

EQUIPMENT PREP

Empty UCTA's (HTR)
 Check PGA Zippers, Verify Lock-Lock
 PGA Relief Valve Cap In Pkt
 Empty PGA Pkts In Purse
 Verify Watch On PGA
 Stow Armrests
 Stow COAS In Fwd Window Mount
 Stow LEVA Bags On Floor, 1 Left, 1 Right
 Unstow PLSS On Floor, Set Against Hatch
 Install Helmet Bag
 Stow Sleep Restraints Under CDR'S PLSS
 Attach LMP's PLSS Strap (Bot ISA PKT)
 Secure ISA Over RCU Shelf
 Transfer Ancillary Stowage Container
 (Aft LHSSC) To Jett Bag Compt Aft OPS
 Stow 3 Jett Bags (4-Aft OPS) In LHSSC
 Hang 1 Jett Bag From CDR'S LH Handhold
 Configure 500mm Lens Camr (Aft Eng Cvr):
 Remove Tape From Camr & Lens
 Install 500mm Lens
 Stow Reseau Cover, Tape, Loose
 Padding In Jett Bag
 Install B&W Mag MM (Fwd RHSSC)
 Stow Dark Slide In Mag Pkt
 Install Trigger, RCU/Camr Brkt,
 Then Handle
 Install Ring Sight
 Stow 500mm Lens Camr In Purse
 Stow Camr Bag In Jett Bag
 Stow LM Mag Bag In LCG Compt (RHSSC)
 Verify 70mm Camr Configured, Mag LL
 Installed & Stowed In Camr Compt

SEVA PREP

Apply Antifog (LMP LEVA bag), Wipe Dry
 With Tissue (LHSSC)
 Stow EMU Maintenance Kit In purse
 Stow LEVA's, Helmets & EV Gloves On
 Eng Cover
 Stow LEVA Bags Under OPS
 Audio (CDR & LMP):
 MODE - VOX
 VOX SENS - As Reqd
 Comm Check With Each Other And Hou
HELMET/GLOVE DONNING
 LM O2 Hoses, R/R & B/B
 Position Mikes (Both)
 Don Helmets
 Don LEVA's
 Verify The Following:
 Helmet & Visor (1) - Aligned &
 Adjusted
 O2 Connectors (2) - Locked
 Connector Plugs (2) - Locked
 COMM Connectors (1) - Locked
 PGA Diverter Vlv (1) - Horizontal
 Don EV Gloves & Verify
 Wrist Locks (4) - Locked
 Glove Straps (4) - Adjusted

PRESS INTEGRITY CHECK

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

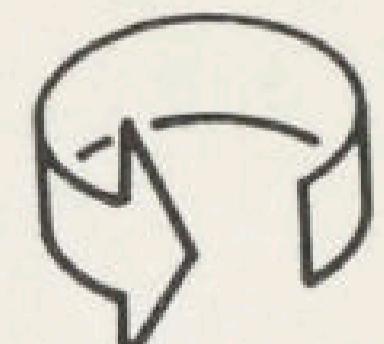
PRESS REG A - EGRESS
 PRESS Reg B - DIRECT 02
 Monitor Cuff Gage To 3.7 - 4.0 Psig
 Then PRESS REG B - EGRESS (Cuff
 Gage Decay <.3 Psig In 1 Min)

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

CABIN DEPRESS FOR SEVA

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)



HATCH OPENING

Partially Open Ovhd Hatch
Ovhd Or Fwd Dump Valve - AUTO
Ovhd Hatch - Full Open & Latched

CDR Sit On Eng Cover, Facing Fwd
Unlock Drogue, Rotate CW To Release

NOTE: LMP Block Direct Sun Impingement
On Instrument Panels

Lower And Pitch Drogue Fwd 90°
Hand Drogue To LMP
Stow Drogue In CDR's Station

CDR Stand On Eng Cover

SEVA

Identify Landmarks For LM Location

Shoot 360° Stereo Pan With 60mm Lens
(22 FR)

Check Traverse Routes For Landmarks
Trafficability & ALSEP Location

Check Far Field Geology:

Front
Rille
North Complex
Mare
Boulder Fields

Shoot 500mm Lens Photography (Lens
Cover To Camr, Velcro)

Check Near Field Geology:
Affects of Descent Engine
Fragment Distribution
Craters
Boulders
Soil

Confirm Best ALSEP Location

HATCH CLOSING

CDR Sit On Eng Cover, Facing Fwd
LMP Hand Drogue To CDR

Install Drogue, Rotate CCW To Stop,
& Lock

Ovhd Hatch - Close & Lock

CABIN REPRESS

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

POST SEVA SYSTEMS CONFIGURATION

Doff Gloves, Stow On Comm Panel
Doff Helmets With Visors, Stow In
Helmet Bag
Verify Safety On Dump Valve

LM 02 Hoses, R/B & B/R

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

VOICE - DN VOICE BU

POST SEVA CABIN CONFIGURATION

Install Lens Cover On 500mm Lens, Ver

Disconnect BSLSS Bag, Stow Under Purse

Unstow Lunar Surface Checklist, 2-5
Stow SEVA Cue Card

7/1/71

ONE MAN EVA

Verify EVA Crewman in CDR's Station

Verify The Following (Both):
 Helmet & Visor (2) - Aligned &
 Adjusted
 O2 Connectors (7) - Locked
 Purge Valve (1) - Locked
 H2O Connectors (2) - Locked
 Comm Connectors(2) - Locked

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

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

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

PRESSURE INTEGRITY CHECK

(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 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)

(EVA Crewman)

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

CABIN DEPRESS

Confirm Go For Depress From Hou
 CB(16)ECS: CABIN REPRESS - Open
 For TV Thru LM, CB(16) Comm: TV - Close
 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 About 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

Release PLSS Antenna :10

POST ONE-MAN EVA

Perform POST EVA 1,2 or 3 As Applicable

SIM PWR DOWN

7/13/71

SIM PWR DOWN - DUMPS [SPS]

LOGIC PWR (2) - DPLY/RETR

MAP CAM TRACK - RETRACT

(tb bp ~4 min - gray) - OFF (ctr)

MAP CAM ON - STBY (pause 30 sec in OFF)

MAP CAM IMAGE MTN - OFF

LASER ALTM - OFF

GAMMA RAY EXP - ON [OFF for SPS]

MASS SPEC ION SOURCE - OFF

MASS SPEC EXP - STBY [OFF for SPS]

DATA SYS ON - ON [OFF for SPS]

PAN CAM MODE - STBY (Verify lens stow)

PAN CAM PWR - OFF [BOOST for SPS]

PAN CAM SELF TEST - HTRS

α RAY/X DR - α ON [α OFF for SPS]

X-RAY - STBY [OFF for SPS]

GAMMA RAY BOOM DPLY - RETRACT [SPS only]

(tb bp ~180 sec - gray) - off (ctr)

If ION SOURCE is OFF for 5 min:

MASS SPEC BOOM DPLY - RETRACT

(tb bp ~165 sec - gray) - off (ctr)

If LA is OFF & MC is retracted:

MAP CAM/LASER EXP COVERS - CLOSE

(tb bp ~2 sec - gray) - off (ctr)

ALPHA/X-RAY EXP COVERS - CLOSE

(tb bp ~2 sec - gray) - off (ctr)

LOGIC PWR (2) - OFF

S-BD AUX TV - SCI [OFF for SPS]

If booms full retr:

AUTO RCS SEL - as reqd

cb SCS CONTR/DIRECT 1 - MNB, 2 MNA - close

SIM PWR DOWN (MIN POWER)

✓ SIM PWR DOWN for SPS complete

PAN CAM SELF TEST - OFF (ctr)

If no SPS burn expected:

