



APOLLO 10	
CSM RENDEZVOUS	
PART NO	S/N
SKB32100079-352	1002

## EXTERNAL DV PADS

## CSM SEP PAD

33	00	:	000	:	0	.
81	+	0000.0	+	0000.0	-	0002.5
22	XXX		XXX		XXX	

CSM BACKUP  
INSERTION PAD  
INITIAL

47	+	.	+	00000.		
48		.		.		
33	00	:	000	:	0	.
81		.		.		.
22	XXX		XXX		XXX	
$\Delta V_C$	X	.				
11	00	:	000	:	0	.
37	00	:	000	:	0	.
N						

CSM BACKUP  
INSERTION PAD  
UPDATE

47	+	.	+	00000.		
48		.		.		
33	00	:	000	:	0	.
81		.		.		.
22	XXX		XXX		XXX	
$\Delta V_C$	X	.				
11	00	:	000	:	0	.
37	00	:	000	:	0	.
N						

## NOMINAL IGNITION TIMES

CSI 11	00	:	103	:	000	:	45	:	0	34.
PC 33	00	:		:	000	:		:	0	.
TPI 37	00	:	105	:	000	:	24	:	0	01.

N=1

## RESCUE TWO PAD

47	+	.	+	00000.		
48		.		.		
33	00	:	000	:	0	.
81		.		.		.
22	XXX		XXX		XXX	
$\Delta V_C$	X	.				
11	00	:	000	:	0	.
37	00	:	000	:	0	.
N						

## CANNED RESCUE TWO PADS FOR:

1. LM PDI ABORT
2. PARTIAL PHASING (0 - 40)
3. PARTIAL PHASING (40 - NOM)
4. ZERO INSERTION
5. PARTIAL INSERTION

ARE INCLUDED ON RESCUE CHECKLISTS

CSM RENDEZVOUS  
RESCUE PADS

## CSI ONE

11	00	:	000	:	0	.
81		.		.		.
N						

## CSI TWO

11	00	:	000	:	0	.
81		.		.		.
N						

## CDH

13	00	:	000	:	0	.
81		.		.		.

## TPI

37	00	:	000	:	0	.
81		.		.		.
59		.		.		.
LOS BT	XX	:	XX	:	XX	:

97:00

CONTINGENCY EVA PREP



P00; MCC-H UPLINK RLS  
AND CSM VECTOR

V66  
COPY: CSM SEP PADS  
DONN HELMET AND GLOVES  
CSM/LM COMM CHECK  
VHF AM A - SIMPLEX  
VHF RCV ONLY - B DATA

97:10

M  
S  
F  
N

MIN DB FOR LM RCS COLD FIRE CHECKS

DISABLE CSM ROLL JETS  
MAX DB FOR LM RCS HOT FIRE CHECKS  
ENABLE CSM ROLL JETS

97:20

L  
O  
S

VERIFY AUTO RCS SEL-C4(-PITCH-X)-OFF  
VERIFY AUTO RCS SEL-B3(+YAW-X)-OFF FOR LM  
RR SELF TEST  
VERIFY RNDZ XPNDR-OFF

97:30

18

97:30

CONFIGURE CAMERA:  
CM/SEQ/18/CEX-BRKT (RH WIN)  
MIR (f11,250,00) 6FPS,15 MIN

DAP (21112)(+37768)(-00052)  
V46 (11111)(+30847)(+00059)

GND 47	+	.	+	.
UPDATE 48	.	.	.	.

97:40

V62

V49;AUTO TO UNDOCKING ATTITUDE (180, 282/14,14)  
( INERTIAL SEP ATT EXCEPT ROLL AND 14° YAW)

UNDOCK GET	98:	10:	00
LOAD 22	180	14	14

SC CONT-CMC  
CMC MODE-FREE (AS REQ FOR AGS CALIB)  
CMC MODE-AUTO (AFTER 32 SEC)  
VERIFY MAX DB FOR AGS CALIB  
SYSTEMS CHECKS AND SWITCH VER

97:50

YAW 14° LEFT AFTER LM AGS  
CALIB (180,312/14,0)

RR XPNDR CHECKS:

RNDZ XPNDR ACTIVATION & SELF TEST

cb RNDZ XPNDR FLT BUS - close (verify)

RNDZ XPNDR - HTR for 24 min  
(1 min if self test only)

RNDZ XPNDR - PWR

SYS TEST (lh) - XPNDR

SYS TEST (rh) - A (RRT XMTR OUT PWR)

SYS TEST ind -&gt;1 vdc

SYS TEST (rh) - B (RRT AGC SIG)

RNDZ XPNDR - TEST (hold)

SYS TEST ind -&gt;1 vdc

SYSTEST OPS

3.7 → 4.2

SYS TEST ONLY 1.8 → 2.2



RNDZ XPNDR - OPERATE  
 SYS TEST ind - 0 - 4.5 vdc  
 SYS TEST (rh) - C (RRT FREQ LOCK)  
 SYS TEST ind - <8 vdc unlocked, >4 vdc locked  
 SYS TEST (rh) - B

(R=0)(IF NOT; V66)

GDC ALIGN

ORDEAL (V83)

SC CONT-SCS; DAP (11102) *O-USE B/D*  
 (11111) ;V46 /-USE A/C

240° ROLL OPTIMUM FOR SHADE AND MSFN

UNDocking (98:10:00) (180, 12/14, 0)

AUTO RCS SEL - B3; C4-MNA

DV CG-CSM

RR XPNDR-PWR(VERIFY)

ROLL LEFT 180° (2°/SEC) (0,50/14,0)

V64; ACQ MSFN

PHOTOS; COLOR TV

INSPECT LM

(LM 360° YAW)

UNDock

INSPECT

COPY PADS

	-71.1	0	-.3	
84	-69.9	.0	-13.8	DOI P76
33	59	46	00.89	(20)
	170.4	0	-95.6	
84	+166.6	.0	-59.4	PHASING
33	100	58	25.20	P76
	96.2	0	0	(32)
84	+93.1	.0	+2.2	PDI ABORT
33	100	43	46.50	P76
				(4)

DAP (11102)  
 (01111) ;V46;SC CONT-CMC

\*\*\*\*\*  
 P30 (LOAD VGZ=-2.5)  
 \*\*\*\*\*

P41 (TRIM)

RCS

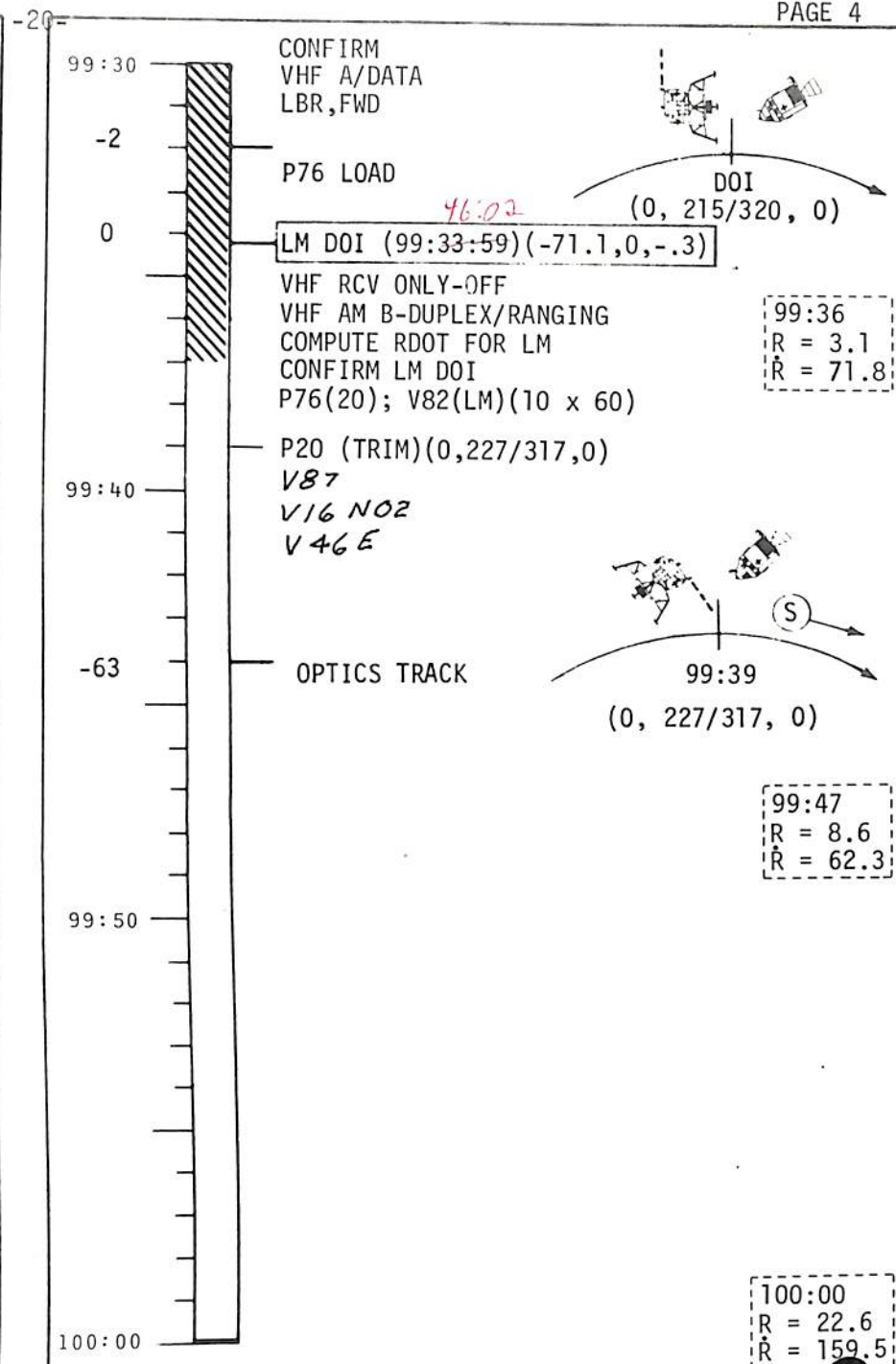
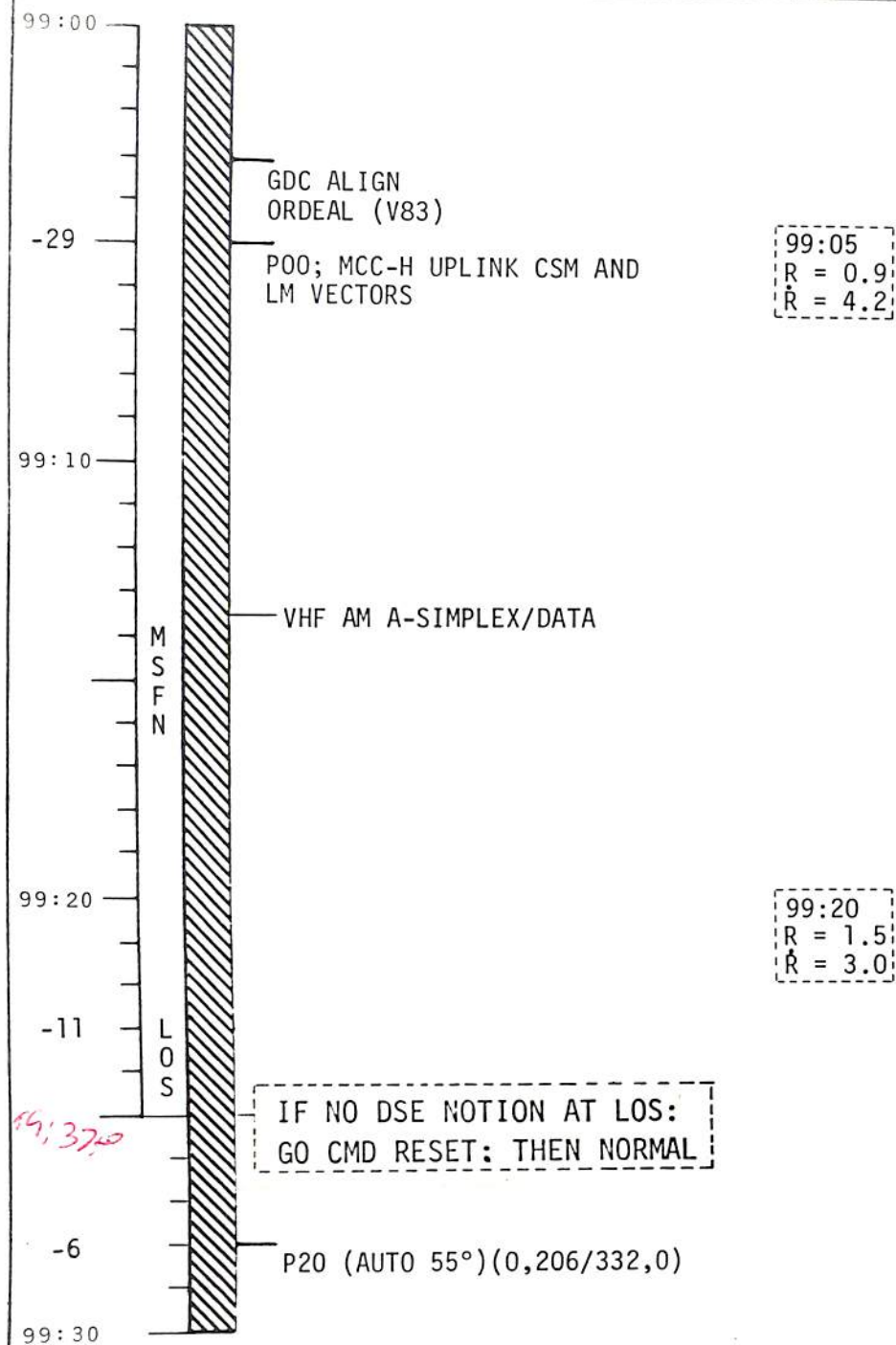
CSM SEP (98:35:16) (0, 0, -2.5)  
 (THRUST AFT) (0, 90/14, 0)  
 (BURN VGX 2.5 → 5.0)

