



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

\* APOLLO 17

Perry

LOC  
050-445  
SIGNATURE  
Terry

DECEMBER 6 LAUNCH

61 P  
DOOBIE

DO NOT DISCARD  
THIS COPY BASELINE FOR  
ALL LAUNCH DATES

SUBJECT  
APOLLO 17

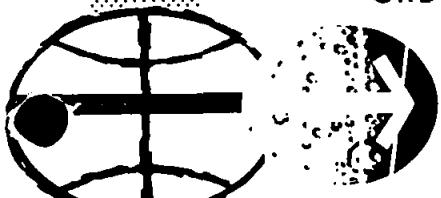
REVISION A

# LM LUNAR SURFACE CHECKLIST

INDEXING DATA  
DATE 11-6-72  
OPR MSC

PREPARED BY

EVA/IVA PROCEDURES BRANCH  
CREW PROCEDURES DIVISION



MANNED SPACECRAFT CENTER  
HOUSTON, TEXAS

NOVEMBER 6, 1972

HSL-471050

APOLLO 17  
LM LUNAR SURFACE CHECKLIST

NOVEMBER 6, 1972

PREPARED BY:

Wallace N. Teague  
WALLACE N. TEAGUE  
BOOK MANAGER

APPROVED BY:

D. C. Schultz  
D. C. SCHULTZ, CHIEF  
EVA & EXPERIMENTS BRANCH  
CREW PROCEDURES DIVISION

It is requested that any organization having comments, questions, or suggestions concerning this document contact Wallace Teague, EVA & Experiments Branch, CG34, Building 4, room 213, telephone 483-3048.

This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes should be submitted to the Apollo Flight Data File Manager, T. W. Holloway, CG5, Building 4, room 230, telephone 483-4271.

Distribution of this document is controlled by Flight Data File Manager, T. W. Holloway, Flight Planning Branch, Crew Procedures Division.

## ACKNOWLEDGEMENT

<u>AREA</u>	<u>NAME/BRANCH</u>	<u>LOCATION</u>
Lunar Surface Timeline (Pg. a - g)	Charles Stough Flight Planning CG52	Ext 4271 Bldg 4 Rm 224
Section 1,8,11,12,14,15	T. H. Kaiser Flight Planning CG5	Ext 4271 Bldg 4 Rm 231
Section 2,3,4,5,6, 7,9,10,13	John H. Covington EVA Procedures CG32	Ext 3091 Bldg 4 Rm 222

Any organization having specific comments regarding a particular area of responsibility should contact the individual(s) listed above.

## LM LUNAR SURFACE CHECKLIST

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\*Current change

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\*Current Change

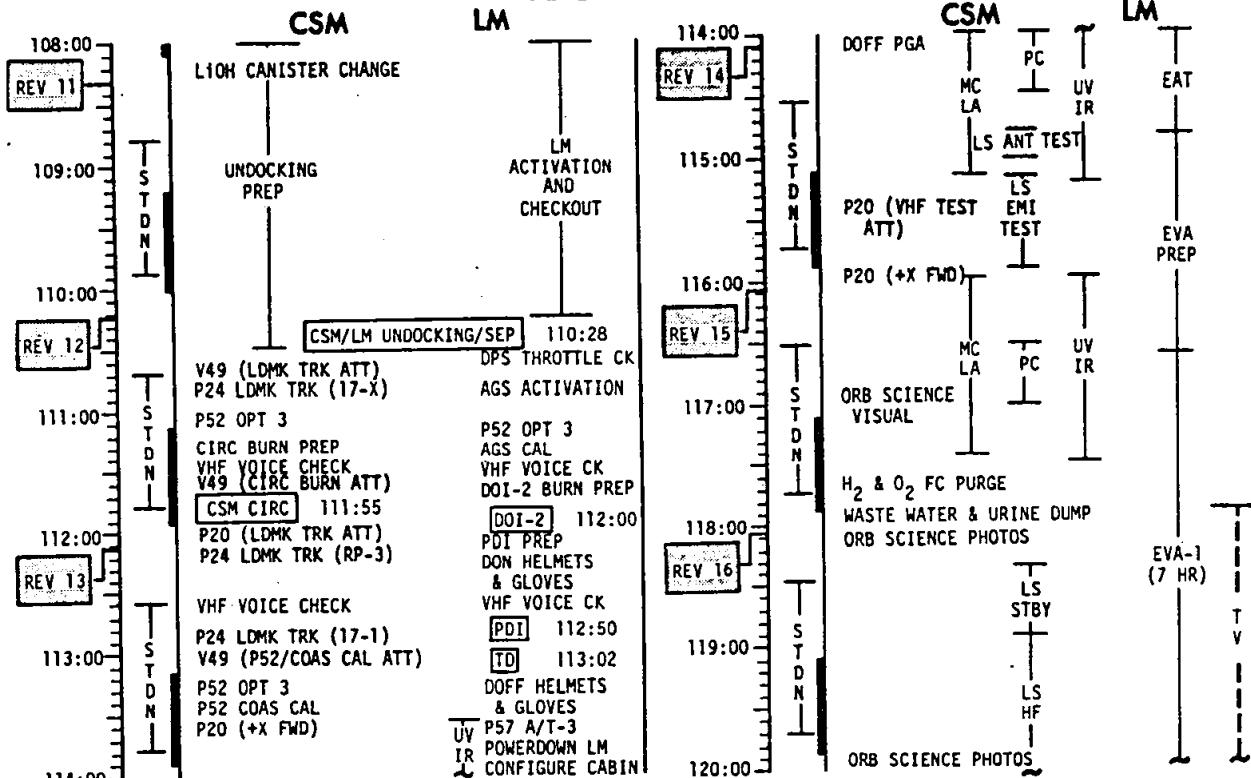
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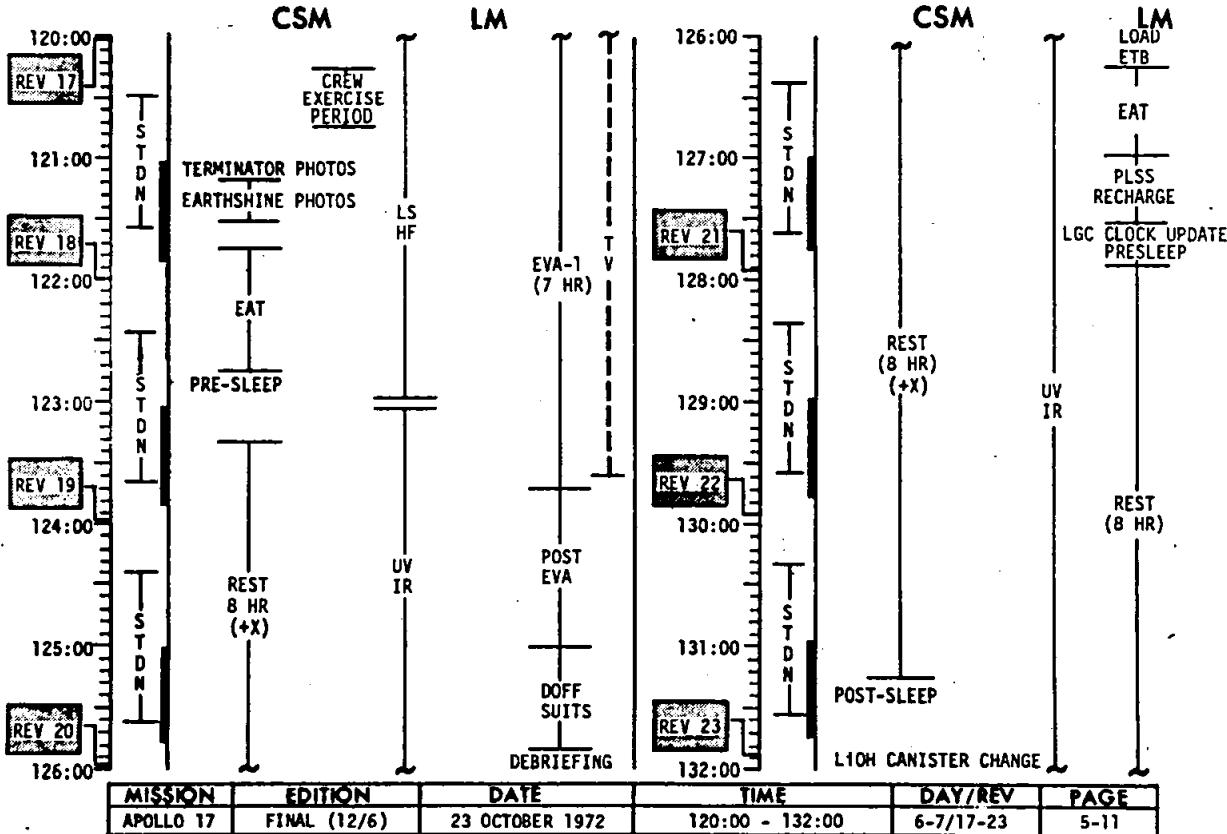
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## FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 17	FINAL (12/6)	23 OCTOBER 1972	108:00 - 120:00	6 /11-16	5-10

# FLIGHT PLAN

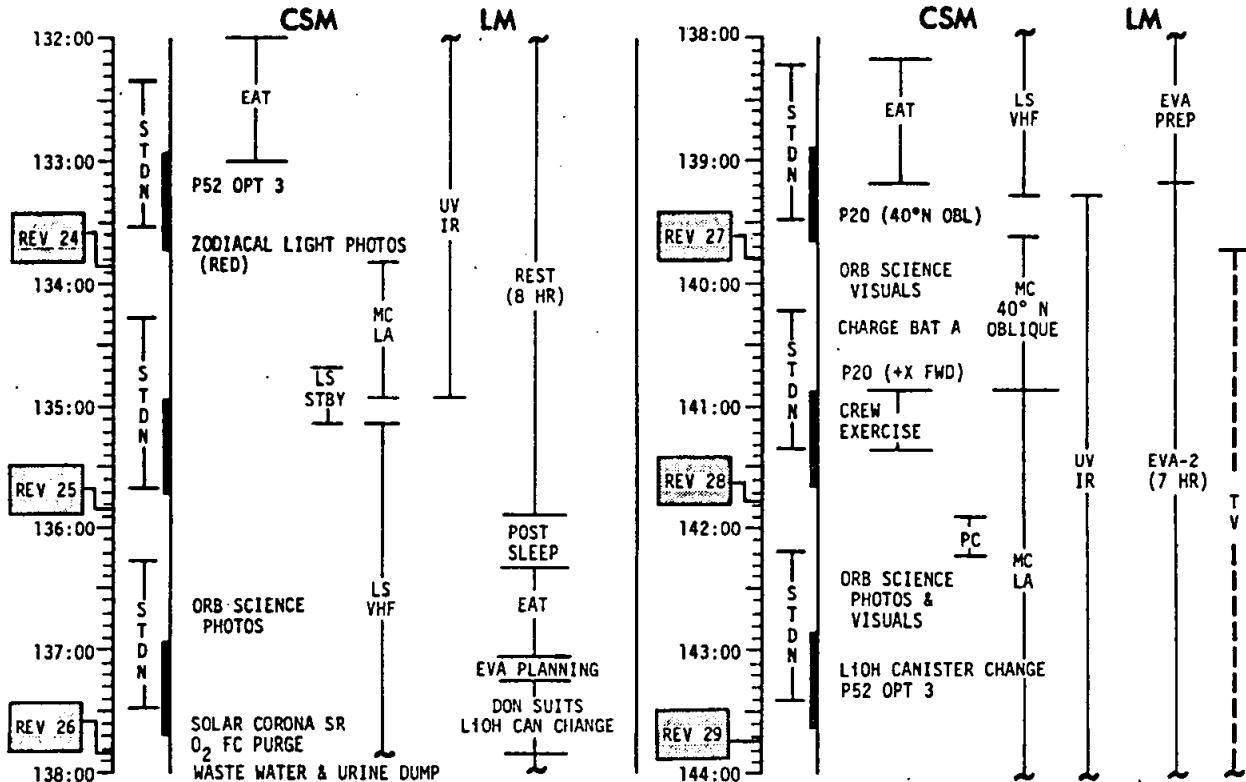


b

DATE 11/6/72

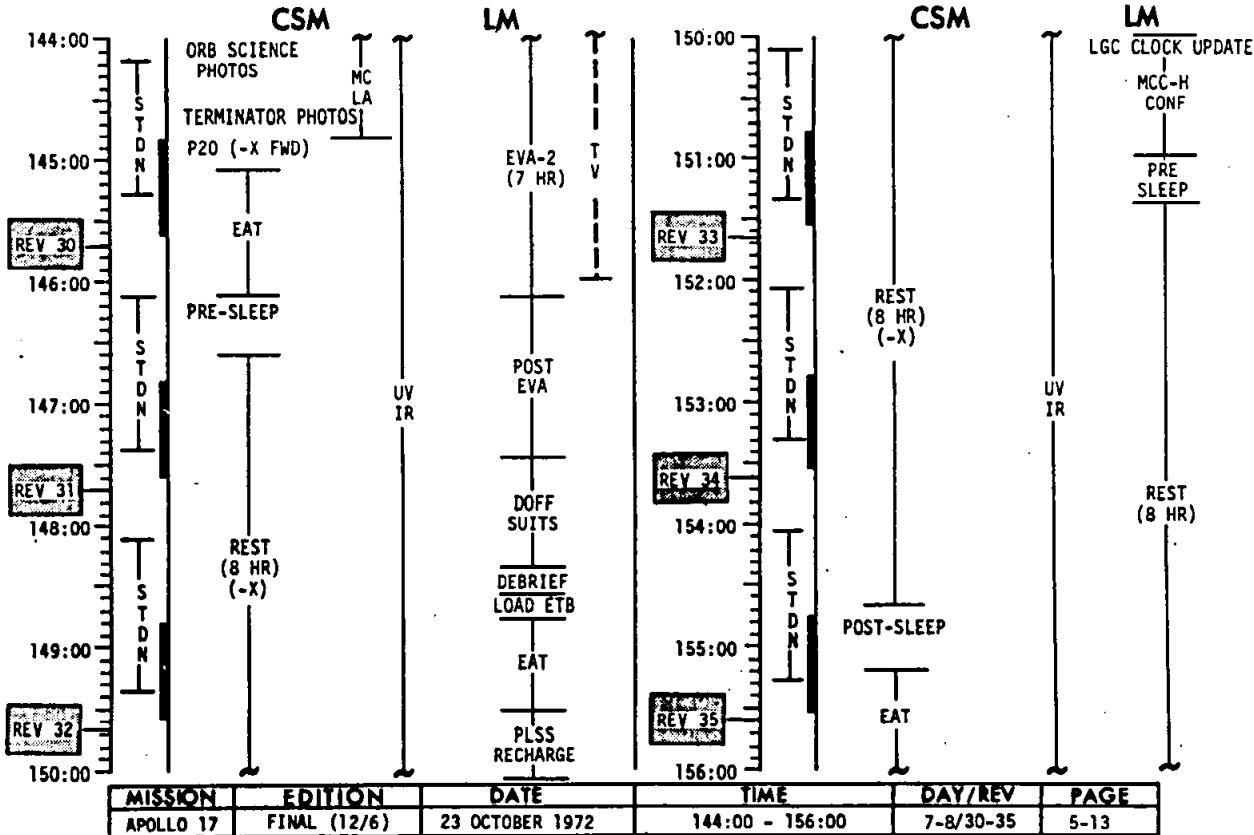
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## FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 17	FINAL (12/6)	23 OCTOBER 1972	132:00 - 144:00	7/24-29	5-12

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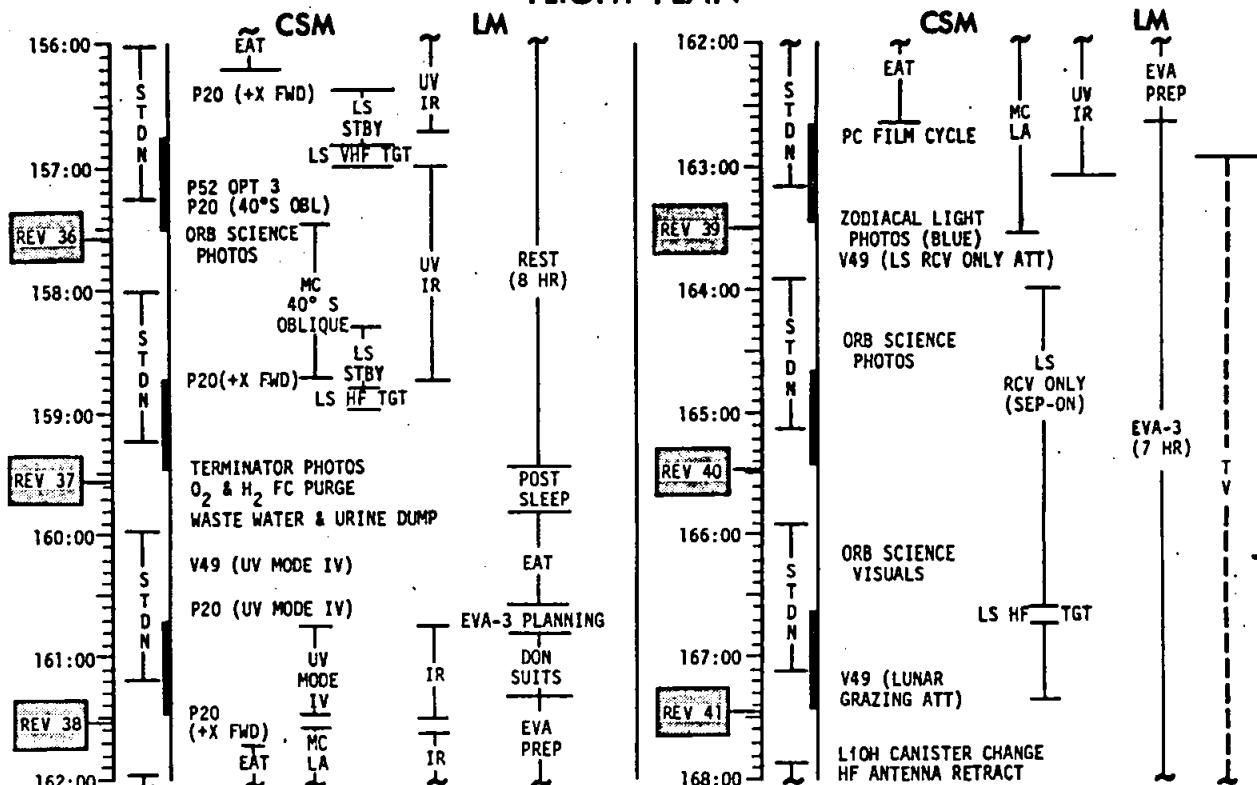


d

DATE 11/6/72

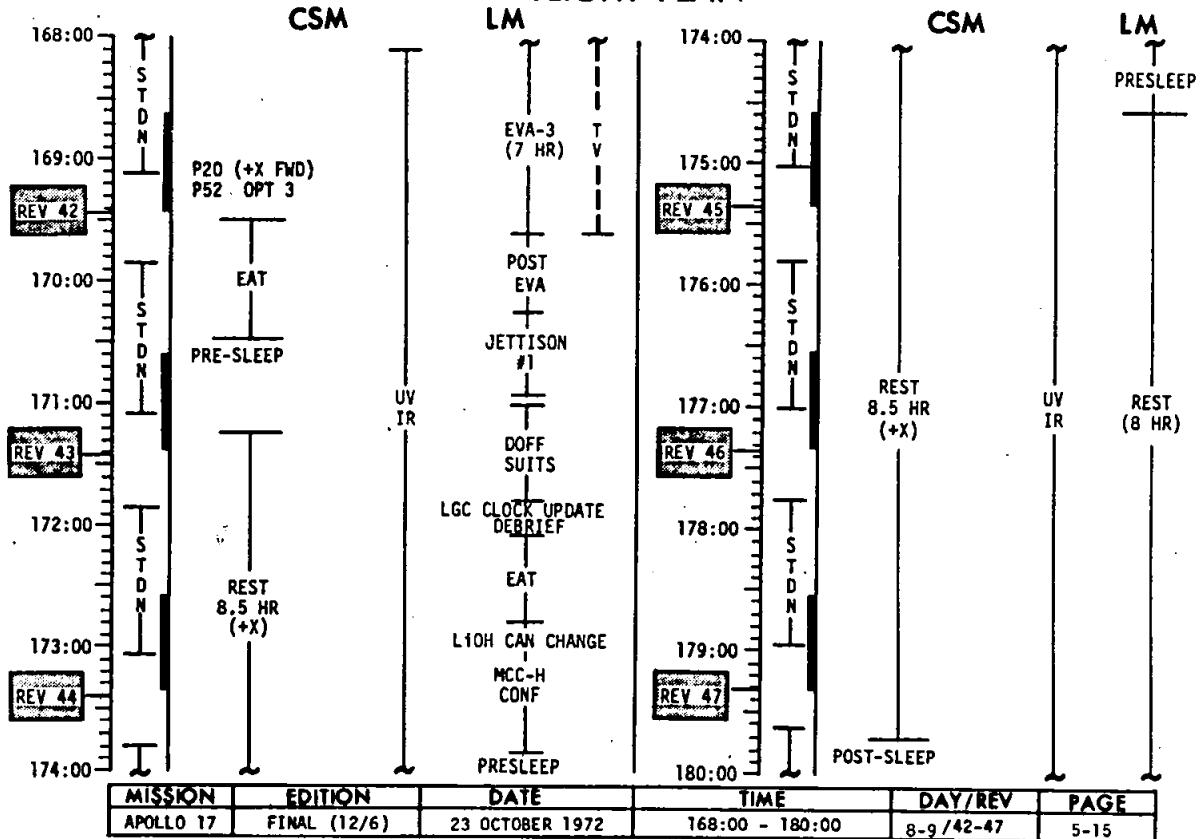
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## FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 17	FINAL (12/6)	23 OCTOBER 1972	156:00 - 168:00	8/36-41	5-14

# FLIGHT PLAN



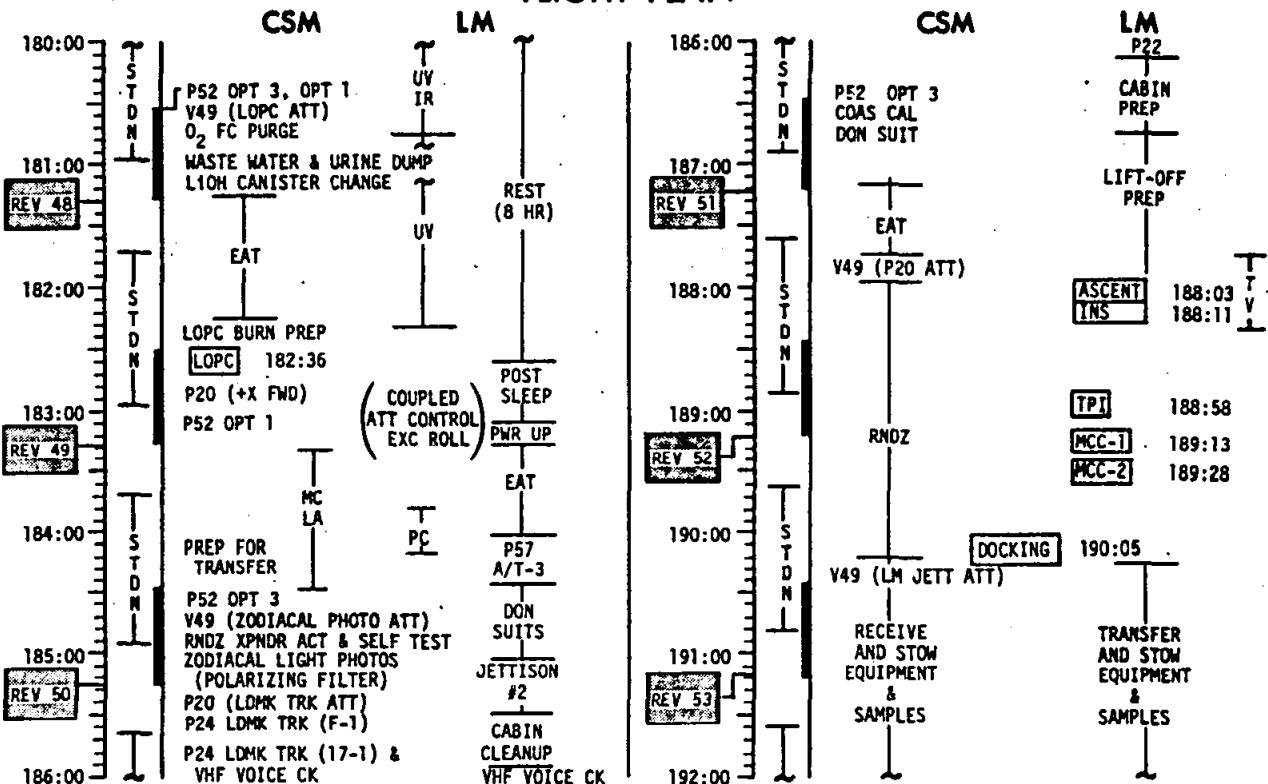
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APOLLO 17	FINAL (12/6)	23 OCTOBER 1972	168:00 - 180:00	8-9 /42-47	5-15

