FLIGHT PLAN

MCC-H

~~1223~~ CST
0023

UPDATE TO CSM
FLIGHT PLAN
CONSUMABLES

208:00
:10
:20
(11101 X1111)
208:30
:40
:50
209:00

MSFN

CSM SYSTEMS CHECKLIST
POST-SLEEP CHECKLIST PAGE S 1-26

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

REPORT: GYRO TORQUING ANGLES
EXIT G&N PTC PAGE G 8-3

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(099,252,003) HGA P -73, Y ~~10~~ 102
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00042)
P00
V49 MNVR TO SIGHTING ATTITUDE
(078,245,325) HGA P -57, Y 354
P23 CISLUNAR NAVIGATION
3 MARKS ON EACH STAR

1.	N70 (00044) (00000) (00110)	44 ENIF (ENH)
2.	N70 (00000) (00000) (00120) N88 (+07234) (-86438) (-49761)	212 DELTA SAGITTARII (EFH)
3.	N70 (00000) (00000) (00120) N88 (+10293) (-89715) (-42956)	213 LAMBDA SAGITTARII (EFH)
4.	N70 (00045) (00000) (00110)	45 FOMALHAUT (ENH)

EARTH HORIZON

PTC

NOTES

DAP LOAD STATUS
(11101) (X1111)

CSM CONSUMABLES UPDATE

GET: __ __ __:__ __
RCS TOTAL _____
QUAD A _____ B _____
C _____ D _____
H_2 TANK 1 _____ 2 _____
O_2 TANK 1 _____ 2 _____
3 _____

P52 IMU REALIGN
N71: __ __,__ __
N05: __ __ __.__ __
N93:
X __ __.__ __ __
Y __ __.__ __ __
Z __ __.__ __ __
GET __ __ __:__ __:__ __

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	208:00 - 209:00	9/TEC	3-278

FLIGHT PLAN

MCC-H

UPDATE TO CSM QUADS TO ENABLE FOR PTC SPINUP

0723 CST

209:00

:10

:20

209:30

:40

:50

210:00

MSFN

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N) PAGE G 8-2
V49 MNVR TO PTC ATTITUDE
(N20, 270, 000)
V79 (-0.3750)
(+030.00)
(+00000)
REESTABLISH HGA REACQ MODE

EAT PERIOD

PTC

NOTES

DAP LOAD STATUS
(11101)(X1111)

EARTH DISTANCE
≈47 759 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	209:00 - 210:00	9/TEC	3-279

FLIGHT PLAN

MCC-H

0823 CST

210:00

:10

:20

:30

:40

:50

211:00

MSFN

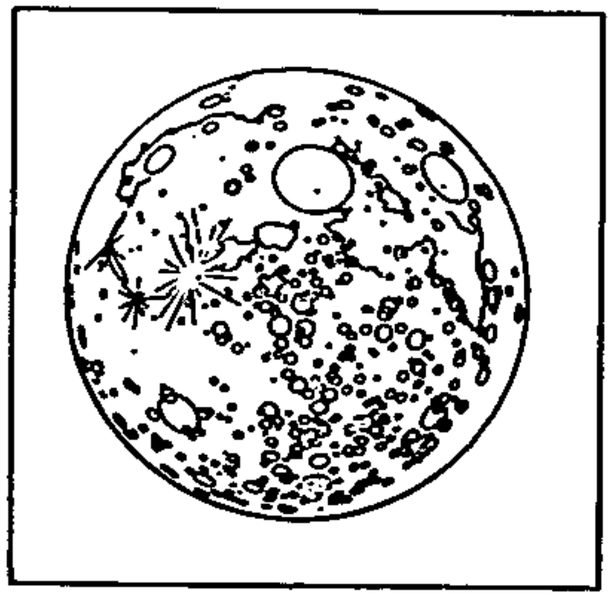
LiOH CANISTER CHANGE
(17 INTO A, STOW 15 IN A4)

ENTRY CHECKLIST

GO/NO-GO FOR MCC-7
EI - 6 HR

GO/NO-GO FOR MCC-7
REPORT: CM RCS INJECTOR VALVE TEMPS
(SYS TEST METER 5C, 5D, 6A, 6B, 6C, 6D)

GET: 211:00 F.O.V. 1°



PTC

NOTES

DAP LOAD STATUS
(11101) (X1111)

CM RCS INJECTOR TEMP			
5C		5D	
6A		6B	
6C		6D	

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	210:00 - 211:00	9/TEC	3-280

FLIGHT PLAN

MCC-H 0923 CST

211:00

(11101)
(X1111)

:10

:20

EI - 5 HR

211:30

:40

:50

212:00

MSFN

VHF SIMPLEX A - ON
EXIT G&N PTC PAGE G 8-3
V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(299,041,337) OMNI C
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00023)
P00
V49 MNVR TO SIGHTING ATTITUDE
(283,033,010) OMNI C
P23 CISLUNAR NAVIGATION
3 MARKS ON EACH STAR

