PART II

SCRUB/TURNAROUND OPERATIONS TO A 2-DAY LATER LAUNCH DAY T+4 HOURS, 45' 0" TO T+1 DAY, 17 HOURS, 0' 0".

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SPACE VEHICLE SCRUB TURNAROUND

DATE: MARCH 15, 1972

REVISION 003

FOLDOUT FRAME 1

2-DAY A/S V SCRUB/TURNAROUND AT POST - L
OPERATIONS INTER

NOTE

TIMES DEPICT TOTAL ELASPED TIME BETWEEN SCRUB AND 2ND LAUNCH ATTEMPT

OPERATIONAL SEQUENCE

DATE: 2/28/71 LA-PLN
EFFECTIVITY: AS-511 & SUBS
REVISION: 7

CONCURRENCE:

A. GOLDENBERG LS

J.H. SLOGAR LV

R.E. WOODS SF-OPN

APPROVAL:

R.E. MOSER DLO

LEGEND

D H M S*
T–0 00 00 00

* USED WHEN APPLICABLE

0 2 4 6 8 10 12 14 16 18 20 22 1 D 2

LAUNCH VEHICLE SAFED
RECONNECT S A 9
CREW EGRESS (1 00)
RESET CDC T–0
RECONNECT PRIMARY DAMPER & SA #1
LV LOX & LH2 DRAIN (2 10)
LV LOX & LH2 PURGE (0 30)
RP-1 REPLENISH (0 45)
SAFETY INSPECTION (1 05)
MSS OBSERVER BRIEFING
RESET CDC T+4 HOURS 45 MIN
OPEN PAD (0 30)
LV TM CALIBRATION
EXTEND SA 7 TIP
OPEN IU DOOR (0 30)
INSTALL S-IVB ACCESS KIT (1 30)
INSTALL IU LIGHTS, OIS (0 30)
SHe PREPS–INTERIOR SLA, IU, S IVB FWD ON
LM SHe RESERVICE
FDS INSTALLATION (1 00)
LM WATER SAMPLE (2 00)
REMOVE WR/MSS DOOR LOCK
CSM CRYO
S II INS
CLEAR SLA INTER
LM SHe
HEA
CL
CSM CRYO TANK

0 2 4 6 8 10 12 14 16 18 20 22 24

SUPPORT

MSS PREPS (2 15)
MSS MOVE (3 15)
COMM CHECK MSS OBSERVERS
LAY PLYWOOD (1 00)
CIF (LV TM)
AMPER CHANGEOVER
MSS AT 35 FT
MSS JACKDOWN (0 30)
MSS DOWN ON MOUNTS AT SV
LOX MINIMUM REPLENISH (750,000 GAL 7 00
CLOSE PLATFORM 3, 4 & 5 (6 30)
LH2 MINIMUM REPLENISH (650,000 GAL 4 00
R7 CLOSE PLATFORM NO 1 AT LV STATIC
INSTALL ANNULUS RINGS AND
OPEN PLTFM 1 (1 00
MSS OIS TRANSFER CT UHF TO PAD HARDLINE (0 15)

