CSM SYSTEMS

PROPOSED CREW CHECKLIST CHANGES DUE
TO CM RCS PROBLEMS:

Pg L/1-7
ON MDC 8 ADD: cb CM RCS HEATERS (2)
- OPEN

Pg L/4-1
DELETE: CM RCS PRPLNT (2) - OFF, tb (2) - bp

Pg 5/1-1
"CM RCS PRPLNT tb (2) - bp" SHOULD BE
" .... - GRAY"
ADD "cb CM RCS HTRS - OPEN (VERIFY)

Pg E/1-8
CM RCS PREHEAT, AFTER NOTE, ADD:
CM RCS PRPLNT 1 & 2 - CLOSE

L. Canin
GNC
18/0900 Z

FEC/TSG Form 393 (May 69)

SPAN / MISSION EVALUATION ACTION REQUEST

(PLEASE USE BLACK BALLPOINT PEN)

TIME (T-MINUS/GET)	REQUEST ORGANIZATION	RESPONSE ORGANIZATION	CONTROL NUMBER
-6:16 HRS	FOD	SPAN - 45	C-4

30 30

ACTION REQD BY (TIME): ASAP

REQUEST: APPROVAL

PLEASE REVIEW ATTACHED SUGGESTED CREW CHECK LIST CHANGES (DUE TO CM RCS PROBLEMS) FOR TECHNICAL ACCURACY. (PLEASE ADVISE IF YOU HAVE ADDITIONAL CHANGES)

FOD REP: BROOKS

SPAN MGR: [illegible]

TIME: -06:12

30 30

REQUESTOR GNC

30 RESPONSE: CONCUR 30

The proposed changes have been checked against the Flight Crew Check List (FCCL) and the electrical schematics. The changes represent all changes that are required to assure no inadvertent activation of the CM RCS heaters throughout the mission.

CM engines may be operated normally during CM engine pre-heat and CM RCS operation.

The above analysis has been verified by the CSM RCS Subsystem engineer.

TEAM LDR: $E^2 L$

CON SR REP: [illegible] 5/18/69 0730

ME MGR: [illegible]

TIME: 3:15

30 SPAN MGR 30

TIME :

RESPONDOR

FOD REP	CONTRACTOR SPAN REP	SPAN MANAGER
TIME :		TIME :

30 30

MSC Form 1214A (Apr 69) (OT)

If only one valve (for example F/O valve 1) closes this will terminate propellant flow through one bank of the valve. This will result in single bank engine performance. The cues that can be used are (1) indicators on MDC 3, (2) seat of the pants, i.e., thrust decreases approximately 800 pounds, (3) the chamber pressure will decrease by approximately 4 psi. Previous crews have observed a change in thrust when opening the second bank. Note, they were expecting it. However, they have not felt the crossover transient, i.e., storage tank depletion, the crossover transient is approximately half the magnitude as the single/dual bank change.

In other words, it is doubtful that the crew can recognize the single valve shut-off except through MDC. The other "cues" listed _might_ verify the indication but that's about all.

Scott H. Simpkinson

CSM PROP

SPAN / MISSION EVALUATION ACTION REQUEST

(PLEASE USE BLACK BALLPOINT PEN)

TIME (T-MINUS/GET)	REQUEST ORGANIZATION	RESPONSE ORGANIZATION	CONTROL NUMBER
38:50	FOD	45-SPAN	C-41

ACTION REQD BY (TIME): 54 GET

REQUEST:

IF DURING A DUAL BANK BURN, ONE BALL VALVE (FOR EXAMPLE F/O VALVE 1) SHUTS DOWN, WHAT CUES COULD CREW USE FOR CONFIRMATION OTHER THAN THE VALVE INDICATOR ON MDC 3?

APPROVAL

FOD REP

SPAN MGR

TIME 38 : 54

REQUESTER GNC - CANIN

RESPONSE:

See ATTACHED PAGE

I think this is a DUMB QUESTION. Just what did you expect for the answer GNC?

CONCUR

TEAM LDR

CON SR REP

ME MGR

TIME 46:44

SPAN MGR

TIME 46 : 42

RESPONDER

FOD REP	CONTRACTOR SPAN REP	SPAN MANAGER
TIME 46 : 44		TIME :

MSC Form 1214A (May 69) (OT)

RTACF CSM/MRS INPUT SHEET

Engineer ________________ Job No. ________________

Originator WEPPNER Time 6:47 AM Date 5/22/69

G.E.T. of Run Initiation 69:30:00.0

Propellant Loadings

SPS Fuel 15363 lbs.

SPS Oxidizer 24540 lbs.

RCS Usable Propellant

Quad A 259 lbs.

Quad B 258 lbs.

Quad C 257 lbs.

Quad D 260 lbs.

Spacecraft Configuration CSM/LM DOCKED

Time Line Changes:

- LOI 2 ULLAGE: A-C QUADS, 17 SEC BT
- REDISTRIBUTE ATT. HOLD DURING SLEEP TO REFLECT B-C QUAD ISOLATION

TABLE I.- RTCC SM-RCS PROPELLANT COMPUTATION CONSTANTS

	QUAD A	QUAD B	QUAD C	QUAD D
P_{ha}				
T_a				
P_{fa}				
P_{oa}				
W_f	109.9	109.4	109.4	109.4
W_o	226.9	224.9	225.7	225.3
V_f				
V_{fl}				
V_{fT}				
V_{ham}				
V_{hl}				
V_o				
V_{ol}				
V_{oT}				
η_f	0.934	0.934	0.934	0.934
η_o	0.935	0.935	0.935	0.935

FEC/TSG Form 247 (May 68)

MR2 2.02 2.02 2.02 2.02

DAY T-1 F/C HOKSCH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
GMT 21+00		SENT SOME WTS TAB CHANGES
T-9+00		AND WPU CALC UPDATES TO RTCC
		COPIES OF THE DATA ATTACHED

FEC/TSG Form 31A

DAY T-1 F/C HOKSCH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
GMT 17+00+00		ON CONSOLE
T-12 HRS		NOTE FROM GNC: MSTC LOOP 212
		HAS BEEN ACTING UP. CSM 3 WILL
		BE PATCHED TO 214 AND THIS WILL
		BE THE PRIME LOOP DURING THE
		COUNTDOWN & LAUNCH PHASE. USE
		CSM 3 MONITOR BUT STAY AWAY
		FROM THE CSM 3 TALK BUTTON.
T-11+18		CHANGED UPPER LIMIT ON SR5729 TO
		206 TO MAKE THE LIGHT GO OUT
CM RCS RING 1 NOTE		SOME FITTINGS WERE RETORQUED
		DURING THE NIGHT. SINCE THEN THE
		MANIFOLD PRESSURE HAS HELD AT
		49 PSIA.
T-9+00		PAD READ CM RCS MANIFOLD
		PRESSURE (RING 1) AT
		45 PSIA. THIS CORRESPONDS TO
		THE 49 PSIA THAT WE HAVE
		ON THE TUBE

FEC/TSG Form 314

CSM CONSUMABLES/WEIGHT

32#
Y CAMERA

GET	3 MEN IN CSM + DOCKING RING	1 MAN IN CSM + DOCKING RING	3 MEN IN CSM NO RING
CM DRY	12035	12035	12035
SM DRY	8679	8679	8679
QD A WPR			
QD B WPR			
QD C WPR			
QD D WPR			
SPS FUEL	15630		
SPS OXID	24960		
H_2 TK 1			
H_2 TK 2			
O_2 TK 1			
O_2 TK 2			
H_2O POTABLE			
H_2O WASTE			
CM MISC	+194	-271	0
SM MISC	0	0	0
CSM WEIGHT			
CM DRY			
H_2O POTABLE			
H_2O WASTE			
CM MISC			
CM WEIGHT			
CM Δ	-206	+259	-12
CM @ 400K			

CSM SYSTEMS

PROPOSED CREW CHECKLIST CHANGES DUE TO CM RCS PROBLEMS:

Pg L/1-7
ON MDC 8 ADD: cb CM RCS HEATERS (2)
 - OPEN

Pg L/4-1
DELETE: CM RCS PRPLNT (2) - OFF, tb (2) - bp

Pg 5/1-1
"CM RCS PRPLNT tb (2) - bp" SHOULD BE
 " . . . . - GRAY"
ADD " cb CMRCS HTRS - OPEN (VERIFY)

Pg E/1-8
CM RCS PREHEAT, AFTER NOTE, ADD:
 CM RCS PRPLNT 1 & 2 - CLOSE

L. Canin
GNC
18/0900 Z

FLIGHT DIR MISSION LOG	DAY	REV	PG

SITE/ACQ/LOS	FLIGHT EVENTS/HISTORY/BRIEFING
	(3) PROPOSED CONFIG CHANGES
	A. OPEN CMRCS HEATER cb's PRELAUNCH
	B. DO NOT CLOSE PROP ISOL VALVES POST-INSERTION, TO PROTECT AGAINST THERMAL EXPANSION. FLY WITH BOTH RINGS ISOL VALVES OPEN TO SIMPLIFY MATTERS.
	C. IF MANIF PRESS DROPS, CLOSE PROP ISOL VALVES. THEN START FROM THERE.
	D. SPAN DOESN'T THINK HEATING WILL BE REQUIRED. ALTHOUGH IT CAN BE DONE, IT IS NOT DESIRABLE.
	(4) IF RING #2 BURST DISC IS PARTIALLY RUPTURED, WE MAY RESTRICTED FLOW AT SYSTEM ACTIVATION. ANALYSIS HAS SHOWN THAT THE DISC IS FULLY RUPTURED. (??)

MSC FORM 1441 (APR 66)

FLIGHT DIRECTOR'S MISSION LOG

FLIGHT DIR MISSION LOG	DAY 18	REV	PG 613

SITE/ACQ/LOS	FLIGHT EVENTS/HISTORY/BRIEFING 518
18/0500Z	CAN IN ON STA. T-9HR & HOLDING.
	SPAN SUMMARY CMRCS :
	(1) RING #1
	KSC SUSPECTS PIN-HOLE LEAK
	DOWNSTREAM OF FUEL CHECK VALVE. ≈0.133 psi/hr
	THEY ARE CERTAIN IT IS HELIUM
	NOT FUEL. THEY PREDICT ANOTHER
	PCM COUNT DROP PRIOR TO LAUNCH.
	ARNIE PURSUING A PREDICTED
	MISSION LEAK RATE. M/R 18-21A
	WILL BE WAIVED. DON'T EXPECT
	FURTHER DAMAGE AT LEAK POINT
	WHEN SYSTEM IS PRESSURIZED.
	(2) RING #2
	WHEN PROP ISOL VALVES OPENED PER
	TCP, THE OXID BURST DISC
	HAD ALREADY RUPTURED. WE NOW HAVE
	OXID AT THE ENGINE. M/R
	18-22 WILL BE WAIVED. THE
	MANIF PRESS DROPPED FROM
	44 TO 35 PSI IN 2 SEC
	WHEN THE PROP ISOL VALVES
	WERE OPENED.

MSC FORM 1441 (APR 66)

FLIGHT DIRECTOR'S MISSION LOG

DAY 0 F/C Weppner/Adams MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
T-3+30	Holding	Color TV Camera included
		in CM Dry Wgt. (32#) Wgts
		Tab chg'd accordingly
		Ref. new form under glass.
		Ref. page 1 — SPAN ~~will~~ ~~have~~ agreed
		to chg's to Check list.
		QUESTION: How do you want
		to split up OX (SMRCS)
		SEE ACR

DAY 0 F/C Weppner/Adams MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
T-6	Pre-Launch	Pin hole leak in Sys #1
		Ox Burst disc rupture in Sys #2
		(see attached notes)
		Crew check list changes
		discussed with GNC. Items (if
		changed) are L1-7
		L4-1
		S1-1
		E1-8
		Limits set - see attach
		ACR & RTCC tables complete.
		with exception of arming
		constants.
		Recorders checked - ok.
T-3+30		SPAN verified x'ducer (SR 5737)
		has a negative 11 psi shift
		throughout entire range. Launch R/L
		lowered to reflect this shift

FEC/TSG Form 314 (Oct. ...)

GNC SHIFT CHANGE BRIEFINGS

DAY 0

GET SHIFT -2 + 40 OPERATOR WEPPNER / ADAMS

SYSTEMS STATUS: Go

CMRCS: Ox burst disc in Ring 2
Small he mn leak downstream of check values in Ring 1

OUTSTANDING INSTRUCTIONS TO CREW:

PERTINENT FLT PLAN CHANGES:
Heat Ring 2 (only) to expel ox from lines.

