FLIGHT PLAN

MCC-H

0823 CST

UPDATE TO CSM
CONSUMABLES
FLIGHT PLAN

162:00
:10
:20
162:30
:40
:50
163:00

MSFN

CSM SYSTEMS CHECKLIST

POST-SLEEP CHECKLIST PAGE S 1-26
COMM - HGA REACQ MODE
LiOH CANISTER CHANGE
(13 INTO A, STOW 11 IN A3)
O_2 HEATER 2 (1) - OFF

AL	STN	ED
7	6	7
—	—	EAT PERIOD
NO	NO	NO

PTC

NOTES

DAP LOAD STATUS
(11101)(X1111)

CSM CONSUMABLES UPDATE

GET: 162:00.

RCS TOTAL 48.8

QUAD A 48.9 B 48.1

C 49.6 D 48.6

H_2 TANK 1 45.2% 2 45.0%

O_2 TANK 1 23.0% 2 20.2%

3 21.6%

EARTH DISTANCE
≈184 381 NM

DURING PTC CREW AWAKE PERIODS, THE ANTENNA CONFIGURATION WILL BE HGA/OMNI COMMANDED FROM MCC-H

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	162:00 - 163:00	7/TEC	3-238

MCC-H

0923 CST

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11101) (X1111)

163:00

:10

:20

163:30

:40

:50

(11101)
(X1111)
164:00

MSFN

GET: 164:00

F.O.V. 3°

PTC

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

163-48-30

REPORT: GYRO TORQUING ANGLES

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

EXIT G&N PTC

PAGE G 8-3

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	163:00 - 164:00	7/TEC	3-239

MCC-H

1023 CST

FLIGHT PLAN

NOTES

164:00 (11101) (X1111)

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(113,323,002) HGA P -68, Y 73
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00033)
P00
V49 MNVR TO SIGHTING ATTITUDE
(094,325,335) HGA P -55, Y 3
V67 (+99000) (+00020) (+00003)

:10

EARTH HORIZON
LOAD W MATRIX

P23 CISLUNAR NAVIGATION
3 MARKS ON EACH STAR

:20

1. N70 (00040) (00000) (00110)

40 ALTAIR (ENH)

2. N70 (00000) (00000) (00120)
N88 (+07234) (-86438) (-49761)

212 DELTA
SAGITTARII (EFH)

164:30

3. N70 (00033) (00000) (00120)

33 ANTARES (EFH)

*4. N70 (00035) (00000) (00120)

35 RASALHAGUE (EFH)

:40

*5. N70 (00000) (00000) (00120)
N88 (-07804) (-99375) (+07982)

211 BETA
OPHIUCHI (EFH)

*6. N70 (00000) (00000) (00110)
N88 (+22712) (-83641) (-49884)

214 ZETA
SAGITTARII (ENH)

:50

V49 MNVR TO THERMAL ATTITUDE (165:00)
(184,325,335) OMNI A

*OPTIONAL TEST
STARS, DO NOT
UPDATE S.V.

165:00

MSFN

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE A (JAN)	DECEMBER 23, 1970	164:00 - 165:00	7/TEC	3-240

FLIGHT PLAN

MCC-H

1123 CST

UPLINK TO CSM
CSM S.V. & V47E
MCC-5 TGT LOAD

UPDATE TO CSM
MCC-5 MNVR PAD

165:00 (11101) (X1111)