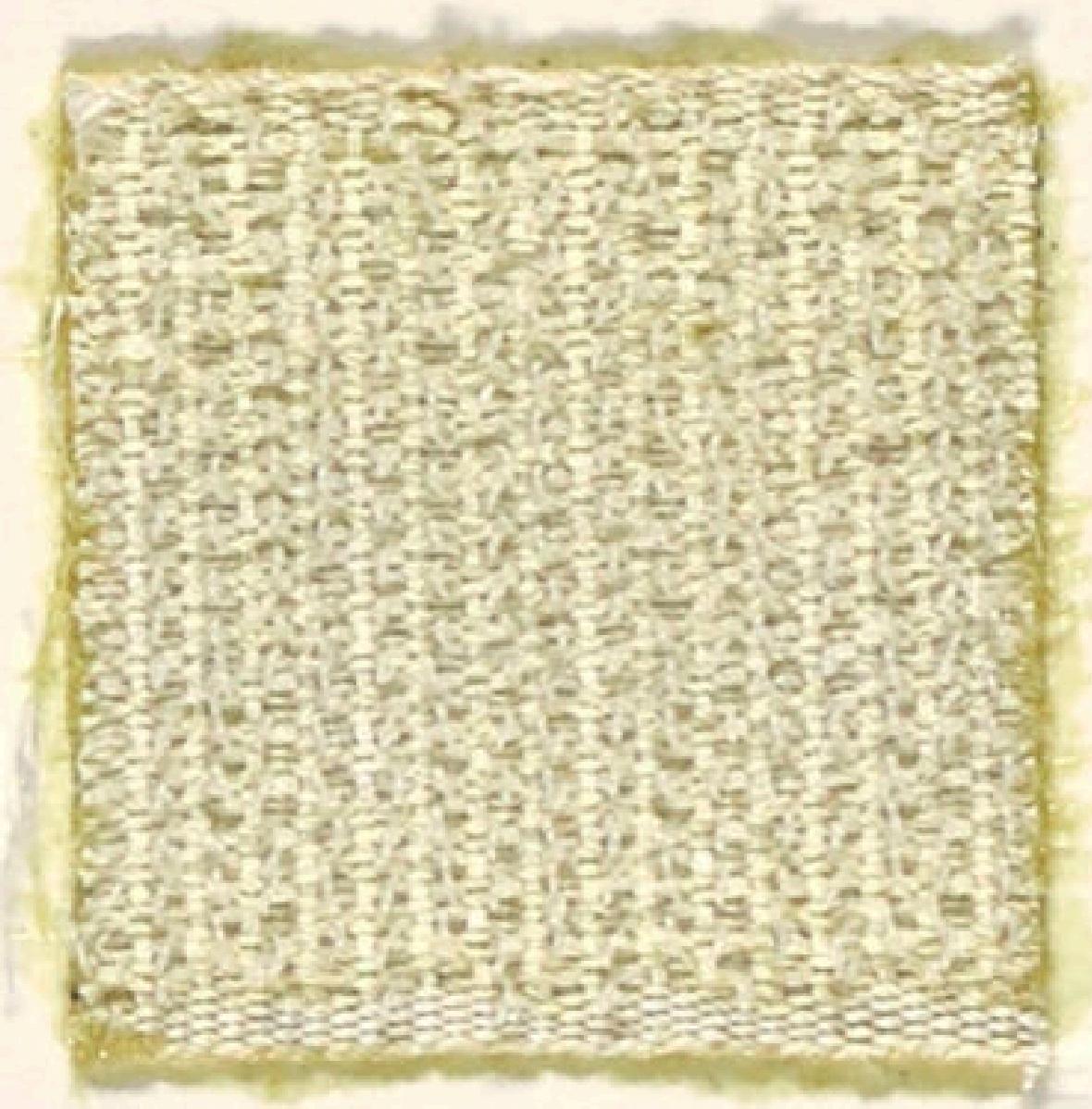
MAP CAM ON - OFF

PAN CAM PWR - OFF (ctr)

SM/AC PWR - OFF

Flown in lunar mode for 6 days during Apollo 16.
Some items were omitted.

7/1/71



S-BAND
ANTENNA ANGLES
DESCENT REFSMMAT

YAW=0°		IGA (PITCH)
P	Y	
72	-63	0
53	-60	10
38	-55	20
26	-49	30
17	-42	40
8	-35	50
1	-28	60
-6	-21	70
-13	-14	80
-20	-7	90
-26	-1	100
-34	5	110
-41	11	120
-50	16	130
-58	20	140
-68	23	150
282	25	160
271	26	170
261	26	180
251	24	190
241	21	200
232	17	210
223	12	220
215	7	230
208	1	240
201	-6	250
194	-12	260
188	-19	270
181	-26	280
174	-33	290
166	-40	300
156	-47	310
145	-53	320
131	-59	330
113	-62	340
93	-64	350



G&N/SCS EMER

G&N

5/10/71

SCS SWITCH OVER

SCS TVC - AUTO

SC CONT - SCS

Ck ATT

DIR ULL & THRUST ON

NO CUTOFF

cb SPS PILOT VLVS - open

EMS & DSKY STILL COUNTING

AFTER SHUTDOWN

SC CONT - SCS

THC PWR - OFF

cb DIR ULL (2) - open

AUTO RCS - OFF

SM RCS PRPLNT (QUAD)-OFF

SCS

NO START OR EARLY ECO

SPS THRUST - DIRECT (Mom)

RATE NEEDLES HARDOVER

& FDAI'S DIVERGE

BMAGS - RATE 1 (dn)

THC - CW

Use MTV

ABNORMAL DYNAMICS

IN AUTO

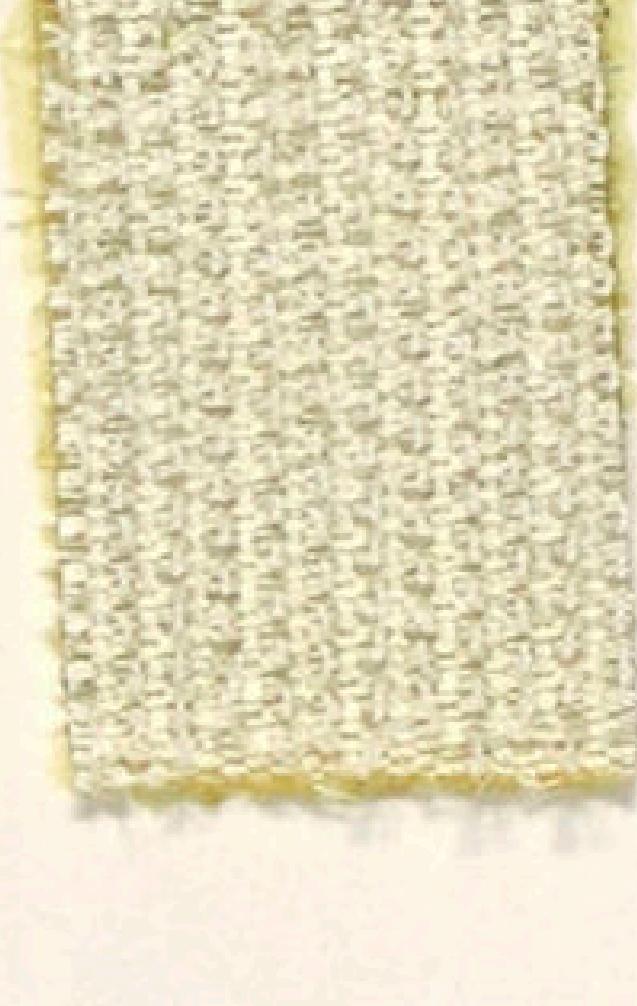
THC - CW

If PROBLEM PERSISTS:

SHUTDOWN

AUTO RCS - OFF

5/10/71



LOSS OF COMM (PDI)

- 1 VERIFY STANDARD COMM CONFIG
- 2 S-BD SIG STR LOW (<3.0)-REACQ WITH STEERABLE
- 3 STILL NO COMM(SIG STR LOW<3.0)-SELECT BEST OMNI
- 4 STILL NO COMM
DN VOICE BU, BIOMED - OFF (HOT MIKE)
- 5 STILL NO COMM
S-BD: XMTR/RCVR-PRIM,PWR AMPL-SEC
- 6 60 SEC, STILL NO COMM
VOICE and FM
- 7 60 SEC, STILL NO COMM
CSM RELAY