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	N/A - SYS NOT ARMED				
FLT PLAN NOM					
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 119 DAP SM ΔV 146 SCS HYB ΔV 199 DAP HYB ΔV 226

SPS	TOTAL	OX	FU	ΔV
WPU	40590	24960	15630	~~100 fps (BD)~~ 10134 fps (100 fps B.D.)
R/L				

FEC/TSG 338 (Dec 68)

DAY 0 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
T-3+00	PRE LAUNCH	BRIEFED BY B. WEPPNER.
T-1+20	✓	ALL SYS 'GO' - CM RCS
		HOLDING
T-43	✓	RCS ARMING A B C D
		4115 4079 4188 4120
		F 183 ~~199~~ 201 192 190
		O 198 196 198 195
	T	70 70 71 70
	%	98 100 99 98
		IN THE FUTURE WHEN GIVING
		ARMING CONSTANTS TO RTC
		JUST SEND THE TOP FOUR
		ITEMS. LEAVE THE REST BLANK
T-20	✓	RCS ARMED
		A B C D
	WPU	306 304 304 304
	FOR	100%
T-10	✓	ALL SYS GO FOR
		LAUNCH

FEC/TSG Form 314

DAY 0 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
T-2	PRE LAUNCH	'GO'
	LAUNCH	ALL SYS GO
T-0		L/O
SECO		102.6/101 ON BOARD
T+13	1	CM RCS SYS #1 PROP ISOL
		CLOSE SYS #2 OPEN.
T+0+24 ~~CYI 0+30~~	1	CYI LOS SYS GO
		ALL PKG TEMPS. COMING
		DN. QUAD 'D' WAS HIGHTEST
		@ 150°
		A B C D
		148 149 138 150
		THE ABOVE ARE THE ~~HES~~
		HIGHTEST RECORDED DURING
		LAUNCH.
~~TAN 0+00~~ 0+40	1	TAN CREW CONFIRMS
		CM RCS PROP ISOL VLV
		CLOSED

FEC/TSG Form 31A (Oct. 6?)

DAY 0 F/C BORCHES / BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
0+52	1	CRO AOS LOW BIT RATE
		SYS GO CM RCS
		STILL SHOWS NO HELIUM
		LEAK.
↑	1	SM RCS HTRS APPEAR TO
1+02	1	BE OPERATING WITHIN RANGE
1+05	1	CRO LOS GO
1+30	1	AOS GYM SYS 'GO'
		WPU 307 303 302 305
		T° 72 71 75 72
REV		PKG T° 124 125 125 121
1+40	2	ALL SYS ARE 'GO'
1+54	2	CYI LOS 'GO'
		WPU 306 303 302 304
		T 72 71 75 73
		PKG 123 123 129 124
2+25	2	CRO AOS SYS GO
		FOR TLI
		CM RCS STILL HOLDING

FEC/TSG Form 314 (Oct. ...)

DAY 0 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
2+32	2	TLI @ 2+26+25
		SYS 'GO'
2+41	TLC	ON OUR WAY. TLI
		BURN 'NOMINAL' ALL
		SYS GO BUT LOST DATA
		ABOUT 1/2 WAY THROUGH BURN
2+47	TLC	WPU 305 304 304 307
		T 73 70 76 73
		PKG 138 136 13 121
2+57	TLC	GO FOR SEP.
3+00	TLC	SEP. TV LOOKS GREAT
3+17	TLC	DOCKED
		WPU 296 291 290 294
		PROP USED 10 13 14 10
		T° 72 68 76 72
		PKGT 156 153 154 150
~~3+56~~	~~TLC~~	~~SEP FROM S-IVB~~
~~3+56~~	~~TLC~~	~~WPU 293 292 290 296~~

FEC/TSG Form 314 (Oct. ...)

DAY 0 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
3+42	TLC	WPU 297 293 291 295
		T 72 68 76 72
		PKG 148 143 134 128
		EVASIVE MAN.
		4+39+09 GET
		BT 03 SEC
		ΔV 15 FPS
3+56	TLC	SEP FROM SIVB
3+58	TLC	WPU 293 292 290 296
4+15	TLC	WPU 292 293 291 292
		~~T~~ 72 68 76 70
		% 95 97 97 95
4+34	TLC	WPU 292 291/~~30~~ 288 294
		T° 73 69 75 70
		% 95 97 97 96
~~3+56~~	~~TLC~~	~~SEP FROM SIVB~~
~~3+58~~	~~TLC~~	~~WPU 293 292 290 296~~

FEC/TSG Form 314 (Oct. ..)

DAY 0 F/C Borches/Barker MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
4+39	TLC	EVASIVE MNVR
		3 SEC
		BURN LOOKED GOOD
		~~No Pc on 32 R chart~~
		~~recorder~~ JEB
4+50	TLC	WPU 291 290 289 295
		T 73 69 74 69
5+00	TLC	WPU 291 290 290 295
		T 73 70 74 69
		% 95 96 97 95
		Goldstone 08
5+44	TLC	WPU 290 300 287 294
		T 73 71 73 67
		% 94.3 96.5 97.1 95.6
		Fu Mn P (Quad B) indicates
		323 PSIA at Goldstone
		10117

FEC/TSG Form 314 (...)

TABLE I.- RTCC SM-RCS PROPELLANT COMPUTATION CONSTANTS

	QUAD A	QUAD B	QUAD C	QUAD D
P_{ha}	4115	4079	4188	4120
T_a	70	70	71	70
P_{fa}	183	201	192	190
P_{oa}	198	198	198	195
W_f	109.9	109.4	109.4	109.4
W_o	226.9	224.9	225.7	225.3
V_f	3763	3763	3763	3763
V_{fl}	28.6	28.6	28.6	28.6
V_{fT}	3731	3731	3731	3731
V_{ham}	910.0	910.0	910.0	910.0
V_{hl}	3.8	3.8	3.8	3.8
V_o	4675	4675	4675	4675
V_{ol}	37.0	37.0	37.0	37.0
V_{oT}	4635	4635	4635	4635
η_f	0.934	0.934	0.934	0.934
η_o	0.935	0.935	0.935	0.935

FEC/TSG Form 247 (May 68)

TABLE I.- RTCC SM-RCS PROPELLANT COMPUTATION CONSTANTS

	QUAD A	QUAD B	QUAD C	QUAD D
P_{ha}	4115	4079	4188	4120
T_a	70	70	71	70
P_{fa}	183	201	192	190
P_{oa}	198	198	198	195
W_f	109.9	109.4	109.4	109.4
W_o	226.9	224.9	225.7	226.3
V_f	3763	3763	3763	3763
V_{fl}	28.6	28.6	28.6	28.6
V_{fT}	3731	3731	3731	3731
V_{ham}	910.0	910.0	910.0	910.0
V_{hl}	3.8	3.8	3.8	3.8
V_o	4675	4675	4675	4675
V_{ol}	37.0	37.0	37.0	37.0
V_{oT}	4635	4635	4635	4635
η_f	0.934	0.934	0.934	0.934
η_o	0.935	0.935	0.935	0.935

FEC/TSG Form 247 (May 68)

TABLE II.- RTACF SM-RCS PROPELLANT COMPUTATION CONSTANTS

	QUAD A	QUAD B	QUAD C	QUAD D
P_{ha}	4115	4079	4188	4120
T_a	70	70	71	70
P_{fa}	183	201	192	190
P_{oa}	198	198	198	195
W_{fP}	69.6	69.9	69.6	69.8
W_{fA}	40.3	39.5	39.8	39.6
W_{oP}	226.9	224.9	225.7	225.3
W_{oA}	—	—	—	—
V_{fP}	2274	2274	2274	2274
V_{fA}	1489	1489	1489	1489
V_{flP}	8.2	8.2	8.2	8.2
V_{flA}	8.2	8.2	8.2	8.2
V_{flPA}	12.2	12.2	12.2	12.2
V_{ftP}	2258	2258	2258	2258
V_{ftA}	1473	1473	1473	1473
V_{ham}	910	910	910	910
V_{hl}	3.8	3.8	3.8	3.8
V_{op}	2868	2868	2868	2868
V_{oa}	1807	1807	1807	1807
V_{olP}	11.1	11.1	11.1	11.1
V_{olA}	11.1	11.1	11.1	11.1
V_{olPA}	14.8	14.8	14.8	14.8
V_{otP}	2848	2848	2848	2848
V_{otA}	1787	1787	1787	1787
η_{fP}	0.934	0.934	0.934	0.934
η_{fA}	0.934	0.934	0.934	0.934
η_{oP}	0.935	0.935	0.935	0.935
η_{oA}	0.935	0.935	0.935	0.935

FEC/TSG Form 248 (May 68)

GNC SHIFT CHANGE BRIEFINGS

DAY 0

GET SHIFT L/O + 6+00 OPERATOR BORCHES/BARKER

SYSTEMS STATUS:

ALL SYS APPEAR TO BE OPERATING NOMINAL. KEEP AN EYE ON CM RCS SYS 1 HELIUM MN P. SPS OX TNK PRESS MAY DECREASE SOME DURING THE NIGHT.

OUTSTANDING INSTRUCTIONS TO CREW:

NONE

8

PERTINENT FLT PLAN CHANGES:

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	1155	287	289	288	291
FLT PLAN NOM	1076	265	271	271	269
SCS SM R/L	NA				
DAP SM R/L					
SCS HYB R/L	NA				
DAP HYB R/L					

SCS SM ΔV NA DAP SM ΔV ____ SCS HYB ΔV NA DAP HYB ΔV NA

SPS	TOTAL	OX	FU	ΔV
WPU	3998 ~~[illegible]~~			10117
R/L				

FEC/TSG 338 (Dec 68)

GNC SHIFT CHANGE BRIEFINGS

DAY 0

GET SHIFT L/O + 6+00 OPERATOR BORCHES/BARKER

SYSTEMS STATUS:

ALL SYS APPEAR TO BE OPERATING NOMINAL. KEEP AN EYE ON CM RCS SYS 1 HELIUM MN P. SPS OX TNK PRESS MAY DECREASE SOME DURING THE NIGHT.

OUTSTANDING INSTRUCTIONS TO CREW:

NONE

PERTINENT FLT PLAN CHANGES:

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	1155	287	289	288	291
FLT PLAN NOM	1076	265	271	271	269
SCS SM R/L	NA				
DAP SM R/L					
SCS HYB R/L	NA				
DAP HYB R/L					

SCS SM ΔV NA DAP SM ΔV ____ SCS HYB ΔV NA DAP HYB ΔV NA

SPS	TOTAL	OX	FU	ΔV
WPU	3998 ~~40356~~			10117
R/L				

DAY 1 F/C HOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
GET 6+33		BRIEFED, ON CONSOLE
		SR5001 fluctuating between
		4073 & 4052
GDS 6+49		WPU 290 300 286 290
		Temp 74 71 71 65
		SPS OX TANK 165, SPS FU TANK 172
GDS 7+18		TO COUNTER THE GDS error in
		SR5784, MED INPUT OF 185
		DROPPED LOWER LIMIT OF SR5003
		to 4040
GDS 7+21		TEMP 76 72 70 63
HAW 7+24		REMOVED MED INPUT ON SR5784
		CHANGED UPPER LIMIT ON SR5013
		TO 78°F
7+29		Temp 77 73 69 63
7+31		CR0035 starting to fluctuate
		between 44 psia & 42 psia. Temp
		has dropped 1° from 73°F
		to 72°F, so the pres. drop
		may not indicate the
		expected leak.

FEC/TSG Form 31A (Oct. 68)

DAY 1 F/C MOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
HAW 8+03		TEMP 78 75 69 61
GWM 8+38		Quads A & B temps climbing,
		C & D quads dropping
8+56		79 81 67 59 Quad temps
HSK 9+35		79 85 66 58 " "
PTC MAN		286 284 286 289
HSK 10+09		285 285 287 290 $\boxed{\text{PTC start}}$
		He tank t. 80 90 66 56
		Pkg t 128 162 138 132
10+46		CREW PIT % READOUTS 93 93 99 94 ← CR0036 dropped to 35, temp
		(CR0004) also dropped 1°F.
10+47		He tank t 81 93 65 55
HSK 11+24		" " " 82 94 65 55
GDS 12+01		WPU 288 282 284 291
HSK 12+14		He tk T 84 93 65 56
HSK 12+40		WPU 286 283 282 290
HSK 12+57		WPU 282 280 282 289
		He tk T 83 92 66 57
13+08		WPU 283 281 279 288
13+51		WPU 282 281 282 286
		He tk T 84 89 66 59

FEC/TSG Form 31A

DAY 1 F/C HOKSCH/WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
HSK 13+52		SP0003 HAS INCREASED TO 166 PSIA
HSK 14+06		CR0035 FLICKING BETWEEN 42 & 41 psia. SP0001 HAS BEEN JUMPING BETWEEN 3726 & 3747 SINCE WE CAME ON SHIFT.