:10

:20

165:30

:40

:50

166:00

MSFN

P30 EXTERNAL ΔV

V49 MNVR TO PAD ATT

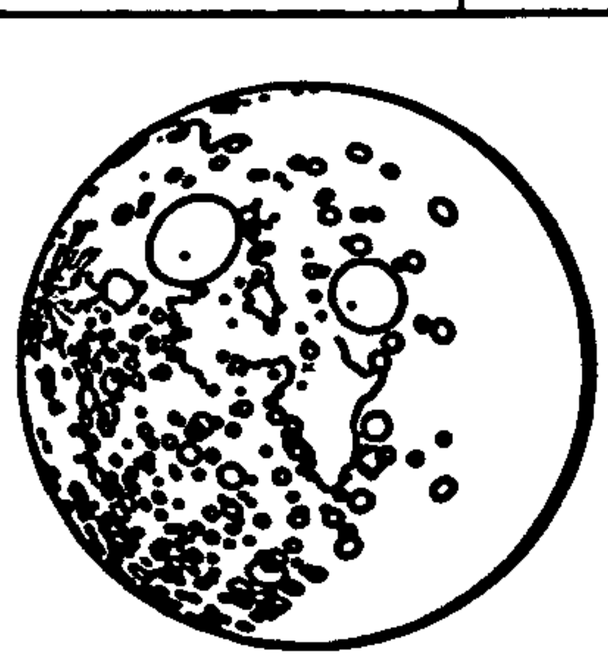
SXT STAR CHECK
P40 SPS THRUSTING OR
P41 RCS THRUSTING

NOTES

THE TEI CMC S.V. WILL BE UPDATED BY ONBOARD NAVIGATION (P-23's) DURING TEC. MCC'S WILL BE PERFORMED WITH A MSFN CALCULATED S.V. REPLACING THE CMC CALCULATED S.V., WHICH WILL BE DOWN-LINKED PRIOR TO THE BURNS. AFTER THE MCC, THE PREVIOUS CMC S.V. (CORRECTED FOR THE BURN) WILL BE UPLINKED TO THE LM SLOT AND TRANSFERRED TO THE CSM SLOT, THUS PRESERVING THE ORIGINAL CMC S.V. AND THE W MATRIX. AFTER THE BURN, MCC-H WILL ALSO UPLINK A CURRENT MSFN S.V. TO THE LM SLOT FOR REFERENCE PURPOSES.

GET: 166:00

F.O.V. 3°



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	165:00 - 166:00	7/TEC	3-241

FLIGHT PLAN

MCC-5
BURN TABLE

MANEUVER	P OR Y RATES	ATT DEVIATION	SHUTDOWN TIME	RESIDUALS
CORRIDOR CONTROL	10°/SEC COMPLETE	+10° COMPLETE	BT + 1 SEC AND $\Delta V_c = 0$	TRIM X AXIS ONLY TO 0.2 FPS
IP CONTROL	10°/SEC TERMINATE	+10° TERMINATE	BT + 1 SEC AND $\Delta V_c = 0$	TRIM X & Z AXIS TO 0.2 FPS

TABLE 3-9

FLIGHT PLAN

MCC-H

1223 CST

166:00 (11101) (X1111)

:10

:20

166:30

:40

:50

167:00

MSFN

TEI +17 HR

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

O_2 FUEL CELL PURGE
WASTE WATER DUMP ~~252~~ 227 Tm

MCC-5

BURN STATUS REPORT
CHARGE BATTERY B

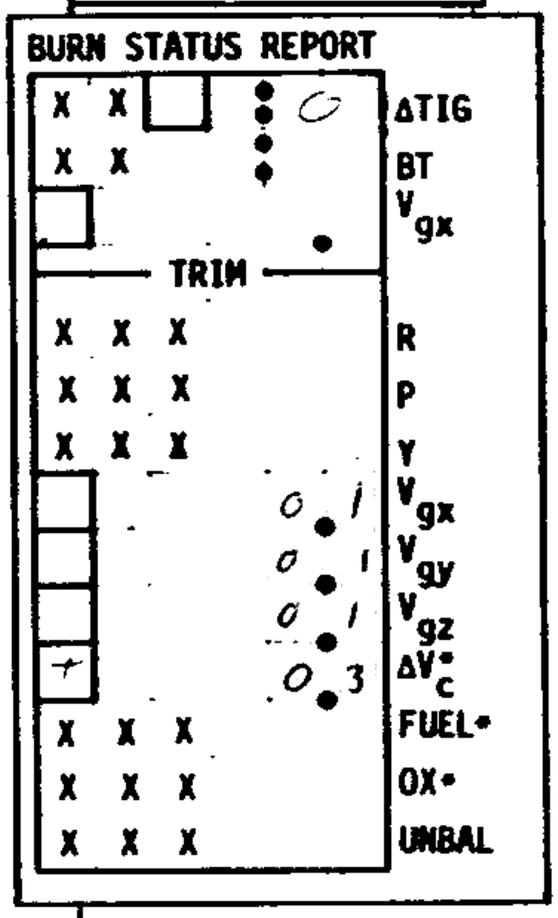
V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(290,019,034) OMNI C
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00016)
P00
V49 MNVR TO SIGHTING ATTITUDE — LUNAR HORIZON
(287,032,000) OMNI C
P23 CISLUNAR NAVIGATION
3 MARKS ON EACH START
1. N70 (00016) (00000) (00220) — 16 PROCYON (MFH)

