	
0530	RFI LAUNCH LOOPS INPUTTING	
0545	- TTY INV. - - O.K.	
0550	PRIME AMQ CAL sent. - Wng to be sent next Aboyn track (J SAXON please note)	MPE
05552	Prime setting up for CSM mode 04 downlink check for Mr W. Waugh.	MPE
0602	Reports. A.1 - DATA - UNABLE TO TRACK	
0642.	Queried NSTL USB for 740/745 ISI II - 60KHz RX FILTER vice 3.3 MHz. 60KHz = ±30KHz P+F ss s/c = ± 32.+ WILL GET BACK.	

133401 & 213401

OPERATIONS LOG

6

MISSION/TEST: 740 Term Count REV 740/745

DAY 207

DATE 26 JULY

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		TIMING. ~~the~~ standard A		
0630Z		clock (unk.) HSK.X		
		+41secs		
~~2007~~		HSK-X ALSEP HORIZON ~~Round~~		
		10.20~~Z~~.		
0735		RSOP 1218 TTY 0600Z Green		
		Ref HSK Stat 5.1. Not on Stat ref &CEN OPN.		
0740		Wing states update incorrect – changed		
		with agreement of SBZ.		
0809		Sequence 203 commenced with MIL.		
0815		Sta 2 Pulse Window Gyro Green.		
		adjusted off VIT ~~Out~~ High impedance		
		output drop.		
0831		Passed MCC Boresight.		
		AGC CAL sent to incorrect routing *		
0915		SHIFT H/O.		
0932		~~A4 – 129~~ Alsep 1 & 4. both – 129 Alsep ops calling MAD.		
0940		Brake tack Released from Alsep 0 3. CPG Red ETO 4 Hrs not on stat.		
1000		Sent Alsep PSRM.		
		Remind SRT shift NOT to send ~~a~~ manning		
		or SRT completion msgs if released 'B'.		
1151		T-1.45 stat check. Wing doing CSM & LCRV TV Phased		
		Prime doing Cals (AGC & SPE etc).		

1334
1008
3 26

2 49 58
33 58
#6

OPERATIONS LOG

7

MISSION/TEST: Y40 Terminal Comm [cont]

DAY 207

DATE 26 JULY 71

Date/ Time	ACTION TAKEN	Initials
12.09	· WING 2 CRU 04 threshold checked -108 dbm	
	WING CSM 04 threshold checked -111 dbm	
12.55	T -40 mins status check.	
13.20	1218 Green 12 driver cards replaced.	
133400.79	LIFT OFF ← 1 sec on Ile Get clock start as usual.	
1346	GO orbit 92.5 x 91.5 n.m.	
1402	1218 Timing buffer red again	
1412	Possible further problems with GPC I/O. Using diagnostics.	
1440	RTS 'B' received.	
1458	Inhibited H/S & H/S from line to run 642 & 1218 diagnostics.	
1522	Net 8 terminated at ACSW no spare lines	
1540	Playing Back GSFC Apollo 15 Briefing	
1542	1218 GPC Green again 2 Flip flops replaced in RTC.	
1604	Go for TLI	
1624	TLI ignition on time.	
1630	TLI shutdown — Nominal	
1650	Go for T&D GDS TV on line Excellent quality.	
1805	SIVB evasive manoeuvre Burn.	
1930	Shift Handover.	
1946	SRT start. PH1. Ile	
1956.	A/c Complete	
2020.	A/G - SB1 & 2. complete	
2027	Tuning.	
2035	SB2. wishes to remove pads from BUV. Although HSK 8 7 lines	
	implies O.K. No Formal Authy.	
2040	TV Support ESI 6 Only Doc. Amended 19th July.	
2042	HI SPEED TDP to Line // - Flight Crew told.	
2044	H.S. 6 released for testing.	
2047	SB2 uplink Around	
	* PRIMP D/Link checks too good	

23.09

OPERATIONS LOG

8 | MISSION/TEST: NCA 7&8 | DAY: 207. | DATE: 26 JUL

Date/ Time	Sub-System	COMMENTS	Initials	Action by
2100.	*	A/C Through USB2. Low 2M Level to 2M Bus		
2100		ISI Earthcam ~~[illegible]~~ change register per HSK RIC 87. RW		
21.15.		~~Configured~~ OSOP to prevent o/p glycols. Started Th3		
2140	*	Located A/C LM problem — incorrect pad at HSK X. F-P		
2143		Hold on Th3 & A/C — SB-2 a Coll Tm.		
2145.		Wing Ranging Problem — Sys 4 *		
22.35		Ph III complete		
2255.		Freddies — Loses Cabin		
2302.		RSN. ZERO RCQ'D		
2309		Prime system monitor cals not complete		
2327.		Format & Fails — DUE NO LOST/RESI		
		Tracking Fails *		
		229 SP.0655 @ 57 @ 58 @		
		229 231 222		
2340		Failed Bar P & W — error Confess - resem		
		-9.5 Prime passed BOR. Wing also		
2346		Format C Success		
2348	*	Wing prog light not rep.		

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OPERATIONS LOG

9. | MISSION/TEST: NEG 7460 | DAY 208 | DATE 27 JULY

Date/ Time	ACTION TAKEN	Initials
	Unable to select FLAT 013	
2352	Rainie slew success.	
	Wing screen — CHANGING TAPE	
0001	Success.	
0004	Goddard Ops advises acquisition Rainie 01297 15	
	Wing 01097 05	
0006	Asked Track for forward Z9 pointer P&W	
~~0007~~	SPS. Problem. SPO @ 0015 - Problem Solved. *	
~~0008~~		
	* OLD FLAT EARTH PROBLEM * RIs	MMR
	slows AOS. 00192 - ISP = 5° 11-10 SET	
	ISP = 00 4h 2	
	Goddard Ops = 01 292	
	29PT Acq = 01 34-23 CSM.	
24	29PT Acq. = 01 04-00 IU.	
	* HOUSTON CAPCOM TECH STRAIGHT ON NET 1.	MMK
0030	- RUV testing - wait 4 for AOS.	
	R4 - anomalous - O.K out Detector.	
	- high out Modem.	
	T/C. up to 30 min. FDTOD. DUMP.	
0055.	No SCM.	
	Verbal:	
	12.0000 . 1 - CSM. 0.02.00 X	
	50100 HO CRO.	
	TIR Test.	
	CSM 0.02.00	
	LM D/Uni 0.01.00	
	11.30. 3. 10 0.01.00 X	

OPERATIONS LOG

10

MISSION/TEST: TKO TIR #1

DAY 206

DATE 27 July

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0100		~~DDS~~ CSM -145° | ~~SIV~~ IU -145°		
0102.		SBZ -130dbm		
0105.		IU -121 → 123. Above HOR		
0108		CSM still in Horizon.		
0124.		~~SB1~~. requested AcqTM on comm from Key. – DENIED TIR & Time Corr.		
0135.		TIR test commence.		
0135.		AUTOTRK. • TIR ON R1 –115 Mm CSM.		
0136		– NO HSD to Houston		
01.		SB1 – grnd permission to take R3 for CSM RM		
0145.		R2. – TIR		
0146		Advised HSD not getting to Houston due lines Legard. Cabana not configured.		
0150		IU. s/s. ranging.		
0155.		HSD. OFF. Preparation for Time Corr.		
0158		P/CSM. -115. W –		
		P IU -122 W -117		
		* TIR tests ASAP TWX results OPN 27/0136Z *		
		Biomed Crew connection problems		
0205		LM. EKG & RESP C. RESP. UP LIMITS.		
		GDS. IU. R0004-602 – worst act –		
		R 5-602 – 1 –		
		R 6-602 – 1 –		

OPERATIONS LOG

11	MISSION/TEST: THO TLC #1.	DAY 208
		DATE 27.

Date/ Time	ACTION TAKEN	Initials
0214.	C.S. 201, 202, 220. erratic	
	he→be. good state 45°/0	
0210.	-FAILED 1ST TIME CORR TEST. - Problems triggering counter.	
0215.	Syste 2. - HSD.	
0227.	- Got SB2 b go Mode 5 - should be back up site.	
0223		
0231.	H/O. - 3.	
0234	H/O. - O.K. CSM 00-02-00 *	
0237	A/C - up Looks good	
	Lit 00060. - FLG. C RM.	
	BE→BF RESP NOISY	
0243.	Forced acq IV. MSGS - one way.	
0245.	Received Fixed Acq msg.	
0255	Readout	
	IV R00004 -602 10bit oct 1003 TOGG 1004	
	5 602 1003 TOGG 1004	
	6 602 1043 1044	
0253.	PKS AOS.	
0257.	PKS. data - Look at. - SB1 -	
0259	* Loss IV DATA & S/C - 118 nm. EXPECTED.	
0307.	** Decom 4 Being Touched	
0309.	CSM - 112 PKS - 119.5	
0312	~~Requested / use Sos~~	
0315.	- HSK.X - HSD. TLR test.	

OPERATIONS LOG

12.

MISSION/TEST: TLC. #1 NCC 7440

DAY 2 58

DATE 27 OCT 74

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0318.		CSM - HIS. ≠ EOF		
		OMNI. mode 1. HSK-X. Mode 1.		
0320		Pulse & Bar from Parkes lost ~~was~~ much ~~pulse~~ bounce. Circuit given back to PMG to testing.		
0324.		TV Momentary LOS.		
0329		Circuit should be good now as genie cleared taken.		
0337		Parkes tuned to sideband original noise -103	MV	
03492		Parkes now onto CSM A.		
		04.30 SYS 1 RCVR 1		
		04.40 SYS 1 RCVR 2.		
		04.50 ≠ Terminate HSD.		
		Tracked advised		
0403		P.T.C. Selecting Parkes.		
040703.		EMOD Dump		
0409.		2 Astro's differing levels → HOUSTON 6-8 db (CDR weak)		
0414		TLC. - 1-024 — ~~Astro~~ Encoder reset		
0416.		W.B4. Tree 04.10. - Could not reproduce levels. ~~Checked~~ ~~& secured contacts~~ Tightened contact pins on LP-F & relay cards		
0417	*	BUV.		
0419.	*	WANTED TO GO HSK WHEN CSM WENT BUV. NICE PARKES ~~OR~~ OR 1 - WANTT PARKES → PARKES BUV BECAME VERY NOISY - WENT BRITE.		
0422	*	~~Inhibit~~ Down to NET 1 - whilst ASTRO's ASLEEP. ComTech copy.		

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OPERATIONS LOG

13

MISSION/TEST: TLC #1 NEG 760

DAY 2558

DATE 24JUN24

Date/ Time	ACTION TAKEN	Initials
0425	Troubleshooting Parkes BUV	
0426	* H/Ks on Parkes data. *	
	CSM -113 / Bruce RTC.	
	CSM -106 / Parkes.	
0428	* H/Ks on Parkes data.	
0430	- Did we O/P History. TTY : DTG 27/0425	
0431	- Not getting DTG 27/0431. HISTORY	
	- PASSING DESW.	
0433	Parkes BUV — 10db worse than prime.	
0442	Cables on History. - caused by trying to get routine traffic in between // - No echo	
0446	CSM -125 — fluctuating.	
0446	Quindar Keyed - Dc change ab shift present	
0450	Net 2/3/ALL Breaking up. // ALL nets breaking up. No contact with Microwave DESW → SIDNEY.	
	-332- also.	
0451	Protection Beaver OFF Parkes - line restored	
0451	LOST PARKES	
0452	Report of Parkes back. (TLM)	
0454 -	Noise Bursts. R1 & 4. → (FM) o/ps NOT PM. Suspect PA. — MONITORING	

OPERATIONS LOG

MISSION/TEST: TLC 5

DAY: 208

DATE: 27 JUL

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0524.		Uplink Mode 3		
05.		I/O · H/O (15. 45). Mode 1.		
0510.		Relay circuits restored.		
0515		Uplink Mode 5 selected.		
0517.		* Suspect possibly patch problem TIC concerned. Also both Relays & HSK HBR out at same time.		
0522.		Recalibrating Calibs again.		
0525.		TIC requested. 85' csm inhibit 210' on Prime - to check		
0529		Bit Rate Lo.		
0531		Bit Rate Hi.		
0535		TIC: when approaching - 115 Nm. at 210'. qué call		
0533		USB2. - 20KW U/link. 9.?.?. WHY. O.K. 10KW into ANT		
0536		SODS with N.P.T selected. - Error.		
0539.		Missed Parkes S/S. - overtalked.		
0540		CSM LOS.		
0541.		Mode 3 up. - 'D' annis -		
		ANT SW. - TLM. - NO Carrier up Query.		
		CSM. RM 210 -103 85. -113		

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OPERATIONS LOG

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MISSION/TEST: TLC 1.

DAY 208.

DATE 24 JULY

Date/ Time	ACTION TAKEN	Initials
0574.	TIC. 113. Ahn your down required at Parkes.	
0549.	Approaching 113. —	
05	Uplink Mode 3. will be maintained. / No Tape Corr.	
0550	Bit Rate to.	
0551	Advised TIC .. will be changing Parkes link — inhibited	
0553	s/s. CSM. PM. 210 — 110 DBM.	
0554.	= Parkes restored — (Reports HBR. Parkes.)	
0555.	Antenna. EOT.	
0602	Mode 5 uplink. Tape Complete in 0604.	
0615	-112. Prime -105.	
0631.	EOR	

OPERATIONS LOG

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MISSION/TEST: NCG 740 TLC #1 [Cont.]

DAY 208

DATE 27 July

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0650		NST USB called 60KHz filter is what MCC wants for PeFS apparently it works better than 3.3 MHz.		
0659		Est LOS HSKP. 2054 Z		
0729		EJ 202 Noisy R/H MSP		
0745		Wing site 0745 - 0845 1V off set practice from track.		
0748		Mod off 1/V		
0749		off set start. Using Rcvr 4 to start.		
0751		off set complete - Mod on.		
0752		LOS 1/V.		
0753		AOS 1V start off set again		
0756		LOS 1V		
0756		AOS 1V		
0759		LOS 1V		
0800		AOS 1V Staying at centre freq for time code correlation test.		
0827		Starting 1V offset again.		
0831		offset complete.		
0834		LOS 1V. & U/L		
0834		AOS 1V		
0836		Starting offset again.		
0838		offset complete.		
0839		Mode 9 sys 3.		
0848		Back to centre freq 1V & mode 9.		
0947		Configuring Rcvr 4 (unused) into PM Video Bypass 1 to look at it on PSK demod (1.024).		
0953		TIC lost net 4		
0954		Nets 4 & 6 reversed. Net 4. restored on 234	poss PMC Did impulses problems.	
1003		Modem swap Net 4. & then to 234 B/V net & Reversed to Eng on 234 Bio on 226		
1020		U/L some cmds on mode 1 N/C stuid standby for mode 1 then TLC Mode 3 U/L then NCO straight into U/L seqr.		

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22 00
21 44
16

23 00
22 29
31

2200

OPERATIONS LOG

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MISSION/TEST

NCG 740 TLC #1 [CONT.]

DAY 208

DATE 27 JULY

Date/ Time	ACTION TAKEN	Initials
1032	Running FE600 test on Old Net 4 modem.	
1039	CT 0620 readout (MAPS)	
1054	Mode 5 CSM Sys 1 U/L.	
1056	PKS 1 min to	
105753	LOS PKS. 12082 pre-limit est LOS prime.	
1119	Checking PKS B/U voice. 130035Z	
	Problem with levels on NCG 250 between PKS & ACSW	
1128	Mode 3 CSM U/L Sys 1	
1129	" 5 " " "	
113403	IU H/O sys 3 to CRO.	
1138	Mode 3 U/L CSM sys 1.	
1139	" 5 " " "	
1140	IU Tracking data to sys 4 * Op err	
1144	Sys 1 to Sys 3 H/O Wing Had incorrect U/L mode 1 & changed	
1147	Sys 3 tracking data CSM to line. to mode 5 just after Mod ON but 1 Cmd gnd.	
1153	PKS MWave link released. CSM CMD verif missing	
	at RCVRS after H/O - Investigating	
1207	Wing cmd verif now @ Kat Rcvrs. Problems was probably in the TLM multiplexer	
	at the discriminator off the P/B of the TLM mixer.	
1215	Momentary LOS/AOS at wing CSM at ANT reset cmd.	
1226	LOS CSM prime then AOS	
	~~23:00~~	
1233	Final LOS CSM prime site.	
1234	CSM H/O CSM Sys 3 to MAD. NST USB says leave Mod on	
1236	Bio Tic'd off. on SCO mode changes. If we *	
	ACSW reported to Commgr that we take it off it bugs MCC	
	had taken one modem (Net 6) off line! Sorted it out.	
1248	MAD CRO IU H/O.	
13003	Final LOS wing. CSM & IU.	
1305	Verbal release from NOM.	
1318	TLM Tic'd off. 1335 RLS TTY Rcd. 1337 lines inhibited after	

OPERATIONS LOG

18

MISSION/TEST: WCG 740. Cont

DAY 208

DATE 27 July 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1349		Could not get PKS recdr stop start times for		
		data record - Ley went home — DAY SHIFT		
		please remind Tom that we will need start		
		& stop times of every tape before they leave		
		each night - tomorrow we will need 2 days times!		
1518		Crew will do a short test burn to check out		
		SPS ΔV switch		
1611		Had FM AOS for Sim film cycle SM4 data rcd		
1641		SBI reports cooled paramp is oscillating when		
		V/F freq was changed - investigating.		
1818		SPS Burn O.K		
1855		Shift H/O		
1900.		USB with Cooled Paramp problem -		
		investigating. Does not want to start ~~[illegible]~~ at this time		
		Preparation for TV test - Prime.		
1910.		Phase 1.		
1918.		A/G. complete.. -		
1945		Scheduled timing ~~sub~~ synchronization check		
2005		Aborted new timing man using		
2000Z		Cooled paramp aligned 29.5 db gain		
		looks O.K. according to U.S. B section engineer		
		To be rechecked tonight.		
2015Z		AGC. cals completed.		
2036Z		Sequence 1 sec 2.9 complete. Wing late		
2036Z		SBZ - 2 stat updates on Pong.		
2100Z		Started test with Sydney Video LCRU-made ◊		
2105		BUV problems (sequence 3 section 2.9)		
		~~Bypass~~ Microdyne problem using		
2110Z		Downlink checks complete.		

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OPERATIONS LOG

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MISSION/TEST: NCG740 TLC #2.

DAY 205.

DATE 27 JULY

Date/ Time	ACTION TAKEN	Initials
	* DTU # - Playing up. - Passed cost - O.K.	
~~ABBA~~		
2110	NWA 001 Prime link declared red for them, carrying on checks on back up link	
2140	Prime set up LCRU mode 4 -86 dbm through Parnie Gate	
2157	DTU PROBLEM IS ON ALL DTU'S. CLOCK. #-809 → 200KHZ.	
2201	TV Test Complete	
2209	SBI performing tracking tests. Recorders / USB performing levels checks. Computers downloading DTU problem NST data	
2217	Set up to perform data flow test with Goddard.	
2221Z	Wing started slew test.	
2230	RT BUV cable - short - . 10 m ± ETO	
2227.	D.T.U. / Computer run with Goddard N.S.T. Data no problems - apparently cost problem. (Software)?	
2230	SBI only phasing.	
2236Z	RT problem found - check later when passed.	
2246Z	Ranging (2) MK IA J.P.L. card replaced - green (PRIME)	
2256	AMO cal Wing.	
2256.	PH3 SRT complete.	
2303	RT - BUV - check O.K at Wing only.	
2334	Checked to Parnie O.K.	
2345	NST Data. - requires Modems all live. -	

OPERATIONS LOG

20.

MISSION/TEST

NEA 740. TLC #2

DAY 209.

DATE 28

Date/ Time	Sub-System	COMMENTS	Initials	Action by
27/2350		SRB TLX's transmitted.		
2354		Comm Mgr - NetLAG Modems - HSK advised, NST DATA request.		
2356		Preparing GAS H-70		
28/0022		Fail. FMAT 16 FAIL SMP Tape problem		
0023		Wing BOR Rmm BOR Wing warned of early handover C.S.M.		
0028.		- Rerun THM CAD 37 00 00 - CSM W/C.		
0029		Success BOR P&W		
0033.		THM CAD		
0034.		PROG light from Wing not working		
0037		A/G PM - 2526 - 9.5 SP. 2476 - 10.5		
0040		Slightly Hi at - Houston & Goddard Given GO/.		
0045		Clarification COST problem req'd NST DATA. Do not know - Back to Back patch is Suspect		
0049		CSM. - to 3. @ 36-00-00 seen w prob		
0054		- TLR test per NST Instruct. /CSM Prime 3700 GET Sup 2.		

