# FLIGHT PLAN

MCC-H

0823 CST

UPDATE TO CSM CONSUMABLES FLIGHT PLAN

186:00

:10

:20

186:30

:40

:50

187:00

MSFN

CSM SYSTEMS CHECKLIST

POST-SLEEP CHECKLIST PAGE S 1-26
COMM - HGA REACQ MODE

CHARGE BATTERY A

EAT PERIOD

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

REPORT: GYRO TORQUING ANGLES

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 _____

EARTH DISTANCE
≈127 376 NM

P52 IMU REALIGN

N71: __ __,__ __

N05: __ __ __.__ __

N93:

X __ __.__ __ __

Y __ __.__ __ __

Z __ __.__ __ __

GET __ __ __:__ __:__ __

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 186:00 - 187:00 | 8/TEC | 3-258 |

MCC-H

0923 CST

# FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11101)(X1111)

187:00

:10

:20

187:30

:40

:50

188:00

MSFN

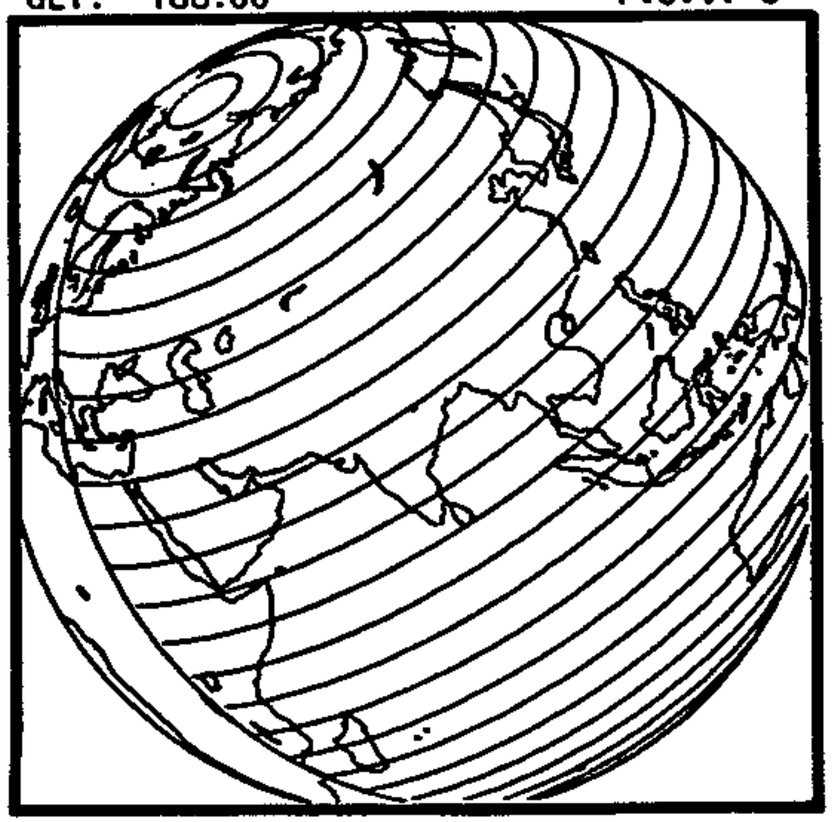
LiOH CANISTER CHANGE
(15 INTO A, STOW 13 IN A4)

CSM ENTRY CHECKLIST
EMS ENTRY CHECK

PAGE E 1-4

GET: 188:00

F.O.V. 3°



PTC

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 187:00 - 188:00 | 8/TEC | 3-259 |

# FLIGHT PLAN

1023 CST

188:00

:10

(11101)
(X1111)

:20

188:30

:40

:50

189:00

MSFN

EXIT G&N PTC ✓ 189+21:30

PAGE G 8-3

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(073,138,354) HGA P -75, Y 278 + 89995
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00040)
P00
V49 MNVR TO SIGHTING ATTITUDE
(087,137,325) HGA P -57, Y 0
P23 CISLUNAR NAVIGATION
3 MARKS ON EACH STAR
1. N70 (00037) (00000) (00120) — (13.7, 1.1; 0,0; +1.6, -0.1
2. N70 (00033) (00000) (00120) {20.2, 1.5; 1.2, 0.1; 0.7, 0}
3. N70 (00000) (00000) (00110) {4.1, 0.3; 2.4, 0.2; 2.6, 0.2}
N88 (+59879) (-32372) (-73257)

