

APOLLO 15

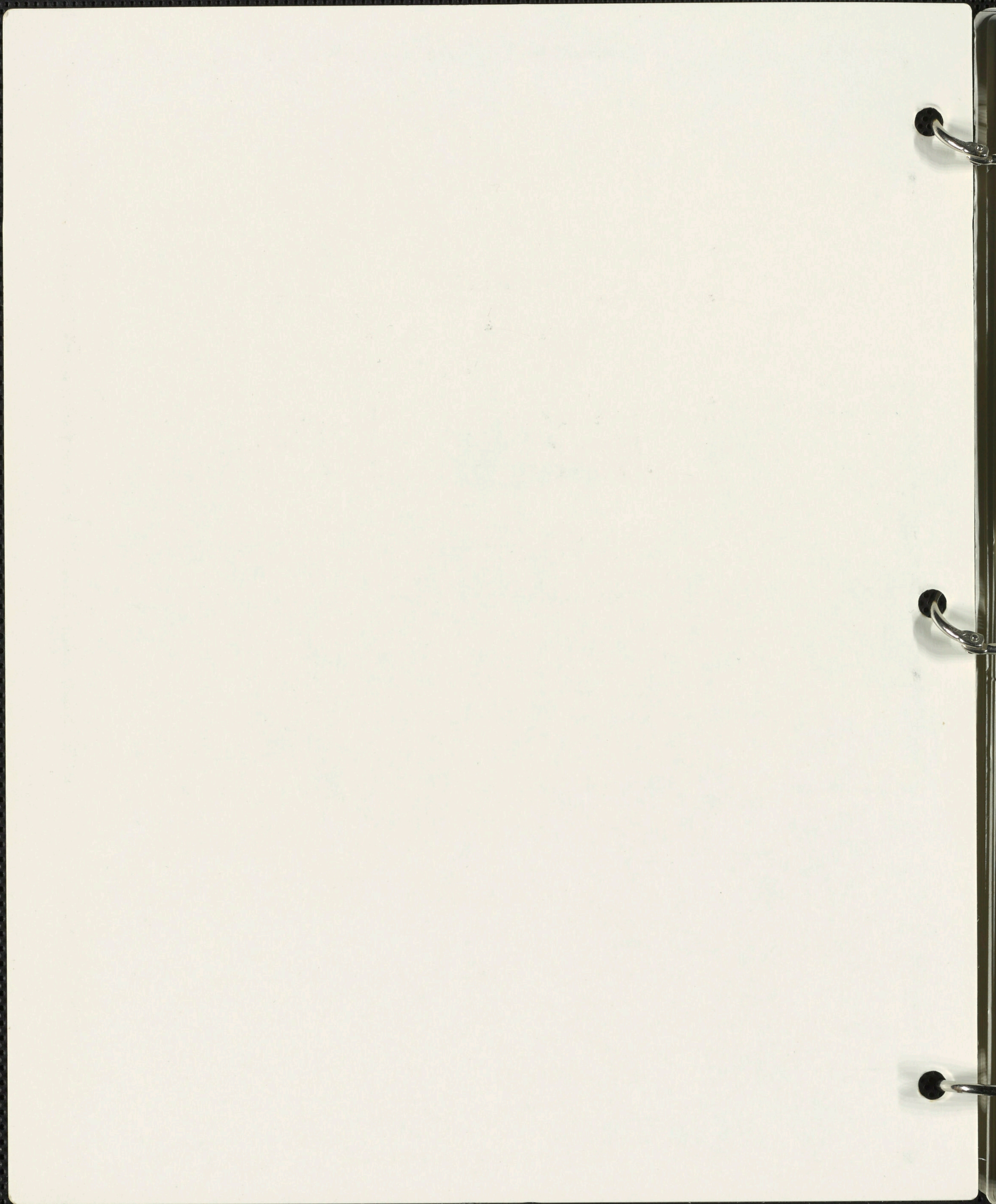
**LM RENDEZVOUS
CHARTS**

PART NO.