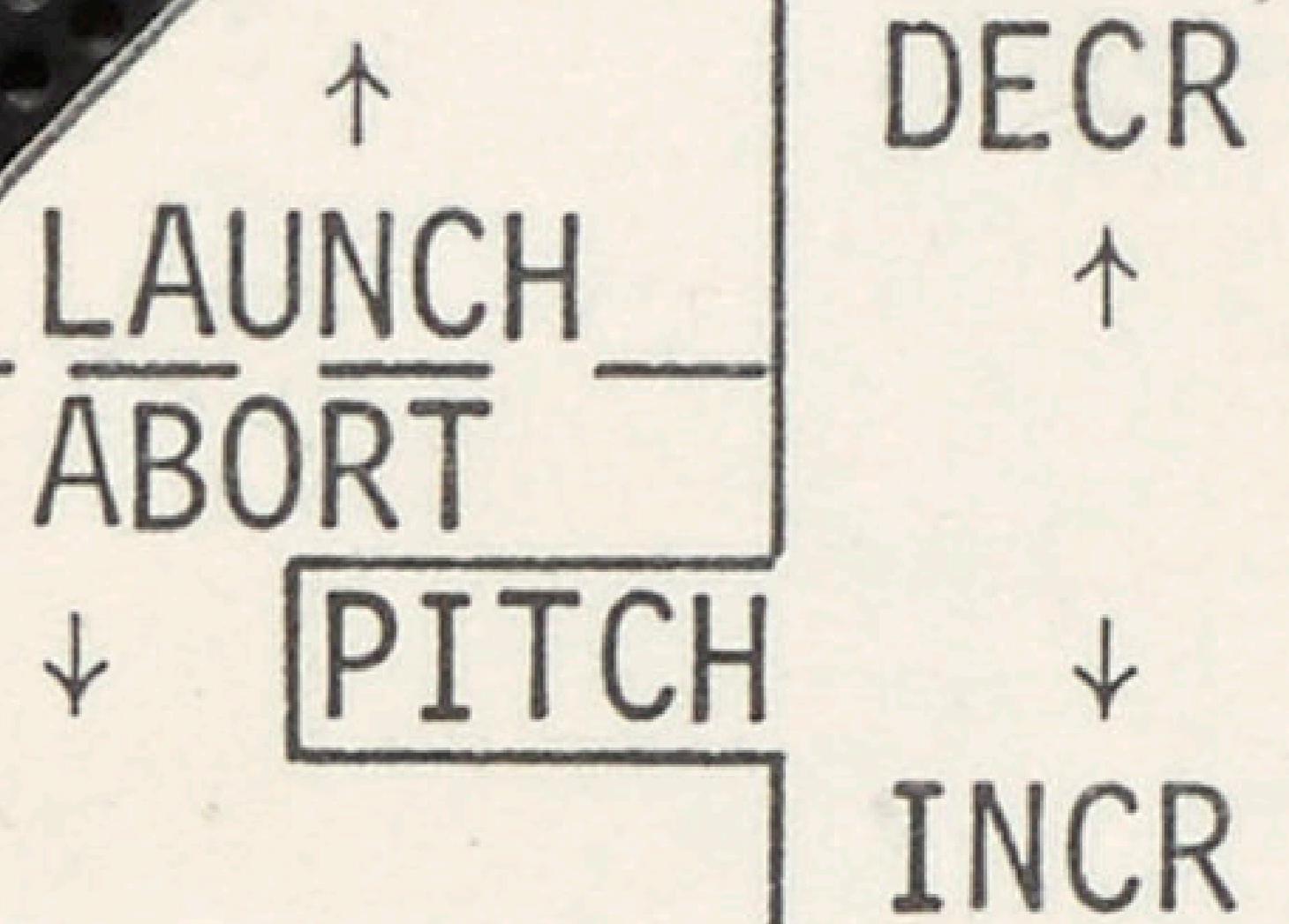
PM

S-BD AUDIO (BOTH) - OFF
NOTIFY CSM TO CONFIG FOR
RELAY

LOSS OF COMM (EVA)

- 1 CK COMM CBs
- 2 SEL ALT S-BD XMTR/RCVR
- 3 IF SIG STR METER < 3.9,
SEL STEERABLE ANT
- 4 CONFIG FOR CDR RELAY:
AUDIO (LMP) AUDIO (CDR)
RELAY-OFF RELAY-ON
VHF A-OFF VHF A-T/R
VHF B-OFF VHF B-RCV
IF COMM OK, PLSS MODE-AR
- 5 CONFIG LM TO B/U EVA MODE
XMTR A-OFF
XMTR B-VOICE
AUDIO (CDR)
VHF A-RCV
VHF B-T/R
PLSS MODE-A(CDR), B(LMP)
- 6 S-BD - DN VOICE BU
- 7 UPDATA LINK - VOICE BU
- 8 VHF ANT-AFT

LM COORD	STER ANT	PITCH	YAW
+X	90	-45	
-X			
+Y	90	45	
-Y			
+Z	0	0	
-Z	180	0	

CDR
MAN P

JULY 26 & 27

DET	0	VI	HDOT
2:39	24	9	3307
3	24	9	2904
3:30	19	9	2437
4	17	10	1958
4:30	16	11	1517
5	14	12	1115
5:30	12	13	757
6	9	14	448
6:30	7	15	193
7	5	16	5
7:30	2	18	-102
8	5	19	-117
8:30	359	21	-98
9	356	22	-32
9:10	356	22	10
9:30	353	23	-56
10	350	23	-108
10:30	348	24	-125
11	346	24	-101
11:30	345	25	-33
11:39	345	25	-1
11:49	VI = 25,599		

7/1/71

MNA

- 1. FDAI - 2
- 2. BMAGS-RT 2
- 3. Y TVC-RT CMD
- 4. TV GMBL DR - 2
 - A. AUTO RCS - MNB
 - B. cb SPS P2&Y2 - open
 - C. ΔV THRUST B - NORM
 - D. RHC DIR 2 - MNB
 - E. CM DUMP w/RHC

MNB

- 1. TVC GMBL DR - 1
- A. AUTO RCS - MNA
- B. cb SPS P1&Y1 - open
- C. CM DUMP w/RHC

AC1

- | | | |
|-----|--------------------|----------------------|
| AC2 | 1. BMAGS - RT 1 | 1. FDAI - 2 |
| | 2. SCS TVC - AUTO | 2. BMAGS - RATE 2 |
| | 3. TVC SERVO - AC1 | 3. TVC SERVO - AC2 |
| | A. MTVC w/TRIM TW | A. OUT: EMS ΔV, GPI1 |
| | B. OUT: GPI2, MTVC | |

BUS LOSS DURING BURN

5/10/71

G&N

MNA: GMBL DR - 2

MNB: GO

AC1: TVC SERVO - AC2

AC2: GO

SCS

ANY BUS:

SHUTDOWN

RECONFIGURE

IGNITE

LGC + DC BUS + BATT

GUID CONT - AGS

DES ENG OVRD - ON

CDR AUDIO - BU

GLYCOL - SEC

SUIT FAN - 2

DPS MANUAL - OFF

(ARM, OVRD, STOP)

START (MAN)

GASTA

THRUST, TAPE

RCS - FEED A

RR, LR

INV 1

DIR, PULS, +X

CES DC + DC BUS + BATT

GUID CONT - PGNS

SUIT FAN - 1

LMP AUDIO - BU

INV - 1

ABT STG:

ENG ARM - ASC

MAN START, MAN STOP

DES OVRD

AUTO THROT, TH CMD

AUTO IGN, AUTO OFF

RATE NEEDLES

RCS - FEED B, XFD

RR SLEW, AUTO TRACK

INV 2

AC-A

CB BUS TIE A (2) - OPEN

RR - LGC

LMP FDAI - AGS

GDA

GASTA

CDR FDAI

TAPE HDOT/RDOT

AC-B

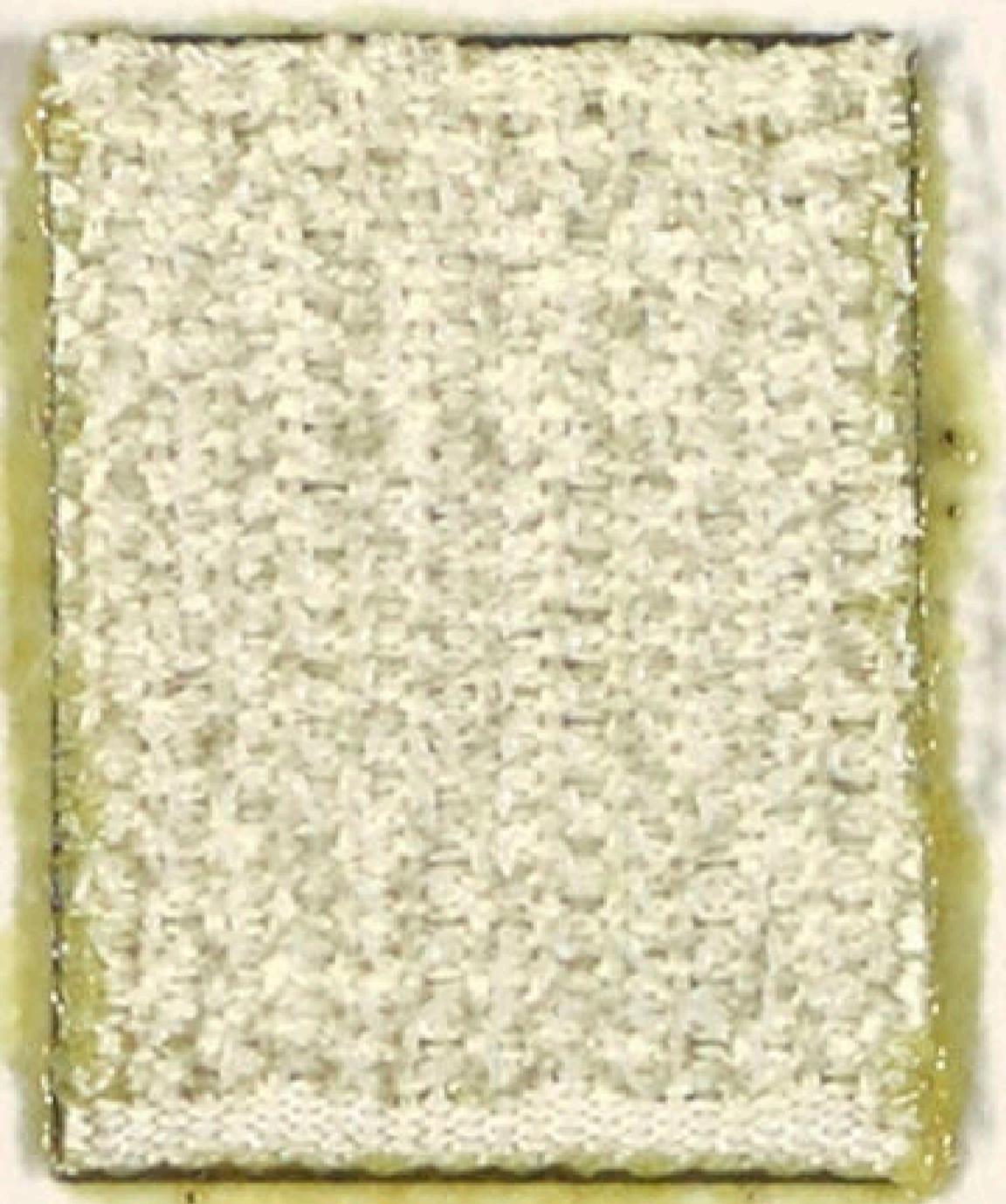
CB BUS TIE B (2) - OPEN

CDR FDAI - PGNS

DEDA

FDAI - AGS

LMP - FDAI



5/10/71

PRE-DOCK CHECKLIST, SOLO BK

If CSM active:

P47 at R = 1.25nm

SEC PRPLNT FUEL PRESS (4) - OPEN

V83E; N83E then KEY REL (V83)

DAC & TV - ON (LM photos)

EMS - STBY/OFF

EXT RNDZ LT - OFF

LM STATION KEEP

POO

DAC & TV - OFF

Photo MNVR:

BMAG (R,Y) - ATT 1/RATE 2

SC CONT - SCS

MAN ATT P - ACCEL CMD

CSM pitch up 360° at 2°/sec

End MNVR, Null rates

SC CONT - CMC

MAN ATT P - RT CMD

BMAG (3) - RATE 2

CMC MODE - AUTO

BRAKING GATES

R(nm)	R(fps)	RETICLE ANGLE(deg)	R(ft)
1.50	45	.08	9000
1.00	30	.13	6000
.50	20	.26	3000
.25	10	.54	1500
.08	5	1.60	500
.05		2.70	300
.03		4.00	200
.02		8.50	100

TPF CONTINUED

5/10/71

AT Docking ATT, Verify HGA P _____ Y
BMAG (3) - ATT 1/RATE 2

Cue MSFN FOR LOGIC ARM

SECS LOGIC (2) - on

MSFN GO FOR PYRO ARM

SECS PYRO (2) - on (up)

P47

DAC & TV - ON

LM pitch dn 90°

XLATE to capture LATCH

At Capture:

PROBE tb (2) - bp

Report Capture to LM

SC CONT - CMC

CMC MODE - FREE

Allow motion to damp, 10 sec

When within 3° of DOCK ATT,

PROBE RETRACT SEC - 1

(PRIM - 2 if req)

At Latch:

PROBE tb (2) - gray

SECS PYRO (2) - SAFE

SECS LOGIC (2) - OFF

cb SECS ARM (2) - open

cb DOCK PROBE (2) - open

THC & RHC - LOCKED

BMAG (3) - RATE 2

PROBE EXTD/REL & RETR (2) - OFF

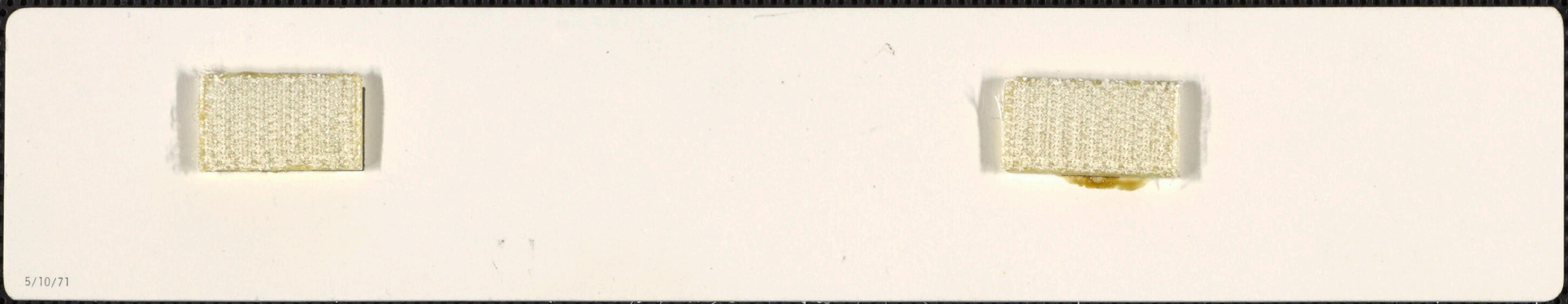
Go to SOLO BK DOCKING CHECKLIST,

AFTER HARD DOCK

DAC & TV - OFF

POO

DPS	APS	RCS
<u>TEMP/PRESS MON</u> >30 PSI @ PDI <u>HELIUM NOM</u> $>1000 < 1150$ PSI PRE PDI	<u>TEMP PRESS MON</u> >78 PSI OX >114 PSI FU $40 - 90^\circ\text{F}$ $\Delta T < 10^\circ\text{F}$ NOM <u>HELIUM NOM</u> PRESS 3125 PSI	He >1400 PSI <u>PRPLNT</u> <u>PRESS</u> >100 PSI TEMP 40 - 100°F <u>FUEL/OXID MANF</u> PRESS >100 PSI $\Delta P < 80$ PSI <u>QUAD TEMP</u> >119°F <u>(25 MIN TO FIRING)</u>
		5/10/71