PTC

**NOTES**

DAP LOAD STATUS
(11101)(X1111)

EARTH DISTANCE
≈121 814 MIN

EARTH HORIZON

37 NUNKI (EFH)

33 ANTARES (EFH)

120 AL NA'IR (ENH)

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 188:00 - 189:00 | 8/TEC | 3-260 |

# FLIGHT PLAN

MCC-H

1123 CST

189:00
(11101)
(X1111)

:10

:20

189:30

:40

:50

190:00

M
S
F
N

*4. N70 (00040) (00000) (00110) (4 4.6, 10.4, 11.2, 7.1

*5. N70 (00035) (00000) (00120) .1,0;

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

UPDATE TO CSM
QUADS TO ENABLE
FOR PTC SPINUP

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**

40 ALTAIR (ENH)

35 RASALHAGUE (EFH)

211 BETA
OPHIUCHI (EFH)

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

DAP LOAD STATUS
(11101) (X1111)

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | CHANGE A (JAN) | DECEMBER 23, 1970 | 189:00 - 190:00 | 8/TEC | 3-261 |

MCC-H

1223 CST

# FLIGHT PLAN

| 190:00 | MSFN | CREW EXERCISE PERIOD<br>Term butt change. | PTC | NOTES<br>DAP LOAD STATUS<br>(11101)(X1111) |
|---|---|---|---|---|
| :10 | | | | |
| :20 | | | | |
| 190:30 | | | | |
| :40 | | | | |
| :50 | | | | |
| 191:00 | | | | |

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | CHANGE A (JAN) | DECEMBER 23, 1970 | 190:00 - 191:00 | 8/TEC | 3-262 |

MCC-H

1323 CST

# FLIGHT PLAN

**NOTES**

DAP LOAD STATUS
(11101)(X1111)

191:00

:10

:20

191:30

:40

:50

192:00

MSFN

EAT PERIOD

GET: 191:00

F.O.V. 5°

PTC

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 191:00 - 192:00 | 8/TEC | 3-263 |

MCC-H

1423 CST

# FLIGHT PLAN

192:00

:10

:20

(11101)
(X1111)

192:30

:40

:50

193:00

MSFN

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
(072,016,005) HGA P -73, Y 270
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00033)
P00
V49 MNVR TO SIGHTING ATTITUDE
(090,016,330) HGA P -55, Y 3
P23 CISLUNAR NAVIGATION
3 MARKS ON EACH STAR
1. N70 (00037) (00000) (00120)

2. N70 (00033) (00000) (00120)

3. N70 (00000) (00000) (00110)
N88 (+59879) (-32372) (-73257)

## NOTES

PTC

DAP LOAD STATUS
(11101)(X1111)

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

EARTH DISTANCE
≈113 101 NM

EARTH HORIZON

37 NUNKI (EFH)

33 ANTARES (EFH)

120 AL NA'IR (ENH)

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 192:00 - 193:00 | 8/TEC | 3-264 |

# FLIGHT PLAN

MCC-H

1523 CST

193:00
(11101)
(X1111)

:10

:20

:30

:40

:50

194:00

UPDATE TO CSM
MCC-6 MNVR PAD
ENTRY PAD (ASSUMES
MCC-6)
CSM S.V.