FEC/TSG Form 314 [illegible]

GNC SHIFT CHANGE BRIEFINGS

DAY ______

GET SHIFT 14 + 20 OPERATOR HORSCH/WALSH

SYSTEMS STATUS:

RING 1 CM RCS He Mn Pres DROPPED FROM 44 to 42 DURING THE SHIFT. IT IS PRESENTLY JUMPING BETWEEN 42 & 41. SPS OX TANK PRES DROPPED TO 164 psia, IS NOW UP TO 166 psia. NO MCC1, MCC2 WILL BE @ GET 26+30.

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☒)

SMRCS	TOTAL	A	B	C	D
WPU	1134	281	283	281	289
FLT PLAN NOM	1061	261	268	266	266
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 42 DAP SM ΔV 52 SCS HYB ΔV ______ DAP HYB ΔV ______

SPS	TOTAL	OX	FU	ΔV
WPU	39983			10139
R/L				

FEC/TSG 338 (Dec 68)

GNC SHIFT CHANGE BRIEFINGS

DAY ______

GET SHIFT 14 + 20 OPERATOR HORSCH/WALSH

SYSTEMS STATUS:

RING 1 CM RCS He Mn Pres DROPPED FROM 44 to 42 DURING THE SHIFT. IT IS PRESENTLY JUMPING BETWEEN 42 & 41. SPS OX TANK PRES DROPPED TO 164 psia, IS NOW UP TO 166 psia. NO MCC1, MCC2 WILL BE @ GET 26+30.

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES NO) ☐ YES ☒ NO

SMRCS	TOTAL	A	B	C	D
WPU	1134	281	283	281	289
FLT PLAN NOM	1061	261	268	266	266
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 42 DAP SM ΔV 52 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	39983			10139
R/L				

FEC/TSG 338 (Dec 68)

#3

DAY 1 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
MAD 20+00		279 279 280 281
		92.7% 93.8% 94.4% 92.1%
		83° 79° 73° 67°
		MRS initiated @ GET 17+00
		c̄ est'd. ME1 ≤ 2.009.
		Leave 2.0 in MED. Tab.
MAD 20+10		chg low limits CSM 2920 (278)
		CSM 2918 (277)
MAD 21+00		GNC's est'd wgt for first MCC ≈
		@ 26+30 revised.
		H_2O waste 22# vs 37
MAD 21+10		280 281 278 281
		92.3% 93.8% 94.4% 91.7%
		82° 78° 73° 68°
MAD ~~21+20~~		~~CHG LOW LIMITS~~
		~~CR~~

FEC/TSG Form 314

#2

DAY 1 F/C WEPPNER / ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
MAD 17+45		CHG LO LIM SR 5733 = 180 SR5820 = 181
MAD 18+13		CHG LO LIM SP0045 TO 67°
MAD 18+30		FROM GET 9+30 TO PRESENT.
		WE'VE USED ≈ 19# PROP FOR
		PTC (INCL. 4# FOR ORIENT'N.) ≈ 1.5#/HR
		BUDGET EST: ≈ 1#/HR.
		282 282 281 283
		92.7% 94.2% 94.8% 92.5%
		84° 81° 72° 67°
MAD 18+45		CHG LO LIM: SR5822 (175)
		SR 5820 (180)
MAD 19+02		CHG LO LIMIT SR 5002 → 4015
MAD 19+09		" " " SR5014 → 78
MAD 19+18		" " " CSM2917: 275 SP0045: 66°
MAD 19+29		CR0036 Reading 35 psi
MAD 19+30		279 279 280 282
		92.7 93.8 94.4 92.1
		83 80 73 67
MAD ~~19+~~ 20+00		Chg Low Lim SR 5013 → 81

FEC/TSG Form 31A (Oct. 68)

#1

DAY 1 F/C WEPPNER / HOKSCH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
HSK 14+48	TLC	Relieved Mx TEAM — no problems
		281 280 280 287
HSK 15+45	TLC	281 283 282 288
		CHG'D LOW LIMITS (REF ATTACH.)
16+02	TLC	SR5014 = 80 CR0036 = 34 CSM 2918 = 280
HSK 16+22	TLC	281 281 280 287
		p/f 92.7 94.2 94.8 92.5
		84° 84° 70° 64°
MAD 16+30	TLC	281 — 280 — (LBR)
		Chg'd Lo Limi: CSM 2917 = 279 CSM 2918 = 278 CSM 2919 = 278 CSM 2920 = 281
MAD 17+15	TLC	282 283 279 285
		92.7 94.2 94.8 92.5
		84° 82° 71° 65°
MAD 17+25		SP0601 chg'd to 2436
MAD 17+37		CHG LO LIM SR5002 = 4036

RTACF CSM/MRS INPUT SHEET

Engineer ______________________ Job No. ______________________

Originator WG WEPPNER Time 0500 Date 19 MAY

G.E.T. of Run Initiation 0:0:0.

Propellant Loadings

SPS Fuel 15630 lbs.

SPS Oxidizer 24960 lbs.

RCS Usable Propellant

Quad A 306 lbs.

Quad B 304 lbs.

Quad C 304 lbs.

Quad D 304 lbs.

Spacecraft Configuration DOCKED

Time Line Changes:

DELETE MCC 1

ADD MCC 2 = 48.5 fps (SPS)

DELETE TD&E BIAS (photography, inspection, etc.)

PTC start @ 10 hr instead of 12

DAY 1 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
21+51	TLC	BRIEFED BY B. WEPPNER
22+14	TLC	WPU 281 278 278 280
		% 92 93 94 92
		T° 82 78 74 68
22+46	TLC	WPU 277 278 278 279
		% 92 93 94 91
		T 82 78 74 69
		PKG 124 125 122 132
		STEADY STATE SPS VALUES
		EVASIVE MNVR. OX TNK 169
		OX INL. 156
		P_c 95
		FU ~~TANK~~ 170
		FU ~~TNK~~ INLET 163
23+53	TLC	~~STOPPED~~ PTC FROM START TO PRESENT
		277 275 273 275
		USAGE 0.58#/HR 0.729#/HR 1.02#/HR 1.09#/HR

FEC/TSG Form 314

DAY 1 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
24+00	TLC	WPU 273 275 273 275
		% 91 92 93 90
		T° 82 77 74 69
		PKG T° 128 128 122 123
24+22	TLC	ALL SYS 'GO'
24+25	TLC	PTC STOPPED
		WPW 274 272 269 276
		PROP USED FOR PTC
		A B C D
		11 13 18 14
		0.769#/HR 0.909#/HR 1.258#/HR 0.979#/HR
		AV. USAGE FOR PTC 0.97875#/HR
25+13	TLC	WPU 271 269 270 272
		% 90 91 92 89
		T° TNK 81 76 74 69
		PKG T 133 123 125 129
		FROM START TO PRESENT
		BURN PAD MCC2
		26+32+56
		P+0.90 BT 7
		Y−0.21 ΔV 48.7

FEC/TSG Form 31A

DAY 1 F/C BORCHES / BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
26+00	TLC	WPU 271 267 267 272
		% 90 91 92 89
		T° 80 74 73 68
		PKG. 123 126 125 131
26+34	TLC	SPS BURN LOOKED GREAT ON TIME
27+00		WPU 268 262 264 265
		% 88.8 90.2 90.5 87.4
		T 77 70 70 67
		Eng Flng T 69
27+45	TLC	PTC STARTED WPU 266 263 262 263
28+00	TLC	SPS DATA REVIEWED
		'GO'
		CREW PUGS R/O FU 99.4
		OX 98.0
		UBAL -400
		TUBE PUGS R/O FU 99.4
		OX 98.0
28+38		WPU 264 264 265 265
		T° 77 71 67 65
		% 88 89 90 87

FEC/TSG Form 31A

DAY 1 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
28+41	TLC	MED ALL RCS OX MN P
		SO THAT DURING LOW BIT
		RATE WPU'S WILL REMAIN.
29+00	TLC	WPU 263 262 261 266
		% 88 89 90 87
		T 78 73 67 65
		PKG 128 122 125 123
29+15	TLC	SPS MCC 2 STEADY STATE DATA
		OX TNK 173
		OX INL 157
		Pc 99
		FU INL 167
		FU TNK 173

FEC/TSG Form 314 (Oct. 66)

GNC SHIFT CHANGE BRIEFINGS

DAY 1

GET SHIFT 21 + 24 OPERATOR WEPPNER/ADAMS

SYSTEMS STATUS: Green.

Wgts Prediction given to RETRO

OUTSTANDING INSTRUCTIONS TO CREW:

NONE

PERTINENT FLT PLAN CHANGES:

First MCC scheduled for 26+30

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	1115	280	277	278	280
FLT PLAN NOM	1052	259	264	265	264
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 42 DAP SM ΔV 52 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	40383	24833	15550	10139 (CSM ONLY) / 5615 (DOCKED)
R/L				

50 fps B.D.

FEC/TSG 338 (Dec 68)

GNC SHIFT CHANGE BRIEFINGS

DAY 1

GET SHIFT 29 + 45 OPERATOR BORCHES/BARKER

SYSTEMS STATUS:

MCC#2 SPS NOMINAL
CM RCS SYS #1 DROPPED 1 BIT (41-39) DURING SHIFT. SYS #2 DROPPED 1 BIT ALSO (37-35). THE REST OF THE SYS ARE GREEN & GO.
MED INPUTS FOR ALL SM RCS OX MIN P.

OUTSTANDING INSTRUCTIONS TO CREW:

NONE

PERTINENT FLT PLAN CHANGES:

NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	1049	265	260	261	263
FLT PLAN NOM	1006	247	254	253	252
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 41 DAP SM ΔV 52 SCS HYB ΔV — DAP HYB ΔV —

SPS	TOTAL	OX	FU	ΔV
WPU	39503			10 086
R/L				

FEC/TSG 338 (Dec 68)

DAY 1 F/C HOKSCH/WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
MAD 29+53		START PTC 265 259 261 263
GDS 30+51		264 258 262 264
31+01		OX TK PSI 173-4
		FU TK PSI 176-4
		OX IN 174
		FU IN 172
GDS 31+29		He TK T 80 79 67 64
GDS 32+10		263 259 260 262
GDS 33+01		262 259 262 261
		SP0658 READING OFF SCALE
		LOW. DEC PCM COUNT IS 255
		(DUE TO LO BIT RATE), DEC PCM
		ON HI BIT RATE IS 0. AT
		GDS THEY HAVE 1 COUNT (0.00%)
		HOU TM READS 0 DEC PCM COUNT
		GODDARD HAS A 1. DATA IS GOOD
		FROM THE S/C. CCATS TM IS
		CHASING IT DOWN.
GDS 33+32		WPU 262 259 261 264
		HETKT 82 80 70 66

DAY ________ F/C HOKSCH/WALSH MISSION: APOLLO

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
GDS 33+33		OX TK 174-3 OX IN 173
		FU TK 174-6 FU IN 172
		CREW RCS READOUT:
		87% 88% 92% 86%
		262 259 260 264 WPU
		85.6 85.3 85.5 86.5 WPU%
		87.6 87.5 89.3 86.2 P/T GROUND
		QUAD C IS READING HIGH
GDS 33+58		262 259 260 264
		MORE ON SP0658: GDS HAS
		TROUBLES. GODDARD WAS
		READING A 0 INSTEAD OF 1 AS
		FIRST REPORTED. DATA IS GOOD
		FROM THE S/C.
34+28		WPU 261 259 263 262
35+00		WPU 261 259 262 262
35+58		WPU 264 260 CCA 261 TM 260
36+57		WPU 264 260 259 263
		OX TK 173 OX IN 173
		FU TK 174-6 FU IN 172
HSK 37+41		WPU 264 261 262 262

GNC SHIFT CHANGE BRIEFINGS

DAY ____________

GET SHIFT 37 + 40 OPERATOR HOKSCH / WALSH

SYSTEMS STATUS: ① CM RCS RING 1 LEAK HAS CONTINUED AS PREDICTED (0.16 psia/hr)

② PRESENT PTC HAS USED ESSENTIALLY NO PROP IN THE PAST 8 HOURS.