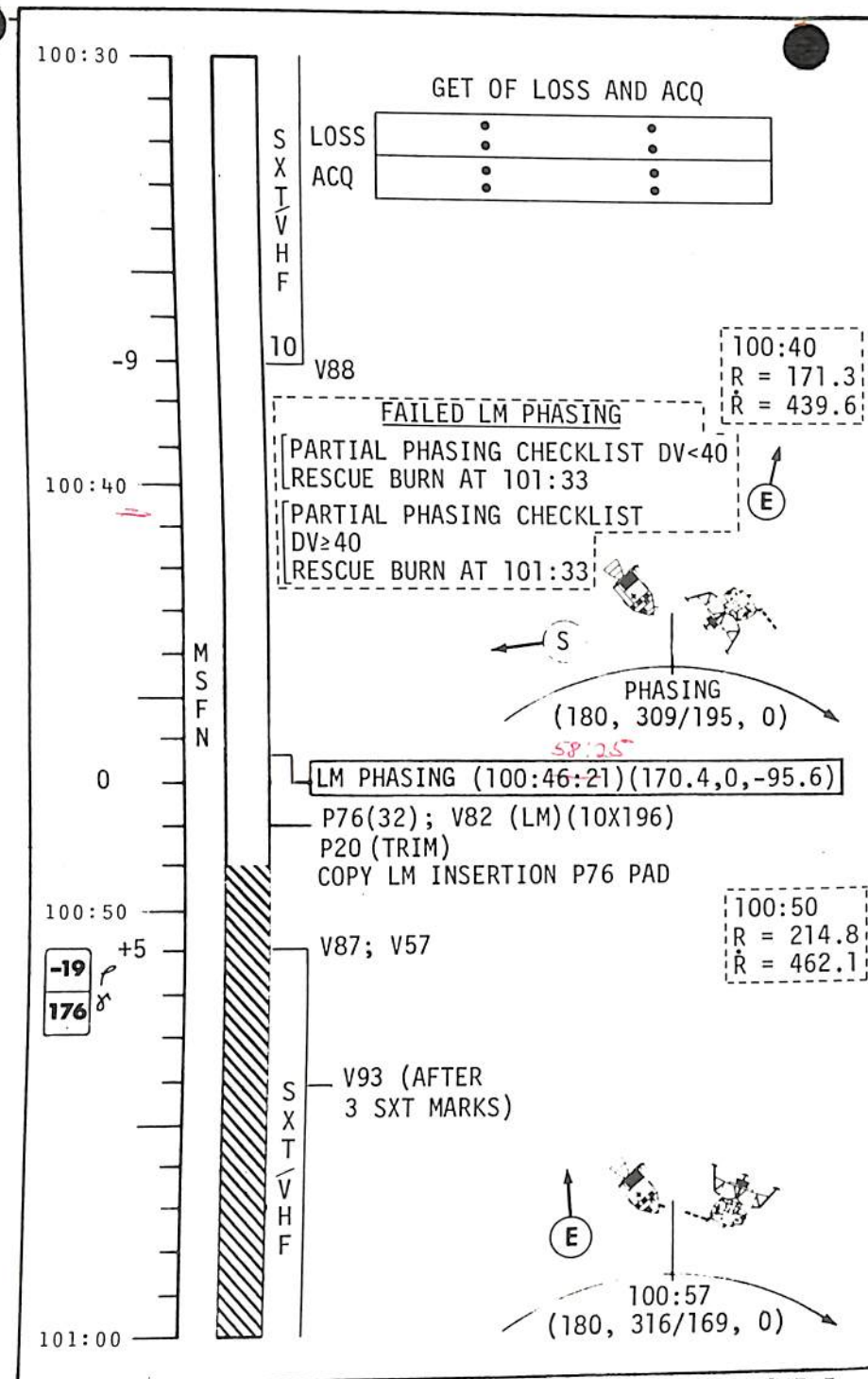
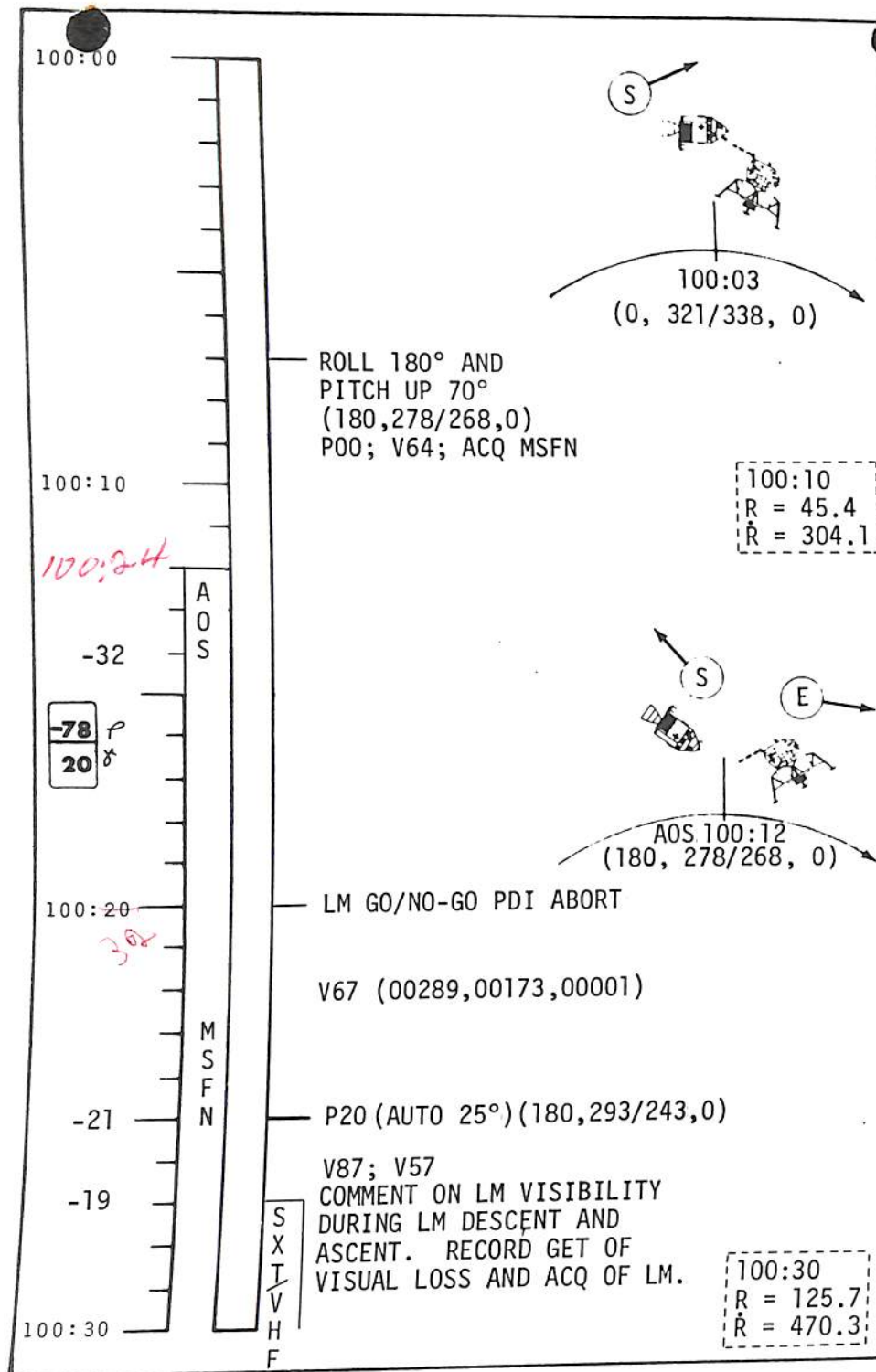
P20 (AUTO 40°)(0,145/55,0)  
 VHF ANT-RT  
 VHF AM B - DUPLEX/RANGING  
 LM RR CHECKS  
 EMS VHF AND V83 RANGE  
 OPTICS CHECKS

98:45  
 R = 0.2  
 R = 2.8

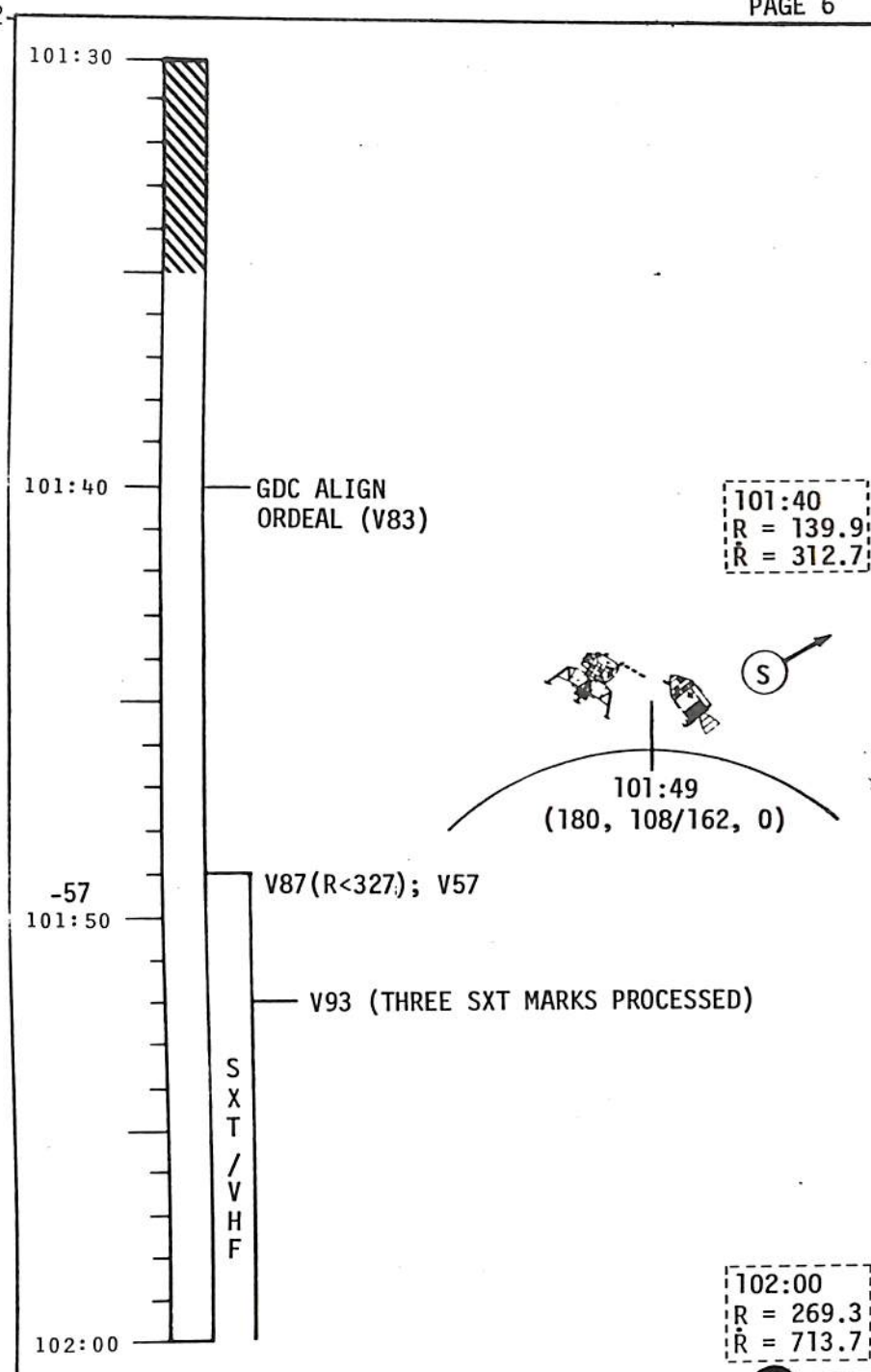
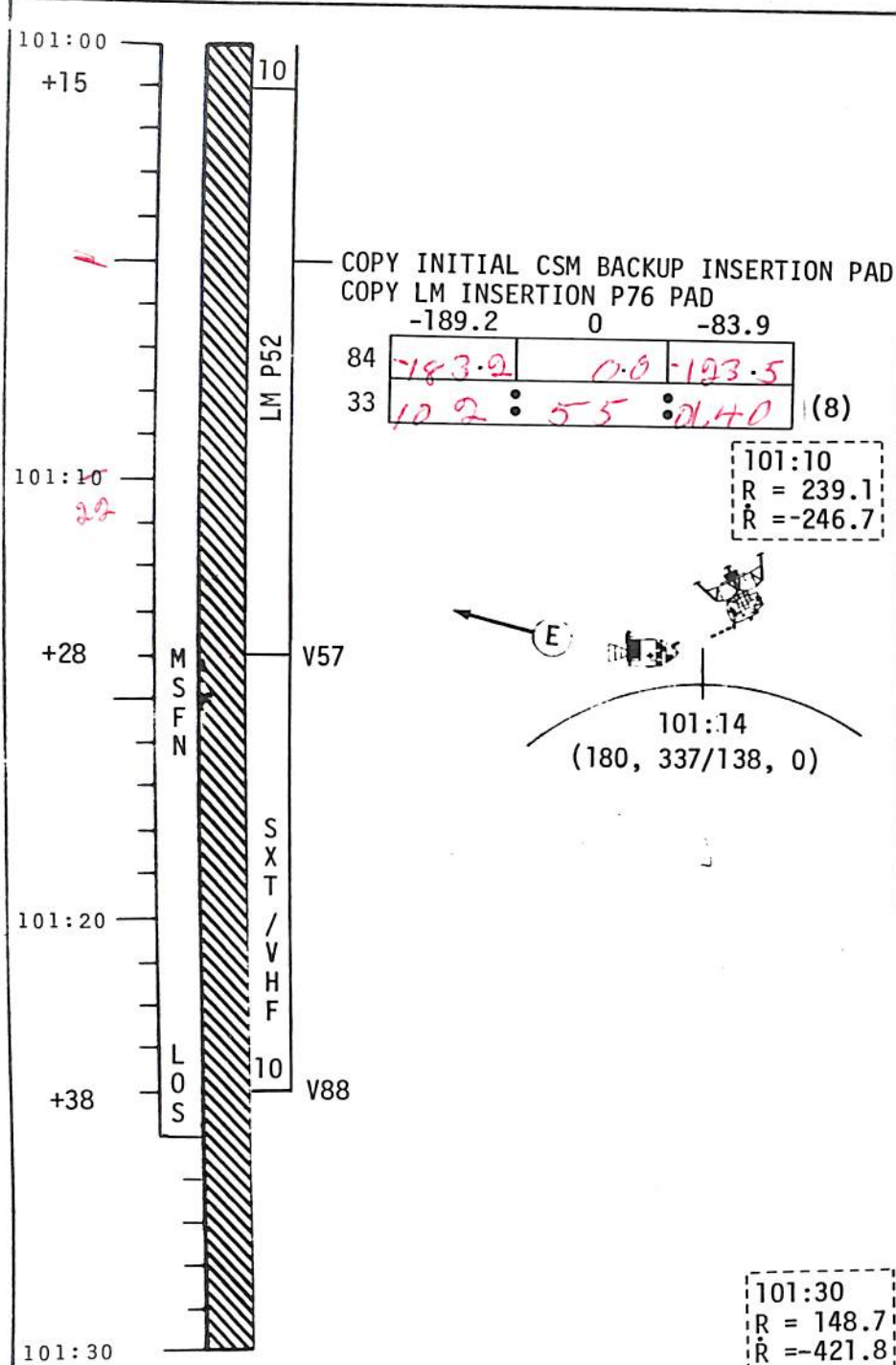
P52 (OPTION 3)