UPLINK TO CSM
CSM S.V. & V47E
MCC-6 TGT LOAD

UPDATE TO CSM
QUADS TO ENABLE
FOR PTC SPINUP

MSFN

$H_2$ PURGE LINE HEATER-ON } IF MCC-6 NOT REQUIRED

$H_2$ & $O_2$ FUEL CELL PURGE
WASTE WATER DUMP ~21.3%
$H_2$ PURGE LINE HEATER - OFF } IF MCC-6 NOT REQUIRED

CSM G&C CHECKLIST

PASSIVE THERMAL CONTROL (G&N) PAGE G 8-2
V49 MNVR TO PTC ATTITUDE
(N20,270,000) (262, 090, 000) D
V79 (-0.3750)
(+030.00)
(+00000)
REESTABLISH HGA REACQ MODE
~~P30 EXTERNAL ΔV~~
~~V49 MNVR TO PAD BURN ATT~~
~~$H_2$ PURGE LINE HEATERS - ON } IF NOT PERFORMED AT 193:00~~

LIGHT FLASH

PTC

RESTART PTC IF
MCC-6 NOT REQ'D

DAP LOAD STATUS
(11101)(X1111)

NOTES

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 193:00 - 194:00 | 8/TEC | 3-265 |

MCC-6
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 3-10

# FLIGHT PLAN

MCC-H

1623 CST

194:00 (11101) (X1111)

:10

:20

EI - 22 HR

194:30

:40

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

:50

195:00

MSFN

~~SXT STAR CHECK~~
~~P40 SPS THRUSTING OR~~
~~P41 RCS THRUSTING~~

~~$H_2$ & $O_2$ FUEL CELL PURGE~~
~~WASTE WATER DUMP~~
~~$H_2$ PURGE LINE HEATERS OFF~~

IF NOT PERFORMED AT 193:20

MCC-6

TIG: 194:26:59
BT: NOM ZERO
ΔVT: NOM ZERO
ULLAGE: N/A
ORBIT: N/A

~~BURN STATUS REPORT~~

V49 ± TV att 325,090,000
HGA P+32, Y-270

PTC

NOTES

DAP LOAD STATUS
(11101)(X1111)

BURN STATUS REPORT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X | X | □ | | | | | | | ΔTIG |
| X | X | | | | | | | | BT |
| □ | | | | | | | | • | $V_{gx}$ |
| | | | | | TRIM | | | | |
| X | X | X | | | | | | | R |
| X | X | X | | | | | | | P |
| X | X | X | | | | | | | Y |
| □ | | | | | | | | • | $V_{gx}$ |
| □ | | | | | | | | • | $V_{gy}$ |
| □ | | | | | | | | • | $V_{gz}$ |
| □ | | | | | | | | • | $\Delta V_c$ * |
| 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 | 194:00 - 195:00 | 8/TEC | 3-267 |

# FLIGHT PLAN

MCC-H

UPDATE TO CSM QUADS TO ENABLE FOR PTC SPINUP

1723 CST

195:00

CSM G&C CHECKLIST

~~PASSIVE THERMAL CONTROL (G8N)~~ PAGE G 8-2

~~V49 MNVR TO PTC ATTITUDE~~

~~(N20,270,000)~~

~~N79 (-0.3750)~~

~~(+030.00)~~

~~(+00000)~~

REESTABLISH HGA REACQ MODE

:10

TV - PRESS CONF.

:20

195:30

CSM SYSTEMS CHECKLIST

CONTAMINATION CONTROL PAGE S 1-16

PRESS CONFERENCE

:40

:50

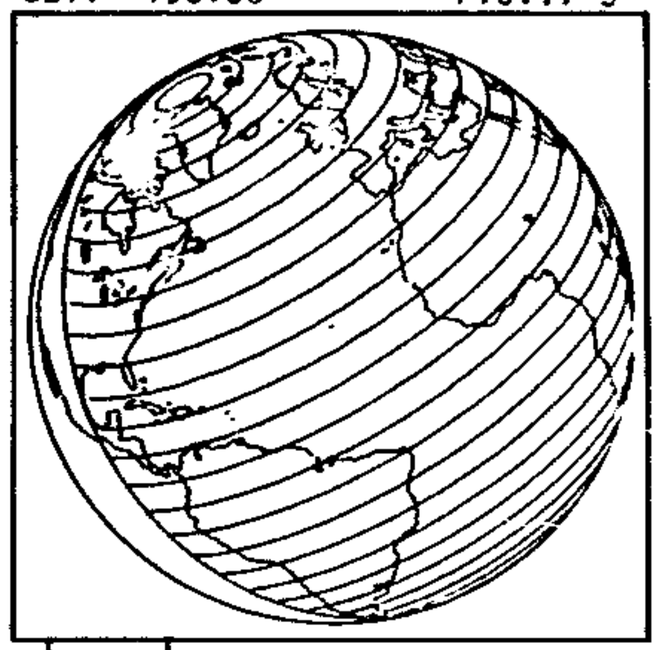
196:00

M S F N

NOTES

DAP LOAD STATUS (11101) (X1111)