2. N70 (00000) (00000) (00220) — 50 POLLUX (MFH)
N88 (-38513) (+79364) (+47097) +.4, 0

3. N70 (00022) (00000) (00210) — 22 REGULUS (MNH)
+.9, +.1; +.3, 0; +.1, 0

TIG: 166:14:50
BT: NOM ZERO
ΔVR: NOM ZERO
ULLAGE: N/A
ORBIT: N/A

BURN STATUS REPORT



*ITEMS TO BE REPORTED TO MSFN

NOTES

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	166:00 - 167:00	7/TEC	3-243

MSC Form 29 (May 69) FLIGHT PLANNING BRANCH

MCC-H

1323 CST

FLIGHT PLAN

NOTES

167:00
(11101)
(X1111)

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(057,098,359) HGA P -63, Y 261
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00035)
P00

EARTH DISTANCE
≈175 091 NM

:10

V49 MNVR TO SIGHTING ATTITUDE
(081,094,325) HGA P -57, Y 0
P23 CISLUNAR NAVIGATION
3 MARKS ON EACH STAR
1. N70 (00040) (00000) (00110)

EARTH HORIZON

40 ALTAIR (ENH)

:20

2. N70 (00000) (00000) (00120)
   N88 (+07234)(-86438)(-49761)

212 DELTA
SAGITTARII (EFH)

M S F N

3. N70 (00033) (00000) (00120)

33 ANTARES (EFH)

167:30

(11111)
(X1111)

V48 (11111)(X1111)
V49 MNVR TO O_2 FLOW RATE TEST ATTITUDE (167:45)
(345,130,344) HGA P 10, Y 279
DISABLE RCS QUADS A&B

:40

:50

UNSTOW ELECTRICAL CABLE FROM R10
REMOVE PROTECTIVE PLUG FROM SIDE HATCH
DUMP NOZZLE
CONNECT CABLE TO HEATER CONNECTOR
PANEL 15 UTILITY PWR - OFF (VERIFY)
CONNECT CABLE TO UTILITY OUTLET
UTILITY PWR - ON

O_2 FLOW RATE TEST

168:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE C (JAN)	JANUARY 18, 1971	167:00 - 168:00	7/TEC	3-244

MSC Form 28 (Mar 69) PEN & INK

FLIGHT PLANNING BRANCH

NASA — MSC

FLIGHT PLAN

NOTES

168:00 (11111) (X1111)

CREW EXERCISE PERIOD

:10

167:00

O_2 HEATER 3 (1) - AUTO

REPRESS PKG VLV - OFF (VERIFY)

CB O_2 ISOL/AUX BAT - CLOSE

:20

O_2 TANK 3 ISOL VLV - CLOSE (MOMENTARY)