TEST CONDITIONS

SMDPS 2-SWITCH MODE
REDUCE SM ECS TO 20 LBS MIN

0 2 4 6 8 10 12 14 16 18 20 22 1 DA 24

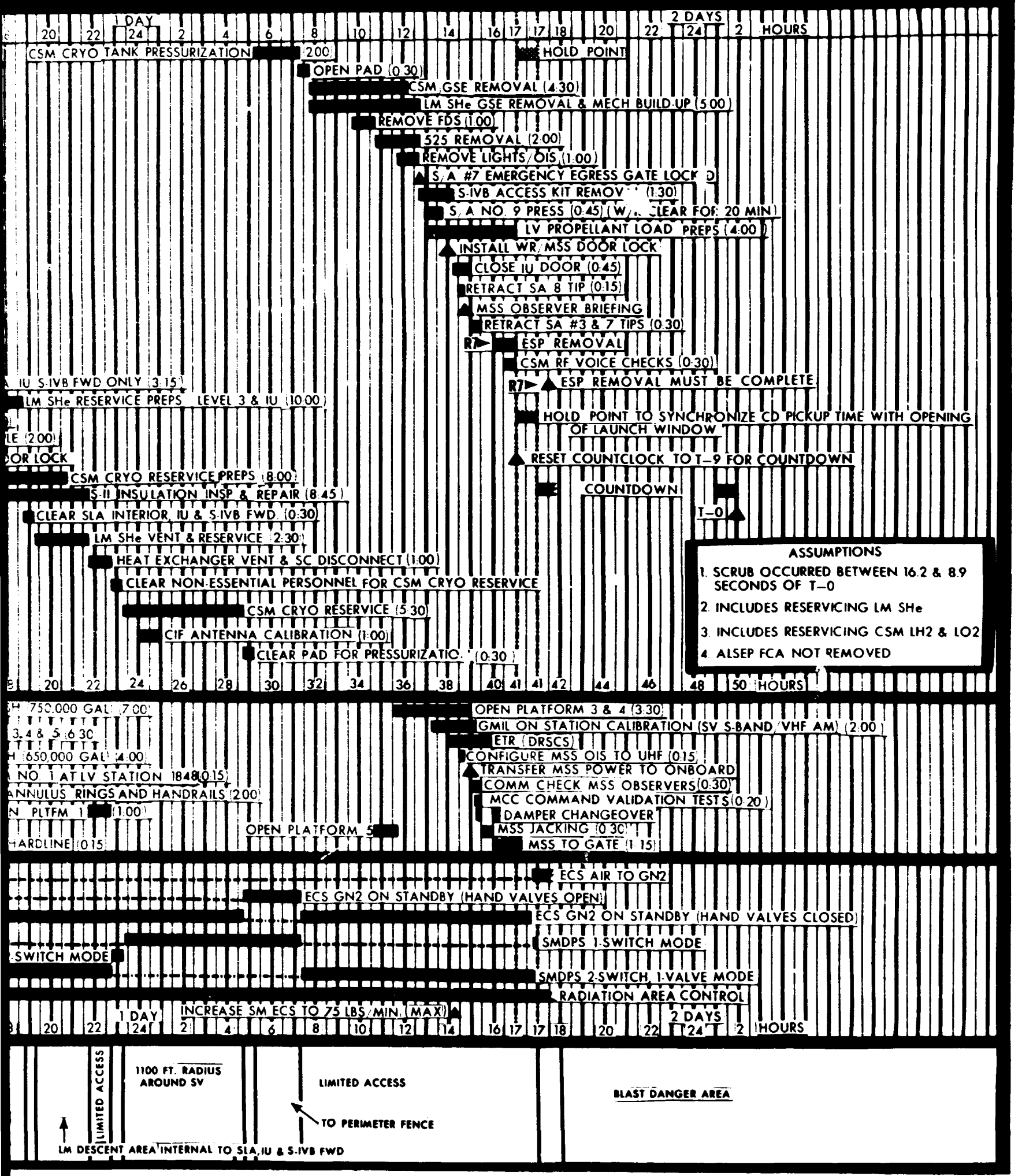
CONTROLLED AREAS

BLAST DANGER AREA
TO PERIMETER FENCE
ML ZERO LEVEL EXCEPT PATH TO ELEVATOR
LIMITED ACCESS
LM DESCENT AREA

FOLDOUT FRAME 2

PAGE 63/64
TEST NO. SV-40300
VEHICLE APOLLO 16

T POST - LV CRYOGENIC LOADING - CSM/LM CRYOGENIC RESERVICING
IONS INTERFACE CONTROL CHART



TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+4 HRS 45' CM						
	111	1	KSTC	CVTS	ESTABLISH RADIATION BADGING ISSUE STATIONS ON LEVEL 3 AND SA 7 AND RADIATION CONTROL.	
	111	2	CVTS	CTSC	HAVE PEHE ESTABLISH RADIATION BADGING ISSUE STATIONS ON LEVEL 3 AND SA 7. ESTABLISH RADIATION CONTROL. **********WARNING********** * * THE RADIATION CONTROL * * AREA CONSISTS OF SLA * * INTERIOR, IU, S-IVB * * FWD, S/A 7, AND INSIDE * * MSS PLATFORM 3A * * ENCLOSURE. * * ********** NOTE ---- THE FCA WILL NOT BE REMOVED DURING THE SCRUB TURNAROUND.	
	188 (PA)	3	CVTS		THE CONTROL AREA IS NOW OPEN FOR NORMAL WORK. RADIATION AREA CONTROL REMAINS IN EFFECT.	
	111	4	CVTS	MSTC	THE CONTRCL AREA IS OPEN FOR NORMAL WORK.	
	111	5	MSTC	CVTS	CHANGE SMDPS FROM 1-SWITCH MODE TO 2-SWITCH 1-VALVE MODE AND VERIFY. HAVE 280 FT. ACE ROOM OPENED.	
	111	6	CVTS	CTSC	OPEN ML 280 FT. ACE ROOM.	
	111	7	CVTS	CLTC	CHANGE SMDPS FROM 1-SWITCH MODE TO 2-SWITCH 1-VALVE MODE. REPORT WHEN COMPLETE.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+4 HRS 45' C"	CONTINUED					
	111	8	CVTS	CPSS	SMDPS IS GOING FROM 1-SWITCH MODE TO 2-SWITCH, 1-VALVE MODE.	
	111	9	CVTS	MSTC	SMDPS IS IN 2-SWITCH, 1-VALVE MODE.	
	111	10	CTSC	CVTS	ML EGRESS/LES SPRAY SYSTEM CONFIGURED FROM FIELD ACTIVE MODE TO REMOTE CONTROL. NOTE ---- ESP MOVE IS SCHEDULED FROM T+4 HOURS, 45' 0" TO T+5 HOURS, 15' 0".	
+5 HRS 0' 0"	111	1	CVTS	CTSC	REPORT PREVAILING WIND DATA. (REFERENCE LMR ITEM 1-401).	
	111	2	CLTC	CVTS	VERIFY PREVAILING WINDS DO NOT EXCEED REDLINE VALUES FOR FREE STANDING SV (REFERENCE LMR).	
	111	3	CTSC	CVTS	MSS IS APPROXIMATELY 15 MINUTES FROM THE 35 FT. MARK.	
	111	4	CVTS	CLTC	CLEAR TO DISCONNECT AND RETRACT PRIMARY DAMPER.	
	111	5	CVTS	MSTC	PRIMARY DAMPER WILL BE DISCONNECTED.	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+5 HRS 15' C"					NOTE ---- EXTENSION OF SA NO. 7 TIP IS SCHEDULED TO BEGIN AT THIS TIME.	
	111	1	CTSC	CVTS	ML EGRESS/LES SPRAY SYSTEM CONFIGURED FROM FIELD ACTIVE MODE TO REMOTE CONTROL. ML EGRESS CHUTE SPRAY SYSTEM DEACTIVATED.	
	111	2	CTSC	CVTS	ALL MSS PLATFORMS ARE OPEN.	
	111	3	CTSC	CVTS	MSS IS AT 35 FT AND READY TO PROPEL TO MATE.	
	111	4	CLTC	CVTS	PRIMARY DAMPER IS DISCONNECTED AND TSM TOWER IS RETRACTED. LV READY FOR MSS MATE.	
	111	5	CVTS	CTSC	PRIMARY DAMPER IS DISCONNECTED AND TSM IS RETRACTED. CLEAR TO PROCEED WITH MSS TO MATE POSITION. REPORT WHEN MSS IS OVER MOUNTS.	H
	111	6	CLTC	CVTS	REQUEST PEHE PERFORM SNIFFER CHECKS IN S-IC FWD, S-II AFT, AND IU/S-IVB FWD AREAS WHEN ACCESS DOORS ARE OPEN.	
	111	7	CVTS	CPSS	VERIFY READY TO SUPPORT LV ACCESS DOORS SNIFFER CHECKS ON CH. 141.	
	111	8	CVTS	CTSC	PERFORM SNIFFER CHECKS IN S-IC FWD, S-II FWD, S-II AFT AND IU/S-IVB FWD AREAS WHEN ACCESS DOORS ARE OPEN, AND HAVE PEHE ADVISE SYSTEMS SAFETY WHEN PERSONNEL ARE CLEAR TO ENTER.	H

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+5 HRS 15' C"	CONTINUED					
					NOTE ---- S-IC FWD AREA ACCESS IS REQUIRED AT T+6 HOURS 0' 0", IU/S-IVB FWD AND S-II AFT AREA ACCES IS REQUIRED AT T+6 HOURS 15' 0".	
+5 HRS 30' 0"	111	1	CTSC	CVTS	MSS IS IN MATE POSITION. MEASUREMENTS ARE COMPLETE. READY TO JACK DOWN.	
	111	2	CVTS	CLTC	MSS IS OVER MOUNTS. REPORT WHEN TSM 3 - 4 TOWER IS ERECTED AND MSS CAN BE LOWERED.	
	111	3	CLTC	CVTS	TSM 3 - 4 TOWER ERECTED AND CLEAR FOR LOWERING MSS ON MOUNTS. NOTIFY CLTC IF MSS MUST BE REPOSITIONED PRIOR TO LOWERING.	
	111	4	CVTS	CPSS	VERIFY CLEARANCE TO LOWER MSS ON MOUNTS.	
	111	5	CVTS	CTSC	TSM 3 - 4 TOWER ERECTED. CLEAR TO LOWER MSS ON MOUNTS. REPORT IF MSS REPOSITIONING IS NECESSARY.	H
	111	6	CLTC	CVTS	RANGE CLEARANCE FOR S-II TM IS NO LONGER REQUIRED.	
	111	7	CVTS	SRO	LV S-II TM LINKS BF-1 AND BF-2 ARE OFF.	
+5 HRS 45' C"	111	1	MSTC	CVTS	REDUCE SM ECS FLOW RATE TO 20 LBS/MIN.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+5 HRS 45' C"	CONTINUED					
	111	2	CVTS	CLTC	REDUCE SM ECS FLOW RATE TO 20 LBS/MIN.. REPORT WHEN COMPLETE.	
					NOTE ---- IU D OR OPENING IS SCHEDULED TO BEGIN AT THIS TIME.	
+5 HRS 55' C"						
	111	1	CVTS	GMIL	VERIFY READY TO SUPPORT CSM WITH G&N UPLINK ENABLE.	
	111	2	MSTC	CVTS	VERIFY GMIL SUPPORT FOR G&N UPLINK ENABLE.	
5 HRS 0' 0"						
	111	1	CTSC	CVTS	MSS IS ON MOUNTS.	
	111	2	CVTS	CLTC	MSS IS ON MOUNTS. READY FOR AUXILIARY DAMPER CONNECTION.	
	111	3	CVTS	MSTC	AUXILIARY DAMPER WILL BE CONNECTED.	
	111	4	CPSS	CVTS	SNIFFER CHECK IN S-IC FWD AREA IS COMPLETE. PERSONNEL MAY ACCESS THROUGH SA NO. 2.	
	111	5	CVTS	CLTC	CPSS HAS APPROVED LV ACCESS THROUGH S-IC FWD DOOR (SA NO. 2).	
	111	6	CTSC	CVTS	CONNECTING AND PRESSURIZING MSS/PAD 3000 PSI GN2 HAZARD PURGE SUPPLY LINE.	
	111	7	CTSC	CVTS	CONNECTING AND PRESSURIZING MSS/PAD 6000 PSI GHE LINES.	
	111	8	CVTS	CPSS	CONNECTING AND PRESSURIZING MSS/PAD 6000 PSI GHE LINES.	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+6 HRS 15' 0"						
	111	1	CPSS	CVTS	SNIFFER CHECKS IN IU/S-IVB FWD AND S-I' AFT ARE COMPLETE. PERSONNEL MAY ACCESS THROUGH SA NO. 3 AND NO. 7 DOORS.	
	111	2	CVTS	CLTC	CPSS HAS APPROVED LV ACCESS THROUGH IU AND S-II AFT DOORS (SA NO. 3 AND NO. 7).	
	111	3	MSTC	CVTS	CSM RF IS OFF. CSM COMMAND DECODER IS OFF. GMIL SUPPORT NO LONGER REQUIRED.	
	111	4	CVTS	GMIL	BRING DOWN CSM S-BAND CARRIER AND VERIFY. CSM COMMAND DECODER IS OFF. GMIL SUPPORT NO LONGER REQUIRED.	
	111	5	CVTS	SRO	CSM S-BAND AND VHF ARE OFF.	
	111	6	CVTS	HFLT	CSM S-BAND CARRIER IS OFF. CSM COMMAND DECODER IS OFF.	
	111	7	CLTC	CVTS	AUXILIARY DAMPER IS CONNECTED.	
	111	8	CVTS	CTSC	AUXILIARY DAMPER IS CONNECTED. CLOSE PLATFORMS NO. 5, NO. 3 AND NO. 4. NOTE ---- MSS PLATFORM NO. 5, NO. 3, AND NO. 4 WILL BE CLOSING FROM T+6 HOURS 15' 0" TO T+12 HOURS, 0' 0".	H

TIME	COMM CH	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+ 6 HRS 15' 0"	CONTINUED					
					NOTE ---- THE INSTALLATION OF S-IVB ACCESS KIT IS SCHEDULED FROM T+6 HOURS, 15' 0" TO T+7 HOURS, 45' 0".	
	111	9	CTSC	CVTS	CONNECTING MSS/PAD COMM AND INSTRUMENTATION CABLES AND CONFIGURING MSS/TRANSPORTER OIS TO HARDLINE PRIOR TO MSS TRANSFER TO PAD POWER. DISCONNECTING MSS TRANSPORTER OIS INTERFACE.	
	111	10	CVTS	MSTC KSTC CLTC	STANDBY FOR OIS TRANSFER FROM CT TO PAD.	
+6 HRS 30' 0"	111	1	CTSC	CVTS	MSS TRANSFER TO PAD POWER WILL OCCUR IN 15 MINUTES.	
					NOTE ---- MSS HI-RISE ELEVATORS, HVAC AND FACILITY AIR COMPRESSORS WILL BE POWERED DOWN FOR MSS POWER TRANSFER AND POWERED UP AFTER MSS POWER TRANSFER.	
	111	2	CTSC	CVTS	MSS/PAD COMM AND INSTRUMENTATION CABLES CONNECTED AND MSS OIS-RF CONFIGURED TO HARDLINE.	