5/10/71

MODES

III IV AK

LAUNCH ABORT PAD

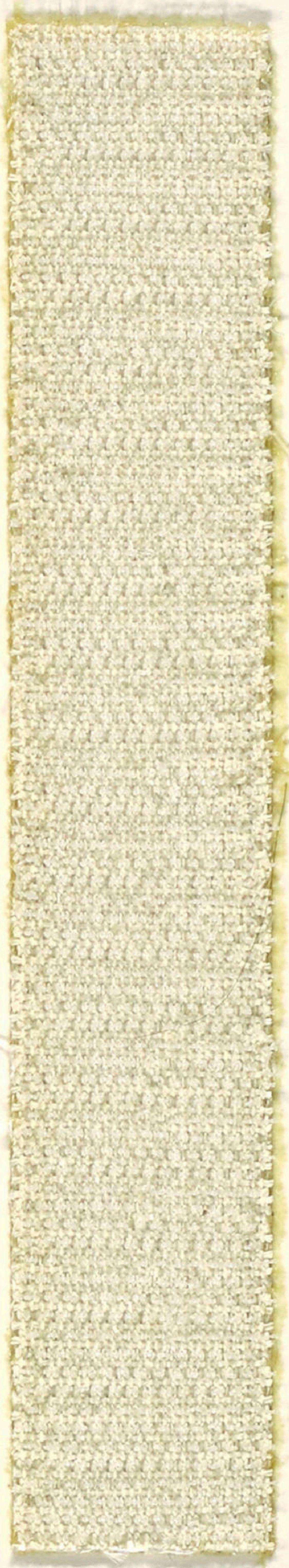
5/10/71

$\checkmark \checkmark \checkmark^*$	TIG SECO + 2:05	6 9 9 9 . 9
	EMS ΔV	
$\checkmark \checkmark \checkmark^*$	ΔV FOR HP >70	-
	CUTOFF	
$\checkmark \checkmark \checkmark$	BT	
$\checkmark \checkmark \checkmark$	P (IGN)	
$\checkmark \checkmark$	GET 300K	
$\checkmark \checkmark$	P (.05G)	
$\checkmark \checkmark$	GET DRO	