S/N

SKB32100116-392

1001

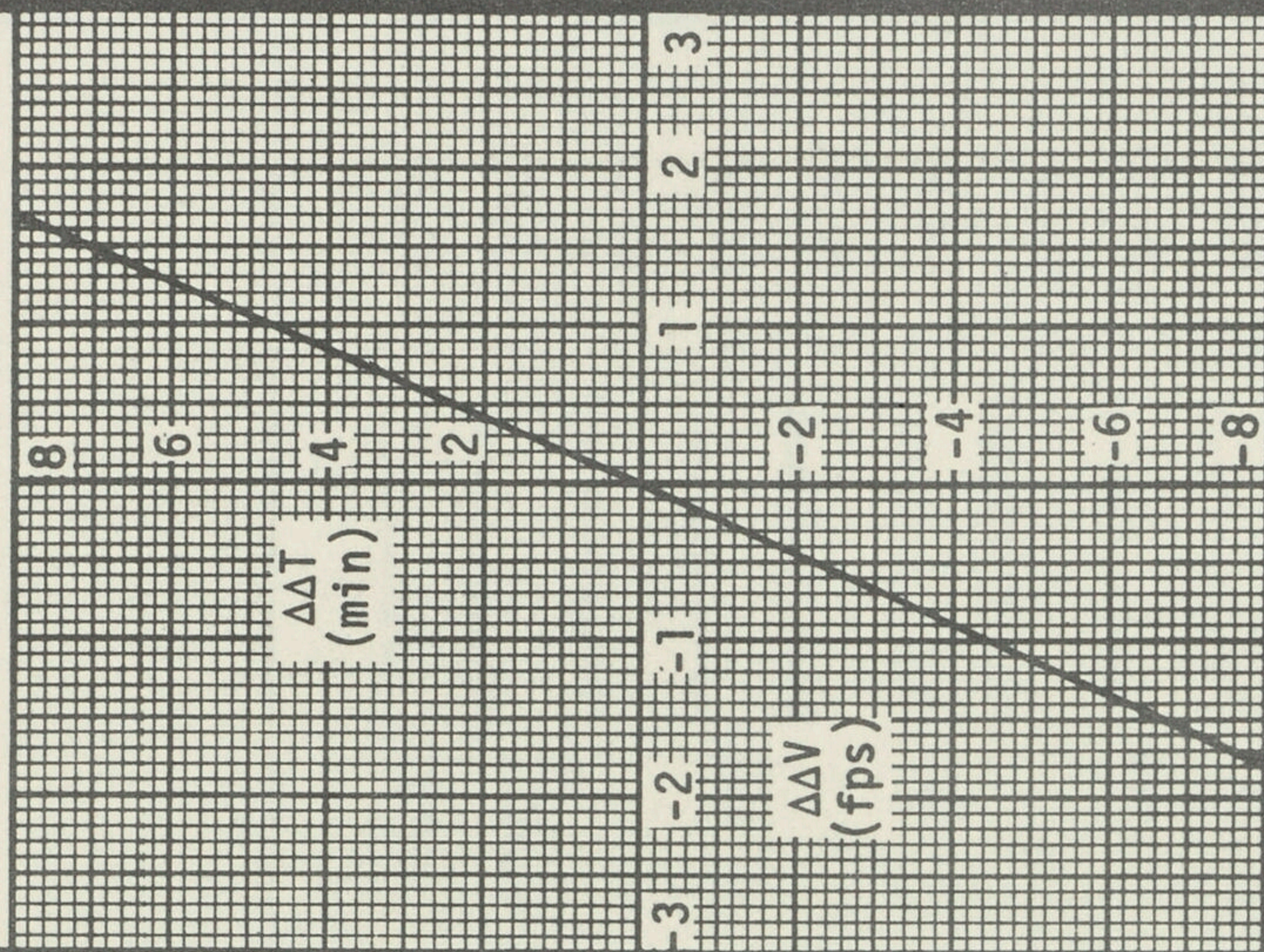


CSI BACKUP TABLE NOMINAL ASCENT		F1		F2		F3		F4	
TIME (Min)	NOMINAL	RD0T1	RD0T2	RD0T3	RD0T4	F1	F2	F3	F4
-30 R1	DSKY>TM (-283.3) -1.4	-240.0	-140.0	-70.0	-15.2	47.3	45.2	-27.6	-15.2
-20 R2	(-173.9) -.9	-241.0	-141.0	-71.0	-15.5	48.4	43.4	-26.6	-15.5
-10 R3	(- 94.0) -.5	-242.0	-142.0	-72.0	-15.7	49.4	41.6	-25.6	-15.7
-10 R3	(154.1)	-243.0	-143.0	-73.0	-15.9	50.5	39.8	-24.5	-15.9
F1	(93.0)	-244.0	-144.0	-74.0	-16.1	51.5	37.9	-23.5	-16.1
+F2	(-17.3)	-245.0	-145.0	-75.0	-16.3	52.5	36.1	-22.5	-16.3
+F3	(75.7)	-246.0	-146.0	-76.0	-16.5	53.6	34.3	-21.4	-16.5
+F4	(-22.4)	-247.0	-147.0	-77.0	-16.7	54.6	32.4	-20.4	-16.7
+ΔVCSI	(0.0)	-248.0	-148.0	-78.0	-16.9	55.7	30.6	-19.4	-16.9
ΔVCSI	(50.5)	-249.0	-149.0	-79.0	-17.1	56.7	28.7	-18.3	-17.1
		-250.0	-150.0	-80.0	-17.3	57.8	26.9	-17.3	-17.3
		-251.0	-151.0	-81.0	-17.5	58.8	25.1	-16.3	-17.5
		-252.0	-152.0	-82.0	-17.7	59.9	23.2	-15.2	-17.7
		-253.0	-153.0	-83.0	-17.9	60.9	21.4	-14.2	-17.9
		-254.0	-154.0	-84.0	-18.1	62.0	18.6	-13.1	-18.1
		-255.0	-155.0	-85.0	-18.4	63.0	17.7	-12.1	-18.4
		-256.0	-156.0	-86.0	-18.6	64.1	15.9	-11.1	-18.6
		-257.0	-157.0	-87.0	-18.8	65.1	14.0	-10.0	-18.8
		-258.0	-158.0	-88.0	-19.0	66.2	12.2	-9.0	-19.0
		-259.0	-159.0	-89.0	-19.2	67.2	10.3	-8.0	-19.2
		-260.0	-160.0	-90.0	-19.4	68.3	8.5	-6.9	-19.4
		-261.0	-161.0	-91.0	-19.6	69.3	6.6	-5.9	-19.6
		-262.0	-162.0	-92.0	-19.8	70.4	4.8	-4.8	-19.8
		-263.0	-163.0	-93.0	-20.0	71.4	3.0	-3.8	-20.0
		-264.0	-164.0	-94.0	-20.2	72.5	1.1	-2.8	-20.2
		-265.0	-165.0	-95.0	-20.5	73.5	-.7	-1.7	-20.5
		-266.0	-166.0	-96.0	-20.7	74.6	-2.6	-.7	-20.7
		-267.0	-167.0	-97.0	-20.9	75.7	-4.4	.4	-20.9
		-268.0	-168.0	-98.0	-21.1	76.7	-6.3	1.4	-21.1
		-269.0	-169.0	-99.0	-21.3	77.8	-8.1	2.4	-21.3
		-270.0	-170.0	-100.0	-21.5	78.8	-10.0	3.5	-21.5
		-271.0	-171.0	-101.0	-21.7	79.9	-11.9	4.5	-21.7
		-272.0	-172.0	-102.0	-21.9	81.0	-13.7	5.6	-21.9
		-273.0	-173.0	-103.0	-22.1	82.0	-15.6	6.6	-22.1
		-274.0	-174.0	-104.0	-22.4	83.1	-17.4	7.7	-22.4
		-275.0	-175.0	-105.0	-22.6	84.2	-19.3	8.7	-22.6
		-276.0	-176.0	-106.0	-22.8	85.2	-21.1	9.7	-22.8
		-277.0	-177.0	-107.0	-23.0	86.3	-23.0	10.8	-23.0
		-278.0	-178.0	-108.0	-23.2	87.4	-24.9	11.8	-23.2
		-279.0	-179.0	-109.0	-23.4	88.4	-26.7	12.9	-23.4
		-280.0	-180.0	-110.0	-23.6	89.5	-28.6	13.9	-23.6
		-281.0	-181.0	-111.0	-23.8	90.6	-30.4	15.0	-23.8