TIME	COMM CH	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+ 6 HRS 30' 0"	CONTINUED					
	111	3	CVTS	MSTC KSTC CLTC	MSS OIS IS CONNECTED TO PAD.	
	111	4	CTSC	CVTS	MSS PLATFORM NO. 5 IS AVAILABLE FOR JOINT ACCESS.	
	111	5	CVTS	MSTC	MSS PLATFORM NO. 5 IS AVAILABLE FOR JOINT ACCESS.	
					NOTE ---- JOINT PLATFORM USAGE IS REQUIRED UNTIL INSTALLATION OF ANNULUS RINGS ARE COMPLETED.	
+ 6 HRS 45' 0"						
	111	1	CTSC	CVTS	VERIFY READY FOR MSS POWER TRANSFER TO PAD POWER.	
	111	2	CTSC	CVTS	MSS TRANSFER TO PAD POWER COMPLETE.	
	111	3	CTSC	CVTS	TRANSPORTER JACKING DOWN AND PROPELLING TO PARK POSITION.	
+7 HRS 0' 0"						
	111	1	CVTS	CPSS	VERIFY CLEARANCE FOR LH2 STORAGE TANK REPLENISH.	
	111	2	CVTS	CTSC	CLEAR TO PROCEED WITH LH2 STORAGE TANK REPLENISH.	H

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+ 7 HRS C° C"	CONTINUED					
					NOTE ---- LH2 STORAGE TANK REPLENISHMENT TO 650,000 GALLONS IS SCHEDULED FROM T+7 HOURS, 0° 0" TO T+11 HOURS, 0° 0".	
	111	3	CTSC	CVTS	MSS/PAD 6000 PSI GHE LINE IS CONNECTED AND PRESSURIZED.	
	111	4	CTSC	CVTS	MSS/PAD GHE AND GN2 3000 PSI LINES ARE BEING CONNECTED AND WILL BE PRESSURIZED IN APPROXIMATELY ONE HOUR.	
	111	5	CVTS	CPSS	CONNECTING AND PRESSURIZING MSS/PAD GHE AND GN2 3000 PSI LINES.	
	111	6	CTSC	CVTS	MSS/PAD 3000 PSI HAZARD PURGE SUPPLY LINE CONNECTED AND PRESSURIZED.	
+7 HRS 45° C"	111	1	CLTC	CVTS	S-IVB FORWARD ACCESS KIT REQUIRED FOR LM OPERATIONS IS INSTALLED.	
	111	2	CVTS	KSTC	THE S-IVB FORWARD ACCESS KIT HAS BEEN INSTALLED. BEGIN SHE RESERVICE PREPARATION.	

TIME	COMM CH	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+7 HRS 45' C"	CONTINUED					
					NOTE --- INSTALLATION OF IU LIGHTS IS SCHEDULED TO BEGIN AT THIS TIME. LM SHE PREPS - INTERIOR SLA, IU AND S-IVB FORWARD ARE SCHEDULED TO BEGIN AT THIS TIME.	
+8 HRS C'C"	111	1	CTSC	CVTS	MSS/PAD GHE AND GN2 SYSTEMS PRESSURIZED.	
	111	2	CVTS	MSTC	MSS/PAD GHE AND GN2 3000 PSI LINES HAVE BEEN CONNECTED AND PRESSURIZED.	
+8 HRS 45' C"	111	1	CTSC	CVTS	MSS PLATFORM NO. 3 IS AVAILABLE FOR JOINT ACCESS.	
	111	2	CVTS	KSTC	MSS PLATFORM NO. 3 IS AVAILABLE FOR JOINT ACCESS.	
					NOTE --- JOINT PLATFORM USAGE IS REQUIRED UNTIL INSTALLATION OF ANNULUS RINGS ARE COMPLETED.	

TIME	COMM CH	SEQUENCE	COMMAND STA	RESPONSE STA	DESCRIPTION	REMARKS
+8 HRS 45' 0"	CONTINUED					
					NOTE ---- LM SHE PREPS - MSS PLATFORM NO. 3 AND IU ARE SCHEDULED TO BEGIN AT THIS TIME.	
+11 HRS 0' 0"						
					NOTE ---- LM WATER SAMPLING IS SCHEDULED TO BEGIN AT THIS TIME.	
	111	1	MSTC	CVTS	READY FOR REMOVAL OF W/R MSS DOOR LOCK.	
	111	2	CVTS	CTSC	REQUEST ACCESS TO MSS PLATFORM NO. 4 FOR REMOVAL OF W/R MSS DOOR LOCK.	
	111	3	CVTS	CLTC	REMOVE W/R MSS DOOR LOCK.	
+12 HRS 45' 0"						
	111	1	CTSC	CVTS	MSS PLATFORM NO. 4 IS AVAILABLE FOR JOINT ACCESS.	
	111	2	CVTS	MSTC	MSS PLATFORM NO. 4 IS AVAILABLE FOR JOINT ACCESS.	