* TIG AT APOGEE

* ΔV FOR 3350 NM SPLASH

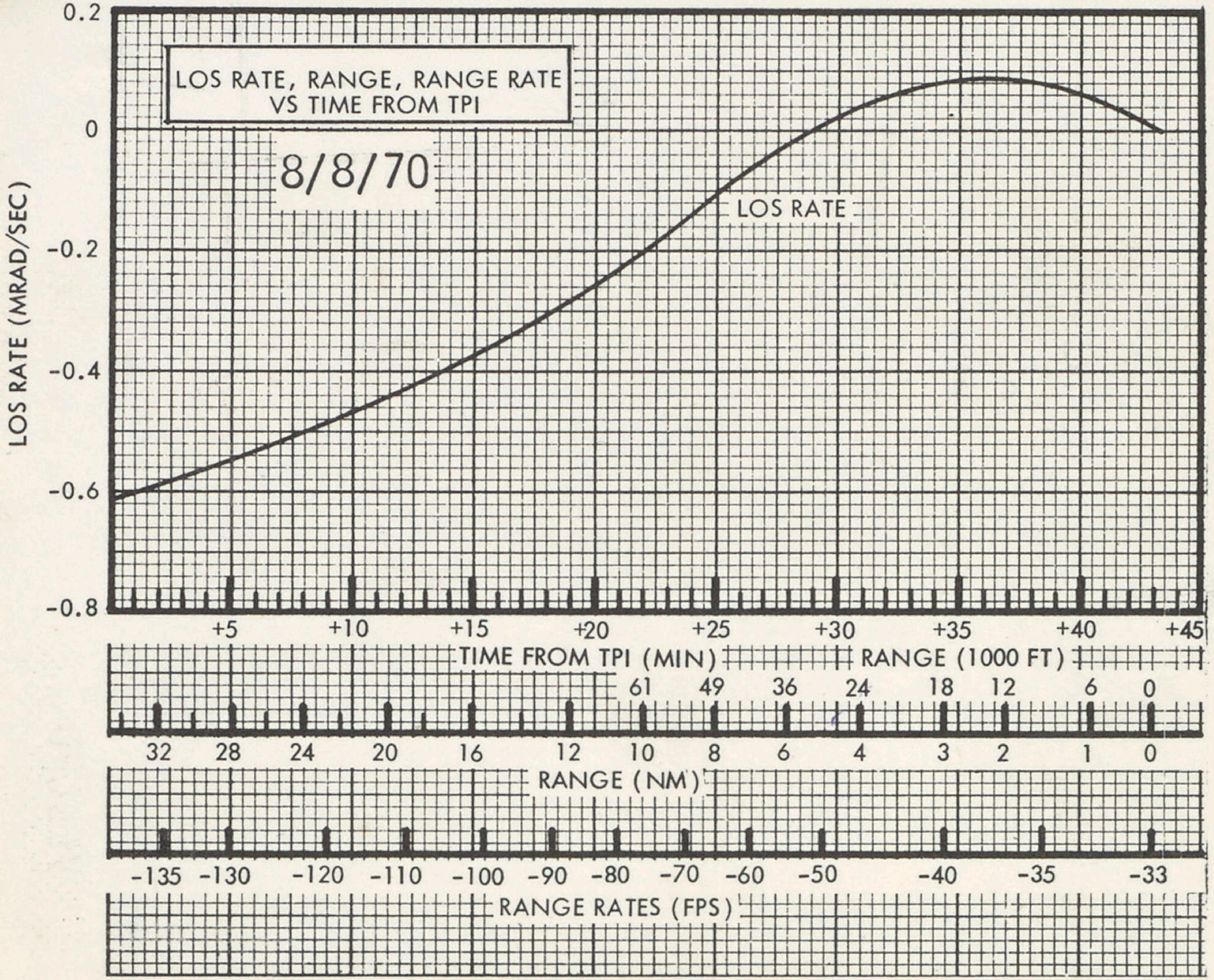
5/10/71



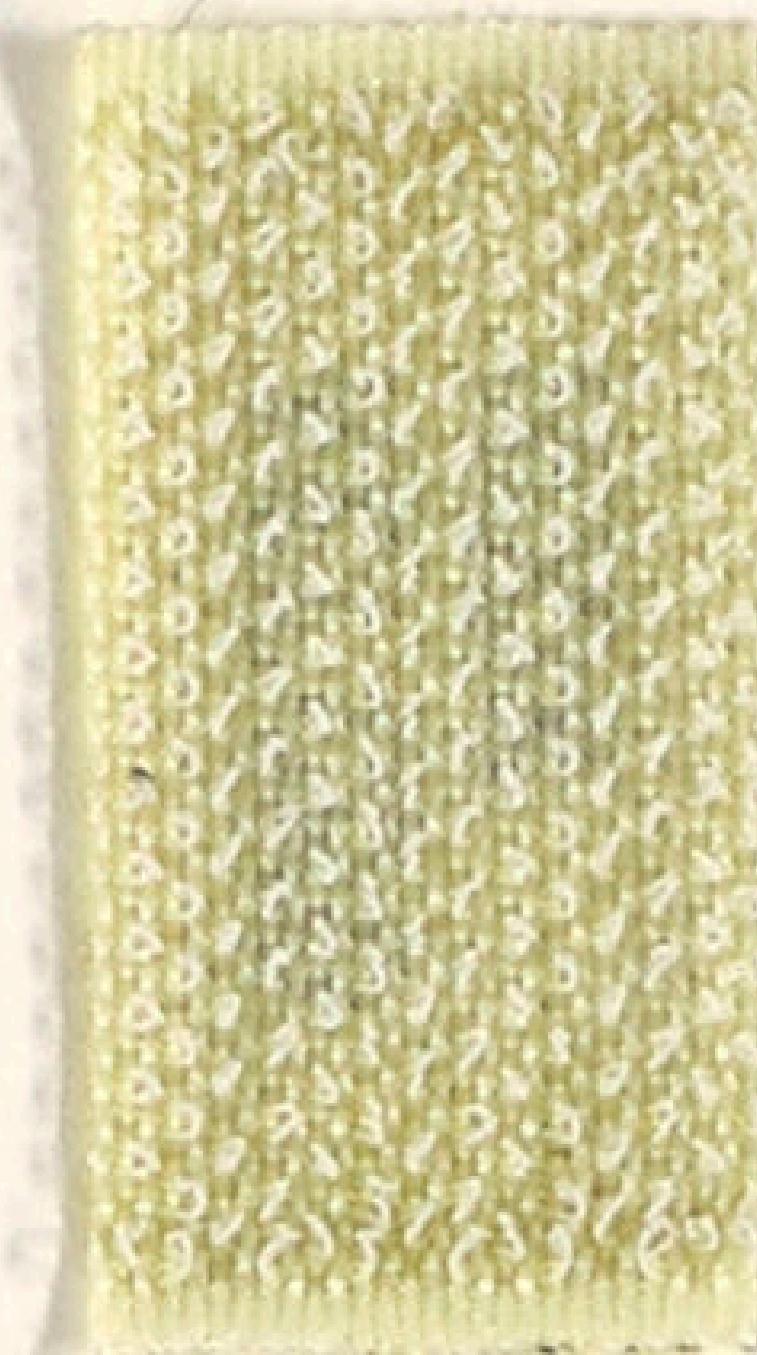
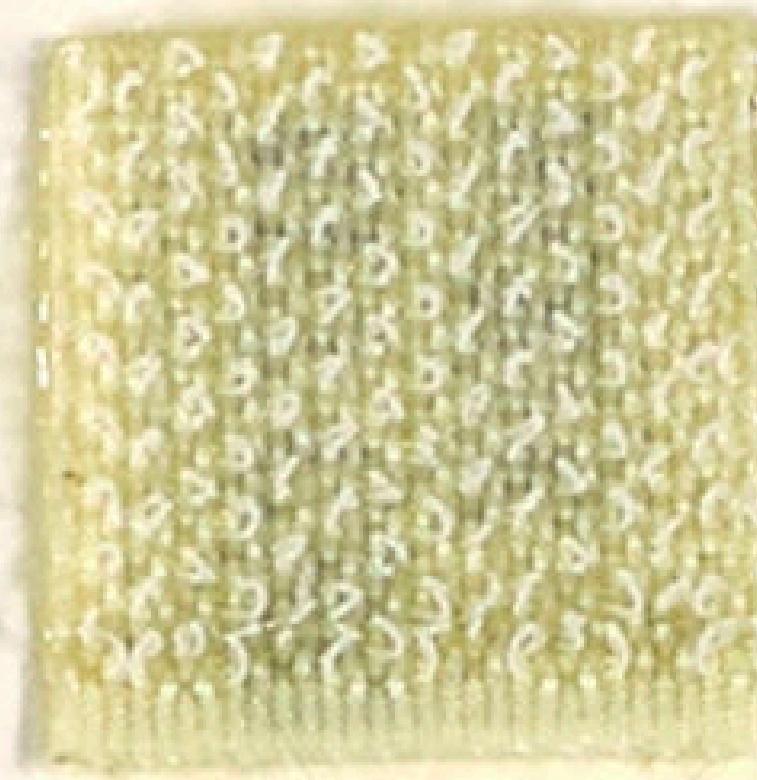
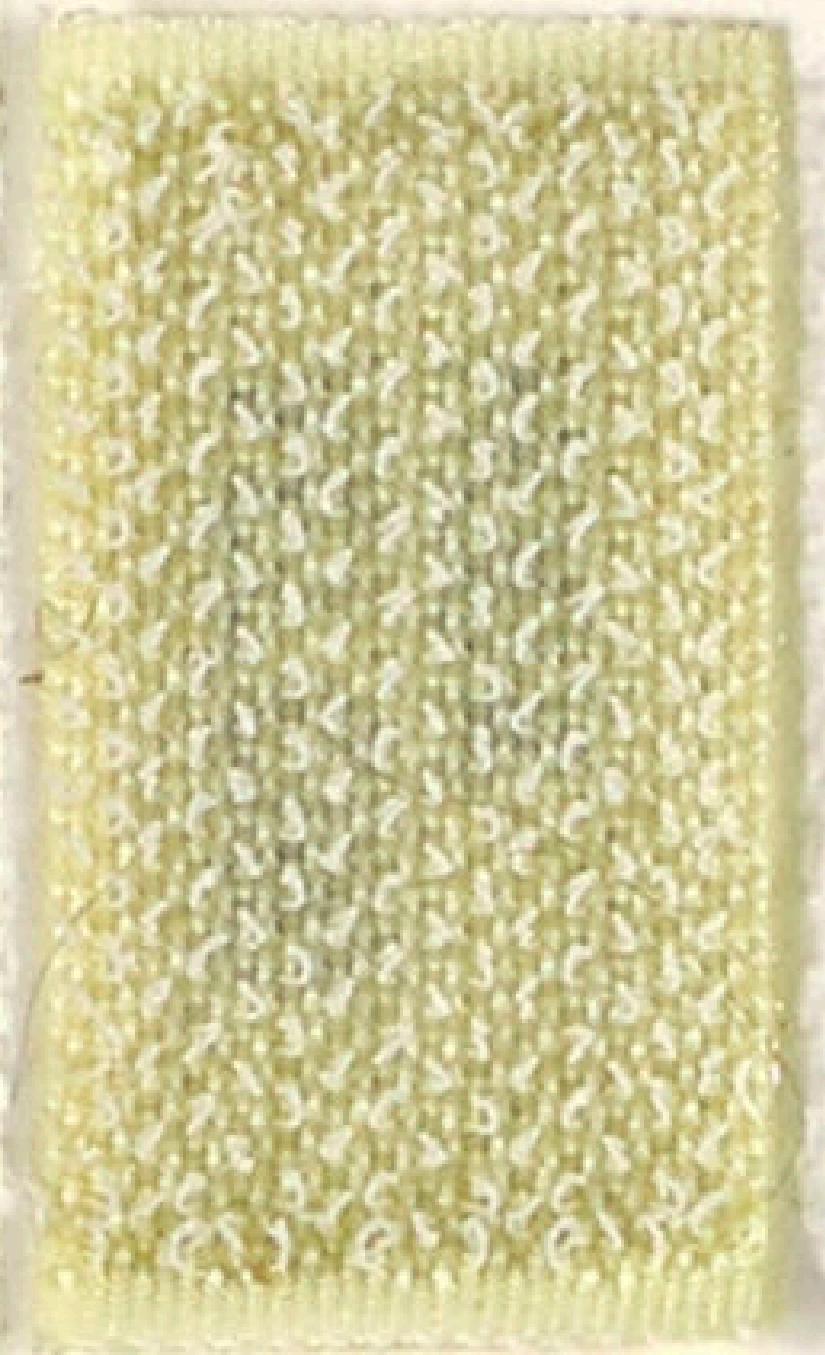
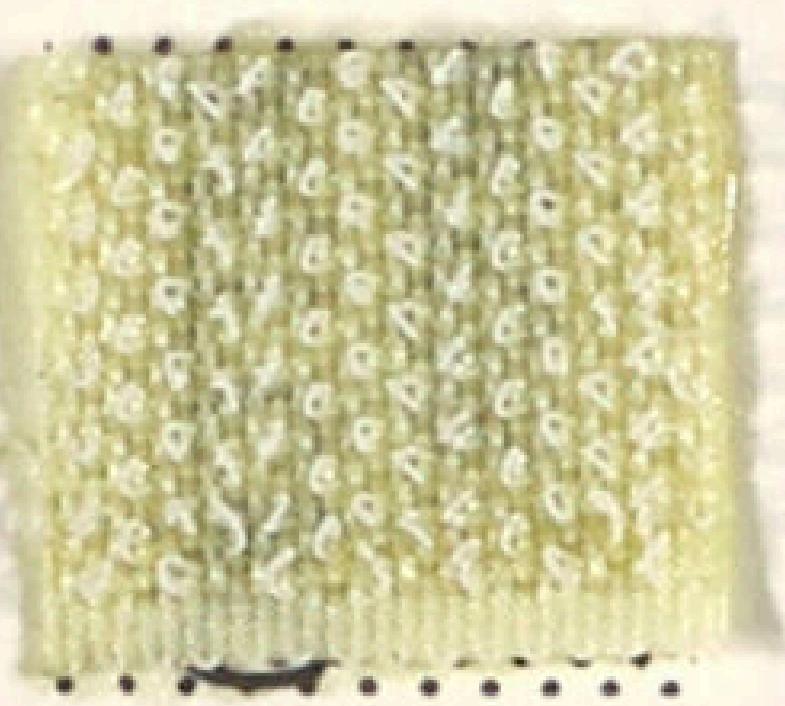
ft	=	nm
500	=	0.08
1000	=	0.16
1500	=	0.25
2000	=	0.33
2500	=	0.41
3000	=	0.49
3500	=	0.58
4000	=	0.66
4500	=	0.74
5000	=	0.82
5500	=	0.91
6000	=	0.99
6500	=	1.07
7000	=	1.15
7500	=	1.23
8000	=	1.32
8500	=	1.40
9000	=	1.48
9500	=	1.56