DATE 11/6/72

DATE 11/6/72

## FLIGHT PLAN



MISSION	EDITION	DATE	TIME	DAY/REV	PAGE
APOLLO 17	FINAL (12/6)	23 OCTOBER 1972	180:00 - 192:00	9 /48-53	5-16

DATE 9/12/72

\*\*\*\*\* PDI +20 (113:10) \*\*\*\*\*

PRPLNT TEMP/PRESS MON - DES 1, 2  
DES He REG 1 - CLOSE; tb(2)-bp  
OXID & FUEL VENTS - OPEN; tb(2)-gray  
MASTER ARM - ON  
DES VENT - FIRE  
MASTER ARM - OFF  
Monitor OXID Press Until 20 to  
40 psi, then OXID VENT - CLOSE  
Monitor FUEL Press Until <8 psi,  
Then FUEL VENT - CLOSE  
MODE CONTROL (2) - ATT HOLD  
Verify INV - 2 Selected  
CB(11) INV 1 - Open  
DECA PWR - Open

CB (16) ASC ECA CONT - Close  
BAT 5,6 - OFF/RESET, tb - bp  
INVERTER - 2  
CB(16) PQGS - Open  
DES ENG OVRD - Open  
ASC ECA CONT - Open  
CWEA - Open Then Close (DES REG Lt - Off)

Verify Cabin Press  
PRESS REG A&B - CABIN  
SUIT GAS DIVERTER - Pull/EGRESS  
CABIN GAS RETURN - EGRESS  
CABIN REPRESS - AUTO

Doff Helmet & Gloves  
PGA Diverter Vlvs - IV (Horz)  
Remove & Stow Restraints (CDR's To Floor Fittings)  
Window Shades - Close

V16 N20E  
Record \_\_\_\_\_ OG (.01°)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
IG  
MG

Park RR Ant For P57 Use

047 R Sin Az (To MSFN)  
053 R Cos Az (To MSFN)  
544 R X Gyro Coeff (.01°/hr)  
545 R Y Gyro Coeff  
546 R Z Gyro Coeff  
400 + 6 Calib Gyros

1-1

FIRST REV ACT

CB(11)AOT LAMP - Close

P57E, R2 00003, PRO

N06 00010

00003

00110

PRO (NO ATT Lt - On/Off, Twice)

N04 Nav. Err. (.01°)

V32E (NO ATT Lt - On/Off, Twice)

N04 Grav. Err. (.01°)

PRO

N22 ICDU Angles (.01°)

PRO (NO ATT Lt - On/Off)

N70 (Dubhe #52), 300

PRO

N88 X -45598 If Adjacent Detent Desired:  
Y +11790 V21 N01E,373E,32533E  
Z +88215 PRO To N79

PRO

N71 Star, 4 Marks

N88 Values As Above

PRO

N05 Angle Diff (.01°)

PRO

N93 Torq. Angles (.001°)

PRO

N25 00014, ENTR, POOE

CB(11)AOT LAMP - Open; AOT - CL

224 + 58113E

226 + 58113E

662 + 0E

673 + 0E

400 R (+0 Calib Complete In 5m 2s)

VHF - OFF, ON, OFF, OFF

AUDIO (Both): VHF A - RCV

: VHF B - OFF

S-BD P&Y Set (+24°/-48°), SLEW

P \_\_\_\_\_ Y \_\_\_\_\_

Peak Until > 3.9

544 R \_\_\_\_\_ X Gyro Coeff (0.01°/hr)

545 R \_\_\_\_\_ Y Gyro Coeff

546 R \_\_\_\_\_ Z Gyro Coeff

If Gyro Drift Changes >2.0°/hr  
AGS Failed

Voice Pre-PDI AGS Cal.  
Values To STDN

DATE 9/12/12

Notify STDN of E-DUMP  
TLM-HI (Verify)  
V74E (42 sec)

400 +3 AGS/PGNS Align  
413 +1 Store Azimuth

STAY/NO STAY From STDN

Park RR Ant. Along +X For Lunar Stay

342 + OE

V41 N20E, Load OG,IG,MG From STDN

CB(16) AEA - Open (M.A.,AGS Warn Lt-On)

V16 N20E, Verify Angles

AGS STATUS - STBY

CB(16) AEA - Close (AGS Lt - Off)

NO ATT, NO DAP, GIMBAL LOCK, ALT, &  
VEL Lts - On; RSET (ALT & VEL - Off)

P06E

CB (11) IMU OPR - Open

PRO (Hold In Until STBY Lt-On)

Window Shades - Open

POWER/TEMP MON - ED/OFF

Check ED VOLTS, A \_\_\_\_\_, B \_\_\_\_\_ (To STDN)

POWER/TEMP MON - LUN

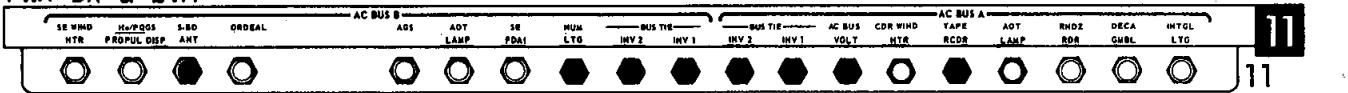
BAT 2 - OFF/RESET, tb-bp

BAT L (LMP) - ON; tb - LMP

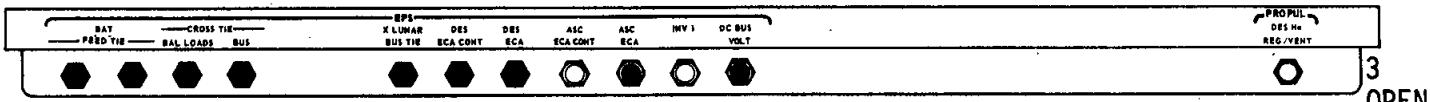
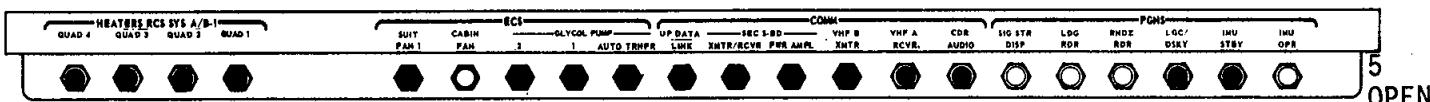
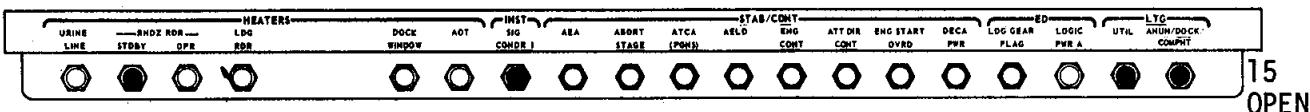
BAT 1 - OFF/RESET; tb-bp

POWER/TEMP MON - Check Bus Volts

# PWR DN & EVA



OPEN 1st



1-4

DATE 9/12/72

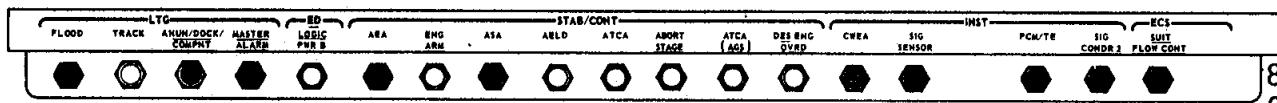
DATE 11/6/72

PWR DN & EVA

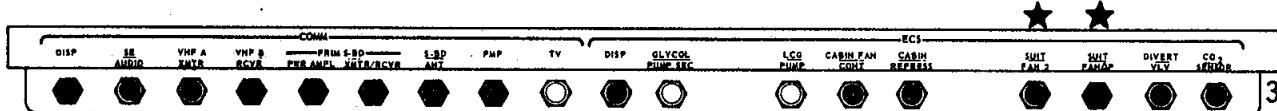
16



14  
OPEN



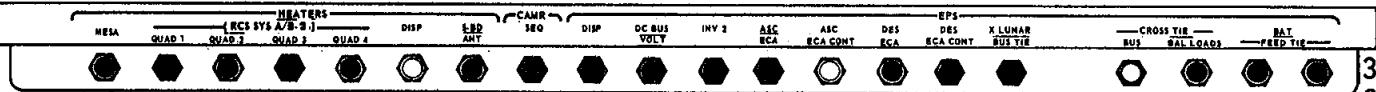
8  
OPEN



3  
OPEN

OPEN PRIOR TO DEPRESS

OPEN IN EVA 2 POST &  
LEFT OPEN THEREAFTER



3  
OPEN

★ — OPEN FOR EVA

**POWERDOWN SWITCH CONFIG.**

FDAI 1&2 - INRTL  
EARTH/LUNAR - PWR OFF  
LTG - OFF  
MODE - HOLD/FAST  
ALT SET - 35

FUEL & OXID VENT tb-bp  
MESA - HI  
URINE LINE - OFF  
MASTER ARM - OFF  
ASC He SEL - BOTH  
STAGE - SAFE (guarded)

S BAND T/R - T/R  
ICS T/R - T/R  
RELAY - OFF  
MODE - ICS/PTT  
AUDIO CONT - NORM  
VHF A - RCV  
VHF B - OFF  
COAS - OFF

TTCA (CDR) - JETS (Dn)

Eng STOP - Reset  
Eng START - Reset

1-6

TMR CONT - START  
OVERRIDE ANUN - OFF  
OVERRIDE NUM - OFF  
OVERRIDE INTEGRAL - OFF

X-POINTER SCALE (CDR) - HI MULT  
RATE/ERR MON (CDR) - LDG RDR/CMPTR  
ATTITUDE MON (CDR) - PGNS  
GUID CONT - PGNS  
MODE SEL - PGNS  
RNG/ALT MON - RNG/RNG RT  
SHFT/TRUN - +50°  
RATE SCALE - 25°/SEC  
ACA PROP (CDR) - ENABLE  
THR CONT - AUTO  
MAN THROT - CDR  
ENG ARM - OFF  
ATT/TRANSL - 4 JETS  
BAL CPL - ON  
ABORT - Reset  
ABORT STAGE - Reset (Guarded)  
PRPLNT QTY MON - OFF  
PRPLNT TEMP/PRESS MON - ASC  
HELIUM MON - PRESS 1

RR GYRO SEL - PRIM

DATE 3/16/16

TEMP/PRESS MON - OXID MANF

ACA PROP (LMP) - ENABLE

GLYCOL - PUMP 1

SUIT FAN - 1

O2/H2O QTY MON - DES 2

RATE/ERR MON (LMP) - RNDZ RADAR

ATTITUDE MON (LMP) - AGS

ENG GMBL - ENABLE

DES ENG CMD OVRD - OFF

LDG ANT - AUTO

RDR TEST - OFF

TEST MONITOR - AGC

SLEW RATE - LO

RR MODE - SLEW

DEAD BAND - MIN

ATTITUDE CONTROL (3) - MODE CONT

MODE CONTROL (2) - ATT HOLD

TEMP MON - RNDZ RDR

RCS SYS A/B-2 QUAD 1,2,3,4 - AUTO

X-POINTER SCALE (LMP) - HI MULT

EXTERIOR LTG - OFF

FLOOD - OFF

ACA/4 JET (2) - ENABLE

TTCA/TRANSL (2) - ENABLE

TTCA (LMP) - JETS (Dn)

Eng STOP - Reset

AGS STATUS - STBY

POWER/TEMP MON - CDR BUS

INVERTER - 2

UP LINK SQUELCH - OFF

UP DATA LINK - OFF

AUDIO CONT - NORM

S BAND T/R - T/R

ICS T/R - T/R

RELAY - OFF

MODE - ICS/PTT

VHF A - RCV

VHF B - OFF

S BAND MODULATE - PM

XMTR/RCVR - SEC

PWR AMPL - OFF

VOICE - VOICE

PCM - PCM

RANGE - RANGE

VHF A XMTR - OFF

VHF A RCVR - ON

VHF B XMTR & RCVR (2) - OFF

BIOMED - RIGHT

TLM - LO

RECORDER - OFF

VHF - AFT  
TRACK MODE - SLEW  
S BAND - SLEW

PRESS REG A&B - CABIN  
CABIN REPRESS - AUTO  
LO PLSS FILL - CLOSE  
DES O2 - OPEN  
#1, #2 ASC O2 - CLOSE  
SUIT ISOL (2) - SUIT FLOW  
SUIT CIRCUIT RELIEF - AUTO  
CABIN GAS RETURN - EGRESS  
SUIT GAS DIVERTER - Pull/EGRESS  
CO2 CANISTER SEL - PRIM  
PRIM & SEC CO2 CANISTER - CLOSE  
WATER SEP SEL - PUSH/SEP 1  
ASC H2O - CLOSE  
SEC EVAP FLOW - CLOSE  
PRIM EVAP FLOW No. 2 - CLOSE  
DES H2O - OPEN  
PRIM EVAP FLOW No. 1 - OPEN  
WATER TANK SELECT - DES  
HI PLSS O2 FILL - CLOSE  
WMS - CLOSE  
DES COOLING - ON

CABIN RELIEF & DUMP (2) - AUTO & Locked

CWEA STATUS: CAUTION: PREAMPS  
CES AC & CES DC - Reset Via GYRO TEST

Copy Lift-off Time In Data Card Book  
For Rev 15 thru 20

DATE 11/01/12

113:42 CONFIGURE CABIN FOR STAY (28 Min)

Stow Armrests

Stow COAS In Fwd window Mount

Unstow PLSS On Floor, Set Against Hatch  
Install BRA, Stow Helmets

Stow LEVA Bags On Floor, 1 Left, 1 Right  
Stow 2 Lens Brush (ISA Top Pkt) In Purse  
Change 16mm Camr Mag: Stow O, Install P  
(ISA Top Pkt)

CDR Move Aft & Remove ISA, Temp Stow  
On Eng Cover

Transfer RCU's To LCG Bag (LHMS, CDR's 1st)  
Stow ISA Above RCU Shelf  
Stow Sleep Restraints Above RCU Shelf

Deploy LM EVA Antenna

Transfer LM Mag Bag (Aft Of Eng Cover) To  
LCG Compt (RHSSC)  
Stow 4 Jett Bags(3-Aft OPS, 2 In Box)In LHSSC  
Hang 1 Jett Bag From CDR's LH Handhold

Transfer 500mm Lens, Camr & Ring Sight

To Purse

Stow CWG's In Camr Box

Connect Aft ISS Hooks

Stow Camr Bag In Jett Bag

Disconnect 3 Armrests, CDR LH,  
LMP RH & LH, Stow In Jett Bag

114:12 EAT PERIOD (45 Min)

Report PRD Readings To Hou  
Window Photos, Setting: 1/250

CDR

8,74 8,74 11,74

8,30 8,30

8,15

LMP

11,74 8,74 8,74

8,30 8,30

8,15

DATE 11/6/72

114:55 CABIN PREP EVA 1 (20 Min)

Stow All Loose Items Not Reqd For EVA  
Set 16mm Camr For EVA (T8,1/250,∞) 6 fps,  
15 Min With ULC & Rt Angle Bkt (RHSSC)  
Secure Behind AOT  
Secure Util Lts & Wires Behind AOT

Disconnect BSLSS Bag & Remove ETB

Configure 500mm Lens Camr (Purse)

Remove Tape From Camr & Lens

Install 500mm Lens

Install Ring Sight

Stow Reseau Cover & Tape In Jett Bag

Install B&W Mag R (LCG Compt)

Stow Dark Slide In Mag Pkt

Stow In ETB:

Cosmic Ray (ETB)

BSLSS

500mm Lens Camr

70mm Camr With CEX Mag A

Bag Dispenser Bkt (Camr Compt)

2 - CEX Mags B&C (Fwd RHSSC)

1 - B&W Mag G (Fwd RHSSC)

1 - B&W Mag H (LCG Compt)

2 Lens Brush (Purse)

25' Tape (LHSSC)

Scissors (LMP PGA)

Sun Compass, Map Holder, LRV CKLIST (AFT FDF)

EVA 1 Maps & Horizon/Return Chart (Fwd FDF)

Unstow EVA 1 Prep & Post Card

Scissors (Aft FDF) To Purse

CB(11) HTR: URINE LINE - Close

HTR CONT: URINE LINE - HTR 1

Attach LEC (Fwd RHSSC) To ETB

Stow ETB Fwd Corner LMP's Station

Stow BSLSS Bag Behind LMP's Fwd

Restraint Cables

Clip Page 2-3 Over AOT

Stow Lunar Surface Checklist

## COLLECTION WEIGHT SUMMARY (#)

EVA 1EVA 2EVA 3

SRC	_____	SRC	_____	BSLSS/Rock Bag	_____
Bag	_____	Bag	_____	Bag	_____
Bag	_____	Bag	_____	Bag	_____
TOTAL	_____	TOTAL	_____	TOTAL	_____

## COLLECTION BAG STOWAGE

- 1 - Aft Eng Cover (40 # Max): Bag \_\_\_\_\_
- 1 - LHMS (40 # Max): Bag \_\_\_\_\_
- 2 - LH + RHSSC (40 # Max): Bags \_\_\_\_\_, \_\_\_\_\_
- 2 - ISA (50 # Max): Bags \_\_\_\_\_, \_\_\_\_\_

2-2

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TRANSITION TO ONE-MAN EVA

BOTH Verify/Perform-As Reqd At Time of NO GO  
 PLSS PRIM H2O - CLOSE  
 Fwd Hatch Closed & Locked, Dump V1vs - AUTO  
 CABIN REPRESS - AUTO  
 CB(16)ECS: CABIN REPRESS - Close (Cab Warn Lt)  
 Verify Press Increasing  
 PRESS REGS A & B - CABIN  
 PLSS O2 - OFF @ Cabin >2.5 Psia  
 CB(16) ECS: SUIT FAN 2 - Close  
 SUIT FAN ΔP - Close  
 ECS Caution & H2O SEP Comp Lts - Out  
 PGA Press Equal To Cabin, Use Purge V1v If Rqd  
 Cab At 5.0 psia, Doff Gloves, Helmets With  
 Visors  
 PLSS PUMP - OFF (Left)  
 PLSS FAN - OFF (Left)

## NO GO CREWMAN:

PLSS MODE - 0  
 Disconnect OPS O2 Hose  
 Disconnect Purge V1v, Stow In Purse  
 Disconnect OPS Actuator From RCU  
 Disconnect RCU From PLSS, Then PGA  
 Disconnect PLSS COMM, H2O, And O2  
 Doff PLSS/OPS  
 AUDIO CB - Open, TLM BIOMED - OFF  
 Connect LM COMM, O2, & H2O  
 Audio CB - Close, Comm Sws - As Rqd

## OTHER CREWMAN (As Rqd):

Disconnect PLSS H2O  
 Connect LM H2O  
 CB (16) ECS: LCG PUMP - Close

## BOTH Stow NO GO Equipment

OPS - Aft Engine Cover (Discon Antenna)  
 PLSS - Recharge Station (Remove A11 4  
     Straps, Stow in LHSSC or Exchange On  
     PLSS's If Required)  
 RCU - LCG Bag (LHMS)

Unstow ONE MAN EVA PREP CARD & LUNAR SURFACE BOOK

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## LM REPRESS FAILURE PROCEDURE

CB(16) ECS: CABIN REPRESS - Open (Verify)  
Verify CABIN REPRESS - AUTO  
Verify PRESS REG A & B - EGRESS  
Verify LM Suit Circuit 3.6 - 4.0 Psia  
CB(16) ECS: SUIT FAN 2 - Close  
SUIT FAN ΔP - Close  
ECS Caution & H2O SEP Comp Lts - Out

Verify OPS O2 - OFF  
Disconnect Purge Vlv, Stow In Purse  
Disconnect OPS O2 Hose

Connect to LM ECS Hoses, R/R, B/B  
SUIT ISOL - SUIT FLOW  
PLSS FAN - OFF (Left)  
PLSS O2 - OFF

Verify Cuff Gage 3.6 - 4.0 Psig  
PGA Diverter Vlv - Horizontal  
PLSS Mode - 0  
Disconnect PLSS Elec From PGA

AUDIO CB - Open  
Connect To LM Comm

AUDIO CB - Close  
Audio (CDR & LMP)  
VHF A - RCV  
VHF B - OFF  
MODE - ICS/PTT  
RELAY - OFF

COMM:  
VHF - OFF, ON, OFF, OFF, LEFT

PLSS PRIM H2O - Close  
PLSS PUMP - OFF (Left)

Disconnect OPS O2 Actuator  
Disconnect RCU From PGA, Then PLSS  
Stow RCU On Eng Cover

Disconnect PLSS H2O From PGA  
Disconnect PLSS Red O2 Hose, Then Blue  
Doff PLSS/OPS, Place on Floor  
Stow OPS O2 Hose & Actuator

As Req'd-Connect LM H2O to PGA  
CB(16) ECS: LCG PUMP - Close

2-4

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115:15 EQUIPMENT PREP EVA 1 (25 Min)

Empty UCTA's (WMS Valve), Install Cap  
HTR CONT: URINE LINE - OFF

CB(11) HTR: URINE LINE - Open

Check PGA Zippers, Verify Lock - Lock  
Stow PGA Gas Conn Plugs In Purse

Empty PGA Pockets Into Purse

PGA Relief Valve Cap In Pkt

CDR Move To Aft Cabin Area

Unstow CDR Boots, Purge Valve And  
Donning Lanyard To Purse

CDR Don Boots

Unstow CDR OPS

Remove Pallet, Stow In Jett Bag  
Perform OPS Check, Restow OPS

LMP Move To Aft Cabin Area

Unstow LMP Boots, Purge Valve To Purse

Stow IV Gloves In Bot Boot Comp

LMP Don Boots

Unstow LMP OPS

Remove Pallet, Stow In Jett Bag

Perform OPS Check

Stow LMP OPS On Eng Cover

Install ISS

Apply Antifog (LEVA Bags), Wipe Dry  
With Tissue (LHSSC)

Stow EMU Maintenance Kits In Purse

Stow LEVA's, Helmets & EV Gloves  
(Attach Watch & Mirror) On ISS

Stow LEVA Bags Under SRC Compt

Stow BRA

Move CDR's OPS To Front Of Eng Cover

Stow ETB On Aft Eng Cover

Tie Jett Bag, Stow On Aft Engine Cover

Fwd Hatch Handle - UNLOCK

115:40 PLSS DONNING (26 Min)

\* \* \* \* LMP 1st: \* \* \* \*

Set PLSS On Mid-Step

Verify OPS Reg Decay

Unstow O2 Nozzle & Antenna Lead

Secure Flaps

Attach OPS To PLSS

Connect OPS Antenna Lead To PLSS

Verify Sublimator Exhausts Clear

Unstow PLSS Straps & Hoses

Remove Elect Dust Cap, Stow In Purse

Verify AUX H2O, DIVERTER, O2 &

PRIM H2O-OFF

Connect Battery Cable

Verify The Following Locked:

PLSS Battery Connection

OPS Antenna Lead To PLSS

OPS To PLSS

Don PLSS/OPS, Lift PLSS Hoses Above

Lower Straps

Connect PLSS O2 Hoses To PGA  
Verify AUX H2O, DIVERTER, O2 &  
PRIM H2O-OFF

Connect RCU To PGA & Upper Straps

Verify RCU Controls:

PUMP, FAN - OFF (Left) MODE SEL-0

Connect RCU To PLSS

Unstow OPS O2 Hose & Actuator, Route  
Hose Behind PGA

Connect Actuator To RCU

CDR Repeat PLSS DONNING \* \* \* \*

116:06 PLSS COMM CHECK (8 Min)