O_2 TANK 3 ISOL VLV TB-BP

O_2 PRESS IND - SRG/3

MSFN

168:30

UNSTOW SCREEN & ADAPTER FROM R6

REMOVE PLUG FROM SIDE HATCH ORIFICE AND STOW

INSTALL ADAPTER ON HATCH ORIFICE

INSTALL SCREEN ON ADAPTER

O_2 FLOW RATE TEST

:40

WHEN SURGE TANK PRESSURE REACHES 750 PSIA (CRYO O_2 PRESS 1/SRG IND ≤ 750 PSIA), 168+30+00

SURGE TANK O_2 VLV - OFF

TEST WILL BE TERMINATED 2.5 HOURS AFTER SURGE TANK REACHES 750 PSIA

:50

169:00

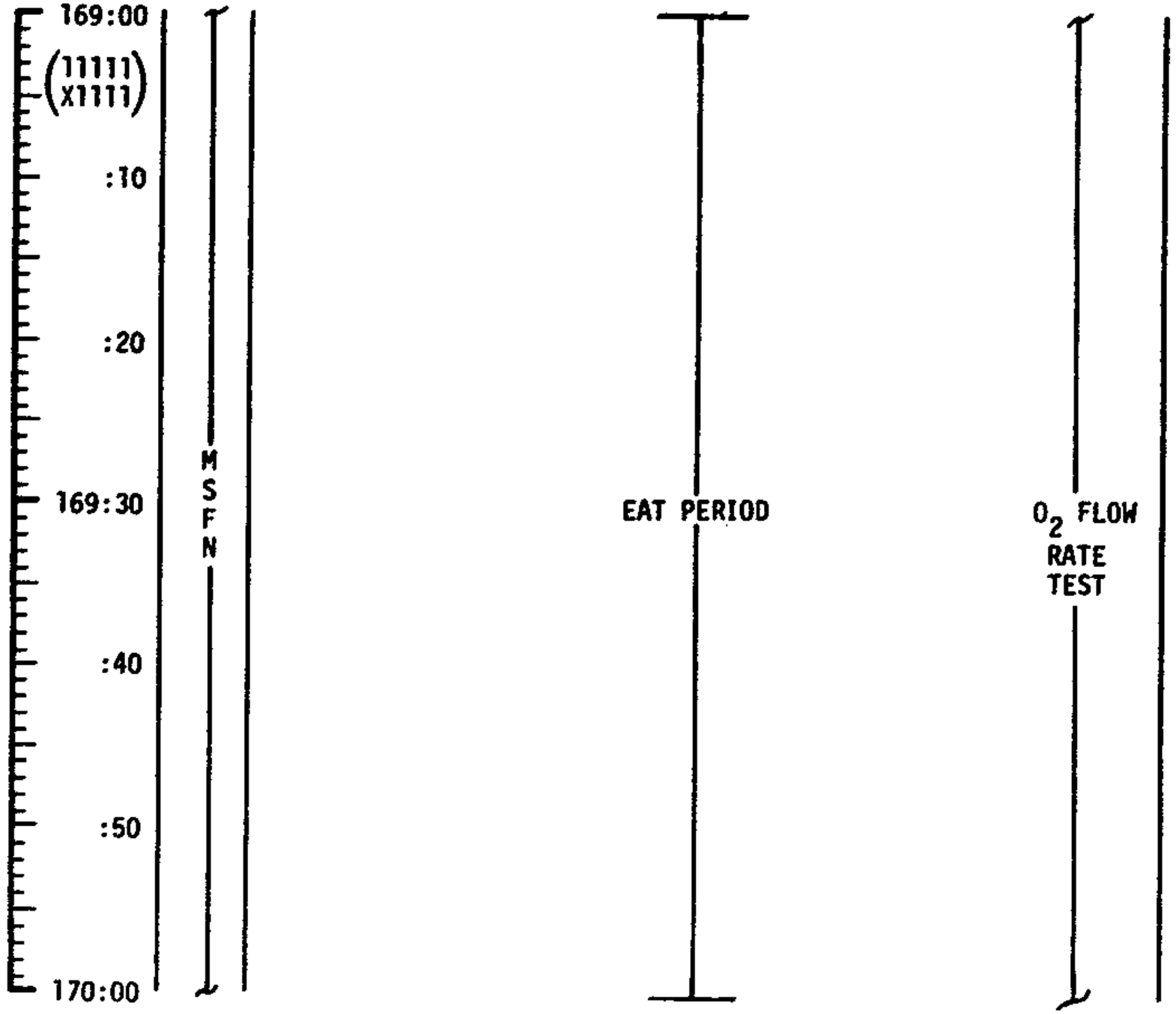
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE C (JAN)	JANUARY 18, 1971	168:00 - 169:00	7/TEC	3-245