PREPARED BY FPRB/OPS
APRIL 19, 1971

FIRST MIDCOURSE MIDCOURSE LOGGING TPI BU DIR ASC TWEAK TPI BACKUP DIRECT ASCENT CDH BACKUP NOMINAL ASCENT CDH BACKUP NOMINAL ASCENT CSI BACKUP NOMINAL ASCENT

CSI BACKUP TABLE
NOMINAL ASCENT



TIG TPI : :
 - TIG CSI : :
 ΔT : :
 - NOM ΔT 1: 36:58
 ΔΔT :
 ΔΔVCSI

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 APRIL 19, 1971

RDOT1	F1	RDOT2	F2	RDOT 3	F3	R3	F4
-282.0	91.6	-182.0	-32.3	-112.0	16.0	162.0	-24.0
-283.0	92.7	-183.0	-34.2	-113.0	17.0	163.0	-24.2
-284.0	93.8	-184.0	-36.0	-114.0	18.1	164.0	-24.5
-285.0	94.8	-185.0	-37.9	-115.0	19.1	165.0	-24.7
-286.0	95.9	-186.0	-39.8	-116.0	20.2	166.0	-24.9
-287.0	97.0	-187.0	-41.6	-117.0	21.2	167.0	-25.1
-288.0	98.1	-188.0	-43.5	-118.0	22.3	168.0	-25.3
-289.0	99.2	-189.0	-45.4	-119.0	23.3	169.0	-25.5
-290.0	100.2	-190.0	-47.2	-120.0	24.4	170.0	-25.7
-291.0	101.3	-191.0	-49.1	-121.0	25.4	171.0	-25.9
-292.0	102.4	-192.0	-51.0	-122.0	26.5	172.0	-26.1
-293.0	103.5	-193.0	-52.9	-123.0	27.5	173.0	-26.3
-294.0	104.6	-194.0	-54.7	-124.0	28.6	174.0	-26.5
-295.0	105.6	-195.0	-56.6	-125.0	29.6	175.0	-26.7
-296.0	106.7	-196.0	-58.5	-126.0	30.7	176.0	-26.9
-297.0	107.8	-197.0	-60.4	-127.0	31.7	177.0	-27.1
-298.0	108.9	-198.0	-62.2	-128.0	32.8	178.0	-27.3
-299.0	110.0	-199.0	-64.1	-129.0	33.8	179.0	-27.5
-300.0	111.1	-200.0	-66.0	-130.0	34.9	180.0	-27.7
-301.0	112.2	-201.0	-67.9	-131.0	35.9	181.0	-27.9
-302.0	113.2	-202.0	-69.8	-132.0	37.0	182.0	-28.1
-303.0	114.3	-203.0	-71.6	-133.0	38.0	183.0	-28.3
-304.0	115.4	-204.0	-73.5	-134.0	39.1	184.0	-28.5
-305.0	116.5	-205.0	-75.4	-135.0	40.1	185.0	-28.7
-306.0	117.6	-206.0	-77.3	-136.0	41.2	186.0	-28.9
-307.0	118.7	-207.0	-79.2	-137.0	42.2	187.0	-29.1
-308.0	119.8	-208.0	-81.1	-138.0	43.3	188.0	-29.3
-309.0	120.9	-209.0	-83.0	-139.0	44.3	189.0	-29.5
-310.0	122.0	-210.0	-84.9	-140.0	45.4	190.0	-29.7
-311.0	123.1	-211.0	-86.8	-141.0	46.4	191.0	-29.9
-312.0	124.2	-212.0	-88.7	-142.0	47.5	192.0	-30.1
-313.0	125.3	-213.0	-90.5	-143.0	48.5	193.0	-30.3
-314.0	126.4	-214.0	-92.4	-144.0	49.6	194.0	-30.5
-315.0	127.5	-215.0	-94.3	-145.0	50.7	195.0	-30.7
-316.0	128.6	-216.0	-96.2	-146.0	51.7	196.0	-30.9
-317.0	129.7	-217.0	-98.1	-147.0	52.8	197.0	-31.0
-318.0	130.8	-218.0	-100.0	-148.0	53.8	198.0	-31.2
-319.0	131.9	-219.0	-101.9	-149.0	54.9	199.0	-31.4
-320.0	133.0	-220.0	-103.8	-150.0	55.9	200.0	-31.6
-321.0	134.1	-221.0	-105.7	-151.0	57.0	201.0	-31.8
-322.0	135.3	-222.0	-107.7	-152.0	58.1	202.0	-32.0
-323.0	136.4	-223.0	-109.6	-153.0	59.1	203.0	-32.2