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OPERATIONS LOG

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MISSION/TEST: WEG 740 TLC 42

DAY 209

DATE 28

Date/ Time	ACTION TAKEN	Initials
	Goddard Ops	
0058.	2M comm check finished. — 4128	
	2M Covered Down — 4128.	
	IV. — Not Offset — ~~NO~~ NOT.	
0105.	CSM. RF Contact — WING.	
0108.	— 150 CSM.	
0112.	Query Tracking Data. on SCM - with SBI.	
0113.	CSM & IV - with in Beam - ? ? SBI	
0116	ZOMIN EA. REV.	
0118.	Biased static → No modulation	
0120.	Data TLM EVS ON. AUTO TRK.	
0120.	SBI - advises CSM - 1½° difference — 23.db. — ± ¼°	
0123	CSM. S/S. — 101	
0126.	— Advised Goddard a/s	
0129	H/O. 360000 HSA. OG. (TRACK)	
0130	CSM. 166 S/S. PRIME.	
	TVCO 219H.1788 — 10 HZ	
0132	PRIME AOS I/V.	

OPERATIONS LOG

22 | MISSION/TEST: TLC #2 | DAY 209 | DATE 28 JULY

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0134		* M/O. CSM → WING.		
		AST USB advises separation.		
		Note s/s. in Post Track MSG.		
		87:00:00 SET.		
0140.		IV. -124- CSM-102		
0144		~~*024...TLC granted~~		
0145		HSD 36.15 20 mins RCVR 1		
		20 mins REV 2.		
0150.		* CSM DOWN VOICE - Copied at ~~COMMTECH~~. Not on NETI → DSE REDUP CONFIG.		
0152		IV. Glitches Tablets understood.?		
0154		2 BINARY DIGI DSPY's at DSCC INOPERATIVE		
	*	Re glitch a/c. Discussions Reset Alt cat B. had popped! Lighting ONLY		
0207		Good EKG & RESP		
	*	* WING AAC METERS REQUIRE CAL		
0210.		BIO ON.		
0214		Pulses 10 into NB's Eng test		
0214		Glitches on HSK (HS.D TLM (AGSW) No problem at Goddard Ops		

OLLIS

OPERATIONS LOG

23.

MISSION/TEST: TEC H2

DAY

DATE

Date/ Time	ACTION TAKEN	Initials
02:26	- Glitch Test a S/C. Carrier off 20 secs replied as Not 1. - Later Instruct	
* INCO	36:55:10 TX OFF. 36:55:25 TX OFF - 02:29:03	
	36:55:50. 2way. Rock.. TX ON - 02:29:40	
0230	GDS. HSK. IU H/O.	
	DSE ELEC REWIND	
	02:32:25. FM ON.	
	GPS Mode 1. Dump.	
0234.	IU 2WAY	
0235.	FM. CSM. -95. dbm	
	CSM. 20S. - REACQ S/BAND LOCK.	
0236	. Rate Good Net 6.. Outages between Deakin & U.S. - 0238 → 39. BIOMED Loss	
0242	FM ARC NOISE. (ARC??)	
0243	DSE DUMP 7. 30 secs	
0247	CSM. IA DUMP - 118	
0252	BUV. Reacted	
0255.	- SBD - just ranged.	
0301	- BACK TO IU a Sync 2	

OPERATIONS LOG

24.

MISSION/TEST: TLC #2

DAY 209

DATE 28

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0303		BUV - ~~noisy~~ - S/S - 122		
0305		HSR		
0307		R7 - CSM-SM.		
		Pks. - 107 dbm HSR.X - CSM.SM. - 115		
0320.		Uplink lost due to PTC / omni switching		
0324		Reacquired.		
0334		History / EOF.		
0340		Canberra reports problems NCR 234 ~~Henry~~		
		Net 4 being restored on NCR 295		
0358Z		Noise on Net 3 - ~~encomeny~~ to Goddard.		
0359		HSR P ~~BSTLO~~ 1252 1U		
		W 1340 CSM		
0413		Sig Level Parkes -111 dbm		
		Wing -117 dbm.		
0415		Sig Level Parkes 108.5		
		Wing -116		
0420		Queried Tonch reb. SCM 28/03502		
		Parkes on @ CSM & 2M Maint @ 30,000		
		- Scm changed - LOS monitor for M.		
0430.		Sig Level Wing -120 dbm		
		Parkes -112 dbm.		
		Parkes / Wing decom thresholds about the same.		
0445.		Loss CSM - . Reacquired with o/mi sweep		
0457.		Normal Voice BMOD. -		
		Parkes BUV marginally worse than HSR.X		

OLLIS

OPERATIONS LOG

25'

MISSION/TEST: TLC #2 NCG 740

DAY: 285

DATE: 28 OCT 94

Date/ Time	ACTION TAKEN	Initials
0515.	LH & CENT. EKG. * RESP.	
	RH. EKG & RESP	
0524	RH EKG - Zero.	
0530	PCM dropouts due SBZ tracking : WIDE vice *	
	NARROW.	
	CSM PM - -123 85' -	
	CSM PM -116 PKS.	
0538	BIO ON.	
0544.	ComTech - took Barkes BUV and of LM.A. as test source	
	- CREW RESET ANYWAY - Dropped RS ~~master~~ off	
	LM Bus. - Told him to return to Wing R6.	
0547	WING CSM. 13.40 Z LOS	
0601	Antenna Sw. - Switch to ZBR & Ant. ~~reset~~	
	Call reverse -124 dbm Required	
0605-	Forced Bakes TLM. at request of TIC. —	
	reason not PKs to Houston due - PKs data	
	no better than Wing's	
0616	Shift H/O.	
0620	LOS/AOS IV Twice.	
0625	Reversed Net 4 & 6 data on TIC's request HSD men & com had	
0636	Changing to spare ~~Eng~~ STV Repl 4 with 3	
0639	Config Complete	
0644	Normal Net config.	
0649	V/h mode 5. CSM	
0650	LOS IV	
0651 40	AOS Valid 2 way IV.	
0654	Tied to 703 & 008.	

4700
4354
3 6

GRC 1 - map overlays not always configured
PEP
INITIALISATION listing.
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OPERATIONS LOG

MISSION/TEST

NCG 740 TLC # 2

DAY 209

DATE 28 July 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0707		Sending stat update. Suspect faulty DTU		
074350		LOS AOS IV		
0819		Mode 5 U/L CSM valid ranging request. Early omni switch.		
		Nearly lost it.		
0840		CSM 03 U/L for late ANT switch		
0904		Start IV dropout.		
0922		TIC equipped if we were seeing drops on eng TLM - replaced		
		mod, ACSW confirmed no drops there.		
0928		Drops on Parkes prime & B/U Honeywells, Sydney sees it		
		incoming to him. ~~Retrieves~~ Unmultiplexed wing decom.		
0932		Mode 9 (mod off) IV per track's		
0945		Noise on net 4 but NOT Net 6. but good V/F still.		
		reported to RTC & N/C. Parkes lines good for some time		
		now. Have unmultiplexed wing data.		
0957		Net 4 now looking good.		
1002		Mode 5 U/L CSM.		
1010		ACSW after ascertaining if we had unmultiplexed our Net 4 modem there, reported he had lost our Net 4, checked with		
		TIC - seeing it 5 by. ACSW then said he must have had a		
		DEM problem!		
1018		CSM Sys 3 U/L Mode 3. Prelimit 1253 - 1308 CSM LOS prime.		
1128		PKS LOS. 1340 Z CSM LOS wing.		
1130		" Lines released. PKS 1127 Z		
1133		CSM U/L mode 3.	CSM ACC	Lvd S/MF 273 0002 FR 5
1203		Nets reversed from normal (4 & 6 Data) line problem between ACSW & MCC?		
1205		LOS's & AOS's CSM Mod off to reacquire at wing about		
		Go from Ops.		
123401		H/O IV Sys 1 to ACN LOS/AOS at H/O		
1242		CSM Sys 3 U/L mode 5 for ranging		
1243		SB 1 reports a number of 30 KHz dumps in IV receive freq for		
		short period after H/O.		
1253		Y prelimit SB 1.		
1256		U/L Mode 3 CSM.		

OLLIS

OPERATIONS LOG

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MISSION/TEST: NCG 740 TLC # 2 [cont]

DAY 209

DATE 28 JULY

Date/ Time	ACTION TAKEN	Initials
130053	LOS IU final — prime. Setting up for prime LCRU 04 TV threshold.	
130401	CSM H/o Sys 3 to ~~MAD~~ MAD. Wing EST LOS CSM 1335	
1307	Sent L/S Hist. UDB to safe.	
1312	LCRU 04 threshold - 111 dbm. quiet sky.	
1324	Net 4 & 6 data reversed. problem between ACSW & Sidney.	
1331	Final LOS Ticd off ENG & Bio.	
1344	Verbal Rls clearence to terminate 4 & 6 modems for DTU trouble shooting.	
1345	Setting link for timing sync check. Nets terminated & loading diagnstics for DTU c/o. Upper case JJ at end of Frames for 4 or 5 lines.	
1748	~~Time~~ Sync Checks O.K wing and prime < 1 MSec diff.	
	Hung up bit 5 F/F found in DTU 4 - replaced - running cont on soak.	
	quiet'd Flops Ray said when we declared it green Ray would send	
	an IS1 cancelling NCR2.	
1800	Shift H/o	
1818	DTU 4 green. replaced flip flop ~~4 flop~~ bit ~~6~~ 5 in transmit	
	Q register card type 7002900. slot ~~B4~~ A3A1J4B.	
	long cont DTU successful.	
1900	Prime LCRU 4 now using 500 KHz tone 19db S/N Recv -93dbm	

OPERATIONS LOG

28.

MISSION/TEST: NC9740 TDC #3.

DAY 209

DATE 28 JULY

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1905.		Syst checkout. SRTS prep.		
		RSSB. CB1 on CADFISS tape. CB2 –		
		DTU soak test.		
1910.		Ph1 commenced.		
1930		Ph1 complete		
~~2091~~ 1430		Reel counter gearoil MTR WB3 green, drive coupling lightened.		
1954		Cadfiss Tape shelving complete		
2031		Downlink checks progressing.		
		Microwave problem. PM Vid 2. → PCM-bad.		
	*	Removed RSSS. PCM good.		
	*	Time wasted – checking PCM – not in		
		This sequence. (3). – BERs taken		
		d/b & RSV alone 3 db S+N/N @ -127		
		O.K. WING AT 117 DBM vice 127.		
2057		Modems to be configured at Comm Mgers request.		
2113.		Tuning checks		
		UDB & Hdg. tuning – Go.		
		UDB & Hdg tuning Go.		
2144		LCRU4 Maser 1 30°K – 19 S/N – 98 dbm		
		2 40°K 18 S/N – 98 dbm.		
2229.		TDP High speed data problem – may be		
		comms via Amp – is definitely 2301.		
2232		Ph3 test. Complete		
2240.		Tracking tests – Hdg – Syst Mon		
2314.		N.W. call – where is our Hdg Cal.		
2320.		NEST DATA. Closing to RSSP Sym. – DTU problem.		
		require advice if anything discovered.		

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OPERATIONS LOG

29 | MISSION/TEST: NCG 7K0 DTC #3. | DAY 240 | DATE 29 AUG 74

Date/ Time	ACTION TAKEN	Initials
2340Z	Prime & Wing Ops PM meters calibrated	
	No F.M. meters working at Ops Console. Action USB.	TT#
*	Not happy that feed problem yesterday was fully defined – Understand more impact with Uplink at 10KW than expressed. BOLTS TIGHTENED LAST NIGHT AT M.T.I. – 23.50 – waiting on report from SBI.	
0001	SBZ warns that in slew test- reasseconal bad word APP on computer	
0004	GDS 1 K – Goddard Ops Briefing.	
	W CSM	
	MIL lockup	
	60 hrs GET CSM FM downlink mode 12	
0004.	H-20. * Goddard ops per feed. – verbal trouble shoot. Structure getting confused	
0032	Success tracking confirm	
0042	USB Prime Predicted AOS 01.14 Wing 0121.	
	Predicted LOS 1349	
0090.	NB Sig Conditioner Number 1	
	ETO 24/0240	
0100.	Query from Parkes – re Krahnite filter referred to N Eyre / W. Waugh	
0114.	Awaiting Acquisition Prime IU	
01 1430	* IU AOS.	
0121	AOS CSM Wing sets	
0123.	– 128 IU. TIC " SDS. 120 bps record.	
0123	– 130 CSM copy FM. – TV poss.	
	IU program errors. X +0.1° Y ZERO°	
0129	H/O instructions	
0130	TIC affirm – not record SDS till good sig lock.	
0133	FM. CSM. -101	
0134	Recorders on SIM. G. R/T good	

OPERATIONS LOG

30.

MISSION/TEST: Neq 7460. TLC 43.

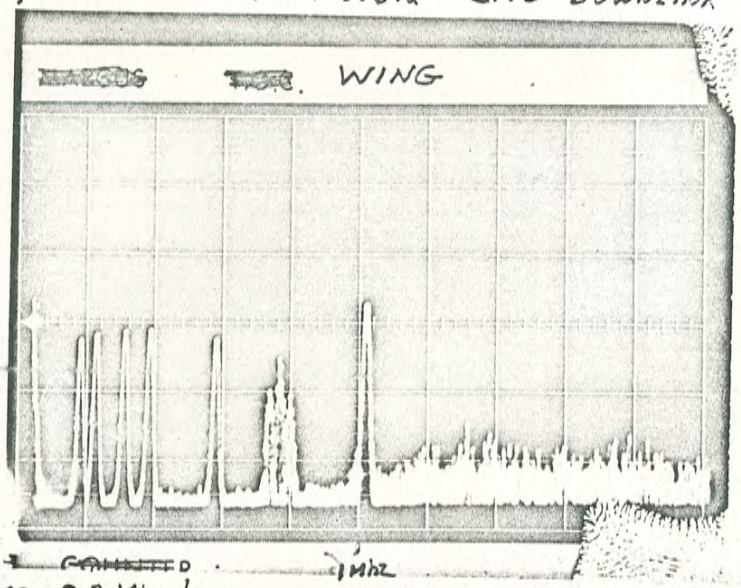
DAY 210

DATE 28

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0138.		Modulation spectrum. Full Mod 12 s/c ~~[illegible]~~ SMA only.		
0139.		Loss SMA. R/T.		
		CSM. AOS – Antenna Switching		
0140		GO: 30 minutes. Mode 0. GDS. BRIEF after 5 minutes. R-1 STATIC RADAR EXPERIMENT.		
0152.		~~DATA~~. SDS. s/c low level. setting a refast. ~ No problems – O.K		
0154		Parkes. AOS – 0308. LOS 11.38 PREDICTED		
~~0300~~.		~~DSS CARRIER OFF.~~ ~~GO 230.~~		
0209		Mode 0. SDS. – HSK. X. LOS – Nervous B.W ???		
		VCO fo. – 7233. N2 last A. -122 dBm		
0217.		GDS. – VOLINK 06.		
		NB. 1 – Green 0217. LPF. HPF replaced & adjusted.		
0243	**	Prime path – ~~HSK~~ & Parkes – HSK PMG ~~NWP003~~ working on this ETO – 1 hour		
0245.	*	CSM – Water problem, leaking – from potable tanks		
		CSM. S/S – 133.		
0302	*	s/c. Problem solved – leak stopped. – drying out, returning water system		
0308.	*	Net 4 outage. 30 sec. No advice before changes from NSW		
		No PARKES AOS – DSD – conducting tests changed from Tx Dine from Goldstone. No data on This ~~Net~~ data on ~~Net~~ Rx no need for change – said both MSFC out were down to DSD but said 'okay to comms		
0310.		SBI. sees Noise on FM. Rgs		

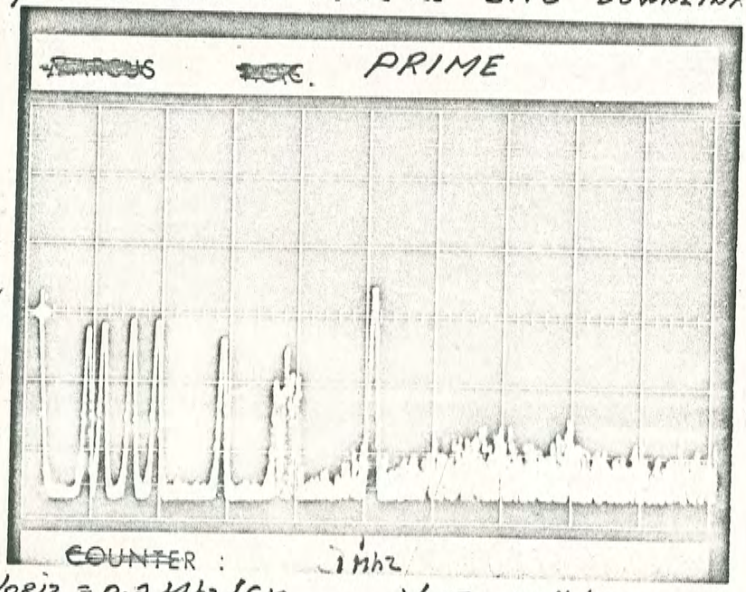
OLLIS

29/0130Z CSM-FM MODE 12 SM6 DOWNLINK



HORIZ = 0.2 MHz/CM VERT = 10db/CM

29/0130Z CSM-FM MODE 12 SM6 DOWNLINK



HORIZ = 0.2 MHz/CM VERT = 10db/CM.

OPERATIONS LOG

MISSION/TEST: NCG 760

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DAY 210

DATE 29 JULY

Date/ Time	ACTION TAKEN	Initials
0311.	Test on NBS - Poor !!!	
0327	GDS. H/O - system 4. for 3. PAM 3 FAULT.	
	Mr. Westbrook apologises for bad reflect on Net 4. investigating -	
0332.	Parkes - inhibited for SDDS MATRIX. TESTING.	
	SCM. - CSM. 06 up at 03.00-00 GET.	
0344.	Link fixed - NWA 003. - Parkes.	
0350.	EMOD. Dump advised.	
0351	Loch on EMOD.	
	EMOD. end.	
0350	Set up. FMAT 12 in CMP. EMOD.	
0403	Camming out valid EMOD.	
0404.	EMOD complete.	
0406.	Fmat 6 & 8 back online	
0410.	BUV.	
	CSM. GET. 03.00.00. 8 min. 05 up.	
0430	Houston Con Tech - O.K inhibit CSM Down. link	
0435	Ready for H/O.	
0434.	Go for CMD.	
0436.	EV 208.	
0441	Bio. on.	
0450	H&K. CSM -123.5 PKS CSM - 116	
0500	119.5 - 112	
0504.	SDDS. advises severe bounce on Parkes Prime & Alternate.	
	ACSW. advised.	

OPERATIONS LOG

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MISSION/TEST

NEG740 TLC #3

DAY 210

DATE 29

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0512		TLC - rel PARKES. why not Comm PARKES TLM. - ([redacted]) but told — microwave link problems.		
0514		"Bounce [redacted] lossened.		
		Parkes BVV noise worse Than wing *		
0518.		Mode 3. uplink.		
		Shift 14/0.		

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OPERATIONS LOG

33 | MISSION/TEST: NCG 740 THC # 3 | DAY 210 | DATE 29 JULY 71

Date/ Time	ACTION TAKEN	Initials
0538	IU to mode 1 for 2 range acquisitions and new clock.	
0540	Series of bounces on prime microwave from Parkes.	
0549	Short dropout IU Reacquired range.	
0553	Sys 4 range problems. EST Wing LOS 1342Z	
0557	Nets 4 & 6 data received. 055635 - 055725 out of lock TLM CH4. ASTAM P/O	
	loss of ENG appeared to be on site.	
0601	Hits on Net 4 incoming.	
0604	W/B M22 Nos 6 reel servo fault 29/1700Z ETO.	
0605	Sys 4 MK1 Ranging Range Tally will not clear in prog state 2. 29/1000Z ETO.	
0614	Sys 3 CSM to mode 5 U/L for range acquisition until next ant switch	
0619	Bounces again on microwave - incoming to redfern. Could be on B/U beamer between Coonamble & Sydney. Going to prime beamer.	
0635	Change to mode 3 U/L Sys 3 CSM - short drop on IU reacquiring range. Parkes microwave links now better swapped to protection beamer between PKS & Sydney	
0636	Do not use ASTAM through comms ISO amps until further notice *	
0638	Tic'd to 7 & 9.	
0645	Monitor decoms dropping in and out of subframe lock owing to large amount of LGC & AGS fill in FMT 7 They really need clock as well, but this would involve a mod in the DTV so is a post mission action item.	
0650	back to 6 & 8.	
0712	Phs data very noisy while Sydney video reconfigured - crook jack	
0727	Changing to DTV # 3 after many drops.	
0729	Configured. Bit 5 was hanging up on a register -	
0735	U/L mode 5 Sys 3 CSM. Ranging till next anni change.	
0752	CSM to mode 3 U/L.	
0800	Momentary drop of bit at MCC ACSW reported solid passing them. Passed to TIC then ACSW reported his Tx modem to MCC retrained at the time. Told him I considered a report of passing to be mean incoming AND outgoing at ACSW.	