TIME	COMM CH	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+12 HRS 5' 0"	CONTINUED					
					NOTE ---- JOINT PLATFORM USAGE IS REQUIRED UNTIL INSTALLATION OF ANNULUS RINGS ARE COMPLETED.	
	111	3	CLTC	CVTS	REQUEST MSS PLATFORM NO. 1 BE POSITIONED AT LV STATION 1848 FOR S-II INSULATION INSPECTION.	
	111	4	CVTS	CTSC	CLOSE MSS PLATFORM NO. 1 AT LV STATION 1848 FOR S-II INSULATION INSPECTION.	H
+13 HRS 0' 0"						
	111	1	CTSC	CVTS	MSS PLATFORM NO. 1 IS AVAILABLE FOR JOINT ACCESS.	
	111	2	CVTS	CLTC	MSS PLATFORM NO. 1 IS AVAILABLE FOR JOINT ACCESS.	
					NOTE ---- JOINT PLATFORM USAGE IS REQUIRED UNTIL INSTALLATION OF ANNULUS RINGS ARE COMPLETE AT T+15 HOURS 0' 0".	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+13 HRS 0' 0"	CONTINUED					
					NOTE ---- S-II INSULATION INSPECTION IS SCHEDULED TO BEGIN AT THIS TIME.	
					NOTE ---- CSM CRYO RESERVICE PREPS ARE SCHEDULED TO BEGIN AT THIS TIME.	
+13 HRS 15' 0"	111	1	CTSC	CVTS	MSS LES SPRAY SYSTEM ON PLATFORM NO. 5 AND MSS LEVELS DELUGE SYSTEM HAVE BEEN PLACED IN FIELD ACTIVE MODE. ML LES SPRAY AND ML EGRESS SPRAY SYSTEMS HAVE BEEN SECURED.	
+18 HRS 45' 0"	111	1	KSTC	CVTS	CLEAR THE CONTROL AREA FOR LM SHE RESERVICE.	
	188 (PA)	2	CVTS		ALL NON-ESSENTIAL PERSONNEL ARE TO CLEAR THE CONTROL AREA FOR LM SHE RESERVICE OPERATIONS. **********WARNING********** * * THE CONTROL AREA FOR LM * * SHE RESERVICE CONSISTS * * OF THE LM DESCENT AREA * * INTERNAL TO THE SLA, IU * * AND S-IVB FORWARD. * * **********	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+18 HRS 45' 0"	CONTINUED					
	111	3	CVTS	CPSS	CLEAR ALL NON-ESSENTIAL PERSONNEL FROM THE CONTROL AREA FOR LM SHE RESERVICE OPERATIONS. VERIFY CLEARANCE TO TRANSPORT LH2 AND LO2 DEWARS TO LC-39.	
	111	4	MSTC	CVTS	VERIFY CPSS CLEARANCE TO TRANSPORT LH2 AND LO2 DEWARS TO LC-39.	H
+19 HRS 15' 0"	111	1	CPSS	CVTS	THE CONTROL AREA IS CLEAR OF ALL NON-ESSENTIAL PERSONNEL AND SAFETY IS READY TO START LM SHE RESERVICE.	
	111	2	KSTC	CVTS	VERIFY CLEARANCE TO BEGIN SHE VENT AND TANK RESERVICE.	H
	111	3	MSTC	CVTS	CLEAR CONTROL AREA FOR LH2 DEWAR TRANSFER TO MSS LEVEL 4A AND LO2 DEWAR TRANSFER TO MSS +12 FOOT LEVEL. CONFIGURE ELEVATORS FOR TRANSFER. REQUEST CPSS CLEARANCE FOR TRANSFER. REQUEST HAZARD MONITOR SYSTEM ACTIVE. SEND SEHZ TO CH. 222.	
	111	4	CVTS	CPSS	CLEAR CONTROL AREA FOR ARRIVAL OF LH2 AND LO2 DEWARS AND POSITIONING ON SERVICE STRUCTURE. DEWARS ARE TO BE MOVED IN SERIES. MAINTAIN CONTROL AREA AROUND DEWAR CONVOY.	
	111	5	CVTS	CTSC	CONFIGURE AND OPERATE MSS LOW RISE AND HIGH RISE ELEVATORS FOR LH2 DEWAR TRANSFER TO LEVEL 4A. ACTIVATE HAZARD MONITOR SYSTEM. HAVE SEHZ REPORT TO MTPE ON CH. 222.	
	111	6	CTSC	CVTS	HAZARD MONITOR SYSTEM IS ACTIVE.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+19 HRS 15' 0"	CONTINUED					
	111	7	CVTS	MSTC	HAZARD MONITOR SYSTEM IS ACTIVE.	
+19 HRS 45' 0"						
	111	1	CPSS	CVTS	THE CONTROL AREA IS CLEAR OF ALL NON-ESSENTIAL PERSONNEL AND SAFETY IS READY TO TRANSFER LH2 DEWAR TO MSS LEVEL 4A.	
	111	2	CVTS	MSTC	CLEAR TO TRANSFER LH2 DEWAR TO MSS LEVEL 4A. NOTE ---- LH2 DEWAR WILL GO TO MSS LEVEL 4A. LOX DEWAR HANDLING WILL START IN PARALLEL WITH LH2 DEWAR AS SOON AS THE HIGH RISE ELEVATOR STARTS UP. BACKUP DEWARS WILL BE HELD IN PAD STORAGE AREAS.	H
+20 HRS 15' 0"						
	111	1	MSTC	CVTS	RELEASE MSS ELEVATORS FROM DEWAR TRANSFER.	
	111	2	CVTS	CTSC	MSS ELEVATORS ARE RELEASED FROM DEWAR TRANSFER OPERATION.	
+21 HRS 15' 0"						
	111	1	CVTS	CPSS	VERIFY SAFETY CLEARANCE TO FLOW GH2 FOR CSM.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA	RESPONSE STA	DESCRIPTION	REMARKS
+21 HRS 15' 0"	CONTINUED					
	111	2	MSTC	CVTS	VERIFY CPSS CLEARANCE TO FLOW GH2.	H
+21 HRS 45' 0"						
	111	1	KSTC	CVTS	LM SHE RESERVICE COMPLETE.	
	111	2	CVTS	CPSS	LM SHE RESERVICE IS COMPLETE. VERIFY READY TO OPEN THE CONTROL AREA FOR NORMAL WORK.	
	188 (PA)	3	CVTS		LM SHE RESERVICE IS COMPLETE. THE CONTROL AREA IS OPEN FOR NORMAL WORK.	
	111	4	CLTC	CVTS	MSS PLATFORM NO. 1 IS AVAILABLE FOR OPENING.	
	111	5	CVTS	CTSC	OPEN AND SECURE MSS PLATFORM NO. 1.	H
					NOTE --- PLATFORM PREPARATION WORK IS TO BE ACCOMPLISHED ON A NON-INTERFERENCE BASIS WITH THE MSS PLATFORM CREW.	
+22 HRS 15' 0"						
	111	1	CVTS	CTSC	POWER DOWN MSS PLATFORM NO. 3 AND NO. 4 AIR CONDITIONING SYSTEM.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+22 HRS 15' 0"	CONTINUED				NOTE --- MSS PLATFORM NO. 3 AND NO. 4 AIR CONDITIONING SYSTEM IS TO BE POWERED DOWN PRIOR TO STARTING CSM LO2 AND LH2 SERVICING.	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+22 HRS 45' 0"					**********WARNING********** * * DURING LH2 FLOW, SEHZ * WILL MONITOR HYDROGEN * DETECTION SYSTEM METERS * AND INFORM MSTC OF ALL * HYDROGEN INDICATIONS * SPECIFYING SENSOR I.D. * AND PERCENT GAS * CONCENTRATION. * * SYSTEM SAFETY (PVSS) * WILL VERIFY READINGS * USING A PORTABLE GAS * DETECTOR (A FOUR PERCENT * CONCENTRATION OF * HYDROGEN CONSTITUTES AN * EXPLOSIVE ATMOSPHERE.) * * MSTC WILL DIRECT * SECURING OF LH2 FLOW * UNDER CONDITIONS OF * RAPID INCREASE IN H2 * CONCENTRATION OR A * REPORTED READING NEARING * FOUR PERCENT AT ANY * SENSOR. * * TIME PERMITTING, MSTC * WILL CONFER WITH PVSS * AND MLFC PRIOR TO * DIRECTING ANY * INTERRUPTION OF FLOW. * * CVTS WILL DIRECT THE * USE OF THE GN2 DELUGE * PURGE AS SPECIFIED IN * APOLLO/SATURN V SPACE * VEHICLE TEST SUPERVISOR * EMERGENCY PROCEDURE, * TCP NO. V-46001. * **********	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+22 HRS 45' 0"	CONTINUED					
	111	1	CTSC	CVTS	MSS PLATFORM NO. 1 IS OPEN AND SECURE.	
	111	2	CVTS	CLTC	MSS PLATFORM NO. 1 IS OPEN AND SECURE.	
	111	3	MSTC	CVTS	CLEAR THE CONTROL AREA FOR CSM LH2 RESERVICING. REQUEST CPSS CLEARANCE TO START LH2 RESERVICING. CHANGE SMDPS FROM 2-SWITCH, 1-VALVE MODE TO 1-SWITCH MODE AND VERIFY.	
	111	4	CVTS	MSTC KSTC	VERIFY ALL NON-EXPLOSION-PROOF ELECTRICAL EQUIPMENT ON THE SC LEVELS OF THE MSS HAVE BEEN DISCONNECTED. NOTE ---- SMDPS IS CONFIGURED FOR 1-SWITCH AT THE COMPLETION OF CONTROL AREA CLEARING AT T+23 HOURS, 15' 0".	
	111	5	CVTS	CLTC	CHANGE THE SMDPS FROM 2-SWITCH 1-VALVE MODE TO 2-SWITCH MODE. REPORT WHEN COMPLETE.	
	188 (PA)	6	CVTS		ALL NON-ESSENTIAL PERSONNEL ARE TO CLEAR THE CONTROL AREA FOR CSM CRYO RESERVICING.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
+22 HRS 45' 0"	CONTINUED					
					**********WARNING********** * * * THE CONTROL AREA FOR CSM * * CRYO RESERVICING * * CONSISTS OF 1100 FT. * * RADIUS AROUND THE SPACE * * VEHICLE. * * * **********	
	111	7	CVTS	CPSS	CLEAR ALL NON-ESSENTIAL PERSONNEL FROM THE CONTROL AREA FOR CSM CRYO RESERVICING. ALL NON-EXPLOSION-PROOF ELECTRICAL EQUIPMENT ON THE SC LEVELS OF THE MSS HAVE BEEN DISCONNECTED.	
+23 HRS 15' 0"						
	111	1	CPSS	CVTS	THE CONTROL AREA IS CLEAR OF ALL NON-ESSENTIAL PERSONNEL AND SAFETY IS READY TO START CSM LH2 RESERVICING. CLEAR TO CHANGE SMDPS FROM 2-SWITCH MODE TO 1-SWITCH MODE FOR LH2 RESERVICING.	
	111	2	CVTS	CLTC	CHANGE SMDPS TO 1-SWITCH MODE. REPORT WHEN COMPLETE.	
	111	3	CLTC	CVTS	SMDPS IS IN 1-SWITCH MODE.	
	111	4	CVTS	MSTC	CLEAR TO START CSM LH2 RESERVICING. SMDPS IS IN 1-SWITCH MODE.	H
+23 HRS 55' 0"						
	111	1	CVTS	SRO	VERIFY RADIATION CLEARANCE FOR CIF ANTENNA CALIBRATION. (2282.5 MHZ AND 2287.5 MHZ).	