Verify Powerdown CB Configuration  
(White Dots Out)

Verify Voice Comm With Hou

Audio (LMP)

S-BAND - T/R

ICS - T/R

RELAY - ON

MODE - VOX

VOX SENS-MAX

VHF A - T/R

B - RCV

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COMM:

VHF A XMTR - VOICE  
A RCVR - ON  
B XMTR - OFF  
B RCVR - ON  
TLM BIOMED - OFF  
SQUELCH VHF A&B -  
    Noise Thres + 1 1/2  
RECODER - ON  
VHF Antenna - EVA  
UPLINK SQUELCH - ENABLE

Audio (CDR)

S-BAND - T/R  
ICS - T/R  
RELAY - OFF  
MODE - VOX  
VOX SENS-MAX  
VHF A - T/R  
    B - RCV

CB(16) COMM: SE AUDIO - Open  
LMP Connect To PLSS Comm  
  
CB(16) COMM: SE AUDIO - Close  
PLSS PTT (LMP) - MAIN (Rt), Verify  
PLSS Mode(LMP) - A, Wheel-CCW  
    (Tone-On, Vent Flag - P,  
    Press Flag - 0, 02 Mom)  
PLSS 02 Press Gage > 85%  
LMP Comm Check With CDR And Hou

NOTE: Unstow PLSS Antenna If It  
Transmits Garbled And/Or Loses TM  
Restow Before Egress

CB(11) COMM: CDR AUDIO - Open  
CDR Connect To PLSS Comm

CB(11) COMM: CDR AUDIO - Close  
Audio (CDR)  
    VHF A - OFF  
    VHF B - OFF

PLSS PTT (CDR) - MAIN (Rt), Verify  
PLSS Mode(CDR) - B, Blade-CCW  
    (Tone-On, Vent Flag - P,  
    Press Flag - 0, 02 Mom)  
PLSS 02 Press Gage > 85%

NOTE: Crewman In Mode B Cannot  
Hear Hou

LMP Comm Check With CDR And Hou

PLSS Mode(LMP)-B, Blade-CCW(Tone-On)

PLSS Mode(CDR)-A, Wheel-CCW(Tone-On)

CDR Comm Check With LMP And Hou

PLSS Mode (Both) - AR (Tone-On)

NOTE: (AR) Wheel-Hou, Blade-EVA

Perform Comm & TM Check With Hou &  
Comm Check With Each Other

Read PLSS O2 Qty to Hou

SQUELCH VHF B (LMP) - FULL DECREASE

116:14 FINAL SYSTEMS PREP (1 Min)

CB(16) ECS: LCG PUMP - Close

LCG - Cold, As Reqd

CB(16) ECS: CABIN REPRESS - Close (Ver)

SUIT FAN ΔP - Open

SUIT FAN 2 - Open

SUIT FAN Sel - 2

Verify ECS Caution & H2O SEP Comp  
Lts - On (~ 1 Min)

SUIT GAS DIVERTER - PULL-EGRESS(Verify)

CABIN GAS RETURN - EGRESS (Verify)

SUIT CIRCUIT RELIEF - AUTO (Verify)

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116:15 OPS CONNECT (6 Min)

# # # # LMP 1st: # # # #  
SUIT ISOL - ACT OVRD (SUIT DISC)  
Discon LM O2 Hoses, Secure About PGA

Connect OPS O2 Hose To PGA B/B  
Retrieve Purge Valve (Purse)-  
Verify Closed, Lock Pin In & LO  
Install Purge Valve In PGA R/R  
PGA Diverter Valve - Vertical

CDR Repeat OPS CONNECT # # # #

Drink  
DES H2O Vlv - CLOSE

116:21 HELMET/GLOVE DONNING (12 Min)

Position Mikes (Both)  
PLSS FAN - ON, Rt (Vent Flag - Clear)  
Don Helmets, Check Drink Bag Position  
Don LEVA's And Lower Protective Visor  
Secure Tool Harness Self Doff Straps  
To LEVA's

Stow LM O2 & Comm(CDRs To ECS Handhold

Verify The Following:

Helmet & Visor (1) - Aligned &  
Adjusted  
O2 Connectors (3) - Locked  
Purge Valves (1) - Locked  
Comm Connectors (1) - Locked  
PGA Diverter Vlv(1) - Vertical

Verify EVA CB Configuration  
(White Dots Out + EVA Decals)

Don EV Gloves & Verify:  
Wrist Locks (4) - Locked  
Glove Straps (4) - Adjusted  
Cover Wrist Rings

NOTE: If PGA Biting, PLSS 02 - ON/OFF

LCG-Cold, As Reqd  
CB(16) ECS: LCG PUMP - Open  
Disconnect LM H2O Hose  
Connect PLSS H2O Hose, verify Locked

PLSS DIVERTER - MIN (Verify)  
PLSS PUMP - ON (Rt)

PRESS REG A & B - EGRESS

116:33 PRESSURE INTEGRITY CHECK (4 Min)

PLSS 02 - ON (Tone-On, 02 Flag-0)

Press Flag Clear (3.1-3.4 Psid)

Cuff Gage 3.7-4.0 Psig

02 Flag Clear

PLSS 02 - OFF (Monitor Cuff Gage For  
1 Min, Report Decay)

PLSS 02 - ON (Cuff Gage 3.7-4.0 Psig,  
Tone & 02 Flag May Come On)

Verify 02 Flag Clear

116:37 CABIN DEPRESS (3 Min)

Confirm Go For Depress From Hou

CB(16)ECS: CABIN REPRESS - Open

CABIN REPRESS Vlv - CLOSE

Ovhd Or Fwd Dump Vlv - OPEN Then AUTO @  
3.5 Psia (Verify Cuff Gage Does  
Not Drop Below 4.6 Psig)

Verify:

Cabin At 3.5 Psia

LM Suit Circuit Lockup At 4.3 Psia

PGA > 4.6 Psig & Decaying

116:40 Start Wrist Watch :00

Ovhd Or Fwd Dump Valve - OPEN

Verify:

Tone-On & H2O Flag - A (1.2-1.7 Psia)  
PGA > 4.6 Psig & Decaying

Partially Open Fwd Hatch

FINAL PREP FOR EGRESS :03

PLSS PRIM H2O - OPEN (H2O Flag -  
Clear In About 4 Min)

Fwd Hatch - Open

Rest Until Cooling Sufficient

Verify:

PGA 3.7 To 4.6 Psig

CWEA Status:

Caution

~~PREAMPS~~

ECS

H2O SEP Comp Lt - On

Lower EV Visor As Rqd :10

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POST EVA 1

PLSS PRIM H2O - CLOSE  
Fwd Hatch - Close & Lock  
Dump Valves (Both) - AUTO

NOTE: PLSS O2 & PRESS Flags May Come On During Repress. If PLSS O2 <10% Manually Control Cabin Repress To Maintain Positive PGA Pressure. (Leave Cabin Repress CB Open For Manual Repress)

CABIN REPRESS - AUTO  
CB(16)ECS: CABIN REPRESS - Close  
MASTER ALARM & CABIN Warning Lt - On  
Verify Cabin Press Increasing  
PRESS REG A & B - CABIN

PLSS O2 - OFF @ Cabin > 2.5 Psia

CABIN Warning Lt - Off  
Verify Cabin Press Stable At 4.6-5 Psia  
Use Purge Valve To Depress PGA As Rqd

123:40 POST EVA SYSTEMS CONFIG (15 Min)

Verify EVA CB Configuration  
(White Dots Out + EVA Decals)  
CB(16) ECS: SUIT FAN 2 - Close  
SUIT FAN ΔP- Close  
ECS Caution & H2O SEP Comp Lts - Out  
  
Doff Gloves, Stow On Comm Panel  
Doff Helmets With Visors, Lower Shades,  
Stow In BRA

Verify Safety On Dump Valve  
DES H2O Vlv - OPEN  
Remove Purge Valve, Stow In Purse  
Disconnect OPS O2 Hose

Connect LM O2 Hoses R/B & B/R  
PGA Diverter Vlv - Horizontal

SUIT ISOL (Both) - SUIT FLOW  
PLSS PUMP - OFF (Left)  
PLSS FAN - OFF (Left)

Disconnect PLSS H2O From PGA  
Connect LM H2O

EVA 1 POST

PLSS Mode (Both) - 0  
AUDIO CB - Open  
Connect To LM Comm

AUDIO CB - Close  
AUDIO (CDR & LMP)  
VHF A - RCV  
B - OFF  
MODE - ICS/PTT  
RELAY - OFF

COMM:  
VHF A XMTR - OFF  
A RCVR - ON  
B XMTR & RCVR - OFF  
TLM BIOMED - LEFT  
VHF ANTENNA - AFT  
UPLINK SQUELCH - OFF

123:55 PLSS 02 RECHARGE (15 Min)

Verify DES 2 02 >56%

\* \* \* \* LMP 1st: \* \* \* \*

Connect LM 02 To PLSS  
HI PLSS 02 FILL - OPEN Then CLOSE  
After 4 Min

PLSS Mode - AR (02 QTY ~85%)  
PLSS Mode - 0

Disconnect LM 02

CDR Repeat 02 RECHARGE \* \* \* \*

Stow LM 02 Supply Hose

124:10 PLSS/OPS DOFFING (30 Min)

Disconnect OPS Actuator From RCU  
Disconnect RCU From PGA  
PLSS PUMP, FAN - OFF (Left) MODE SEL-0  
Disconnect RCU From PLSS, Stow In  
LCG Bag (LHMS, CDR's 1st)

Disconnect PLSS 02 Hoses  
Doff PLSS/OPS (LMP 1st)  
Stow LMP PLSS On Floor  
Stow CDR PLSS On Mid-Step

Report OPS Press To Hou  
Stow OPS 02 Hose & Actuator

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Install Gas Conn Plugs (Purse) In PGA  
Install PLSS Elect Dust Cap (Purse)

CAUTION: Insure PLSS LiOH Carts & Batts  
Numbered 1 or 2 Replaced with 3 or 4.

# # # # CDR 1st: # # # #  
Change PLSS Batt, Stow In Jett Bag  
Connect Cable to Battery  
Stow PLSS Hoses & Straps

Disconnect PLSS Tool Harness  
Change LiOH Cart, Temp<130°, Read Cart  
Decal

Stow Used LiOH Carts Inside Canisters  
Stow Canisters In Jett Bag  
Install PLSS Tool Harness

Disconnect OPS Antenna Lead  
Remove OPS & Stow Antenna Lead  
Stow CDR OPS On Eng Cover  
Stow CDR PLSS In Recharge Station

LMP PLSS To Mid-Step, Repeat Above ####

Stow LMP OPS On Floor Under Dump Vlv  
Stow PLSS On Floor Against Hatch

124:40 POST EVA CABIN CONFIG (20 Min)

Unstow Lunar Surface Checklist, 3-3  
Stow EVA 1 Prep & Post Card

Remove Samples From PGA Pkt, Stow In  
Collection Bags  
Stow Collection Bags In Covers (ETB)  
Stow Loose Covers In Camr Compt (RHSSC)  
Stow ETB On RH Cabin Floor, Fwd

Unstow Scale (Bot RHSSC)  
Weigh SRC & Collection Bags,  
Record On 2-2 & Report To Hou  
Stow Scale In RHSSC

CB(11) HTR: URINE LINE - Close  
HTR CONT: URINE LINE - HTR 1

Stow Core Tube Bag On Floor  
Stow SRC In Lower Comp  
Stow CDR OPS In Top Comp  
Place Collection Bags Aft Of Eng Cvr  
Place CWG's Under PLSS

Verify Powerdown CB Configuration  
(White Dots Out)

## 125:00 DOFF SUITS (50 Min)

Empty UCTA (WMS Valve), Install Cap  
HTR CONT: URINE LINE - OFF  
CB(11) HTR: URINE LINE - Open

TLM BIOMED - OFF

\* \* \* \* CDR 1st: \* \* \* \*

SUIT ISOL - ACT OVRD (SUIT DISC)  
AUDIO CB - OPEN

### DOFF PGA

Stow Comm Carrier On Comm Panel  
Stow LM 02, H2O & Comm  
Install PGA Elect Connector Cap (Purse)  
Stow EVA 1 Cuff Checklist In Purse

NOTE: Wipe With Tissue, Lub With Pad From  
EMU Main Kit: Neckring, Wriststrings,  
Gas Connectors & PRV "O" Ring  
Lub Zipper With Pad

Disconnect LCG, Bio Belt & UCTA  
Insert LCG Plug (Purse)  
Close Inner & Outer Zipper  
Attach Neckring Cover (Aft RHSSC)  
Stow On Eng Cover, Neck Aft &  
CDR On RH, Face Up  
LMP On LH, Face Down  
Install One Glove  
Cover PGA Legs With Jett Bag (LHSSC)

DRY PGA (Or Perform Configure ECS For Sleep)  
Connect LM 02 Hoses, R/B & B/R  
CABIN GAS RETURN - AUTO  
SUIT GAS DIVERTER - PUSH - CABIN  
SUIT ISOL - SUIT FLOW

### CONNECT TO LM COMM

Don Comm Carrier (Comm Panel)  
Connect CWG Adapter (LHSSC)  
Connect LM Comm Cable  
Audio CB - CLOSE  
Verify Comm

LMP REPEAT DOFF SUITS \* \* \* \*

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DOFF LCG - Place In Jett Bag, Stow On RCU

Shelf

Stow Bio Belt On Comm Panel

Stow UCTA For Drying

DON CWG (Under PLSS)

Connect Bio Belt (LMP Only)

DON ICG (ICG Bag, LHMS)

TLM BIOMED - RIGHT

125:50 EVA DEBRIEFING WITH HOU (15 Min)

Copy Liftoff Time In Data Book

For Rev 21 - 25

126:05 CONFIGURE ETB (10 Min)

Empty ETB As Follows:

1-B&W Mag G In Fwd RHSSC

1-CEX Mag A In Aft RHSSC

EVA 1 Maps As Reqd

Return Items In Purse

Stow In ETB:

CDR's Camr With CEX Mag C (ETB)

LMP's Camr With B&W Mag H (ETB)

1-CEX Mag B (ETB)

1-B&W Mag R (ETB)

3-B&W Mags I, J & K (LCG Compt)

1-CEX Mag D (LCG Compt)

EVA 2 Maps

Polarizing Filter (Camr Compt)

126:15 EAT PERIOD (45 Min)

Stow Food as Reqd

Remove Fwd End Of ISS

Fill Drink Bags (Food Compt), Evacuate  
& Stow In Top Boot Compt

126:55 5 MIN Before Transfer:

CB(11) HTR: URINE LINE - Close

HTR CONT: URINE LINE - HTR 1

127:00 PLSS 02 & H2O RECHARGE (30 Min)

Verify 1 Hr Elapsed Since Initial  
02 Recharge (DES 2 02 >56%)

Fold LMP's PGA Legs Over PGA Back

\* \* \* \* CDR 1st: \* \* \* \*

Connect LM 02 To PLSS

HI PLSS 02 FILL - OPEN Then CLOSE  
After 10 min

Perform Feedwater Recharge (Decal):

PLSS AUX H2O - OPEN

Connect WMS To PLSS H2O DRAIN

WMS VALVE - OPEN

LM DES H2O - OPEN

Connect LM H2O To PLSS H2O FILL, Verify  
Condensate Flow Thru WMS Sight Glass

FILL FOR 5 MINUTES

Connect WMS To PLSS PRIM Vent For 10 Sec

Connect WMS To PLSS AUX Vent For 10 Sec

WMS VALVE - CLOSE, Stow WMS Hose

PLSS AUX H2O - CLOSE

Disconnect And Stow LM H2O Hose

Verify HI PLSS 02 FILL - CLOSED

Disconnect And Stow LM 02 Supply Hose

Stow PLSS Connector Covers

Set LMP PLSS On Mid-step

LMP Repeat 02 & H2O RECHARGE \* \* \* \*

Set LMP PLSS Against Hatch

HTR CONT: URINE LINE - OFF

CB(11) HTR: URINE LINE - Open

127:30 PRESLEEP (25 Min)

PWR AMP - PRIM

TLM PCM - HI

PRO, V96E, DATA (MSFN

UPLINK CSM S.V.) OFF

V37E 06E, PRO (STBY LT - On)

127:30 BATT MGMT

POWER/TEMP MON - ED/OFF

Check ED Volts A \_\_, B \_\_ (To Hou)

POWER/TEMP MON - BAT 1

BAT 1 HI V-ON; tb - gray

POWER/TEMP MON - BAT 2

BAT L (LMP) - OFF/RESET; tb - bp

BAT 2 - ON; tb - gray

BAT 3 - OFF/RESET; tb - bp

BAT L (CDR) - ON; tb - CDR

BAT 4 - OFF/RESET; tb - bp

POWER/TEMP MON - Check Bus Volts

On Hou Cue: TLM PCM - LO

PWR AMP - OFF

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S-BD VOICE - DN VOICE BU

Configure ECS For Sleep

Stow LM O2 Hoses, R/R & B/B

SUIT ISOL - SUIT FLOW

CABIN GAS RETURN - AUTO (Verify)

SUIT GAS DIVERTER - PUSH - CABIN (Verify)

Install Other Glove

Unstow CDR's Hammock, Place On Suits

Unroll LMP's Hammock

LMP: Attach Straps To LH & RHSSC

Adjust Strap Tension LHSSC

Route Inboard Center Support Strap

Under LMP & CDR Comm Cables,

Attach To Vertical Handhold, ECS

Module

Attach Outboard Center Support

Strap To Lower ISA Fitting, Position

Sleep Restraint (RCU Shelf)

Straddle/Ingress

CDR: Attach Aft Straps - Z27  
Route Hammock Under Comm Cable  
Attach Fwd Straps, Panel 1 & 2  
Adjust Strap Tension

Attach Outboard Center Support Strap  
To Horizontal Handhold, ECS Module  
Position Sleep Restraint (RCU Shelf)  
Ingress Hammock

Attach Inboard Center Support Strap  
To PLSS Donning Station, Upper  
Outboard  
Adjust Strap Tension

127:55 REST PERIOD (8:00 Hr)

135:55 POSTSLEEP (25 Min)

Crew Awake - Verify CWEA Status:

Caution: PREAMPS

Stow Hammocks, Roll Up With  
Sleep Restraints

STAY/NO STAY FOR EVA 2 PREP

CREW STATUS REPORT

CDR                    LMP

FOOD

MED

SLEEP

\_\_\_\_\_

\_\_\_\_\_

Copy Liftoff Time In Data  
Book For Rev 26-32

136:20 EAT PERIOD (45 Min)

Stow Food Sticks (Food Compt) & Drink  
Bags (Top Boot Compt) On ISS

Install ISS

Top Off PLSS 02 One Minute Min

137:05 EVA 2 PLANNING WITH HOU (5 Min)

Update EVA 2 Cuff Checklist  
As Req'd (RHSSC)

Unstow EVA 2 Prep & Post Card

137:10 DON SUITS (40 Min)

TLM BIOMED - OFF

DOFF ICG - Stow In ICG Bag (LHMS)

DOFF CWG - Stow In Top Boot Box  
Stow Bio Belt On Comm Panel

DON LCG (RCU Shelf)

Don UCTA

Connect Bio Belt

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\* \* \* \* LMP 1st: \* \* \* \*

AUDIO CB - OPEN

Stow LM Comm Cable

Stow CGW Adapter LHSSC

Stow Comm Carrier On Comm Panel

SUIT ISOL - ACT OVRD (SUIT DISC)  
Connect LM O2 R/B & B/R, H2O & Comm

SUIT ISOL - SUIT FLOW

SUIT GAS DIVERTER - PULL - EGRESS

CABIN GAS RETURN - EGRESS

AUDIO CB - CLOSE

Verify Comm

■ Install EVA 2 Cuff Checklist (RHSSC)

Stow Gloves On Comm Panel

Stow Neckring Cover Aft RHSSC

Install Drink Bag (On ISS)

Stow Used Bag In Jett Bag

Install Food Stick (On ISS)

Change LM ECS LiOH Cart  
Stow Used Cart In Jett Bag

CDR REPEAT ABOVE \* \* \* \*

TLM BIOMED - LEFT  
S-BD VOICE - VOICE

DON PGA

Stow Jett Bag On PGA Legs In LHSSC

Stow LCG Plug In Purse

Connect UCTA, Bio Belt & LCG

Close Zippers & Lock

Don & Connect Comm Carrier

Stow PGA Elect Connector Cap In Purse

137:45 BATT MGMT

POWER/TEMP MON - ED/OFF

Check ED VOLTS A\_\_\_\_, B\_\_\_\_ (To Hou)

TLM PCM - HI

POWER/TEMP MON - BAT 4

BAT 4 - ON; tb - gray

POWER/TEMP MON - BAT 3

BAT L (CDR) - OFF/RESET; tb - bp

BAT 3 - ON; tb - gray

POWER/TEMP MON - Check BUS Volts

On Hou Cue: TLM PCM - LO

3-10

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137:50 CABIN PREP EVA 2 (10 Min)

Stow All Loose Items Not Reqd For EVA

Report PRD Readings to Hou

Stow Lunar Surface Checklist

138:00 EQUIPMENT PREP EVA 2 (16 Min)

Stow PGA Gas Conn Plugs In Purse  
Empty PGA Pockets Into Purse  
PGA Relief Valve Cap In Pkt  
Verify Watch & Mirror Donned

Unstow CDR OPS  
Perform OPS Check (Both)  
Stow Both OPS On Floor

Apply Antifog (Purse), Wipe Dry With  
Tissue (LHSSC)  
Stow EMU Maintenance Kit In Purse  
Stow LEVA's & Helmets On ISS  
Stow BRA

Stow ETB On RH Eng Cover  
Tie Jett Bag, Stow On LH Eng Cover  
  
Fwd Hatch Handle - UNLOCK

138:16 PLSS DONNING (20 Min)

\* \* \* \* LMP 1st: \* \* \* \*  
Set PLSS On Mid-Step  
Verify OPS Reg Decay  
Unstow O2 Nozzle & Antenna Lead  
Secure Flaps

Attach OPS To PLSS  
Connect OPS Antenna Lead To PLSS  
Verify Sublimator Exhausts Clear

Unstow PLSS Straps & Hoses  
Remove Elect Dust Cap, Stow In Purse  
Verify AUX H2O, DIVERTER, O2 &  
PRIM H2O - OFF

Verify The Following Locked:  
PLSS Battery Connection  
OPS Antenna Lead To PLSS  
OPS To PLSS

Don PLSS/OPS, Lift PLSS Hoses Above  
Lower Straps

Connect PLSS O2 Hoses To PGA  
Verify AUX H2O, DIVERTER, O2 &  
PRIM H2O - OFF

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Connect RCU To PGA & Upper Straps

Verify RCU Controls:

PUMP, FAN - OFF (Left) MODE SEL-0

Connect RCU To PLSS

Unstow OPS 02 Hose & Actuator, Route  
Hose Behind PGA

Connect Actuator To RCU

CDR Repeat PLSS DONNING \* \* \*

138:36 PLSS COMM CHECK (8 Min)

(138:36) COMM CDR VHF0 - OPEN

Verify Powerdown CB Configuration  
(White Dots Out)

Verify Voice Comm With Houston, voice in  
audio button 1522 VHF001 T/R

Audio (LMP)

S-BAND - T/R HIGH GAIN HIGH THD

ICS - T/R HIGH GAIN HIGH THD

RELAY - ON (G - H) (ON KEE)

MODE - VOX (ASHA EASY - P)

VOX SENS - MAX (V MAX - CIN)

VHF A - T/R (HIGH) - HIGH (KE) - HIGH (KA)

B - RCV (E VHF0 - CIN)

VHF CHANNEL 10 BYPASS COMM

VR (10) COMM BE VHF0 - CIN

COMM:

VHF A XMTR - VOICE

A RCV - ON

B XMTR - OFF

B RCV - ON

TLM BIOMED - OFF

SQUELCH VHF A&B -

Noise Thres + 1 1/2

RECORDER - ON

VHF Antenna - EVA

UPLINK SQUELCH - ENABLE

Audio (CDR)

S-BAND - T/R HIGH GAIN HIGH THD

ICS - T/R HIGH GAIN HIGH THD

RELAY - OFF

MODE - VOX (HIGH - H) (HIGH - CIN)

VOX SENS - MAX

VHF A - T/R (HIGH) - VHF (HIGH - CIN)