CDH BACKUP TABLE
NOMINAL ASCENT

RD0T	X1	Z1	X2	Z2	X3	Z3
-50.0	67.3	254.8	-17.2	-193.9	-50.2	-60.7
-51.0	67.6	253.9	-17.5	-191.8	-50.3	-62.0
-52.0	68.0	253.0	-17.8	-189.6	-50.3	-63.2
-53.0	68.3	252.0	-18.2	-187.5	-50.3	-64.4
-54.0	68.7	251.1	-18.5	-185.4	-50.3	-65.6
-55.0	69.0	250.2	-18.9	-183.2	-50.3	-66.8
-56.0	69.4	249.3	-19.2	-181.1	-50.3	-68.0
-57.0	69.7	248.3	-19.5	-179.0	-50.3	-69.2
-58.0	70.1	247.4	-19.9	-176.8	-50.3	-70.5
-59.0	70.4	246.5	-20.2	-174.7	-50.3	-71.7
-60.0	70.8	245.6	-20.5	-172.5	-50.4	-72.9
-61.0	71.1	244.6	-20.9	-170.4	-50.4	-74.1
-62.0	71.5	243.7	-21.2	-168.3	-50.4	-75.3
-63.0	71.8	242.8	-21.6	-166.1	-50.4	-76.5
-64.0	72.2	241.9	-21.9	-164.0	-50.4	-77.7
-65.0	72.5	240.9	-22.2	-161.8	-50.4	-78.9
-66.0	72.9	240.0	-22.6	-159.7	-50.4	-80.2
-67.0	73.2	239.1	-22.9	-157.5	-50.5	-81.4
-68.0	73.6	238.1	-23.2	-155.4	-50.5	-82.6
-69.0	73.9	237.2	-23.6	-153.2	-50.5	-83.8
-70.0	74.3	236.3	-23.9	-151.1	-50.5	-85.0
-71.0	74.6	235.3	-24.3	-149.0	-50.5	-86.2
-72.0	75.0	234.4	-24.6	-146.8	-50.5	-87.4
-73.0	75.3	233.5	-24.9	-144.7	-50.6	-88.6
-74.0	75.7	232.5	-25.3	-142.5	-50.6	-89.8
-75.0	76.0	231.6	-25.6	-140.4	-50.6	-91.1
-76.0	76.4	230.6	-25.9	-138.2	-50.6	-92.3
-77.0	76.7	229.7	-26.3	-136.1	-50.6	-93.5
-78.0	77.1	228.8	-26.6	-133.9	-50.6	-94.7
-79.0	77.4	227.8	-26.9	-131.8	-50.7	-95.9
-80.0	77.8	226.9	-27.3	-129.6	-50.7	-97.1
-81.0	78.1	225.9	-27.6	-127.5	-50.7	-98.3
-82.0	78.5	225.0	-27.9	-125.3	-50.7	-99.5
-83.0	78.8	224.1	-28.3	-123.2	-50.7	-100.7
-84.0	79.2	223.1	-28.6	-121.0	-50.8	-102.0
-85.0	79.5	222.2	-28.9	-118.9	-50.8	-103.2
-86.0	79.9	221.2	-29.3	-116.7	-50.8	-104.4
-87.0	80.2	220.3	-29.6	-114.6	-50.8	-105.6
-88.0	80.6	219.3	-29.9	-112.4	-50.8	-106.8
-89.0	80.9	218.4	-30.3	-110.2	-50.9	-108.0
-90.0	81.3	217.4	-30.6	-108.1	-50.9	-109.2
-91.0	81.6	216.5	-30.9	-105.9	-50.9	-110.4
-92.0	82.0	215.5	-31.3	-103.8	-50.9	-111.6
-93.0	82.3	214.6	-31.6	-101.6	-50.9	-112.9

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APRIL 19, 1971

FIRST
MIDCOURSE

CDH BACKUP
NOMINAL ASCENT

CDH BACKUP
NOMINAL ASCENT

TPI BACKUP
DIRECT ASCENT

TPI BU
DIR ASC TWEAK

MIDCOURSE
LOGGING

FIRST
MIDCOURSE

RDOT	X1	Z1	X2	Z2	X3	Z3
-93.0	82.3	214.6	-31.6	-101.6	-50.9	-112.9
-94.0	82.7	213.6	-31.9	-99.5	-51.0	-114.1
-95.0	83.0	212.7	-32.3	-97.3	-51.0	-115.3
-96.0	83.4	211.7	-32.6	-95.1	-51.0	-116.5
-97.0	83.7	210.8	-32.9	-93.0	-51.0	-117.7
-98.0	84.1	209.8	-33.3	-90.8	-51.0	-118.9
-99.0	84.5	208.9	-33.6	-88.7	-51.1	-120.1
-100.0	84.8	207.9	-33.9	-86.5	-51.1	-121.3
-101.0	85.2	207.0	-34.2	-84.3	-51.1	-122.5
-102.0	85.5	206.0	-34.6	-82.2	-51.1	-123.7
-103.0	85.9	205.1	-34.9	-80.0	-51.2	-125.0
-104.0	86.2	204.1	-35.2	-77.8	-51.2	-126.2
-105.0	86.6	203.1	-35.6	-75.7	-51.2	-127.4
-106.0	86.9	202.2	-35.9	-73.5	-51.2	-128.6
-107.0	87.3	201.2	-36.2	-71.4	-51.3	-129.8
-108.0	87.6	200.3	-36.6	-69.2	-51.3	-131.0
-109.0	88.0	199.3	-36.9	-67.0	-51.3	-132.2
-110.0	88.3	198.3	-37.2	-64.9	-51.3	-133.4
-111.0	88.7	197.4	-37.5	-62.7	-51.4	-134.6
-112.0	89.1	196.4	-37.9	-60.5	-51.4	-135.8
-113.0	89.4	195.5	-38.2	-58.4	-51.4	-137.0
-114.0	89.8	194.5	-38.5	-56.2	-51.4	-138.3
-115.0	90.1	193.5	-38.9	-54.0	-51.5	-139.5
-116.0	90.5	192.6	-39.2	-51.8	-51.5	-140.7
-117.0	90.8	191.6	-39.5	-49.7	-51.5	-141.9
-118.0	91.2	190.6	-39.8	-47.5	-51.6	-143.1
-119.0	91.5	189.7	-40.2	-45.3	-51.6	-144.3
-120.0	91.9	188.7	-40.5	-43.2	-51.6	-145.5
-121.0	92.2	187.7	-40.8	-41.0	-51.6	-146.7
-122.0	92.6	186.8	-41.2	-38.8	-51.7	-147.9
-123.0	93.0	185.8	-41.5	-36.6	-51.7	-149.1
-124.0	93.3	184.8	-41.8	-34.5	-51.7	-150.3
-125.0	93.7	183.8	-42.1	-32.3	-51.7	-151.5
-126.0	94.0	182.9	-42.5	-30.1	-51.8	-152.8
-127.0	94.4	181.9	-42.8	-27.9	-51.8	-154.0
-128.0	94.7	180.9	-43.1	-25.8	-51.8	-155.2
-129.0	95.1	180.0	-43.4	-23.6	-51.9	-156.4
-130.0	95.4	179.0	-43.8	-21.4	-51.9	-157.6
-131.0	95.8	178.0	-44.1	-19.2	-51.9	-158.8
-132.0	96.2	177.0	-44.4	-17.1	-52.0	-160.0
-133.0	96.5	176.0	-44.7	-14.9	-52.0	-161.2
-134.0	96.9	175.1	-45.1	-12.7	-52.0	-162.4
-135.0	97.2	174.1	-45.4	-10.5	-52.1	-163.6
-136.0	97.6	173.1	-45.7	-8.3	-52.1	-164.8