③ NO OUTSTANDING PROBLEMS - KEEP IT THAT WAY.

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☒)

SMRCS	TOTAL	A	B	C	D
WPU	~~1059~~ 1049	264	261	262	262
FLT PLAN NOM	988	242	250	248	248
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 42 DAP SM ΔV 53 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
~~WPU~~ TANKED	39903	24540	15363	
R/L				

FEC/TSG 338 (Dec 68)

RTACF CSM/MRS INPUT SHEET

Engineer ______________________ Job No. ______________________

Originator W.G. WEPPNER Time 0330 Date 20 May

G.E.T. of Run Initiation 0:0:0.

Propellant Loadings

SPS Fuel 15630 lbs.

SPS Oxidizer 24960 lbs.

RCS Usable Propellant

Quad A 306 lbs.

Quad B 304 lbs.

Quad C 304 lbs.

Quad D 304 lbs.

Spacecraft Configuration DOCKED

Time Line Changes:

MCC1 }
MCC3 } Deleted
MCC4 }

MCC2 Burn Time = 7.0 SEC (SPS)

1ST PTC: 10hr to 24.5 hr

2ND PTC: START @ 30hr [WPU's 265 259 261 263]

Delete TD&E Bias

#4

DAY 2 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
MAD 44+42	TLC	CHG CR0001 LO LIM TO 4183
44+46	"	" SP0601 LO LIM TO 2368
		OX TK: 172 OX IN: 173
		FU TK: 176 FU IN: 173
45+20		264 259 262 260

FEC/TSG Form 314

#3

DAY 2 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
		EST USAGE (FLT PLN) FROM
		43HR → 58 HR
		13# 15# 15# 13#
		GNC RECOMM. A-C ROLL (QUAD
		A ~~FRB~~ FARTHEST FROM R/L.
NOTE (43+47)		DOESN'T LOOK LIKE MRS
		RUN INCLUDES NEW METHOD
		OF PTC
		IE: 0.3°/SEC @ 0.5° db FOR
		20 MIN ; THEN EXPAND db TO
		30°
		MRS ALLOTED ≈ 5# FOR PTC
		WE DIDN'T FIRE A JET
		THROUGHOUT PTC.
43+50	TLC	AMT SAVED IN NEW PTC MODE
		A B C D 5 4 4 4

FEC/TSG Form 314

#2

DAY 2 F/C WEPPNER /ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
MAD 41+10	TLC	MRS completed.
		MRI remain 2.00
		MRS qtys. above actual by:
		A +5 B +5 C +9 D +2
		Actual: A 264 B 259 C 259 D 261
MAD 42+30	TLC	264 259 259 261
		87.6 87.9 89.7 86.6
		83 78 76 71
MAD 42+50	TLC	SXT CHK TO BE MADE - NOT
		INCLUDED IN ~~FLT~~ MRS RUN.
		MNVR: P 90° → 350°
		R 295° → 90°
		ATT HOLD FOR 5 MIN @ .5° DB
		P 350° → 90°
		GNC TOLD FLT:
		ROLL CONSUMPTION ≈ .4#
		PITCH " 5.2#
		ATT HOLD ≈ 1.5
		TOT ≈ 7#

FEC/TSG Form 31A

DAY 2 F/C WEPPNER / ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
38+15	TLC	Briefed by Mn Team
		Chg CR0035 lo lim to 36psi
		264 257 261 262
		87.6 87.9 89.7 86.6
		83 79 75 70
38+40		GNC quiried SPAN – if one
		ball valve indicator shows closed
		(example F/O 1) what other que can
		crew use to determine bank
		failure vs x'ducer failure?
39+50		Updated MED values for
		~~(263 258 260 261)~~
		Ox Mn P:
		185 184 186 182
3		MRS Run initiated
40+15		Chg lo lim SP0003 → 170
40+30		264 258 260 261

FEC/TSG Form 31A (Oct. ...)

GNC SHIFT CHANGE BRIEFINGS

DAY 2

GET SHIFT 45 + 30 OPERATOR WEPPNER/ADAMS

SYSTEMS STATUS: GO.

OUTSTANDING INSTRUCTIONS TO CREW:

USE A-C ROLL FOR QUAD BAL. -VS- B-D ROLL

PERTINENT FLT PLAN CHANGES: SXT. CHK (GET OF 45-46 HRS)

EST PROP USAGE 7#

CONSUMABLES STATUS (CREW UPDATED YES ☒ NO ☐) 86% TOT

RCS 4% above flt. pln. 87% 85% 86% 86%

SMRCS	TOTAL	A	B	C	D
WPU	1045	264	259	262	260
FLT PLAN NOM	980	240	248	246	246
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 43 DAP SM ΔV 54 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	39503 (98.5)	24290	15213	10093 (5572 DOCKED)
R/L				100fps RD

FEC/TSG 338 (Dec 68)

DAY 2 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
45+46	TLC	BRIEFED BY B. WEPPNER
		SYS 'GO'
46+24	TLC	WPU 264 259 262 260
		% 88 88 90 87
		T° 83 78 77 72
47+20	TLC	WPU 264 259 262 260
		% 88 88 90 87
		T° 83 78 78 72
48+00	TLC	WPU 264 259 262 260
		% 88 88 90 87
		T 83 78 78 72
		DROPPED 1 BIT IN CMRCS #1
		TNK P ($\frac{4202}{4184}$)
48+55	TLC	WPU 264 259 261 260
		% 88 88 90 87
		T 83 78 78 72
50+04	TLC	WPU 264 259 261 260
		% 88 88 90 87
		T 83 78 78 72
		PKG 129 123 125 126

FEC/TSG Form 314 (Rev. ...)

DAY 2 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
51+10	TLC	FIRED THE FIRST JET
		I THINK IT WAS A ~~PITCH~~ YAW JET
		THIS IS THE FIRST SINCE
		PTC STARTED AT 29+53 GET.
51+18	TLC	WPU 263 260 260 260
		% 88 88 90 87
		T° 83 77 78 72
51+21	TLC	CREW REPORTED JET CONT
		TO FIRE ONE EVERY 4 OR 5
		SEC.
51+20	TLC	PTC STOPPED
		WPU 264 260 260 259
51+35	TLC	WPU 264 259 260 258
51+47	TLC	SKIP MCC 3 & POSS. MCC #4
51+49	TLC	CHANGED MED ON OX
		MN P. WPU CHANGED TO
		WPU 259 259 259 262
NOTE:		INPUT FROM N. TOWNSEND
		PREDICTS UNBAL OF 100 # @
		240 SEC INTO LOI 1. THRUST INC.
		FROM PLI VLV IS + 320 lbf.

FEC/TSG Form 314

DAY 2 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
	TLC	THEY ALSO PREDICT THE PU VLV
		TO REMAIN IN INC. FOR 94 SEC.
		CROSS-OVER @ 253 SEC INTO
		LOI,
52+04	TLC	WPU 260 258 260 262
		% 87 88 89 87
		T 82 78 78 72
		Preg. 130 130 127 135
52+38	TLC	WPU 259 257 257 259
		% 87 87 89 87
		T 83 78 77 72
NOTE:		WHEN CONVERTING PUGS DATA
		FROM CHART RECORDER TO ELI
		DO NOT USE CAL. CURVES IN
		BOOK. USE STRAIGHT LINE
		CURVE. THAT ARE INSERTED
		IN THE CAL BOOK.

FEC/TSG Form 31A

DAY 2 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
53+06	TLC	WPU 261 258 258 261
		% 87 87 89 87
		T° 84 80 77 71
54+00	TLC	WPU 260 255 257 260 1032
		% 86 85 89 87
		T 88 85 75 68
54+14	TLC	GETTING READY TO START
		PTC.
54+36	TLC	PTC STARTED
		WPU 259 254 258 259

GNC SHIFT CHANGE BRIEFINGS

DAY 2

GET SHIFT 54 + 40 OPERATOR BORCHES/BARKER

SYSTEMS STATUS: PTC LOOKED GREAT
NO PROBLEMS. DID NOTHING EITHER.

OUTSTANDING INSTRUCTIONS TO CREW:
NONE

PERTINENT FLT PLAN CHANGES:
NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☒)
≈ 5% ABOVE FLT PLAN.

SMRCS	TOTAL	A	B	C	D
WPU	1035	258	256	259	262
FLT PLAN NOM	931	228	236	233	234
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 43 DAP SM ΔV 54 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	39503			10093
R/L				

FEC/TSG 338 (Dec 68)

DAY 2 F/C HOKSCH /WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
54+44		WPU 258 252 257 261
GDS 56+11		TOOK DEC PCM COUNT & WENT
		INTO CAL CURVES FOR A GOOD
		HACK ON SPS PARAMETERS.
		PARAMETER DEC PCM EU
		SP0003 172 172 171.62
		SP 0931 145 173 172.73
		SP0006 174 176 175.55
		SP0930 147 173 174.43
56+15		WPU 256 253 257 260
56+00		CREW READOUT
		P/T % 86 86 91 87
		WPU 256 253 257 260
		WPU % 83.7 83.2 84.5 85.5
		Temp 95 91 69 64
		P/T tube 86.8 85.5 88.5 85.8
GDS 57+53		WPU 257 256 257 258
58+25		Both Sys 1 & 2 He Mn Pres in
		CM-RCS are leaning toward
		35 psia. On Low Bit rate the
		pres. is 35. On Hi bit its 37

FEC/TSG Form 314 (Oct. 6?)

DAY 2 F/C HOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
GDS 59+56		WPU 258 253 257 259
		HSK FMT 9&8 HAS PUGS DATA
		ON BOTH OX AND BOTH FU PCT
		READINGS. GDS FMT 8 HAS A
		READING 70 ON SP0057. TIC
		AND THE OTHERS ARE CHASING
		IT DOWN. - IT SEEMS THEIR
		COMPUTERS SLOWLY DIE. THIS
		PROBLEM GOES AWAY WHEN
		THEY RECYCLE.
GDS 61+30		256 257 255 261 WPU
GDS 62+12	TLC	257 257 258 260 WPU
HSK 62+55		258 259 257 259
HSK 63+36		259 255 257 259

FEC/TSG Form 31A (Oct. 68)

GNC SHIFT CHANGE BRIEFINGS

DAY 2

GET SHIFT 64 + 00 OPERATOR HOKSCH/WALSH

SYSTEMS STATUS: ① BEFORE ANY SPS BURN COVERED BY HSK OR GDS, HAVE THEM RECYCLE THEIR COMPUTERS. (SEE LOG).

② CM RCS RING 1 HAS FAIRLY WELL STABILIZED AT 35 psia. IT HAS SPENT THIS SHIFT FLICKING BETWEEN 37-35.

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SAME AS LAST ONE

SMRCS	TOTAL	A	B	C	D
WPU					
FLT PLAN NOM					
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU				
R/L				

FEC/TSG 338 (Dec 68)

It appears that the crew readout
is gradually dropping behind the WPU%
in all quads

MORE UNSOLICITED STUFF

T+10+46

	A	B	C	D
✓ Crew Readout	93	93	99	94
P/T Corrected	90.5	86.5	95.5	94
✓ WPU %	93.8	93.4	93.1	96
✓ P/T Uncorrected	93.5	91.4	95.9	93.2
Temps	81	93	65	55

T+33+33

	A	B	C	D
Crew Readout	87	88	92	86
P/T Corrected	83	83	89	85
✓ WPU %	85.6	85.3	85.5	86.5
✓ P/T Uncorrected	87.6	87.5	89.3	86.2
Temps	81	80	68	65

T+56+00

	A	B	C	D
✓ Crew Readout	86	86	91	87
P/T Corrected	79.5	79	87	85
✓ WPU %	83.7	83.2	84.5	85.5
✓ P/T Uncorrected	86.0	84.7	88.5	85.8
Temps	95	91	69	64

Δ Between Crew Readout and WPU %

	A	B	C	D
T+10+46	−0.8	−0.4	+5.9	−2.0
T+33+33	+1.4	+2.7	+6.5	−0.5
T+56+00	+2.3	+2.8	+6.5	+1.5

− Values indicate Crew Readout is less than WPU %.