B - RCV

CDS COMM CHECK HIGH GAIN HIGH THD

VR (10) COMM (CIN) - VHF (HIGH - CIN) (HIGH - CIN)

VR (10) COMM (CIN) - VHF (HIGH - CIN) (HIGH - CIN)

ENB COMM CHECK HIGH GAIN HIGH THD

HIGH HIGH

NOTE: CHANNEL 10 MODE IN CIN

CB(16) COMM: SE AUDIO - Open  
LMP Connect To PLSS Comm

CB(16) COMM: SE AUDIO - Close  
PLSS PTT (LMP) - MAIN (Rt), Verify  
PLSS Mode(LMP) - A, Wheel-CCW  
(Tone-On, Vent Flag - P,  
Press Flag - 0, 02 Mom)  
PLSS 02 Press Gage > 85%  
LMP Comm Check With CDR And Hou

NOTE: Unstow PLSS Antenna If It  
Transmits Garbled And/Or Loses TM  
Restow Before Egress

CB(11) COMM: CDR AUDIO - Open  
CDR Connect To PLSS Comm

CB(11) COMM: CDR AUDIO - Close  
Audio (CDR)  
VHF A - OFF  
VHF B - OFF

PLSS PTT (CDR) - MAIN (Rt), Verify  
PLSS Mode(CDR) - B, Blade-CCW  
(Tone-On, Vent Flag - P,  
Press Flag - 0, 02 Mom)  
PLSS 02 Press Gage > 85%

NOTE: Crewman In Mode B Cannot  
Hear Hou

LMP Comm Check With CDR And Hou

PLSS Mode(LMP)-B, Blade-CCW(Tone-On)  
PLSS Mode(CDR)-A, Wheel-CCW(Tone-On)  
CDR Comm Check With LMP And Hou

PLSS Mode (Both) - AR (Tone-On)

NOTE: (AR) Wheel-Hou, Blade-EVA

Perform Comm & TM Check With Hou &  
Comm Check With Each Other  
Read PLSS 02 Qty to Hou

SQUELCH VHF B (LMP) - Full Decrease

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138:44 FINAL SYSTEMS PREP (1 Min)

CB(16) ECS: LCG PUMP - Close  
LCG - Cold, As Reqd  
CB(16) ECS: CABIN REPRESS - Close (Ver)  
    SUIT FAN ΔP - Open  
    SUIT FAN 2 - Open  
Verify ECS Caution & H2O SEP Comp  
    Lts - On (~ 1 Min)  
  
SUIT GAS DIVERTER - PULL-EGRESS(Verify)  
CABIN GAS RETURN - EGRESS (Verify)  
SUIT CIRCUIT RELIEF - AUTO (Verify)

138:45 OPS CONNECT (6 Min)

# # # # LMP 1st # # # #  
SUIT ISOL - ACT OVRD (SUIT DISC)  
Discon LM O2 Hoses, Secure About PGA  
  
Connect OPS O2 Hose To PGA B/B  
Retrieve Purge Valve (Purse)-  
    Verify Closed, Lock Pin In & LO  
Install Purge Valve In PGA R/R  
PGA Diverter Valve - Vertical  
  
CDR Repeat OPS CONNECT # # # #

Drink  
DES H2O VLV - CLOSE

138:51 HELMET/GLOVE DONNING (12 Min)

Position Mikes (Both)  
PLSS FAN - ON, Rt (Vent Flag - Clear)  
Don Helmets With LEVA's, Check Drink  
    Bag Position  
Lower LEVA Protective Visor  
Secure Tool Harness Self Doff Straps  
    To LEVA's

Stow LM O2 & Comm(CDRs To ECS Handhold .  
4-5

Verify The Following:

Helmet & Visor (1) - Aligned &  
Adjusted  
O2 Connectors (3) - Locked  
Purge Valves (1) - Locked  
Comm Connectors (1) - Locked  
PGA Diverter Vlv(1) - Vertical

Verify EVA CB Configuration  
(White Dots Out + EVA Decals)

Don EV Gloves & Verify:

Wrist Locks (4) - Locked  
Glove Straps (4) - Adjusted

Cover Wrist Rings

NOTE: If PGA Biting, PLSS 02 - ON/OFF

LCG-Cold, As Rreqd

CB(16) ECS: LCG PUMP - Open

Disconnect LM H2O Hose

Connect PLSS H2O Hose, verify Locked

PLSS DIVERTER - MIN (Verify)

PLSS PUMP - ON (Rt)

PRESS REG A & B - EGRESS

139:03 PRESSURE INTEGRITY CHECK (4 Min)

PLSS 02 - ON (Tone-On, 02 Flag-0)

Press Flag Clear (3.1-3.4 Psid)

Cuff Gage 3.7-4.0 Psig

02 Flag Clear

PLSS 02 - OFF (Monitor Cuff Gage For  
1 Min, Report Decay)

PLSS 02 - ON (Cuff Gage 3.7-4.0 Psig,  
Tone & 02 Flag May Come On)

Verify 02 Flag Clear

139:07 CABIN DEPRESS (3 Min)

Confirm Go For Depress From Hou  
CB(16)ECS: CABIN REPRESS - Open  
CABIN REPRESS Vlv - CLOSE

Ovhd Or Fwd Dump Vlv - OPEN Then AUTO @  
3.5 Psia (Verify Cuff Gage Does  
Not Drop Below 4.6 Psig)

Verify:

Cabin At 3.5 Psia

LM Suit Circuit Lockup At 4.3 Psia  
PGA > 4.6 Psig & Decaying

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139:10 Start Wrist Watch :00

Ovhd Or Fwd Dump Valve - OPEN

Verify:

Tone-On & H2O Flag - A (1.2-1.7 Psia)  
PGA > 4.6 Psig & Decaying

Partially Open Fwd Hatch

FINAL PREP FOR EGRESS :03

PLSS PRIM H2O - OPEN (H2O Flag -  
Clear In 2-4 Min)

Fwd Hatch - Open

Rest Until Cooling Sufficient

Verify:

PGA 3.7 To 4.6 Psig

CWEA Status:

Caution

PREAMPS

ECS

H2O SEP Comp Lt - On

Lower EV Visor As Rqd :10

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POST EVA 2

PLSS PRIM H2O - CLOSE  
Fwd Hatch - Close & Lock  
Dump Valves (Both) - AUTO

NOTE: PLSS O2 & PRESS Flags May Come On During Repress. If PLSS O2 <10% Manually Control Cabin Repress To Maintain Positive PGA Pressure. (Leave Cabin Repress CB Open For Manual Repress)

CABIN REPRESS - AUTO  
CB(16)ECS: CABIN REPRESS - Close  
MASTER ALARM & CABIN Warning Lt - On  
Verify Cabin Press Increasing  
PRESS REG A & B - CABIN

PLSS O2 - OFF @ Cabin > 2.5 Psia

CABIN Warning Lt - Off  
Verify Cabin Press Stable At 4.6-5 Psia  
Use Purge Valve To Depress PGA As Rqd

146:10 POST EVA SYSTEMS CONFIG (15 Min)

Verify EVA CB Configuration  
(White Dots Out + EVA Decals)  
CB(16) ECS: SUIT FAN 2 - Close  
SUIT FAN ΔP- Close

HTRS: MESA - Open  
ECS Caution & H2O SEP Comp Lts - Out

Doff Gloves, Stow On Comm Panel  
Doff Helmets With Visors, Lower Shades,  
Stow In BRA

Verify Safety On Dump Valve  
DES H2O Vlv - OPEN  
Remove Purge Valve, Stow In Purse  
Disconnect OPS O2 Hose

Connect LM O2 Hoses R/B & B/R  
PGA Diverter Vlv - Horizontal

SUIT ISOL (Both) - SUIT FLOW  
PLSS PUMP - OFF (Left)  
PLSS FAN - OFF (Left)

Disconnect PLSS H2O From PGA  
Connect LM H2O

PLSS Mode (Both) - 0  
AUDIO CB - Open  
Connect To LM Comm

AUDIO CB - Close  
AUDIO (CDR & LMP)  
VHF A - RCV  
B - OFF  
MODE - ICS/PTT  
RELAY - OFF

COMM:  
VHF A XMTR - OFF  
A RCVR - ON

B XMTR & RCVR - OFF

TLM BIOMED - RIGHT

VHF ANTENNA - AFT

UPLINK SQUELCH-OFF

146:25 PLSS 02 RECHARGE (15 Min)

Verify DES 2 02 >56%

\* \* \* \* LMP 1st: \* \* \* \*

Connect LM 02 To PLSS  
HI PLSS 02 FILL - OPEN Then CLOSE  
After 4 Min

PLSS Mode - AR (02 QTY ~85%)  
PLSS Mode - 0

Disconnect LM 02

CDR Repeat 02 RECHARGE \* \* \* \*

Stow LM 02 Supply Hose

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146:40 PLSS/OPS DOFFING (30 Min)

Disconnect OPS Actuator From RCU

Disconnect RCU From PGA

PLSS PUMP, FAN - OFF (Left) MODE SEL-0

Disconnect RCU From PLSS, Stow In  
LCG Bag (LHMS, CDR's 1st)

Disconnect PLSS O2 Hoses

Doff PLSS/OPS (LMP 1st)

Stow LMP PLSS On Floor

Stow CDR PLSS On Mid-Step

Report OPS Press To Hou

Stow OPS O2 Hose & Actuator

Unstow Jett Bag (LHSSC), Hang From  
CDR's LH Handhold

Install Gas Conn Plugs (Purse) In PGA

Install PLSS Elect Dust Cap (Purse)

CAUTION: Insure PLSS LiOH Carts & Batts  
Numbered 3 or 4 Replaced with 5 or 6.

# # # # CDR 1st: # # # #

Change PLSS Batt, Stow In Jett Bag

Connect Cable to Battery

Stow PLSS Hoses & Straps

Disconnect PLSS Tool Harness

Change LiOH Cart, Temp<130°, Read Cart  
Decal

Stow Used LiOH Carts Inside Canisters

Stow Canisters In Jett Bag

Install PLSS Tool Harness

Disconnect OPS Antenna Lead

Remove OPS & Stow Antenna Lead

Stow CDR OPS On Floor Under Purse

Stow CDR PLSS In Recharge Station

LMP PLSS To Mid-Step, Repeat Above \*\*\*\*

Stow LMP OPS On Floor Under Dump Vlv  
Stow PLSS On Floor Against Hatch

Unstow Lunar Surface Checklist, 5-4  
Stow EVA 2 Prep & Post Card

147:10 POST EVA CABIN CONFIG (20 Min)

147:10 BATT MGMT

POWER/TEMP MON - ED/OFF

Check ED Volts A \_\_\_, B \_\_\_ (To Hou)

TLM PCM - HI

POWER/TEMP MON - LUN

BAT 3 - OFF/RESET; tb - bp

BAT L (CDR) - ON; tb - CDR

BAT 4 - OFF/RESET; tb - bp

POWER/TEMP MON - Check Bus Volts

Stow ETB On RH Cabin Floor, Fwd

Unstow Scale (Bot RHSSC)

Stow Collection Bags In Covers (Camr Compt)

Weigh SRC & Collection Bags,

Record On 2-2 & Report To Hou

Stow Scale In RHSSC

CB(11) HTR: URINE LINE - Close

HTR CONT: URINE LINE - HTR 1

Stow Collection Bags Aft Of Eng Cover

Stow SRC In Upper Comp

Verify Powerdown CB Configuration  
(White Dots Out)

On Hou Cue: TLM PCM - LO

S-BD VOICE - DN VOICE BU

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147:30 DOFF SUITS (50 Min)

Empty UCTA (WMS Valve), Install Cap  
HTR CONT: URINE LINE - OFF  
CB(11) HTR: URINE LINE - Open

TLM BIOMED - OFF

\* \* \* \* CDR 1st: \* \* \* \*  
SUIT ISOL - ACT OVRD (SUIT DISC)  
AUDIO CB - OPEN

DOFF PGA

Stow Comm Carrier On Comm Panel  
Stow LM O2, H2O & Comm  
Install PGA Elect Connector Cap (Purse)  
■ Stow EVA 2 Cuff Checklist In RHSSC

NOTE: Wipe With Tissue, Lub With Pad From  
EMU Main Kit: Neckring, Wriststrings,  
Gas Connectors & PRV "O" Ring  
Lub Zipper With Pad

Disconnect LCG, Bio Belt & UCTA  
Insert LCG Plug (Purse)  
Close Inner & Outer Zipper  
Attach Neckring Cover (Aft RHSSC)  
Stow On Eng Cover, Neck Aft &  
CDR On RH, Face Up  
LMP On LH, Face Down  
Install One Glove  
Cover PGA Legs with Jett Bag (LHSSC)

DRY PGA (Or Perform Configure ECS for Sleep)  
Connect LM O2 Hoses, R/B & B/R  
CABIN GAS RETURN - AUTO  
SUIT GAS DIVERTER - PUSH - CABIN  
SUIT ISOL - SUIT FLOW

CONNECT TO LM COMM

Don Comm Carrier (Comm Panel)  
Connect CWG Adapter (LHSSC)  
Connect LM Comm Cable  
Audio CB - CLOSE  
Verify Comm

Stow LM ECS LiOH Cart In  
Bkt Aft Of Eng Cover

LMP REPEAT DOFF SUITS \* \* \*

DOFF LCG - Place In Jett Bag, Stow On RCU

Shelf

Stow Bio Belt On Comm Panel

Stow UCTA for Drying

DON CWG (Top Boot Box)

Connect Bio Belt (CDR Only)

DON ICG (ICG Bag, LHMS)

TLM BIOMED - LEFT

148:20 EVA DEBRIEFING WITH HOU (15 Min)

Copy Liftoff Time in Data Book

For Rev 33-37

148:35 CONFIGURE ETB (10 Min)

Empty ETB As Follows:

1-CEX Mag C In Fwd RHSSC

1-CEX Mag B In LCG Compt

4-B&W Mags H,I,J & K In LCG Compt

EVA 2 Maps As Req'd

Return Items In Purse

Stow In ETB:

CDR's Camr With CEX Mag E(Aft RHSSC)

1-CEX Mag F (Aft RHSSC)

LMP's Camr With B&W Mag L (Aft RHSSC)

1-B&W Mag R (ETB)

1-CEX Mag D (ETB)

2-B&W Mags M & N (Bot RHSSC)

EVA 3 Maps

148:45 EAT PERIOD (45 Min)

Stow Food As Req'd

Remove Fwd End of ISS

Fill Drink Bags (Food Compt), Evacuate  
& Stow in Top Boot Compt

149:25 5 MIN Before Transfer:

CB(11) HTR: URINE LINE - Close

HTR CONT: URINE LINE - HTR 1

149:30 PLSS O2 & H2O RECHARGE (30 Min)

Verify 1 Hr Elapsed Since Initial  
O2 Recharge (DES 2 O2 >56%)

Fold LMP's PGA Legs Over PGA Back

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\* \* \* \* CDR 1st: \* \* \* \*

Connect LM 02 To PLSS

HI PLSS 02 FILL - OPEN Then CLOSE  
After 10 min

Perform Feedwater Recharge (Decal):

PLSS AUX H2O - OPEN

Connect WMS To PLSS H2O DRAIN

WMS VALVE - OPEN

LM DES H2O - OPEN

Connect LM H2O To PLSS H2O FILL, Verify  
Condensate Flow Thru WMS Sight Glass

Fill For 5 Minutes

Connect WMS To PLSS PRIM Vent For 10 Sec

Connect WMS To PLSS AUX Vent For 10 Sec

WMS VALVE - CLOSE, Stow WMS Hose

PLSS AUX H2O - CLOSE

Disconnect And Stow LM H2O Hose

Verify HI PLSS 02 FILL - CLOSED

Disconnect And Stow LM 02 Supply Hose

Stow PLSS Connector Covers

Set LMP PLSS On Mid-step

LMP Repeat O2 & H2O RECHARGE \* \* \* \*

Set LMP PLSS Against Hatch  
HTR CONT: URINE LINE - OFF  
CB(11) HTR: URINE LINE - Open

150:00 MCC-H CONFERENCE (60 Min)

PRO,V37E 06E,PRO  
(STBY LT - ON)

151:00 PRESLEEP (25 Min)

Configure ECS For Sleep

Stow LM 02 Hoses, R/R & B/B

SUIT ISOL - SUIT FLOW

CABIN GAS RETURN - AUTO (Verify)

SUIT GAS DIVERTER - PUSH - CABIN (Verify)

Install Other Glove

Unroll CDR's Hammock With Sleep  
Restraint

Unroll LMP's Hammock With Sleep  
Restraint

LMP: Attach Straps To LHSSC & RHSSC  
Adjust Strap Tension LHSSC  
Route Inboard Center Support Strap  
Under LMP & CDR Comm Cables,  
Attach To Vertical Handhold, ECS  
Module

Attach Outboard Center Support  
Strap To Lower ISA Fitting,  
Straddle/Ingress

CDR: Attach Aft Straps - Z27  
Route Hammock Under Comm Cable  
Attach Fwd Straps, Panel 1 & 2  
Adjust Strap Tension

Attach Outboard Center Support Strap  
To Horizontal Handhold, ECS Module  
Ingress Hammock

Attach Inboard Center Support Strap  
To PLSS Donning Station, Upper  
Outboard  
Adjust Strap Tension

151:25 REST PERIOD (8:00 Hr)

159:25 POSTSLEEP (25 Min)  
Crew Awake - Verify CWEA Status:  
Caution: PREAMPS

Stow Hammocks, Roll Up With  
Sleep Restraints  
Stow ISA Aft Engine Cover  
Stow LCG's (ISA Big Pkt) On PGA's

STAY/NO STAY FOR EVA 3 PREP

CREW STATUS REPORT	
CDR	LMP
FOOD	_____
MED	_____
SLEEP	_____

Copy Liftoff Time In Data  
Book For Rev 38-43

159:50 EAT PERIOD (45 Min)

Stow Food Sticks (Food Compt) & Drink  
Bags (Top Boot Compt) On ISS  
Install ISS  
Top Off PLSS 02 One Minute Min

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160:35 EVA 3 PLANNING WITH HOU (5 Min)

| Update EVA 3 Cuff Checklist  
As Rreqd (RHSSC)

Unstow EVA 3 Prep & Post Card

160:40 DON SUITS (40 Min)

TLM BIOMED - OFF

DOFF ICG - Stow In ICG Bag (LHMS)

DOFF CGW - Stow In Top Boot Box  
Stow Bio Belt On Comm Panel

Stow In Jett Bag:  
2 Spare LCG's  
Used Food & Containers

| DON LCG (RCU Shelf)  
Don UCTA  
Connect Bio Belt

\* \* \* \* LMP 1st: \* \* \* \*

AUDIO CB - OPEN

Stow LM Comm Cable

Stow CGW Adapter LHSSC

Stow Comm Carrier On Comm Panel

Install EVA 3 Cuff Checklist (RHSSC)

Stow Gloves On Comm Panel

Stow Neckring Cover Aft RHSSC

Install Drink Bag (On ISS)

Stow Used Bag In Jett Bag

Install Food Stick (On ISS)

DON PGA

Stow Jett Bag On PGA Legs In LHSSC

Stow LCG Plug In Purse

Connect UCTA, Bio Belt & LCG

Close Zippers & Lock

Don & Connect Comm Carrier

Stow PGA Elect Connector Cap In Purse

SUIT ISOL - ACT OVRD (SUIT DISC)  
Connect LM 02 R/B & B/R, H2O & Comm  
SUIT ISOL - SUIT FLOW  
SUIT GAS DIVERTER - PULL - EGRESS  
CABIN GAS RETURN - EGRESS  
AUDIO CB - CLOSE  
Verify Comm

CDR REPEAT ABOVE \* \* \* \*

TLM BIOMED - RIGHT  
S-BD VOICE - VOICE

161:15 BATT MGMT  
POWER/TEMP MON - ED/OFF  
Check ED Volts A \_\_\_, B \_\_\_ (To Hou)  
PWR AMP - PRIM  
TLM PCM - HI  
POWER/TEMP MON - BAT 4  
BAT 4 ON; tb - gray  
POWER/TEMP MON - BAT 3  
BAT L (CDR) - OFF/RESET; tb - bp  
BAT 3 - ON; tb - gray  
BAT 2 - OFF/RESET; tb - bp  
POWER/TEMP MON - LUN  
BAT L (LMP) - ON; tb - LMP  
BAT 1 - OFF/RESET; tb - bp  
POWER/TEMP MON - Check Bus Volts

On Hou Cue: PWR AMP - OFF  
TLM PCM - LO

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161:20 CABIN PREP EVA 3 (10 Min)

Stow All Loose Items Not Reqd For EVA

Report PRD Readings To Hou

Stow Lunar Surface Checklist

161:30 EQUIPMENT PREP EVA 3 (16 Min)

Stow PGA Gas Conn Plugs In Purse  
 Empty PGA Pockets Into Purse  
 PGA Relief Valve Cap In Pkt  
 Verify Watch & Mirror Donned

Perform OPS Check (Both)

Apply Antifog (Purse), Wipe Dry With Tissue (LHSSC)

Stow EMU Maintenance Kit In Purse

Stow LEVA'S & Helmets On ISS

Stow BRA

Stow ETB on RH Eng Cover

Tie Jett Bag, Stow On LH Eng Cover

FWD Hatch Handle - UNLOCK

161:46 PLSS DONNING (20 Min)

\* \* \* \* LMP 1st: \* \* \* \*

Set PLSS On Mid-Step

Verify OPS Reg Decay

Unstow O2 Nozzle & Antenna Lead

Secure Flaps

Attach OPS To PLSS

Connect OPS Antenna Lead To PLSS

Verify Sublimator Exhausts Clear

Unstow PLSS Straps & Hoses

Remove Elect Dust Cap, Stow In Purse

Verify AUX H2O, DIVERTER, O2 &  
PRIM H2O - OFF

Verify The Following Locked:

PLSS Battery Connection

OPS Antenna Lead To PLSS

OPS To PLSS

Don PLSS/OPS, Lift PLSS Hoses Above Lower Strap

Connect PLSS O2 Hoses To PGA

Verify AUX H2O, DIVERTER, O2 &

PRIM H2O - OFF

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Connect RCU To PGA & Upper Straps

Verify RCU Controls:

PUMP, FAN - OFF (Left) MODE SEL - 0

Connect RCU To PLSS

Unstow OPS O2 Hose & Actuator, Route

Hose Behind PGA

Connect Actuator To RCU

CDR Repeat PLSS DONNING \* \* \* \*

162:06 PLSS COMM CHECK (8 Min)

Verify Powerdown CB Configuration  
(White Dots Out)

Verify Voice Comm With Hou

Audio (LMP)

S-BAND - T/R

ICS - T/R

RELAY - ON

MODE - VOX

VOX SENS - MAX

VHF A - T/R

B - RCV

COMM:

VHF A XMTR - VOICE

A RCVR - ON

B XMTR - OFF

B RCVR - ON

TLM BIOMED - OFF

SQUELCH VHF A&B -

Noise Thres + 1 1/2

RECORDER - ON

VHF Antenna - EVA

UPLINK SQUELCH - ENABLE

Audio (CDR)

S-BAND - T/R

ICS - T/R

RELAY - OFF

MODE - VOX

VOX SENS - MAX

VHF A - T/R

B - RCV

CB(16) COMM: SE AUDIO - Open  
LMP Connect To PLSS Comm

CB(16) COMM: SE AUDIO - Close  
PLSS PTT (LMP) - MAIN (Rt), Verify  
PLSS Mode(LMP) - A, Wheel-CCW  
(Tone-On, Vent Flag-P,  
Press Flag-0, 02 Mom)  
PLSS 02 Press Gage >85%  
LMP Comm Check With CDR And Hou

NOTE: Unstow PLSS Antenna If It  
Transmits Garbled And/Or Loses TM  
Restow Before Egress

CB(11) COMM: CDR AUDIO - Open  
CDR Connect To PLSS Comm

CB(11) COMM: CDR AUDIO - Close  
Audio (CDR)  
VHF A - OFF  
VHF B - OFF

PLSS PTT(CDR) - MAIN (Rt), Verify  
PLSS Mode(CDR) - B, Blade-CCW  
(Tone-On, Vent Flag- P,  
Press Flag-0, 02 Mom)  
PLSS 02 Press Gage >85%