TIME (MIN)	NOMINAL	DSKY>TM
-36 R1	(-118.0)	-.6
-23 R2	(-118.0)	-.6
-10 R3	(-118.0)	-.6
ΔVX: X1	(91.2)	
+X2	(- 39.8)	
+X3	(51.4)	
ΔVX(LV)	(- 0.2)	
ΔVZ: Z1	(190.6)	
+Z2	(- 47.5)	
+Z3	(143.1)	
ΔVZ(LV)	(-143.1)	
	(0.0)	

PREPARED BY FPRB/OPS
APRIL 19, 1971

CDH BACKUP TABLE
NOMINAL ASCENT

RD0T	X1	Z1	X2	Z2	X3	Z3
-136.0	97.6	173.1	-45.7	-8.3	-52.1	-164.8
-137.0	97.9	172.1	-46.0	-6.2	-52.1	-166.0
-138.0	98.3	171.2	-46.4	-4.0	-52.2	-167.2
-139.0	98.7	170.2	-46.7	-1.8	-52.2	-168.4
-140.0	99.0	169.2	-47.0	.4	-52.2	-169.7
-141.0	99.4	168.2	-47.3	2.6	-52.2	-170.9
-142.0	99.7	167.2	-47.7	4.8	-52.3	-172.1
-143.0	100.1	166.2	-48.0	6.9	-52.3	-173.3
-144.0	100.4	165.3	-48.3	9.1	-52.4	-174.5
-145.0	100.8	164.3	-48.6	11.3	-52.4	-175.7
-146.0	101.2	163.3	-49.0	13.5	-52.4	-176.9
-147.0	101.5	162.3	-49.3	15.7	-52.5	-178.1
-148.0	101.9	161.3	-49.6	17.9	-52.5	-179.3
-149.0	102.2	160.3	-49.9	20.1	-52.5	-180.5
-150.0	102.6	159.3	-50.3	22.2	-52.6	-181.7
-151.0	103.0	158.4	-50.6	24.4	-52.6	-182.9
-152.0	103.3	157.4	-50.9	26.6	-52.6	-184.1
-153.0	103.7	156.4	-51.2	28.8	-52.7	-185.3
-154.0	104.0	155.4	-51.5	31.0	-52.7	-186.5
-155.0	104.4	154.4	-51.9	33.2	-52.7	-187.7
-156.0	104.7	153.4	-52.2	35.4	-52.8	-189.0
-157.0	105.1	152.4	-52.5	37.6	-52.8	-190.2
-158.0	105.5	151.4	-52.8	39.8	-52.8	-191.4
-159.0	105.8	150.4	-53.1	42.0	-52.9	-192.6
-160.0	106.2	149.4	-53.5	44.2	-52.9	-193.8
-161.0	106.5	148.4	-53.8	46.3	-53.0	-195.0
-162.0	106.9	147.4	-54.1	48.5	-53.0	-196.2
-163.0	107.3	146.4	-54.4	50.7	-53.0	-197.4
-164.0	107.6	145.4	-54.8	52.9	-53.1	-198.6
-165.0	108.0	144.4	-55.1	55.1	-53.1	-199.8
-166.0	108.3	143.4	-55.4	57.3	-53.2	-201.0
-167.0	108.7	142.4	-55.7	59.5	-53.2	-202.2
-168.0	109.1	141.4	-56.0	61.7	-53.2	-203.4
-169.0	109.4	140.4	-56.4	63.9	-53.3	-204.6
-170.0	109.8	139.4	-56.7	66.1	-53.3	-205.8
-171.0	110.1	138.4	-57.0	68.3	-53.4	-207.0
-172.0	110.5	137.4	-57.3	70.5	-53.4	-208.2
-173.0	110.9	136.4	-57.6	72.7	-53.4	-209.4
-174.0	111.2	135.4	-57.9	74.9	-53.5	-210.6
-175.0	111.6	134.4	-58.3	77.1	-53.5	-211.9
-176.0	111.9	133.4	-58.6	79.3	-53.6	-213.1
-177.0	112.3	132.4	-58.9	81.5	-53.6	-214.3
-178.0	112.7	131.4	-59.2	83.7	-53.6	-215.5
-179.0	113.0	130.4	-59.5	85.9	-53.7	-216.7

PREPARED BY FPRB/OPS
APRIL 19, 1971

FIRST MIDCOURSE MIDCOURSE LOGGING TPI BU DIR ASC TWEAK TPI BACKUP DIRECT ASCENT CDH BACKUP NOMINAL ASCENT SECOND MIDCOURSE ESRU00DIW ISRI F