TIME	COMM CH	SEQUENCE	COMMAND STA	RESPONSE STA	DESCRIPTION	REMARKS
+1 DAY 0 HRS 0' C"	111	1	CTSC	CVTS	VERIFY RADIATION CLEARANCE FOR CIF ANTENNA CALIBRATION. (2282.5 MHZ AND 2287.5 MHZ).	
T+24:45 + 1 DAY 0 HRS 45' 0"	111	1	CVTS	CPSS	VERIFY READY TO SUPPORT TRANSFER OF LO2 DEWAR TO MSS LEVEL 4A. KEEP CVTS INFORMED OF DEWAR LOCATION RELATIVE TO SPACE VEHICLE.	
	111	2	MSTC	CVTS	CLEAR CONTROL AREA FOR LO2 DEWAR TRANSFER TO 4A. VERIFY CPSS CLEARANCE FOR TRANSFER.	H
T+25:00 1 DAY 1 HR. 0' 0"	111	1	CTSC	CVTS	CIF ANTENNA CALIBRATION IS COMPLETE. TERMINATE CLEARANCE FOR 2282.5 MHZ AND 2287.5 MHZ.	
	111	2	CVTS	SRO	CIF ANTENNA CALIBRATION COMPLETE. RF CLEARANCE NO LONGER REQUIRED.	
T+25:15 + 1 DAY 1 HR. 15' 0"	111	1	CVTS	CPSS	VERIFY SAFETY CLEARANCE TO START CSM LO2 RESERVICING.	
	111	2	MSTC	CVTS	VERIFY CPSS CLEARANCE TO START CSM LO2 RESERVICING.	H

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+28:45 + 1 DAY 4 HRS 45' 0"						
	111	1	MSTC	CVTS	CSM PERSONNEL ARE CLEARING TH NTROL AREA. REQUEST CPSS CLEARANCE TO START SM LO2 AND LH2 TANK PRESSURIZATION TO LESS THAN 25 PERCENT D. B.	
	188 (PA)	2	CVTS		ALL PERSONNEL ARE TO CLEAR THE CONTROL AREA FOR CSM LO2 AND LH2 TANK PRESSURIZATION TO FLIGHT PRESSURES. **********WARNING********** * * * THE CONTRUL AREA FOR CSM* * LO2 AND LH2 TANK * * PRESSURIZATION CONSISTS * * OF THE AREA CONFINED BY * * THE COMPLEX PERIMETER * * FENCE. * * * **********	
	111	3	CVTS	CPSS	CLEAR ALL PERSONNEL FROM THE CONTROL AREA FOR CSM LO2 AND LH2 TANK PRESSURIZATION TO FLIGHT PRESSURES. VERIFY READY TO START LO2 AND LH2 TANK PRESSURIZATION TO LESS THAN 25 PERCENT D.B. VERIFY READY FOR ECS GN2 STANDBY. (HAND VALVES OPEN)	
	111	4	CVTS	MSTC	CLEAR TO START WITH PRESSURIZATION TO LESS THAN 25 PERCENT D.B.	
	111	5	CLTC	CVTS	REQUEST CPSS VERIFY READY FOR ECS GN2 STANDBY. (HAND VALVES OPEN)	

TIME	COMM CH	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+29:15 +1 DAY 5 HRS 15' 0"						
	111	1	MSTC	CVTS	REQUEST CLEARANCE TO PRESSURIZE LO2 AND LH2 TANKS TO FLIGHT PRESSURES.	
	111	2	CPSS	CVTS	THE CONTROL AREA IS CLEAR OF ALL PERSONNEL AND SAFETY IS READY TO START CSM LO2 AND LH2 TANK PRESSURIZATION TO FLIGHT PRESSURES.	
	111	3	CVTS	MSTC	CLEAR TO PROCEED WITH PRESSURIZATION TO FLIGHT PRESSURES.	H
T+31:15 + 1 DAY 7 HRS 15' 0"						
	111	1	MSTC	CVTS	CRYO TANK PRESSURIZATION IS COMPLETE. TANK PRESSURES HAVE STABILIZED. CONTINUING CM SURGE TANK PRESSURIZATION. CONTROL AREA MAY BE OPENED FOR NORMAL WORK EXCEPT CM INTERIOR. VERIFY WHEN OPEN. CHANGE SMDPS TO 2-SWITCH, 1-VALVE MODE AND VERIFY.	
	111	2	CVTS	CPSS	VERIFY READY TO OPEN THE CONTROL AREA FOR NORMAL WORK EXCEPT FOR CM INTERIOR. SMDPS GOING FROM 1-SWITCH MODE TO 2-SWITCH, 1-VALVE MODE.	
	188 (PA)	3	CVTS		CSM LO2 AND LH2 TANK PRESSURIZATION IS COMPLETE. CONTINUING CM SURGE TANK PRESSURIZATION. THE CONTROL AREA IS OPEN FOR NORMAL WORK EXCEPT FOR CM INTERIOR.	
	111	4	CVTS	CLTC	CHANGE THE SMDPS FROM 1-SWITCH MODE TO 2-SWITCH, 1-VALVE MODE. REPORT WHEN COMPLETE.	

TIME	COMM CH	SEQUENCE	COMMAND STA	RESPONSE STA	DESCRIPTION	REMARKS
T+31:15 + 1 DAY 7 HRS 15' 0"	CONTINUED					
	111	5	CVTS	MSTC KSTC	THE CONTROL AREA IS OPEN FOR NORMAL WORK EXCEPT FOR CM INTERIOR. SMDPS IS IN A 2-SWITCH, 1-VALVE MODE.	H
	111	6	CLTC	CVTS	ECS IS CONFIGURED FOR GN2 STANDBY (HAND VALVES CLOSED) **********WARNING********** * * * ECS IS TO BE CONFIGURED * * FOR GN2 STANDBY WITH * * HAND VALVES CLOSED * * WHILE THE ALSEP FUEL * * CAPSULE IS INSTALLED IN * * THE VEHICLE. FOR AN * * EMERGENCY INVOLVING THE * * FUEL CAPSULE, THE * * HAND VALVES WILL NOT BE * * OPENED UNTIL DIRECTED * * BY CVTS. * * * **********	
	111	7	MSTC	CVTS	CM SURGE TANK PRESSURIZATION COMPLETE. CM INTERIOR MAY BE OPENED FOR NORMAL WORK. VERIFY WHEN OPEN.	
	111	8	CVTS	CPSS	CM SURGE TANK PRESSURIZATION COMPLETE. VERIFY READY TO OPEN THE CONTROL AREA FOR NORMAL WORK.	
	188 (PA)	9	CVTS		CM SURGE TANK PRESSURIZATION IS COMPLETE. THE CONTROL AREA IS OPEN FOR NORMAL WORK.	
	111	10	CVTS	MSTC	THE CONTROL AREA IS OPEN FOR NORMAL WORK.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+31:15 + 1 DAY 7 HRS 15' 0"	CONTINUED					
	111	11	CVTS	CTSC	POWER UP MSS PLATFORM NO. 3 AND NO. 4 AIR CONDITIONING SYSTEM.	
	111	12	MSTC	CVTS	CLEAR TO SECURE HAZARD MONITOR SYSTEM.	
	111	13	CVTS	CTSC	SECURE HAZARD MONITOR SYSTEM.	
T+33:45 + 1 DAY 9 HRS 45' 0"						
	111	1	KSTC	CVTS	LM SHE RESERVICE LINES ARE DISCONNECTED. FDS MAY BE REMOVED.	
	111	2	CVTS	CLTC	LM SHE RESERVICE LINES HAVE BEEN DISCONNECTED AND YOU ARE CLEAR TO REMOVE FDS FROM THE IU/S-IVB.	
T+34:40 + 1 DAY 10 HRS 40' 0"						
	111	1	MSTC	CVTS	MSS PLATFORM NO. 5 IS AVAILABLE FOR OPENING.	
	111	2	CLTC	CVTS	MSS PLATFORM NO. 5 IS AVAILABLE FOR OPENING IN CONJUNCTION WITH Q-BALL CABLE CONNECTION.	
	111	3	CVTS	CTSC	OPEN AND SECURE MSS PLATFORM NO. 5. COORDINATE Q-BALL CONNECTION WITH LV PERSONNEL AT MSS PLATFORM NO. 5.	H
T+35:45 + 1 DAY 10 HRS 45' 0"						
	111	1	KSTC	CVTS	3000 PSI MSS/PAD GN2 AND GHE LINES MAY BE DISCONNECTED AT THIS TIME.	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+35:45 + 1 DAY 10 HRS 45' 0"	CONTINUED					
					NOTE ---- CSM REQUIRES MSS/PAD 3000 PSI GN2 AND GHE LINES UNTIL T+1 DAY, 11 HOURS, 45' 0".	
T+35:30 + 1 DAY 11 HRS 30' 0"						
	111	1	KSTC	CVTS	MSS PLATFORM NO. 3 IS AVAILABLE FOR OPENING.	
	111	2	CVTS	CTSC	OPEN AND SECURE MSS PLATFORM NO. 3.	H
					NOTE ---- PLATFORM PREPARATION WORK IS TO BE ACCOMPLISHED ON A NON-INTERFERENCE BASIS WITH THE MSS PLATFORM CREW.	
	111	3	MSTC	CVTS	MSS PLATFORM NO. 4 IS AVAILABLE FOR OPENING.	
	111	4	CVTS	CTSC	OPEN AND SECURE MSS PLATFORM NO. 4.	H
					NOTE ---- PLATFORM PREPARATION WORK IS TO BE ACCOMPLISHED ON A NON-INTERFERENCE BASIS WITH THE MSS PLATFORM CREW.	