NOTE: Crewman In Mode B Cannot  
Hear Hou

LMP Comm Check With CDR And Hou

PLSS Mode(LMP)-B, Blade-CCW(Tone-On)  
PLSS Mode(CDR)-A, Wheel-CCW(Tone-On)  
CDR Comm Check With LMP And HOU

PLSS Mode (Both) - AR (Tone-On)

NOTE: (AR) Wheel-Hou, Blade-EVA

Perform Comm & TM Check With Hou &  
Comm Check With Each Other  
Read PLSS 02 Qty To Hou

SQUELCH VHF B (LMP) - Full Decrease

DATE 9/12/72

162:14 FINAL SYSTEMS PREP (1 Min)

CB(16) ECS: LCG PUMP - Close  
LCG - Cold, As Rqd  
CB(16) ECS: CABIN REPRESS - Close (Ver)  
SUIT FAN ΔP - Open  
SUIT FAN 2 - Open  
Verify ECS Caution & H2O SEP Comp  
Lts - On (~1 Min)  
  
SUIT GAS DIVERTER - PULL-EGRESS(Verify)  
CABIN GAS RETURN - EGRESS (Verify)  
SUIT CIRCUIT RELIEF - AUTO (Verify)

162:15 OPS CONNECT (6 Min)

# # # # LMP 1st: # # # #  
SUIT ISOL - ACT OVRD (SUIT DISC)  
Discon LM 02 Hoses, Secure About PGA  
  
Connect OPS 02 Hose To PGA B/B  
Retrieve Purge Valve (Purse) -  
Verify Closed, Lock Pin In & LO  
Install Purge Valve In PGA R/R  
PGA Diverter Valve - Vertical  
  
CDR Repeat OPS CONNECT # # # #

Drink  
DES H2O VLV - CLOSE

162:21 HELMET/GLOVE DONNING (12 Min)

Position Mikes (Both)  
PLSS FAN - ON, Rt (Vent Flag - Clear)  
Don Helmets With LEVA's, Check Drink  
Bag Position  
Lower LEVA Protective Visor  
Secure Tool Harness Self Doff Straps  
To LEVA's

Verify The Following:

- Helmet & Visor (1) - Aligned & Adjusted
- O2 Connectors (3) - Locked
- Purge Valves (1) - Locked
- Comm Connectors (1) - Locked
- PGA Diverter Vlv(1) - Vertical

Verify EVA CB Configuration  
(White Dots Out + EVA Decals)

Don EV Gloves & Verify:

- Wrist Locks (4) - Locked
- Glove Straps (4) - Adjusted

■ Cover Wrist Rings

NOTE: If PGA Biting, PLSS 02 - ON/OFF

LCG-Cold, As Req'd

CB(16) ECS: LCG PUMP - Open

Disconnect LM H2O Hose

■ Connect PLSS H2O Hose, verify Locked

PLSS DIVERTER - MIN (Verify)

PLSS PUMP - ON, Rt

PRESS REG A & B - EGRESS

### 162:33 PRESSURE INTEGRITY CHECK (4 Min)

PLSS 02 - ON (Tone-On, 02 Flag - 0)

Press Flag Clear (3.1-3.4 Psid)

Cuff Gage 3.7-4.0 Psig

O2 Flag Clear

PLSS 02 - OFF (Monitor Cuff Gage For 1 Min, Report Decay)

PLSS 02 - ON (Cuff Gage 3.7-4.0 Psig, Tone & O2 Flag May Come On)

Verify O2 Flag Clear

### 162:37 CABIN DEPRESS (3 Min)

Confirm Go For Depress From Hou  
CB(16)ECS: CABIN REPRESS - Open  
CABIN REPRESS Vlv - CLOSE

Ovhd Or Fwd Dump Vlv - OPEN Then AUTO @ 3.5 Psia (Verify Cuff Gage Does Not Drop Below 4.6 Psig)

Verify:

Cabin At 3.5 Psia

LM Suit Circuit Lockup At 4.3 Psia  
PGA > 4.6 Psig & Decaying

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162:40 Start Wrist Watch :00

Ovhd Or Fwd Dump Valve - OPEN

Verify:

Tone-On & H2O Flag - A (1.2-1.7 Psia)

PGA > 4.6 Psig & Decaying

Partially Open Fwd Hatch

FINAL PREP FOR EGRESS :03

PLSS PRIM H2O - OPEN (H2O Flag -

Clear In 2-4 Min)

Fwd Hatch - Open

Rest Until Cooling Sufficient

Verify:

PGA 3.7 To 4.6 Psig

CWEA Status:

Caution

PREAMPS

ECS

H2O SEP Comp Lt - On

Lower EV Visor As Rqd :10

DATE 9/12/72

POST EVA 3

PLSS PRIM H2O - CLOSE  
Fwd Hatch - Close & Lock  
Dump Valves (Both) - AUTO

NOTE: PLSS O2 & PRESS Flags May Come On During Repress. If PLSS O2 <10% Manually Control Cabin Repress To Maintain Positive PGA Pressure. (Leave Cabin Repress CB Open For Manual Repress)

CABIN REPRESS - AUTO  
CB(16)ECS: CABIN REPRESS - Close  
MASTER ALARM & CABIN Warning Lt - On  
Verify Cabin Press Increasing  
PRESS REG A & B - CABIN

PLSS O2 - OFF @ Cabin > 2.5 Psia

CABIN Warning Lt - Off  
Verify Cabin Press Stable At 4.6-5 Psia  
Use Purge Valve To Depress PGA As Rqd

169:40 POST EVA SYSTEMS CONFIG (15 Min)

Verify EVA CB Configuration  
(White Dots Out + EVA Decals)  
CB(16) ECS: SUIT FAN 2 - Close  
SUIT FAN ΔP - Close  
ECS Caution & H2O SEP Comp Lts - Out  
  
Doff Gloves, Stow On Comm Panel  
  
Verify Safety On Dump Valve  
DES H2O VLV - OPEN  
Remove Purge Valves, Stow In Purse  
Disconnect OPS O2 Hose  
  
Connect LM O2 Hoses R/R & B/B  
  
SUIT ISOL (Both) - SUIT FLOW  
PLSS PUMP - OFF (Left)  
PLSS FAN - OFF (Left)  
  
Disconnect PLSS H2O From PGA  
Connect LM H2O To PGA

PLSS Mode (Both) - 0

AUDIO CB - Open

Connect To LM Comm

AUDIO CB - Close

SQUELCH VHF B (LMP) -

Noise Thres + 1 1/2

AUDIO (CDR & LMP)

VHF A - RCV

B - OFF

MODE - ICS/PTT

RELAY - OFF

COMM:

VHF A XMTR - OFF

A RCVR - ON

B XMTR & RCVR - OFF

TLM BIOMED - LEFT

PCM - HI

VHF ANTENNA - AFT

### 169:55 PLSS/OPS DOFFING (20 Min)

Disconnect OPS Actuator From RCU's

Disconnect RCU's From PGA

Verify Pump,Fan - OFF (Left) MODE SEL-0

Disconnect RCU From PLSS, Stow On  
Eng Cover

Disconnect PLSS 02 Hoses

Doff PLSS/OPS (LMP 1st)

Stow LMP PLSS On Floor

Stow CDR PLSS On Mid-Step

Stow OPS 02 Hose & Actuator

Install Gas Conn Plugs (Purse) In PGA

\* \* \* \* CDR 1st: \* \* \* \*

Disconnect OPS Antenna Lead

Remove OPS & Stow Antenna Lead

Perform OPS Checkout

Report OPS Press To Hou

Stow OPS On Eng Cover

Stow PLSS Hoses & Upper Straps

Remove Lower PLSS Straps, Clip Straps

Together, D-Ring (Name-To-Name)

Remove Yo-Yo, Stow On Eng Cover

Stow Straps In Aft LHSSC

Stow PLSS On Floor

LMP PLSS To Mid-Step, Repeat Above \*\*\*\*

Verify Powerdown CB Configuration

(White Dots Out)

DATE 11/6/72

170:15 PREP FOR EQUIP JETT 1 (24 Min)

Stow Return Items In ISA Big Pkt  
Unstow Scale (Bot RHSSC)

Weigh BSLSS/Rock Bag (30# Max) &  
Collection Bags  
Record On 2-2 & Report To Hou

Weigh ISA (19# Max)  
Stow Scale In RHSSC  
Stow Collection Bags & BSLSS/Rock Bag  
Aft Eng Cover

Verify Total DES 02 QTY (Tank 1+2) >31%  
Fwd Hatch Handle - UNLOCK

Remove ISS, Wrap & Tie The Following:  
Lunar Boots (4)  
RCU's (2)  
Armrest (1)  
Yo-Yo's (2)

Position PLSS's For Jettison, Eng  
Cover & Mid-Step

Clean & Lub Wriststrings As Rqd  
PGA Diverter Vlvs - Horizontal

Audio (CDR & LMP)  
Mode - VOX  
VOX SENS - As Rqd  
Comm: RECORDER - ON

Don EV Gloves  
Check PGA Connectors

170:39 PRESS INTEGRITY CHECK (4 Min)

NOTE: LM Suit Circuit Shall Not Be  
Maintained At Elevated Press >5 Min

SUIT GAS DIVERTER - PULL-EGRESS (Ver)  
CABIN GAS RETURN - EGRESS (Verify)  
SUIT CIRCUIT RELIEF - CLOSE

PRESS REG A - EGRESS  
PRESS REG B - DIRECT 02  
Monitor Cuff Gage To 3.7 - 4.0 Psig  
Then PRESS REG B - EGRESS (Cuff  
Gage Decay <.3 Psig In 1 Min)

SUIT CIRCUIT RELIEF - AUTO (Suit Ckt  
Press Decays To 4.8 Psia)

170:43 CABIN DEPRESS FOR JETT (4 Min)

Confirm Go For DEPRESS From Hou  
CB(16)ECS: CABIN REPRESS - Open  
Ovhd Or Fwd Dump Valve - OPEN Then AUTO  
At 3.5 Psia  
(Verify Cabin Press 3.5 Psia  
& LM Suit Circuit Lockup At  
4.3 Psia & Decaying)

Ovhd Or Fwd Dump Vlv - OPEN (Verify LM  
Suit Circuit 3.6 To 4.3 Psia)

170:47 HATCH OPENING (4 Min)

Partially Open Fwd Hatch  
Ovhd Or Fwd Dump Valve - AUTO

Fwd Hatch - Full Open

Jettison The Following:  
PLSS On Mid-Step  
PLSS On Eng Cover  
ISS

Verify Items Clear Of Ascent Stage

Fwd Hatch - Close & Lock

170:51 CABIN REPRESS (7 Min)

Dump Valves(Both)- AUTO (Verify)  
CABIN REPRESS - AUTO (Verify)

CB(16)ECS: CABIN REPRESS - Close  
MASTER ALARM & CABIN Warning Lt - On  
Verify Cabin Press Increasing  
PRESS REG A & B - CABIN

CABIN Warning Lt - Off  
Verify Cabin Press Stable At 4.6-5 Psia

Doff Gloves, Stow On Comm Panel  
Doff Helmets With Visors, Lower Shades,  
Stow In BRA

Verify Safety On Dump Valve

Audio (CDR & LMP):  
Mode - ICS/PTT

COMM: UPLINK SQUELCH - OFF  
RECORDER - OFF

DATE 11/6/72

Unstow Lunar Surface Checklist, 7-5  
Stow EVA 3 Prep & Post Card

170:56 BATT MGMT

POWER/TEMP MON - ED/OFF

Check ED VOLTS A       , B        (To Hou)

POWER/TEMP MON - BAT 1

BAT 1 - ON; tb - gray

BAT L (LMP) - OFF/RESET; tb - bp

POWER/TEMP MON - BAT 2

BAT 2 - ON; tb - gray

POWER/TEMP MON - Check BUS Volts

On Hou Cue: TLM PCM - LO

S-BD VOICE - DN VOICE BU

CB(11) HTR: URINE LINE - Close

HTR CONT: URINE LINE - HTR 1

170:58 POST EVA CABIN CLEANUP (3 Min)

Stow On Floor:

CDR's OPS Under Purse

LMP's OPS Under Dump Vlv

ETB RH Corner, Fwd

ISA Against Hatch

BSLSS/Rock Bag Against Hatch

171:01 DOFF SUITS (50 Min)

Empty UCTA (WMS Valve), Install Cap

HTR CONT: URINE LINE - OFF

CB(11) HTR: URINE LINE - Open

TLM BIOMED - OFF

\* \* \* \* CDR 1st: \* \* \* \*

SUIT ISOL - ACT OVRD (SUIT DISC)  
AUDIO CB - OPEN

DOFF PGA

Stow Comm Carrier On Comm Panel  
Stow LM 02, H2O & Comm  
Install PGA Elect Connector Cap (Purse)  
■ Stow EVA 3 Cuff Checklist In RHSSC

NOTE: Wipe With Tissue, Lub With Pad From  
EMU Main Kit: Neckring, Wriststrings,  
Gas Connectors & PRV "O" Ring  
Lub Zipper With Pad

Disconnect LCG, Bio Belt & UCTA  
Insert LCG Plug (Purse)  
Close Inner & Outer Zipper  
Attach Neckring Cover (Aft RHSSC)  
Stow on Eng Cover, Neck Aft &  
CDR On RH, Face Up  
LMP On LH, Face Down  
Install One Glove  
Cover PGA Legs with Jett Bag (LHSSC)

DRY PGA (Or Perform Configure ECS for Sleep)  
Connect LM 02 Hoses, R/B & B/R  
CABIN GAS RETURN - AUTO  
SUIT GAS DIVERTER - PUSH - CABIN  
SUIT ISOL - SUIT FLOW

CONNECT TO LM COMM

Don Comm Carrier (Comm Panel)  
Connect CWG Adapter (LHSSC)  
Connect LM Comm Cable  
Audio CB - CLOSE  
Verify Comm

Stow Neutron Flux Bag With Core Tube Bag

Stow Heaviest Collection Bag (Place  
In Cover) Aft Of Eng Cover (See 2-2)  
Transfer Others To CDR's Station

LMP REPEAT DOFF SUITS \* \* \*

DATE 11/6/72

DOFF LCG - Place In Jett Bag, Stow On RCU Shelf

Stow Bio Belt On Comm Panel  
Stow UCTA for Drying

DON CGW (Top Boot Box)

Connect Bio Belt (LMP Only)

DON ICG (ICG Bag, LHMS)

TLM BIOMED - RIGHT

PRO, V37E, 06E, PRO  
(STBY Lt - ON)

171:51 EVA DEBRIEFING WITH HOU (15 Min)

Copy Liftoff Time In Data Book  
For Rev 44-50

172:06 EAT PERIOD (45 Min)

172:51 MCC-H CONFERENCE (60 Min)

Change LM ECS LiOH Cart  
Stow Used Cart In Bkt Aft of Eng Cover

173:51 PRESLEEP & EQUIPMENT STOWAGE (48 Min)

Empty ETB As Follows:

Stow 70mm Mags (7) In RHSSC  
Transfer Mags In LCG Compt (RHSSC) To Bot  
Boot Compt, IV Gloves To Comm Panel  
SEP DESA In Top Boot Compt  
EVA 3 Maps As Reqd  
Cosmic Ray In ISA Top Pkt

Stow ETB Against Hatch

Stow Cuff Checklists (2 In Purse, 4 In RHSSC)  
In ISA Big Pkt  
Stow Purge Valves (Purse) In Aft LHSSC

Stow Collection Bags In Covers (Camr Compt)  
Stow Collection Bags, See 2-2  
Report Bag Location To Hou

Configure ECS For Sleep

Stow LM O2 Hoses, R/R & B/B

SUIT ISOL - SUIT FLOW

CABIN GAS RETURN - AUTO (Verify)

SUIT GAS DIVERTER - PUSH - CABIN (Verify)

Install Other Glove

16mm Camr To Window Bkt  
Remove ULC & Rt Angle Bkt

Stow LM EVA Antenna

Unroll CDR's Hammock With Sleep  
Restraint

Unroll LMP's Hammock With Sleep  
Restraint

LMP: Attach Straps To LH & RHSSC  
Adjust Strap Tension LHSSC  
Route Inboard Center Support Strap  
Under LMP & CDR Comm Cables,  
Attach To Vertical Handhold, ECS  
Module

Attach Outboard Center Support  
Strap To Lower ISA Fitting,  
Straddle/Ingress

CDR: Attach Aft Straps - Z27  
Route Hammock Under Comm Cable  
Attach Fwd Straps, Panel 1 & 2  
Adjust Strap Tension

Attach Outboard Center Support Strap  
To Horizontal Handhold, ECS Module  
Ingress Hammock  
Attach Inboard Center Support Strap  
To PLSS Donning Station, Upper  
Outboard  
Adjust Strap Tension

174:39 REST PERIOD (8:00 Hr)

182:39 POSTSLEEP (25 Min)

Crew Awake - Verify CWEA Status  
Caution: PREAMPS

Stow Hammocks & Sleep Restraints In  
Jett Bag (On PGA)  
Stow ETB In Jett Bag  
Stow BSLSS Bag In Jett Bag

STAY/NO STAY FOR FINAL JETTISON

#### CREW STATUS REPORT

	CDR	LMP
FOOD	_____	_____
MED	_____	_____
SLEEP	_____	_____

DATE 7/16/16

**183:04 LGC/IMU POWER UP**

PRO (Hold In Until STBY Lt-Off) Possible PWR AMPL - PRIM  
PROG, RESTART Lts-On, M.A., LGC Warn-On/Off TLM - HI  
(NO ATT, NO DAP, & GIMBAL LOCK Lts-On) VOICE - VOICE

RSET, V96E

CB(11) GASTA (AC/DC) - Close (2)  
CDR FDAI (AC/DC) - Close (2)  
IMU OPR - Close  
(GIMBAL LOCK Lt-Off, NO ATT Lt-Off In 90s)

V16 N65E

MISSION TIMER - Check

V25 N01E, 1365E, E,E,E

V15 N01E, 1365E, (All Zero)

V21 N27E, 10E

15 01 Test Successful When  
R2 > 3 (78 sec)

V21 N27E, 0E

Notify STDN of E-Dump

TLM-HI (Verify)

V74E (42 sec)

CB(11) HEATERS: AOT - Close

183:14 EAT PERIOD (45 min)

CB(11) HEATERS: RR OPR - Close  
RR STBY - Open

UPDATA LINK - DATA (STDN  
Uplinks CSM S.V. & RLS)  
UPDATA LINK - OFF

183:59

Park RR Ant For P57 Use  
CB(11) AOT LAMP - Close  
P57E, R2 00004, PRO  
N34 (Load LO Time), PRO  
N06 00010  
00003  
00010

PRO (NO ATT Lt - On/Off, Twice)

N04 Grav. Err. (.01°)  
V32E (NO ATT Lt - On/Off, Twice)  
N04 Grav. Err. (.01°)  
PRO

N22 ICDU Angles (.01°)  
PRO (NO ATT Lt - On/Off)

N71 Align Star, 4 Marks, Vega (436)

N05 Angle Diff (.01°)  
PRO

N93 Torq. Angles (.001°)  
PRO

If Adjacent Detent Desired:  
V21 N01E,373E,32533E  
PRO To N79

Copy:

P22 Acq Time \_\_\_\_:\_\_\_\_:\_\_\_\_ (186:03:34)  
LO TIME (P57) \_\_\_\_:\_\_\_\_:\_\_\_\_ (188:03:14.60)

A/T-3 DATA STAR INFO			
Str 1:	Alkaid (327)	Str 2:	Str 3:
N88	Altioth	Eltanin	α2 Canes Venatici
#74(300)	#116(400)	#157(300)	
X -54285	-01099	-76073	
Y -12733	-62254	-18517	
Z +83012	+78251	+62209	

→ N25 00014, PRO (Alignment Complete)

DATA STAR MARKS

N70 Data Star Code (From Table)  
PRO

N71 Verify Detent & Star Code  
PRO

V52/3 Mk; Load 4 Mk Pairs via N79  
PRO

N05 Angle Diff. (.01°)  
V32E For Remaining Data Stars

(After Last Star) V34E, OOE

CB(11) AOT LAMP - Open  
Window Shades - Open  
Park RR Ant. Along (+00000, +03000)

DATE 11/6/72

184:24 DON SUITS (35 Min).

TLM BIOMED - OFF

DOFF ICG - Stow In Jett Bag  
Empty Pockets

DOFF CWG - Stow In Jett Bag  
Stow Bio Belt On Comm Panel

DON LCG (RCU Shelf)

Don UCTA

Connect Bio Belt

\* \* \* \* LMP 1st: \* \* \* \*

AUDIO CB - OPEN

Stow LM Comm Cable

Stow CWG Adapter LHSSC

Stow Comm Carrier On Comm Panel

Stow Gloves On Comm Panel

Stow Neckring Cover Aft RHSSC

Remove Drink Bag, Stow In Jett Bag

DON PGA

Stow Jett Bag On PGA Legs In LHSSC  
Stow LCG Plug In Purse  
Connect UCTA, Bio Belt & LCG

Close Zippers & Lock  
Don & Connect Comm Carrier  
Stow PGA Elect Connector Cap In Purse

SUIT ISOL - ACT OVRD (SUIT (DISC)  
Connect LM 02 R/B & B/R, H2O & Comm  
SUIT ISOL - SUIT FLOW  
SUIT GAS DIVERTER - PULL - EGRESS  
CABIN GAS RETURN - EGRESS  
AUDIO CB - CLOSE  
Verify Comm

AUDIO (CDR & LMP)  
VHF A - OFF  
B - RCV

COMM:  
VHF A RCVR - OFF  
B RCVR - ON

Stow In Jett Bag:  
2 LCG Adapters (Aft RHSSC)  
Urine Receptacle  
LM ECS LiOH Cart & BKT

CDR REPEAT ABOVE \* \* \* \*

TLM BIOMED - LEFT  
UPLINK SQUELCH - ENABLE

184:59 PREP FOR EQUIPMENT JETTISON 2 (8 Min)

Report PRD Readings To Hou

Stow Purse In ISA Bot Pkt

Stow ISA Aft Of Eng Cover

Stow BSLSS/ROCK Bag Aft Of Eng Cover

Stow Both OPS On Aft Eng Cover

Stow Helmets With LEVA's On OPS

Stow BRA In Jett Bag

Tie Jett Bag, Stow On Eng Cover

Fwd Hatch Handle - UNLOCK

185:07 HELMET/GLOVE DONNING (6 Min)

Position Mikes (Both)

■ Don Helmets With LEVA's

Lower LEVA Protective Visor

Verify The Following:

Helmet & Visor	(1) - Aligned & Adjusted
O2 Connectors	(2) - Locked
Connector Plugs	(2) - Locked
Comm Connector	(1) - Locked
PGA Diverter Vlv	(1) - Horizontal

Audio (CDR & LMP):

MODE - VOX

VOX SENS - As Reqd

Comm: RECORDER - ON

Don EV Gloves & Verify

Wrists Locks (4) - Locked

Glove Straps (4) - Adjusted

DATE 11/6/12

185:13 PRESS INTEGRITY CHECK (4 Min)

NOTE: LM Suit Circuit Shall Not Be  
Maintained At Elevated Press > 5 Min

SUIT GAS DIVERTER - PULL - EGRESS (Ver)  
CABIN GAS RETURN - EGRESS (Verify)  
SUIT CIRCUIT RELIEF - CLOSE

PRESS REG A - EGRESS

PRESS REG B - DIRECT 02

Monitor Cuff Gage To 3.7 - 4.0 Psig  
Then PRESS REG B - EGRESS (Cuff  
Gage Decay <.3 Psig In 1 Min)

Suit Circuit Relief - AUTO (Suit Ckt  
Press Decays To 4.8 Psia)

185:17 CABIN DEPRESS FOR JETTISON (4 Min)

Confirm Go For DEPRESS From Hou  
CB(16) ECS: CABIN REPRESS - Open  
Ovhd Or Fwd Dump Valve - OPEN Then Auto  
At 3.5 Psia  
(Verify Cabin Press 3.5 Psia  
& LM Suit Circuit Lockup At  
4.3 Psia & Decaying)

H2O SEP SEL - PULL SEP 2

Ovhd Or Fwd Dump Vlv - OPEN (Verify LM  
Suit Circuit 3.6 To 4.3 Psia)

185:21 HATCH OPENING (3 Min)