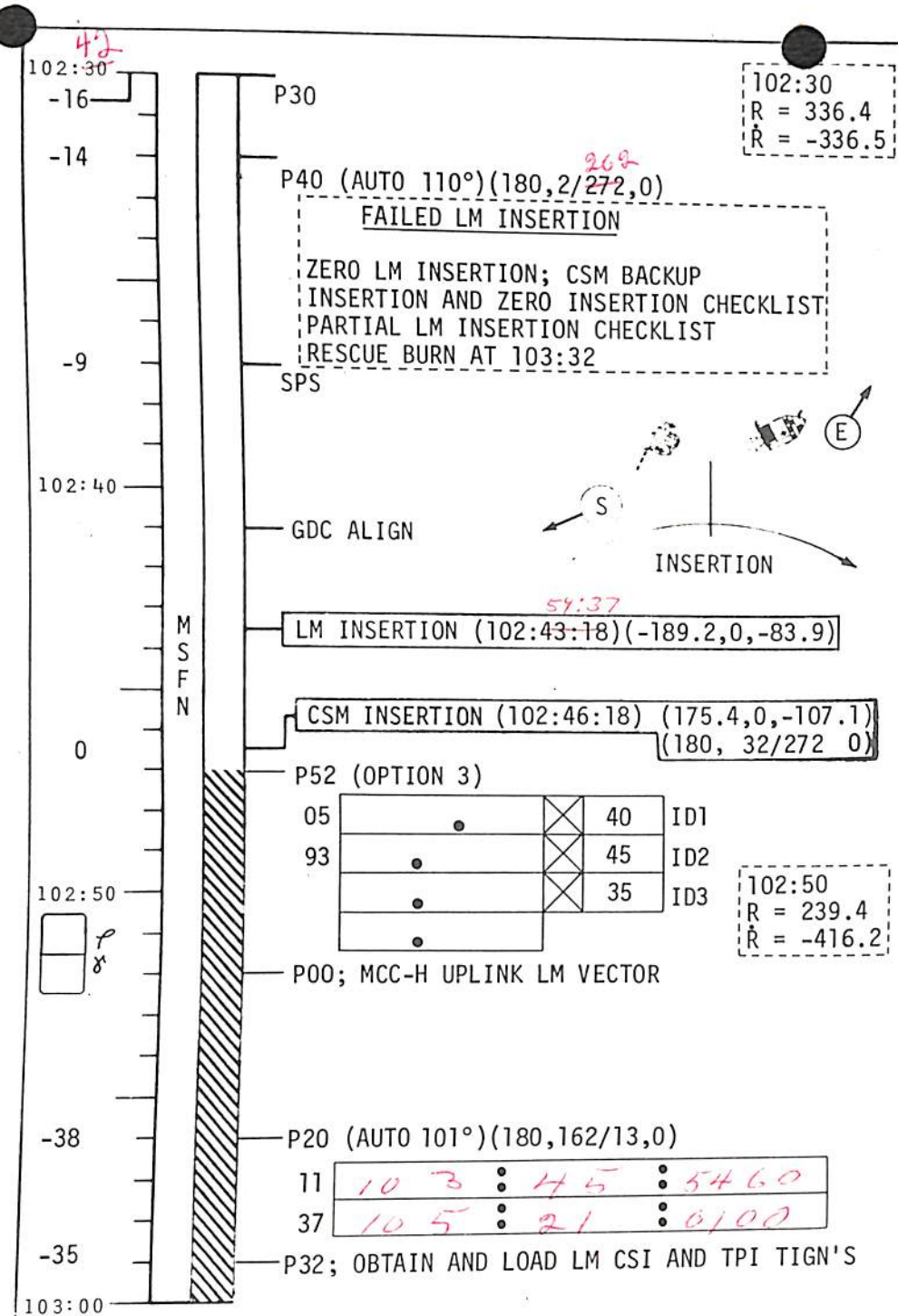
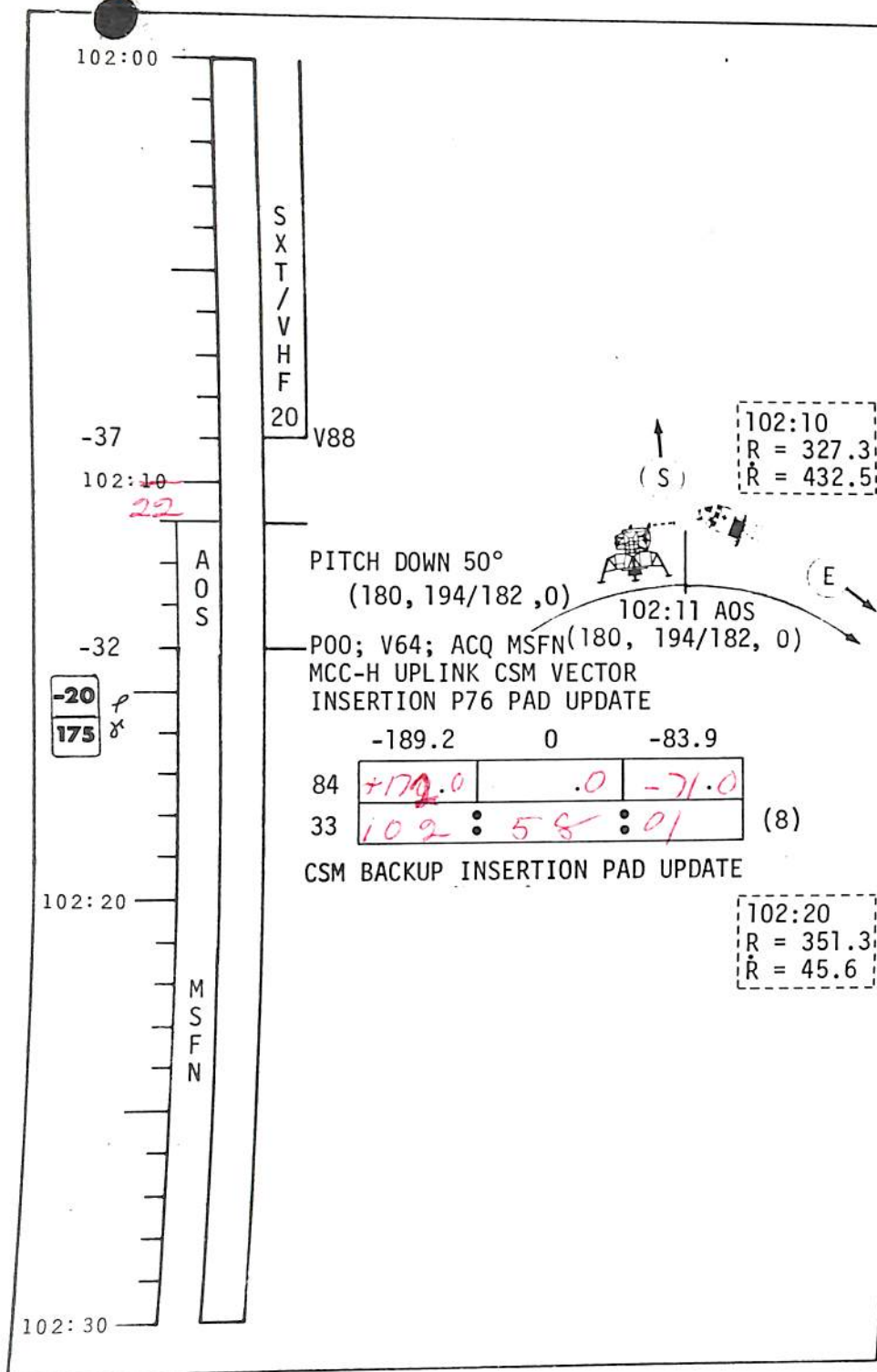
05		X	40	ID1
93	.	X	42	ID2
	.	X	35	ID3
	.			