5/10/71



1
2
3
4



DEDA ADDRESSES

Vi	433	V16N78	R/RDOT
HDOT	367 (360 UPDATE)	V16N92	%THROT/HDOT/H
H	337 (223 UPDATE)	V21N69	ΔRLS
Ha	315		
Hp	403	AUTO	MAN
Y	211 (-) (100Ft)	417+1	
YDOT	270,263	411+1	411+0
R	317	621 R	415+1
RDOT	440	606+R NEXT	316 E R
θ	277	-RDOT NEXT	503 E RDOT
		411+0 STOP	



5/10/71

VEHICLE CONFIG	QUAD A/C FOR \dot{x}	QUAD B/D FOR \dot{x}	ERR DEADBAND	RATE SELECT
R1	0 = No DAP	0 = Fail A/C	0 = Fail B/D	0 = $\pm 0.5^\circ$
	1 = CSM	1 = Use A/C	1 = Use B/D	1 = $\pm 5.0^\circ$
	2 = CSM & LM			2 = $0.5^\circ/\text{sec}$
	3 = CSM & SIVB			3 = $2.0^\circ/\text{sec}$
	6 = CSM & LM (Ascent Stg only)		5/10/71	
	Roll Quad Select	Quad A	Quad B	Quad C
R2	0 = Use B/D	0 = Fail	0 = Fail	0 = Fail
	1 = Use A/C	1 = Use	1 = Use	1 = Use



SPS BURN RULES

5/10/71

FU/OX TEMP >40 (45-75°F)

FU/OX PRESS >115* (170-195 psi)

FU/OX ΔP <20 psi

Pc >70* (95-105 psi)