OPERATIONS LOG

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MISSION/TEST: NCG 740 TLC #3 [CONT]

DAY 210

DATE 29 JULY 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0805		Track reports no LSD from wing – they have not turned it off. Checking with ACSW. – passing them O.K. Opp error at ACSW caused the short break, this was after he had reported that it was passing them.		
0850		U/L CSM mode 0/5 for ranging		
0907		PKS data noisy uninhibited wing decom. 1358Z PKS est LOS		
0910		PKS now good, multipath problems		
0922		Wing decom inhibited again		
0926		U/L mode 9 IU.		
092650		Another drop on pks.		
0628		HSK to CRO on IU., HSK Sys 1 Alseps 1 & 4 after H/O Ø3		
0929		U/L mode 3 CSM		
092945		IU H/O HSK to CRO reconfiguring for ALSEP		
0937		Auto track Rcvrs 1 & 4 on Alseps 1 & 4 PKS data to decoms 1 & 2 W/B select where possible		
0947		A1 - 130 dbm A4 - 127 dbm. ETO 5 mins for recdr roll.		
0949		Recorder rolling on Alsep Ø3 support. Official Ø3 start time.		
		Prelimit { Approx 1240Z Alsep LOS / Nominal IU LOS 1340Z		
1008		Astran lost control of log tape (hardware problem?) having to restart prog cannot access it. OK after restart but.		
1036		LOS CSM Rcvr 6 (late omni change).		
1039		CSM Sys 3 mode 5 Ranging for the next 2 hrs.		
1049		Configuration following ~~bit rate~~ Alsep support change TLC requires a decom on PKS & another on Wing Res means data must follow bit rate changes & SDDS P/W's on 2 decoms & SDDS energy change. Much slower than old method of decom & SDDS operators. DSCC BLAND		

OLLIS

OPERATIONS LOG

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MISSION/TEST: NCG 740 TAC #3 [cont]

DAY 210

DATE 29 JULY 71

Date/ Time	ACTION TAKEN	Initials
1137	Mode 6 to CSM U/L	
1135	BV voice then normal voice Crew wake up. 1342	
113855	PKs LOS	
1142	B/U voice CMD & selected.	
1147	71:00 GET FM 12 followed by 11 cue from track.	
1152	AOS LOS CSM omni switch	
1156	TICD to 6 & 8.	
1214	LOS CSM (Early ant) AOS 1214Z	
1229	Configured Decom 2 for SM6, Decom Follow CSM 3 & 4 on alsep.	
123500	FM ON CMD & SDS reset CMD.	
1236 1236 50	HGA FM AOS & SDS Mode 12	
1248	SDS OFF CMD.	
1251	Breaking track on alsep cyl up reloading Decom 3 for CSM dump	
1252	FM off CMD. Reconfig for prime IU support	
1257	AOS IU prime 3 way.	
125850	IU LSD to line 55	
1308	Reversal of FMT lights Decom 4 SM 4 & 6 P/B on SOC - connected.	
1319	Ant switch to -155 dbm CSM 10 secs prior to H/O - holding carrier	
1321 29	H/O CSM Sys 3 to MAD A/G local. Est LOS 1336Z	
1325	Sent TTY Hist VDB to safe.	
1330 1334	LOS AOS IU on H/O ARO to MAD	
1337	1 way IU.	
1340	LOS CSM Final at HSKX.	
1345	DD on IU tracking data.	
134630	Final LOS IU prime. MAD AOS CSM FM Sig level Decom lock on SM6	
1350	Verbal release - Terminated Nets stacked to MAD to lock on the follow-1 S/Cs	
1435	TTY rls rcd. - - - - - - - mod on 768 only.	
622	Dick Alpert called re feed tests they won't run	
	When explained who was on site he said he would take	
	a lunch break & call back approx 1730Z.	

OPERATIONS LOG

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MISSION/TEST

NCG 7460. L-0.43.

DAY 210

DATE 29 JULY

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1735		SRT W.B.G Red till 2200Z - Goddard Advised		
1740.		Phi.		
		PAO. advises. Shift changes in Daylight Time - how about it		(PAM)
1745	*	NST DATA - Fly DTV to normal if problems - goIST 82.		
1800.	*	OPN. 29/1714Z. Feed tests. received.		
1810.		Stat update. - W.B.G recorder ETO 29/2200.		
	*	A/C showed constant Net 1 remote. - due strap installed by USB. (COMM) - no requirement - removed.		
		Verbal from Goddard ops - do Pramp test per OPN/29 1714Z. after days support.		
1847.	*	Still held up on Seq 0 - d'link tests - problems in Data. All in hand time wasted.		
1852		Seq 1 started.		
1956.		Prime A/C. O.K.		
1954.		Timing checks. - O.K.		
		change shift 0400Z. briefing. Goddard ops.		
2006		A/C - Wing O.K.		
2029.	*	Good Burn - LOI		
2054.		NDB cost		
2100	*	IV impact.		
2140		Prime estimated AOS 0145 LOS		
		Wing estimated AOS 0121 LOS		

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OPERATIONS LOG

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MISSION/TEST: NCG 740 2043

DAY

DATE 30.

Date/ Time	ACTION TAKEN	Initials
2147	Reported to Canberra that NWA 003 Prime has 50mV ripple - back up good. Voltage good both paths	mpe
2156.7	Phase 3 SRT complete.	
2210	DTU 4 green.	
2213Z	NWA 003 Prime has ripple appear. 60mV pp. from Sydney - Sydney Video and Canberra informed.	MCB
2215Z	Parkes - configuring	
2232	Prime path NWA 003 released to PMG for traceable shortening - Seperate log sheet for further Parkes Testing	
2304	Receiver 4 FM ABC working and calibrated	mpe
2229	CSM FM made 4 threshold -112dbm	
2340	H-70 interface	
2345.	H.S.D on Lines fully aligned	
0005	B-on Success Prime & Wing	
0013	Failed prime show high speed insufficient data low O.K	
0028.	J. White - Houston Video. // - recording - Cassette.	
0030.	Mss. Goddard Ops - clear from I/F [redacted] Corrected Copy of START slowing.	
	RLS MSN - wrong AOS. 01.20 vice 0049. - Some difference	
0049.	DOI - AOS. - Burn go.	
0056.	HSK. I/P	
0103	CSM HORIZON AOS - -153. PRIME	
0105	CSM. H.S.D on Line from Prime & Wing @ 5°.	
0111	No HSD from Wing.	
0120	PMG corrected 003 Prime set. 5° 01.27 00 Z	
0118	HSK.X. HORIZON AOS	

OPERATIONS LOG

38

MISSION/TEST

NC43/40 2043

DAY 211

DATE 30

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0120.		CSM S/S - 100 kb. PM. S/S -99.		
		HSK.X Event chart jammed.		
0122		1768. SMGR/T only S/C modulated		
		CSM FM -113. HSK.X.		
0126.		Parkes links - still noisy - not good enough		
0133		Glitch in HSK TLM		
0140		SMH R/T lock.		
0145.		Request from Parkes - to get offsets gotten as back up. 2 takes 15 minutes on main feed.		
0152		Steamers AM OFF - S/S -115 -		
0154		HBR - // instantaneous DOS S/S - 120		
0155.				
		AOS. = 84.574.00 = AOS-15 = 02.28 Z.		
		85.09-00 = AOS = 02-43		
~~0231~~		Agreed to allow ~~0315~~ Parkes to reconfigure Offset Ped - improvement in system temp 250°K to 200°K approx		
0225		Load 0010 received.		
		Dump Code 3. - Mode II - (14) 574m -	GDS	

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OPERATIONS LOG

39

MISSION/TEST

NCG 740 H NO H 4.

DAY 241

DATE 30

Date/ Time	ACTION TAKEN	Initials
0232.	Preparing for AOS -	
	Copy SDS dump Code 3 Mode 11 Nr (14) 54 min.	
0238	A/G checks.	
	PTG reported.	
0243	AOS. Rev 4 -127. HBR Threshold.	
0244	FM. 4 HBR Rec. - S4. R/T S6. R/T.	
	No Sw 4 & 6 status wds. not put on!!!	
	* WHY NOT SM 4 R/T STAT BIT!!! TK called SM4	
0249	CSM S/S = PM. 10 FM. -99.	
	20, 14 Mode 11 Dump	
0253	HBR BR DUMP. HBR — SM 4 & 6. P.B	
0255	Check dump voice - Loud. background hum.	
	Offset 220° Tr Main 150	
	0318 AOS Ranho estimates	
0308	Ranho restored NVA 0°03 P 90mVpp A 50-60mVpp Hum.	
0309.	CSM FM -98 FM. -102 PM - 102 PM. 100 FM	
0314	Rev VCO Dist & Low Ranhos = 5012 Hz.	
03-M.	Procedures 1-183. procedures.	
	BACKUP CSM FM - 99. CSM PM. PRIM 102	
0314	AOS PKS	
0319	Main Feed	

OPERATIONS LOG

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MISSION/TEST: NCG 740. 20th Flt

DAY 211

DATE 30

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		Broken Up. - Bad mike.		
		Voice Bkup. on ~~[illegible]~~		
0321		LOS CSM. - SDS PBD Fault.		
		TLC do you want 210' data		
		WB1 - Paused - Parties.		
0325		Hats / Parts data —		
0333		SB1 = Mode 1 vice 6. Backup?		
		~~AGE~~ Dump. TLC when LOS occurs.		
03420		~~CSM~~ D. off. - 1.024. 1:1		
	*	SM4 RT off - came back up.		
0342		RTCD.		
		SB1/2 DPE. - ABERRATIONS. —		
		not coincident w/T. any voice.		
		S76 RT. Loss		
0344		PCM - intermittent. LOS PCM	ANTENNA. ~~Hgh~~ LOOKED OSCILL will be cubrigld after LOS	
0347		BVV @ LOS.		
		⟷		
0358		SDS. - complaining that WCO did not ask them to drop carrier. — Obviously not because Crew not DELBRD.		

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OPERATIONS LOG

MISSION/TEST

DAY 211

DATE

Date/ Time	ACTION TAKEN	Init
0840	Prime power path released to PMG for ripple investigation.	
	On alternate path 1V leaving Parkes but only 0.7 volt at HSK. Investigating.	
0855.	1V pp at HSK PMG. 0.75 at SDOS. G. Lochile called in to troubleshoot.	
0910	Link terminal once to PMG as true reading at HSK PMG was .85 was 1.0 V.	
0915	Link returned + test started	
	1.024 at 1 median. Good lock at 100, 105, 110, 115 for PM.	
	at 117 0.02 errors.	
	119 0.11 errors.	
0930	Setting up for FM. 600 KHz deviation -95, -100, 103, 105, 106	
	at 107 small % errors.	
	108 0.01	
	109 0.08	
0945	Setting up for SM4 SM6 next time.	
1000	SM4 & SM6 data from Parkes SM6 RIT Good lock	
	SM6 Dump — " —	
	SM4 RIT "	
	SM4 Dump — " —	
	Signal Strength -95	

APOLLO HONEYSUCKLE
TWX DISTRIBUTION

STADIR	✓	FAC.	
D STADIR		T.C.S.	
CM		ORS	✓
CH. ENG.	✓	LOGIST.	
U.S.B.	✓	SAO	
TLM	✓	SSA	
CMPTRS	✓	TEST	
COMMS	✓	WING	

Parkes & Sydney Video

GH5066A 71 JUL 29 21 16
PP AHSK ANBE
DE GCEN 054
29/2100Z
FM CODE 814.3
TO AHSK/STADIR
INFO ANBE/STADIR

REFERENCE SCAMACON MIELKE/GRAY 28 JULY, TTY HSK TO MIELKE 28 JULY/ 0523Z. TEST RESULTS SENT TO MSC INDICATE A POSSIBLE PROBLEM INTERNAL TO THE PARKES USB SYSTEM. DEMOD OUTPUT IN LM MODE 10 WITH 5 MHZ RFI FILTER AND MULTIBURST PATTERN WAS 25 IRE UNITS AT 2 MHZ. THIS INDICATES A 6 DB LOSS OF SIGNAL THROUGH THE USB SYSTEM. OUTPUT AT 2 MHZ SHOULD BE NO LESS THAN 40 IRE UNITS (2 DB). HAS THIS CONDITION BEEN IMPROVED? PLEASE HAVE THIS TEST RERUN WITH PLUS OR MINUS 1.3 MHZ VIDEO DEVIATION (SUB-CARRIERS NOT NECESSARY) AND SEND RESULTS TO ME AS SOON AS POSSIBLE.
V. MIELKE SENDS

29/2103Z JUL 71 GCEN

#

OPERATIONS LOG

41 | MISSION/TEST: NCR 760 20th. | DAY 211 | DATE 30

Date/ Time	ACTION TAKEN	Initials
0240	leading edge.	
0240	LD 0010 cleared.	
	AOS -15° 86-47 = 04.21.	
	AOS 87-02 = 0436	
0415	N.W Procedures. Rev 6. - start playbacks.	
0431.	NO. Rev #5. B.V.	
0436	25 AOS. CSM. PM. Bruce -119	
	PM wing -119	
	FM CSM S/C - at GDS - ?.???	
	SB 2 -	
0436	FM. Carrier - Only at HSK. No S/C ???	
0439.	CSM. below Threshold. - GDS a 210!!!	
	S/C on ~~WIDE BEAM~~ MEDIUM B.W. - FM below 85° Threshold	
0445	SM 4 & SM 6 R/T. 225° on Mod	
	FM S/S. -99 dbm (GDS = 96.) 768	
	PM -10 (GDS = 102)	
0445	NR 15. Mode H // 20 sec.	
0457 35.	HSR Dump	
0457	CSM. -103 FM	
	CSM - as FM	
0457	576 SM6 P/B - status word - appears to be dropping out	
0500.	- Briefing oncoming shift.	
0504	CT 06 20. PFS S/C rec. - 813 decimal	80%
* 0506	Rec. P.B. Code 3. SM 6 4. CTE 84.40 → 85 05 Dump Rx	*

0542
05 18
28

OPERATIONS LOG

06 29 52

42.

MISSION/TEST: NCG 740 L/O 5 cont. & L/O 6

DAY 211

DATE 30 July 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		PLAYBACK REQUIRNTS SEE PAGE OVER		
0522		-89 PKs -95 Prime -99 Wing. CSM FM. 3.3 - 3.9		
053049		GDS seeing 3.225K S/C		
053032		End dump Start setting up for P/B.		
0539		LOS CSM GDS to U/L mode 0		
0541		Tic'd to P/B 116 & 008. Released PKs prime path for Tests till 062208		
0548		Ready for P/B.		
0554		still holding " for TIC.		
0556		Start P/B. Seq 16 dump will be played backs in Sall.		
0615		USB carrier ON. & H/S data on both sites		
0618		P/B complete - code 3 CSM next rev.		
0621		Airwave noise worst between PKs & their Airwave tower.		
0622		Dump recorders reconfigured.		
0625		H-5 voice & keying checks.		
		L/O 6. 0615 U/L A/G remoted.		
0628		SM ~~R/T~~ & P/B encoder. D/V B/U enabled.		
063001		AOS Goldstone CMD FM-109 prime 225 & 768 at.		
0631		Rewind CMD.		
0632		PKs THM data to line vice versa Wing BUV to line.		
0640		All Subcom		
064145		Dump solid input to Computer. CTE 088 04 10		
		Fmts 016 & 108.	0735 4/ CSD 4-1 3S	
0647		10 db below 225 s/c 3.2KHz.		
0651		GWM FM -110 Wing -98 Prime -~~101~~ 95 PKs -88		
		CRO -105		
0657		Noisy net 4 to TIC. OK at ACSW CTE 88/1000	40m	
0723		Dump stop rewinding DSE & GND recorder for P/B Code 3 Bim	P/B.	
		Tied to 016 & 008.		
0731		DSE FWD on record.		
0732		LOS CSM U/L mode 0.		
0735		P/B Data on line.		
0738		Tape P/B stopped & holding.		

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09 29 18
08 57 18
32 00

OPERATIONS LOG

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MISSION/TEST

NCG 740 H/O ~~8~~ 7 & 8

DAY 211

DATE 30 JULY 71

Date/ Time	ACTION TAKEN	Initials
	L/O 7.	
074040	Tape P/B restarted.	
0749	Sydey seeing 75 mv of noise from parkes	
0809	L/S data on, Radiate ON A/G U/L remote.	
0814	Dump P/B complete. reconfiguring. Ticd to S ~~#~~ & 6	
0819	H-5 beying check	
0820	Reconfigured at recorders & decoms.	
082340	AOS CSM PM & FM - 109 prime PM - 120 wing Go for cm D	
0824	PKs data Selected. - 112	
083180	Sys man recorder 1 SB1 paper ~~prime~~ form etc 5 mins	
0833	DSE rewind CMD.	
0834	FM - 95 SM 4 & 6 R/T lock. HGA narrow. Seq 15 dump test pass 1st.	
0835	Ticd to 108 & 016 ready for Code 3 csm mode 11 dump.	
0838	30 secs to dump (Seq 17)	
083830	Lock on mode 11 dump.	
0901	Code 6 CSM for 17 FMT 6, Code 3 Sim 4 & 6 Seq 15 CTE ~~86 15~~.	
	Start of dump Start of dump 8628 ~~-87:06~~	
091725	DSE Rewind reconfiguring to P/B Ticd to 008 & 16	
0925	" Fwd.	
092530	~~AOS~~ S csm U/L mode O. PMC to check PKs links again.	
0927	Ready for P/Bs. Ticd to 6 & 116.	
092930	Rolling P/B's TTY Host sent UDB to safe.	
	L/O 8	
0959	UDB to operate.	
1002	Radiating L/S data on prime wing.	
1008	P/B's completed	
1009	Reconfiguring Echo on net 2 told voice & got rid of it but no good when back to mcc	
1014	H-5 Voice check got rid of the echo on Net 2	

OPERATIONS LOG

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MISSION/TEST: NCG 740 H/O 8 [cont] & 9

DAY 211

DATE 30 July 74

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1016		all rcdrs configured T.c'd to 628		
1017		AOS csm sc for CMD -109 Fm		
1018		Rewind CMD.		
1028		csm HGA Fm-95 Sm+26 R/T sshd.		
10 28 37		30 secs to Seq 18		
10 28 58		Lock on mode 11 dump 016 & 108 Fmts Code 3 CTE 091 51 04 092 34 28		
1046		N/c says no mode 0 prior to LOS due crew wake up		
1048		ACSW had sydney video in cut off not 2 chan		
		mcc called Sydney 30 secs to set him set in.		
1051		T.c'd to 9 in preselect.		
1052		Sim Code 3 oC-sm Code 02 P/Bs post pass		
1055		Track confirmed mode 6 uplink prior to crew wake up.		
1105		PM-101 prime		
110550		1st up voice		
1106		Normal downv voice reasonable quality 58.8 x 7.6 alt. Probes remoted. 1132 for TV Sattel lk		
11 12 20		DSE Dump stop. Recording on gnd for P/B Sim code 3		
11 18 49		LOS of Fm's s/c's. T.c'd to 628 1120 Ready for P/B.		
11 23 00		LOS csm		
1124		Ready for P/B		
11 25 49		Rolling on P/B VBB to safe TTY hist on lines.		
1133		H/s hist & EOF		
		H/o 9. 12 10 52.		
1136		Multi hunt Syd video to mcc links up. 11 36 52 34		
1156		H/s data on prime & wing. Tape 6 1131 - 1136		
1200		Short loss at mcc of video state wide		
1201		H-5 key in check		
1204		Net 6 retrain at ACSW pwr failure LD 0011 rcd H/s.		
1205		Reconfiguring for Realtime PB complete.		
120633		Decoms reconfigured.		
1208		Loss Net 6 at mcc Sshd passing ACSW.		