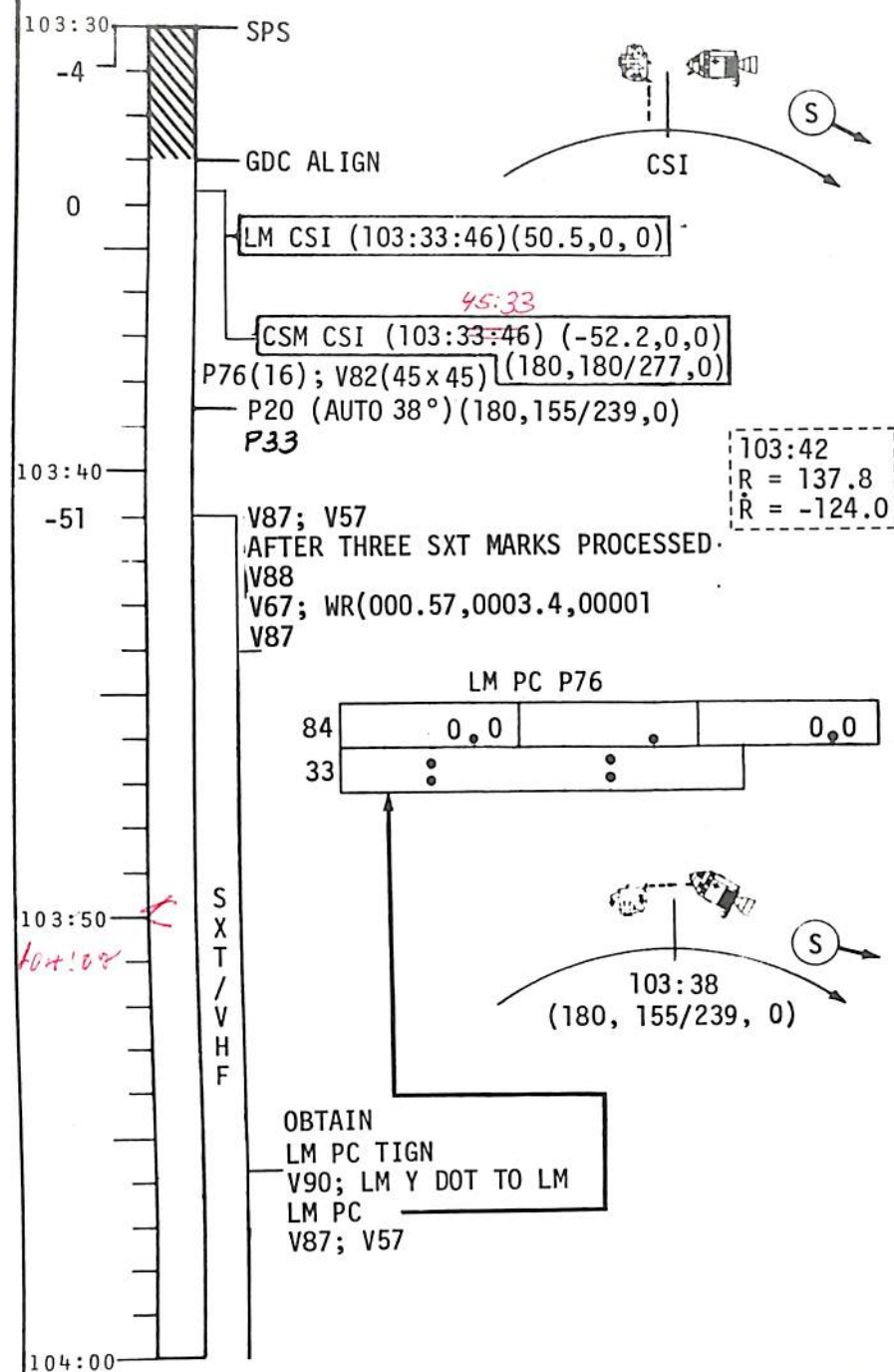
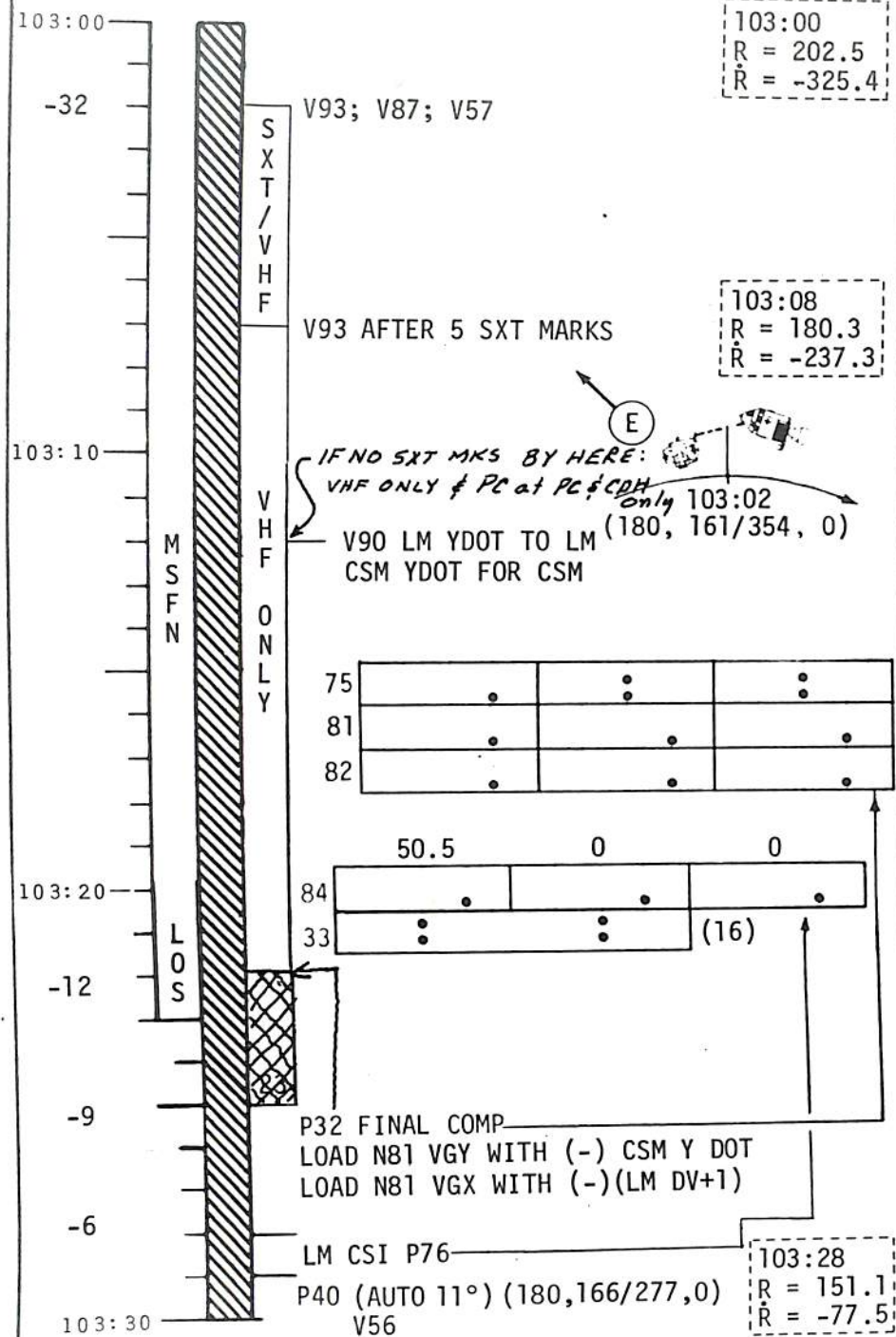


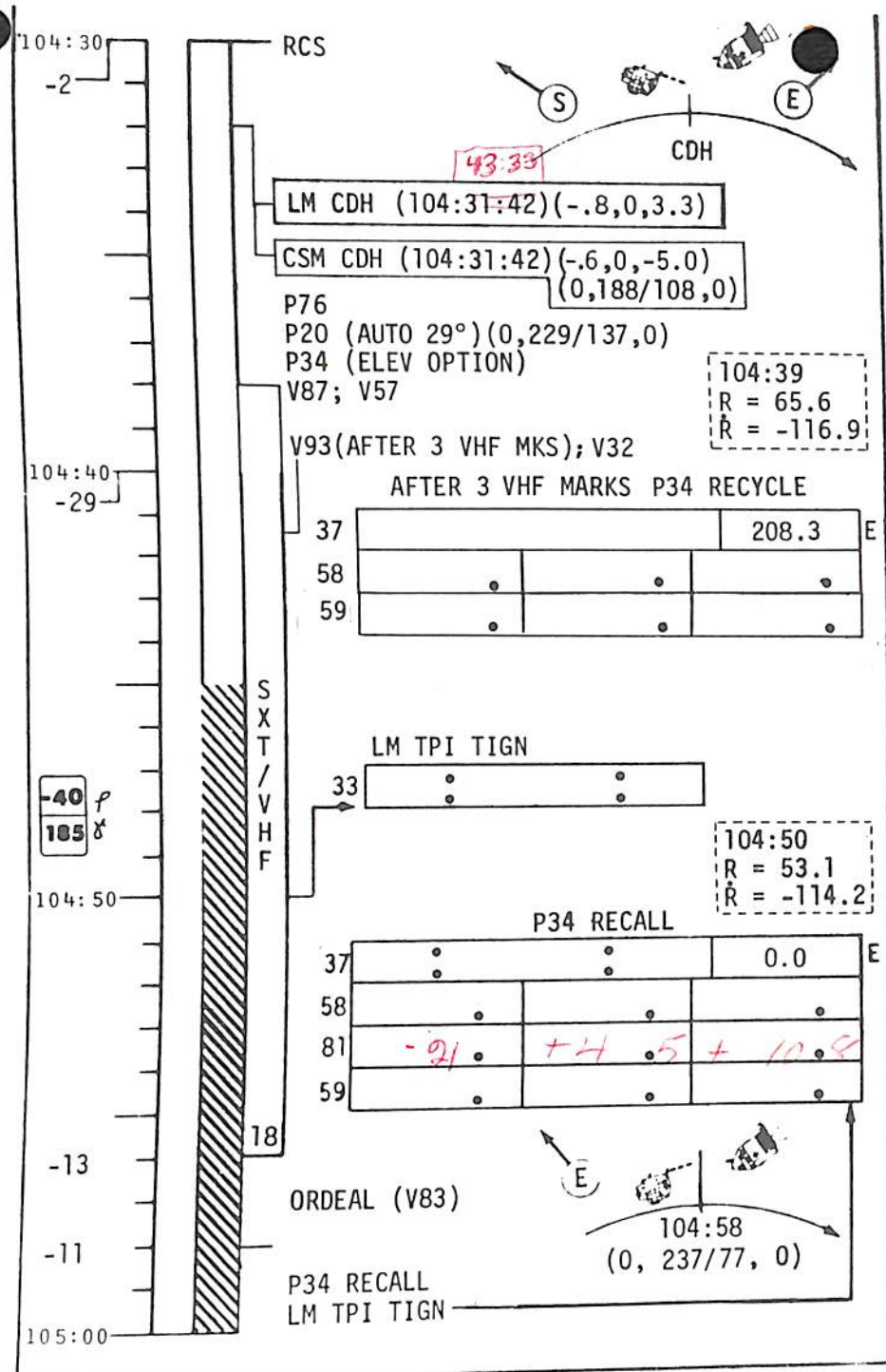
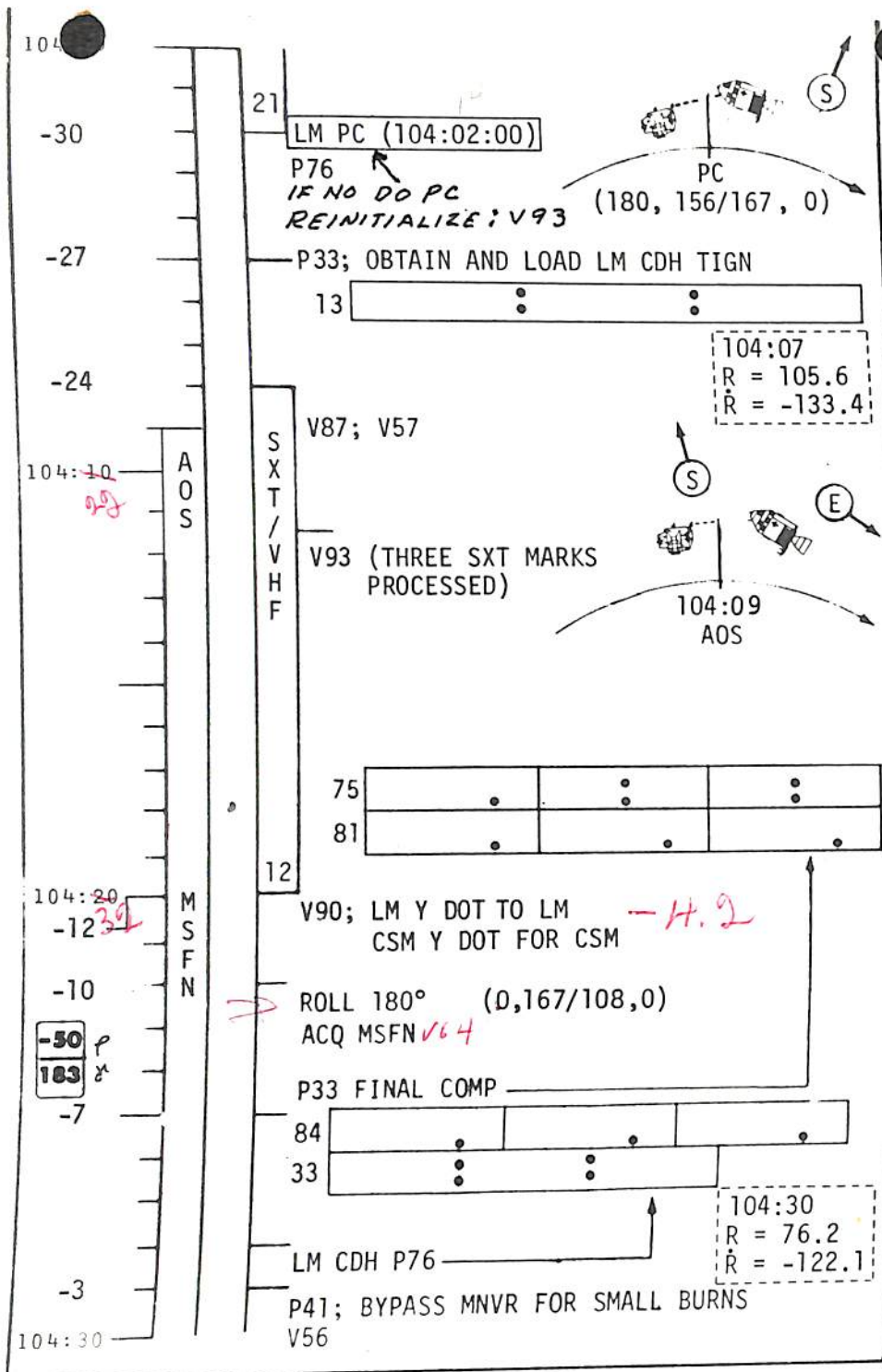