Partially Open Fwd Hatch  
Ovhd Or Fwd Dump Valve - Auto

Fwd Hatch - Full Open

Jettison The Jett Bag

Verify Items Clear Of Ascent Stage

Fwd Hatch - Close & Lock

185:24 CABIN REPRESS (5 Min)

Dump Valves (Both) - Auto (Verify)  
Cabin REPRESS - Auto (Verify)

CB(16) ECS: CABIN REPRESS - Close  
MASTER ALARM & CABIN Warning Lt - On  
Verify Cabin Press Increasing  
PRESS REG A & B - CABIN

CABIN Warning Lt - Off  
Verify Cabin Press Stable At 4.6-5 Psia

Doff Gloves, Stow On Comm Panels  
Doff Helmets With Visors, Stow On  
Eng Cover

Verify Safety On Dump Valve

Audio (CDR & LMP):

MODE - ICS/PTT

Comm: RECORDER - OFF

185:29 CABIN CLEAN UP FOR LAUNCH (25 Min)

Secure OPS (2) On Floor  
Stow EV Gloves & Visors (Remove Helmets)  
In LEVA Bags (Visors Aft)  
Place LEVA Bags On Floor, 1 Rt, 1 Left

Install ISA In Aft Cabin, High  
Attach BSLSS/Rock Bag To +Z27

Secure LEVA Bags On Eng Cover  
Secure Utility Lights On AOT  
Stow All EVA Onboard Data  
In Flt Data File

Attach Floor Hole Covers (Fwd PDF)

DATE 7/16/16

185:54 P22  
(Acq:-09)

CB(11) RR (2) - Close  
R/RDOT H/HDOT (AC/DC) - Close  
CDR X-PNTR - Close  
SIG STR DISP - Close

RR MODE - LGC (Wait 10 sec Before V37E)  
RATE/ERR MON (CDR) - RNDZ RDR

V95E

P22E

N06 R2 00001

PRO (N54 R, R; If R>400 & R<0)

DSKY Blanks; V83E,N54,PRO By 130 nmi

V16 N72E (+18900, +33200)

NO TRACK Lt-Off at ~103nmi

(N78E, Rng, Rng Rt)

NO TRACK Lt-On At ~80nmi

(N72 Goes To +18000, +27000)

POOE

Park RR Ant Along (+00000, +03000)

CB (11) RR (2) - Open

Copy Ascent Pads

CSI Pad

LM DAP Wt

186:09 CABIN PREP FOR ASCENT (39 Min)

7-16

DATE 11/6/72

DATE 9/12/72

\*\*\*\*\*L0-1:15 (186:48)\*\*\*\*\*

Verify:

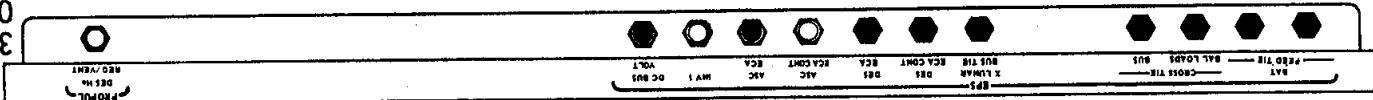
MASTER ARM - OFF  
GUID CONT - PGNS  
ENG ARM - OFF  
ATTITUDE CONT (3) - MODE CONT  
MODE CONT (Both) - ATT HOLD

Configure CB's Per PWR UP Charts

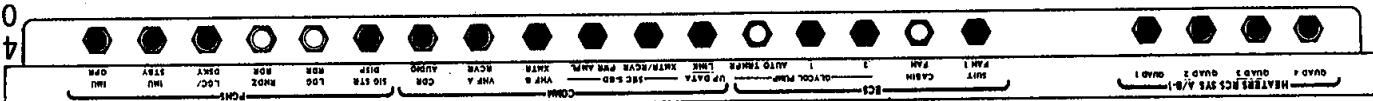
DATE 9/12/72

8-2

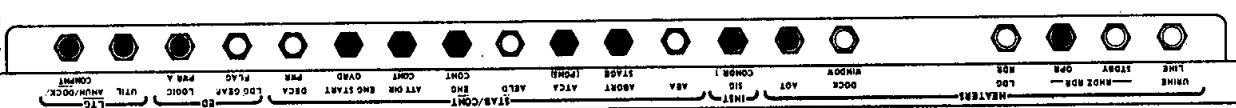
OPEN



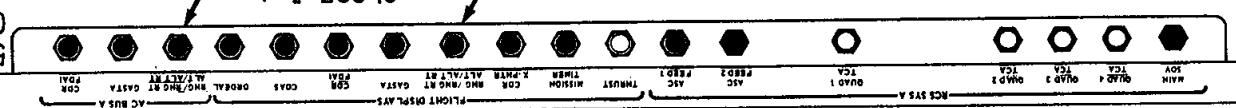
OPEN



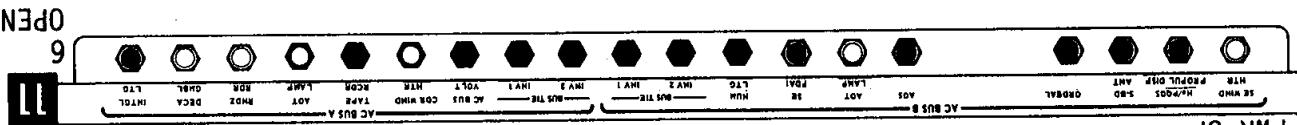
OPEN



NEDO



OPEN



LUNCH PREP

DATE 9/12/72

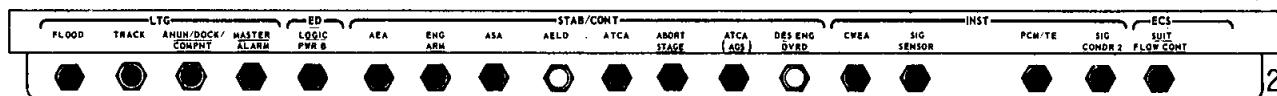
PWR UP

16



5

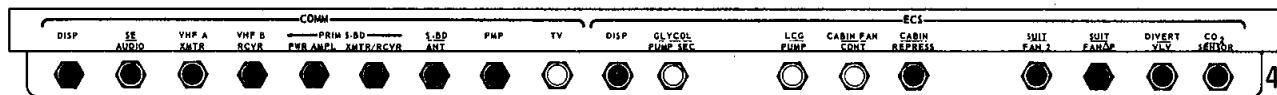
OPEN



2

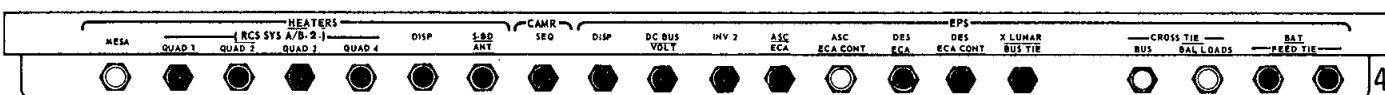
OPEN

PREAMPS → (off)



4

OPEN



4

OPEN

[ If P22 Performed Omit Self Test To ]  
RADAR TEST - OFF

CB(11) RR (2) - Close (NO TRACK Lt-On)

X-POINTER SCALE (2) - HI MULT

RATE/ERR MON (2) - RNDZ RDR

ATTITUDE MON (CDR) - PGNS, (LMP) - AGS

RNG/ALT MON - RNG/RNG RT

SHFT/TRUN - +50°

TEMP MONITOR - RNDZ (+10° To +75°)

RR MODE - AUTO TRACK

RADAR TEST - RNDZ (Rng Rt Tape

Drives, X-POINTERS Oscillate,

After 12 sec Rng Tape Drives

NO TRACK & PWR FAIL Lts - Off)

TEST/MONITOR - AGC 1.5 To 1.9

- XMTR PWR 2.8 To 3.2

- SHAFT ERR 2.2 To 2.6

- TRUN ERR 2.2 To 2.6

- AGC

V25 N07E (Set NORRMON Flg)

101E, 10E, 1E

RR MODE - LGC (NO TRACK Lt - On)

CB(16) Cycle CWEA

AGS STATUS-OPERATE  
(AGS Warn Lt-On)

000 +888888 (OPR ERR Lt-On)

123 -45679

412R +1 Satisfactory

574R +Not Staged

604R -On Surface

612R +0 Attitude Hold At ABORT STAGE

400 + 4 Lunar Align (Wait 30 sec  
Before 400 + 6)

544R \_\_\_\_\_ X Gyro Coeff (.01°/hr)

545R \_\_\_\_\_ Y Gyro Coeff

546R \_\_\_\_\_ Z Gyro Coeff

400 + 6E Calibrate Gyros  
(Calib. Complete in 5m 2s)

DATE 11/11/86

V63E, R2 00001, PRO

(TRACKER & NO TRACK Lts - Off After 12 sec)

N72 Varying @ 1/2 cps,

PRO

N78 +195.10 To +195.50 Rng (TM 193 To 197)

-0470.5 To -0510.5 Rng Rt (TM -468 To -508)

V34E

(PWR FAIL & NO TRACK Lts - On,  
X-PNTRS Center)

RADAR TEST - OFF

Park RR Ant Along (+00000, +03000)

224 \_\_\_\_\_ LOW LIM (+58624)  
226 \_\_\_\_\_ RETGT VAL FOR TERM IN aL(+58624)  
231 \_\_\_\_\_ RLS (+56906)  
232 \_\_\_\_\_ INS ALT (+00600)  
410+0 \_\_\_\_\_ ORB INS  
465 \_\_\_\_\_ INS HDOT (+00320)  
662R +0 (4K10)  
673R +0

373 +04832 TIG L/0

400R (+0 Calib Complete)

544R \_\_\_\_\_ X (.01°/hr)

545R \_\_\_\_\_ Y

546R \_\_\_\_\_ Z

If Gyro Drift Changes >2.0°/hr,  
AGS Failed

\*\*\*\*\* LO-:55 (187:08) \*\*\*\*\*

GYRO TEST - POS RT (RPY RATE +5°/SEC)  
GYRO TEST - NEG RT (YPR RATE -5°/SEC)

V16 N65E LGC TIME  
377 \_\_\_\_\_ (Bias 180)

RATE SCALE -5°/SEC  
Repeat Tests

P, Y (+22°/-50°)  
TRACK MODE - AUTO

\*\*\*\*\* LO-:50 (187:13) \*\*\*\*\*

V48, 12102, PRO, +10900 LM Wt (Max = 10900), PRO  
V76E(Min Imp Check of CDR ACA To LGC, ACA  
Cold Fire CES Voltage, SEC RCS Coil Hot  
Fire 4-JET In AGS)

V11 N10E, 31E, R1 67777

GUID CONT-AGS

MODE CONT (2) - ATT HOLD

ATTITUDE CONT (3) - MODE CONT

CDR ACA (Deflect Slowly To Hardover, Pause  
2 sec At Null)

Roll Rt R1 27757 (QUAD Flag & RCS  
Lt 27737 TCA Warn Lt-On

Pitch Up 27776  
Dn 27775

Yaw Rt 27767  
Lt 27773

Cycle CB(16) CWEA

GUID CONT - PGNS

MODE CONT (2) - ATT HOLD

8-6

DATE 11/6/72

DATE 7/16/12

V77E

V15N01E,42E(Rate Cmd Hot Fire Check  
ACA to Jets)

CB(11 & 16) QUAD TCA (8)-Close

CDR ACA (Out-Of-Detent, Pause 2 sec At

Roll Rt R3 000XX Null  
Lt 777XX

Pitch Up R1 000XX  
Dn 777XX

Yaw Rt R2 777XX  
Lt 000XX

V76E

UPDATA LINK - DATA

(STDN Uplinks CSM S.V., RLS,  
& Zeros POS/NEG Cells)

UPDATA LINK - OFF

\*\*\*\*\* LO-:45 (187:18) \*\*\*\*\*

Park RR Ant For P57 Use

Window Shades - Close

CB(11) AOT LAMP - Close

P57E, R2 00004, PRO

N34 Load LO Time, PRO

N06 00010

00003

00110

PRO (NO ATT Lt - On/Off, Twice)

N04 Grav. Err. (.01°)  
V32E (NO ATT Lt - On/Off, Twice)  
N04 Grav. Err. (.01°)  
PRO  
N22 ICDU Angles (.01°)  
PRO (NO ATT Lt - On/Off)  
N71 Star, 4 Marks, Vega (436)

If Adjacent Detent Desired:  
V21N01E, 373E, 32533E  
PRO To N79

N05 Angle Diff. (.01°)  
PRO  
N93 Torq. Angles (.001°)  
PRO  
N25 00014, ENTR  
POOE  
CB(11) AOT LAMP - Open  
Window Shades - Open

CB(11)RR(2) - Close

GYRO SEL - PRIM

SLEW RATE - HI

Position RR Ant (+18000,+33300)  
via V41 N72

BAT 5,6 - ON, tb - gray

BAT 1,3 - OFF/RESET, tb-bp

CB(11&16) ASC ECA CONT(2)-Close

RR MODE - SLEW

Manually Slew Up For 3 sec

CB(11)RR(2) - Open

Set Camr For Ascent (LM3/DAC/10/CEX (T4,1/500,∞)  
Mag (Q), ISA Top Pkt, 12fps, 6 min)

8-  
II

DATE 9/12/72

DATE 11/6/72

LO-:35 (187:28)

V48E

N46 12102 PRO

N47 (+10900) LM Wt

PRO

V77E

GUID CONT - PGNS

MODE CONTROL (PGNS) - AUTO

PT2E

N33 \_\_\_\_ : \_\_\_\_ : \_\_\_\_ TIG (188:03:14.60)

PRO

N76 VH Final (+55408)

HDot Final (+00320)

Xrng (+00000)

PRO

N74 TFI, YAW, PITCH

DET - Set/DN

Possible STDN Voice Update  
Of PIPA BIAS and/or LGC  
Gyro Compensation

Copy & Load:

047 \_\_\_\_\_ (From STDN)

053 \_\_\_\_\_ (From STDN)

Copy Updated AGS K Factor

\_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

\*\*\*\*\* LO-:30 (187:33) \*\*\*\*\*

400 + 4E Lunar Align

CB(11) QUAD 4,3,2,1 TCA (4) - Close  
DES He REG/VENT - Close  
AELD - Close  
INV 1 - Close  
CB(16) QUAD 1,2,3,4 TCA (4) - Close  
AELD - Close  
MASTER ARM - OFF  
STAGE - SAFE/Guarded

X-POINTER SCALE (CDR) - LO MULT  
RATE/ERR MON (CDR) - LDG RDR/CMPTR  
ATTITUDE MON (CDR) - PGNS  
GUID CONT - PGNS  
MODE SEL - AGS  
RNG/ALT MON - ALT/ALT RT  
RATE SCALE - 25°/SEC  
ACA PROP (CDR) - ENABLE  
ENG ARM - OFF  
ATT/TRANSL - 4 JETS  
BAL CPL - ON  
ABORT - Reset  
ABORT STAGE - Reset

8-10

DATE 9/12/72

DATE 11/6/72

PRPLNT TEMP/PRESS MON - ASC  
HELIUM MON - ASC PRESS 1  
SYS A&B ASC FUEL & OXID tb(4)-bp  
SYS A&B QUAD 1,2,3,4, (8) tb-gray  
CRSFD tb-bp  
SYS A&B MAIN SOV tb(2)-gray  
TEMP/PRESS MON - OXID MANF  
ACA PROP (LMP) - ENABLE  
GLYCOL - PUMP 1  
SUIT FAN - 1  
O2/H2O QTY MON - ASC 1  
RATE/ERR MON (LMP) - LDR RDR/CMPTR  
ATTITUDE MON (LMP) - AGS  
RADAR TEST - OFF  
TEST MONITOR - AGC  
SLEW RATE - HI  
RR MODE - SLEW  
DEAD BAND - MIN  
ATTITUDE CONTROL (3) - MODE CONT  
MODE CONTROL (PGNS) - AUTO  
MODE CONTROL (AGS) - ATT HOLD (AUTO After LO)  
TEMP MONITOR - RNDZ RDR  
RCS SYS A/B-2 QUAD 1,2,3,4 - AUTO  
X-POINTER SCALE (LMP) - LO MULT  
ACA/4 JET (2) - ENABLE  
TTCA/TRANSL (2) - ENABLE  
TTCA (2) - JETS (Dn)  
Eng STOP (2) - Reset

Verify O2 Hoses R/R, B/B  
Don Helmets, Gloves (Bot Boot Comp)  
& Restraints

DES H2O - CLOSE  
ASC H2O - OPEN  
WATER TANK SEL - ASC  
CABIN REPRESS - CLOSE  
DES O2 - CLOSE  
ASC O2 No. 1 - OPEN

PRESS REG A&B - EGRESS  
SUIT GAS DIVERTER - PULL/EGRESS  
CABIN GAS RETURN - AUTO  
SUIT CIRCUIT RELIEF - AUTO

DES FUEL & OXID VENTS (2) - OPEN  
(tb(2)-gray)  
DES He REG 1&2 - OPEN  
(tb-gray)  
CB(11) DES HE REG/VENT - OPEN  
ASC He REG 1&2 - tb(2) -gray

\*\*\*\*\* LO-17 (187:46) \*\*\*\*\*

V47E, 414 + 1

8-12

DATE 9/12/72

DATE 9/12/72

VHF A: XMTR - VOICE/RNG (HOT MIKE TO CSM)  
RCVR - OFF  
VHF B: XMTR - OFF  
RCVR - ON  
AUDIO (Both) VHF A - T/R  
VHF B - RCV  
MODE - ICS/PTT  
VHF ANT - AFT  
RECORDER - ON

\*\*\*\*\* LO-:15 (187:48) \*\*\*\*\*

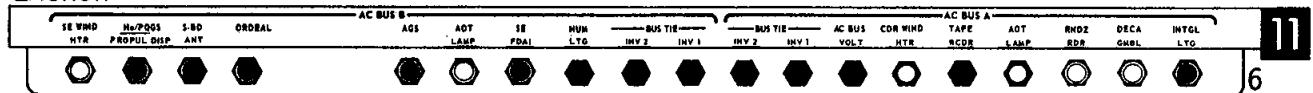
Guidance Recommendation From STDN

BAT 2,4 - OFF/RESET, tb-bp  
DES BATS - DEADFACE, tb-bp  
If tb-bp,  
CB(11 & 16) DES ECA - Open  
CB(11 & 16) DES ECA CONT - Open

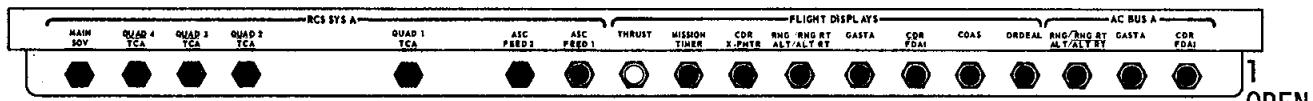
CB(11 & 16) ASC ECA CONT - Open

Verify CB's Per LAUNCH Configuration Charts

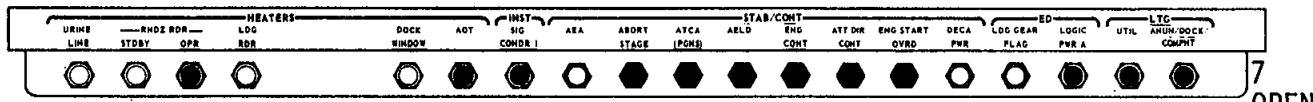
# LAUNCH



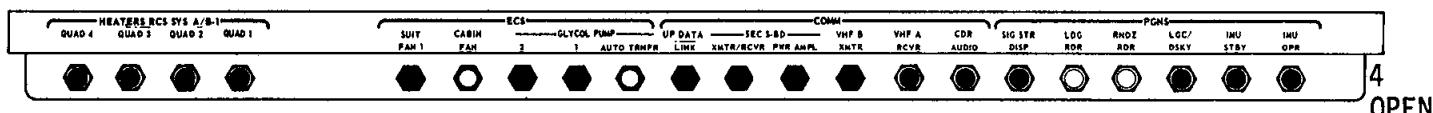
6  
OPEN



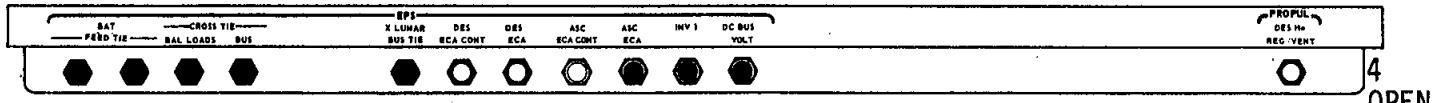
OPEN



OPEN



OPEN



OPEN

8-14

DATE 9/12/72

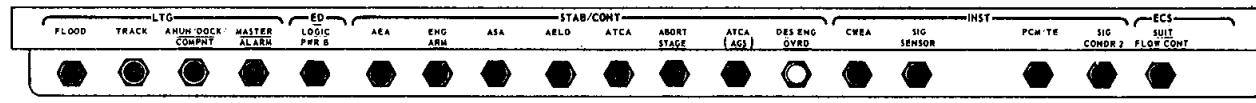
DATE 9/12/72

LAUNCH

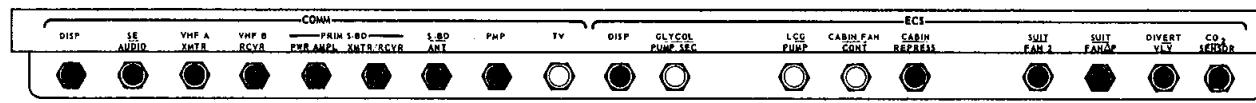
16



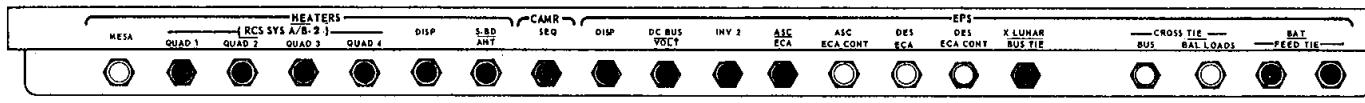
1  
OPEN



1  
OPEN



4  
OPEN



6  
OPEN

\*\*\*\*\* LU-12 (187:51) \*\*\*\*\*

V83E, 440R ( $\Delta R \leq 1.0$  fps)

\*\*\*\*\* LU-10 (187:53) \*\*\*\*\*

EMER LO (APS LEAK)

MODE CONT (AGS) - AUTO

400+1, 604+OE

GUID CONT - AGS

Verify ASC Regs - OPEN

MASTER ARM - ON

ENG ARM - ASC

ABORT STAGE - Push

ENGINE START - Push

Go To ASCENT MONITOR T+1:00  
(No Yaw Mnvr For Man ASC)

MASTER ARM - ON

ASC He SEL - TANK 1

ASC He PRESS - FIRE

ASC He SEL - TANK 2

HELIUM MON - ASC PRESS 2

ASC He PRESS - FIRE

MASTER ARM - OFF

SYS A ASC FEED 2 - OPEN, tb(2)-gray (Unless  
Monitor SYS A Manf Press CDR BUS  
SYS A MAIN SOV - CLOSE, tb-bp Loss)  
SYS B ASC FEED 2 - OPEN, tb(2)-gray (Unless  
Monitor SYS B Manf Press LMP BUS  
SYS B MAIN SOV - CLOSE, tb-bp Loss)

GO/NO GO For LO

8-16

DATE 11/6/72

DATE 9/12/72

\*\*\*\*\* LO-:5 (187:58) \*\*\*\*\*

CB(11) RR (AC) - Close

Check APS BURN CARD  
Check APS, RCS, EPS, ECS

GO To LM TIMELINE BOOK

TWEAK APOLUNES (315R) FOR EARLY L.O. FOLLOWED BY LOSS OF COMM (COELLIPTIC SEQ.)