TIME	COMM CH	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+35:30 + 1 DAY 11 HRS 30' 0"	CONTINUED					
					NOTE ---- MSS PLATFORMS NO. 3 AND NO. 4 ARE SCHEDULED TO BE OPENED FROM T+1 DAY 11 HOURS, 30' 0" TO T+1 DAY 15 HOURS, 0' 0".	
T+35:45 + 1 DAY 11 HRS 45' 0"						
	111	1	MSTC	CVTS	CLEAR TO DISCONNECT MSS/PAD 3000 PSI GN2 AND GHE LINES.	
	111	2	CVTS	CTSC	TERMINATE AND DISCONNECT MSS/PAD 3000 PSI GN2 AND GHE LINES.	H
	111	3	CTSC	CVTS	PLATFORM NO. 5 IS OPEN AND SECURE.	
T+36:30 + 1 DAY 12 HRS 30' 0"						
	111	1	CLTC	CVTS	KSC SYSTEMS SAFETY SUPPORT WILL BE REQUIRED IN 30 MINUTES ON ML LEVEL 240 FOR GH2 SNIFFER CHECKS.	
	111	2	CVTS	CPSS	SUPPORT FOR LV WILL BE REQUIRED IN 30 MINUTES ON ML LEVEL 240 FOR GH2 SNIFFER CHECKS OF THE S-IVB HEAT EXCHANGER UNIT 438A.	
	111	3	CLTC	CVTS	KSC SYSTEMS SAFETY SUPPORT WILL BE REQUIRED IN 30 MINUTES ON ML LEVEL 180 TO PERFORM GH2 SNIFFER CHECKS OF S7-41 "D" UNIT.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+36:30 + 1 DAY 12 HRS 30' 0"	CONTINUED					
	111	4	CVTS	CPSS	SUPPORT FOR LV WILL BE REQUIRED IN 30 MINUTES ON ML LEVEL 180 TO PERFORM GH2 SNIFFER CHECKS OF S7-41 "D" UNIT.	
T+36:45 + 1 DAY 12 HRS 45' 0"						
	111	1	CVTS	KSTC	VERIFY LM 525 PLATFORM REMOVAL IS COMPLETE AND CLEAR TO BEGIN S-IVB FORWARD ACCESS KIT REMOVAL. (QUAD II).	
	111	2	CVTS	CLTC	LM 525 PLATFORM REMOVAL IS COMPLETE. CLEAR TO BEGIN S-IVB FORWARD ACCESS KIT REMOVAL.	
	111	3	CVTS	CPSS KSTC	VERIFY CLEAR TO CLOSE AND LOCK EMERGENCY ACCESS GATE ON S/A 7.	
	111	4	CVTS	MSTC	S/A 7 EMERGENCY EGRESS DOOR IS BEING LOCKED.	
	111	5	CVTS	CLTC	CLEAR TO CLOSE AND LOCK EMERGENCY ACCESS GATE ON S/A 7.	
	111	6	CLTC	CVTS	SA NO. 9 WILL BE PRESSURIZED IN 15 MINUTES. LOCAL CLEARING WILL BE CONTROLLED BY SA PERSONNEL.	
	111	7	CVTS	MSTC KSTC	SA NO. 9 WILL PRESSURIZED IN 15 MINUTES. LOCAL CLEARING WILL BE CONTROLLED BY SA PERSONNEL.	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+37:05 + 1 DAY 13 HRS 5' 0"						
	111	1	CVTS	MSTC KSTC CLTC	GMIL BRINGING UP SPACE VEHICLE S-BAND AND VHF CARRIERS FOR ON-STATION CALIBRATION FOLLOWED BY MCC COMMAND VALIDATION AND AIR/GROUND VALIDATION TESTING. VERIFY COMMAND DECODERS ARE OFF.	
	111	2	CVTS	SRO	VERIFY RADIATION CLEARANCE FOR GMIL ON-STATION CALIBRATION. (2101.8, 2106.4, 2272.5, 2282.5, 2287.5, 245.3, 258.5, 259.7, AND 296.8 MHZ)	
T+37:10 + 1 DAY 13 HRS 10' 0"						
	111	1	GMIL	CVTS	VERIFY RADIATION CLEARANCE FOR ON-STATION CALIBRATION.	
T+37:55 + 1 DAY 13 HRS 55' 0"						
	111	1	CVTS	SRO	STANDBY ON CH. 137 TO SUPPORT LV DRSCS PREPS PER V-38000. NOTE ---- LV DRSCS PREPS ARE FOR DRSCS TEST AT T-4 HOURS, 40' 0".	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+38:00 + 1 DAY 14 HRS 0' 0"						
	111	1	MSTC	CVTS	READY FOR MSS/WR DOOR LOCK INSTALLATION AND SA9 HANGER REMOVAL (WITH THE SHEAR DOOR OR TORSIONAL AND SHEAR FRAME IN PLACE. THE MAXIMUM ALLOWABLE LOADING IN THE APOLLO ACCESS ARM ENVIRONMENTAL CONTROL CHAMBER IS 1250 LBS. OR FIVE (5) MEN. OF THIS 1250 LBS., 600 LBS. MAXIMUM ARE ALLOWED ON THE ENVIRONMENTAL CONTROL CHAMBER EXTENSION PLATFORM.)	
	111	2	CLTC	CVTS	VERIFY READY FOR WHITE ROOM MSS DOOR LOCK INSTALLATION AND SA9 HANGER REMOVAL. (SAME LIMITATIONS AS SHOWN ABOVE.)	
	111	3	CLTC	CVTS	REQUEST RANGE SUPPORT OF DRSCS PREPS ON CH. 137 PER V-38000.	
	111	4	CTSC	CVTS	ALERT ALL SCO AND LVO OBSERVERS TO BE ON STATION IN 60 MINUTES FOR COMM CHECKS IN SUPPORT OF MSS MOVE.	
	111	5	CVTS	MSTC KSTC CLTC	MSS PLATFORM OBSERVERS ARE TO REPORT TO PVTS AT THE BASE OF THE MSS LOW RISE ELEVATOR FOR OBSERVER BRIEFING IN 45 MINUTES. NOTE ---- MSS OBSERVERS WILL REPORT ON STATION TO BE BRIEFED PER APOLLO/SATURN V LC-39 LAUNCH OPERATIONS INSTRUCTIONS, 600-26-0001.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+38:15 + 1 DAY 14 HRS 15' 0"						
	111	1	MSTC	CVTS	RAISE SM ECS FLOW RATE TO 75+/-5 LBS./ MIN.	
	111	2	CVTS	CLTC	INCREASE SM ECS FLOW RATE TO 75+/-5 LBS./MIN.	
T+38:30 + 1 DAY 14 HRS 30' 0"						
	111	1	CVTS	MSTC	VERIFY READY FOR SA NO. 8 TIP RETRACTION.	
	111	2	CLTC	CVTS	VERIFY READY FOR SERVICE ARM NO. 8 EXTENSION PLATFORM RETRACTION.	
	111	3	CTSC	CVTS	DISCONNECTING THE PAD/MSS COMM AND INSTRUMENTATION CABLES. CONFIGURING THE MSS OIS-RF TO UHF.	
	111	4	CVTS	MSTC KSTC CLTC	STARTING MSS OIS TRANSFER PAD HARDLINE TC CT UHF. CT OIS CHANNEL ASSIGNMENTS ARE IN EFFECT.	
	111	5	CTSC	CVTS	PROPELLING CT TO MSS MATE POSITION.	
	111	6	CVTS	CPSS	PROPELLING CT TO MSS MATE POSITION.	H
T+38:45 + 1 DAY 14 HRS 45' 0"						
	111	1	CTSC	CVTS	MSS OIS TRANSFER PAD TO CT IS COMPLETE. MSS IS A BRANCH OF CT UHF.	
	111	2	CVTS	MSTC KSTC CLTC	MSS OIS TRANSFER - PAD TO CT IS COMPLETE.	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+38:45 + 1 DAY 14 HRS 45' 0"	CONTINUED					
	111	3	CTSC	CVTS	MSS TRANSFER TO ONBOARD POWER WILL OCCUR IN 15 MINUTES. NOTE ---- MSS HI-RISE ELEVATORS, HVAC AND FACILITY AIR COMPRESSORS WILL BE POWERED DOWN FOR MSS POWER TRANSFER AND POWERED UP AFTER MSS POWER TRANSFER.	
T+39:00 + 1 DAY 15 HRS 0' 0"					NOTE ---- A BUILT-IN HOLD TO SYNCHRONIZE COUNTDOWN PICKUP TIME WITH OPENING OF THE LAUNCH WINDOW WILL OCCUR AT T+1 DAY, 17 HOURS, 0' 0".	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+ 39:00 + 1 DAY 15 HRS 0' 0"	CONTINUED					
	111	1	CVTS	SRO GMIL HFLT MSTC KSTC CLTC CPSS CTSC	A HOLD OF ___ HOUR(S) ___ MINUTE(S) WILL START AT T+1 DAY, 17 HOURS, 0' 0" WITH THE CLOCK RESET AND HOLDING AT T-9 HOURS, 0' 0". NOTE HFLT MAY NOT BE ON THE OIS NET AT THIS TIME. IF NO RESPONSE, USE BLACK PHONE: 713-HU3-6336. NOTE CVTS WILL NOTIFY TEST CONDUCTORS OF CHANGES IN HOLD TIME IN EXCESS OF 15 MINUTES DURATION.	
	111	2	CTSC	CVTS	MSS PLATFORMS NO. 3 AND NO. 4 ARE OPEN AND SECURE.	
	111	3	CVTS	CLTC	VERIFY READY FOR MSS POWER TRANSFER FROM PAD TO CT.	
	111	4	CVTS	MSTC	MSS POWER TRANSFER IS TO OCCUR AT THIS TIME.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+39:00 + 1 DAY 15 HRS 0' 0"	CONTINUED					
	111	5	CVTS	CTSC	READY TO TRANSFER MSS POWER TO ON-BOARD.	H
	111	6	CTSC	CVTS	MSS TRANSFER TO ONBOARD POWER COMPLETE.	
T+39:10 + 1 DAY 15 HRS 10' 0"						
	111	1	GMIL	CVTS	ON-STATION CALIBRATION IS COMPLETE. GMIL RF IS OFF. READY FOR MCC COMMAND VALIDATION TEST AND MCC AIR/GROUND VALIDATION TEST.	
	111	2	CVTS	SRO	GMIL ON-STATION CALIBRATION IS COMPLETE. VERIFY RADIATION CLEARANCE FOR MCC COMMAND VALIDATION TEST. (2106.4 AND 2101.8 MHZ UP LINK FREQUENCIES). VERIFY RADIATION CLEARANCE FOR MCC AIR/GROUND VALIDATION TEST. (296.8, 259.7 AND 2106.4 MHZ)	
	111	3	HFLT	CVTS	VERIFY ALL SV COMMAND DECODERS ARE OFF. BRING UP GMIL CSM, LM AND CCS S-BAND CARRIERS FOR THE MCC COMMAND VALIDATION TEST. BRING UP GMIL CSM-VHF AND S-BAND FOR MCC AIR/GROUND VALIDATION TEST.	
	111	4	CVTS	GMIL	BRING UP GMIL CSM, LM AND CCS S-BAND CARRIERS AND VERIFY. BRING UP CSM VHF AND S-BAND FOR MCC AIR/GROUND VALIDATION TEST.	
	111	5	CVTS	HFLT	GMIL CSM AND CCS S-BAND CARRIERS ARE ON FOR THE MCC COMMAND VALIDATION TEST. GMIL STANDING BY WITH CSM-VHF FOR MCC AIR/GROUND VALIDATION TEST.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+39:15 + 1 DAY 15 HRS 15' 0"						
	111	1	CVTS	CTSC	REPORT PREVAILING WIND DATA. (REFERENCE LMR ITEM 1-401).	
T+39:20 + 1 DAY 15 HRS 20' 0"						
	111	1	CVTS	MSTC	VERIFY READY FOR AUXILIARY DAMPER DISCONNECT.	
	111	2	CLTC	CVTS	VERIFY PREVAILING WINDS DO NOT EXCEED REDLINE VALUES FOR FREE STANDING SV (REFERENCE LMR).	
	111	3	CVTS	CLTC	CLEAR TO DISCONNECT AUXILIARY DAMPER.	
T+39:30 1 DAY 15 HRS 30' 0"						
	111	1	CLTC	CVTS	LV-QAL INSPECTION OF MSS PLATFORMS NO. 1 AND NO. 2 PER LV QAL QCP-11 IS COMPLETE. AUXILIARY DAMPER DISCONNECTED AND LV READY FOR MSS JACKING, BUT NOT FOR MOVE.	
	111	2	CVTS	CTSC	AUXILIARY DAMPER IS DISCONNECTED.	
	111	3	CVTS	KSTC	VERIFY ALL MSS PREPARATIONS FOR MOVE ARE COMPLETE AND OBSERVERS ARE ON STATION.	
	111	4	CVTS	MSTC	VERIFY ALL MSS PREPARATIONS FOR MOVE ARE COMPLETE.	
	111	5	CTSC	CVTS	REQUEST CLEARANCE TO JACK MSS TO CLEARANCE HEIGHT.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+39:30 + 1 DAY 15 HRS 30' 0"	CONTINUED					
	111	6	CVTS	CPSS	VERIFY CLEAR FOR MSS JACKING OPERATIONS.	
	111	7	CVTS	CTSC	JACK MSS TO CLEARANCE HEIGHT.	H
	111	8	HFLT	CVTS	MCC COMMAND VALIDATION TEST IS COMPLETE. MCC AIR/GROUND VALIDATION TEST IS COMPLETE. BRING DOWN CSM, LM AND CCS S-BAND CARRIERS. GMIL CSM-VHF NO LONGER REQUIRED.	
	111	9	CVTS	GMIL	BRING DOWN GMIL CSM, LM AND CCS S-BAND CARRIERS AND VERIFY. CSM VHF NO LONGER REQUIRED.	
	111	10	CVTS	SRO	MCC COMMAND VALIDATION AND MCC AIR/GROUND VALIDATION TESTING IS COMPLETE. RF CLEARANCE NO LONGER REQUIRED.	
	111	11	CVTS	MSTC KSTC CLTC	GMIL ON-STATION, MCC COMMAND VALIDATION AND AIR/GROUND TESTING IS COMPLETE. GMIL S-BAND AND VHF CARRIERS ARE OFF.	
T+39:55 + 1 DAY 15 HRS 55' 0"	111	1	CVTS	MSTC	VERIFY READY FOR PRIMARY DAMPER CONNECTION IN 15 MINUTES.	
T+40:00 + 1 DAY 16 HRS 0' 0"	111	1	CTSC	CVTS	MSS IS JACKED TO CLEARANCE HEIGHT. REQUEST CLEARANCE TO PROPEL MSS TO PARKSITE.	