GET: 196:00 F.O.V. 5°



PTC

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 195:00 - 196:00 | 8/TEC | 3-268 |

MCC-H

1823 CST

# FLIGHT PLAN

196:00

:10

:20

(11101)
(X1111)

196:30

:40

:50

197:00

M
S
F
N

P52 IMU REALIGN
OPTION 3 REFSMMAT
(PTC ORIENT)

REPORT: GYRO TORQUING ANGLES
REPORT: CM RCS INJECTOR VALVE TEMPS
(SYS TEST METER 5C, 5D, 6A, 6B, 6C, 6D)

~~EXIT GRN PTC~~ PAGE G 8-3

V49 MNVR TO OPTICS CALIBRATION ATTITUDE
(086,062,012) HGA P -72, Y 191
P23 CISLUNAR NAVIGATION
OPTICS CALIBRATION STAR N70 (00035)
P00
V49 MNVR TO SIGHTING ATTITUDE
(090,062,329) HGA P -57, Y 3
P23 CISLUNAR NAVIGATION
3 MARKS ON EACH STAR

1. N70 (00037) (00000) (00120)

2. N70 (00033) (00000) (00120)

3. N70 (00000) (00000) (00110)
N88 (+59879) (-32372) (-73257)

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

PTC

## NOTES

DAP LOAD STATUS
(11101) (X1111)

| CM RCS INJECTOR TEMP | | | |
|---|---|---|---|
| 5C | 4.6 | 5D | 4.6 |
| 6A | 4.4 | 6B | 4.6 |
| 6C | 4.5 | 6D | 4.5 |

EARTH DISTANCE
≈97 415 NM

EARTH HORIZON

37 NUNKI (EFH)

33 ANTARES (EFH)

120 AL NA'IR (ENH)

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | CHANGE A (JAN) | DECEMBER 23, 1970 | 196:00 - 197:00 | 8/TEC | 3-269 |

## EARTH DARKSIDE DIM LIGHT PHOTOGRAPHY

CONFIGURE CAMERA
CM/DAC/SXT/VHBW, (EXP 1/500) 24 fps (2.5% MAG)
MAG (J) ____ MAG % ____

UTILITY POWER - ON

V49 MNVR TO EARTH DARKSIDE PHOTO ATTITUDE (197:20)
(122,270,000) HGA P -59, Y 90
(125, )

DAMP VEHICLE RATES PER PTC PROCEDURE STEP 5
AFTER 20 MIN, DISABLE ALL JETS
P22 ORBIT NAVIGATION (NO MARKS)
LDMK: LAT + 10.000 SA +130.60
LONG/2 - 17.500 -25.000 TA + 44.800
ALT +000.00

MCC will give a go on rates

VERIFY THRU SXT THAT OPTICS BORESIGHTED ON EARTH DARKSIDE
MOUNT DAC ON SXT, DAC-ON AT 24 fps FOR 2 SEC
CHANGE DAC TO TIME & 1/60
1 FRAME, EXP TIME 60 SEC
1 FRAME, EXP TIME 20 SEC
1 FRAME, EXP TIME 5 SEC

CHANGE DAC TO 24 fps & 1/500; DAC ON AT 24 fps for 2 SEC
CYCLE CMC MODE - FREE/AUTO
ENABLE JETS
RECORD MAG % ____
REMOVE AND STOW DAC