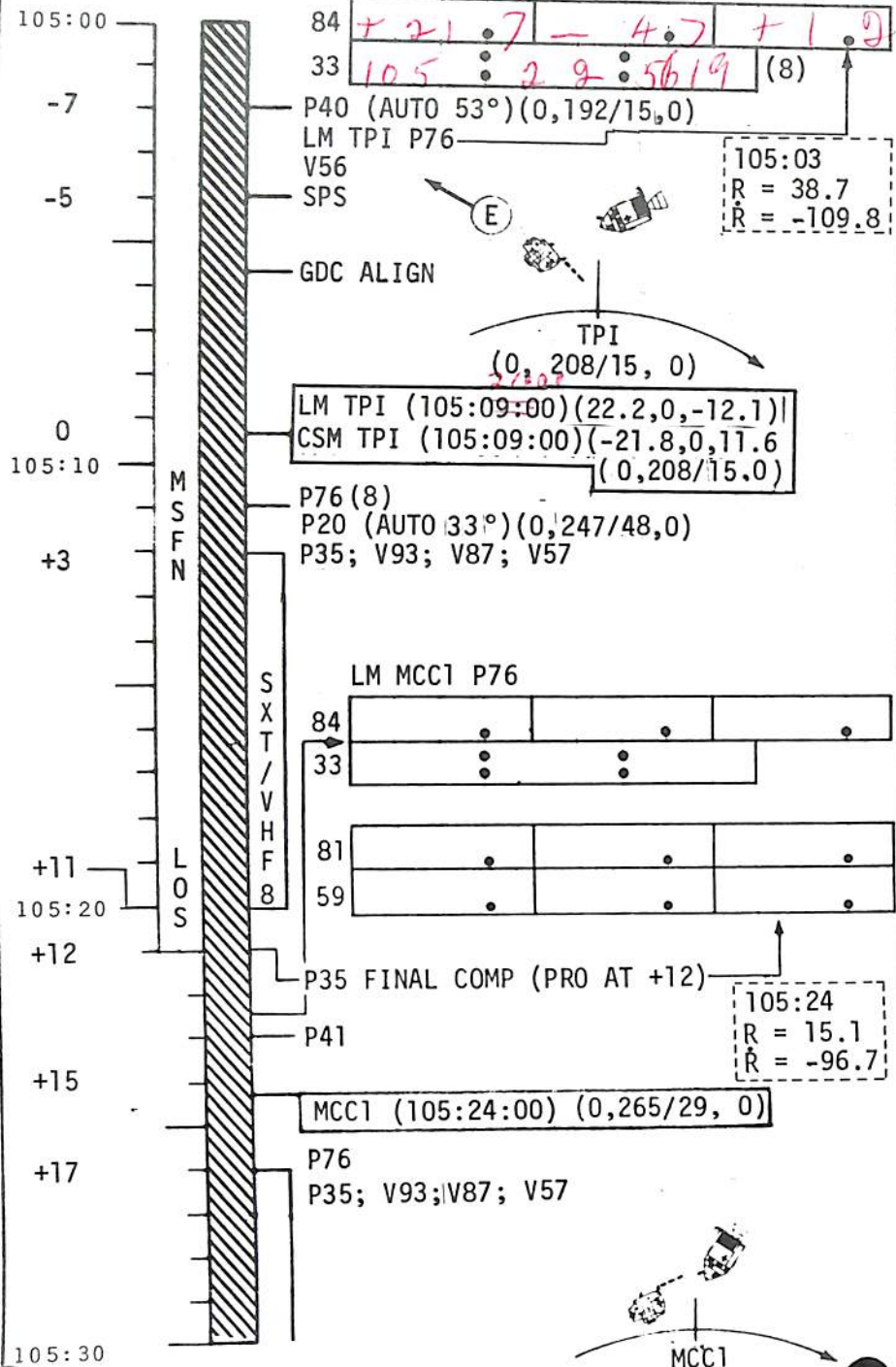




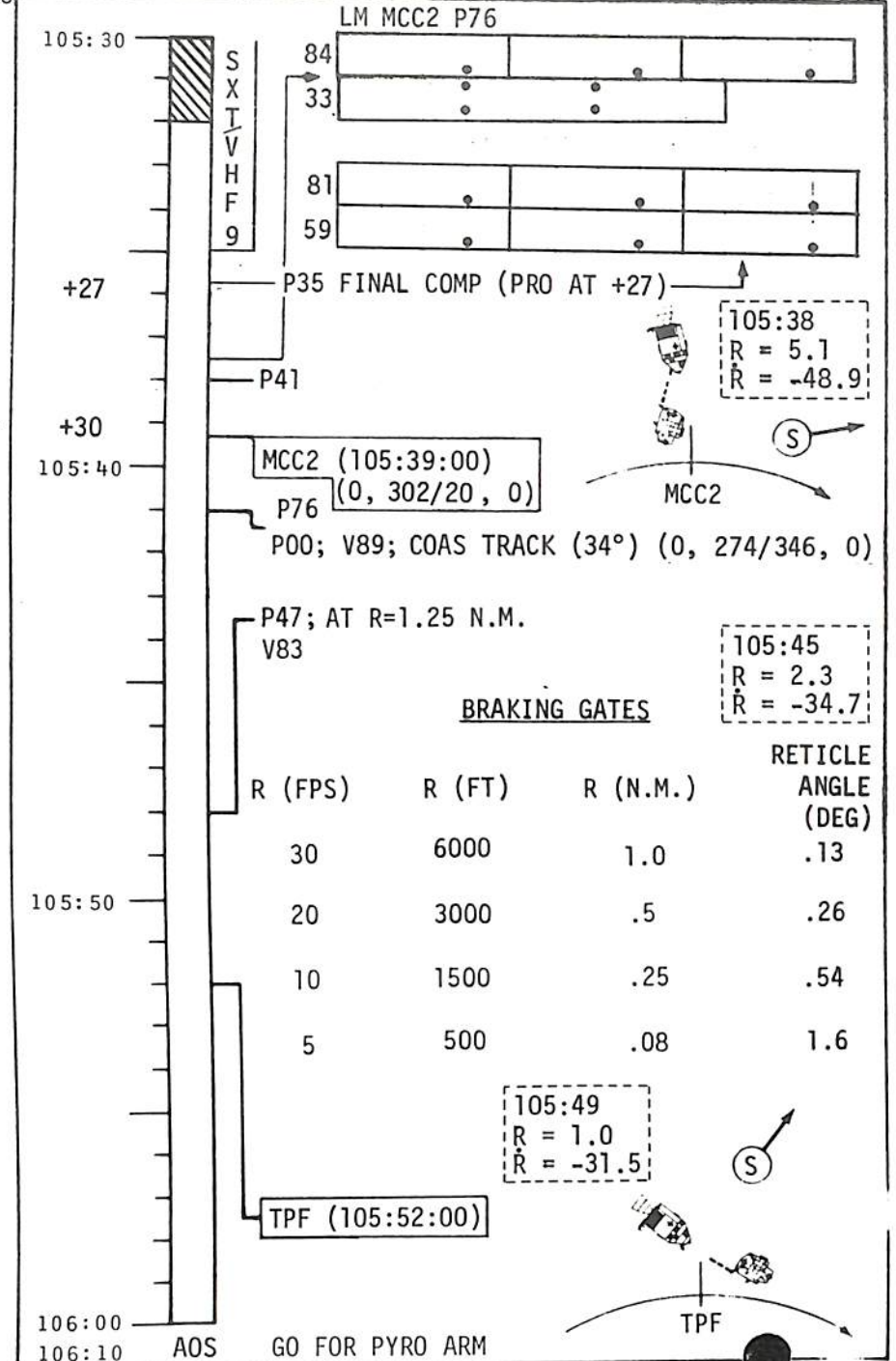








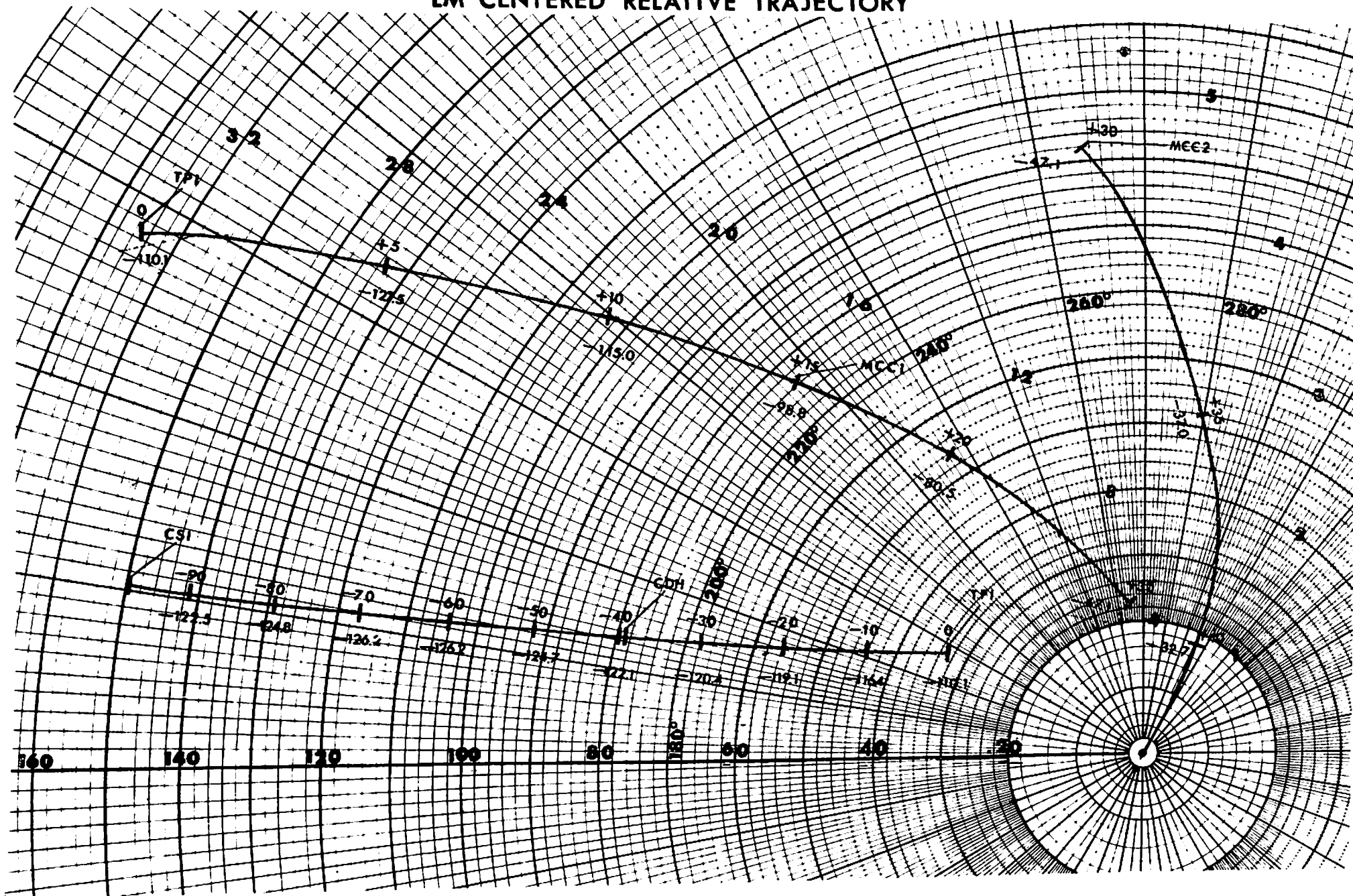
-26



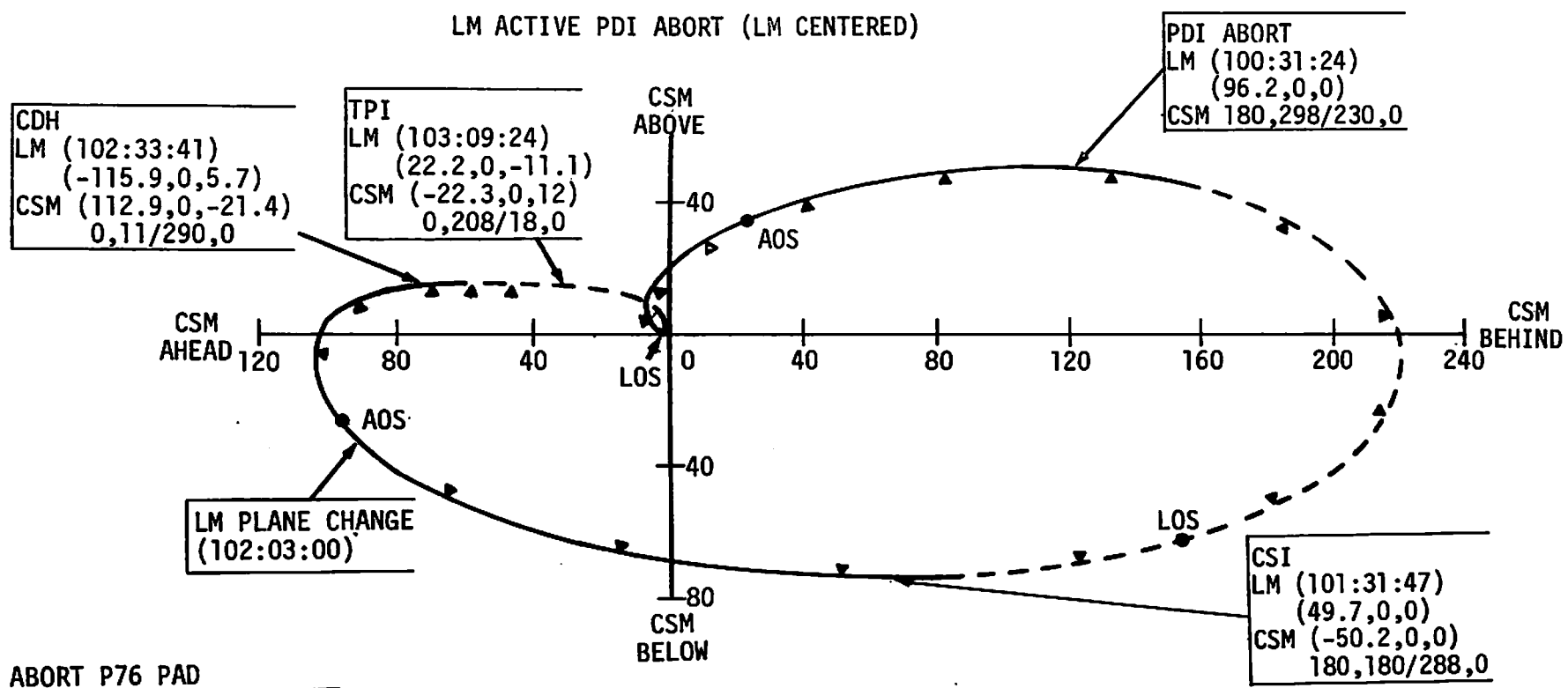


# MISSION "F"

## LM CENTERED RELATIVE TRAJECTORY



8.1.1 Plot and Pads  
LM ACTIVE PDI ABORT (LM CENTERED)



PDI ABORT P76 PAD

84	.	.	.
33	:	:	:

CSM CSI COPY

11	:	:	:
37	:	:	:
75	.	:	:
81	.	.	.
82	.	.	.