TIME	COMM CH	SEQUENCE	COMMAND STA	RESPONSE STA	DESCRIPTION	REMARKS
T+40:00 + 1 DAY 16 HRS 0' 0"	CONTINUED					
	111	2	CVTS	CLTC	MSS JACKING IS COMPLETE.	
	111	3	CLTC	CVTS	LV IS CLEAR FOR MSS MOVE.	
	111	4	CVTS	CPSS	VERIFY CLEARANCE TO PROPEL MSS TO PARKSITE.	
	111	5	CVTS	CTSC	PROPEL MSS CLEAR OF SUPPORT COLUMNS AND PROCEED WITH TRANSFER OPERATIONS. REPORT PROGRESS ENROUTE.	H
	111	6	CTSC	CVTS	MSS IS IN MOTION.	
	111	7	CVTS	MSTC CLTC	MSS IS IN MOTION.	
T+40:05 1 DAY 16 HRS 5' 0"						
	111	1	CTSC	CVTS	MSS IS AT 35 FT. POSITION.	
	111	2	CVTS	CLTC	READY FOR PRIMARY DAMPER CONNECTION.	
	111	3	CVTS	MSTC	PRIMARY DAMPER BEING CONNECTED.	
T+40:10 + 1 DAY 16 HRS 10' 0"						
	111	1	CLTC	CVTS	PRIMARY DAMPER ARM CONNECTION COMPLETE.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+40 :15 + 1 DAY 16 HRS 15' 0"						
	111	1	CVTS	CLTC	HAVE SA NO. 9 PERSONNEL REPORT TO SA NO. 9 IN 15 MINUTES FOR CO2 SYSTEM VERIFICATION.	
	111	2	CVTS	CTSC	PERSONNEL WILL BE REQUIRED ON SA NO. 9 IN 15 MINUTES TO SUPPORT CO2 SYSTEM VERIFICATION.	
T+40 :25 + 1 DAY 16 HRS 25' 0"						
	111	1	CVTS	SRO	VERIFY CLEARANCE FOR CSM S-BAND AND VHF-AM.	
T+40 :30 + 1 DAY 16 HRS 30' 0"						
	111	1	MSTC	CVTS	VERIFY CLEARANCE FOR CSM RF: S-BAND VHF-AM CSM COMMAND DECODER IS OFF. HAVE GMIL AND HFLT PROVIDE SUPPORT ON CH. 212. CSM VERIFIES CCS NOT ENABLED (BLOCKED).	
	111	2	CVTS	HFLT	CSM S-BAND CARRIER IS COMING ON. CSM COMMAND DECODER IS OFF. STANDBY ON CH. 212 TO SUPPORT CSM RF VOICE CHECKS.	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
T+40:30 + 1 DAY 16 HRS 30' 0"	CONTINUED					
	111	3	CVTS	GMIL	STANDBY ON CH. 212 TO SUPPORT RF VOICE CHECKS. CLEAR TO BRING UP CSM S-BAND CARRIER. KEEP CVTS ADVISED OF CARRIER STATUS.	
	111	4	CVTS	CLTC	CSM CCS SWITCH IN BLOCK POSITION (CSM CCS NOT ENABLED) FOR FT-47 AT T-7 HOURS 13' 0". (COUNTDOWN TIME)	
	111	5	MSTC	CVTS	280 FT. ACE ROOM READY FOR SECURING.	
	111	6	CVTS	CTSC	280 FT. ACE ROOM READY FOR SECURING.	
T+41:00 + 1 DAY 17 HRS 0' 0"						
	111	1	CLTC	CVTS	LV HAS COMPLETED TURNAROUND OPERATIONS. RESET COUNTCLOCK TO T-9 HOURS, 0' 0" AND HOLD AS REQUIRED TO SYNCHRONIZE COUNTCLOCK WITH LAUNCH WINDOW.	
	111	2	CLTC	CVTS	SA NO. 9 CO2 SYSTEM VERIFICATION IS COMPLETE.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
HOLDING - 9 HRS 0' 0"					NOTE ---- THE FOLLOWING SEQUENCES ARE SCHEDULED TO OCCUR DURING THE BUILT-IN HOLD AT T-9 HOURS, 0' 0". IF NO HOLD, SEQUENCES WILL OCCUR AT THE TCP TIMES INDICATED IN THE REMARKS COLUMN. PERSONNEL WILL POSSES T-9 HOURS HAZARDOUS BADGES IN THE EVENT THAT THE OPERATIONS OCCUR AFTER BLAST DANGER AREA CLEARING FOR LV PROPELLANT LOADING.	
					--2 HOURS, 45' 0" AFTER START OF HOLD-- **********	-6 HRS 45' 0"
111	1	CTSC	CVTS		MSS IN MATE POSITION. MEASUREMENTS COMPLETE. REQUEST CLEARANCE TO JACK DOWN.	
111	2	CVTS	CPSS		VERIFY CLEARANCE TO LOWER MSS ON SUPPORT COLUMNS.	
111	3	CVTS	CTSC		LOWER MSS ON SUPPORT COLUMNS.	"
					--3 HOURS, 15' 0" AFTER START OF HOLD-- **********	-6 HRS 15' 0"
111	1	CTSC	CVTS		MSS/PARKSITE GHE AND GN2 LINES ARE BEING CONNECTED AND WILL BE PRESSURIZED IN APPROXIMATELY 1 HOUR.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
HOLDING - 9 HRS 0' 0"	CONTINUED					
					--4 HOURS, 0' 0" AFTER START OF HOLD-- **********	-5 HRS 15' 0"
	111	1	CTSC	CVTS	MSS/PARKSITE GHE AND GN2 SYSTEMS PRESSURIZED.	
	111	2	CVTS	MSTC	MSS/PARKSITE GHE AND GN2 SYSTEMS PRESSURIZED.	
					--2 HOURS, 40' 0" PRIOR TO RESUMING COUNT-- **********	+1 DAY 14 HRS 20' 0"
	111	1	CTSC	CVTS	ML NON-CRITICAL POWER WILL BE SECURED IN 10 MINUTES.	
					--1 HOUR, 30' 0" PRIOR TO RESUMING COUNT-- **********	+1 DAY 15 HRS 30' 0"
	111	1	CTSC	CVTS	ML ELEVATORS ARE BEING CONFIGURED FOR LAUNCH.	