1. N70 (00022) (00000) (00220) { ΔR 900 ~ -900 500 ~ . } corner.
2. N70 (00000) (00000) (00210) { +309.2, +42.2 ;
   N88 (-15020) (+94736) (+28276)
3. N70 (00023) (00000) (00220) 22
4. N70 (00000) (00000) (00220) (+31.8, 5.4
   N88 (-84888) (+40318) (+34184) 30.5,
5. N70 (00016) (00000) (00210)

ATT DEADBAND - MIN
RATE - LOW
BMAG (3) - ATT 1/RATE 2
SC CONT - SCS

UPDATE TO CSM
~~MCC-7 MNVR PAD~~
ENTRY PAD ✓
UPLINK TO CSM
CSM S.V. & V47
~~MCC-7 TGT LOAD~~
DESIRED ORIENT (ENT)
ENTRY LAT & LONG

NOTES

DAP LOAD STATUS
(11101)(X1111)

LUNAR HORIZON

22 REGULUS (MFH)

64 ALHENA (MNH)

23 DENEBOLA (MFH)

151 GAMMA PRIME LEONIS (MFH)

16 PROCYON (MNH)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	211:00 - 212:00	9/TEC	3-281

FLIGHT PLAN

MCC-H

1023 CST

212:00
(11101)
X1111

:10

:20

EI - 4 HR

212:30

:40

:50

213:00

MSFN

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

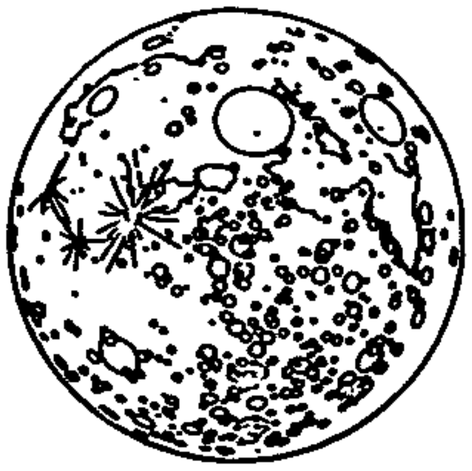
212-58+59

REPORT: GYRO TORQUING ANGLES

P52 IMU REALIGN
OPTION 1 PREFERRED
(ENTRY ORIENT)

SC CONT - CMC
BMAG (3) - RATE 2

GET: 213:00 F.O.V. 1°



P30 EXTERNAL ΔV

STARS___,___
SA___,___
TA___,___

NOTES

P52 IMU REALIGN
N71: __ __,__ __
N05: __ __ __.__ __
N93:
X __ __.__ __ __
Y __ __.__ __ __
Z __ __.__ __ __
GET __ __ __:__ __:__ __

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	212:00 - 213:00	9/TEC	3-282

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FLIGHT PLAN

MCC-7
BURN TABLE

MANEUVER	P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
CORRIDOR CONTROL	10°/SEC COMPLETE	±10° COMPLETE	BT + 1 SEC AND ΔV_C = 0	TRIM X AXIS ONLY TO 0.2 FPS

TABLE 3-11

FLIGHT PLAN

MCC-H

1123 CST

NOTES

213:00 (11101) (X1111)

:10

:20

(want 50# H_2O waste)
EI - 3 HR

213:30

:40

:50

214:00

MSFN

V49 MNVR TO PAD BURN ATT

SXT STAR CHECK
P40 SPS THRUSTING OR
P41 RCS THRUSTING

MCC-7

TIG: 213:26:59
ΔT: NOM ZERO
ΔVT: NOM ZERO
ULLAGE: N/A
ORBIT: N/A

BURN STATUS REPORT

UPLINK TO CSM
CSM S.V. (CMC) V47E
CSM S.V. (MSFN)
(NO V47)

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(019,258,355) OMNI C

BURN STATUS REPORT

X	X			ΔTIG
X	X			δT
				V_{gx}
		TRIM		
X	X	X		R
X	X	X		P
X	X	X		Y
				V_{gx}
				V_{gy}
				V_{gz}
				ΔV_c *
X	X	X		FUEL *
X	X	X		OX *
X	X	X		UNBAL

*ITEMS TO BE REPORTED TO MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	213:00 - 214:00	9/TEC	3-285

MCC-H

1223 CST

FLIGHT PLAN

NOTES

214:00 (11101) (X1111)

P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00022)
P00
V49 MNVR TO SIGHTING ATTITUDE
(017,270,000) OMNI C

LUNAR HORIZON

:10

P23 CISLUNAR NAVIGATION
3 MARKS ON EACH STAR
1. N70 (00022) (00000) (00220)

22 REGULUS (MFH)

2. N70 (00023) (00000) (00220)

23 DENEBOLA (MFH)

:20

3. N70 (00016) (00000) (00210)

16 PROCYON (MNH)

EI - 2 HR
GO/NO-GO

MSFN

LOGIC SEQUENCE CHECK PAGE E 1-2
GO/NO-GO FOR PYRO ARM SEQUENCE (CUE MSFN)
LOGIC - ON

214:30

V49 MNVR TO ENTRY PAD ATTITUDE (214:45)