MCS

PTC mnvr to att. DAP load 21101 (Dap A+R1)
disable two adjoint quads. (C & D)
7 & 3 remain in this config'n for 20 min.
roll to 0.3 deg/sec
then expand d.b. to 30° (P & 4)

PTC #3
5-H+30

2°/sec
.5° db
B-D rotation
A-C "
CSM/LM

PTC #1 Mnvr to att.
Roll to 0.1°/sec
exp db. to 20°

no jets disabled!

P52 while in PTC < 45 hrs, 52 hrs

PTC #1, PTC #2 > bad initialization
re-initialized w. success.

PTC #3 - initialized ok.

FIDO est. no MCC 4

RTACF CSM/MRS INPUT SHEET

Engineer ____________________ Job No. ____________________

Originator W. G. WEPPNER Time 0530 Date 21 MAY 69

G.E.T. of Run Initiation 00:00:00.0

Propellant Loadings

SPS Fuel 15630 lbs.

SPS Oxidizer 24960 lbs.

RCS Usable Propellant

Quad A 306 lbs.

Quad B 304 lbs.

Quad C 304 lbs.

Quad D 304 lbs.

Spacecraft Configuration DOCKED

Time Line Changes:

MCC1
MCC3 } DELETED
MCC4

MCC2 BT = 7.0 SEC (SPS)

PTC (#1) 10 HR TO 24.5 HR (GET)

PTC #2 30 HR TO 51.3 HR (GET)

PTC #3 INITIATED @ 54.5 (GET)

DELETE TD&E BIAS

DAY 3 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
MAD 69+22	TLC	RETRO GAVE GNC EST.
		OF: LOI 2981 fps
		LOI2 145 fps ~~(DURING [illegible])~~
		TEI 3629 fps
MAD 70+40		259 256 257 260
		87.2 87.5 88.9 85.8
		86 79 77 72
		OX MN P. (06AB)
		184 181 187 183
		MED 183 181 182 181
MAD 71+02		TERMINATE PTC

DAY 3 F/C WEPPNER / ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
HSK 64+25	TLC	Briefed by Mn team. All
		sys. Go! Ring #1 Mn press
		dropped from 37 → 35 (DURING MN SHIFT)
HSK 64+56		260 257 256 258
		87.2 87.1 88.5 85.8
		87 81 76 70
MAD 65+55		261 258 255 261
		87.2 87.1 88.5 85.8
		87 81 76 71
NOTE —		ONCE CREW STOPS PTC
		TRY TO GET HACK ON PKG
		TEMPS. IE: LIMITS & HTR
		CYCLE PERIOD. (LO MAY BE
		A GOOD TIME.)
MAD 67+27		258 258 254 260
		87.2 87.5 88.5 85.8
		87 80 77 71
NOTE —		LIMITS NOT TAMPERED
		WITH. BLK TEAM OPTION FOR
		LOI.

FEC/TSG Form 314 (Oct. 6?)

GNC SHIFT CHANGE BRIEFINGS

DAY 3

GET SHIFT 71 + 40 OPERATOR Weppner /Adams

SYSTEMS STATUS: Go for LOI!

PTC Terminated @ GET 71+02

OUTSTANDING INSTRUCTIONS TO CREW: None

PERTINENT FLT PLAN CHANGES:

CONSUMABLES STATUS (CREW UPDATED YES ☒ NO ☐) TOT 85%

85% 85% 84% 86%

7% above Flt. pln.

SMRCS	TOTAL	A	B	C	D
WPU	1031	259	255	257	260
FLT PLAN NOM		227	233	231	232
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	39503	24290	15213	10108 (CSM)
R/L				

FEC/TSG 338 (Dec 68)

DAY 3/4 F/C BORCHES/BARKLER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
71+30	TLC	BRIEFED BY B. WEPPNER
		ALL SYS GO
72+00	TLC	WPU 259 255 257 260
		% 87 87 89 86
		T 86 80 77 71
73+00	TLC	WPU 261 255 256 259
		% 87 87 89 86
		T 87 79 76 69
73+45	TLC	WPU 256 257 255 262
		% 87 87 89 86
		T 87 78 73 67
		LOI, PAD
		75+55+53 IGN.
		354 SEC BT.
		2975 ΔV
		P 230
		Y 342
		R 355

FEC/TSG Form 314 (Oct. 67)

DAY 4 F/C BORCHES / BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
74+00	TLC	WPU 257 257 257 260
		% 87 87 89 86
		T 87 78 72 66
75+09	TLC	WPU 258 255 254 261
		% 87 89 88 86
		T 84 74 69 63
75+23	TLC	WE ARE APPROACHING LOS
		ALL SYS ARE GO.
75+48	TLC	LOS - GOOD LUCK
		WPU 258 255 257 259
		% 87 89 88 85
		T 81 71 (67)? (61) ?
76+24	L/O	LOS
76+39		WPU ~~260~~ 257 254 254 259
		% 86 89 87 85
		T 77 67 66 61
77+00	L/O	HAW 09
		WPU 259 256 253 259
		P/T 86.4 89.0 87.3 84.6
		T 75 66 67 62
		Eng Flng 106°F

DAY 4 F/C Borches / Barker MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
77+49	L/O	CREW R/O BT 356
		FU 37.7
		OX 39.5
		UBAL +500
		CREW USED PU VLV DURING
		BURN. WENT TO DEC @ ABOUT
		-300/350 RET TO NORM @ 0
		UNBAL. AT 150# WENT TO INC
		& REMAIND THERE UNTIL ABOUT
		20 SEC BEFORE C/O.
?.?	L/O	LOS
78+32	L/O	AOS
		WPU 256 255 253 258
		% 86 87 87 85
		T 75 64 67 62
		Sys 'GO'
79+02	L/O	WPU 255 255 253 258
		% 86 88 87 85
		T 75 64 67 62

FEC/TSG Form 314

DAY 4 F/C BORCHERS / BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
79+07	L/O	MAX FLANGE TEMPS. FOR
		LOI, #1 272 #2 262
		ENG. VLV. STILL RISING
		@ 119
		LOI2 PAD
		80 + 25 + 07
		P +1.83
		Y - 0.74
		14 BT
		139 ΔV
79+37	L/O	CM RCS #1 SYS MN P DROPPED
		TO 34 PSIA.
79+56	L/O	LOS
		WPU 254 253 250 258
		% 85 87 86 84
		T 79 65 66 62

FEC/TSG Form 314 (Oct. ...)

DAY 4 F/C Borches/Barker MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
80+43	4/0	AOS ~~[illegible]~~ BURN GOOD
		WPU 245 252 241 254
		% 83 87 84 84
		T 79 66 64 62
		CREW R/O
		FU 34.9
		OX 37.1
		UNBAL +600
		P_c 103
81+04	4/0	WPU 244 252 241 254
		% 83 87 83 84
		T 80 66 64 62
		SYS GO

GNC SHIFT CHANGE BRIEFINGS

DAY 4

GET SHIFT +

OPERATOR BORCHES/BARKER

SYSTEMS STATUS: ALL SYSTEMS GO.

PU VALUE?

OUTSTANDING INSTRUCTIONS TO CREW:

NONE

PERTINENT FLT PLAN CHANGES:

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☒)

SMRCS	TOTAL	A	B	C	D
WPU	993	245	252	242	254
FLT PLAN NOM	852	205	220	209	218
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	14651			1992
R/L				

FEC/TSG 338 (Dec 68)

DAY 3 F/C HORSCH/WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
81+17		DUMP DATA FOR LOI2
81+42	L/O	6D509
82+20	L/O	WPU 245 252 239 254
83+16	L/O	WPU 241 248 235 255
		ENG VLV READS 120 & GOING DOWN
		CM RING 1 MAN PRES STILL
		JUMPING 35→34 BUT STAYING
		AT 34 LONGER.
		OX TKP 178-7
		OX INP 182-180
		FU TKP 185
		FU INP 181
83+47	L/O	WPU 239 252 234 254
84+38	L/O	AOS WPU 239 248 233 251
84+43		CREW READOUT:
		P/T 81 87 84 84
		WPU ~~241~~ 242 249 233 251
		P/T Tube 81.7 86.7 81.8 83.4
		Temp 86 66 67 61

FEC/TSG Form 314 (Oct. 66)

GNC SHIFT CHANGE BRIEFINGS

DAY 4

GET SHIFT 88 + 50   OPERATOR HOKSCH/WALSH

SYSTEMS STATUS: THE ONLY THING OUTSTANDING IS TO PLOT THE LOI 1&2 PUGS DATA. BOTH BURNS WERE GOOD.

OUTSTANDING INSTRUCTIONS TO CREW: (1) TURN OFF QUADS [redacted] B&C
(2) AFTER NEXT SPS IGNITION, PUT PU VALVE IN INCREASE AND LEAVE IT THERE.

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU		231	248	232	246
FLT PLAN NOM		202	217	206	216
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 75   DAP SM ΔV 92   SCS HYB ΔV ____   DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU		9226	5789	4992
R/L				

DAY 3 F/C HOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
84+56		OX TK 178 OX IN 182
		FU TK 185 FU IN 181
HSK 85+16		WPU 240 251 233 251
85+39		GO
85+49		LOS
		CREW HAS BEEN ADVISED TO
		DO ALL FUTURE BURNS WITH
		THE OX VALVE IN INCREASE.
86+36		AOS
		WPU 234 247 232 250
		ALL OF QUADS B&C OFF. CREW
		ASLEEP.
		SUMMARY OF CREW REPORTS
		FOR LOI, & LOI2
		LOI1
		FU 37.7 OX 39.5 UNBAL +500
		LOI2
		FU 34.9 OX 37.1 UNBAL +600

FEC/TSG Form 314 (Oct. 66)

DAY 3 or 4? F/C HOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
HSK 86+59	4/0	Temps (He Tk) 89 70 68 62
NOTE:		THERE IS ABOUT 27 SECONDS
		OF DATA MISSING ON THE LOI,
		DELOG. CCATS TM IS TRYING TO
		LOCATE IT. COMPUTER TM CLAIMS
		THEY GAVE US WHAT THEY GOT
		FROM ACN.
HSK 87+36		WPU 230 247 232 249
87+48		LOS
88+35		AOS
		WPU 228 249 232 246

FEC/TSG Form 314 (Oct. ...)

unbalance to indicate ~~even~~ even
further increase in unbalance.
This phenomenon was also
noticed on Apollo 9 Pugs.

J. KAMMAN
GET 82:50

3. LMP then put the P.U. Valve to the normal position at zero unbalance but the fuel rich engine would continue to cause the unbalance to go to increase side.

4. LMP at +150 LB unbalance put the P.U. Valve to Increase and the increase position could not compensate completely for the fuel rich mixture ratio.

5. Then the crossover transients added to the effects of the unbalance. Apparently oxidizer had completely filled the sump tank by crossover. The oxidizer at the top of the sump tank is ungageable due to the fact that the gaging probe does not go completely to the top of the tank. When crossover occurred the fuel gaging indication ~~increasing~~ WAS decreasing but the oxidizer was not due to the phenomenon of the full ox sump (.0 ft above gaging probe.) Therefore, this caused the

CSM SYSTEMS

Pugs Unbalance Problem

Recommendation for TEI burn — perform burn in INCREASE position on the P.U. VALVE.

1. Initial situation developed during LOI, burn when LMP noticed ~300 LB unbalance after he had let the system stabilize for ~ 25 sec. This was due to the loading of the SPS which was heavy on fuel. Unbalance said that the system was 300 LB short on oxidizer due to the unbalanced loading and some capillary effect on the gaging. Heavy fuel loading was done on purpose to account for 1.58 ox/FU Mixture ratio.

2. LMP took the P.U. Valve to the decrease position to eliviate the unbalance. This was okay but the fuel rich engine helped the P.U. Valve in getting to zero unbalance faster.