CSI BACKUP
NOMINAL ASCENT

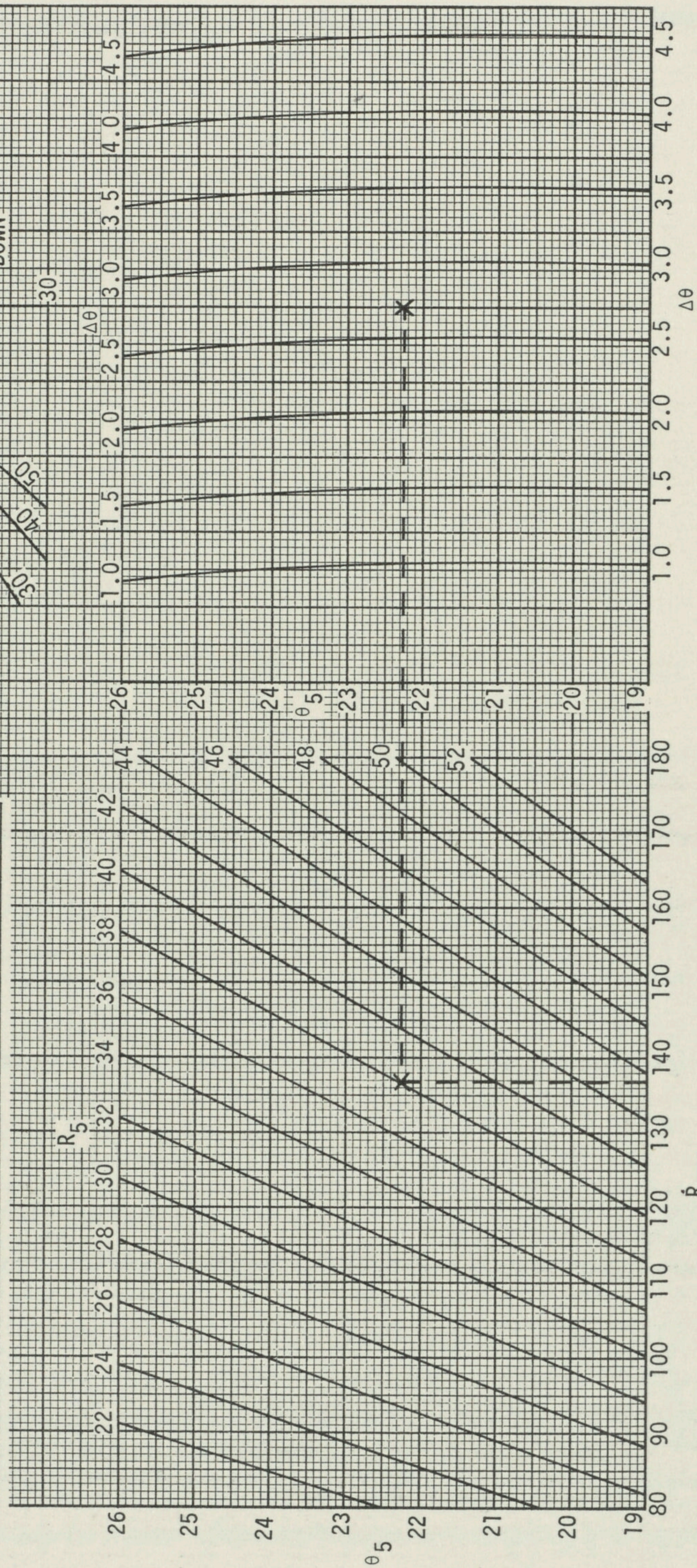
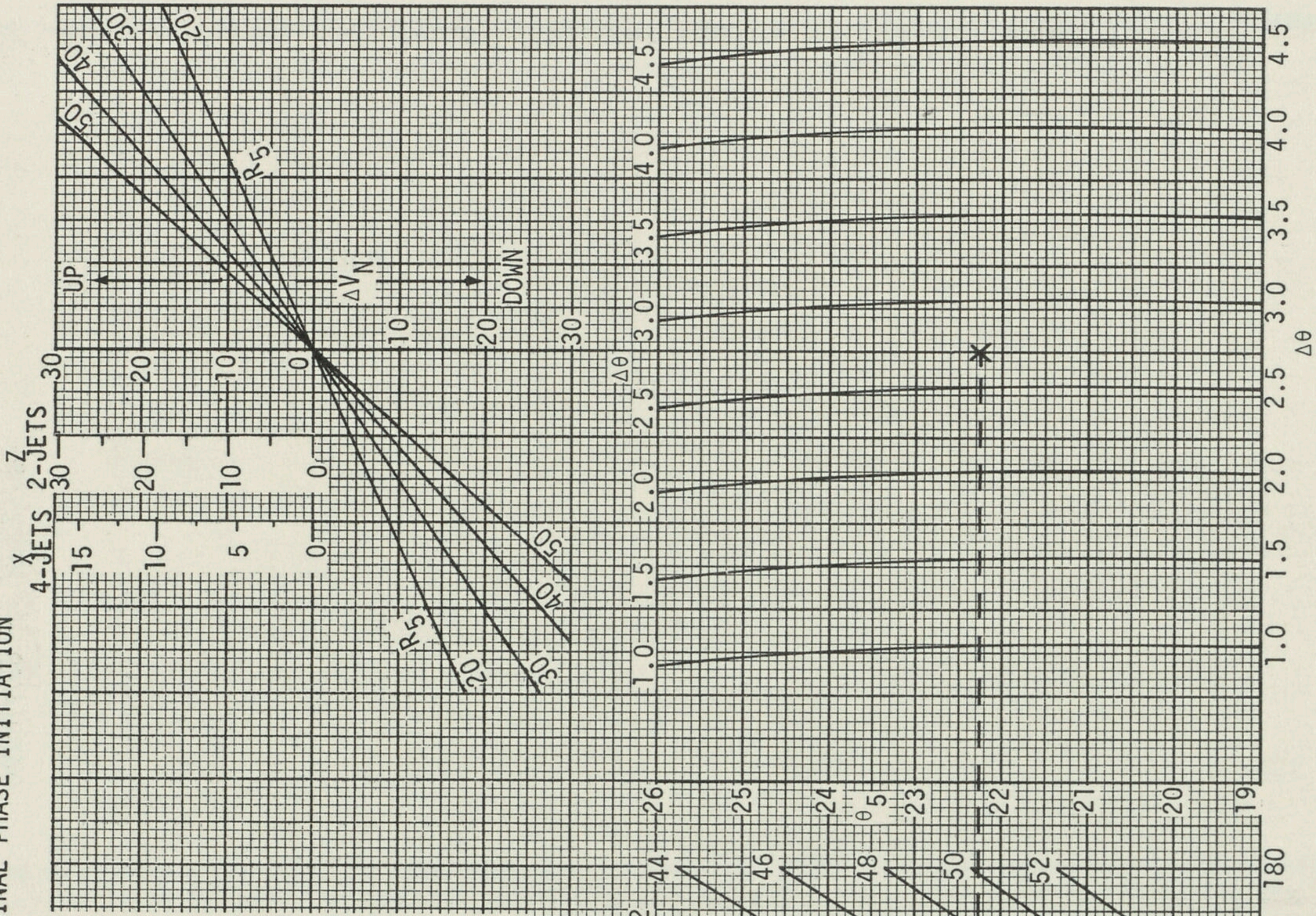
CDH BACKUP
NOMINAL ASCENT