MCC-H

1523 CST

FLIGHT PLAN

NOTES

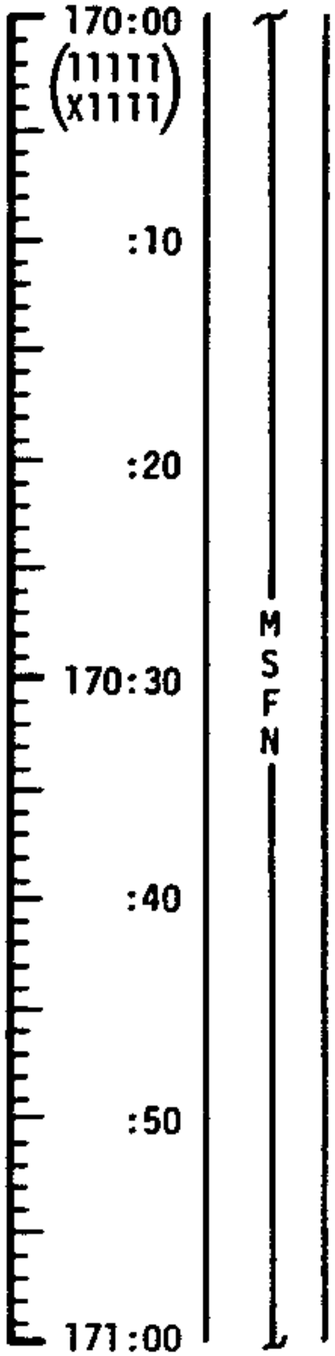


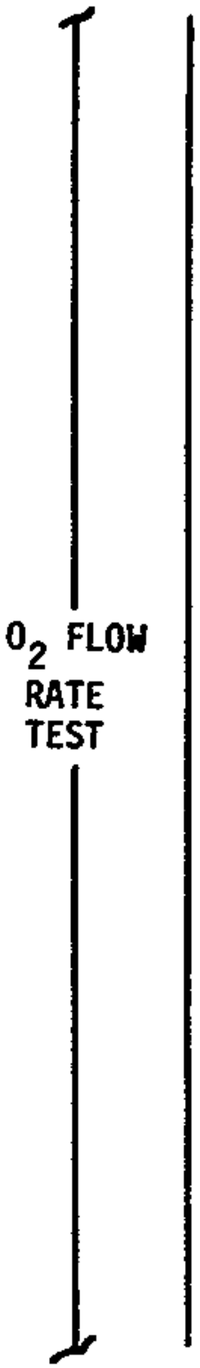
MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	169:00 - 170:00	7/TEC	3-246

MCC-H

1623 CST

FLIGHT PLAN





NOTES

EARTH DISTANCE
≈ 168 662 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	170:00 - 171:00	7/TEC	3-247

MCC-H

1723 CST

FLIGHT PLAN

NOTES

171:00
(11111)
(X1111)

ON CUE FROM MCC-H, APPROXIMATELY 10 MINUTES PRIOR TO TEST COMPLETION,
SURGE TANK O_2 VLV - ON
UTILITY PWR - OFF
DISCONNECT CABLE FROM HEATER AND UTILITY OUTLET AND STOW IN R10
REMOVE AND STOW SCREEN & ADAPTER IN BAG IN R6
UNSTOW PLUG AND REPLACE IN SIDE HATCH ORIFICE
INSTALL PROTECTIVE PLUG ON HATCH NOZZLE

O_2 FLOW RATE TEST

:10

(11101)
(X1111)

V48 (11101)(X1111)
ENABLE RCS QUADS A&B

:20

V49 MNVR TO THERMAL ATTITUDE (171:30)
(144,002,027) HGA P -29, Y 116
O_2 TANK 3 ISOL VLV - OPEN
O_2 TANK 3 ISOL VLV TB - GRAY

MSFN

171:30

CB O_2 ISOL/AUX BAT - OPEN

:40

WHEN SURGE TANK PRESSURE REACHES 865 PSIA,
O_2 HEATER 1 - OFF

:50

172:00

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	CHANGE C (JAN)	JANUARY 18, 1971	171:00 - 172:00	7/TEC	3-248

MCC-H

1823 CST

FLIGHT PLAN

172:00
(11101)
(X1111)

:10

:20

172:30

:40

:50

173:00

MSFN

TV

CSM SYSTEMS CHECKLIST
CONTAMINATION CONTROL PAGE S 1-16

TV(GDS) 172:30 TO 173:00
CM/TV - AVG (f5.6)
USE MONITOR TO ADJUST APERTURE
FOR INFLIGHT DEMONSTRATION

NOTES

GET: 173:00

F.O.V. = 3°

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	172:00 - 173:00	7/TEC	3-249

MCC-H

FLIGHT PLAN

1920 CST			NOTES
173:00 (11101) (X1111)		V49 MNVR TO OPTICS CALIBRATION ATTITUDE (094,103,358) HGA P -79, Y 101 P23 CISLUNAR NAVIGATION OPTICS CALIBRATION STAR N70 (00040) P00	EARTH DISTANCE ≈162 018 NM
:10		V49 MNVR TO SIGHTING ATTITUDE (082,098,325) HGA P -57, Y 0 P23 CISLUNAR NAVIGATION 3 MARKS ON EACH STAR	EARTH HORIZON
		1. N70 (00040) (00000) (00110)	40 ALTAIR (ENH)
:20		2. N70 (00000) (00000) (00120) N88 (+07234) (-86438) (-49761)	212 DELTA SAGITTARII (EFH)
	M	3. N70 (00033) (00000) (00120)	33 ANTARES (EFH)
173:30	S		
	F	*4. N70 (00035) (00000) (00120)	35 RASALHAGUE (EFH)
	N		
		*5. N70 (00000) (00000) (00120) N88 (-07804) (-99375) (+07982)	211 BETA OPHIUCHI (EFH)
:40		*6. N70 (00042) (00000) (00110)	42 PEACOCK (ENH)
			*OPTIONAL TEST STARS, DO NOT UPDATE S.V.
:50			
		LiOH CANISTER CHANGE (14 INTO B, STOW 12 IN A3)	
174:00			