FEC/TSG Form 393 (May 69)

FLIGHT DIR MISSION LOG	DAY	REV	PG

SITE/ACQ/LOS	FLIGHT EVENTS/HISTORY/BRIEFING
	SPS PROP STORY
	MET WITH H. GALENAS. BASED
	ON INLET PRESS AND PUGS DATA,
	WE BOTH AGREED THAT FUEL
	FLOW RATE IS HIGHER THAN
	EXPECTED. CONSEQUENTLY, EVEN WITH
	PU VALVE IN MAX, WE WOULD DEPLETE
	FU PRIOR TO OXID.
	FOR ALL FUTURE COMPUTATIONS USE:
	FU FLOW RATE 26.6
	OXID FLOW RATE (INCR) 42.4
	ISP 314.0
	TO CONVERT FROM TANKED TO WPU:
	FUEL : TANKED - 150 #
	OXID : TANKED - 750 #
	I HAVE UPDATED THE WTS TAB
	TO ACCOUNT FOR 314 # LESS FUEL
	THAN WE THOUGHT.
	I ADVISED RETRO TO SUBTRACT 900 LBS
	FROM TANKED TO GET WPU.
	I HAVE RUN NEW SPS ΔV FORM
	(~280 FPS LESS THAN BEFORE)

MSC FORM 1441 (APR 66)

FLIGHT DIRECTOR'S MISSION LOG

FLIGHT DIR MISSION LOG	DAY	REV	PG

SITE/ACQ/LOS	FLIGHT EVENTS/HISTORY/BRIEFING

SPS' PROP STORY

MET WITH H. GALENAS. BASED ON INLET PRESS AND PUGS DATA, WE BOTH AGREED THAT FUEL FLOW RATE IS HIGHER THAN EXPECTED. CONSEQUENTLY, EVEN WITH PU VALVE IN MAX, WE WOULD DEPLETE FU PRIOR TO OXID.

FOR ALL FUTURE COMPUTATIONS USE:

FU FLOW RATE 26.6

OXID FLOW RATE (INCR) 42.4

ISP 314.0

TO CONVERT FROM TANKED TO WPU:

FUEL : TANKED - 150 #

OXID : TANKED - 750 #

I HAVE UPDATED THE WTS TAB TO ACCOUNT FOR 314 # LESS FUEL THAN WE THOUGHT.

I ADVISED RETRO TO SUBTRACT 900 LBS FROM TANKED TO GET WPU.

I HAVE RUN NEW SPS ΔV FORM (280 FPS LESS THAN BEFORE)

DAY 4 F/C WEPPNER/ADAMS MISSION: APOLLO 10 #4

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
ACN 96+55	L/O	203 249 234 229
		72.3 84.7 81.8 76.4
		93 78 67 61
ACN 97+09	L/O	CHG LO LIM: SR5028 → 70%
		" " " SR5016 → 55°

FEC/TSG Form 314

DAY 4 F/C WEPPNER/ADAMS MISSION: APOLLO 10 #3

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
ACN 94+52	4/0	CHG UP LIM SR5065 → 155
95+08		221 249 234 239
		77.0 84.7 81.4 79.5
		96 79 67 62
95+30		CHG LO LIM SP0601: 2372
95+40	4/0	LOS
ACN 96+27		AOS
		CHG LO LIM: SR5001 3750
~~94+43~~	~~4/0~~	SR5004 3600
		SR5025 72
		CSM 2917 195
96+42		CHG LO LIM:
		SP0600 2270
		SR 5025 67%
		~~SR 5065~~ ~~175~~
		~~SR 5065~~ ~~67%~~
		CSM 2920 220

FEC/TSG Form 314

#2

DAY 4 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
MAD 92+33		228 245 234 243
		79.0 84.7 81.8 81.1
		97 78 66 62
MAD 93+25		226 249 234 243
		78.6 84.3 81.8 81.1
		98 79 66 62
93+28		SA 2380 Hi Lim 93°
		SP0601 Lo Lim 2410
	NOTE	COLD SOAK QA after
		LOS (roll 180°)
93+42	40	LOS
		CHG LO LIM CSM 2917 215#
ACN 94+30	40	AOS
		223 249 231 239
		78.2 84.3 81.8 80.3
		98 79 66 61
		CHG LO LIM: CSM2920: 230
		SR 5028: 75
		CSM 2918: 235

FEC/TSG Form 314

DAY 4 F/C Weppner / Adams MISSION: APOLLO 10 #1

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
89+20	4/0	Briefed by Mn Team
		CM RCS Ring #1 Mn P @
		34 psi. Rate decreasing.
		Presently 0.05 psi/hr.
		~~Post LOI₂ Calc'ns.~~
90+03	LOS	Reset limits.
90+43	AOS	231 248 233 246
		79.4 84.7 81.8 81.5
		95 77 67 62
91+37	4/0	229 246 233 246
		79.0 84.3 81.8 81.5
		96 78 67 62
91+45	4/0	LOS
92+30	4/0	AOS
		S/C 37220#
		SPS FU 5475
		SPS Ox 9226

FEC/TSG Form 314 (Rev. ...)

GNC SHIFT CHANGE BRIEFINGS

DAY 4

GET SHIFT 97 + 05 OPERATOR WEPPNER/ADAMS

SYSTEMS STATUS: Go

OUTSTANDING INSTRUCTIONS TO CREW:

PERTINENT FLT PLAN CHANGES:

CONSUMABLES STATUS (CREW UPDATED YES NO)

☑ ☐

SMRCS	TOTAL	A	B	C	D
WPU	905	203	245	233	224
FLT PLAN NOM	814	196	210	200	208
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	13800			4677 (CSM only)
R/L				2295 (docked)

FEC/TSG 338 (Dec 68)

DAY 5 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
97+29	L/O	BRIEFED BY B. WEPPNER
97+45	L/O	LOS
		WPU 201 245 233 224
		% 72 85 81 75
		T 93. 78 67 61
98+26	L/O	~~AOS~~ UNDOCKED
		WPU 196 242 227 220
		% 71 84 80 74
		T 93 77 66 60
98+44	L/O	WPU 193 243 223 220
		% 70 83 79 74
		T 93 77 66 60
98+47	L/O	SEP MNVR GOOD
		WPU 193 236 221 217
		% 69 82 78 73
		T 93 76 65 60
99+00	L/O	WPU 194 236 222 217
		% 69 82 78 73
		T 93 76 64 60

DAY 5 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
99+29	L/O	WPU 190 240 220 217
		% 69 82 78 73
		T 95 76 65 60
99+37	L/O	LOS
		WPU 189 236 219 217
		% 69 82 78 73
		T 95 76 66 60
100+25	L/O	AOS SYS GO
		WPU 190 237 219 216
		% 69 83 78 73
		T 97 76 66 61
100+25	L/O	SNOOPY IS AMONG THE ROCKS
		WORKING FINE.
		ALL CM SYS 'GO'
101+00	L/O	WPU 189 238 219 215
		% 69 83 78 73
		T 98 75 66 61
		PHASING BURN - 'GO'
		EVERYTHING LOOKS GOOD.

FEC/TSG Form 314

220.9

DAY 5 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
101+36	L/O	LOS SYS GO
		WPU 186 235 218 215 854
		% 69 82 77 72
		T 99 75 67 61
102+23	L/O	AOS GO
		WPU 191 239 215 216
		% 69 83 77 72
		T 99 74 66 61
103+00	L/O	WPU 189 235 214 216
		% 69 83 77 73
		T° 100 74 66 61
103+21	L/O	LOS SYS OK
		WPU 187 234 213 208
		% 69 83 77 73
		T 101↗ 74 66 61
104+22	L/O	AOS SYS GO
		WPU 180 ~~180~~ 233 ~~235~~ 205 ~~206~~ 212 ~~21~~
		% 67 82 75 72
		T 100 73 67 61

FEC/TSG Form 31A (Oct. ..)

DAY 5 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
104+30	L/O	WPU 176 233 205 212
104+53	L/O	WPU 177 233 206 212
105+32	L/O	LOS SYS LOOKED
		GOOD.
106+20	L/O	AOS SYS GO
		WPU 162 225 190 198
		% 63 79 70 69
		T 98 70 69 61
106+22	L/O	"DOCKED"

FEC/TSG Form 31A

ORV CALL
DR FROMÉ
x6176 IN THE
MORNING.

GNC SHIFT CHANGE BRIEFINGS

DAY 5

GET SHIFT +

OPERATOR BORCHES/BARKER

SYSTEMS STATUS:

ALL SYS NOMINAL.

OUTSTANDING INSTRUCTIONS TO CREW:

NONE

PERTINENT FLT PLAN CHANGES:

NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☒)

SMRCS	TOTAL	A	B	C	D
WPU					
FLT PLAN NOM	628	149	163	156	160
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 82 DAP SM ΔV 110 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	13801			4994
R/L				

FEC/TSG 338 (Dec 68)

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6
UNITED STATES GOVERNMENT

Memorandum

5/106

Buck

TO : PF/Chief, CSM Project Engineering Division

DATE: MAY 15 1969

In reply refer to:
EE42-5/69-121

FROM : EE4/Acting Manager, CSM Instrumentation Subsystem

SUBJECT: Marginal pressure transducers

It has been determined that the CSM RCS and SPS pressure transducers on spacecrafts 2TV-1 through 112 have been manufactured without a required filter capacitor. A few of these transducers will go into oscillation because of a build up of circuit tolerances and their attachment to a long signal cable. However, no action is recommended because the faulty systems have been removed by the checkout process. Historically, one transducer with this suspected failure mode has flown, that is SR5002P on Spacecraft 104. This system was waivered prior to flight.

The following Spacecraft 106 transducers are affected:

CC0188P	CR0038P	SR5830P	SR5001P
SP0661P	SR5729P	CR0001P	SR5002P
SP0003P	SR5776P	CR0002P	SR5003P
SP0930P	SR5784P	SP0001P	SR5004P
SP0931P	SR5817P	SP0035P	SR5733P
CR0035P	SR5822P	SP0600P	SR5780P
CR0036P	SR5823P	SP0601P	SR5821P

for Earl W. Tiedt
James E. Kessel

cc:
EA/M. A. Faget
EA2/R. A. Gardiner

EE13:EWTiedt:jw 5-15-69

Please send copies to
A. Aldrich J. Zacarro
S. Jones R. Kubicki
D. Arabian S. Simpkins

From: PF/ Aaron Cohen
Date: MAY 16 1969

Dobola, R. E.
Brendle, H. L.
Broome, D. R.
Coulkes, G. A.
Dutzenhofer, J.
Lowe, J. S.
Mayhew, D. J.
Metz, G. G.
Nebrig, D. A.
Rees, H. F.
Sullivan, H.
Taylor, W. H.
Tasgarden, D.
Whalen, T. L.
✓ Wilkes, M. L.
PD Branch

Remarks:
Action ✓
Circulate
File ✓
Info
Return to Chief

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

5010-108

DAY 5 F/C HOKSEM/WALSH MISSION: APOLLO

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
GDS 106+40		ON CONSOLE
		APS BURN TO DEPLETION
		108+50+31:00
GDS 107+04		164 223 190 200
107+30		LOS WPU 161 220 189 196
HSK 108+17		AOS
108+33		WPU 157 221 190 196
108+43		+X maneuver for APS Burn
		sep. maneuver
108+55		APS BURN COMPLETED
109+29		LOS WPU 158 218 186 191
110+19		CREW READOUT:
		CREW 60 78 72 67
		WPU 158 218 188 191
		P/T 61.3 78.4 69.7 66.6
		Temp 94 67 68 61
110+51		WPU 157 217 189 191
		Temp 92 68 67 61
111+27		LOS 156 219 185 190
		AOS WPU 156 220 187 190
		He Tk Temp 87 72 66 62

DAY 5 F/C HOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
GWM 112+42		WPU 158 217 187 190
NOTE:		JUST RECEIVED AN INTERESTING
		MEMO. IT SAYS ALL OUR
		PARAMETERS ARE KAPUT.
GWM 113+20		WPU 157 218 188 189
		Temp He Tk 85 76 66 62
113+26		LOS
114+12	L/O	AOS WPU 157 218 188 189
		SUBMITTED AN ACR WPU
		RUN & SAID NO HURRY

FEC/TSG Form 314 [illegible]

GNC SHIFT CHANGE BRIEFINGS

DAY 5

GET SHIFT 115 + 02 OPERATOR HOKSCH/WALSH

SYSTEMS STATUS: (1) All systems in good shape

(2) Read writeup on SPS prop in Log

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES:

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	750	159	214	188	189
FLT PLAN NOM					
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 79 DAP SM ΔV 127 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
~~WPU~~ TANKED		9226	5475	4754
R/L				

FEC/TSG 338 (Dec 68)

TABLE III

	QUAD A	QUAD B	QUAD C	QUAD D
TANK LOGIC	3	3.	3	3
P_s	3479	3669	3538	3461
T	84	76	66	62
Delta T	0	0	0	0
P_o	183	181	182	181
P_f	170	192	177	176
MR1	2.00	2.00	2.00	2.00
MR2	2.02	2.02	2.02	2.02
WOR - Passive System	0	0	0	0
WFR - Passive System	0	0	0	0

	PRI/TOTAL	AUX	PRI/TOTAL	AUX	PRI/TOTAL	AUX	PRI/TOTAL	AUX
WFE								
WOE								
WFR								
WOR								
WPU								

FEC/TSG Form 249 (May 68)

	A	B	C	D
RTCC WPU'S	157	219	188	189

#4

DAY 5 F/C Weppner/Adams MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
122+06	4/0	AOS Change lo lim SR5002: 3600
MAD 122+29		148 211 186 190
Low		58.2 75.2 68.9 66.6
Bat Rate		84 78 65 61
ACN 123+03		150 212 190 190
		58.2 75.2 68.9 66.2
		86 77 65 61
	Ox Mn P	184 181 184 179
	MED	181 184 184 179

#3

DAY 5 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
	40	LOS
119+22		CHG'D MED P$_O$'s TO:
		181 184 184 179
120+16		AOS
		153 214 189 189
		59.3 75.6 68.9 66.2
		77 83 66 62
MAD 120+27		LO LIM SR5737: 165 psi
		" " SR5733: 177 psi
MAD 120+30		HI LIM SP0054: 90°
MAD 120+42		LO LIM SR5001: 3325
		" " CSM 2917: 140
MAD 121+00		149 213 189 189
		3349 3690 3538 3461
		79 81 66 62
121+20	40	LOS

FEC/TSG Form 31A (Oct. ...)