L.O. -	H <sub>A</sub>	ΔV <sub>X</sub>	CSI IS INS +	H <sub>A</sub> MIN (CSM RESCUE)
10	190	181	62	112
9	179	169	61	107
8	168	156	61	97
7	157	143	60	94
6	146	129	60	89
5	135	116	59	83
4	123	101	58	75
3	113	88	58	71
2	101	72	57	63
1	91	58	56	58

BURN TO HA

TPI (LM ACTIVE): NOM PAD

TPI (CSM ACTIVE): NOM PAD (-) 4 min

20% LM RCS REQ FOR NAV ATT CONT

DATE 9/12/72

ONE MAN EVA PREP

CABIN PREP-Perform EVA 1,2 Or 3 As Rreqd

EQPT PREP-Perform EVA 1,2 Or 3 As Rreqd

PLSS DONNING-Perform EVA 1,2 Or 3 As Rreqd

Position Post EVA 1, 2 Or 3 Cue Card  
For Post EVA

NON EVA CREWMAN-Connected To LM 02,  
Comm, & H2O  
Gas Connector Plugs In PGA  
PGA Diverter Vlv - Horizontal

EVA CREWMAN: PGA Diverter Vlv -  
Vertical

PLSS COMM CHECK

Verify Powerdown CB Configuration  
(White Dots Out)

Verify LM EVA Antenna Deployed

Verify Voice Comm With Hou

Audio (Non EVA Crewman)

S-BAND - T/R

ICS - T/R

RELAY - OFF

MODE - VOX

VOX SENS - MAX

VHF A - RCV

B - T/R

Audio (EVA Crewman)

S-BAND - T/R

ICS - T/R

RELAY - ON

MODE - VOX

VOX SENS - MAX

VHF A - RCV

B - T/R

COMM:

VHF A XMTR - OFF

A RCVR - ON

B XMTR - VOICE

B RCVR - ON

TLM BIOMED - NON EVA CREWMAN

SQUELCH VHF A&B -

Noise Thres + 1 1/2

RECORDER - ON

VHF Antenna - EVA

AUDIO CB - Open  
EVA Crewman Connect to PLSS Comm

AUDIO CB - Close  
RCU PTT - MAIN (Rt), Verify

PLSS Mode-B, Blade-CCW  
(Tone-On, Vent Flag-P,  
Press Flag-0, 02 Mom)  
PLSS 02 Press Gage >85%

Comm Check With Each Other & Hou

NOTE: Unstow PLSS Antenna If It  
Transmits Garbled And/Or Loses TM  
Restow Before Egress

Audio (CDR & LMP)  
VHF A - T/R  
VHF B - RCV

COMM:  
VHF A XMTR - VOICE  
VHF B XMTR - OFF

PLSS Mode - A, Wheel-CCW (Tone-On)

Perform Comm Check With Each Other &  
Comm & TM Check With Hou  
Read PLSS 02 Qty To Hou

FINAL SYSTEMS PREP

CB(16) ECS: LCG PUMP - Close  
LCG - Cold, As Reqd  
CB(16) ECS: CABIN REPRESS - Close (Ver)  
SUIT FLOW CONT- Open

SUIT GAS DIVERTER - PULL-EGRESS (Verify)  
CABIN GAS RETURN - EGRESS (Verify)  
SUIT CIRCUIT RELIEF - AUTO (Verify)

DATE 11/6/72

OPS CONNECT

SUIT ISOL - ACT OVRD (SUIT DISC)  
Discon LM 02 Hoses, Secure About PGA

Connect OPS 02 Hose To PGA B/B  
Retrieve Purge Valve (Purse) -  
Verify Closed, Lock Pin In & LO  
Install Purge Valve In PGA R/R

Drink  
DES H2O VLV - CLOSE

HELMET/GLOVE DONNING

Position Mikes (Both)  
PLSS FAN - ON, Rt (Vent Flag - Clear)  
Don Helmets, Check Drink Bag Position  
Don LEVA And Lower Protective Visor

EVA Crewman: Stow LM 02 & Comm

Verify EVA Crewman in CDR's Station

Verify The Following (Both):  
Helmet & Visor (2) - Aligned &  
Adjusted  
02 Connectors (7) - Locked  
Purge Valve (1) - Locked  
H2O Connectors (1) - Locked  
Comm Connectors(2) - Locked

Don EV Gloves & Verify:  
Wrist Locks (4) - Locked  
Glove Straps (4) - Adjusted  
Cover Wrist Rings

NOTE: If PGA Biting, PLSS 02 - ON/OFF  
LCG - COLD, As Reqd  
Disconnect LM H2O Hose  
Connect PLSS H2O Hose, verify Locked

PLSS DIVERTER - MIN (Verify)  
PLSS PUMP - ON (Rt)

PRESSURE INTEGRITY CHECK

(EVA Crewman)

(Non EVA Crewman)

NOTE: LM Suit Circuit Shall Not Be  
Maintained At Elevated Press >5 min

SUIT GAS DIVERTER - PULL-EGRESS(Verify)  
CABIN GAS RETURN - EGRESS (Verify)  
SUIT CIRCUIT RELIEF - CLOSE

PRESS REG A - EGRESS

PRESS REG B - DIRECT O2

Monitor Cuff Gage To 3.7 - 4.0 Psig  
Then PRESS REG B - EGRESS (Cuff Gage  
Decay <.3 Psig In 1 min)

SUIT CIRCUIT RELIEF - AUTO (Suit Ckt  
Press Decays To 4.8 Psia)

PLSS 02 - ON (Tone-On, 02 Flag-0)  
Press Flag Clear (3.1-3.4 Psid)  
Cuff Gage 3.7-4.0 Psig  
02 Flag Clear

PLSS 02 - OFF (Monitor Cuff Gage For  
1 Min, Report Decay)  
PLSS 02 - ON (Cuff Gage 3.7-4.0 Psig,  
Tone & 02 Flag May Come On)  
Verify 02 Flag Clear

DATE 9/12/72

CABIN DEPRESS

Confirm Go For Depress From Hou  
CB(16)ECS: CABIN REPRESS - Open  
CABIN REPRESS VLV - Close

Ovhd Or Fwd Dump Valve - OPEN Then AUTO  
At 3.5 Psia (Verify EVA Crewman Cuff  
Gage Does Not Drop Below 4.6 Psig)

Verify:

Cabin At 3.5 Psia  
LM Suit Circuit Lockup At 4.3 Psia &  
Decaying  
PLSS/OPS/PGA > 4.6 Psig & Decaying

Start Wrist Watch :00

Ovhd Or Fwd Dump Valve - OPEN

Verify:

Tone-On & H2O Flag - A (1.2-1.7 Psia)  
LM Suit Circuit 3.6 To 4.3 Psia &  
Decaying  
PLSS/OPS/PGA > 4.6 Psig & Decaying

Partially Open Fwd hatch

FINAL PREP FOR EGRESS :03

PLSS FEEDWATER - OPEN (H2O Flag -  
Clear In 2-4 Min)

Fwd Hatch - Open

Rest Until Cooling Sufficient  
Verify:

PLSS/OPS/PGA 3.7 To 4.6 Psig  
CWEA Status:  
Caution  
PREAMPS

Lower EV Visor As Req'd  
Release PLSS Antenna :10

POST ONE-MAN EVA

Perform POST EVA 1,2 Or 3 As Applicable

10-1

Emergency Launch Stowage  
Before EVA 1

CDR's PLSS(Remove . . . . . Adjustable Strap)      Recharge Station

OPS (Both) . . . . .      SRC Compt Or Floor(Temporary)

ISS . . . . .      ISA Big Pkt

ETB & Contents . . . . .      ISA Big Pkt

Jett Bag & Contents . . . . .      ISA Big Pkt

Purse & Contents . . . . .      ISA Big Pkt

Tool Harnesses . . . . .      ISA Big Pkt

LM EVA Antenna . . . . .      Stow

RCU's . . . . .      RCU Shelf Or LCG Bag,LHMS

Sleep Restraints . . . . .      BSLSS Bag

ISA . . . . .      Hang Aft

EV Gloves . . . . .      LEVA Bags

LEVA's . . . . .      LEVA Bags

LEVA Bags . . . . .      Floor, 1 Lt, 1 Rt

BRA . . . . .      ISA Bot Pkt

LMP's PLSS . . . . .      Floor Or Donning Sta.-Use 2 Adjustable Straps On Bottom: Break 2 Stitches , Remove Keeper, Extend To Max Length, Hand PLSS Upside Down, Conformal Pad Aft. Attach 2 Waist Tethers (LEC Kit, RHSSC) To Handhold On Back Of PLSS Using Small Hooks. Route One Tether To Vertical Handhold On ECS Module And One Tether To Bracket Supporting PLSS In Recharge Station. Pull Straps Tight.

OPS(Both) . . . . .      SRC Rack Or Floor (Secure)

BSLSS Bag & Contents . . . . .      Attach To Floor.

Fwd Hatch . . . . .      Verify Locked

Verify Snaps On LHMS, LH & RHSSC

Emergency Launch Stowage  
Before EVA 2

EMER LAUNCH STOW

ICG's . . . . .	On Crew Or ICG Bag,LHMS
PGA's . . . . .	Don Or Tie To Eng Cover
CWG's . . . . .	On Crew Or Top Boot Box
LCG's . . . . .	On Crew Or ISA Big Pkt
UCTA's . . . . .	On Crew Or In Purse
CDR's PLSS(Remove . . . . .	Recharge Station
Adjustable Strap	
OPS (Both) . . . . .	Floor(Temporary)
RCU's . . . . .	LCG Bag, LHMS
Tool Harnesses . . . . .	ICG And LCG Bags , LHMS
SRC . . . . .	SRC Compt
1 Collection Bag . . . . .	Box Aft Of Eng Cover
LM ECS LiOH Cart (Jett Bag)	Bkt Aft Of Eng Cover
ISS . . . . .	ISA Big Pkt
Food Bag . . . . .	ISA Big Pkt
ETB & Contents . . . . .	ISA Big Pkt
Purse & Contents . . . . .	ISA Big Pkt
LM EVA Antenna . . . . .	Stow
CDR's Hammock & Sleep	
Restraint . . . . .	Boot Compts
ISA . . . . .	Hang Aft
EV Gloves . . . . .	LEVA Bags
LEVA's . . . . .	LEVA Bags
LEVA Bags . . . . .	Floor, 1 Lt, 1 Rt
BRA . . . . .	ISA Bot Pkt
LMP's PLSS . . . . .	Donning Station. Same As <u>Before EVA 1 Chart</u>
OPS(Both) . . . . .	Floor (Secure)
Jett Bag . . . . .	BSLSS Bag
BSLSS Bag & Contents . . .	Attach to Floor. Wrap With Tape Or Webbing As Reqd.
Fwd Hatch . . . . .	Verify Locked
Verify Snaps on LHMS, LH & RHSSC	

DATE 11/6/72

Emergency Launch Stowage  
Before EVA 3

ICG's . . . . .	On Crew Or ICG Bag,LHMS
PGA's . . . . .	Don Or Tie To Eng Cover
CWG's . . . . .	On Crew Or Top Boot Box
LCG's . . . . .	On Crew Or ISA Big Pkt
UCTA's . . . . .	On Crew Or In Purse
CDR's PLSS(Remove Adjustable Strap)	Recharge Station
OPS(Both) . . . . .	Floor (Temporary)
RCU's . . . . .	LCG Bag, LHMS
Tool Harnesses . . . . .	ICG And LCG Bags,LHMS
SRC's . . . . .	SRC Compt
1 Collection Bag . . . . .	Box Aft Eng Cover (Heaviest)
LM ECS LiOH Cart . . . . .	Bkt Aft Of Eng Cover
Spare LCG's . . . . .	ISA Big Pkt
ISS . . . . .	ISA Big Pkt
Food Bag . . . . .	Aft Food Box
ETB Contents . . . . .	ISA Big Pkt
Purse & Contents . . . . .	ISA Big Pkt
LMP's Hammock & Sleep Restraint	ISA Big Pkt
LM EVA Antenna . . . . .	Stow
CDR's Hammock & Sleep Restraint	Boot Compts
ISA . . . . .	Hang Aft

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(Go to next page)

Emergency Launch Stowage  
Before EVA 3  
(Continued)

Mags & Bags In LCG . . . . Camr Compt, RHSSC  
Compt, RHSSC  
1 Collection Bag . . . . Hammock Compt, LHSSC  
1 Collection Bag . . . . LCG Compt, RHSSC  
1 Collection Bag . . . . On LCG Bag, LHMS  
  
EV Gloves . . . . . LEVA Bags  
LEVA's . . . . . LEVA Bags  
LEVA Bags . . . . . Floor, 1 Lt, 1 Rt  
BRA . . . . . ISA Bot Pkt  
LMP's PLSS . . . . . Donning Station. Same  
as Before EVA 1 Chart  
OPS(Both) . . . . . Floor (Secure)  
Jett Bag . . . . . BSLSS Bag  
BSLSS Bag & Contents . . . Attach To Floor. Wrap  
With Tape Or Webbing  
As Reqd  
Fwd Hatch . . . . . Verify Locked  
Verify Snaps On LHMS, LH & RHSSC

10-5

Emergency Launch Stowage  
Before Equipment Jettison 1

CDR's PLSS(Remove . . . . .	Recharge Station
Adjustable Strap)	
OPS(Both) . . . . .	Floor(Temporary)
Lunar Boots . . . . .	Donned
RCU's . . . . .	LCG Bag,LHMS
1 Armrest . . . . .	Installed Or ISA Big Pkt
Yo-Yo's . . . . .	ISA Big Pkt
1 Collection Bag(Heaviest)	Box Aft Of Eng Cover
1 Collection Bag . . . . .	ISA Big Pkt
ISS . . . . .	ISA Big Pkt
ETB & Contents . . . . .	ISA Big Pkt
Purse & Contents . . . . .	ISA Big Pkt
LMP's Hammock & Sleep . . .	ISA Big Pkt
Restraint	
LM EVA Antenna . . . . .	Stow
CDR's Hammock & Sleep . . .	Boot Compts
Restraint	
ISA . . . . .	Hang Aft
Mags & Bags In LCG . . . . .	Camr Compt, RHSSC
Compt, RHSSC	
1 Collection Bag . . . . .	LMP Crew Station, Secure Against Floating
(Lightest)	
1 Collection Bag . . . . .	Hammock Compt, LHSSC
1 Collection Bag . . . . .	LCG Compt, RHSSC
1 Collection Bag . . . . .	On LCG Bag, LHMS
EV Gloves . . . . .	LEVA Bags
LEVA's . . . . .	LEVA Bags
LEVA Bags . . . . .	Floor, 1 Lt, 1 Rt
BRA . . . . .	ISA Bot Pkt
LMP's PLSS . . . . .	Donning Station. Same As Before EVA 1 Chart
OPS (Both) . . . . .	Floor (Secure)
BSLSS/Rock Bag . . . . .	Attach To Floor
Fwd Hatch . . . . .	Verify Locked
Verify Snaps On LHMS, LH & RHSSC	

DATE 11/6/72

DATE 9/12/72

EMERGENCY LIFTOFF (NO COOLING) CSM PHASED

Note:

- \* Perform ONLY For Loss of Circulation In Both Glycol Loops

*	CB(11) AGS (AC) - Open	CB(16) AEA - Open
	NUM LTG (AC)- Open	ASA - Open
	GASTA(AC/DC)- Open	ATCA - Open
	IMU OPR - Open	INV2 - Open
	LGC/DSKY - Open	
	IMU STBY - Open	
	CB(11&16) ANUN/DOCK/COMPNT (2) - Open	

\*\*\*\*\* (L0-:45) \*\*\*\*\*

- \*(If Loss Of Glycol, Delay
- \* PGNS ACT Until L0-:30)  
PGNS ACT
- \* CB (11or16) ANUN/DOCK/COMPNT-Close
- \* CB(11) LGC/DSKY - Close Or
- \* If Closed:  
PRO (Hold In Until STBY Lt-Off)  
Possible RESTART Lt-On,  
NO DAP Lt-On
- \* CB(11) INV 1 - Close
- \* INV-1  
BAT 5&6 - ON, tb-gray  
(If BAT L-On, Remove One DES)
- BAT & Skip Next Line)
- BAT 1&3 - OFF/RESET, tb-bp

EMER LIFT OFF  
(CSM PHASED)

RSET  
V96E  
CB(11) IMU OPR - Close  
(NO ATT Lt-Off In 90 Sec)  
\* CB(11&16) ANUN/DOCK/COMPNT - Open

DES H2O - CLOSE  
ASC H2O - OPEN  
WATER TANK SEL - ASC  
\* WATER TANK SEL - SEC  
\* SEC EVAP FLOW - OPEN  
CABIN REPRESS - CLOSE  
DES 02 - CLOSE  
ASC 02 #1 - OPEN

IF TIME PERMITS:

Verify 02 Hoses R/R, B/B  
Don Helmets And Gloves  
PRESS REG A&B - EGRESS  
SUIT GAS DIV - PULL/EGRESS  
SUIT CIRCUIT RELIEF - AUTO

\* S-BD: XMTR/RCVR - SEC  
\* : PWR AMPL - OFF  
\* CB(11) CDR AUDIO - Close  
\* AUDIO CONT (CDR) - NORM  
\* (LMP) - BU  
\* CB(16) SE AUDIO - Open

Configure CB's Per EMER LIFT OFF Status Charts

or

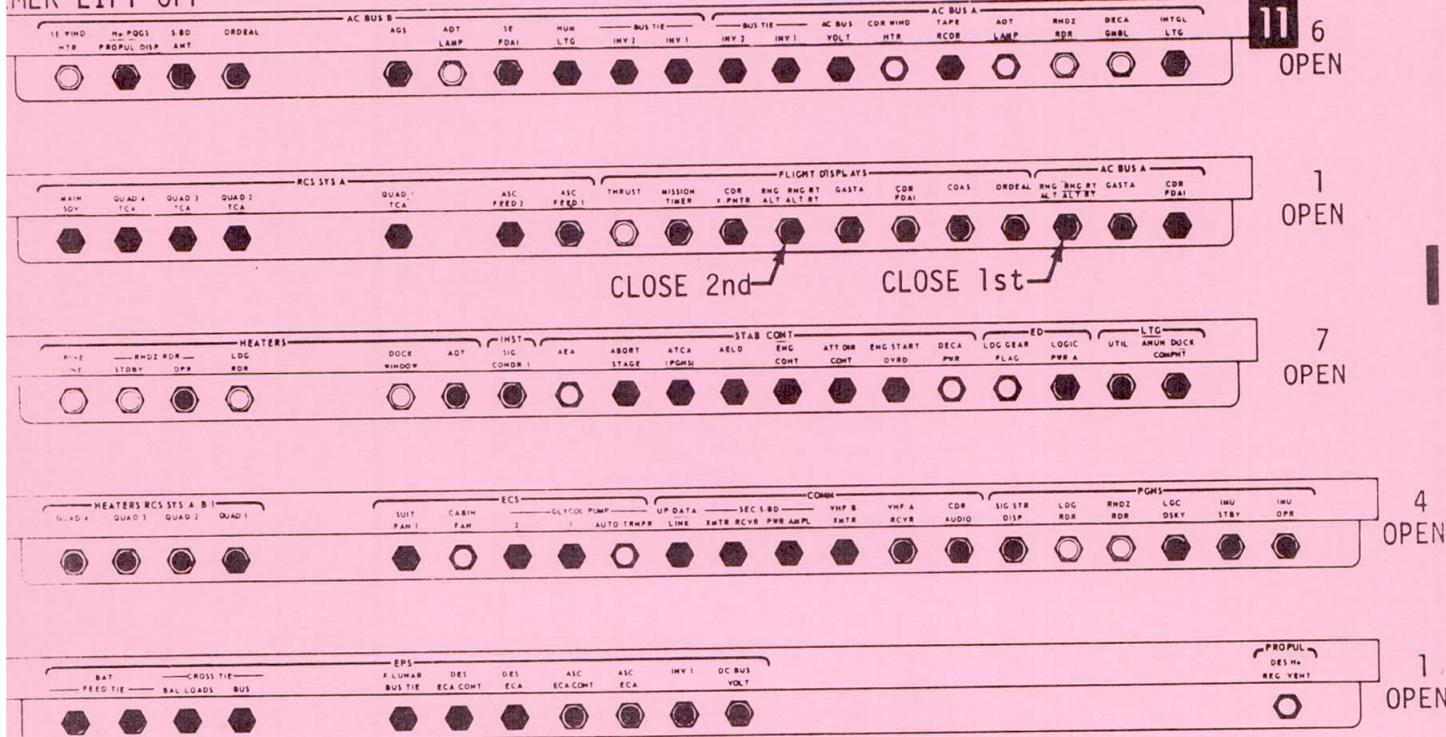
Configure CB's Per EMER LIFT OFF NO GLYCOL CIRCULATION Status Charts

11-2

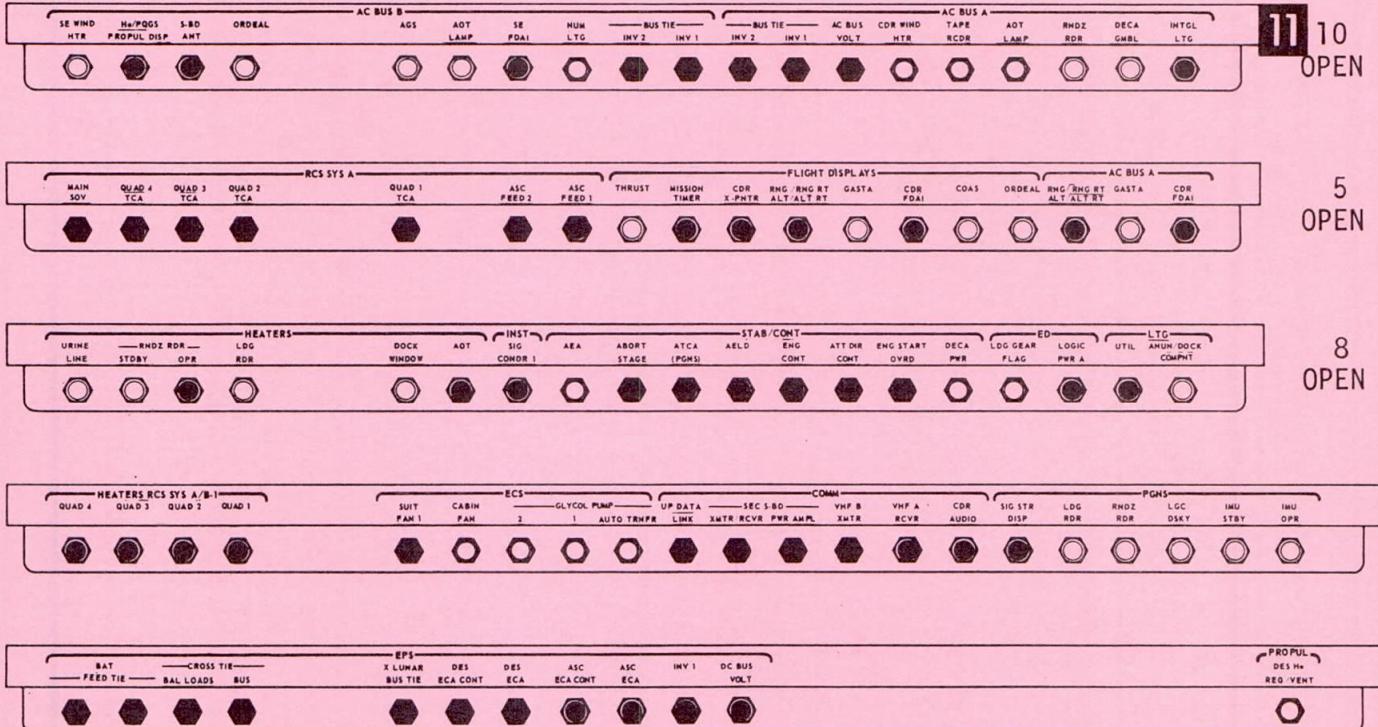
DATE 9/12/72

DATE 11/6/72

IMER LIFT OFF



# EMER LIFT OFF NO GLYCOL CIRCULATION



11-4

DATE 9/12/72

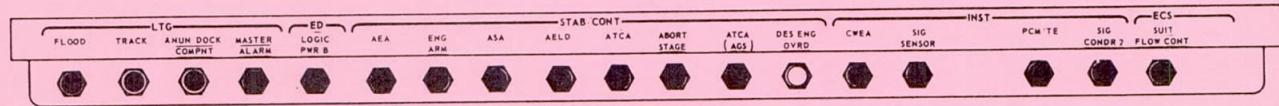
DATE 9/12/72

EMER LIFT OFF

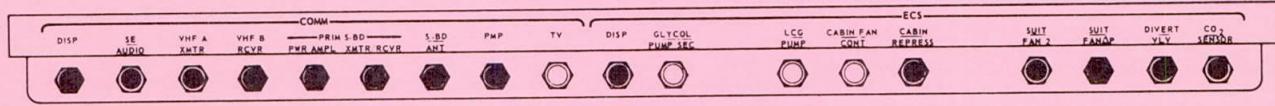
**16**



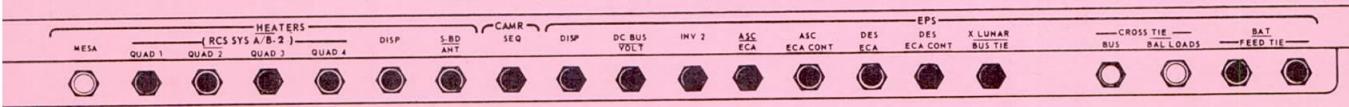
1  
OPEN



1  
OPEN



4  
OPEN

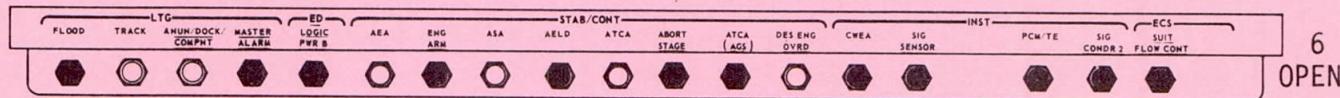


3  
OPEN

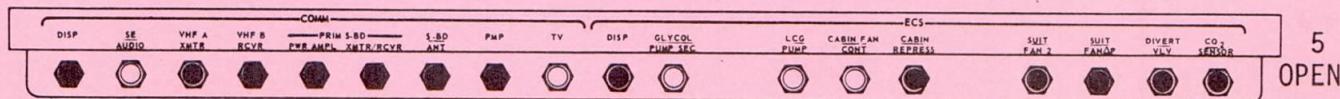
# EMER LIFT OFF NO GLYCOL CIRCULATION



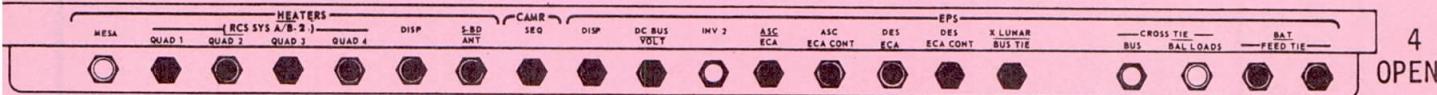
1  
OPEN



6  
OPEN



5  
OPEN



4  
OPEN

11-6

DATE 9/12/72

DATE 9/12/72

L/0-:30

STDN-UPDATE

- \* CB(11) NUM LTG - Close
- UPDATA LINK - DATA
- (STDN Updates State Vector &
- Increments LGC Clock)
- UPDATA LINK - OFF

\*NOTE Clock Incremented  
Only For A Loss Of Glycol.