MCC-H

1923 CST

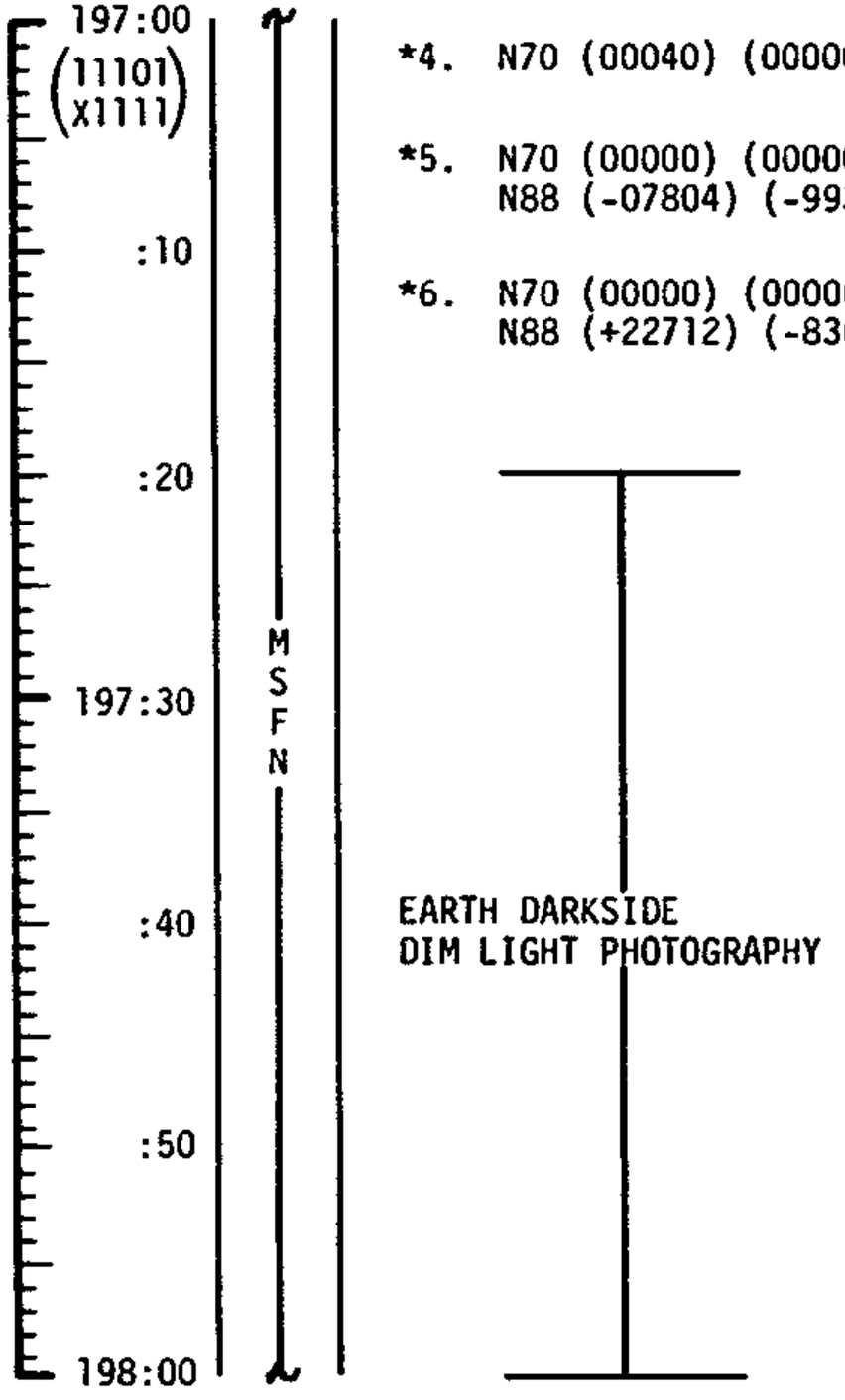
# FLIGHT PLAN

trend

*4. N70 (00040) (00000) (00110)

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

*6. N70 (00000) (00000) (00120)
N88 (+22712) (-83641) (-49884)