DAY 5 F/C WEPPNER / ADAMS MISSION: APOLLO 10 #2

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION			
MAD 118+09	40	AOS			
		155	214	185	189
		60.1	74.4	68.9	66.2
		76	88	65	62
ACN 118+47	40	155	211	186	190
		59.7	74.8	68.9	66.2
		76	87	65	62
118+55	40	FOR TEI: Crew advised to start burn with PU Vlv. in NORMAL. Switch to INCREASE after 2nd bank of ball valves engages.			
		Rationale: If we start burn with PU Vlv in INcrease an unwanted transient will result.			
ACN 119+19	WPU	155	211	188	189
	P/T	59.3	74.8	68.9	66.2
	HE T	76	86	66	62
	OX MN PRESS	181	184	184	179

FEC/TSG Form 31A (Oct. ...)

MED	183	181	182	181

GNC SHIFT CHANGE BRIEFINGS

DAY 5

GET SHIFT 123 + 08 OPERATOR WEPPNER / ADAMS

SYSTEMS STATUS: Go!

QUAD CONFIG'N: B-D ROLL
C & D OFF

OUTSTANDING INSTRUCTIONS TO CREW: FOR TEI: Start with PU VLV IN NORMAL. Switch to INCREASE after 2nd bank cuts in—(beginning with PU in Increase will cause transient.)

PERTINENT FLT PLAN CHANGES:

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	742	150	212	190	190
FLT PLAN NOM					
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	13801			4754
R/L				

FEC/TSG 338 (Dec 68)

DAY 6 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
123+00		BRIEFED BY B. WEPPNER
123+18	L/O	LOS
		WPU 148 209 189 190
		% 58 75 69 66
		T 87 76 66 61
124+04	L/O	AOS SYS OK
		WPU 144 212 188 191
		% 58 76 69 66
		T 87 74 66 60
125+05	L/O	WPU 148 211 186 190
		% 58 76 69 66
		T 87 72 68 61
125+16	L/O	LOS
		WPU 143 212 185 190
		% 58 75 69 66
		T 87 72 68 61
126+05	L/O	AOS SYS OK
		WPU 145 210 184 191
		% 58 76 69 66
		T 87 70 69 60

FEC/TSG Form 31A (Oct. ..)

3631

DAY 6 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
127+15	L/O	LOS
		WPU 144 209 185 191
		% 58 75 69 66
		T° 87 68 71 60
128+02	L/O	AOS SYS OK
		WPU 145 207 184 191
		% 58 75 69 66
		T 86 67 71 60
129+01	L/O	WPU 144 208 187 191
		% 58 75 69 66
		T° 87 66 72 61
		CREW GOING ASLEEP.
129+	L/O	LOS SYS OK
		WPU 144 209 187 191
		% 58 74 69 66
		T 87 66 73 60
130+00	L/O	AOS SYS OK
		WPU 145 205 186 191
		% 58 74 69 66
		T 86 66 73 60

FEC/TSG Form 314

DAY 6 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
131+41	4/0	WPU 143 208 186 190 =727
		% 58 74 69 66
		T 84 66 73 61

GNC SHIFT CHANGE BRIEFINGS

DAY 6

GET SHIFT 130 + 30 OPERATOR BORCHES/BARKER

SYSTEMS STATUS: ALL SYSTEMS ARE NOMINAL.

CREW HAS BEEN UPDATED ON USE OF THE PU VLV. INCREASE AFTER BOTH BANKS ON.

OUTSTANDING INSTRUCTIONS TO CREW:

NONE

PERTINENT FLT PLAN CHANGES:

NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☒)

SMRCS	TOTAL	A	B	C	D
WPU	727	143 ~~119~~	208 ~~134~~	186 ~~129~~	190 ~~131~~
FLT PLAN NOM	513	119	134	129	131
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 78 DAP SM ΔV 130 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	13801	—	—	4754
R/L	NA	NA	NA	NA

FEC/TSG 338 (Dec 68)

DAY 6 F/C HOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
135+56		AOS WPU 144 199 171 186
136+43		WPU 146 197 169 186
		ABOUT 2 SECONDS OF HI BIT
		RATE IS ALL WE HAD FOR THIS
		REV, BUT WITH THE DATA WE HAD
		LOOKING GOOD WE PRUDENTLY GAVE
		A "GO" FOR TEI.
		HE TK P 1894
137+07		LOS: WPU 142 198 167 186
137+45		HSK AOS BURN GOOD
		BASED ON AOS.
138+28		ALL SYSTEMS LOOK GOOD
		WPU 141 192 168 179
		CREW REPORTS 2:44 BURN TIME
		6.7 % fu
		9.2 % ox
		Unbal meter off scale hi
		in the increase position.

FEC/TSG Form 314 (Oct. 68)

DAY 6 F/C HORSCH/WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
131+00		ON CONSOLE
		WPU 145 207 185 190
131+59		AOS 144 205 187 191
		N2A 2226
		N2B 2309 SPS
		HeTKP 1894
132+08		HeTKT 82
		GOOD TV
132+37		WPU 144 207 184 190 end of TV pass
133+10		LOS WPU 144 205 181 190
133+57		AOS WPU 141 205 179 190
		CM-RCS SYS 1 He Mn Pres
		STARTING TO DROP TO 32 PSIA
		FOR SHORT DURATIONS.
134+48		WPU 144 201 176 186
135+09		LOS 143 201 175 186
		TEI PAD
		TIG 137+36+28.21
		ΔVx 3625 R 181
		ΔVy 0040 P 051
		ΔVz 0189 Y 002
		Vc 3608 tB 2+41
		B-D ullage 14 sec

FEC/TSG Form 31A

DAY 6 F/C HOKSCH/WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
131+00		ON CONSOLE
		WPU 145 207 185 190
131+59		AOS 144 205 187 191
		NZA 2226 / NZB 2309 / HeTKP 1894 / HeTKT 82 } SPS
132+08		GOOD TV
132+37		WPU 144 207 184 190 end of TV pass
133+10		LOS WPU 144 205 181 190
133+57		AOS WPU 141 205 179 190
		CM-RCS SYS 1 He Mn Pres
		STARTING TO DROP TO 32 PSIA
		FOR SHORT DURATIONS.
134+48		WPU 144 201 176 186
135+09		LOS 143 201 175 186
		TEI PAD
		TIG 137+36+28.21
		ΔV_x 3625 R 181
		ΔV_y 0040 P 051
		ΔV_z 0189 Y 002
		V_c 3608 t_B 2+41
		B-D ullage 14 sec

GNC SHIFT CHANGE BRIEFINGS

DAY 6

GET SHIFT 139 + OPERATOR HOKSCH/WALSH

SYSTEMS STATUS: Recheck TEI Burntime & all associated parameters

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	679	138	191	169	181
FLT PLAN NOM					
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
~~WPU~~ TANKED		2219 ~~[illegible]~~	1068	997
R/L				

FEC/TSG 338 (Dec 68)

RTACF CSM/MRS INPUT SHEET

Engineer ______________ Job No. ______________

Originator WEPPNER Time 8:37 AM Date 5/23/69

G.E.T. of Run Initiation 93:00:00.0

Propellant Loadings

SPS Fuel 5475 lbs.

SPS Oxidizer 9226 lbs.

RCS Usable Propellant

Quad A 229 lbs.

Quad B 246 lbs.

Quad C 233 lbs.

Quad D 246 lbs.

Spacecraft Configuration RENDEZVOUS

Time Line Changes:

- CHANGE RENDEVOUS ALLOCATION AT DOCKING FROM 50# TO 30#
- ISOLATE 'C' QUAD FROM 93 – 98 GET
- " " " " 107 – TEI
- CHANGE STATION KEEPING AND PHOTOG. ALLOCATION FROM 25# TO 15#

TM

DAY 6 F/C WEPPNER/ADAMS MISSION: APOLLO 10 #2

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
142+20	TEC	140 ~~192~~ 189 ~~167~~ 170 180
		54.6 70.1 65.0 62.6 64 58 78 63
142+58	TEC	140 192 170 178
		54.6 69.7 65.0 63.0
		64 59 78 64
		181 181 187 182
		these values MED'd.
~~143+40~~ 143+46	TEC	142 189 171 178
		54.2 69.3 65.0 63.0
		66 60 78 65
144+54	TEC	139 189 171 180
		54.2 68.9 65.0 63.0
		68 62 78 67

#1

DAY 6 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
HSK 139+54	TEC	CHG LO LIM CR0035: 31
		SP0061 UPPER LIM 250
		SP0062 " " 250
		SR5001 LOW LIM 3200
~~HSK 139+59~~		~~CR0035 (SYS #1 HE MN P)~~
		~~dropped to 31 psia.~~
MAD 140+08		CHG LO LIM: SR5002: 3300
		" " " CSM 2918: 180
		" " " SR5014: 55
140+21		141 190 168 177
		55.0 70.5 64.6 63.0
		68 60 76 59
140+40		139 191 168 181
		55 70.5 64.6 63.0
		67 59 77 59
		A-C Roll disabled for PTC.
		GNC gave FIDO a FU FLOW
		RATE OF 25.7#/SEC

FEC/TSG Form 31A

GNC SHIFT CHANGE BRIEFINGS

DAY 6

GET SHIFT 146 + 30 OPERATOR WEPPNER / ADAMS

SYSTEMS STATUS: Go!

TEI Burn Time 2+45

Mid course req'd ≈ 1.5 fps.

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES: NONE

MCC 5 deleted.

CONSUMABLES STATUS (CREW UPDATED YES [X] NO [ ])

TOT: 56% (18% over FP)

48% 63% 56% 59%

SMRCS	TOTAL	A	B	C	D
WPU	678	139	189	171	179
FLT PLAN NOM	462	110	118	120	114
Δ's ~~SCS SM R/L~~	216	29	71	51	65
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	2387			997 (B.D. 997)
R/L				

FEC/TSG 338 (Dec 68)

DAY 7 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
147:00	TEC	BRIEFED BY B. WEPPNER
147+05	TEC	WPU 137 187 171 177
		% 54 68 65 63
		T 72 67 78 68
148+02	TEC	WPU 138 189 171 177
		% 54 68 65 63
		T° 73 68 79 69
149+19	TEC	WPU 136 186 170 176
		% 54 68 65 63
		T° 75 70 79 69
150+00	TEC	WPU 138 185 169 179
		% 54 68 65 63
		T 77 71 79 70
150+18	TEC	CM RCS TEMP.
		5C-4.90, 5B-4.45, 6A-4.50, 6B-4.80
		6C-4.40 6D-4.70
150+29	TEC	PTC ENDED NO JET
		FIRINGS.
151+04	TEC	WPU 134 187 170 179
		% 54 68 65 63
		T 78 72 79 70

FEC/TSG Form 314

DAY 7 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION				
152+01	TE	WPU	136	184	171	177
		%	54	66	65	63
		T	80	76	78	68
153+06	TEC	WPU	136	180	169	179
		%	54	65	65	63
		T	83	82	76	66
154+05	TEC	WPU	135	179	171	179
		%	54	66	65	63
		T	83	82	78	67
154+24	TEC	PTC RESUMED				
		WPU	131	180	171	178
		%	54	66	65	63
		T	83	81	78	67
		Crew Readout at 153+45				
			54	66	67	64

FEC/TSG Form 314 (Oct. .)