TPI BACKUP
DIRECT ASCENT

H-3 MISSION TERMINAL PHASE INITIATION

\dot{R}_{REQ} _____ 136.9
 R_5 _____ 38.18
 ΔR _____ 24.6
 θ_5 _____ 22.24
 θ_9 _____ 19.54
 $\Delta \theta$ _____ 2.70

PNGS (N59)		CSM (N59)		CHARTS		ΔT	
\dot{F}/A	_____	_____	_____	_____	_____	_____	_____
\dot{R}/L	_____	_____	_____	_____	_____	_____	_____
\dot{D}/U	_____	_____	_____	_____	_____	_____	_____



PREPARED BY FPRB/OPS
NOVEMBER 23, 1970

DIRECT ASCENT TPI BACKUP TABLE

TPI LOGGING									
	<u>TIME</u>	<u>DATA</u>	<u>NOMINAL</u>						
	TPI - 30:00	R1	(94.1)						
		R1	(353.1)						
	TPI - 10:00	R2	(44.0)						
		R2	(154.5)						
		θ2	(26.8)						
N81									
	<u>F+/A-</u>								
H1		(112.1)							
H2		(-41.4)							
ΔVX		(70.7)							
	<u>D+/U-</u>								
V1		(1707.0)							
V2		(-834.4)							
		(872.6)							
V3		(-589.7)							
		(282.9)							
V4		(-185.4)							
		(97.5)							
V5		(-76.3)							
ΔVZ		(21.2)							

	R1	V1	R1	V2	R2	V3	R2	V4	M1
79	1687.5	378	-788.2	27	-522.4	216	-261.8	103.1	
80	1690.2	377	-790.1	28	-530.4	215	-260.3	103.3	
81	1692.7	376	-792.0	29	-537.8	214	-258.8	103.6	
82	1694.9	375	-793.9	30	-544.5	213	-257.3	103.8	
83	1696.9	374	-795.8	31	-550.8	212	-255.9	104.0	
84	1698.7	373	-797.6	32	-556.5	211	-254.4	104.2	
85	1700.3	372	-799.5	33	-561.6	210	-253.0	104.5	
86	1701.7	371	-801.4	34	-566.3	209	-251.5	104.7	
87	1702.9	370	-803.3	35	-570.4	208	-250.1	104.9	
88	1703.9	369	-805.1	36	-574.1	207	-248.7	105.1	
89	1704.8	368	-807.0	37	-577.4	206	-247.3	105.3	
90	1705.5	367	-808.9	38	-580.3	205	-245.9	105.5	
91	1706.1	366	-810.7	39	-582.7	204	-244.5	105.7	
92	1706.5	365	-812.6	40	-584.8	203	-243.1	105.9	
93	1706.8	364	-814.4	41	-586.5	202	-241.8	106.1	
94	1707.0	363	-816.3	42	-587.9	201	-240.4	106.3	
95	1707.1	362	-818.1	43	-588.9	200	-239.1	106.5	
96	1707.1	361	-819.9	44	-589.7	199	-237.7	106.7	
97	1707.0	360	-821.8	45	-590.2	198	-236.4	106.9	
98	1706.8	359	-823.6	46	-590.5	197	-235.1	107.0	
99	1706.5	358	-825.4	47	-590.5	196	-233.8	107.2	
100	1706.2	357	-827.2	48	-590.3	195	-232.4	107.4	
101	1705.9	356	-829.0	49	-589.9	194	-231.2	107.5	
102	1705.5	355	-830.8	50	-589.4	193	-229.9	107.7	
103	1705.1	354	-832.6	51	-588.7	192	-228.6	107.9	
104	1704.6	353	-834.4	52	-587.9	191	-227.3	108.0	
105	1704.2	352	-836.2	53	-586.9	190	-226.0	108.2	
106	1703.7	351	-838.0	54	-585.9	189	-224.8	108.3	
107	1703.2	350	-839.7	55	-584.9	188	-223.5	108.5	
108	1702.8	349	-841.5	56	-583.7	187	-222.3	108.6	
109	1702.4	348	-843.2	57	-582.6	186	-221.1	108.8	
		347	-845.0	58	-581.5	185	-219.8	108.9	
		346	-846.7	59	-580.4	184	-218.6	109.1	
		345	-848.5	60	-579.3	183	-217.4	109.2	
		344	-850.2	61	-578.3	182	-216.2	109.3	
		343	-851.9			181	-215.0	109.5	
		342	-853.6			180	-213.8	109.6	
		341	-855.3			179	-212.6	109.7	
		340	-857.0			178	-211.4	109.9	
		339	-858.7			177	-210.3	110.0	
		338	-860.4			176	-209.1	110.1	
		337	-862.0			175	-207.9	110.2	
		336	-863.7			174	-206.8	110.3	
		335	-865.3			173	-205.6	110.4	
		334	-867.0			172	-204.5	110.6	
		333	-868.6			171	-203.3	110.7	
		332	-870.2			170	-202.2	110.8	
		331	-871.9			169	-201.1	110.9	
		330	-873.5			168	-200.0	111.0	
		329	-875.1			167	-198.9	111.1	
		328	-876.6			166	-197.7	111.2	

PREFPARED BY FPRB/OPS
APRIL 19, 1971

ESR000DIW MIDCOURSE ISRI	SECOND MIDCOURSE	TPI BACKUP DIRECT ASCENT	TPI BU DIR ASC TWEAK	MIDCOURSE LOGGING	FIRST MIDCOURSE
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DIRECT ASCENT TPI BACKUP TABLE TWEAK