NOTES

40 ALTAIR (ENH)

211 BETA OPHIUCHI (EFH)

214 ZETA SAGITTARII (EFH)

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

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 197:00 - 198:00 | 8/TEC | 3-271 |

2023 CST

# FLIGHT PLAN

NOTES

198:00 (11101) (X1111)

CSM G&C CHECKLIST

BACKUP GDC AND/OR IMU ALIGNMENT PAGE G 7-3
V06 N20 (DO NOT ENTER)

ONLY THE GDC ALIGN WILL BE PERFORMED

:10

:20

AT RELEASE OF GDC ALIGN PB, KEY ENTER,
RECORD ANGLES AND REPORT TO MCC-H

CRESCENT ALIGN PAGE G 7-11
V06 N20 (DO NOT ENTER)

198:30

USE SCT WITH +X toward sun

M S F N

:40

AT RELEASE OF GDC ALIGN PB, KEY ENTER,
RECORD ANGLES AND REPORT TO MCC-H

UPDATE TO CSM QUADS TO ENABLE FOR PTC SPINUP

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

:50

PTC

DAP LOAD STATUS
(11101)(X1111)

199:00

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | CHANGE A (JAN) | DECEMBER 23, 1970 | 198:00 - 199:00 | 8/TEC | 3-272 |

MCC-H

2123 CST

# FLIGHT PLAN

199:00

:10

:20

199:30

:40

:50

200:00

MSFN

LiOH CANISTER CHANGE
(16 INTO B,STOW 14 IN A4)

EAT PERIOD

CSM SYSTEMS CHECKLIST

PRE-SLEEP CHECKLIST PAGE S 1-26
COMM - OMNI'S

PTC

**NOTES**

DAP LOAD STATUS
(11101)(X1111)

EARTH DISTANCE
≈87 143 NM

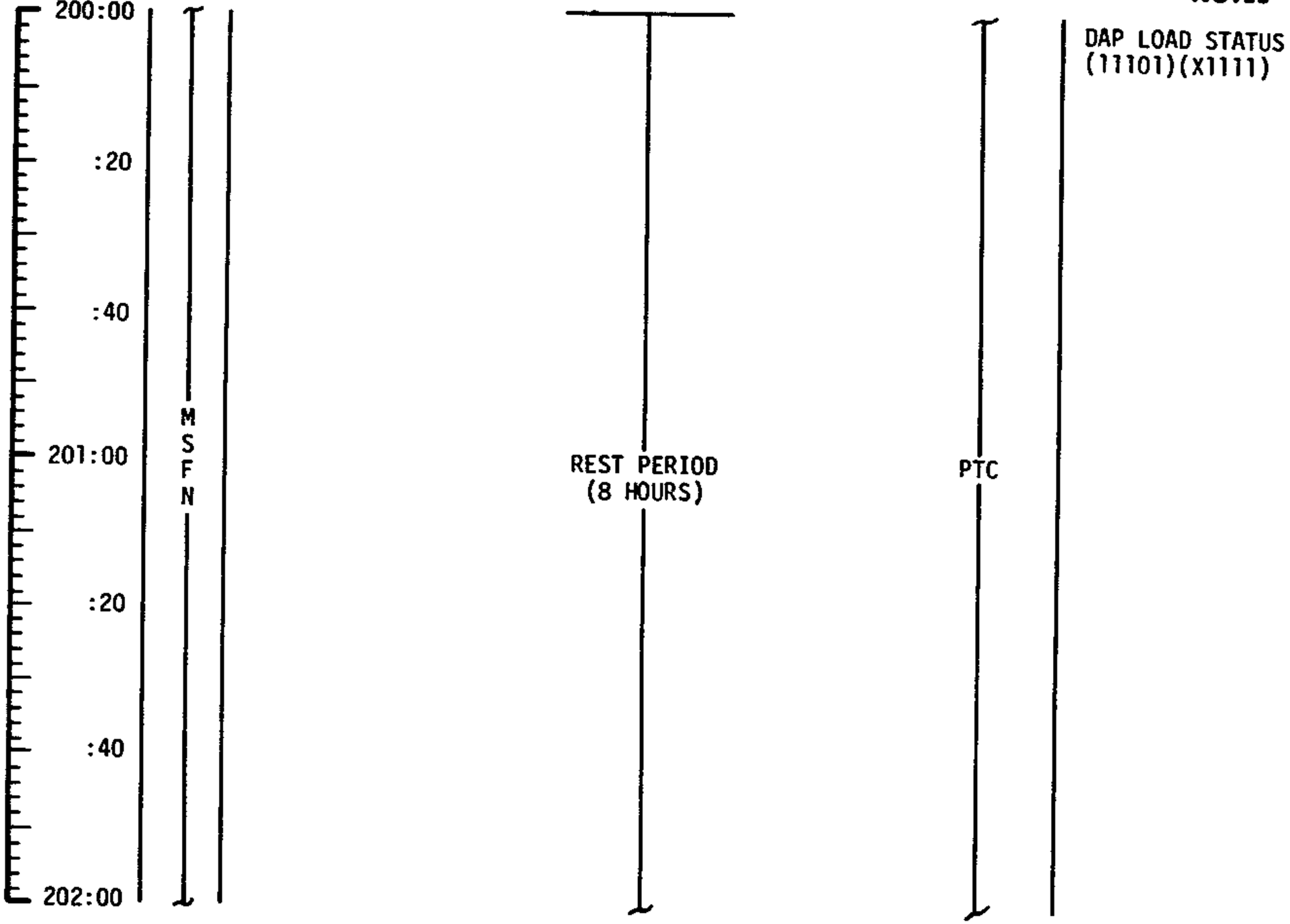
| ONBOARD READOUT | |
|---|---|
| BAT C | 37.0 |
| PYRO BAT A | 37.3 |
| PYRO BAT B | 37.3 |
| RCS A | 59 |
| B | 55 |
| C | 57 |
| D | 58 |
| DC IND SEL - MNA OR B | |