GNC SHIFT CHANGE BRIEFINGS

DAY 7

GET SHIFT 154 + 45 OPERATOR BORCHES/BARKER

SYSTEMS STATUS:

ALL SYS NOMINAL

OUTSTANDING INSTRUCTIONS TO CREW:

NONE

PERTINENT FLT PLAN CHANGES:

NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☒)

SMRCS	TOTAL	A	B	C	D
WPU	660	131	180	171	178
FLT PLAN NOM					
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 110 DAP SM ΔV 183 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	2387			997
R/L				

FEC/TSG 338 (Dec 68)

DAY 7 F/C HOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
155+21	TEC	B-D ROLL WPU 131 181 169 176
155+43	TEC	Temps (He Tk) 82 77 80 69
156+05		Temps " 82 76 81 70
156+56		Temps 82 75 81 71
		WPU 133 186 171 177
157+25		WPU 133 182 176 177
		Temps (He Tk) 82 75 81 71
158+09		NO CHANGE IN ANYTHING
159+18		WPU 131 182 171 175
		Temps (He Tk) 83 75 81 72
160+18		WPU 132 186 171 175
		Temps (He Tk) 83 75 81 72
161+52		WPU 133 185 171 175
		Temps (He Tk) 84 76 81 72
162+34		ALL SYSTEMS OK

FEC/TSG Form 31A (Oct. [illegible])

GNC SHIFT CHANGE BRIEFINGS

DAY 7

GET SHIFT + OPERATOR HOKSCH / WALSH

SYSTEMS STATUS: ① THIS WAS INDEED A "SLEEP SHIFT" ALL SYSTEMS ARE "GO" AND EXTREMELY STABLE.
② N2 A Tank is about to drop 1 pcm count. Temps in this area are dropping, so there is no reason to suspect a leak.

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☑)

SMRCS	TOTAL	A	B	C	D
WPU	664	133	185	171	175
FLT PLAN NOM	435	104	110	114	107
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	2436			
R/L				

FEC/TSG 338 (Dec 68)

No	JETS/QUADS	BT AVAIL	ΔV
4	ALL	340 sec	324 ft/sec
3	B, C, D	86	62
2	B, D	5	2
1	B	22	5

SM WT @ SEP 13021

WPU @ SEP 128 170 160 162

ROLL - 2 lb/quad

NOTE: FUEL CELL LIFE TIME (POST SEP.) = 579 SEC

Apparently (from chk. list) crew will not turn on gimbal mtrs

#2

DAY 7 F/C WEPPNER / ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
167+40	MAD	Quad A He Tk Temp reading
		87° (was 81 @ 152 hrs)
MAD 168+18	TEC	135 184 172 175
		54.2 66.1 65.0 63.0
		87 82 78 67
		Gave GNC ΔV's, & B.T.'s for
		SMJC burn - see attach.
MAD 170+33		137 181 174 177
		54.2 65.0 64.2 61.8
		85 89 72 60
	OxMn	189 185 183 177
		these values MED'd.

FEC/TSG Form 31A

#1

DAY 7 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
HSK 163+~~05~~ 20		132 184 171 179
		54.2 67.3 65.4 63.4
		85 77 81 72
	Ox M_N*	192 187 191 183
		* These values MED'd
163+30		Chg lo lim SP0600 → 2180
163+40		139 186 173 180
		54.2 67.3 65.4 63.4
		85 77 81 72
165+39		MCC#6 Pad. 2 jet B&D
		TIG 176+49+57
		BT 5 SEC
		ΔV = 1.2 fps
		R = 88° P = 354° Y = 351°
		S/C Wgt Est: 25240#
		EST'D PROP USED: 3.9#
		ENTRY EST @ 191+32.
166+40	MAD	CR 0035 dropped to 30 psi.

FEC/TSG Form 314 (Oct. ...)

GNC SHIFT CHANGE BRIEFINGS

DAY 7

GET SHIFT 170+ 45   OPERATOR WEPPNER/ADAMS

SYSTEMS STATUS: Go-

MCC#6 @ 176+49+57 (1.2 fps.)

CM Sys #1 Mn. Pressure down to 30 psi.

OUTSTANDING INSTRUCTIONS TO CREW: MCC #6 PAD READ TO CREW

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES ☑ NO ☐) TOT: 55%

44% 60% 56% 58%

+18%

SMRCS	TOTAL	A	B	C	D
WPU	669	136	182	174	177
FLT PLAN NOM					
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV ____ DAP SM ΔV ____ SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
WPU	2436			1020
R/L				

FEC/TSG 338 (Dec 68)

DAY 8 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
171+05	TEC	BRIEFED BY B. WEPPNER
		WPU 137 177 170 171
		% 54 65 65 61
		T 84 89 72 60
171+13	TEC	ENTER +52 CM MISC
172+09	TEC	WPU 137 178 166 172
		% 54 65 65 61
		T 84 88 72 59
172+14	TEC	PTC RESUMES
		WPU 137 177 167 172
173+03[05]	TEC	WPU 137 179 169 174
		% 54 64 64 61
		T 84 90 70 58
174+02	TEC	PTC ENDED
		WPU 134 178 166 169
		% 54 64 63 61
		T 84 91 70 58
175+00	TEC	WPU 137 178 166 173
		% 54 65 63 61
		T° 84 91 70 58

FEC/TSG Form 314 (Oct. ...)

DAY 8 F/C BORCHES/BARKER MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
175+24	TEC	PTC RESUMED
		WPU 137 178 166 172
		MCC-6 PAD IGN 177+19+58
		ΔV 1.0
		BT
		R 088
		P 354
		Y 350
		BT 04
176+15	TEC	WPU 135 176 168 170
		% 54 65 63 61
		T 85 89 69 60
LATE ENTRY 176+10	TEC	PTC STOPPED.
176+40	TEC	MCC-6 CANC. WILL HAVE
		MCC-7 EST. ON THE ORDER
		OF 3 OR 4 FPS.
177+10	TEC	5C-5.1 5D-5.1 6A 5.1 6B 5.1
		6C-4.0, 6D-4.6 CM RCS
		TEMPS.
		A 53 B65 C 65 D 60
		SMRCS % ONBOARD

FEC/TSG Form 31A (Oct. 6)

GNC SHIFT CHANGE BRIEFINGS

DAY 8

GET SHIFT 178+00 OPERATOR BORCHES/BARKER

SYSTEMS STATUS:

MCC-6 CANCELLED WILL HAVE
MCC-7 WILL BE ON THE ORDER OF
3 TO 4 FPS

SM RCS ONBOARD R/O % A 63 B 65 C 65 D 60

OUTSTANDING INSTRUCTIONS TO CREW:

~~NONE~~

MCC-6 CANCELLED

PERTINENT FLT PLAN CHANGES:

NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☒)

SMRCS	TOTAL	A	B	C	D
WPU	648	137	177	164	170
FLT PLAN NOM					
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 113 DAP SM ΔV 196 SCS HYB ΔV ___ DAP HYB ΔV ___

SPS	TOTAL	OX	FU	ΔV
WPU	2436			1020
R/L				

FEC/TSG 338 (Dec 68)

DAY 8 F/C HOKSCH / WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
182+57		WPU 134 182 162 165 He Tk T 91 81 73 69
183+49		WPU 134 182 164 165 He TkT 91 81 73 69
184+23		N_2TA IS ABOUT READY TO
		DROP 1 PCM COUNT

FEC/TSG Form 314 (Oct. ...)

DAY 8 F/C HOKSCH/WALSH MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
177+40		WPU 134 179 164 169
		He Tk Temp 88 85 68 63
178+56		" 90 83 68 65
* NOTE:		CM - YAW (16) Temp is ABOUT 29°F PROBABLY HAVE TO PRE HEAT
		T+177+11
		CREW READOUT COMPARISON
		A B C D
		CREW 53 65 65 60
		DTV 53.8 65.8 63.0 60.7
		WPU% 43.8 58.9 54.0 55.5
		WPU 134 179 164 169
		Temp 88 85 68 63
179+45		He Tk Temp 91 83 69 66
		WPU 134 180 163 166
		SR5733 HOLDING STEADY AT 30 psia
180+08		He Tk Temp 92 82 69 66
180+14		SP0045 57°F
180+50		He Tk Temp 92 82 70 67
		WPU 133 181 166 168
		ESTIMATED SM WEIGHT AT SEP
		To BE 13046 lbs.
182+39		WPU 133 182 162 166

FEC/TSG Form 314 (Oct. 6?)

GNC SHIFT CHANGE BRIEFINGS

DAY 8

GET SHIFT + OPERATOR

SYSTEMS STATUS: (1) CM RCS TEMPS THAT WERE READ DOWN AT THE END OF BLACK SHIFT INDICATE THAT HEATING MAY BE REQUIRED. POSITION 6C (16) - YAW SET IS READING 4.0 VOLTS, OR ABOUT 29°. 28° IS THE LOWER LIMIT. READING PRIOR TO THIS ONE AT T+150 WAS 4.4 VOLTS, SO THE TEMP HAS BEEN COOLING AT ≈ 0.33 °F/hr. THIS WILL PUT US AT ≈ 25 °F AT E.I.

OUTSTANDING INSTRUCTIONS TO CREW: NONE

PERTINENT FLT PLAN CHANGES: NONE

CONSUMABLES STATUS (CREW UPDATED YES ☐ NO ☐)

SMRCS	TOTAL	A	B	C	D
WPU	647	134	182	163	168
FLT PLAN NOM	383	93	96	101	93
SCS SM R/L					
DAP SM R/L					
SCS HYB R/L					
DAP HYB R/L					

SCS SM ΔV 123 DAP SM ΔV 197 SCS HYB ΔV ____ DAP HYB ΔV ____

SPS	TOTAL	OX	FU	ΔV
~~WPU~~ TANKED		~~[illegible]~~ 2249	1087	
R/L				

FEC/TSG 338 (Dec 68)

#2

DAY 8 F/C WEPPNER/ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
191+05	TEC	CM Press. (all sys go!)
		CR 0001 3335
		CR 0002 3241
		CR 0003 62
		CR 0004 54
		CR 0035 293
		CR 0036 293
		NOTE: When prop isol. valves
		were opened, SYS 2 Mn Press
		dropped from 37 psi to 25 psi
		which verified burst disc rupture
		NOTE: SYS #1 He Mn Press
		rock hard.
191+15		135 177 160 162 = 134
		54.2 65.4 61.8 59.1
		85 76 69 60
191+33		SEP'N
191+34		Ring 2 disabled
191+49	EI	LOS entry vel @ LOS 36363

FEC/TSG Form 314 (Oct. ..)

DAY 8 F/C WEPPNER / ADAMS MISSION: APOLLO 10

CSM SYSTEMS MISSION LOG

STA/TIME	REV	CONDITION/SUMMARY/REPORTS/ACTION
HSK 185+52	TEL	BRIEFED BY MN TEAM 135 181 162 167
		54.2 65.4 63.0 61.1
		91 82 76 70
HSK 186+30		If we preheat we do it @
		EI - 1+10 (190+50)
		COLD JETS #16 & #21
HSK 186+33		AT 189+10 Crew will read
		CM RCS TEMPS
HSK 188+19		136 181 161 167
		53.8 65.8 63.4 61.1
		93 81 76 70
HSK ~~188~~ 38		11+30 from MCC #7.
		Est'd ΔV = 1.6 fps TIG: 188+49+57
		BT = 6.69 SEC
		Event Rcdr: 6.6+ SEC (CLOSER TO 6.7)
HSK ~~188~~ 189		Est'd Wgt @ EI given to GNC
HSK 189+06		Crew r/o of CM RCS:
		5c = 5.0V = +50°
		5d = 4.8V = +46°
		6a = 5.1V ≅ +52° 6c = 4.2V = +34°
		6b = 5.1V ≅ +52° 6d = 4.9V = +48°

FEC/TSG Form 314 (Oct. ..)

NO PREHEAT REQ'D.