LM CSI P76

84	.	.	.
33	:	:	:

CSM PC COPY

33	:	:	:
81	.	.	.

LM PC P76

84	.	.	.
33	:	:	:

CSM CDH COPY

13	:	:	:
75	.	.	.
81	.	.	.

LM CDH P76

84	.	.	.
33	:	:	:

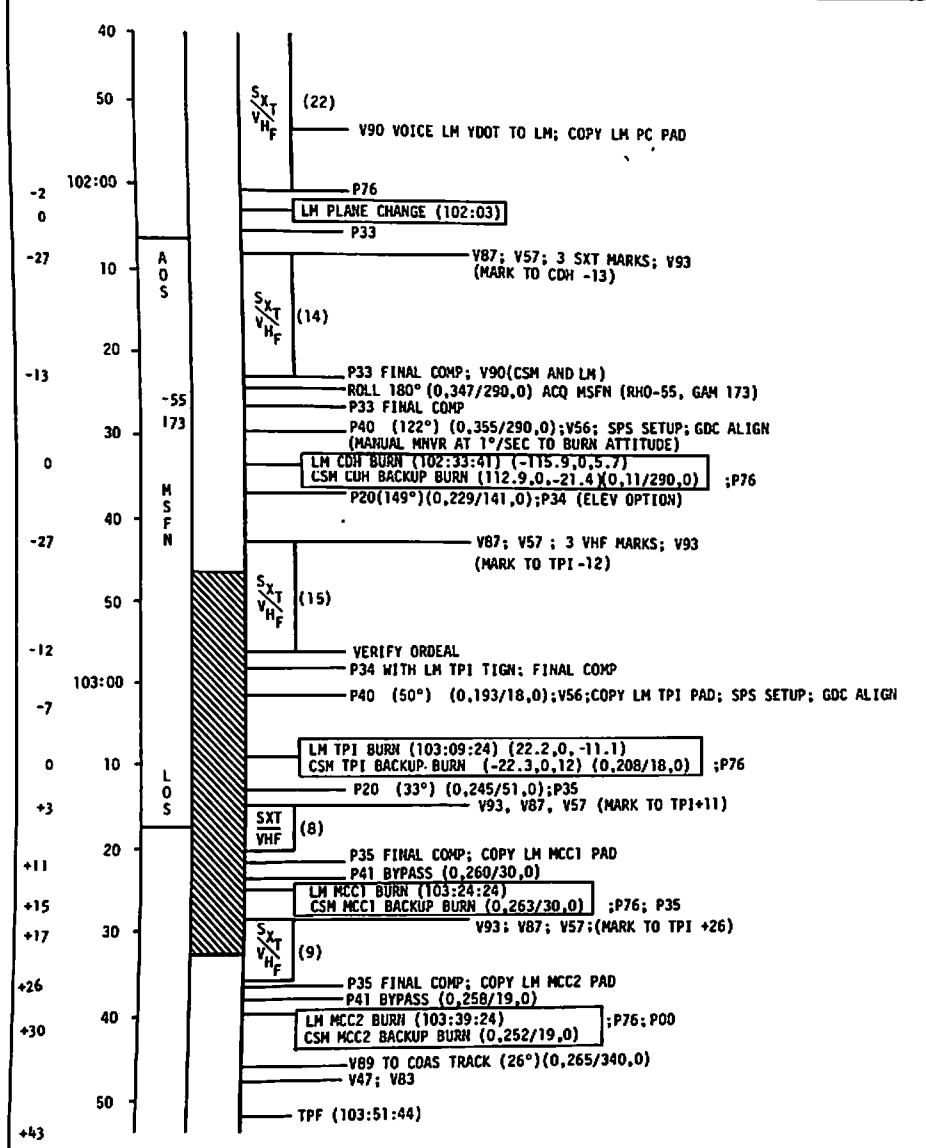
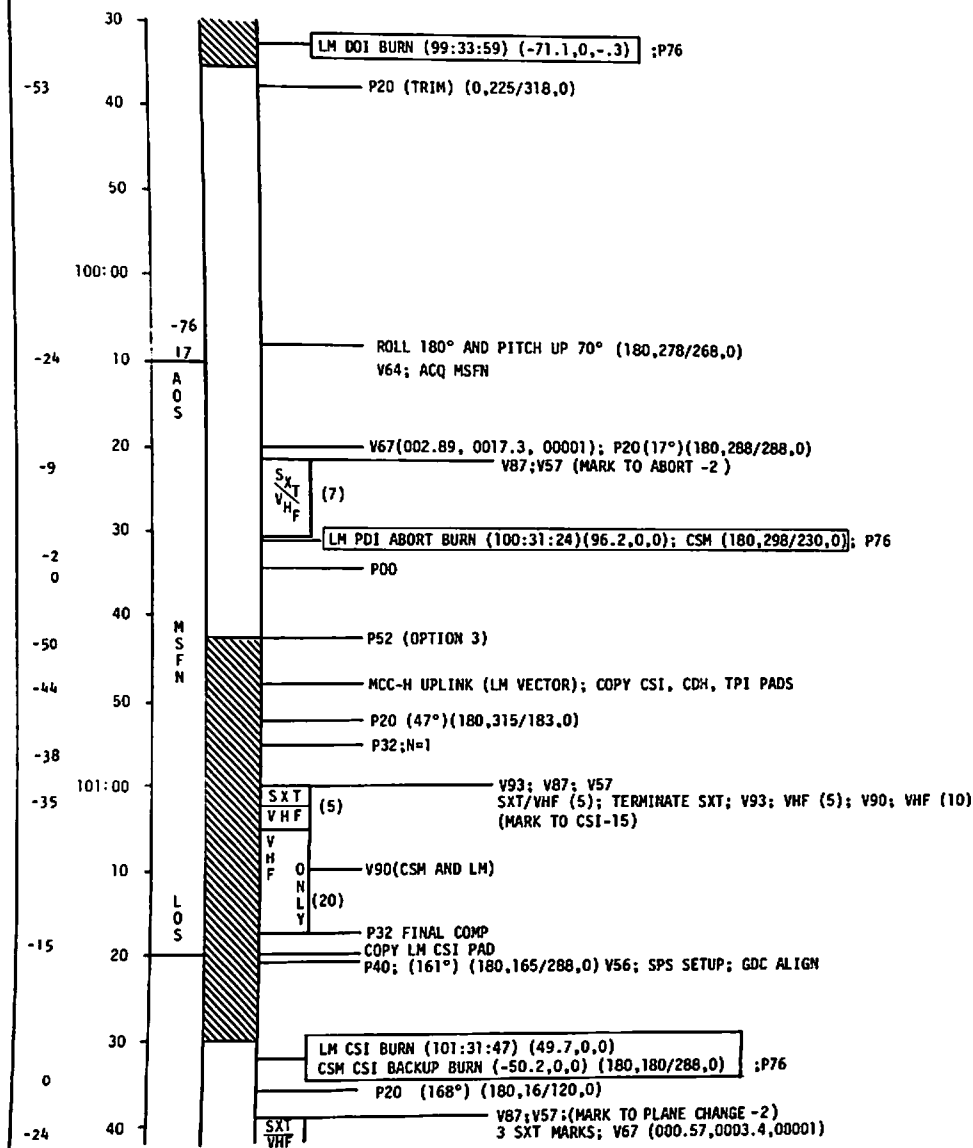
CSM TPI COPY

37	:	:	:
58	.	.	.
81	.	.	.
59	.	.	.

LM TPI P76

84	.	.	.
33	:	:	:

8.1.2 Checklist  
LM ACTIVE PDI ABORT





# CANNED RESCUE TWO PAD

PARTIAL LM PHASING < 40 FPS

PAGE 14

47	+	37768.	+	00000.
48	-	000.52	+	000.59
33	00101 00032 059.00			
81	-	0057.1	+	0000.0 + 0000.0
22	XXX180 XXX283 XXX000			
AV	X0047.1			
11	00102 00030 035.00			
37	00106 00050 057.00			
N	4			

CSM CSI ONE COPY

11			
37			
75	.	.	.
81	.	.	.
82	.	.	.

LM CSI ONE P76

84	.	.	.
33	.	.	.

CSM CSI TWO COPY

11			
37			
75	.	.	.
81	.	.	.
82	.	.	.

LM CSI TWO P76

84	.	.	.
33	.	.	.

CSM CDH  
(106:16:07)  
(65.3,0,12.2)  
(0,349/271,0)

CSM AHEAD  
AOS 50

CSM PLANE CHANGE  
(105:48:00)  
(0,0,0)  
(180,135/149,0)

CSM TPI  
(106:50:57)  
(-15.0,0,5.9)  
(0,202/14,0)

CSM ABOVE

CSM BELOW

CSM CSI THREE COPY

11			
37			
75	.	.	.
81	.	.	.
82	.	.	.

LM CSI THREE P76

84	.	.	.
33	.	.	.

CSM PC COPY

33	.	.	.
81	.	.	.

LM PC P76

84	.	.	.
33	.	.	.

$$CSI_2 = CSI_1 + \frac{(CDH - CSI_1)}{2}$$

CSM CSI TWO  
(104:24:00)  
(0,0,0)  
(180,335/257,0)

CSM CSI ONE  
(102:30:35)  
(-35.6,0,0)  
(180,180/103,0)

PARTIAL LM  
PHASING  
(100:46:21)

CSM RESCUE  
(101:32:59)  
(-57.1,0,0)  
(180,180/283,0)

CSM CDH COPY

13			
75	.	.	.
81	.	.	.

LM CDH P76

84	.	.	.
33	.	.	.

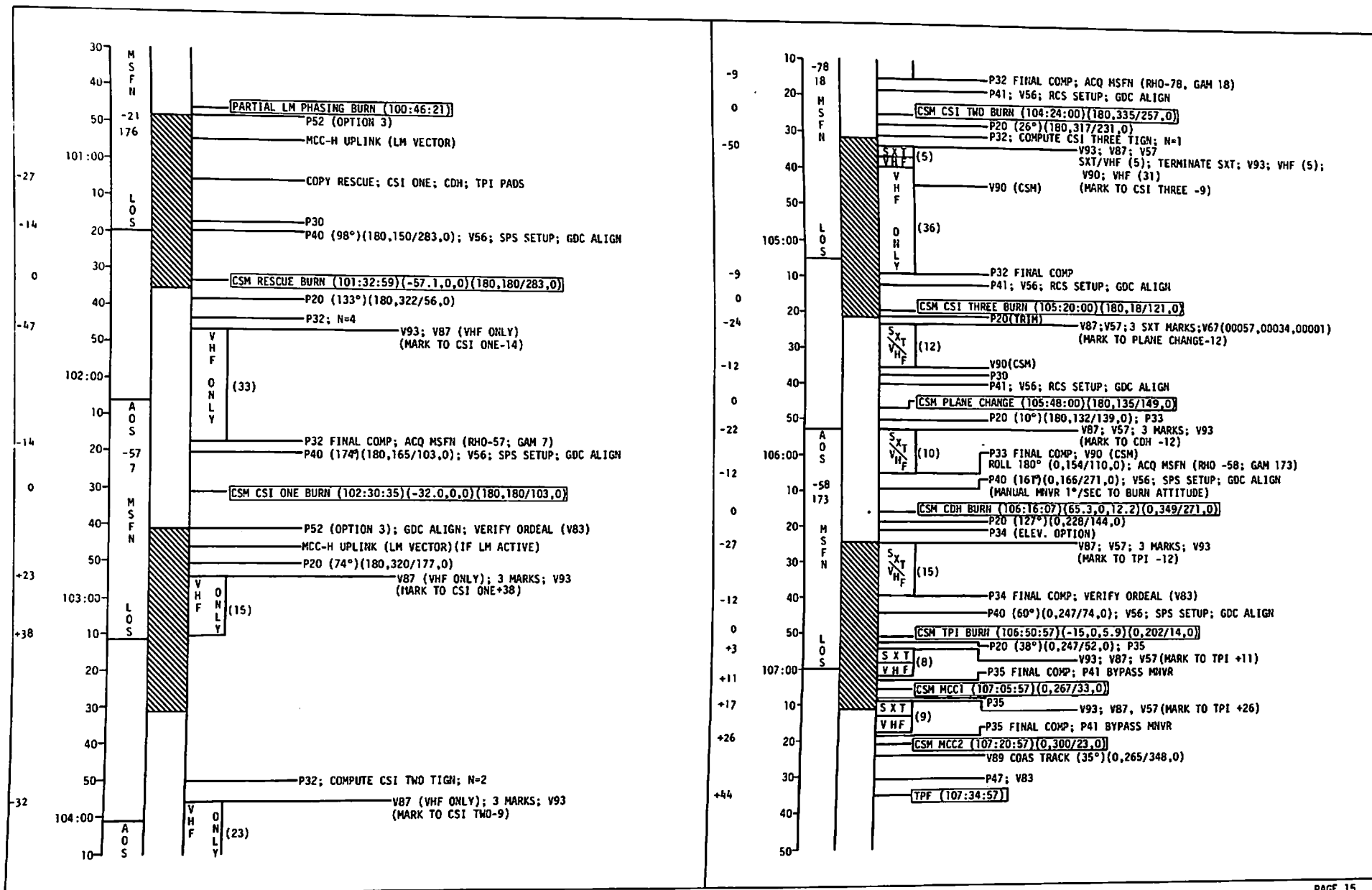
CSM TPI COPY

37			
58	.	.	.
81	.	.	.
59	.	.	.