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	173:00 - 174:00	7/TEC	3-250

FLIGHT PLAN

MCC-H

UPDATE TO CSM
QUADS TO ENABLE
FOR PTC SPINUP

2023 CST

174:00
:10
:20
174:30
:40
:50
175:00

MSFN

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N)
V49 MNVR TO PTC ATTITUDE
(N20,270,000)
V79 (-0.3750)
(+030.00)
(+00000)

REESTABLISH HGA REACQ MODE

PAGE G 8-2

PTC

NOTES

DAP LOAD STATUS
(11101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	174:00 - 175:00	7/TEC	3-251

MCC-H

2123 CST

FLIGHT PLAN

175:00

:10

:20

175:30

:40

:50

176:00

MSFN

EAT PERIOD

CSM SYSTEMS CHECKLIST

PRE-SLEEP CHECKLIST
COMM - OMNI'S

PAGE S 1-26

PTC

NOTES

DAP LOAD STATUS
(11101)(X1111)

ONBOARD READOUT	
BAT C	37
PYRO BAT A	37.3
PYRO BAT B	37.3
RCS A	58
B	55
C	57
D	60
DC IND SEL - MNA OR B	

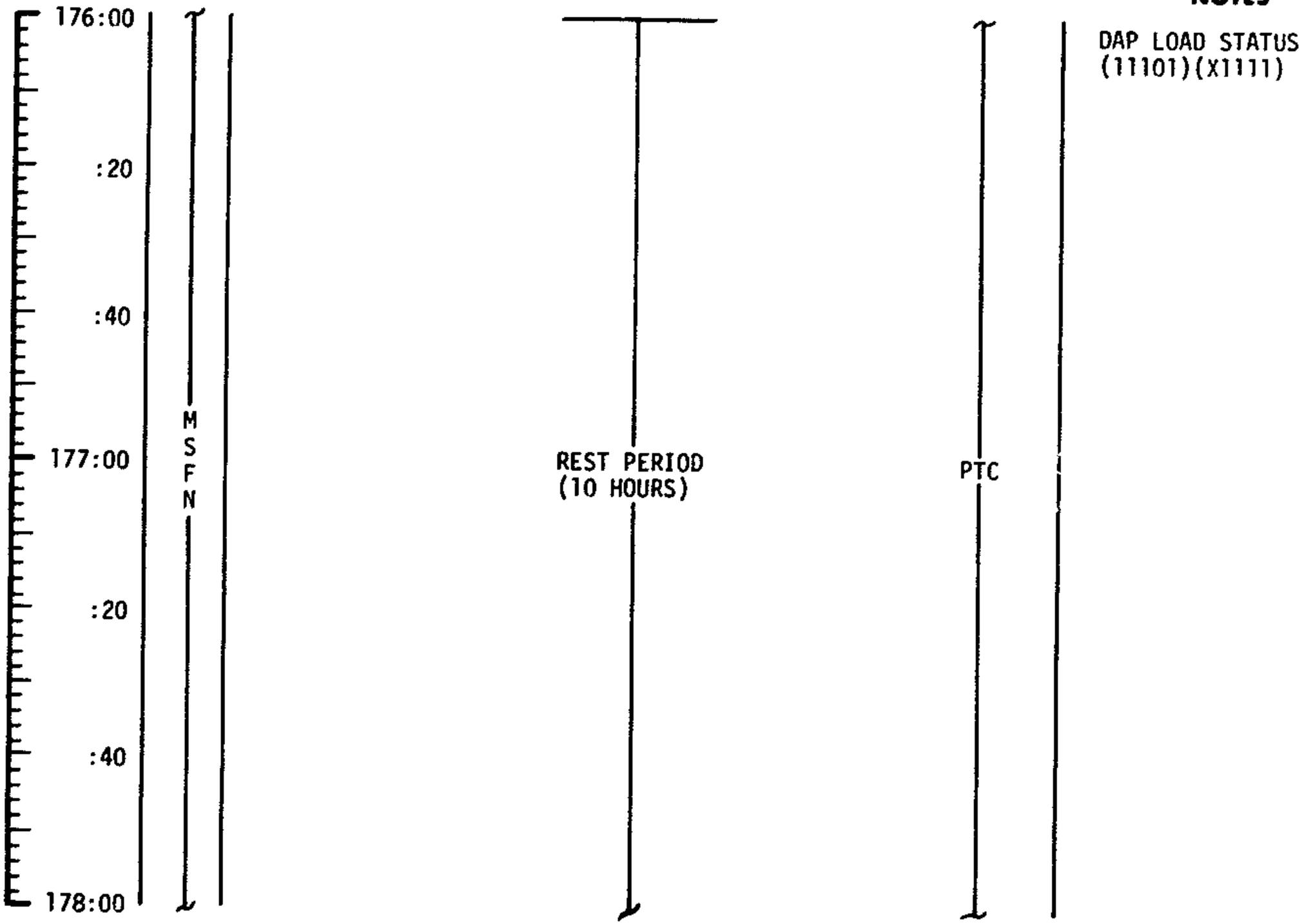
EARTH DISTANCE
≈155 133 NM

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	175:00 - 176:00	7/TEC	3-252

MCC-H

2223 CST

FLIGHT PLAN



NOTES

DAP LOAD STATUS