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OPERATIONS LOG

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MISSION/TEST: NCG 740 L/09 [CONT] ~~& 10~~

DAY 211

DATE 30 JULY 71

Date/ Time	ACTION TAKEN	Initials
1211	AOS no auto	
1211 30	Go for CMD. AOS	
121214	Go for CMD FM - 95 SM 4 & 6 Solid.	
121320	TP rewind cmd. 2nd dump recorders configured.	
1217	poss 20 secs RCS Burn DOI burn (95:56) ~~5:8~~	
1218	Ask multibeast to MCC starting TV checks.	
1221	Start Dump seq 19 · Id 1005 Rcd. Tied to 162108 CTE start 094 04 07 49 25	
1224	TV on line to MCC in middle of dump. DSE Stop cmd	
1226	Dump recorders stopped.	
1227	Tic'd to 7 & 9.	
1228	Line TV to line from csm Alt prime site better picture. -95 dbm FM -101 PM	110 113
1236	Start V/L 0011	
123655	O.K compare. R3715 Final Enter. V66E	
1241	Any video on line 16 17 & 19	
1244	Loss of TV.	
1245	Tic'd to 16 & 108.	
1246	FM - 96	
124749	Start dump again Seq 19 part 2. Cte start 094 08 13.	
1300	TV off line from MCC stop 094 26 10 25	
1305	Dump stop rewinding 1 dump recorder. Total 21 mins of dump.	
1308	Loss of s/c's & SM 4 & 6.	
1311	LBR cmd.	
1311	Rev 1 looks funny at TIC & AMG 205 (He didn't realise we had gone to an omni.	
1315	B/U voice	
131647	LOS CSM	
1317	Sim Code 3 ~~for Code~~ P/B request Configured & ready.	
132230	Start playback	

OPERATIONS LOG

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MISSION/TEST: NCG 740 L/O 10

DAY 211

DATE 30 JUL 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		L/O 10		
1346		End of Dump P/B 1		
1347		Configuring for R/T.		
1349		SB 1 Carrier off A/G local		
1357		Configured for R/T T		
1404		AOS at MAD & acq		
140432		AOS CSM -105		
140538		HBR lock. Ticd to 7 & 9		
1407		FM carrier. -99 & 1.024 Subcarrier		
1410		30 secs to 120 " Dump 20		
1411		HLBR Dump strt.		
1412		HBRD		
1413		HLBRD		
1414		loss of Dump mod.		
1415		FM LOS.		
142250		Final LOS SB 2.		
142450		B.10 Tic'd off		
1426		ENG Tic'd off		
142830		LOS prime final		
144620		Verbal Rls no playbacks required.		
1453		Nets 4 & 6 inhibited.		
1505		TTY Rls.		
1507		Per wings request mad will call CSM HGA FM Sig level on net 3 - coordinated Non Nom !		
1618		Mad CSM FM Wig -98 & prime		

1346 End of Dump P/B 1 — 17 04 24

1347 Configuring for R/T. — 1340 24

1349 SB 1 Carrier off A/G local — Est Prime Horiz nos 14 22Z

1357 Configured for R/T T — Est Wing LOS 14 16Z

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100 × 1734
17
1801

OPERATIONS LOG

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MISSION/TEST

NCG 740. SRT Refl Ear ~~LMSTM~~.

DAY 211

DATE 30 JUL 84

Date/ Time	ACTION TAKEN	Initials
1720.	PM commenced.	
	A/G - unable to route to NBT 1 from CSM 2 vus.	
1737	Two hour PA run not yet commenced (3 hours after Prime LOS).	
1743.	Goddard OPS - NST USB - Albert - Carlisle results of spectest.	
1753	*26/1416Z - TV schedules updated by 30/1552Z.*	
1817Z	Finishing sequence 0 with Wing - note cannot do 4 or 1-6 KBTS checks through Goldo test unit.	
18347	Reramp oscillated Prime gate at 20 KW CSM.	
	Request to reduce power to 10 KW. (From USB to NST USB)	
1846.	Data on Seqn 1. ~~Data~~ Sw in 0. Hold up.	
1900	*PAO.. RLs on Net 3 - Air conservation problems. CUT FOR NST USB.	
196.	USB/ PA BARS. - USB FIBRE PROBLEM.	
1924.	Sequence 24 in progress.	
	~~Press Briefing.~~	
1932.	SRI Snorkeled	
1945	2 KW power - ~~purging~~. no purging (too wet	
1955	up to 5 KW.	
2000	2KW System 1	
2030Z	Setting up Seq 1 Prime - Wing released.	
2052	Problems with prime Voice with plos.	
2111	5K System 1	
2132	Glitches on FM A.G.C. with 5 KW with movement.	

OPERATIONS LOG

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MISSION/TEST: NCG740 ~~[illegible]~~ LASTAY

DAY 212.

DATE 31 JULY

Date/ Time	Sub-System	COMMENTS	Stationary	Moving		Initials	Action by
2158		-118db Warm paramp	5KW	5KW	10KW		
		HBR -119 .22	.22	No	No		
		-119 .17	.17	Change	Change		
2227		Downlink checks completed		no	LCRU		
		TV check through front end as requested by Data - no time.					
2242		Program ~~P/LNG~~ light still missing.					
2312		WB. MTR NRG - Green					
		~~- Zero Offset Adjustments~~ Checked					
		made + 25 PS. ~~+ Direct +~~					
~~[illegible]~~		~~[illegible]~~					
31/ 0000		~~[illegible]~~					
0029		- SRT Complete stats emitted.					
		SCM.					
0030.		Gusts @ 30mph Ranges - will not					
		lose able to track ib deterioration w					
		conditions ~~[illegible]~~					
~~[illegible]~~		I/F					
0047		CMD & TLM & SLO. go					
	*	2527 -8 db. A/C Gave Comm Tech					
		2476 -8 db this Cost wish - to					
		do A/C Houston Test. - Proved That					
		T/F must be done at OPS 2.					
0122		H- 22.					
		Recon priorities.					
		44 PM. SIM E. PM CSM PM. SIM 4. PM					

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OPERATIONS LOG

MISSION/TEST: Parkes SRT.

DAY: Saturday

DATE: 31/7/71

Date/ Time	ACTION TAKEN	Initials
0915	Prime microwave path to PMG for bubble shortly.	
	Using alternate link SDDS 4,	
1019	LM10 at -90 from Parkes int. HSK.	
	PCM TLM OK — Good Lock	
	EKG 1, 2 — Good Lock.	
	VIDEO — Good Reception.	
	PAM2 — Satisfactory lock	
	PAM1 — No Good	
	Signal Strength -85 DBM	
1035	Signal Strength -72 DBM.	
	Still unable to lock to PAM1.	
1040	Parkes unable to see PAM1 either — tape stopped & investigating.	
1100	Good EKG 1, 2, Video.	
	No PAM, No TLM	
1807	Tape rewound — all data good except for PAM1.	
1110	Just 1.25 mH mod all OK	
1112	TLM added & good lock. TLM & PCSS	
1115	Full modulation for LM 10. — lost PAM1.	
	Video removed — PAM1 locked up but data became noisy.	
	Parkes investigating all deviation levels.	
1130	Testing finished — problem unresolved.	
01		

OPERATIONS LOG

MISSION/TEST

DAY

DATE

Date/ Time	Sub- System	COMMENTS	Initials	Action by

OLLIS

OPERATIONS LOG

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MISSION/TEST

NCG 240 LM STM4 REV # 16

DAY 212

DATE 31 JULY

Date/ Time	ACTION TAKEN	Initials
0131	Parbes testing complete.	
0134	CSM REMEAS.	
0140.	HSK I/P	
0148	AOS SM. -121 SM08	
0150	TS a lie.	
0152	SM EKG. intermittent.	
0153	AOS CSM	
0154	SM EKG good	
0156	A/G. Juliet. will be used.	
0200	SM2 / SM6 lock -	
0200	H/O - Mode to SM - OMNI.	
0204	SM H/O → HSK.	
0204.	Confirm JULIET. — O.K.	
0205.	NWA 003 restored	
	STILL - NOT GOOD SM HI.	
	SM. -116 dbm.	
0210 *	SM A/G breaks / SM down from HSK - NET 1 - MARS remote	
	Voice required	
0211	X banned - USB to Wig - SM Noisey not same as prime. - OIK not	
0214	HSK-X -118 dbm	
0215	GDS - Cockup in voice config.	
0219	Parbes update weather. - can get worse without worry.	
	* SM - intermittent Data ↔ Threshold by look of it	
	* comparing P/W - same - so -116 is SM08 HBR Through-Mon	
0224	Back in Juliet.	

OPERATIONS LOG

50.

MISSION/TEST

NCG 7400 LM STAY REHEARSAL NO 17

DAY 213

DATE 31 JULY

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0236		GDS S/S - 117 - O.K. HSK up.		
		GDS HBR same as HSK		
		Modem.		
0238		TLC - re playback requirements.		
		Network when Packs up. - 05:53		
0244		LOS S/C 4 & 6. - dump mod.		
0245		LM LBR (ENDS CSM also)		
0246		BMOD FINISH		
0248		PM S/C LOS.		
0250		FM 113 dbm		
		Decom 3 & Data Rec CTR verification		
		on dump.		
0251		CSM LOS.		
0254		REV #12M - no data. - Reported by DSEA.		
		- resolved to be MATRIX switch in		
0303		GDS UP MODE 0		
		~~PASS/S/C RECORD~~		
0305		REV 17 110-02-27 GET - NO UPLINK		
		ENTIRE REV #17 - BISTATIC RADAR EXP.		
0318	TLC	checkout HBR. No modulation		
		"		
0320		TT on line.		
		~~TRACK~~ -		
0330		TLC Querying - NOISY. Modulation -		
		* Note - - Good Bars in Desw		
0330		SCM to PACKERS		
#17 0336		AOS CSM. BISTATIC RADAR		
		-122 dbm		
0340		- TLC Hrs PACKERS HAD AOS - re ~	0353Z	
0340		FM - 114 dbm		
0344		RTC CSM PM S/S -127		

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OPERATIONS LOG

51.

MISSION/TEST: NC47HO LMSTAT 2-04-17.

DAY 212

DATE 31 JULY

Date/ Time	ACTION TAKEN	Initials
0350	-139 dBm CSM. BISTATIC RADAR	
0352	-153 dBm CSM.	
0354	-145.	
0355.	TIC - what data a Cue - HSK.X.	
0355.	-150	
0357.	-165 CSM. - All PKS data processed.	
0358	-150. - PARKES AOS.	
	Query from N.W. Is wind exceeding PARKES ability.	
0401	205 CSM	
0402	- N.W query which vehicle PKS on — HA HA! obviously someone Think it's on LM.	
	.	
0411	2.3. STAT - 11 0200 - AVG. Update. 0SEC.	
0438	-137	
0440	PARKES - requested by TIC - gone to Imm - immediate dropout - back to HSK-X - TIC not informed.	
0441	-130	
0444	Noise on LMEKG. - noisy.	
0450	205 CSM - normal - End #17	

OPERATIONS LOG

52.

MISSION/TEST

NG740 MASTAT. REV 14

DAY 212

DATE 31 JULY 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0457		PKS SCM ~~verbal update~~ CSM VICE LM		
		16 10		
0528		Upcoming dump will be Scim R/T & 02 csm dump.		
-		as well - not in the book! GDS to call bit rate		
		changes as they have a decom on it.		
0535		PKs AOS ~~go for CMD~~ CSM PM & FM Sig level-		
053528		AOS wins Go for CMD CSM		
053640		1 N/C any 1.25 S/C + ve. PKs Signal -123		
		Selected wing better than PKs.		
0540		FM -98 all S/Cs B/U ~~normal~~ voice still.		
0544		Mode 6 to CS		
0549		HBR DSE Rwnd		
0553		30 Secs to modified mode 11		
055335		Start dump HBRD. Seq 32		
0558		~~Lock on~~ SM4 & G Dump S/Cs mod to normal mode 11		
0625		Loss of mode 11 dump.		
0627		Rewinding one recdr back.		
0640		U/L 0 LOS CSM		
0642		AOS PKs -150 Echo on Net 2		
064739		LOS PKs. back to pulse & bar from PKs lots		
		of 60/50 Hz hum on it - problem again apparently		
		between PKs ops Bldg & MIL wave towers. Some xfarness		
		apparently to be supplied before EVA 2.		

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OPERATIONS LOG

53 | MISSION/TEST: NCG 740 LM Stay R/Os 19 & 20 | DAY 212 | DATE 31 JULY 71

Date/ Time	ACTION TAKEN	Initials
0717	Dine & LSD ON SB 2.	
0728	H-5 check Tic asking for a code 3 told him no go not enough decoms. He got it from GWM.	
0733	AOS at wing V2 PKs -120 wing Pm -114 FM wing PKs FM - 96 at PKs	
0743	HGA narrow all S/C's and SM 4 & 6 R/T FM - 98 wing.	
07 47 03	Mode II dump solid. Seq 33	
0801	1000Z crew awake LM time PAO	
0809	Reversed Nets 4 & 6 on site - no drops seen on Net 4 at acsw after change but Bio u/s at MCC - Commsr restored Net 4 but noone told RTC & we did not go to Net 6 cmd in.	
0811	Bio back at MCC.	
0826	LOS of Dump mod - No cmd end of tape	
0830	Rewinding one tape for Re P/B	
6840 18	LOS U/L mode 0.	
0841	PKs AOS	
0844 20	P/B Com code 3 Data on line 113 27 57 114 07 25	
084548	Total LOS. Prime est LM LOS (LM Horiz 152324 Total 1527)	
0859	PAO LM Crew to be woken up shortly	
0902	PKs to LM per N/C -106.5 dbm. 1305 Z EST PKs LOS.	
0905	LM wake up EKG noisy.	
0912	PKs TLM to line prim BUV voice to net 1.	
0916	PKs not configured for LM OS B/B PKSS	
0920	Faulty matrix W/B M22 # 1 PKs PKSS good now	
09 2350	Dump P/B complete. configury for pass.	
	L/O 20:	
6926	H-5 Doppler check.	
093120	CSM AOS Go for CMD -120 Pm. -114 F	
0932	PKs BUV to line - noisier but higher level - PKs EKG good.	
093940	Slight break up of Tlm on pokes BUV down voice Reduced Rec B/B level	
0941	HGA -101 Pm -98 Fm R/T SM 4 & 6 data.	
0945	30 secs to Seq 34	

OPERATIONS LOG

54.

MISSION/TEST: NCG 740 [CONT] LM Surface L/O 20 [CONT]

DAY 212

DATE 31 July 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
094559		Start mode 11 dump Seq 34		
1006		4 sharp links drops to parnse site LM EKG.		
1007		Parkes putting in a baseband filter		
1010		more drops on PKS links → Pass PKS reconfigure		
101130		" " " " " " filter IN now but no EKG		
		break up on B/V dom voice now better.		
1019		Data reports all EM not recorded from 02192 - 09402 OPP ERR Baseband.		
1024		LM EKG Static MoD.		
1028		Loss of Dump mod. 42 mins 50 secs dump		
1031		Rewinding 1 Dump rcdr.		
104015		LOS CSM on V/L mode 0.		
1044		Tic request for code 3 - now pne viously he said not		
1045		MCC TV 1234 for links.		
1048		Start P/B code 3 CTE 115 25 05		
1058		Stop P/B & TIC requires FMT 14 for LGC data		
1103		Restarted P/B		
1104		Problem with PSK matrix resolved itself.		
1109		Sydney video calling MCC Voice on net 2.		
1111		H/S LD 0017 Rcd LD INV TTY		
11.		L/O 21		
1114		Drive ON & L/S data		
111450		Sys 1 to Sys 2 LM		
1118		Tic request for PAM cals		
111856		Pam cals on line 5 sec dwell 1 & 2 together.		
1124		Prime LM EKG to line		
1126		P/B stop for AOS.		
112950		AOS go for CMD CSM -120 PM -114 FM Pam cals on line.		
113740		Both parkes links drop		
1139		HGA SM 4 & 6 R/T solid - 98.		
1141		Tied to 411		

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OPERATIONS LOG

55 | MISSION/TEST: NCG 740 [Rent] EVA 1 L/O 21 | DAY 212 | DATE 31 JULY 71

Date/ Time	ACTION TAKEN	Initials
114503	Seq ~~B~~ 35 mode 4 start	
1147	Suit up in progress LM EKG solid.	
1149	Normal voice LM -119 PAM from 1.25.	
1150	PKs selected on LM EKG 1305 EST PKs LOS	
	Pr RFM PLSS, CDR Mode A voice & EKG 1.25 10.5 5.4 PAM 1 EKG 1	
	CDR B " " 7.35 3.9 PAM 2 EKG 2	
	Ranging from TIC. LMP B ~~Dead~~ " " 10.5 5.4 PAM 1 EKG 1	
	CDR A " " 10.5 . 5.4 PAM 2 EKG 2	
	LMP AR " " 7.35 3.9 10.5 5.4 T-VHF HOUSE	
1215	Range acquisition on LM.	
1220	Normal voice S/C from CSM remoting normal voice to net 2.	
1222	Down voice CSM accept on CMC	
1223	Stat CSM state vector 0017 O.K compare	
1224	Radar drop out net 2. o.k now.	
122827	Loss of dump mod.	
1230	Sim code 3 P/B post pass reconfiguring.	
1232	Ld 0017 Chan	
1238	Syd TV to MCC TV. not on line yet.	
1235	Ready for P/B at Rcdrs.	
123830	-114. FM S.	
1240	~~-109~~ LM to FM -97	
1241	CSM to low sig level.	
1242	LOS CSM	
1243	Stat LM Commcheck ready for P/B. PAM 2 EKG 2 Squeal on voice	
1246	HSK TV cut through to MCC	
1247	All PAM's EKG's.	
1252	Start P/B	
1254	Prime PLSS to line.	

OPERATIONS LOG

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MISSION/TEST: ~~MCC~~ 740 Cont EVA 1 L/O 22

DAY 212

DATE 31 JULY 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1259		5 mins of PKs left on main feed. 15 on offset P/B 117 2135	Strt CTE	
1305		PKs LOS 1315 Est.		
1307		Sequential TPG to Line.		
1307		PKS LOS.		
1311		~~Start~~ depress seq		
1312		TV black level to line L/O 22		
1313		A/G remote SB 2 carrier up.		
1317		Hatch open.		
1317		B/U proc amp to line on TV an improvement old one had occasional loss of vertical sync.		
1319		To U/L mode 4 FM.		
9322		H-5 Keying check.		
1323		FM-97		
1324		ONEJ Rm 1 & 2 toggling Rlats.		
1328		Dump P/B stop reconfiguring. 15 28 est prm		
132640		Reconfigured for R/T in data		
1327		Live TV from mesa.		
1328		CSM AOS So for CMD.		
1329		GT8210-2 2226 375		
132930		CDR on Surface! Dumps 34 & 35 times post pass		
1336		Tape on Net 3 (2) for ~~30~~ secs		
134336		Seq 36 Mode 11 dump		
1350		FM-97 Picture quality constant - slightly noisy		
135039		Start LRV deploy		
1354		Request from MCE-TV to check vide o level from proc amp		
1358		LRV on Surface		
1407		Sydney video says level Too high onto pi wave.		
1409		LRV moving on test drive. No forward steering.		
1415		TV moved to view LRV.	Flt Ctrs on EVA	on clock
1418		LMP getting PLSS alarms All PAM O.K at MCC		

OPERATIONS LOG

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MISSION/TEST: NCG 740 [cont] EVA 1 H/022 [Cmd]

DAY 212

DATE 31 July 71

Date/ Time	ACTION TAKEN	Initials
1425	02 01 0304 01 — 1-3044. LCRU predicted mode changes	
1427	LCRV mounted on Rc rover.	
14 29	TV camera being moved to rover	
142938	TV off.	
1430	Dump step.	
1430 46	Rewinding for P/B code 3.	
1432	Sys 1 exciter 1 21.730678 Alsep on mod select force sys loop lock lit, Alsep select lock, tracking data T.P. Rc configure.	
1433	TV Cable connected to LCRV	
1433	LCRV on 02. Mode 15 V/L.	
1435	UP voice thru LCRV all voice & PLSS from LCRV.	
1437	~~FM 03~~ at LCRV but No FM on ground. -93	
1440	Mode 4 LCR V	
144040	LOS CSM Final AOS Wing	
1442	Lots of LCRV cmds.	
144240	ready for mode 3 P/B.	
1443	V/L mode 7 LM/LCRV	
1444	H/s tracking data request.	
1445	2 mins to config but H/s data on line	
1446	Mode 3 D/L	
1447	Starting Dump tape. H/s USB to line	
144230	USB2 carrier down early.	
1453	LCRV / LM H/O -93. LCRV FM LM -97 FM. A/G local.	
145620	UDB safe LM TTY 1 list.	
1458	LCRV to PM .01	
1501	LM to PM Power amp off LBR. -119.	
1504	-125 PM LCRV plss	
1512	Nets 2 & 3 normal.	
1515	Video links terminated to MCC	

OPERATIONS LOG

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MISSION/TEST: NCG 740 EVA 1 [Cont]

DAY 212

DATE 15 18

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1519		2 mins from end of program. Auto track LC-RV. Volts 46 pfs Temp 34 pfs.		
1524		Comm up to horizon. LM TLM Loss 1525.		
		Copying MCC uprocic on LM down link.		
		NEED Net 3 Talk Monitor at Video for TV	*	
		during A/G 'D' or 'I'.		
1530		Final LOS LCRV.		
1581		Completes data P/B required to find dump times for msgs.		
1533		Verbal release.		
1535		Nets 4 & 6 inhabited. Playing back dumps for time checks.		