LM TPI P76

84	.	.	.
33	.	.	.

# CSM ACTIVE LM RESCUE PHASING LESS THAN 40 FPS



$$CSI_2 = CSI_1 + \frac{(CDH - CSI_1)}{2}$$

CSM CDH  
(104:23:12)  
(109.1,0,32.7)  
0,344/266,0

CSM LM PHASING  
(100:46:21)

CSM  
AHEAD

LOS ABOVE

CSM TPI  
(104:57:59)  
(-21.4,0,5.3)  
0,194/6,0

CSM CSI<sub>2</sub>  
(103:27:12)  
(0,0,0)  
180,10/125,0

CSM CSI<sub>1</sub>  
(102:31:11)  
(-56.8,0,0)  
180,180/103,0

CSM RESCUE  
(101:33:19)  
(-48.7,0,0)  
180,180/283,0

CSM PLANE CHANGE  
(103:55)  
180,123/138,0

CANNED RESCUE TWO PAD

47	+	37768.	+	00000.
48	-	000.52	+	000.59

33	00101	:	00033	:	019.00	
81	-	0048.7	+	0000.0	+	0000.0
22	XXX180		XXX283		XXX000	
ΔV <sub>C</sub>	X0038.8					
11	00102	:	00031	:	011.00	
37	00104	:	00057	:	059.00	
N	2					

CSM CSI ONE COPY

11	:	:
37	:	:
75	.	:
81	.	.
82	.	.

LM CSI ONE P76

84	.	.
33	:	:

CSM CSI TWO COPY

11	:	:
37	:	:
75	.	:
81	.	.
82	.	.

LM CSI TWO P76

84	.	.
33	:	:

CSM PC COPY

33	:	:
81	.	.

LM PC P76

84	.	.
33	:	:

CSM CDH COPY

13	:	:
75	.	:
81	.	.

LM CDH P76

84	.	.
33	:	:

CSM TPI COPY

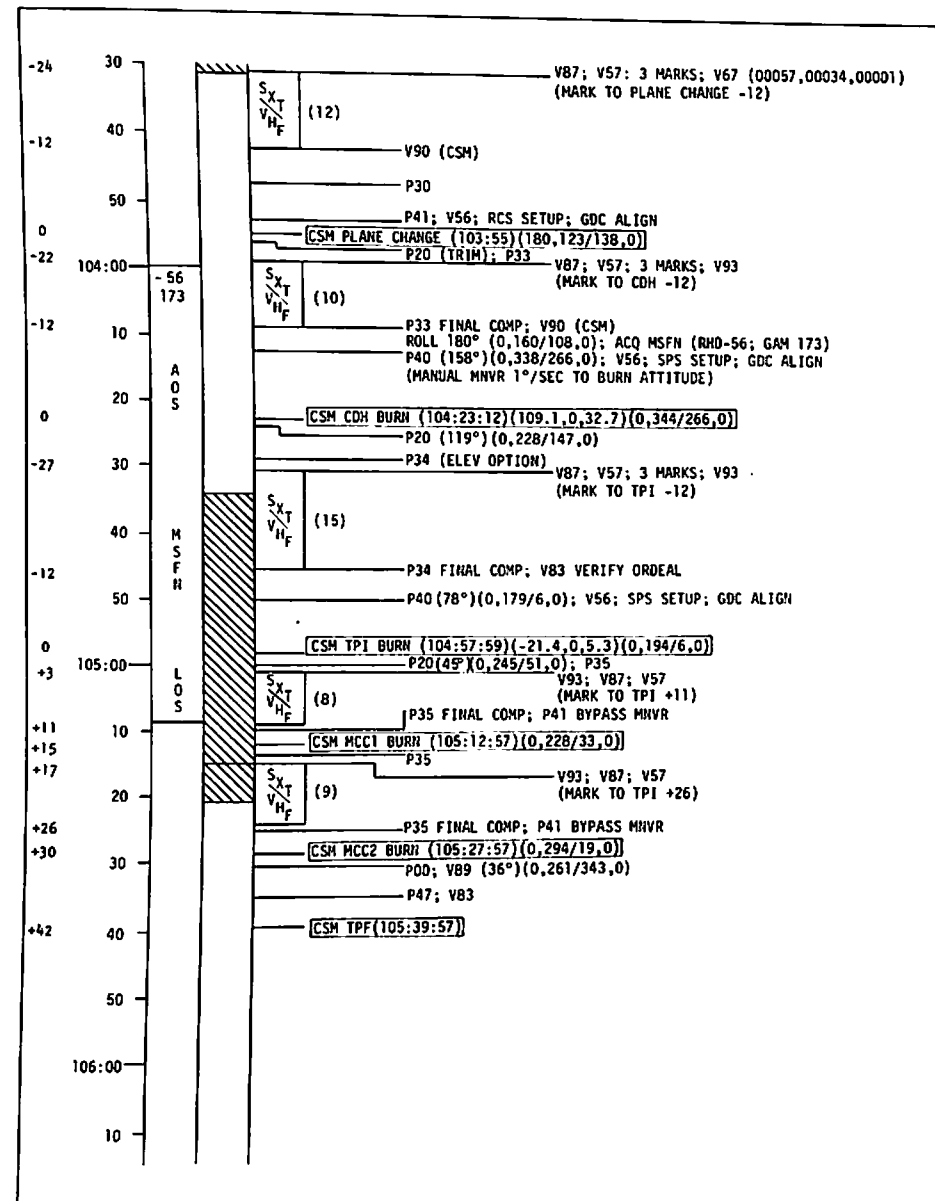
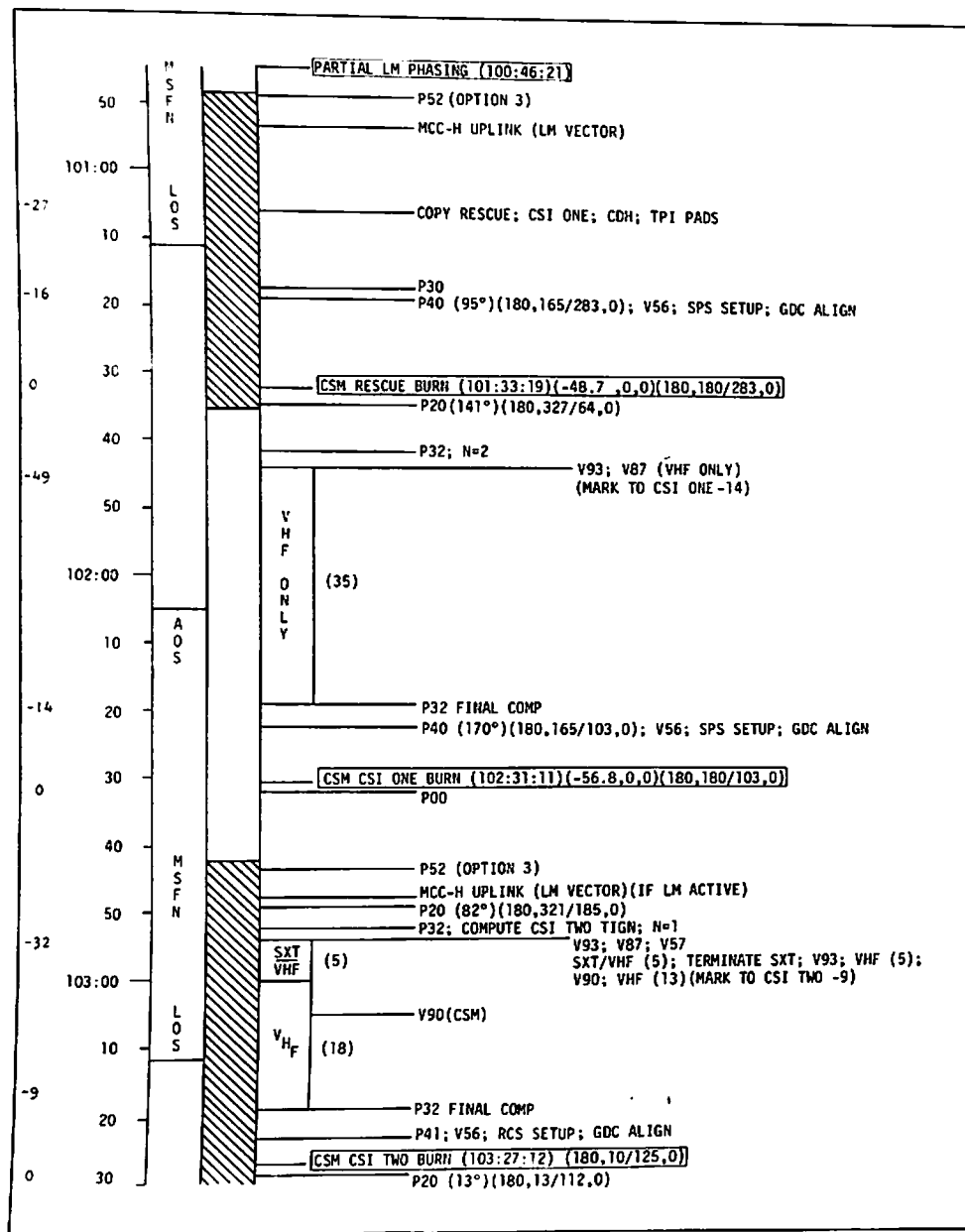
37	:	:
58	.	.
81	.	.
59	.	.

LM TPI P76

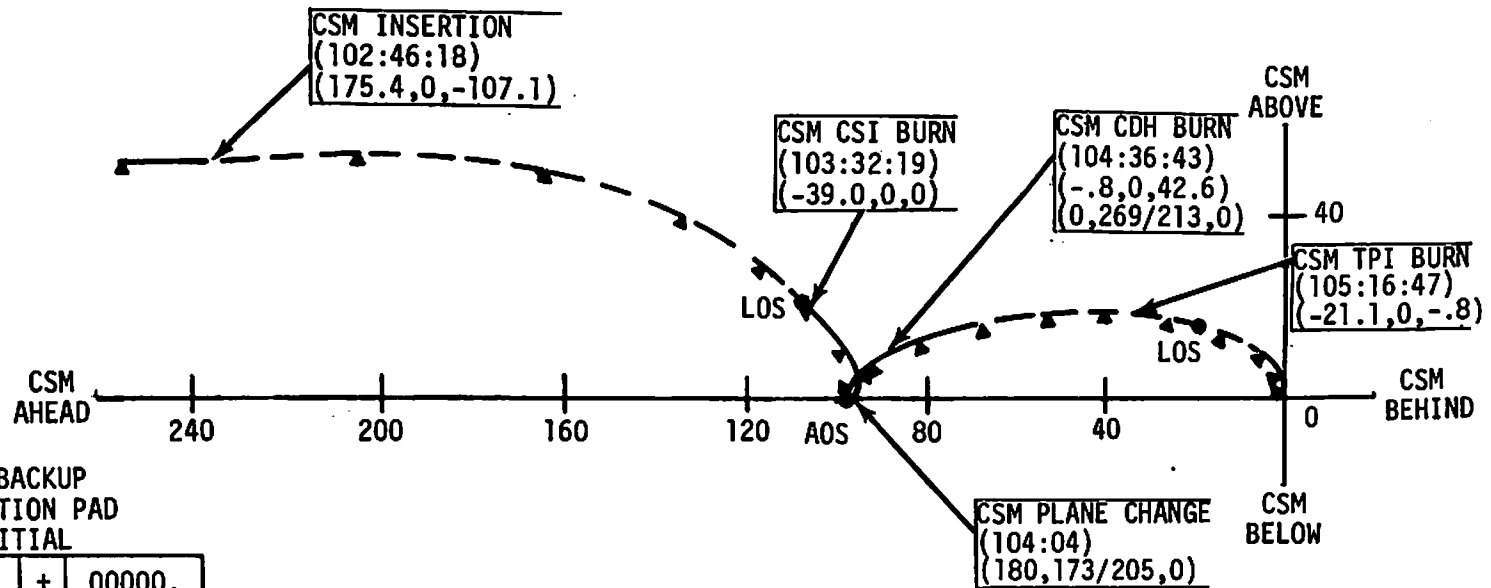
84	.	.
33	:	:





CSM ACTIVE LM RESCUE - LM PHASING  $\geq 40$  FPS ( $\Delta V$  APPLIED = 40 FPS)



# CSM ACTIVE LM RESCUE-ZERO INSERTION (LM CENTERED)



## CSM BACKUP INSERTION PAD INITIAL

47	+	37768.	+	00000.			
48	-	000.52	+	000.59			
33	00102 : 00046 : 018.00						
81	+	175.4	+	0000.0	-	107.1	
22	XXX180		XXX272		XXX00		
ΔV <sub>C</sub>	X192.7						
11	00103		:	00032		:	019.
37	00105		:	00016		:	047.
N	1						

## CSM CSI COPY

11	:	:
37	:	:
75	.	:
81	.	.
82	.	.