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 199:00 - 200:00 | 8/TEC | 3-273 |

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 | 200:00 - 202:00 | 8/TEC | 3-274 |

# FLIGHT PLAN

MCC-H

0023 CST

202:00

:20

:40

203:00

:20

:40

204:00

MSFN

REST PERIOD
(8 HOURS)

PTC

**NOTES**

DAP LOAD STATUS
(11101)(X1111)

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 202:00 - 204:00 | 8/TEC | 3-275 |

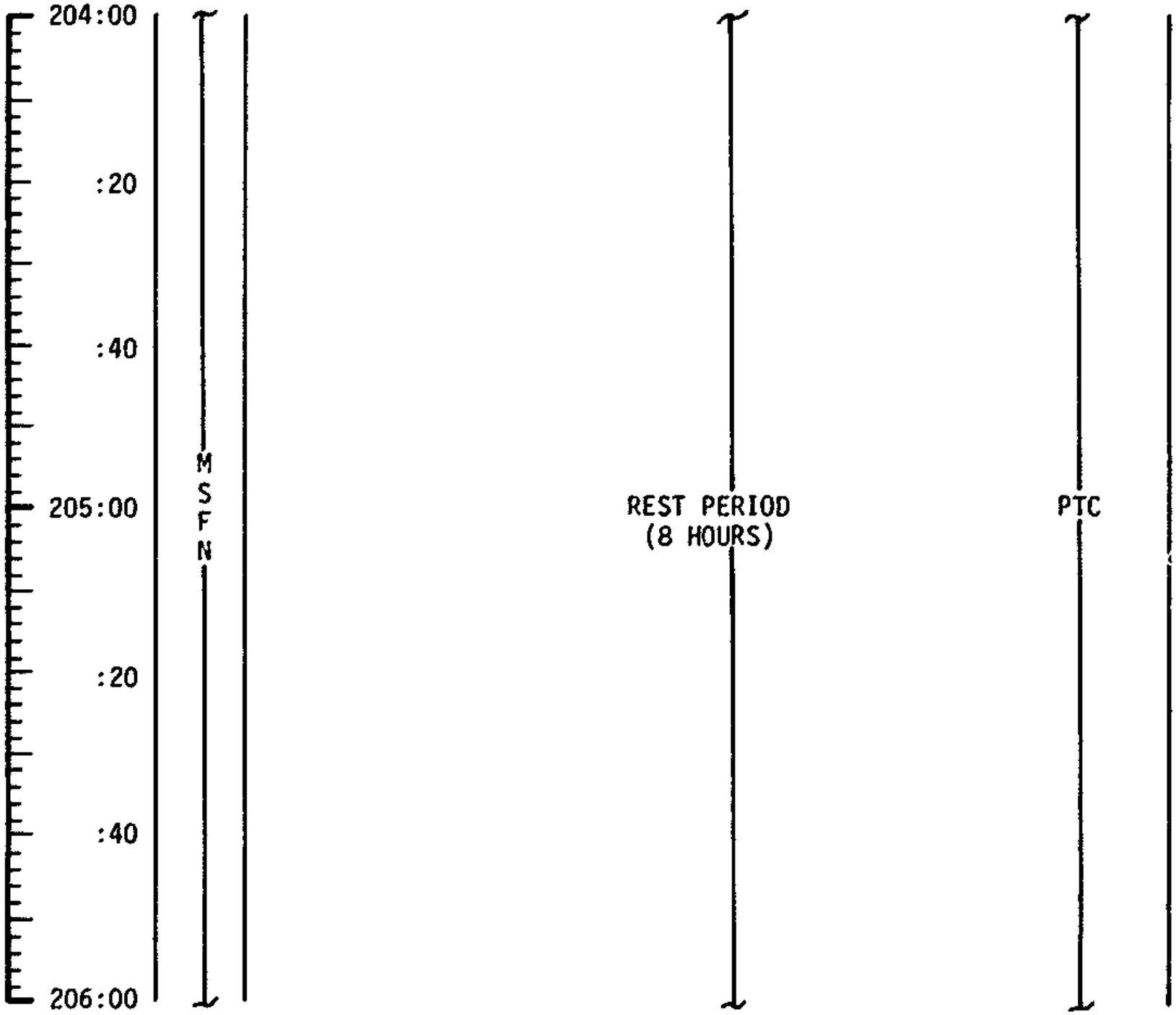
MCC-H

0223 CST

# FLIGHT PLAN

NOTES