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OPERATIONS LOG

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MISSION/TEST: NCG 740 HO " 28 → 35 & [illegible]

DAY 212

DATE 31 JUL

Date/ Time	ACTION TAKEN	Initials
1800Z	Prime FM BER. 600KHZ Motorola Wide -112 R1 D1 NB1 ·08	
	1 Rodian 1·024 -2·1 db m 0 Prime	
	-3·0 db m 0 Weng and comm	
	off link. (At Weng on 23rd measured -2 db m 0.)	
	100 KHZ Prime path 0 db m 0. Path 6 Weng -1 db m 0	
1830Z	Ph 1 SRT.	HSK USB
	NET 1, 2 & 3. Select to HSK·X.	
	Normal config - never been different	
	Cavider filter. - hollows afford.	
1900	Ready for Seq 1.	
1921	Prime finished Seq 1 ~~Weng~~ Warm and leaked	
1935	Dick Nagler called - HSK TV absolutely fantastic -	
*	- slight problem with xpose amp - any investigation - Yes	
1940	FM AGC meters Ops Console Prime	
1955	Finished Sequence 4 Prime in progress with Weng	
	(N.B. this first sequence)	
2010	NCG 328. COST FAULT ERRATS	
2016.	Recorders almost set up for Sequence 4.	
2035	Sequence 5.	
2053	Receiver 4 looks bad on demp voice O/N -113·5 dbm.	
2101	COST reloaded	
2143	Problems xprime sets sequence 7 LM 10	
2150	Completed Prime through sequence 8. seq	
2153		
2201	. Syster 2 CMD relay. S-C hang up - came good	
2206	Sequence 2.9 finished Weng	
2224	Level to Voice recorder 10 db down / Errors not sent. !!	
2230.	2:25 - complete.	
2230	REV #4 FM 50MHZ 2 db worse than 3. *	

OPERATIONS LOG

GO

MISSION/TEST

NCG 2400. Revs 28→35 ~~RAM~~

DAY 212

DATE ~~31 JULY~~ 1 AUG

Date/ Time	Sub-System	COMMENTS	Initials	Action by
2246		PCM CONF & progress		
2300		EMOD		
2331		PM3 SRT Complete.		
2340		Ponkes interface testing - checking due to Sydney Video		
2347		Estimated AOS. Prime 0228.		
1/ 0010.		Queried SSM. 01/0010Z - showed Sgt 2. CSR BV - should have been BV.LM.		
0022		Standing by for interface		
0024		RX4 50MHz IF changed threshold -112 -1% HBR -112. FM AGC CAL on systems monitor will be invalid. C/N now good.		
0031		CSM AOS. GDS. Antennas going pos DESN BIO go. // CMD go // TLM go		
		Tracking Boresight. HSK-X Gain. OPER ERROR - Not a REAL ENCODER. ON SIMULATOR		
	*	ACQ on TV schedule update ~~Planned~~ secured re-run of Wing Bar High speed.		
0113.		LATE ARQ cals & STATS - probably due patching A&B to wing - and wing o/p to Dealing Transmitting same msgs		
0125.		A/G GO. TRACKING GO		

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OPERATIONS LOG

MISSION/TEST: G1 — NCG 7LEO Revs 29→35

DAY: 213

DATE: 1 AUG

Date/ Time	ACTION TAKEN	Initials
0140.	Mr ARMSTRONG / GRANT - Discussion on TV	
	02 03 10 49 Room rise. HSK·X = 132·57	
	Radar test in complete.	
	HSK·X MISS - REV 28	
0214.	Horizon AOS. LM. Prime.	
	LM2BR - LM S/S - -121	
0230.	-116.	
0232	- 55 Prime.	
	AMEKS - GOOD MOOD - BOTH BANKS.	
0236.	Wng RCV's in Lock - HI Speed TLM on.	
0238.	* LM. Pan WATER TANK PRESS S.F 4500. BOTH Locations	
	155 octal - both locations.	
0242	Rcvg light from Wing ~~FIX~~ FIXED	
0250	- 115 dbm - PRIME. LM.	
0254.	H/O instructions - CSM.	
	- Comm Juliet. for CSM H/O.	
0256.	Configured Up voice to NET1 - CSM.	
0259.	Wng TV on - good Rate - No problem occulted.	
0301	A/G checks.	
0314	* CSM Rcg REV 29. 6·02 - 01	
0314 35.	Go CMD CSM. S/S 134 -	
0316.	- - NO FM - How S/S	
	Is LM going to FM. NO	
	WHERE IS LM TV CAMERA MOUNTED LEG	

OPERATIONS LOG

62 | MISSION/TEST: NCG740 REV 29 - | DAY 213 | DATE AUG

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		Mode 2 uplink		
		Voice csk Down - weak unreadable - Blind ~~CMD~~		
0323		Remaining Nominal Voice. - Mode 6 -		
0326		Dump seqn. -		
		FM. - 10 Kbps Mag.		
		42 - Code 2 - Mode 11		
0332		Dump — - All S/C except 300/400 Modulated		
		- HC. — 0336 - BOV. 0337 NORMAL		
0337		DATA - DUMP REPORT -		
		Bad records from ~~DATA~~ :- No		
		Use of DIFFERING BIT RATE		
0357		Dump Voice - - nothing		
0358		RTC S/S 2 MPH DLINK		
		P/B. - ve.		
0407		Dump - 1024 - Loss 1024 - 576 - 165 - } Loss		
0409		P/B. 42. HBR Code 2. - ~~Redoff~~ CSM Code 3 SIM		GDS
		193-07-20 HBR. 0234 07 0241		
		DSETP FND at 0421-15		
0416		CSM signal level 103 WING 102 GDS		
0419		-Track- Mode 0 point to LOS — (Never Came)		
0421		LOS CSM Down- 145 Then 2W0 SB2 A rectons ~~MODE ASKED IF REACQUIRING~~		
		reacquiring after ~~LOS~~ - Mod stbd on ???		
0425		- Do WE SWEEP Mod ON/ OFF SB2 Query 5 minutes after LOS?		
0626	50	Nominal LOS. SB2 no attempt to reacquire when premature LOS		
0430		Histories O.K see Rep 6		

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OPERATIONS LOG

63.

MISSION/TEST: NCG 740 ~~REV 30~~

DAY 213

DATE 1 AUG.

Date/ Time	ACTION TAKEN	Initials
0435	~~LOS #1~~ - SB2 not at Moon Leading Edge.	
	per Sygps - (LOS+2) - No permission asked	
	Testing System Temps - MR Dinn.	
	~~MR Dinn requests Ag did procedure not work.~~	
0436	Parkes AOS -140 dBm	
0449	- 114 dbm 2M Prime Parkes 106.7.	
0456	- HSK.X JJ.	
0512	AOS CSM. — Go CMD - -119 BUV	
	CSM FM - 114 dbm	
0517	— No Dump. — No CMD got in	
	at HSK. X - ~~MARK~~ - signal drop. Lost Rev.	
	INVESTIGATE	
0521	SB2 - requested to submit USB Diagnosis Form. NOT REQ'D FINALLY	
	-98 FM S/S — 102.5. CM BM	
	MR Dinn a 'E' — trying to get ops to go in 2.	
	for explanation.	
0600.	Patched Parkes to WBS 4 - (WB4 going RED)	
0606.	Query SCM. - HMSC 019 shows 9 #2 MK uplist	
	HMSC 027 - shows System 41 = 027 right. Syst 41	
0608	PARKES NOT NEEDED TILL EVA #2.	
0611	Answer to Rev 29 problem = from N.W. - INCO	
	did not catch Antenna Coloure going to slew	
	and Antenna Limits.	
0618	Mode 0. - CSM. — AOS.	
0640	Shift H/O	

OPERATIONS LOG

64	MISSION/TEST: NCG 740 [cont] PRE EVA 2 H/O 21	DAY 213
		DATE 01 Aug 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0647		Set up for CSM Code 3 R/T dump told TIC no dcoms		
0653		To A/G I		
0654		H/O LM GDS to HSK ACSW did not switch PKs to net 3 until after the H/O so he did not copy his rqmts or change B/w's so had short LOS.	X OF ERR ACSW.	
0705		H-5 CSM check.		
0707		Data reconfigured for Code 3 CSM R/T dump remoting		
071046		AOS Go for CMS PM-119 FM-114		
0720		HGA Solid SM4-2 6 FM-98		
0721		Seq 4-3 Mode II 30 secs		
072147		Lock on dump mod. TIcd to 016 & 108 CTE136 4148		
0734		Took PADs out of PAO RMS again.		
073750		Woke up LM check for water leak. No degredation of link from PKs with BUV but down voice very muffled & better from prime.		
0751		Rundar did not key on one Tx to LM.		
075850		TIcd to 411 B,C PKs - 106.3		
0802		Not using PKs so they are drawing for best signal.		
0806		Loss of Dump mod Reconfigured for LM. Code 3. Sim P/B post pass		
0817		LOS CSM Mode C.		
0819		Ready for P/B		
0820		TTY Husk.		
082138		P/B start.		
084620		PKs voice remoted.		
085310		R/o LM Sys 1 to Sys 2 SB 1 internal comm.		

OLLIS

090845
083445
3400

OPERATIONS LOG

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MISSION/TEST
NCG 740 Pre EVA 2 L/O 32

DAY 213
DATE 1 AUG 71

Date/ Time	ACTION TAKEN	Initials
0901	0019 ~~Red~~ H/S Rad Est LOS prime 1623	JZ
0904	P/B Stop configuring for pass. H-5 voice & bio check	
090851	AOS Go for CMD PM -120 FM -114	
090920	Rewind cmd.	
0914	about 4 P/B mode Cmds last 2 map ovrd off -114 LM PM	
0918	HGA 30 secs to Seq 44 FM -98.	
0919	Lock on dump mode.	
0943	LCRU may come up in either 01 or 03 — track	
0950	PAM Cals on line	
095130	" " off line.	
0957	Discussions with Sydney video re wether to use RCA proc amp MCC TV ~~NST TRM~~ ~~Sydney~~ said not. Confirmed with.	
1004	Vp voice to CSM - no answers	
1007	Down voice & sub-carriers.	
100837	Dump stop.	
1009	Normal voice LM.	
1010	O.K Compone on 0019	
1010	Nr Type & results of RTC's by OPN to MCC instrd	
1015	Los of FM S/C's	
1017	Mode 2 to CSM.	
1019	Signal level dropping on CSM	
102115	LOS CSM.	
102415	CSM TTY Hist.	
1029	Problems with LMP bio harness EKG on off etc.	
1030	PAM Cals again.	
1032	Tic'd to 413	
1035	Pam to R/T. 141 42 00	
1039	Sydney to MCC TV link up.	
1041	LMP Bio now good.	

OPERATIONS LOG

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MISSION/TEST: NCG 740 EVA 2 L/O 23

DAY 213

DATE 01 ~~JULY~~ AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1052		HSK multiboost to MCC -118		
1054		Rcvrs 1 & 2 configured for LCRU HSK TV checks O.K with MCC		
1057		Rcvr 4 configured for LM FM - just in case.		
1101		Keying & mod check H-5.		
1105		Start EVA commcheck. LM EKG Comer bandedge.		
1107		Ticd to 423.		
~~1108~~		~~CSM AOS Go for CMD PM FM~~		
1108		-uncontact CSM at + 1 min		
1110 15		" " " " " 3m 25 secs		
11 1133		AOS CSM PM & FM. SM 4 & 6 R/T. -100 PM & FM.		
1112		No voice from LMP on comm check		
1113		PKS EKG to line		
1114		LMP OPS antenna broken.		
1115		EKG 2 & PAM 2 CDR holding LMP ops ant together.		
		taking top incl off ant & using it as a splint.		
11 18 30		30 secs to dump seq 45		
1119		Dump start.		
~~1123~~		EKG 2 PAM 2		
1126		EKG 1 PAM 1 FULL PLSS		
1144		Sydney TV test pattern to MCC		
1148		Start depress		
1149		EVA clock start. Est PKS 1402Z Total 1407Z		
1156		PKS reconfiguring for LCRU		
1202		Loss of Dump mod on DSE EL Off cmd		
1204		Lock on dump again		
1205 30		Looked to buy again on last Net 2 CSM U/L.		
1207		Loss of Dump mod.		
1210		Stand by for LCRU		
1211		Code 3 ~~SSM~~ 140 50		
12 19 37		LOS CSM		
122130		TTY lost on line		
1226		ASP Hist & EOF after check with LD Control		

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OPERATIONS LOG

163/19
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1538

MISSION/TEST

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NCG 740 EVA 2 W/O 34

DAY 213

DATE 01 AUG 71

Date/ Time	ACTION TAKEN	Initials
122443	LCRU AOS PM Sig Level -124	
1226	LCRU 15 U/L LCRU down voice remoted & PLSS	
1231	Both LCRU approx 44% within 3% of one another 3 44 1 46	
123955	Remoted AGC/AMR Comm 3	
124630	Driving off in LRV to C/P 4. only small signal fluctuations	
1253	MCC TV showing occasional hits on video T/P from Sydney.	
1300	H-5 comm check.	
130032	Stop P/B configuring for pass. Tic'd to 8 & 10	
1303	Poor Iso amp causing lock indications Rcvr 5.	
1305	AOS Go for CMD CSM -115 FM -120	
1306	-98 SM 4 & 6 RT Solid	
131325	Dump start rolled Lefer going to P/B 01 53.4 03 45.6% Seq 46.	
1316 *	Breakthrough LM D/L to CSM at least 20db down on Capcom U/L *	
1321	LM PLSS now unusable LCRU very good.	
1327	Per MCC Comtech request monitored CSM D/L for LM D/L - ne. Comtech Rights Breakthru is in panel & not on	
132947	LCRU FM 03 -92 after adjustment of Antenna	
1335	Breakup on PKs on TV	
1337	Stable now from PKs after revr change. not to line.	
1339	Now PKs to Line.	
1355	MCC TV seeing slight vertical bar on PKs Picture, at Sydney.	
1358	PKs to offset in 4 mins. 14 μSecs on	
1402	HSR TV to MCC	
140252	PKs on offset now.	
140630	PKS LOS.	
1412	Adjustment of input proc amp per Sydney TV request.	
1414	LOS of FM S/C's.	
141740	LOS CSM	
1431	Mode 2 LCRU -127 PM.	
1434	HSP Hists en of File 356 10	

OPERATIONS LOG

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MISSION/TEST: NCG 740 EVA 2 [Cont] H/O 35

DAY 213

DATE 01 Aug 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1437		To LM for voice & TLM LCRU transfer dropouts Then back to LCRU	Est prime LOS 162815	
1451		LM Voice to MCC		
1459		LCRU Voice remoted again H-5 CSM A/G check		
150157		LCRU PASS to line		
150234		HSK TV		
150259		LCRU FM -96 ACN AOS		
1503		AOS CSM & LCRU Signal fluctuating		
1504		-93 after antenna pointing		
1510		30 secs to dump		
1511		Dump solid after P/B mode cmd after we cued it was in record mode.		
1512		Problem with Links Sydney to MCC - solid to the satellite at moree. Problem between jamestown & San Francisco		
153926		GCTV Temp at 14 MSC to TIC per request		
1542		MAD AOS LM & LCRU -103 we are -93		
1546		LCRU to mode 1 -125 To A/G juliet at H/O to MAD. 1615 very preliminary		
		50 secs prior to LOS.		
1604		H/O LCRU/LM to MAD LM A/G local CSM remoted to Net 1 A/G 'I', very smooth voice & ACSW changeover		
1602		Loss of dump mode		
1606		Video links down to MCC		
1615		Code 2 CSM dump 47. P/B requirement		
161548		CSM LOS.		
161730		Ready for PB		
162128		P/B data on line.		
162?		LM Decom LOS signal level falling.		
162730		LOS Final All vehicle. Congrats from Stadir.		
1630		Bio Tic'd off P/B in progress.		
1638		Setting up for Ouch in case required inhibited CMD 1259.		
1645		NET TLM - Ed von Renouard recorded on end of cassette.		
1701		P/B completed CAMMED TLM OFF		

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OPERATIONS LOG

69 | MISSION/TEST: NCG 740 [cont.] | DAY 213 | DATE 01 AUG

Date/ Time	ACTION TAKEN	Initials
1742	G/ops called after releasing us at 1725Z and said possible further P/B's req'd will let us know – apparently he said on rls that Houston appreciated our fine work tonight.	
1747	Code 2 CSM dump 45 141 10 00	
1749	Format 814 commed ON for TIC.	
1756	Configured for playback.	
1757	P/B data on line.	
1807	HM Code 11 FM/FM GET 142:10 GF 2021-3 8320 -1 3401 both locations. 1st loc Irig 4 2nd Irig 5 GF 9997-1/3 1st Irig 6 2nd 7. MET. P/B request from TIC 3241 -3 3254	Not S
1817	End of Code 2 P/B.	
1826	Shift Hw. – FM/FM remote. Low parameters.	
1836	CDRS. FM/FM. P/B. 213:11:44:00 ✓	
1845	On line: req'd data for 213:11:46:00	
1855	Into playback tape time in = 213 11 55 00 ✓	
	CTE = 5.22 21.04	
*	Inco – – Congrats on TV. *	
1916	Released from Playbacks	
	* Prior. to EVA – Remote AGC Comb off *	
2007	Wing almost finished ~~TDRS~~ tracking tests – prime problem receiver 2.120 hz ripple – Problem down converter power supplies.	
2046Z	Angle phasing Prime complete – Antenna to stow for downlink Backs.	
2056.	Noted OPNs have been sent on CMD HIST – UNABLE TO LOCATE ANYTHING IN RSDP OR OPS LOGS OR TWX'S REFERENCING THIS PROCEDURE	

OPERATIONS LOG

40 | MISSION/TEST: NCG 7440 | DAY | DATE

Date/ Time	Sub-System	COMMENTS	Initials	Action by
2115		P/B. Requirement. Advance warning.		
2120		R/T. CTE 141·50 m:. 142.05. m:		
		CODE 1.		
		~~808 — 814~~ 814 / 108		
		~~testing~~ verbiage.		
2138	*	Tape rolling.		
2149		Tape stop - P.B o.k		
2203		27 V power supply changed Receiver 2 green.		
2220		Finished 2·9 sequence 4 P&W.		
2300.		* Query. on Parks tape Cals ~~TTA~~ 62058 - ~~Two~~		
2.		times almost received. CSIRO		
		personnel requested to pass info		
2307		Finished rep to sequence 8 2·9 Wing		
		Prime receiving 1&2 problems Sim Console		
		and		
2315.		Prime verification - Lexo 15-		
	*	A/G Fault. Sup1 ~~CSM~~ KM6. - NETI		
		Sup2 ~~CSM~~ OFF		got CSM verification also.
		Sup3 CSM6		
		Sup4 2M6		
TLC	*	P.B request. - CSM Code 1		
		CTE. 141·37. 141·50		
2345		Investigation in A/G problem		
		Time take to get time - How long ??? Seconds		
2359		Tape Rolling		
		01/0245 - 0420		
	*	PARKES RECORDED A22 TLM at 51PS		

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OPERATIONS LOG

MISSION/TEST: 71 — NCG 740

DAY: 214

DATE: 02 AUG 71

Date/ Time	ACTION TAKEN	Initials
02/0005	P.B Complete. — maybe last	
0017.	Into M.Ware for D/C problem.	
*	Computer Faulted - see Fault TWX.	
00237	Problem with CSM verification from Wing when splashing LM could have been caused by configuration for playing TV to wing. Output of TV recorder = 8dbm into Link. Now -26 dbm. diagnosis. 2nd Diagnosis - Some relay hung up - when initially trouble shooting & reconfiguring paths got switched 2 or 3 times it disappeared. Conditions of loading did not change at this time so fault is known	
0044	Fields 2 PM red - Buffer Amp.	
0058	" " " " green	
0112.	PCM 3 — LOCK STAT — Flickering SOC & comm. — FIRST — restart — came good.	
0120.	RX1 FM AGC Ops Console working	MYE
0150.	- SECT. Complete & Stats ok	
	INST. DATA — Reverse config. due lost 2 CMP Bands.	
	[illegible]	
0158.	CMPS = Reverse config.	
0203	Pronic X encoder re zeroed.	