TIME	COMM. CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
HOLDING - 9 HRS 0' 0"	CONTINUED					
					--1 HOUR, 0' 0" PRIOR TO RESUMING COUNT-- **********	+1 DAY 16 HRS 0' 0"
	188 (PA)	1	CLTC		TAIL SERVICE MAST SAFETY CABLES WILL BE REMOVED AT THIS TIME. PERSONNEL USE EXTREME CAUTION IN AREA OF HOLDDOWN ARMS AND TAIL SERVICE MASTS.	
	111	2	CTSC	CVTS	STARTING ML PRESSURIZATION TASK. PRESSURIZATION WILL OCCUR IN APPROXIMATELY 1 HOUR.	
	111	3	CVTS	CLTC MSTC KSTC CPSS	STARTING ML PRESSURIZATION TASK. PRESSURIZATION WILL OCCUR IN APPROXIMATELY 1 HOUR. NOTE ---- LOCAL PAGES WILL BE MADE 15, 10, AND 5 MINUTES PRIOR TO PRESSURIZING THE ML.	
	111	4	CVTS	CTSC	FIRE PROTECTION PERSONNEL ARE REQUIRED ON STATION IN 60 MINUTES IN SUPPORT OF LV PROPELLANT LOADING.	
	111	5	MSTC	CVTS	STANDBY FOR RF COMM CHECKS WITH SPAD USING EEAP.	
	111	6	CTSC	CVTS	UNSECURED FIRE EXTINGUISHERS WILL BE REMOVED FROM THE ML AT THIS TIME.	
					--45' 0" PRIOR TO RESUMING COUNT-- **********	+1 DAY 16 HRS 15' 0"
	111	1	CLTC	CVTS	ALL LV COMPARTMENTS CLOSED OUT AND READY TO SWITCH ECS FROM AIR TO GN2.	
	111	2	CVTS	CPSS	ALL LV COMPARTMENTS ARE CLOSED OUT.	

TIME	COMM CH.	SEQUENCE	COMMAND STA.	RESPONSE STA.	DESCRIPTION	REMARKS
HOLDING - 9 HRS 0' 0"	CONTINUED					
					--30' GM PRIOR TO RESUMING COUNT-- **********	+1 DAY 16 HRS 30' 0"
	111	1	CTSC	CVTS	PERFORMING ELEVATOR FUNCTIONAL TEST IN EGRESS MODE ON ML ELEVATORS AND CONFIGURING ELEVATORS FOR LAUNCH.	
	111	2	CVTS	MSTC CLTC CTSC	VERIFY FINAL PURGE BOX VALIDATION.	
	111	3	CVTS	CPSS	VERIFY READY TO SWITCH ECS TO GN2.	
	111	4	CLTC	CVTS	REQUEST CPSS VERIFY CLEARANCE TO SWITCH ECS TO GN2.	H
					NOTE ---- SWITCHING OF ECS TO GN2 IS SCHEDULED TO OCCUR 10 MINUTES AFTER CLEARANCE IS GRANTED.	
	111	5	CVTS	CTSC	CONFIGURE SAFETY SIGNAL LIGHTS TO STEADY RED.	
					CLOSE AND DOG THE PAD SURFACE FTCR BLAST DOORS.	
					PLACE SLIDEWIRE CAB IN READINESS CONFIGURATION.	

TIME	COMM CH	SEQUENCE	COMMAND STA	RESPONSE STA	DESCRIPTION	REMARKS
HOLDING - 9 HRS 0' 0"	CONTINUED					
					--15' 0" PRIOR TO RESUME COUNT-- **********	+1 DAY 16 HRS 45' 0"
	111	1	MSTC	CVTS	CHANGE SMDPS FROM 2-SWITCH, 1-VALVE MODE TO 1-SWITCH MODE AND VERIFY.	
	111	2	CVTS	CPSS	VERIFY CLEARANCE TO CHANGE SMDPS FROM 2-SWITCH, 1-VALVE MODE TO 1-SWITCH, MODE.	
	111	3	CVTS	CLTC	CHANGE SMDPS FROM 2-SWITCH, 1-VALVE MODE TO 1-SWITCH MODE. REPORT WHEN COMPLETE.	
	111	4	CLTC	CVTS	SMDPS IS IN A 1-SWITCH MODE.	
	111	5	CVTS	MSTC	SMDPS IS IN A 1-SWITCH MODE.	
					NOTE ---- FROM THIS POINT, THE COUNT-DOWN WILL BE RESUMED USING APPLICABLE COUNTDOWN [illegible]PS. FOR SPACE VEHICLE OPERATIONS REFERENCE TCP V-40300, VOL I AND PROCEED WITH CALLS AT T-9 HOURS, 0' 0".	
					END OF 48 HOUR SCRUB TURNAROUND OPERATING STEPS.	