DAP LOAD STATUS
(11101)(X1111)




| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 204:00 - 206:00 | 8/TEC | 3-276 |

MCC-H

0423 CST

# FLIGHT PLAN

206:00

:20

:40

207:00

:20

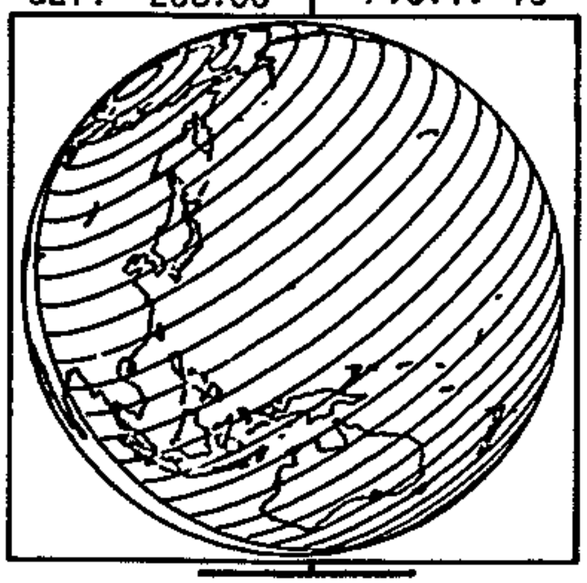
:40

208:00

MSFN

REST PERIOD
(8 HOURS)

GET: 208:00 | F.O.V. 10°



PTC

**NOTES**

DAP LOAD STATUS
(11101)(X1111)

| MISSION | EDITION | DATE | TIME | DAY/REV | PAGE |
|---|---|---|---|---|---|
| APOLLO 14 | FINAL (JAN) | DECEMBER 2, 1970 | 206:00 - 208:00 | 8/TEC | 3-277 |