OPERATIONS LOG

72 | MISSION/TEST: NEG 240 REV H1 - | DAY 214 | DATE 2 JULY

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		Estimated AOS Parkes 0317 LM.		
		Wing 03 20. CSM		
		Parkes 05 ~~24~~ LM		
		LOS 14 59 00		
		2 Acq P & V - 02/0135Z. - 90 n.m. INVALID	At	
		02/0136 P) VALID		
		02/0137 W.)		
0207		H-70 started.		
0214.		- CMD / BIO / TLM Complete		
02217		Parkes to lunch. Parkes Lead Parkes 70 mVpp 50 mVpp noise.		
0235		A/c go		
0243		Finished A/G net 2 and Cadfish net 3 reconfigured to conference.		
0306	*	AM AOS -160 dbm		
		CANBERRA. Lock HITS when		
		OTC Moree - change - power - Time		
		Canberra advised of - losing Parkes/HSK Lines.		
0312	*	CSM AOS - 142 dbm		
		AM FACS - go.		
0318		LM - 117 dbm - Auto.		
		SM4 & SM6 Lock. - FM S/S - 107 dbm		
		All s/c mod except		
0321.		Parkes back from lunch - Moree change over power complete		
0323		Dump 53 in progress.		
0344		Loss of dump modulation. (14 minutes)		
0351		THE following MSG scrambled to N.W.		
		Apollo 15. crew wondered whether The original Endeavour had leaks		

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OPERATIONS LOG

73 | MISSION/TEST: NCG 740 REV. 42 | DAY 214 | DATE 2024

Date/ Time	ACTION TAKEN	Initials
	H&K. affairs to officers This info.	
The Orig	Endeavour sprang a leak off The Great	
	Barrier Reef at 11 pm 11 the JUN 1770.	
	It was necessary for Them to dump	
	210 tons of casumables to prevent	
	sinking and sailed on with 4 feet of	
	water in The holds.	
	Material supplied by L. Turner - written & edited by L. Litherland. Read by M. Everett WILL BE UPLINKED BY CAPCOM. WEDNESDAY.	
0357.	Mode 0. CSM.	
	Parkes noise 70mV. prime path 50 mV back up.	
India Modified	A/G config	
	H/O. - Tex LM UP => Net 1.	
	H&K. CSM. - up/down. - NET2 - Goss 2	
	LM. Down - Net. 1 - Goss 1	
0430.	H&K. X completed. System temps.	
0433	No improvement. Parkes Cues.	
0434.	- Advised ACSW - Net 2 config - remove active Cues - Confirmed A/G India Mod'd.	(MMR)
CSM AOS 04-49	FM S/S. - 114. PM. - 120 (BELOW THRESH.)	
0457.	-115 - Mom.	
	CSM. FM -101	
0503	Dump 54 - Mode 4	
0504	// Dump. →	
	A/G CAM - TWY - Calls K1&5 post launch — necessary to remote 3-4 where does it say to check recvs don't deviate.	

OPERATIONS LOG

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MISSION/TEST: NCG 740 Rev 42

DAY 214

DATE 2 Aug 4

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0525		Parkes AOS		
		A/G 1 - voice check o.k.		
0536.		ss Prime 115. Parkes 106.4		
0537		LM - crew awake. : BU down voice		
		LMEKG - Modok.		
		BSS Comm.check. prior to EVA #3.		
		Prime site for BSS Comm check.		
		A/G.CSM-LOS-8 typ PAM calls.		
0547.		Mode3 CSM.		
0547		Los dump modulation.		
		TLC. - LM Data LOS = 210 data. forced - O.K		
0552		PAM CALLS - O.K.		
0554		LOS LM EKG - BACK again.		
0555-59		Uplink O.		
0557		LOS CSM.		
0600		2PM. SODS - S/C TM Lock Bit sync.		
0602		Antenna.		
0605		EOF		
0609.		-115 - 85' LM. LMEKG S/C no mod		
		OP. ERROR NETS ACSM - retrain		
		Mode3 CSM @ AOS		
0619.		TLC - are we processing Parkes - Affirm		
		CSM. PARKES ANT. 43 → 47		

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OPERATIONS LOG

75 | MISSION/TEST: NCG 740 Pre EVA 3 L/O 43 | DAY 214 | DATE 02 Aug 71

Date/ Time	ACTION TAKEN	Initials
0615	Shift H/O	
0634	H/O LM U/L Tex to HSK U/L to true I.	
0637	Deenmated PKs Thm & Biomed remoted prime so ACSW can use Airborne Libs to investigate.	
0641	0641 H/S load rcd & 0021.	
0647 10	CSM AOS Go for CMD PM-179 FM-114	
0654	161 59 Music to CSM	
0657	All Fm S/C's SM 4 & 6 R/T.	
0702	Tied to 423 Bio Rem 411	
0703	Seq 55 30 secs.	
070341	Start dump mode 11	
070415	Loss of " " on DSE Elec - of cmd	
0705	Lock on P/B cmd Est prime horiz 17 24 00	
071130	PAM Cals on line. Est wing prelimit 17 0800	
071958	Pass 1 100% cal - 50 - 0 - 100 - 75 etc.	
072927	Cals terminated after change to DDF 3 vice 1 apparently a DDF xfer or internal problem - looked O.K ~~after change~~ on DDF 1.	
0734	Music to csm	
0735	EMOD 35 18 - 35.52.	
0736	Normal voice CSM	
0737	Starting on CSM LD 0021 U/L O.K compare	
074230	LM Normal voice LM Data loss to HBR	
0748	Loss of Dump mod.	
0753	PKs HBR LM noisy out of demod at 111 dlm. - T.C concerned,	
0754	-114 Fm - 119 PM	
0757	Mode 2 Csm U/L.	
075887	PKs seeing what appears to be mod 7 vice 1 Thm Subcarrier low	
075838	LOS CSM.	
0802	Took L/s Hist but mcc aborted it Hsn took another.	
0804	Thm confirms 1024 S/C is very low from prime on Spectrum Analyser.	
	looking at PKs on bypass now	

OPERATIONS LOG

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MISSION/TEST: NCG 740 EVA 3 H/044

DAY 214

DATE 02 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
~~081~~ 0810		EOF on RTC's call - he said not to take csm		
		TTY hists during LM acquisitions - different shift!		
0815		Told TIC LM mode looked like LM mode 7A at PKS		
		Not mode 1 - TIC confirmed.		
0820		2-3 mins to commdeck.		
0825		LM To LBR		
082630		EKG 2 PAM 2 Solid Tied to 423		
082800		" 1 PAM 1 "		
082845		Full House.		
0834		All prime site data remoted recon: GT 8210	58%	
084240		AMU to AGC Comb 3.		
084520		AOS go for CMD csm. Low Signal level. -116 FM -127 PM		
084727		HBR csm lock. lost -118 PM -114 FM		
085133		Start Depress		
0856		Full FM S/M 4 & 6 R/T		
090220		Seq 56 mode 11 dump start.		
0906		CDR on surface.		
0907		Hatch closed.		
090750		LCRU to 03 V/G mode 15 -96 FM -88 FM	at PKS	
0920		LOS LCRU battery replacement.		
092121		AOS LCRU 03		
		Rcvr VRO 9400 PKS ÷96 7014 Hex ÷100		
		PKS EST	1459 Z	1505 Z
		Prime "	1724 00	
		Wing "	1708	
0936		Lost SM 4 mod from S/C		
00937		-125 LCRU to 01		
0938		0022 U/L CSM O.K Compare 1007 ~~O.K~~ O.K comp	1205 O.K	
0940		Los of csm FM S/C's		
094144		FM on CMD.		
0943		LOS LCRU		
0943		FM LCRU -97		

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OPERATIONS LOG

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MISSION/TEST: NCG 740 EVA 3 L/O ~~44~~ [cont]

DAY 214

DATE 02 AUG 71

Date/ Time	ACTION TAKEN	Initials
0945	-98 CSM FM	
0948	Csm Sim 3 GET 162 38 163-12 SEQ56 at CSM L	
0954	-100 FM LCRU now	
0956	LBR CSM	
095745	LOS CSM	
0959	Ready for P/B	
1000	P/B data on line 162 39 27	
	Ranging Laser reflector Range Bearing & from LM.	
1011	LOS LCRU	
101150	AOS " Mode 1	
1013	PKs mode 1 to line.	
	L/O 45	
101146	CSM TTY Hist CSM	
1021	EOF after H/S Hists.	
1034	P/B stopped.	
1036	LOS LCRU	
103654	AOS mode 3 -105 -96 PKS.	
1038	15 μSecs LCRU T	
104434	AOS CSM go for CmD -102 PM	
104859	FM ON CmD	
105040	-98 FM	
105155	Csm 02 dump start	LRV/LCRU driving in 03 ! w/ TV
105428	LM 07	
1055	LM 15	
1055	0608 U/L O.K Compare.	
1103	Loss of Dump mod	
1104	Setting up for another dump	
110437	Seq 57 dump start. Mode 11	
1207	1206 O.K compare.	
112230	Loss of Dump mod DSE ELECT off	
112350	Mod" back on DSE PBK mode.	

OPERATIONS LOG

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MISSION/TEST: NCG 740 EVA 2 L/O 45 [cont]

DAY 214

DATE 02 Aug 72

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1138		Loss of dump mod'n.		
1147		Mode 1 LCRU -124 shut		
1148		TTY 1 Hist from RTC — CSM.		
1153 *		TV mode 3 again -97		
115607		LOS CSM.		
1159		Sydney video did not have TVISCU in at start of		
120027		LCRU to PM 01		
1218		Seq 58 163:10 - 163:27 ← Sim 426 ?		
122119		LCRU to 03 -100		
1228		P/B data on line Code 8		
1231		Contingency keying Net 1		
1		L/O 45		
1236		H-5 keying Check camera Temp readout.		
1235		Sensitivity adjusted on Net 1 grinder seems O.K		
123851		Reconfguring S/C R/T stop P/B.		
1240		Reconfigured for R/T		
1241		Break up on Parkes Signal		
1242		No RF Contact CSM at +1 min.		
1243		Pbs TV back on line bonnes seen at Redfern tower		
1246		Still no RF contact at 4 m 20 secs.		
124810		AOS Go for Cmd Aun LOS		
1248		Normal voice HGA PM FM R/T SM 426 lock		
125038		LCRU FM LOS AOS HGA realigned		
1257	*	Stamp Cancelling & feather dropping		
125920		Seq 59 Mode 11 dump start.		
130140		13 pSecs TV Camera temp.		
1303		LOS LCRU		
1363		U/L mode 7 to LM		
1305		LCRU to 01. Violent bonnee on PKs Links		
1311		TTY CSM Hist, taking H/S's.		
1312		EOF after Hists		

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OPERATIONS LOG

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MISSION/TEST: NCG 740 EVA 2 L/O 4[5] [cont]

DAY 214

DATE 02 Aug 71

Date/ Time	ACTION TAKEN	Initials
1313	Mode 15 U/L to LCRV Thru LOS. W 100 meters Laser reflector	
1315	U/L 7 to LM	
1321	LCRV FM again -98 ~~after~~ cycle of int/ext pwr switch.	
1332	Quindar tones at -20 net 1 but no problem with sens	
1333	levels adjusted on pbs links 900 mv prime 1V alternate.	
1337	LOS LCRV on power off CMD	
1339	TV CCTS terminated from MCC	
1340	Los of dump mod	
1341	LM History about.	
1345	DSE 59 Code 3 after LOS 2nd LM TTY history	
1353	EKG 1 & 2 PAM 1 & 2	
135430	LOS CSM.	
1355	CSM TTY history ready for P/B	
1358	Remove 05 on tape dump - nothing from it	
1401	P/B data start	
1408	168 -40 LM Emod.	
	L/O 47 171 35 00	
1428	Some discussions with N/C per wing ISP CSM H/O time at wing will be .1 deg above dead limit but per N/C will try to hang in there.	
1433	AS 00 23 rcd & 0902	
1435	H-5 beging check. End P/B reconfiguring.	
143952	AOS CSM Go for S LBR -ve FM	
1440	HBR -102 PM	
144100	FM on CMD	
1443	FM Carrier & Subcarriers -98	
1443	Seq 60 02 dump start.	
1444	WB M22 #5 would not start but 2 dump recrs running at 120 ips.	
1446	Comb 1 AGC/AMG remoted - TIC	
1447	Loss of dump mod^.	
1448	Stopped 120 ips dump tape.	

OPERATIONS LOG

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MISSION/TEST: NCG 740 LM Surface L/O 4 [cont]

DAY 214

DATE 02 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		171 37 22 36	Lft off	
1449		LM EMOD soon CSM LOS B		
145051		FM LOS CSM after H/O A/G F		
145130		Tied to 410 bio after VHF to A/G A.		
145239		LM EMOD solid 14 52 27 CP1 time		
145310		LM EMOD LOSS		
1454		LM LD 8602 U/L O.K compare. V96		
1457		" " 3901 " " "		
145833		" " 2104 " " "		
1501		B/U voice CSM FM LOS. 171 37 22		
1504		PKS LOS 169 37 22		
1508		" Lines no bases		
		~~Lft off~~		
1521		LOS CSM expected ?		
1523		Mod off sweeping uplink		
1525		Contingency " "		
1526		Terminated " " " to normal acq procedures		
1529		Time of CSM Sig decay 15.1800 15 21 09 ~~15 21~~ L/M Tracking?		
1532		Contingency uplink sweeping in mode 2.		
153655		Int contact		
153755		Normal acq procedures.		
154120		" mod on Int AOS -150 - 160		
1546		N/C request 20K		
1547		20KW mod ON after being told 3 times to put it on	OIP	ERR
1549		AOS - 145 LBR		
1551		Increase to -105		
155230		LOS CSM occultation.		
1555		To A/G B. Int GSFC Voice parallel Note 223		
		Sorted out by		
1558		HSD Tracking to line for test		
1602		Tty list to line		

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171 37 22
169 28 22
2 14
134

OPERATIONS LOG

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MISSION/TEST: NCG 740 Lm Ascent L/O 49

DAY 214

DATE 02 AUG 71

Date/ Time	ACTION TAKEN	Initials
1610	HSD off	
161930	HSK TPG to MCC	
162351	Commgr requests Net 5 modem on line This means we have to turn off in house so no HSD recorded. Complained but no go	
1626	Mode 3 -98 sig level LCRU AOS after Pwr ON CMD	
1628	14 - 15 mSecs Temp · Volts 39.5 pfs. Temp 58 pfs	
163050	FM - 99 LCRU	
163530	U/L + CSM Ranging inhibited.	
1638	AOS CSM Go for CMD -102 PM	
1640	0023 U/L OK Compare. Dat decom lock	
1641	0902 U/L " "	
1643	MAD AOS LM	
164322	FM ON CMD.	
1645	-98 FM rcd. LCRU	
164530	HLBR dump start Seq 61.	
1647	Dump stop FM OFF	
1648	LBR CSM	
1649	-128 CSM PM	
1649	Tic to 5 & 15	
165052	LM H/O A/G Foxtrot	
1653	MAD AOS CSM	
1701	MAD no voice Net 1 in but then O.K - Bad negation	
1703	Bio Tic'd off	
~~1707~~	~~VHF comm Check O.K.~~	
170841	"	
170855 09	CSM H/O Hsk to MAD	
171123	Lift off. Music on Net 1 MAD says not on D/L	
1713	Then says on either CSM or LM D/L	
1714	CSM nos Wing final.	
1716	'DD' Data to Line	
171850	Engine shut down. 172 15 Now LM LOS	

OPERATIONS LOG

~~214~~ 83.

MISSION/TEST: NCG 740 ~~Con~~ 4/047 & LCRU

DAY 214

DATE 02 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1722		HSK TV to MCC during Liftoff.		
172~~4~~25~~30~~		Final LOS LM LCRU prime. Tic'd off Engs		
172548				
172650		Code 2 CSM dump 61 rqmt. read at about 1730Z		
173140		TTY Hisks. EOF		
1747		ENG ON FMTS 106 & 108.		
175530		Rolled tape. Decom will not lock rolled back too far.		
1756		Data on line. Total WC (CMS) 1304.		
1834		P/B completed released from all P/B reqmts.		
1835		Setting setup for MAG tran. Started 1840Z		
1855		TTY rls rcd Magtran still in progress		
1910		Hard dock LM CSM		
1915		Magtran completed.		
2031		Tic called possible discrepancy in Seq 60 DSE dump msg a HBR portion 2 mins long appears to be missing - said we would check.		
2215.		Shift Handover.		
2220		Receiver 2 declared red for low gain		
2230		SRT No. 1.		
2207		Receiver 2 green - module replaced 50 MHz RF mixer		
2215		T.V. played back to mcc.		
2220		A G checks through prime site complete.		
2230		Data estimate 2315Z for completion		
2319		Set up sequence 1. Mcc completed tracking test - prime only angle cals.		
	*	Rossvue problem - CSM → LM Reate - no jettison Rev 57 - jettison Rev 52		
2330		Sequence 1 mcc complete prime in progress		
0040		Downlink checks complete.		

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OPERATIONS LOG

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MISSION/TEST: NCG7410 2 0 5 4 2M IMPACT

DAY 215

DATE 03 AUG

Date/ Time	ACTION TAKEN	Initials
0005-	WSB cost. - O.K.	
0032	CSM - de acclitation - CHECK ON PRESSURE INTEGRITY -	
	Full Dump. - 02.00334 - NSTDMAN.	
	Mission Nonalized	
	Apollo #181.04.19 IMPACT 181.29.23.	
0104.	LM Jettison. 177:20:45 GET	
0123.	- ACRW - O2 Threshold -116 (Solids test terminated) 208.	
0134	SBI. Complete. 90.	
0219.	Hold at H-70. - Just early	
	Catherine said - could not see - but were not ~~[illegible]~~ aware of what to look for. SO SAID NO CAPS DATA	
	TLM CHANGES - Not receiving Net H. -	
	GODDARD PROBLEM = PATCH.	
	Estimated AOS Bonnie 04.26 Rev 542 Int.	
	Wing 04.26 Rev 59	
	Rankes.	
1913 :37	Good bye LM. 0203:37 DT	
0317.	A/L. - O.K	
0329.	Standing by for AOS.	
0422	S:	
	RF Water Load Trip = when antenna moved = PA #3. - will not affect PA operation if it occurs again (SB2)	
~~0427~~	~~HOS2~~	
0426	AOS CSM - 116 - SBI -135. R5 - -118 R6.	
	TC Called - why - poor CSM -	

A 17 19
13 49 19
28 00

OPERATIONS LOG

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MISSION/TEST: NC4740 ANO 574.

DAY 215

DATE 03 AUG

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0429		AERO MED PARAMETER		
		CS 0060 | No Mod.		
		61 | Active Zero		
		62 | Noise		
0432		118 dBm HBR dropouts		
0437	W	FM 101. PM – 103. – GDS – 100 bm.		
	P	*FM 98 = GDS also.		
0438		30secs * FM dump NR 67		
0443		Data refated PSK demod – tuned to 1.024 – outputting to Recorder R & SS tracks		
0445		Acc check – 100 PM PRIME 103 PM NMS		
		98 FM — " — 100 FM — " —		
0455		RM. EKG. Mod. — Pass. No resp.		
		Aborted CT: 0202 – 245°0 N 0		
0500		Parkes IF completed CSM PM & FM modes locked at SSDS 4.		
0523		Dump off		
		1. LGRV. – NOS. – Uplink Mode 15		
		NERV. down 03.		
0533		CSM NOS. Uplink mode 0.		
0540.		– LGRV Mode 15 up. 03 down.		
		Video CIT temp – 15 mSecs →		
		RT 8000 T 84.19 %		
		V 39.40 %		
		Bounce problem a P		
		LGRV 1.25 MHz – OFF		
0549-19		LGRV OFF.		

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OPERATIONS LOG

MISSION/TEST: Parkes IIF

DAY: MONDAY

DATE: 2/8/71

Date/ Time	ACTION TAKEN	Initials
1030	Interfacing with Parkes commenced. Testing LCRU Mode 1 using data recorded during mission yesterday.	
	Good lock on all data running SDDS 3/RX9 SDDS 4/RX10.	
1040	Parkes changing to LCRU mode 3.	
1100	Data being received. Video has a missing viet falling response	
	Good lock on all data. Investigating video response at Parkes.	
	LCRU mode 3 used SDDS 2/RX9 SDD4/RX10.	
1120	Parkes unable to resolve frequency response problem	
	Now setting up for LM10.	
1125	Parkes interfacing with Sydney for Video Lock.	
1140	Good Decom lock	
	Good PLSS except for LMEKG	
	Good Video	
1145	Video removed from signal & good lock on all data. Inclusion of video was causing internal products. Testing with Parkes was concluded.	

OPERATIONS LOG

MISSION/TEST

DAY

DATE

Date/ Time	Sub- System	COMMENTS	Initials	Action by

OLLIS

OPERATIONS LOG

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MISSION/TEST: NCG7240 2055

DAY 215.

DATE 03 AUG

Date/ Time	ACTION TAKEN	Initials
0550.2	BMS. - Parks Comanchero - Fixed - Backup Prime.	
	Reconfigure System 1 for CSM.	
0609	Tx ON CSM.	
0624	AOS CSM. - Go for CMD.	
	PM - 116 dbm Prime PM.	
	PM. 118 dbm Wnj Wnj	
*	109 dbm Parks ← GOOD DATA.	
	Dump Number 168	
0626	Parks data looks good	
0629	SBZ reported Nat s/c SSE looks noisy	
*	- BAD. 2WAY. — Mod dbl —	
	reacquired — No difference —	
	UNABLE to determine by Doppler - ???	
	FM. S/S - 99 dbm	
0634	HBR. Dump ·—	
	* Comment on Comms Procedures Two bits dump (site info) - Rev 52 & 54 lost in FM s/s cable.	
	NST DATA - Querying loss of CAPS for CMD I/F — HSK advised That RTC had stated That a pat th problem had existed at Goddard.	
0646	- 91.6 PKs. Wnj 1012 Prime 98.5 dbm	
0705	SBZ - dbl for meal. 22.???	
0722	Dump LOS	
0732.5	CSM LOS. — Mode 0.	
0736.	CSM TI History	

OPERATIONS LOG

MISSION/TEST

DAY

DATE

Date/ Time	Sub- System	COMMENTS	Initials	Action by

OLLIS

OPERATIONS LOG

MISSION/TEST: NCG 740 [cont] LO 56.