## LM CSI P76

84	.	.	.
33	:	:	:

## CSM PC COPY

33	:	:
81	.	.

## LM PC P76

84	.	.	.
33	:	:	:

## CSM CDH COPY

13	:	:
75	.	:
81	.	.

## LM CDH P76

84	.	.	.
33	:	:	:

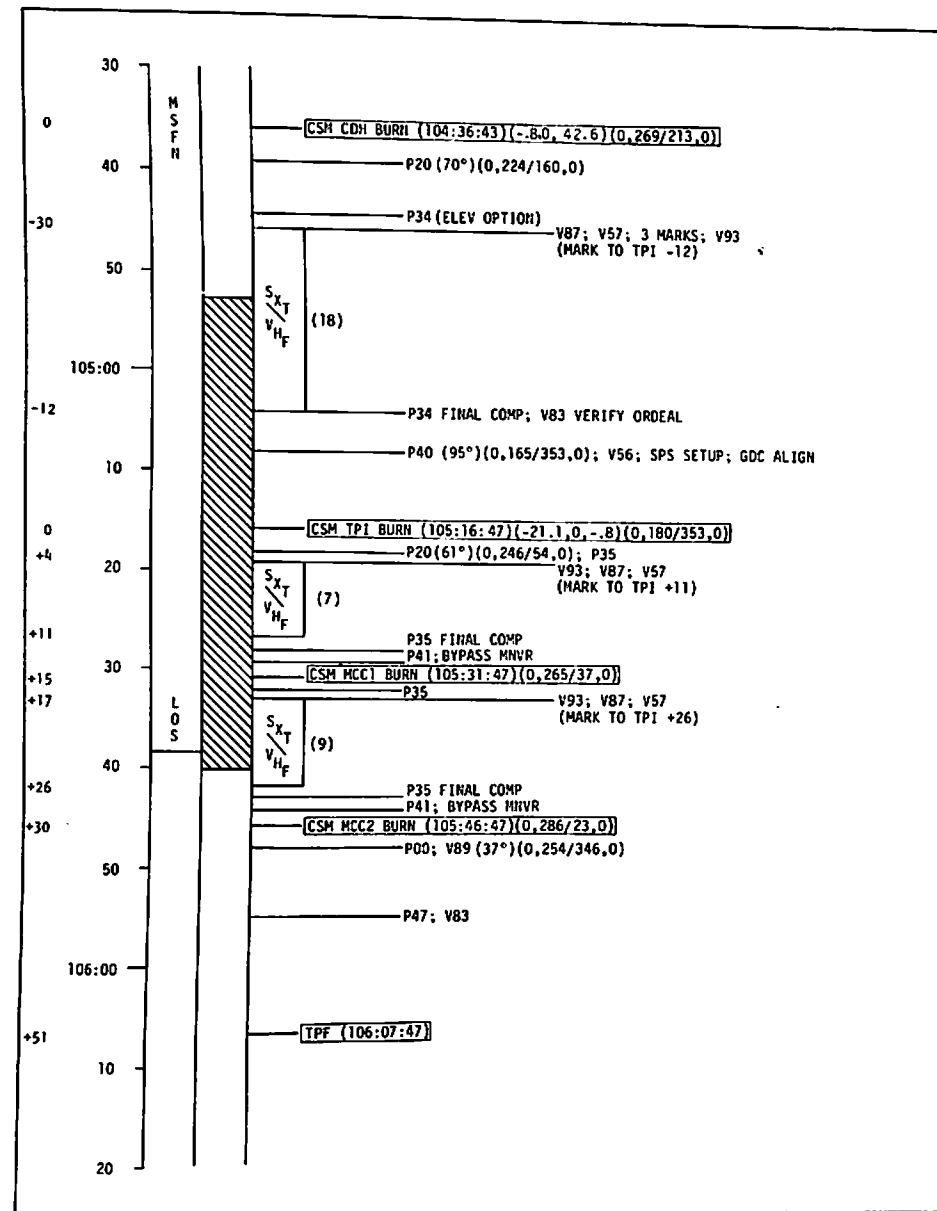
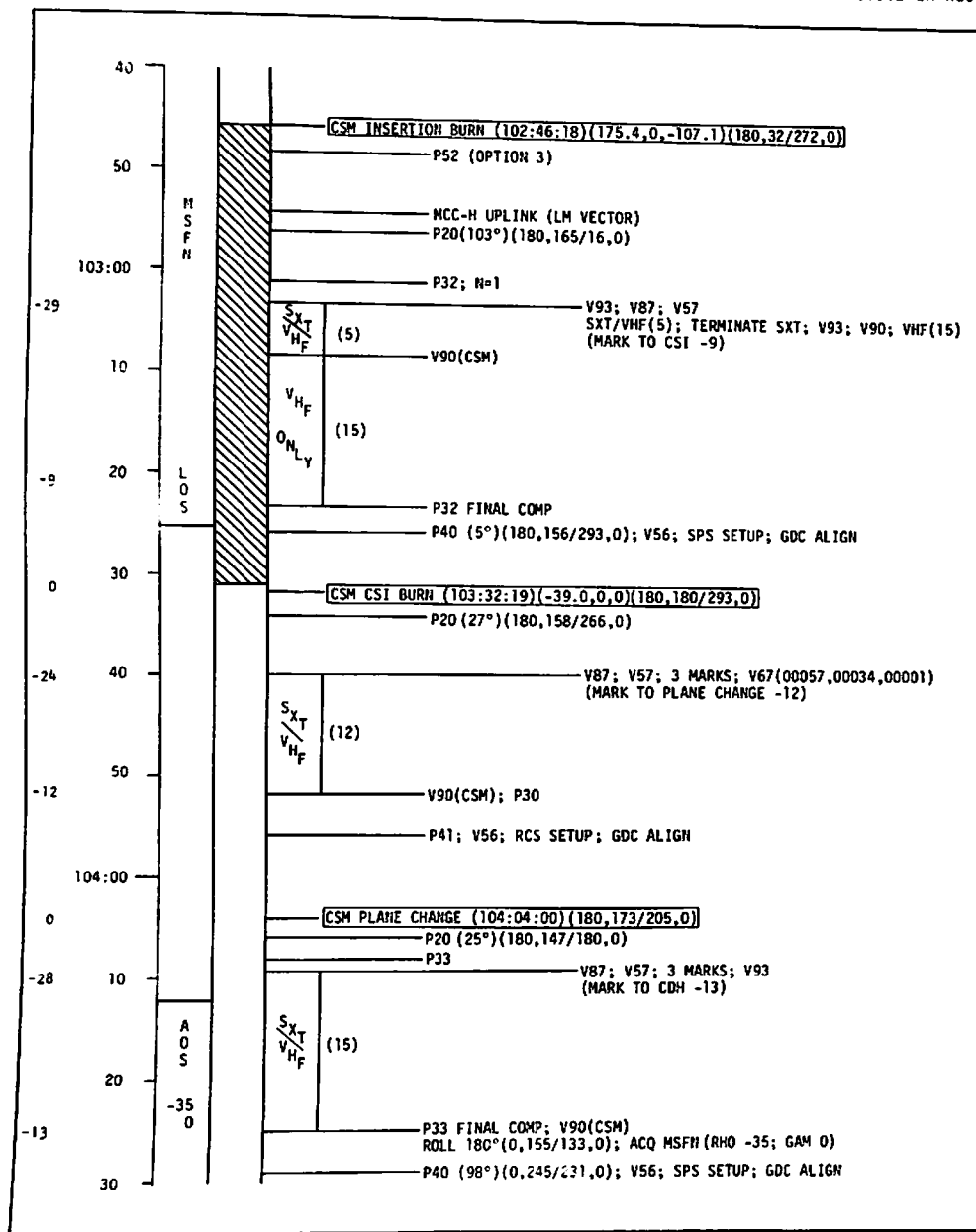
## CSM TPI COPY

37	:	:
58	.	.
81	.	.
59	.	.

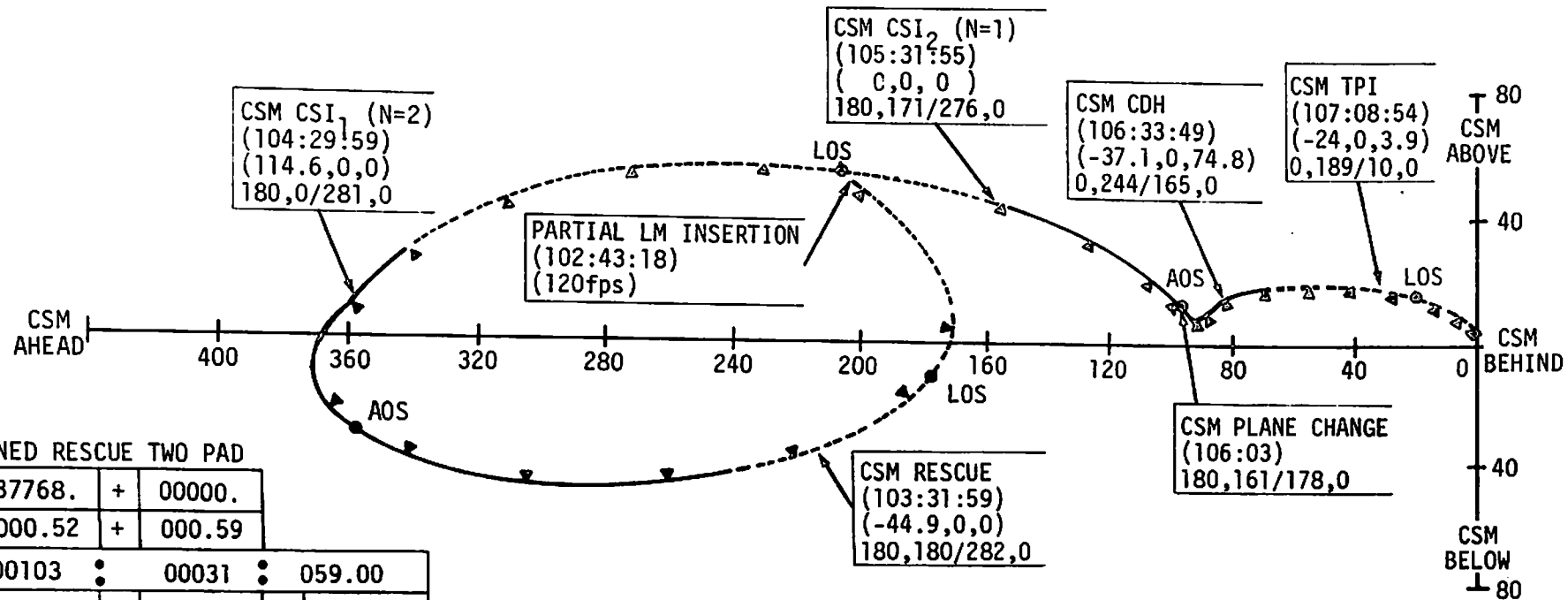
## LM TPI P76

84	.	.	.
33	:	:	:

CSM ACTIVE LM RESCUE - LM INSERTION = 0







CANNED RESCUE TWO PAD

47	+	37768.	+	00000.
48	-	000.52	+	000.59
33	00103 : 00031 : 059.00			
81	-	0044.9	+	0000.0
22	XXX180 : XXX282 : XXX000			
V <sub>C</sub>	X0035.0			
11	00104	00029	059.00	
37	00107	00008	054.00	
N	2			

CSM CSI TWO COPY

11			
37			
75	.	:	:
81	.	.	.
82	.	.	.

CSM CDH COPY

13			
75	.	:	:
81	.	.	.

CSM CSI ONE COPY

11			
37			
75	.	:	:
81	.	.	.
82	.	.	.

LM CSI TWO P76

84	.	.	.
33			

LM CDH P76

84	.	.	.
33			

CSM PC COPY

33			
81	.	.	.

CSM TPI COPY

37			
58	.	.	.
81	.	.	.
59	.	.	.

LM CSI ONE P76

84	.	.	.
33			

LM PC P76

84	.	.	.
33			

LM TPI P76

84	.	.	.
33			

CSM ACTIVE LM RESCUE - PARTIAL LM INSERTION (ΔV APPLIED = 120 FPS)