(11101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	176:00 - 178:00	7/TEC	3-253

MCC-H

FLIGHT PLAN

0023 CST

178:00
:20
:40
179:00
:20
:40
180:00

MSFN

REST PERIOD
(10 HOURS)

PTC

NOTES

DAP LOAD STATUS
(11101)(X1111)

MISSION	EDITION	DATE	TIME	Y/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	178:00 - 180:00	7/TEC	3-254

MCC-H

0223 CST

FLIGHT PLAN

180:00

:20

:40

181:00

:20

:40

182:00

MSFN

REST PERIOD
(10 HOURS)

PTC

NOTES

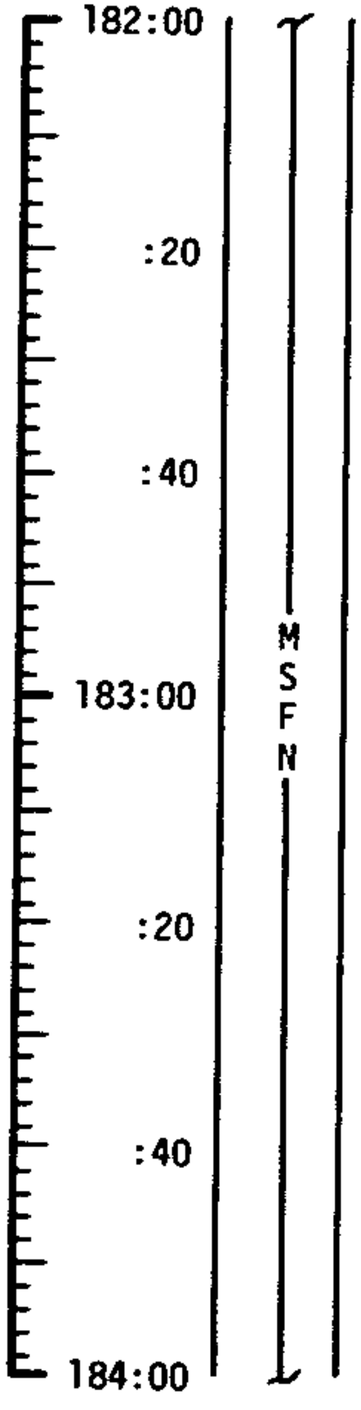
DAP LOAD STATUS
(11101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	180:00 - 182:00	7/TEC	3-255

MCC-H

0423 CST

FLIGHT PLAN



MSFN

REST PERIOD
(10 HOURS)

PTC

NOTES

DAP LOAD STATUS
(11101)(X1111)

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	182:00 - 184:00	7/TEC	3-256

MCC-H

0623 CST

FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11101)(X1111)

184:00

:20

:40

185:00

:20

:40

186:00

MSFN

REST PERIOD
(10 HOURS)

PTC

MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 14	FINAL (JAN)	DECEMBER 2, 1970	184:00 - 186:00	7/TEC	3-257