V16 N65E  
MISSION TIMER - Set

ALIGN PGNS

- \* CB(11) GASTA (AC/DC) - Close
- P57E, OPT 4, PRO
- N34 Load LO Time, PRO
- N06 R1 00010
- 00001
- 00010
- PRO (NO ATT Lt - On/Off, Twice)
- N04 Grav. Err. (.01°)
- PRO
- N22 ICDU ANGLES (.01°)
- PRO (NO ATT Lt - On/Off)
- N05 Angle Diff (.01°)
- PRO

N93 Torq Angles (.001°)

PRO

N25 00014 ENTR

POOE

\*\*\*\*\* (L/0-:17) \*\*\*\*\*

P\_\_\_\_\_, Y\_\_\_\_\_(+23°/-49°)

S-BAND ANT-SLEW (>3.0)

TRACK MODE - AUTO

RCS HOT FIRE

V77E

CDR ACA (Deflect Out-of-Detent)

Roll Rt, Lt

Pitch Up, Dn

Yaw Rt, Lt

DAP LOAD

V48E, 12102, PRO

N47 (+10900) LM Wt (Max = 10900)

PRO

11-8

DATE 11/6/72

DATE 11/6/72

TARGET PGNS

GUID CONT - PGNS

MODE CONT (PGNS) - AUTO

P12E

N33 \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ TIG LO

PRO

N76 VH Final (+55095)

HDot Final (+00195)

Xrng (+00000)

PRO

N74 TFI, YAW, PITCH

DET - Set/DN

\*\*\*\*\* (L/0-:15) \*\*\*\*\*

AGS ACT AND INITIAL

\* CB(11) NUM LTG - Close (Open When Not Needed)

\* AGS - Close

\* CB(16) AEA - Close

\* ASA - Close

\* ATCA - Close

AGS STATUS - OPERATE

(M.A., & AGS Warn Lt - On)

V16 N65E, 377

V47E, 414+1E

400 + 3E

413 + 1E

400 + 4E

If V47 Inoperative:

400 + 4E Lunar Align

240 +56906 X Position Comp

261 +00030E Y Velocity Comp

262 -00140E Z Velocity Comp

254 + E TIG

414 + 2E LM S.V. Via DEDA

TARGET AGS

224 + \_\_\_\_\_ (+58113)

226 + \_\_\_\_\_ (+58113)

232 + \_\_\_\_\_ (+00600)

410 + 0

465 + \_\_\_\_\_ (+00195)

662 + 0E

673 + 0E

\* CB(16) INV 2 - Close

\* INV - 2

11-10

DATE 9/12/72

DATE 11/6/12

APS PRESS

MASTER ARM - ON  
ASC He SEL - TANK 1  
ASC He PRESS - FIRE  
HELIUM MON - ASC PRESS 2  
ASC He SEL - TANK 2  
ASC He PRESS - FIRE  
MASTER ARM - OFF  
SYS A&B ASC FEED 2 (2) - OPEN  
SYS A&B MAIN SOV (2) - CLOSE

ENABLE CONTROLS

MODE SEL - AGS  
RNG/ALT MON - ALT/ALT RT  
ACA PROP (2) - ENABLE  
ATT CONT (3) - MODE CONT  
MODE CONT (PGNS) - AUTO  
MODE CONT (AGS) - ATT HOLD (AUTO After LO)  
ACA/4 JET (2) - ENABLE  
TTCA/TRANSL (2) - ENABLE

CONFIGURE COMM

\* S-BD: XMTR/RCVR - SEC  
\*: PWR AMPL - PRIM  
VHF A: XMTR - VOICE/RNG  
\*: RCVR - OFF  
VHF B: XMTR - OFF  
\*: RCVR - ON  
AUDIO (Both): VHF A - T/R  
VHF B - RCV  
RECODER - ON

\* CB(16) SE AUDIO - Close  
\* AUDIO CONT (CDR) - BU  
\* (LMP) - NORM  
\* CB(11) CDR AUDIO - Open

\*\*\*\*\* (L/0-:05) \*\*\*\*\*

BEGIN FINAL COUNTDOWN

BATS 1,2,3,4,L - OFF/RESET,tb-bp

DES BATS - DEADFACE, tb-bp

If tb-bp:

CB(11&16) DES ECA (2) - Open  
DES ECA CONT (2) - Open

CB(11&16) ASC ECA CONT - Open

Check APS BURN Card

Go To LM TIMELINE BOOK

11-12

DATE 9/12/72

DATE 9/12/72

EMERGENCY L/O (TIME CRITICAL) SAFE ORBIT ONLY

If CB(11) LGC/DSKY Was Opened  
During Lunar Stay, Load M.E.T.  
via V25 N36E Before P57.

PRO (Hold In Until STBY Lt - Off)

RSET

V96E

CB(11)IMU OPR - Close  
(NO ATT Lt - Off In 90 sec)  
GASTA (AC/DC) - Close (2)

Configure CB(11)Per 11-3

Verify NO ATT Lt - Off

V37E 57E, OPT 4, PRO

N34 (Load LO Time) Don't PRO

V01N25E, Copy R1

V21N01E, 1570E, Load

Copied Value

PRO

N06 00010

00000

00010

PRO

N22, PRO

N25 00014, ENTR, 12E

GUID CONT - PGNS

MODE CONT (PGNS) - AUTO

Verify INVERTER -2  
BAT 5, 6 - ON, tb - gray  
(If BAT L - On, Remove One  
Des Bat & Skip Next Line)  
BAT 1 & 3 - OFF/RESET, tb-bp

Configure CB(16)Per 11-5

AGS STATUS - OPERATE

(M.A., AGS Warn Lt - On)

400 + 4E (30sec minimum)

342 + 0E

P \_\_\_\_\_, Y \_\_\_\_\_ (+23°/-49°)

S-BAND - SLEW (>3.0)

TRACK MODE - AUTO

12-1

EMER LIFTOFF  
(TIME CRITICAL)

EMER LIFTOFF  
(TIME CRITICAL)

(P12)

N33, PRO

N76, +55095

+00195

+000000 (Limit = 00080)

PRO

N74 TFI, YAW, PITCH

V48E, 12102, PRO

N47 (+10,900) LM Wt (Max=10,900)

PRO

V77E, Checkout RCS

Jets via ACA

MASTER ARM - ON

ASC He SEL - 1, 2, or BOTH

ASC He PRESS - FIRE

SYS A&B ASC FEED 2 (2) - Open

SYS A&B MAIN SOV (2) - Close

GUID CONT - PGNS or AGS

MODE SEL - AGS

RNG/ALT MON - ALT/ALT RT

ACA PROP (2) - ENABLE

ATT CONT (3) - MODE CONT

MODE CONT (PGNS) - AUTO

MODE CONT (AGS) - ATT HOLD (AUTO After LO)

ACA/4JET (2) - ENABLE

TTCA/TRANSL (2) - ENABLE

12-2

DATE 11/6/72

DATE 9/12/72

VHF A: XMTR - VOICE/RNG (Hot Mike to CSM)

: RCVR - OFF

VHF B: XMTR - OFF

: RCVR - ON

AUDIO (Both): VHF A - T/R

: VHF B - RCV

BAT 1, 2, 3, 4, L - OFF/RESET

DES BATS - DEADFACE, tb-bp

If tb-bp:

CB(11 & 16) DES ECA (2) - Open

DES ECA CONT (2) - Open

CB(11 & 16) ASC ECA CONT (2) - Open

If Time Permits:

Connect O2 Hoses R/R, B/B

Don Helmets & Gloves

PRESS REGS A & B - EGRESS

SUIT GAS DIVERTER - PULL/EGRESS

SUIT CIRCUIT RELIEF - AUTO

Check APS ABORT card

Go To TIMELINE BOOK

DATE 11/6/72

CONFIGURE CABIN FOR STAY (28 Min)

Stow Armrests

Stow COAS In Fwd Window Mount

Unstow PLSS On Floor, Set Against Hatch

Install BRA, Stow Helmets

Stow LEVA Bags On Floor, 1 Left, 1 Right

Stow 2 Lens Brush (ISA Top Pkt) In Purse

Change 16mm Camr Mag: Stow O, Install P  
(ISA Top Pkt)

CDR Move Aft & Remove ISA, Temp Stow  
On Eng Cover

Transfer RCU's To LCG Bag (LHMS, CDR's 1st)

Stow ISA Above RCU Shelf

Stow Sleep Restraints Above RCU Shelf

Deploy LM EVA Antenna

Transfer LM Mag Bag (Aft Of Eng Cover) To  
LCG Compt (RHSSC)

Stow 4 Jett Bags (3-Aft OPS, 2 In Box) In  
LHSSC

Hang 1 Jett Bag From CDR's LH Handhold

Transfer 500mm Lens, Camr & Ring Sight  
To Purse

Stow CWG's In Camr Box

Connect Aft ISS Hooks

Stow Camr Bag In Jett Bag

Disconnect 3 Armrests, CDR LH,  
LMP RH & LH, Stow In Jett Bag

CABIN PREP EVA 1 (20 Min)

Stow All Loose Items Not Reqd For EVA

Set 16mm Camr For EVA (T8,1/250, $\infty$ ) 6 fps,  
15 Min With ULC & Rt Angle Bkt (RHSSC),  
Secure Behind AOT

Secure Util Lts & Wires Behind AOT

Disconnect BSLSS Bag & Remove ETB

Configure 500mm Lens Camr (Purse)

Remove Tape From Camr & Lens

Install 500mm Lens

Install Ring Sight

Stow Reseau Cover & Tape In Jett Bag

Install B&W Mag R (Aft RHSSC)

Stow Dark Slide In Mag Pkt

## Stow In ETB:

Cosmic Ray (ETB)

BSLSS

500mm Lens Camr

70mm Camr With CEX Mag A

Bag Dispenser Bkt (Camr Compt)

2 - CEX Mags B&amp;C (Fwd RHSSC)

1 - B&amp;W Mag G (Fwd RHSSC)

1 - B&amp;W Mag H (LCG Compt)

2 Lens Brush (Purse)

25' Tape (LHSSC)

Scissors (LMP PGA)

Sun Compass, Map Holder, LRV CKLIST (Aft

FDF)

EVA 1 Maps &amp; Horizon/Return Chart (Fwd

FDF)

## Unstow EVA 1 Prep &amp; Post Card

Scissors (Aft FDF) To Purse

CB(11) HTR: URINE LINE - Close

HTR CONT: URINE LINE - HTR 1

Attach LEC (Fwd RHSSC) To ETB

Stow ETB Fwd Corner LMP's Station

Stow BSLSS Bag Behind LMP's Fwd  
Restraint Cables

Clip Page 2-3 Over AOT

Stow Lunar Surface Checklist

DOFF SUITS (50 Min)

Empty UCTA (WMS Valve), Install Cap

HTR CONT: URINE LINE - OFF

CB(11) HTR: URINE LINE - Open

TLM BIOMED - OFF

\* \* \* \* CDR 1st: \* \* \* \*

SUIT ISOL - ACT OVRD (SUIT DISC)

AUDIO CB - OPEN

DOFF PGA

Stow Comm Carrier On Comm Panel

Stow LM O2, H2O &amp; Comm

Install PGA Elect Connector Cap (Purse)

Disconnect LCG, Bio Belt &amp; UCTA

Insert LCG Plug (Purse)

Close Inner &amp; Outer Zipper

Attach Neckring Cover (Aft RHSSC)

Stow On Eng Cover, Neck Aft &amp;

CDR On RH, Face Up

LMP On LH, Face Down

Install One Glove

Cover PGA Legs With Jett Bag (LHSSC)

DATE 11/07/72DRY PGA (Or Perform Configure ECS For Sleep)

Connect LM 02 Hoses, R/B &amp; B/R

CABIN GAS DIVERTER - PUSH - CABIN

SUIT ISOL - SUIT FLOW

EVA DEBRIEFING WITH HOU (15 Min)Copy Liftoff Time In Data Book  
For Rev 21 - 25CONNECT TO LM COMM

Don Comm Carrier (Comm Panel)

Connect CWG Adapter (LHSSC)

Connect LM Comm Cable

Audio CB - CLOSE

Verify Comm

EAT PERIOD (45 Min)

Remove Fwd End Of ISS

CDR

8,74      8,74      11,74

8,30      8,30

LMP REPEAT DOFF SUITS \* \* \* \*DOFF LCG - Place In Jett Bag, Stow On

RCU Shelf

Stow Bio Belt On Comm Panel

Stow UCTA For Drying

8,15

LMP

11,74      8,74      8,74

8,30      8,30

DON CWG (Aft of Eng Cover)

Connect Bio Belt (LMP Only)

8,15

DON ICG (ICG Bag, LHMS)

PRESLEEP (25 Min)

S-BD VOICE - DN VOICE BU

Configure ECS For Sleep

Stow LM O2 Hoses, R/R & B/B

SUIT ISOL - SUIT FLOW

CABIN GAS RETURN - AUTO (Verify)

SUIT GAS DIVERTER - PUSH - CABIN (Verify)

Install Other Glove

Unstow CDR's Hammock, Place On Suits

Unroll LMP's Hammock

LMP: Attach Straps To LH & RHSSC

Adjust Strap Tension LHSSC

Route Inboard Center Support Strap

Under LMP & CDR Comm Cables,

Attach To Vertical Handhold, ECS

Module

Attach Outboard Center Support

Strap To Lower ISA Fitting, Position

Sleep Restraint (RCU Shelf)

Straddle/Ingress

CDR: Attach Aft Straps - Z27

Route Hammock Under Comm Cable

Attach Fwd Straps, Panel 1 & 2

Adjust Strap Tension

Attach Outboard Center Support Strap

To Horizontal Handhold, ECS Module

Position Sleep Restraint (RCU Shelf)

Ingress Hammock

Attach Inboard Center Support Strap

To PLSS Donning Station, Upper  
Outboard

Adjust Strap Tension

REST PERIOD (8:00 Hr)

POSTSLEEP (25 Min)

Crew Awake - Verify CWEA Status:

Caution: PREAMPS

Stow Hammocks, Roll Up With  
Sleep Restraints

STAY/NO STAY FOR EVA 1 PREP

DATE 11/6/72

CREW STATUS REPORT

CDR LMP

FOOD

MED

SLEEP

Copy Liftoff Time In Data  
Book For Rev 26-32

EAT PERIOD (45 Min)

Install ISS

DON SUITS (40 Min)

TLM BIOMED - OFF

DOFF ICG - Stow In ICG Bag (LHMS)

DOFF CWG - Stow In Top Boot Box  
Stow Bio Belt On Comm Panel

DON LCG (RCU Shelf)

Don UCTA

Connect Bio Belt

\* \* \* \* LMP 1st: \* \* \* \*

AUDIO CB - OPEN

Stow LM Comm Cable

Stow CGW Adapter LHSSC

Stow Comm Carrier On Comm Panel

Stow Gloves On Comm Panel

Stow Neckring Cover Aft RHSSC

DON PGA

Stow Jett Bag On PGA Legs In LHSSC

Stow LCG Plug In Purse

Connect UCTA, Bio Belt & LCG

Close Zippers & Lock

Don & Connect Comm Carrier

Stow PGA Elect Connector Cap In Purse

SUIT ISOL - ACT OVRD (SUIT DISC)

Connect LM O2 R/B & B/R, H2O & Comm

SUIT ISOL - SUIT FLOW

SUIT GAS DIVERTER - PULL - EGRESS

CABIN GAS RETURN - EGRESS

AUDIO CB - CLOSE

Verify Comm

CDR REPEAT ABOVE \* \* \* \*

TLM BIOMED - LEFT

S-BD VOICE - VOICE

BATT MGMT

PWR AMP - PRIM

TLM PCM - HI

PRO, V96E, DATA (MSFN  
UPLINK CSM S.V.) OFF

V37E 06E, PRO (STBY LT - On)

BATT MGMT

POWER/TEMP MON - ED/OFF

Check ED Volts A   , B    (To Hou)

POWER/TEMP MON - BAT 1

BAT 1 HI V-ON; tb - gray

POWER/TEMP MON - BAT 2

BAT L (LMP) - OFF/RESET; tb - bp

BAT 2 - ON; tb - gray

BAT 3 - OFF/RESET; tb - bp

BAT L - (CDR) - ON; tb - CDR

BAT 4 - OFF/RESET; tb - bp

POWER/TEMP MON - Check Bus Volts

On Hou Cue: TLM PCM - LO

PWR AMP - OFF

■ Start EVA 1 Prep On 2-5 (Cue Card)

13-6

DATE 11/6/72

DATE 11/6/72

NOTE: PERFORM ALL SECTIONS WITH THE  
CHANGES BELOW FROM POSTSLEEP(Pg 5-8) TO  
POST EVA CABIN CLEANUP (Pg 7-5).

POSTSLEEP (Pg 5-8)

CHANGE: STOW HAMMOCKS, ROLL UP WITH SLEEP RESTRAINTS  
TO: STOW HAMMOCKS & SLEEP RESTRAINTS IN JETT BAG

DON SUITS (Pg 5-9)

CHANGE: DOFF ICG-STOW IN ICG BAG (LHMS)

TO: DOFF ICG-STOW IN JETT BAG

EMPTY POCKETS

CHANGE: DOFF CWG-STOW IN TOP BOOT BOX

TO: DOFF CWG-STOW IN JETT BAG

CHANGE: STOW IN JETT BAG:

2 SPARE LCG'S

USED FOOD & CONTAINERS

TO: "ALL THE ABOVE," PLUS -

LCG ADAPTERS (2)

URINE RECEPTACLE

-4:00

BATT MGMT (Pg 5-10): DELETE

PREP FOR EQUIP JETT 1 (Pg 7-3)

CHANGE: VERIFY TOTAL DES 02 QTY(TANK 1&2)>81%  
TO: VERIFY TOTAL DES 02 QTY(TANK 1&2)>22%

CHANGE: REMOVE ISS, WRAP & TIE THE FOLLOWING:

TO: STOW IN JETT BAG:

-3:00

CHANGE: LUNAR BOOTS (4)

RCU'S (2)

ARMREST (1)

YO-YO'S (2)

TO: "ALL THE ABOVE," PLUS -  
ISS

BRA

BSLSS BAG

BATT MGMT (Pg 7-5): DELETE

NOTE: PERFORM ONLY THE SECTIONS LISTED  
BELOW WITH THE CHANGES NOTED.

POST EVA CABIN CLEANUP (Pg 7-5)

PRESLEEP & EQUIPMENT STOWAGE (Pg 7-7)

PERFORM ONLY EQUIPMENT STOWAGE, PLUS

-STOW NEUTRON FLUX BAG WITH CORE

TUBE BAG

-STOW ETB IN ISA BIG PKT

-STOW 16mm CAMR & 2 BKTS

-STOW LM EVA ANTENNA

-REPORT PRD READINGS TO HOU

-CB(11) HEATERS: AOT - CLOSE

-CB(11) HEATERS: RR OPR - CLOSE

RR STBY - OPEN

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POST EVA 3  
LIFT-OFF

# FLIGHT PLAN

L/0-3:00

EAT PERIOD (pg 7-9)

L/0-2:00

LGC/IMU POWER UP(pg 7-9)  
P57, OPT 4, A/T-3 (pg 7-10)

VHF VOICE CHECK (pg 7-15)  
P22, LUNAR SURF. NAV.

L/0-1:00

CABIN CLEANUP FOR LAUNCH (pg 7-14)  
Stow Purse In ISA Bot Pkt

COPY ASC PADS, CSI, & LM WT (pg 7-15)

ASCENT PREP (Section 8-a11)

RCS HOT FIRE

P57, OPT 4, A/T-3

PRELAUNCH SWITCH CHECKS

ASC PRESS

LIFTOFF (\_\_\_\_:\_\_\_\_:\_\_\_\_)

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DATE 9/12/72

DATE 9/12/72

MANUAL ASCENT GUIDANCE AND CONTROL MATRIX

CONTROL MODE SW POSITION	PGNS AUTO	AGS AUTO (1)	PGNS ATT HOLD	AGS ATT HOLD (1)(2)	CES RATE CMD (2)	DIRECT (2 JET SYS B)	HARDOVER (4 JET)
PGNS MODE CONT SW	AUTO	ATT HOLD	ATT HOLD	ATT HOLD	ATT HOLD	ATT HOLD	ATT HOLD
AGS MODE CONT SW	AUTO	AUTO	AUTO	ATT HOLD	ATT HOLD	AUTO	AUTO
GUID CONT SW	PGNS	AGS	PGNS	AGS	AGS (AEA-STBY) (3)	AGS (4)	AGS (4)
ATT CONT SW (3)	MODE	MODE	MODE	MODE	MODE	DIRECT (5)	DIRECT (5)
GUIDANCE SOURCE AND/OR DISPLAY  * PGNS TAKES PRIORITY OVER AGS	PGNS AUTO	AGS AUTO	*PGNS/AGS ERROR NEEDLES	PGNS ERROR NEEDLES		*PGNS/AGS ERROR NEEDLES	
			*PGNS/AGS FDAI	*PGNS/AGS FDAI		*PGNS/AGS FDAI	
			HORIZON	HORIZON		HORIZON	

- (1) 2-AXIS AUTO/ATT HOLD AND 1-AXIS DIRECT IS AN ACCEPTABLE CONTROL MODE.
- (2) AGS ERROR NEEDLES AND AUTO SHUTDOWN UNAVAILABLE IN AGS ATT HOLD.
- (3) AEA-STANDBY REQUIRED TO PREVENT INADVERTANT AEA ERROR COMMANDS.
- (4) GUID CONT-AGS REQUIRED TO PREVENT INADVERTANT PGNS JET FIRINGS.
- (5) ATT CONT-DIRECT (3) REQUIRED TO PREVENT INADVERTANT AGS JET FIRINGS.

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DATE 9/12/72 A — MSC