N2 A&B >400 (2900 psi max) *TIGHT:
 >160 & >80

BURN: Start watch, INJ VLVS (4) - OPEN
He VLV tb (2) - gray, PUGS - balanced

SPS PRESS 1t

Continue critical burn

FU/OX LO: He VLV (2) - ON, FU/OX HI: He VLV (2) - OFF

HI ΔP: He VLV(2) - ON, If persists - OFF till Pc <70*

EARLY SHUTDOWN

He VLV (2) - ON

cb PILOT VLV (2) - close ✓

cb He VLV (2) - close ✓

cb EPS GP 3 & 5 - close ✓

ΔV THRUST (2) - NORM

NO SHUTDOWN

ΔV THRUST (2) - OFF

THC - CW

THRUST DIR ON - OFF

cb PILOT VLV (2) - open

cb EPS GP 5 - open



IV

+03 LV SEP

TIG _____

CALL

ΔV _____

HOU

P _____

+24 N62 HDOT

KR N44

180-356-0

INSERT

GIMBL MTRS - OFF

TVC SERVO - OFF

MN BUS TIES - OFF

PYRO ARM - SAFE

SECS LOGIC - OFF

cb SECS ARM - open

cb DIR ULL - open

cb ELS/SM SEP - open

cb PL VENT - open

ΔV THRUST - OFF

ELS - MAN

RCS LOGIC - OFF

CAB PRESS - NORM

DIRECT 02 - OFF

SM RCS HTRS - PRIM

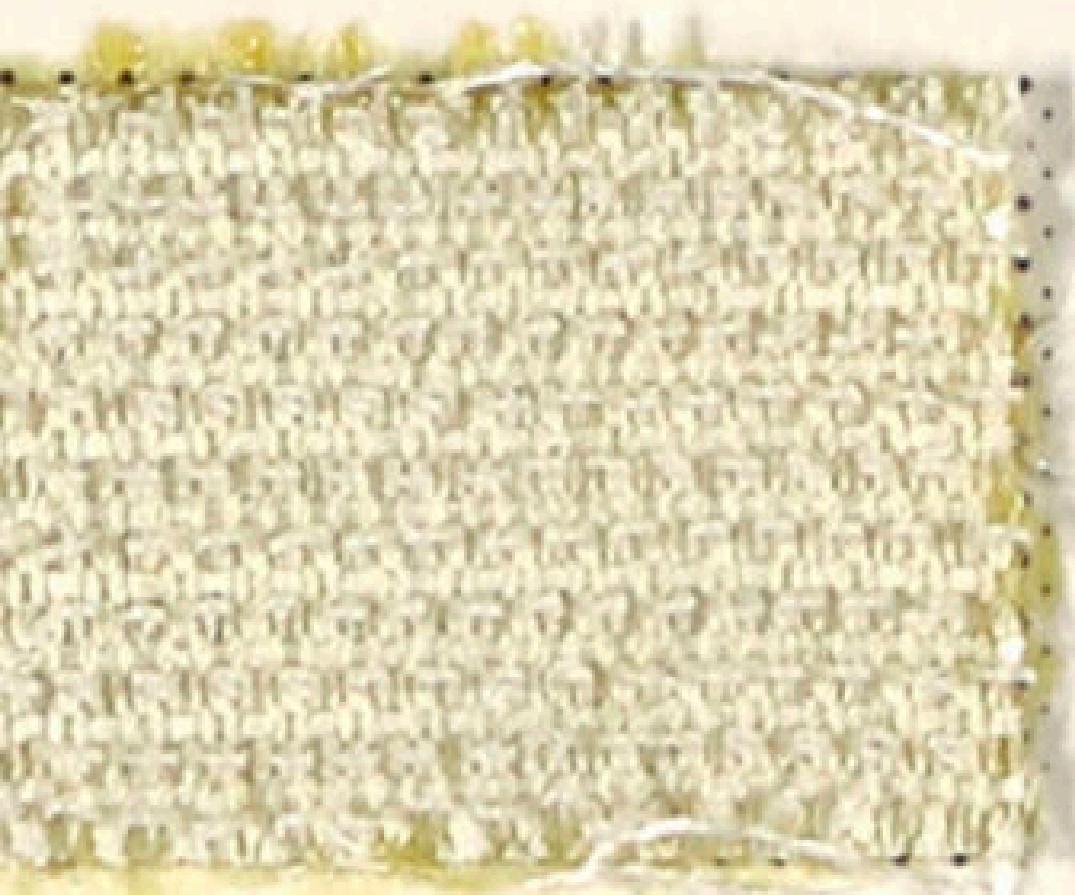
FC REACS - NORM

H2 PURGE HTR - ON

cb STM DUCT HTR - close

5/10/71

5/10/71



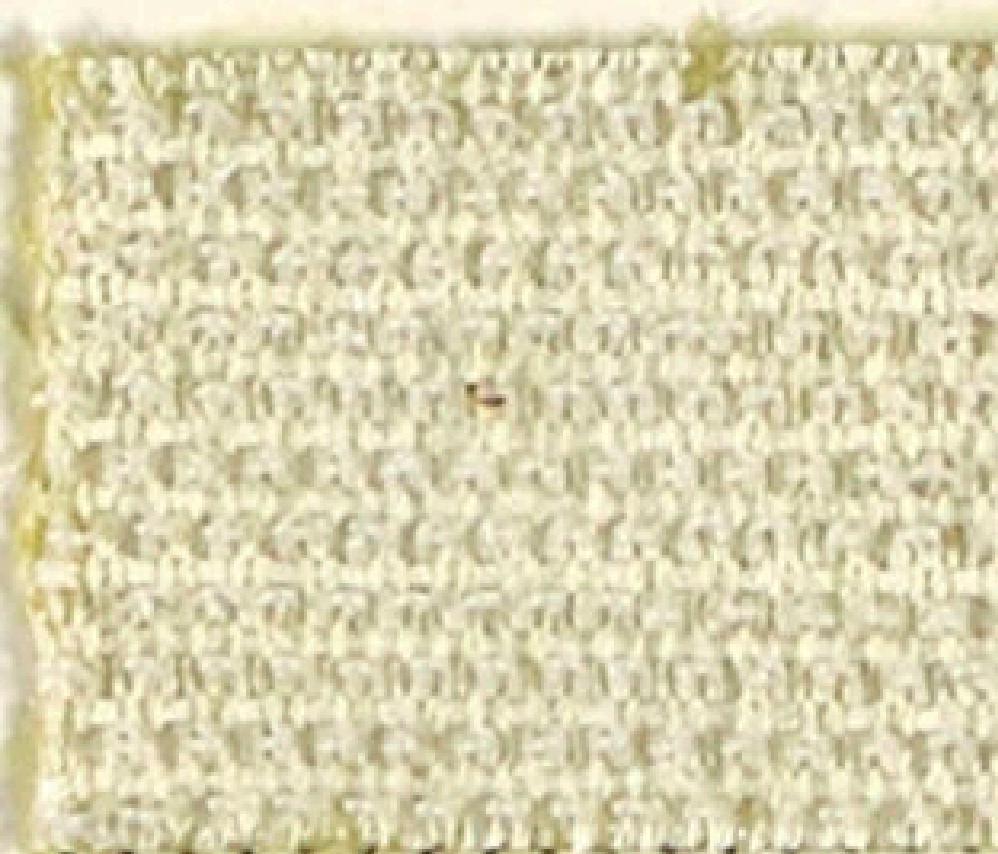
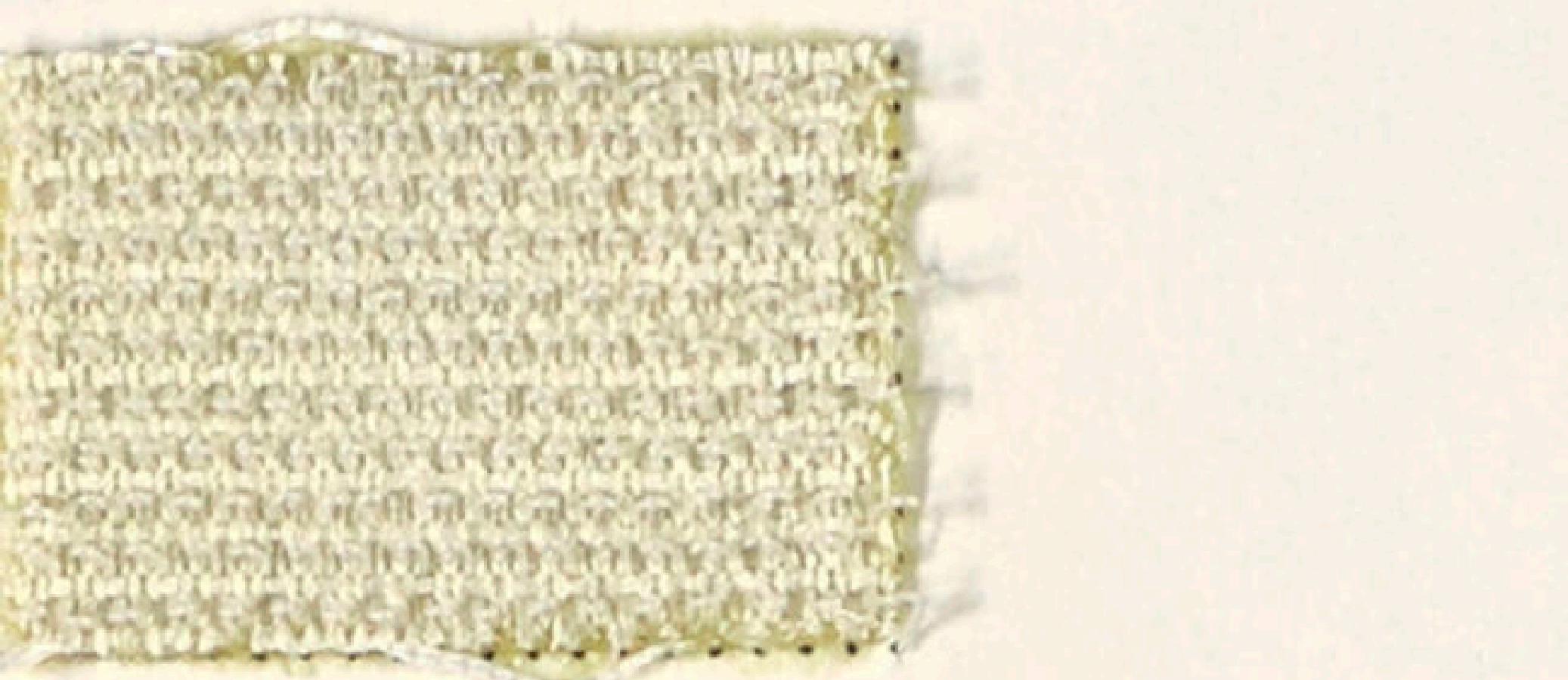
10K

MAINS - DEPLOY
DIRECT O2 - OPEN ✓
CAB PRESS - CLOSE
CM RCS LOGIC - on 3K
DUMP (He descr)
STRUTS - UNLOCK
PURGE (He zero)

CAB PRESS - BOOST/ENT
cb FLT/PL A,B & C - close
cb FLT/PL MNA & B - open
CM PRPLNT - OFF
CAB PRESS - DUMP, FLOODS - PL
RHC PWR DIR - OFF
800 CAB PRESS - CLOSE

5/10/71

5/10/71



5/10/71

II
+03 LV SEP LM SEP
RCS CMD N62 .H
+24 KR-N44 TFF 50K P21
>2m: Y 45 L L.AT
SM SEP LO.NG
CM RCS (4) 24K APEX-
0-120-0 DROGUES

III
+03 LV SEP TFF>2m: Y 45 L
RCS CMD SM SEP
N50 Δ.R,TFF CM RCS (4)
+24 180-194-0 0-105-0 LM SEP
TIG,ΔV,P P62 +20.30,-19.50
2+05 SPS ON-B-ON .2G 305-105-0
ΔR = 0 24K APEX-DROGUES

5/10/71