:40

BORESIGHT AND SXT STAR CHECK

:50

P52 IMU REALIGN
OPTION 3 REFSMMAT
(ENTRY ORIENT)

215:00

REPORT: GYRO TORQUING ANGLES

P52 IMU REALIGN

N71: _ _ _ _ _
N05: _ _ _ _ _
N93:
X _ _ _ _ _
Y _ _ _ _ _
Z _ _ _ _ _
GET _ _ _:_ _:_ _

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	214:00 - 215:00	9/TEC	3-286

FLIGHT PLAN

MCC-H

1323 CST

215:00 (11101) (X1111)

:10

:20

EI - 1 HR

215:30

:40

:50

216:00

MSFN

GDC ALIGN PAGE E 1-3

EMS ENTRY CHECK PAGE E 1-4

PRIMARY WATER EVAP ACTIVATION PAGE E 1-4

CONFIGURATE CAMERA EQUIP FOR FIREBALL AND CHUTES PHOTOS PAGE E 1-4

SEC WATER EVAP ACTIVATION PAGE E 1-4

~~CM RCS~~ PRE-HEAT (IF REQ'D)

FINAL STOWAGE PAGE E 1-5

TERMINATE CM RCS PRE-HEAT PAGE E 1-5

~~CM~~ RCS ACTIVATION PAGE E 1-6

~~GO~~/NO-GO FOR PYRO ARM (CUE MSFN)

~~LOGIC~~ - ON

SET DET (UP, TO EI) PAGE E 2-1

EMS INITIALIZATION PAGE E 2-1

RSI ALIGNMENT PAGE E 2-1

CM RCS CHECK PAGE E 2-1

GO/NO-GO FOR PYRO ARM

UPDATE TO CSM

ENTRY PAD

RECOVERY PAD *informal*

UPLINK TO CSM

CSM S.V. & V66

EI - 30 MIN

VHF A SIMPLEX

COMM CHECK

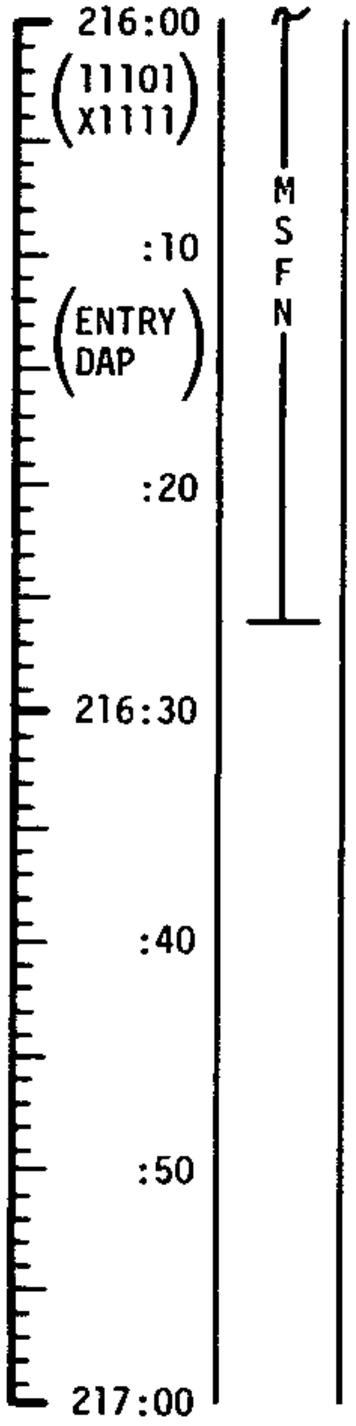
NOTES

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	215:00 - 216:00	9/TEC	3-287

MCC-H

1423 CST

FLIGHT PLAN



SEPARATION CHECKLIST PAGE E 2-2

MNVR TO HORIZON CHECK ATT PAGE E 2-2
P61 ENTRY PREP PAGE E 2-2
P62 CM/SM SEP & PRE-ENTRY MNVR PAGE E 2-3
SECS PYRO ARM

CM/SM SEP	216:12

MNVR TO ENTRY ATT

P63 ENTRY INITIATE

EI	216:26:59

P64 ENTRY POST 0.05G

NOTES

γ	=	-	6	.	5	
L/D	=	.	2	9	7	8	4
V	=	3	6	1	7	0
R	=	1	2	5	0	

TRAJECTORY EVENTS	TIME FROM 400K FT, MIN:SEC
400 000 FT (GET 216:26:59)	00:00
ENTER S-BAND BLACKOUT	00:18
0.05G	00:30
KA - INITIATE CONSTANT DRAG	00:52
RDOT = -700 FPS	01:18
PEAK G (6.6)	01:20
SUBCIRCULAR VELOCITY	02:06
P64 TO P67	02:10
EXIT S-BAND BLACKOUT	03:32
GUIDANCE TERMINATION	07:16
DROGUE DEPLOYMENT	08:17
MAIN DEPLOYMENT	09:04
SPLASHDOWN	13:54

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	216:00 - 217:00	9/TEC	3-288