SC 6

DAY 215

DATE 3 AUG 71

Date/ Time	ACTION TAKEN	Initials
0818	H-5 Keying check. 0433	
082230	AOS Go for Cmd. PM -118 FM -114.	
0832	HGA -98	
0833	Seq 69 Mode 11 dump start Tied to 8 216	
0918	LOS of dump mod'n.	
0920	Bio Code B. Sim code 3 P/B post pass 116 106 456	
0929	FM -87 at PKS.	
093130	Mode 0 u/l CSM LOS	
093550	Data having trouble finding the P/B data.	
093753	Reprog Matrix was in disable. OPP ERR.	
093945	Data on line.	
	LO 57	
1008	Configured for PKs to support CSM FM.	
1014	Terminated P/B configuring for pass.	
102040	CSM AOS Go for Cmd SM4 Solid - SM6 int -106 PKS FM wing -114	
1028	If we had 1 db higher sig level we could lock Solid on SM6 from PKs - right on hairy edge	
103027	70 Seq mode 4 dump start. PKS. 88.5 -97 Prime -98 wing.	
112027	Los of Dump mod.	
1123	Rewinding dump for Code 3 Bio B P/B after LOS. 3 42 11 22 15 04.	
122730	LOS CSM on mode 0 u/l.	
1130 50	P/B data on line.	
113249	TTY Hist on line. 52.4 62.9 52.3	
	LO 58	
1214	H-5 keying check	
1215	P/B terminated configuring for R/T.	
121903	AOS CSM Go for Cmd -116 PM -114 FM -105 PKs SM4 & 6 int.	
1221	Data worse than before SM4 solid after notch filter removed and original Rcvr selected. Tic took a look at it then went back to csm data.	
122901	Start Seq 71 mode 11 dump.	
1308	Ld 0025 clear - mcc 131915 End of dump. Setting up for P/B Code 3 Sim	

OPERATIONS LOG

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MISSION/TEST: NCG 740 [COUNT] L/O 59

DAY 215

DATE 3 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1409		CJ 202 static on P/B		
141230		H-5 Keying check.		
141655		P/B completed.		
141725		AOS CSM Go for Cmd – 114 FM		
1419		Down voice CSM crew now awake.		
1429		HGA narrow all FM S/C's – 98 FM		
142920		Start Seq 72 Mode 11 dump.		
1436		U/L to crew full Text of TWX on Captain Cook!	*	
1450		ST 0153 Start 218 233 10 own 1 sec readout (185 209)		
		request by TIC		
1557		H/S Ld 0026 rcd.		
1559		" " U/L O.K compone.		
1518		Loss of dump mod		
1520		Stopped dump redrs rewinding for Sim code 3 P/3		
162945		Decrease in S:		
153017		LOS CSM – Final LOS PKS.		
1532		Ready for P/B.		
153440		P/B Data on line		
1536		PKS Lines released		
		L/O #60		
1609		H-5 keying check.		
1614		End P/B reconfiguring		
161820		AOS Go for cmd – 120 at H+ 3 mins poor	HGA ?	
1622		CSM down voice working up voice very light CSM		
		must be a monitoring problem not on UVV monitor scope.		
162356		– 101 PM – 98 FM Crew HGA to narrow		
162622		Mode 11 Seq 72 Dump Start Ticd to 108 ± 16 Code 2 CSM		
1636		ST 1030 HGA Y/AW 244 10 not what TIC 1415 address. all sorted readout expected readout	correct.	noise ±5° on
1651		Code 6 182 12 15 20 25 30 182 45 Seq. 67	but no AGC changes	
		Code 3 Sim 194 15 194 40. Seq 72		
1708		Twx Rcd from N/C asking us to monitor USB U/L & D/L		
		for any abnormal		

ELLIS

Bob
Call
Dave Gandy

OPERATIONS LOG

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MISSION/TEST: NCG 740 [cont] H/O ~~60~~ [cont] & 61

DAY 215

DATE 3 AUG 71

Date/ Time	ACTION TAKEN	Initials
1716	Los of dump mod'n. EST LOS using after orbit	his
1728 20	LOS CSM.	
1730	Start Code 6 & 3 P/B's Same CTE time backs to TIC every 5 mins on Code 6 & CTE back when bio come live	
1757	Seq 73 Code 3 dump complete. U/L H/O to MAD A/G Local.	
1759	Dave Gandy NCT Thm called asked to pass a msg to Bob Blaha to ring him when convenient - passed msg to Sydney Video.	
1805	Seq 67 Code 6 P/B complete - reconfiguring. H/O #61	
1815	AOS CSM at H+1m. -130 fluct Poor Ant	
1816	-111.6 PM -110 FM.	
1818	SM 4 & 6 Solid. -101 FM.	
182054	Coasting down Phn Re trans.	
1824	Final LOS Tidd off bio & Eng.	
1828	Vocal release	
1830	Harry Armstrong called - passed time of day etc.	

OPERATIONS LOG

89.

MISSION/TEST: NCG 7240 ~ REV 67 pwch

DAY 216

DATE 02 ~~THU~~ AUG

Date/ Time	Sub-System	COMMENTS	Initials	Action by
2130		Data Configured for Prog 0.		
2200		Prep. SRT.		
2215		PH1 complete.		
		SBI reported - A/G problem occurred again. However symptoms slightly		
		different in that AM down appeared		
		on CSM up voice with ICOM.		
2249.		Mode Index / AGC cals not yet started at wing		
		Wing will run AGC cals with test		
		transmitter via microdyne (noisy).		
2300		~~NSTDATA~~ - Run R55P Normal.		
2312		Timing checks.		
2341		Mod index finished running onto Pwrmr		
		on sequence 3		
2346		Wing and ysma sequence 4		
	*	NOTE with PM Mode Buff - BB to		
		PMFSS PSK Demod. — See BACK		
		3weeks // Should only get it on Bypass - OK.		
	*	Comm Tech - comms I/F - CSM key		
		on LM Line / NO PROBLEM. - F.T		
0118	*	Downlink checks complete - ysma & wing		
0219.		SRT-PH3 Completed		
		SBI reports 12 18 Slew problem		
0243		LOST ROST		
0258.		X encoder zeroed. Angle cals in progress		
		Pwrmr onto.		
0305		SRT completed. - H-70 commenced.		
		THW/CMD BIO - Go.		
		-10.5 2526 -12 2477		
0432		Radio track success		
0434		A/G go.		

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OPERATIONS LOG

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MISSION/TEST: NCH7440. Rev 66 end & 67

DAY 216

DATE 04 AUG

Date/ Time	ACTION TAKEN	Initials
0440	SBZ - acquired link still split.	
0445	Calls complete genie sat.	
0453	Canberra reported break net 4 to HSK - lines checked hse data link.	
0504	AOS CSM. -114B P. ---- W. Rev 66	
0511	AOS CSM.	
0526	Temp 15 µ sec. Looking at Revs.	
	RT 8003 GOF - RT 8003 30°	
0531	Configured Rev Front 108	
	Parkes A.O.S. 0800Z Interface complete.	
	Prime Link 80m V pp noise 1 V pp	
	Alt Link 40 mV pp noise. 950m V pp.	
	REV 67.	
0600	CSM code 03. - TC - O.K.	
	114. 0m(P) FM. X X	
0602	AOS PM - 118.5 0m(W) FM. Below Th.	
	Dump NR. Codes	
0613	CSM FM * 100 - 100 (W) * 94 (P) GDS - 94 (200/85).	
	Dump Nr 80. Code 3. Radel 4	
0618	Dump Mod HBR	
0621	Parkes query on support Saturday 7th August. released to Stieber.	
0702	Dump AOS	
0710	Mode 0 - AOS CSM.	
0725	Shift H/O	

210-08

OPERATIONS LOG

91 | MISSION/TEST: NCG 740 L/O 68 | DAY 216 | DATE 4 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0732		0029 H/S LD Rcd.		
0742		VDB operate		
0745		Carrier on U/L mode 5 sys 3.		
0756		H-5 Keying check		
080027		AOS Go for cmd CSM -119 FM? PKs no acquisition		
080550		PKs AOS. -107.5		
080815		SM 4 solid SM 6 int		
0809		HGA SM 6 solid.		
081431		Seq Mode 11 dump start. 211 38 LCRU		
0824		Possible fire/heat problem in computer area - investigating.		
		varnish. Burn out is in vacuum motor handler 2. Sys tape CH6 no impact Replacing.		
0830		5 min is to LCRU power up.		
0845		GDS to U/L mode 14.		
0851		AOS LCRU mode 3 → Mode 4 Camera temp 15 μsec		
085730		Mode 3 -97. 52.70 % Temp 39.10 % Volts.		
0859		Mode 6 U/L CSM dump stop.		
0900		2001 music uplink		
0902		Normal via N/L		
090357		LOS LCRU sudden.		
0905		H/D U/L 0029 in progress		
091039		LOS CSM on mode 0 U/L		
0920		CVA update fail glitch got from handler 2 to handler 1 fail, 102 0 rested		
0924		Did restart after advising N/C on net 2. Sending stat update		
			OPP ERR?	
0947		Track asked us to beep rcvr 2 assigned to LCRU	See computer log.	
0948		" " to put sys 1 on LCRU TX & no H2 data		
		L/O 69		
0954		H-5 CRO (B/U site) Net 1 out. ±90 KHz sweep		
1001		AOS Go for cmd CSM SM 4 & 6 solid. -102 FM -107 PM		
101310		Mode 11 dump solid after sending P/B CMD again - Seq 82.		
1023		Mode 14 U/L to LCRU		
1024		~~about~~ 5 Pwr off cmds to LCRU Lm TTY LM 1 Htr		
102430		Reconfiguring Sys 1 for CSM.		

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OPERATIONS LOG

92 | MISSION/TEST: NCG 740 L/O 69 [cont.] | DAY 216 | DATE 4 AUG 71

Date/ Time	ACTION TAKEN	Initials
1025	L/s JJ Sys & tracking data on line	
1049	Glitches on X channel error voltage prime site - going to program to take a look at it	
1057	Loss of dump mod. Got old problem back with countdown clock.	
1101	CJ0062 0202 all static	
1110	Voice U/Ls at LOS-2 but no D/L	
11 1130	LOS CSM. no answer from Crew	
11 1230	Ready for P/B.	
11 1450	P/B Data on line	
	L/O 70	
1137	Many USB status requests from MCC - queried RTC said int line problems.	
1152	H-5 Keying check.	
11 5230	P/B terminated reconfiguring for R/T	
115700	AOS Go for cmds CSM -130 pm. Run gradual increase to -120	
1200	All SM S/Cs Had to restart the SM4 decom format - possible hang up.	
120810	83 Seq Mode II dump start	
1220	Possible problems with GSFC 494 (no stat requests) also noises on Net 2.	
1224	Ld 0029 H/s rec'd.	
1248	" " U/L O.K Compare.	
1255	Track requested prime site reconfiguring and radiate LCRU } Why not more warning ?? MMR.	
1258	Many Pwr ON Cmds	
130137	LOS of dump mode.	
1303	U/L mode 0 to LCRU after some final Pwr off cmds	
1303	reconfiguring to CSM, rewinding for code 33 in P/B	
1305	Prime back on CSM.	
130950	LOS CSM.	
1311	Ready for P/B	
13 1241	P/B Data on line PKS Est LOS 1650	

OPERATIONS LOG

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MISSION/TEST: NCG 740 [cont] L/O # 71

DAY 216

DATE 4 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
135145		P/B completed. H-5 beying check - told mcc comm to sl. he sounded a little muffled.		
135520		CSM AOS Go for CM D - 144 PM. count see voice s/c.		
135740		LOS com after steady decrease		
135800		~~U/L~~ AOS & steady.		
1400		U/L mode 2 CSM		
1403		Voice U/L to crew & Ney selected HGA wide & manual		
1404		SM 4 & 6 SSbd on narrow & acq & HGA.		
1405		U/L mode 6 CSM ← Sig level dropped at prime Ren O.K Possible warm paramp problem? *		
1412 55		Seq 84 Mode 11 dump start * No problem was scope loading channel.	OP ERR USB	
12 4 1431		Lost PKs SM 4 & 6 R/T selected w/ng looks O.K at SDDS. ~~This~~ Got it back after 45 secs. This was due to trying to configure PKs normal voice (rcv NC V 250) into a SDDS which caused a loss of SDS data.	OP ERR PSD/SCDS.	
1436		R/H EKG & Resp static		
1449		" " active.		
1450		X axis errors still glitching *		
145030		R/H EKG static again		
145616		Los of dump mod'n.		
1500		Center EKG active. 1218 tape MTU erratic loading could be poor tape or possibly faulty handler - running diagnotics.		
150807		LOS CSM. No P/B required		
1522		CTE 194-05 Seq 73 Code 2 CSM.		
		~~Code 6 CSM CTE 21 33 Seq 84~~ next rev. ?!!		
1532		Data on line for P/B		
1538		Tape P/B data stopped		

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OPERATIONS LOG

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MISSION/TEST: NCG 740 [cont] L/O 72

DAY 216

DATE 4 AUG 71

Date/ Time	ACTION TAKEN	Initials
1545	H-5 Keying check.	
155320	AOS ~~Go for CMD~~ PM -	
155350	Go for CMD	
155440	CSM PM - 126	
155512	SM 4 & 6 R/T from wing FM - 103	
155831	PKs were off B/S now O.K	
160235	Start Seq 85 Model 11 dump.	
1611	H/S load 1207	
161415	U/L " "	
161630	L/H EKG & Resp dynamic.	
1624	Alsep 1 could go 5 years - PAO ??!! Reserved A/OPS - Ray Can override the timer & will. The RTG	
1651	Los of dump mod'n.	
1654	PKs final LOS. CMPTRs repat potential start in 1232 CP3 Fix post pass.	
1655	" lines reboased.	
1658	CTR & L/H Could Bio active now.	
1705	Sig level dropping Los of SM 4 & 6 R/T data. Sim off 220 52 FM off 220 59	
170610	LOS CSM.	
	L/O 73	
1723	H/S LD 0031 Rcd	
1726	TTY INV - MCC	
1746	Rev 68 GET 211 17 LM Sim Up. Code P RT 8000 LM P/B after next rev. 085! 885!	
175190	AOS Go for CMD PM - 130 dbm	
175240	FM - 114 SM 4 & 6 int then good. H/S LD 1000 RCD	
1759	U/L LDS 0031 & 1000 O.K Compares.	
1800	R/T EKG Good Tone on S/C D/L	
180206	86 Seq Mode 11 dump start after 2nd P/B cmd. 168 SM 6 R/T 576 " " P/B 225 SM 4 R/T 165 " " P/B	
1815	L/H EKG O.K now.	
1824	Los of R/T SM 4 Mod. Sim code 3 219 55 Post pass.	

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OPERATIONS LOG

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MISSION/TEST: NCG 740 [Cont] L/073 [Cont]

DAY 216

DATE 4 Aug 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1840		LOS of dump mod'n.		data
1844		Rewinding 4 tapes. 085117 – 085150 6 mins gap		
1850		LOS of all Sim S/C's & SM 6 mod. 0857 0903 6 mins data.		
185050		LOS of CSM FM. Crew setting up for Staping burn.		
1856		Staping burn o.k – early per F/B 76.0 × 54.3 on board.		
185744		LBR CSM		
190950		Final LOS CSM.		
1906		Ready for both P/B's.		
1911		Data on line		
1913		Code 'P' P/B on line.		
1919		Verbal release except for P/B's dashed for		
1925		Only 12 Mins of SM 6 dump 219 30		
1927		Code 'P' dump completed. 220 07		
192830		Data turned off no more P/B.		
1941		Release verbal.		
2003		TTY RIs Rcd.		
201528		Sh St Hlo.		
201320		Subsat launch.		

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OPERATIONS LOG

MISSION/TEST: 96 — NCG 740. S-Band PFSS TEC #1

DAY: 216

DATE: ~~30/4/71~~ AUG

Date/ Time	ACTION TAKEN	Initials
2040.	P+FSS AOS HAW.	
2110	Called Goddard ops — pointed out That although RLS MSG shows CSM * pass LCRU. ISP shows P+FSS. — OPS GOOD — Looking at Timeline ITSK Looking at Work Sheet. CONFLICT	
	Queries,	
	WamBarang report.	
	X angle glitches — Scope loading — Appears That Test REV O.K.	
	CVA update Rail.	
	Yoke got problem — Antenna — nearly jumps out of bracket when selecting Radiator Brake.	
	P+FSS will be required at AOS. (Goddard Ops)	
	TEI — Beauty!	
	Phi converges.	
2315	SB2 — Recorder on Phi — playing back — each pass ok	*
	Tracking 2 — clever chap!	
2329	Jump from Snake mode to other modes approx 0.2 deg. specification 1.0 deg no problems. Take Snake aligned 0015Z.	
2331	A/G approx complete	
*	Note. Attempts will be made to access NCRU again —	
0018	Completed Day 1 section 2.4 prime data	
0036	Milan window received at USO after perging.	
0105	Finished up to sequence 8 section 2.9, using performing CSM TV prime PFS threshold.	
	Problems with wing amplifier at sent system (clipping)	
	threshold −110 dbm R7.	
0131	Downlink checks complete	

OPERATIONS LOG

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MISSION/TEST: NCG 740 R+FSS TEC #1

DAY 214

DATE 05 AUG ~~JULY~~

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0142.		2.25" Random Sample complete		
0302		Phase 3 commenced		
0308		Data not ready for calc.		
0312		SCM received - queried support required - single tracking data only.		
0375		Phase 3 complete		
		Telemetried AOS Rome		
		AOS Wing 0505Z		
0345		Not 24. Cahora - Goldstone - replaced		
		Failed first		
		-10.2525. -11.5 2476		
0423		A/S - go.		
0513		Pakes wake up till ~~0600~~ 0800 Z		
		Predicted AOS Rome - 0535, CSM, 0616 R+FSS		
0528		AOS CSM (RF)		
0529		Auto Trk -97 DBM (FM mode 12 Rx4) -99		
		LCRU at 233@:30:00 possibly	Bfs	
0548		CSM H BR.		
0549		SM6. and SM4		
		Auto Ink CSM(FM 102) CSM PM -104 (W)		
0556.		(SB1) " " -102 (P)		
0557		SB2 CSM PM 101 (W)		
		FM 99 (W)		

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OPERATIONS LOG

98.

MISSION/TEST: TEC - 1

DAY 217

DATE 05 ~~JUL~~ AUG

Date/ Time	ACTION TAKEN	Initials
0559	HSD ON	
0559	formats 007 009	
0602	S/C to LBR	
	FM low signal level	
0603	CSM PM -128 (W) -129 (P)	
	TIC advises he will switch HI/LO at 10 minute intervals	
	for some time	
0605	S/C to HBR. FM subcarriers returned.	
0611	Bio on. HSD	
0611	S/C → LBR.	
0613	S/C → HBR. ~~Bio 2 HSD~~	
0618	14° in X between CSM and moon. from Prime	
0627	S/C → LBR no FM Subcarriers.	
0630	S/C → HBR	
0631	020 : 00 : 00 → 022 : 00 : 00 P/B Bio code A + PBK bit set.	
	requested by TIC if we have the tape. for a 2 hr P/B	
	Bio FMT 456 CEF "140 T"	
0636	S/C → LBR	
0638	S/C → HBR	
0638	FM -96 (P) + Subcarriers	
0642	~~S/C → HBR~~ Advised TIC tape ready for Bio P/B.	
0643	19 59 59 Bio data cue. Rolled tape.	
	Tape has noisy data on track # 1 track # 6 is better	
0646	Advised TIC if we could change tracks & rerun.	
0648	Rolled tape again. Data is much better.	
	S/C → LBR.	
0653	Tic asked where the LBR was but Decom I was on "follow"	
	and had a late manual switch	

OPERATIONS LOG

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MISSION/TEST

TEC 1

DAY 217

DATE 05 ~~FEB~~ AUG

Date/ Time	Sub-System	COMMENTS	Initials	Action by
		The PBK on the Bio is probably because on the 27/0900 Z there were outages on the net 4/6.	BJS. ↓	
0656		S/C → HBR & LOS SM 4/6 data		
0659.		Bio PBK decom → LBR. } (off the tape)		
0701		" " " → HBR }		
0703		S/C → LBR.		
0704		FM -96. (P)		
0705		S/C → HBR.		
0706.		LCRU UPL 15 DL 03 for GDS. TIC requested GDS to play the voice tape on the LCRU uplink		
0708		Bio TP → LBR.		
0708		Queries to G/OPS		
		(1) Do we get 29 pointing for P+FS.		
		(2) How do we determine REV no for strip chart recdr.		
0709.		Bio TP → HBR.		
0712		Bio TP has noisy data, TP → HBR		
0719		LOS CSM PM (P) -126. LOS SM 4/6.		
0720		TP data LBR.		
0721		S/C → HBR.		
0723.		LCRU D/L copied at GDS.[35] but may be a spur., as 210 cannot see anything.		
0728		Prime Rx 1 to LCRU request by TRK.		
0729		Prime configured		
0730		~~Hotig~~ Valid mode 12 still OK. on CSM.		
		HSK received a noisy spectrum on LCRU		
		SBI confirms only Moon noise		

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OPERATIONS LOG

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MISSION/TEST: TEC 1

DAY 217

DATE 05 AUG ~~JUL~~

Date/ Time	ACTION TAKEN	Initials
0732.	Reconfigure SYS for P+FS. req by TRK.	BJ
	Pantos TV testing CSM -108 at 0722Z (threshhold)	
0742	P+FS is L/O #7 on Rev. 7.	
0743.	S/C → LBR.	
0745	Prime L/S to line with IJ	
0748.	AOS P+FS -129.	
0750.	-133 + mod on D/L, data → redrs	
0754	CSM FM sig low no sm 4/6. below thresh.	
0755	valid mode 12 csm.	
	~~PSK2~~	
0800	PA4 H.E. focus magnet flow caused trip.	
0803.	PKS CSM PM. -139 Wing -102	
0805	P+FS -133 to TRK. (GWM -148) (GDS -134)	
0813	PA4 temperature controller in manual mode.	
0819	PKS no ~~pre~~ acquisition	
0820	PKS breaking track to recheck paramp	
0822	R/T SM4 & 6 PKS paramp O.K.	
0826	PKS putting AIsep VCO in to check pointing	
083401	CSM HGA H/O GDS → HSKX	
0834~~30~~	Go for CmD SB2 on S/C band	
0845	P&FS Mod off	
0846	Terminated Bio playback.	
0848	PKS lines unstable PKS -86.5 FM tracking O.K now.	
0852	LOS of P&FS S/carriers.	
0853	LOS P&FSS.	
0855	PKS test pattern to line not seen here. Reconfiguring for CSM prime	
0857	1°35'Dec 4°15" RAH was errors on 1st pointing data we sent to PKS.	
0858	PKS data back on line test patttern 'came good'.	
0910	PKS data to SM4 & 6 decoms. PKS having 30 mph winds	

OPERATIONS LOG

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MISSION/TEST: NCG 740 TEC # 1 & P&FS.

DAY 217

DATE 05 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0912		LCRU Sys 1 15 up 03 down request from track.		
0916		Carrier & mod ON 2 pwr on CMDs		
0920		Crew wake up & CSM		
0926		LOS AOS CSM late antenna change.		
0929		Reconfiguring to Sys 1 CSM. Sent HSK to various cmds no lock.		
093230		H/S CSM lock on line		
0942		DSETP rewind CMD. Ld Control taken 3 CSM H/S Hsks		
		so far no Mont getting the EOF on.		
0952		No PSRM required for P&FS when reconfigured		
		from apollo support. Supps will be updated - N/C	*	
1001		LOS AOS late ant switch.		
1004		PKs SDS FM data noisier than using PKs Put filters in		
		but no difference.		
1009		PKs data now good somebody fiddled at redfern.	OPERR?	
1011		Ld 0905 rcd.		
1018		No MCC # 5 required.		
1032		ASE Elec Rcd & Fwd cmds.		
1042		CSM Code 3 Fmt 108 Mode 11 Fmt 16 in ½ hr - TIC.		
1046		U/L Troc Bypass then Normal.		
1048		Rec 89. Mode 11 dump stat TROC in bypass again.		
1055		Selected SM 6 P/B into decom 2 vice 1:1 dump. Sig cond will not lock on narrow mod. but will on medium.		
1057		Parbes power failure into backup power stat LOS		
		configured to win SM + 26 data		
1100		LOS of Dump mod - congrats from TIC		
		N/C says PKs will be released after EVA from the mission		
1137		Start V/L CSM HSK 0905 O.K compare		
1150Z		CMPTRS report they simulated the error on PKs orig acq		
		data - problem was due to typing in HSK 1/D vice PKs.	OPP ERR HSDP	
124850		Loss of all FM TIC'd to 007 & 009		
1255		Domni on CMD fluctuating sig levels.		

OLLIS

241 16
239 39
91

OPERATIONS LOG

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MISSION/TEST

NCG 740 TEC # 1 & EVA

DAY 217

DATE 5 AUG 71

Date/ Time	ACTION TAKEN	Initials
1317	Burst of noise 10 secs long on net 1 incoming.	
1431	All EKG's dynamic Crew suited up for EVA ?	
1439	EVA comm check all O.K.	
1443	ACSW had Sydney out of net 2 conf again. Sydney being asked to get his video lines up.	
1450	-115.3 PKS PM signal level. Manee trying to configure for TV.	
1453	Net 6 being reconfigured.	
1455	Sydney TV now configured to MCC	
1455	HGA selected by crew short LOS. Tic'd to 7 & 9	
1459	Start ~~cabin~~ Suit depress.	
1501	Refrain from ranging for duration of EVA - Track.	
1507	TV Sync pulse compressed at MCC - incoming to Manee.	
1521	DSE configured for recording - not rolled.	
1530	Cabin depress start.	
1533	DSE TP forward.	
1533 40	-93 FM Prime -87 dbm PKS. Black level TV Sync pulses. not to line from Sydney yet MCC want TPG.	
1537	Cabin pressure 0 psia.	
1538	Hatch unlatch - PKS TV to MCC crew do not have TV camera out yet.	
1539	Line TV verfaint	
1541	TV now good limited views of service module. Flex O.K when hatch opened more.	
1549	PAN Camera inside.	
1554	Mapping Camera & cassette inside.	
1557	CMP hatch inside.	
1558	TV camera inside	
1559	Hatch locked. 1602 Cabin press rising	
1611	Slight amount of interference on TV from PKS Prime & Wing So must be from S/C	
1623	LOS of CSM FM.	
1624	DSE tape stop & rewind CMD. 1625 Links down between MCC & Sydney & 001 released	

OPERATIONS LOG

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MISSION/TEST: NCG 740 TLC #2

DAY 218

DATE 06 Aug

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0556		Range auto -103 PM FM -98 dbm		
		Weng -102 PM FM -97.5 dbm		
0622		Time Code Translation reported Red, ETO		
		07/0000Z. Stat update sent.		
0635		110 Dump Mode 11		
0649		Dump ended.		
0657		Dump 111 mode 11		
0708		End of dump.		
0722.		Dump 112 Mode 11		
0732		End of dump 112.		
0745		Dump 113 Mode 11		
0756		Dump 113 END		
0807		Dump 114 Mode 11		
0817		Dump 114 End.		
0820		Requested and received forced AQU messages for GET 270-20 (TV) and for re-entry period. Also Weng for tracking period tomorrow.		
0831		Dump 115 Mode 11 Commence		
0839		Shift H/O.		
0840		Los of dump mod. Est LOS prime 270 ~~23~~	1947Z	
0854		Dump 116 Mode 11 Start.		
0904		Los of dump mod.		
0905		Dump 117 TIC says keep a careful watch on data quality		
"		at start of this next dump May one using a new start pattern on HSE tape.		
0907		LOS CSM FM omni change?		
0910		FM subcarrier back. SP 0656.10 - 1.10		
0917		Dump 117 Mode 11 Start 377. 333		
0926		Loss of dump mod.		
0934		H/O HGA GDS to HSKx but S/C was on omni The old fuel & oxidizer parameter bit LOST ROST fixed.		
0940		Start Dump 118 Mode 4		
0952		End " "		
0953		LOS/AOS late omni change.		

ELLIS

OPERATIONS LOG

MISSION/TEST: 106 — NCG 740 TLC#2

DAY: 218

DATE: 6 AUG 71

Date/ Time	ACTION TAKEN	Initials
095930	LOS CSM } poor antenna.	
1001	AOS CSM }	
100527	Dump 119 Mode 11 start. Started tape roll in record mode.	
1010	RTC reports not seeing the L/S history ACSW says passing Ron Hid didn't get it but said not to retransmit yet. Commgr says problem is at ACSW Ron asked if problem on site - ACSW later said they never got it?!	
101534	LOS of dump mod.	
~~1028~~ 1027	Seq 120 Mode 11 dump start.	
102810		
103822	Loss of dump mod	
104930	U/L mode 6 Sys 3.	
105117	Start Seq 121 mode 11	
110040	Loss of dump	
1104	Music to CSM.	
110520	Voice U/L to CSM & normal voice down. Wake up.	
112308	Start Seq 122 Mode 11 dump	
113230	End " " " " no stop cmd - reached end of DSE tape?	
1138	Ld 0906 r'cd Ron cleared. Ron 0907 r'cd	
114730	Rd U/L 0907 O.K Compare.	
1330	DSE elect off Ron tape Fwd - NST data called re countdown' procs CMPTRS requested him to Goe	
1335	Tape stop Record mode	
1358	Fluctuations in prime ant X error signals again also repetition of rcvr 2 problem - glitches in agc level.	
1409	Tape Fwd Cmd record mode for visual light flash experiment reports	
1413	LOS/AOS 'Domni CMD Start PTC	
1418	Servo & rcvr problems looking worse	
1427	LOS/AOS mode 3 U/L for many D omni on CMDs	
1429	Mode 6 U/L.	
1504	DSE ran out of tape - rewinding.	
151453	Seq 123 Dump start. Dump voice monitor requd by M/C on coord loop.	
1522	Tape stop for a while	

CT0012X

OPERATIONS LOG

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MISSION/TEST: NCG 740 TEC 2 [CONT]

DAY 218

DATE 6 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
1524		Retrain net 4 incoming. ACSW said Neg did a reconfig on Net 6!		
152830		Dump start again - still seq 123		
		53440 — Static dl 3 Sect C Fill wide line		
1537		loss of dump mod.	monitoring Astam Bio per Tic request being Sector C drop to fill occasionally and all sectors go static occasionally.	
1542		Start dump 123		
155030		Stop dump.		
1554		Modified 4.8 board so decom (mon) could be used normally (per Tics request) — could not find Data Bio 4.8 mon board. Confirmed sector C going to fill occassionally.		
155610		Start dump 123		
1604		Stop dump.		
1610		Start dump 123		
1618		Stop "		
1619		Mode 3 Many Dumps on OMDS		
1621		Mode 6 after last " got in.		
1622		Both 4 & monitor decoms		
1624		Start dump 123		
163150		Stop " 8 mins left to dump should get it on his tape.		
1635		Have decom bio 4.8 mon up in 11'bel to mon sector C in 11'bel with astam but he has no hope of watching it. Capture Theme.		
163742		Start dump seq 123 again.		
1645		Stop & end " dump. Copied tape reading during SAbd Sim 4 & 6		
165430		Start dump Seq 124 ← Then hurried 30 secs to dump net. not ready due to reloading 3rd tape which had to be rolled incase the voice dump reqd vs ran out. Cannot understand the reason for that dump except TIC was not looking at Sim 6 R/T data		
165840		Stop "		
1705		Start " " 124 again		
1711		Stop " " "		
1730 approx		S/C stabilised again on omni so no Sim sdid or dumps		
1815		TTY history resent to MCC interspersed with by DSE MSG		
1834		Reconfiguring to LCRU.		
1853		H/s off per trks request going to look for LCRU.		
1854		U/L mode 14 & radiate to LCRU		

ELLIS

OPERATIONS LOG

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MISSION/TEST: NCG 740 TEC 2 [cont]

DAY 218

DATE 6 Aug

Date/ Time	ACTION TAKEN	Initials
1856	Started U/L's HCRU cmds. } 75 CMDS Est LOS } 194730 Prime 1924. Wing	
1913	Reconfiguring prime site for CSM.	
1915	back autotrack CSM PM-119	
1917	Wing prime H/O at 269+45.	
1919	Sys 3 to Sys 1 H/O all O.K	
1921	Reconfigured for prime site data.	
1922	Mad CSM AOS.	
1924	269:55 H/O time to MAD.	
192550	Final LOS Wing.	
192901	CSM H/O ASK to MAD	
1930	TIC Turned Bio off	
194645	" " Eng "	
194716	Final LOS USB 1.	
1959	Release no P/Bs required	
	SHIFT (A)	
2100	N.W. querying DSE Dump message 08/11362 -	
*	60 bits/sec jitter. WANT TO TALK TO *	
	BERRIN when a side. 07/1000Z	
	07 2109/ 10:00:00Z. on Time Code Translator update.	
0010.	Briefed all segs on ARSEP support.	
	Config to be.	
	A1 A2 PASS A4	
	R1 R2 R3 R4	
	LM PRIME BP2 BP1 LM ALTERNATE	
	D2 D4	
	SAT. ARSEP D/LINK.	
	Tune PA — ARSEP — PH III. —	
	Tune Both — APOLLO — PH III.	

OPERATIONS LOG

MISSION/TEST: 109 — Geo. – TEC 3 Splash

DAY: 219

DATE: 7 Aug

Date/ Time	Sub-System	COMMENTS	Initials	Action by
	*	LO 35 & 36 PASS Antenna Centre Moon *		
		PASS – [redacted] – auto cycle – in Beam		
		ASSEP Sys! – explain checks cost.		
0129.		Wing downlink checks complete.		
0212		Mercodyne test transmitter query digital ripple output during P&FS test		
0240		Teams through Wing complete.		
		Configuration for Cadfus		
		Prime SYS 1 CSM SYS 2 P&FS		
		SYS 3 CSM SYS 4 LM.		
		Timing.		
0421		AM SRT BMS. tests complete.		
0443		Freddie checks complete 4/6.	BBS	
0448		Bio on for I/F		
0450		Bio I/F GO.		
0458		CMD I/F		
0456.		TLM I/F		
0450		Completed metric tracking test		
0503		CMD I/F GO		
0507		L/S data on. (P)		
0511		Resum prime BOR sets – cadfus has wrong vehicle ID for system 2. Computer problem.		
0514	*	Prime antenna drifted off Boresight		
		SBI investigating.		
0515		Resum of boresight		
0522.		Wing released from cadfus		
0530		A/G is go.		
0531		Tracking tests completed		
0535		Prime completing system monitor cals.		

OPERATIONS LOG

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MISSION/TEST: TEC 3 + EI

DAY 219

DATE 07 Aug

Date/ Time	ACTION TAKEN	Initials
0540	Estimated AOS(W) 0608 Z.	BJS.
0545	" " (P) 0616. Z	
0547	Pre Pass Cals completed (P)	
0611	RF AOS (W)	
0613	JJ data on line	
0619 0625	Prime Site AOS -106 PM -101 FM (P.)	
"	-107 PM -103 FM	
0626.	DSE dump 133	
0629.	esm H/O 281 : 00 : 00 HGA UPL mode 5.	
0632	Comtech reports 200 Hz on all D/L from the S/C	
	H/O ~~etc~~ performed without HSD on	
0635.	HSD ON	
0639	We were not in conference on net 2 during the H/O.	
0643	Glitches in x axis reported by SBI (30-40 thou. in magnitude)	
0646.	Voice confirmed we were out of conf. at the time of H/O	
0647	DSE 134 mode 11	
0649	Voice quality good on the DUMP tape 275:40:40	
0657	MILA reports DPE ~~same~~ has strange wave modulation. GDS also.	
	HSK does not see it.	
	GDS says its a function of S/C antenna aspect angle. TRK ~~comp~~ concurs.	
0701	End dump 134	
0701	SBI recomends we go to PROG track because of X axis.	
	glitches TRK says OK.	
0712.	NR. 135 - Mode 11	
0715	Dump Complete.	
	Dump 135 end time CTE = 275-57. (Correct GET = 281-:)	
	query whether this correct - - YES/AFFIRM.	

OPERATIONS LOG

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MISSION/TEST: NCG740. TEC #3.

DAY 219.

DATE 7 Aug 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
0730		VSB Monitors on X angle - error o/p Tacho & programme		
0734		DSE 136.	BJH	
0735		SBI reports heavy glitches in the X axis SERVO System (max ± 50 thou shift)	↓	
0745		DSE 136 end.		
0747		Rio HSD ON.		
0751		Histories + EOF		
		Monitors dropout. - Antenna reset.		
0757		DSE 137. mode 11		
0807		P&FS -125 TEX		
0808		DSE 137 end.		
0811		Cannot lock Rx #6.		
		RTC missed the Domni comand.		
0813		All data back		
0815		Requested permission to break track on the prime & change some 130 ~~MHz~~ POS, TACH, ~~and SP~~ amplifiers —		
0816		Permission given by NTWK. — 0.4		
0821		138 — (11).		
0823.		Radar Track. Amps changed.		
		cm it + EOF		
0819		RTC uplinked 2 RTC's 637 immediately after histories.	BJH.	
		637 comands. 2 missed between histories		
		RTC requested an 0PM on the two commands.		
0831		DSE 138 end.		

OPERATIONS LOG

112 | MISSION/TEST: TEC-3. | DAY 219 | DATE 7 Aug.

Date/ Time	ACTION TAKEN	Initials
0844	DSE 139 mode 11	
0855	DSE 139 end.	
0855	OPN sent on lost stations DTG. 07/0853.	BJH.
0907	DSE 140 mode 11	
0913	CMDH + EOF.	
0916	GWM has a PA problem which will impact EI support.	
0917	DSE 140 end.	
0930	DSE 141 mode 11	
0939	Permission from HTWK to break track for 15 mins to inspect a servo value.	
	Permission granted	
0941	DSE 141 end.	
0940	X axis stopped still tracking L/S data not taken off until 0945Z OPP ERR	
0951	Rcvr 1 was remoted vice rcvr 5 on AMQ	
095430	DSE 142 start	
0957	Tracking data back on line no problem found with servo value.	
100490	DEE 142 end.	
1011	192 264:34 - 265:3700 Net 5	
1016	Established Net 5 to GSFC for voice P/B.	
1020	Start Voice P/Back on net 5 no filter.	
1044	Time code translator green. Replaced Q10 & Q11 on AGC Board Nr 2.	
1112	Tic says he has not copied net 5 for 30 mins! Stopped tape & rewinding	
1119	Rolling again on Voice playback ↖ Problem was cct was not normalled up correctly after a swap between ACSW & GSFC.	
1155	CSM Mode 6	
115524	Voice P/B completed.	
1157	Voice check Net 1	
1204	Hawaiian Music	
1205	Normal Voice csm S/C	
1331	Net 6 retrain both ways. Net change? 1.02	

54
294 58 37
288 27 37
293 33 00

OPERATIONS LOG

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MISSION/TEST: NCG 740/790/795 TEC#3 & Alsep/P&FS

DAY 219

DATE 7 AUG 71

Date/ Time	ACTION TAKEN	Initials
171530	No noise spikes after Omni change. ~~Possibly~~ Probably CWM was on an uplink spur	
1723	Alsep Carrier & mod.	
1729	CRIT GP 1 Enabled & SWS Converge U/L to Alsep 2	
1733	Carrier down Mod off Carrier	
1737	Outputting Alsep tracking veh I/D OPP EN USB.	
1740	Decoms & recorders configured for P&FS.	
1743	Up P&FS 15 Tx on D/L Carr only.	
	25 Ex pwr on S/C on.	
	52 Tlm stone fast S/C Off	
	45 R/T S/C Tlm on	
	46 Mem readout loose S/C	
	16 Tx off — no affect on D/L	
	26 Exp data pwr off loose N/W.	
1745	P&FS Carr on.	
1746	Sig level -134 AOS P&FS	
174737	" " -139 Tlm sol.id.	
174840	" -138	
1750	Tlm stone fast S/C off	
175046	LOS after carrier down P&FS.	
1800	P&FS Carr on.	
180040	AOS -126	
1802	S/C & decom lock -132	
1804	Memory readout mode.	
180756	LOS on Exp data PWR off Reconfigured for A-1 Recom 4 Vice P&FS.	
1823	P/A magnet trip P/A 4 adjusted header tank flow all o.k	
	This occurred at 1645 approx	
DL4	Alsep 1 A/G wd 35 Even frames. Add 70, 94, e.	
1854	1A 2B at Ampex. No more P&FS.	
1905	4A 2B " "	

03/08492

94 58 54
2 93 59 54
59

OPERATIONS LOG

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MISSION/TEST: NCG 740/790 TEC3/REENTRY/ALSEP

DAY 219

DATE 7 AUG 71

Date/ Time	Sub-System	COMMENTS	Initials	Action by
2006		SB 2 in ~~wide~~ High Spgd H/A — Dwg est los 2033		
2008		L/S Roack on line — Prime " 2025		
2013		Released from Alsep brite track		
20 1948		Autotrack CSM prime -103 PM		
2016		TS header to line after offering it to track		
2018		CM/SM Sep.		
2021		X axis oscillation again		
2023		VSB good autotrack again -88 dbm.		
2027		Final LOS Prime Dwng 1 Cammed Eng & TLM off.		
203255		EI		
204556		Splash down Stable 1 on two chutes!		