R1	V1	R1	V2	R1	V2	R1	V2	R2	V3	TPI LOGGING		
										TIME	DATA	NOMINAL
80	1693.3	386	-680.4	349	-736.8	31	-329.2					
81	1693.5	385	-682.5	348	-737.9	32	-337.6					
82	1693.8	384	-684.6	347	-739.0	33	-345.7					
83	1694.1	383	-686.6	346	-740.1	34	-353.4					2.6
84	1694.4	382	-688.5	345	-741.3	35	-360.8					
85	1694.7	381	-690.5	344	-742.4	36	-367.8					
86	1695.0	380	-692.4	343	-743.4	37	-374.4					
87	1695.3	379	-694.2	342	-744.5	38	-380.7					
88	1695.6	378	-696.1	341	-745.6	39	-386.8					
89	1695.9	377	-697.8	340	-746.7	40	-392.5					
90	1696.2	376	-699.6	339	-747.8	41	-397.9					
91	1696.5	375	-701.3	338	-748.9	42	-403.1					
92	1696.7	374	-703.0	337	-750.0	43	-408.0					(1697.1)
93	1696.9	373	-704.6	336	-751.0	44	-412.7					(-732.0)
94	1697.1	372	-706.2	335	-752.1	45	-417.1					(965.1)
95	1697.2	371	-707.8	334	-753.2	46	-421.4					
96	1697.3	370	-709.4	333	-754.3	47	-425.4					
97	1697.3	369	-710.9	332	-775.4	48	-429.2					(-412.7)
98	1697.2	368	-712.4	331	-756.5	49	-432.9					(552.4)
99	1697.1	367	-713.9	330	-757.6	50	-436.4					
100	1696.9	366	-715.3	329	-758.7	51	-439.8					(- 56.4)
101	1696.6	365	-716.8	328	-759.9	52	-443.0					(496.0)
102	1696.3	364	-718.2	327	-761.0	53	-446.1					
103	1695.8	363	-719.5	326	-762.1	54	-449.1					
104	1695.2	362	-720.9	325	-763.3	55	-452.0					(-474.8)
105	1694.6	361	-722.2	324	-764.5	56	-454.8					
106	1693.8	360	-723.5	323	-765.6	57	-457.5					(21.2)
107	1692.9	359	-724.8	322	-766.8							
108	1691.9	358	-726.1	321	-768.1							
		357	-727.3	320	-769.3							
		356	-728.6									
		355	-729.8									
		354	-731.0									
		353	-732.2									
		352	-733.3									
		351	-734.5									
		350	-735.6									
		349	-736.8									

N81

F+/A-

PREPARED BY FPRB/OPS
MAY 29, 1971

FIRST MIDCOURSE

SECOND MIDCOURSE

TPI BU DIR ASC TWEAK

MIDCOURSE LOGGING

FIRST MIDCOURSE

TPI BU
DIR ASC TWEAK

TPI BACKUP
DIRECT ASCENT

TPI BACKUP
DIRECT ASCENT

TPI BACKUP
DIRECT ASCENT

TPI BACKUP
NOMINAL ASCENT

CDH BACKUP
NOMINAL ASCENT

CSI BACKUP
NOMINAL ASCENT

DIRECT ASCENT TPI BACKUP TABLE TWEAK

R2	V4	H1	R2	V4	H1	R2	V4	H1	θ2	V5	H2	θ2	V5	H2
212	-44.2	85.3	174	-51.0	91.5	136	-63.3	95.2	12.0	-280.0	-10.3	31.0	-511.5	-25.9
211	-44.4	85.5	173	-51.2	91.6	135	-63.7	95.2	12.5	-288.8	-10.7	31.5	-515.6	-26.3
210	-44.5	85.7	172	-51.5	91.7	134	-64.1	95.3	13.0	-297.5	-11.2	32.0	-519.6	-26.6
209	-44.6	85.9	171	-51.7	91.9	133	-64.6	95.4	13.5	-306.0	-11.6	32.5	-523.5	-27.0
208	-44.8	86.1	170	-52.0	92.0	132	-65.0	95.5	14.0	-314.3	-12.0	33.0	-527.4	-27.3
207	-44.9	86.3	169	-52.2	92.1	131	-65.5	95.5	14.5	-322.4	-12.5	33.5	-531.2	-27.6
206	-45.1	86.5	168	-52.5	92.2	130	-65.9	95.6	15.0	-330.4	-12.9	34.0	-535.0	-28.0
205	-45.2	86.7	167	-52.8	92.3	129	-66.4	95.7	15.5	-338.1	-13.4	34.5	-538.7	-28.3
204	-45.3	86.9	166	-53.0	92.4	128	-66.9	95.7	16.0	-345.7	-13.8	35.0	-542.4	-28.6
203	-45.5	87.0	165	-53.3	92.5	127	-67.3	95.8	16.5	-353.2	-14.2	35.5	-546.1	-28.9
202	-45.6	87.2	164	-53.6	92.6	126	-67.8	95.9	17.0	-360.4	-14.7	36.0	-549.7	-29.3
201	-45.8	87.4	163	-53.8	92.8	125	-68.3	96.0	17.5	-367.5	-15.1	36.5	-553.4	-29.6
200	-46.0	87.6	162	-54.1	92.9	124	-68.8	96.0	18.0	-374.5	-15.5	37.0	-557.0	-29.9
199	-46.1	87.8	161	-54.4	93.0	123	-69.3	96.1	18.5	-381.3	-15.9	37.5	-560.5	-30.2
198	-46.3	87.9	160	-54.7	93.1	122	-69.8	96.2	19.0	-387.9	-16.4	38.0	-564.1	-30.5
197	-46.4	88.1	159	-55.0	93.2	121	-70.3	96.2	19.5	-394.4	-16.8	38.5	-567.6	-30.7
196	-46.6	88.3	158	-55.3	93.3	120	-70.9	96.3	20.0	-400.8	-17.2	39.0	-571.2	-31.0
195	-46.8	88.5	157	-55.6	93.4	119	-71.4	96.4	20.5	-407.0	-17.7	39.5	-574.7	-31.3
194	-46.9	88.6	156	-55.9	93.5	118	-71.9	96.4	21.0	-413.1	-18.1	40.0	-578.2	-31.6
193	-47.1	88.8	155	-56.3	93.6	117	-72.5	96.5	21.5	-419.0	-18.5	40.5	-581.8	-31.8
192	-47.3	89.0	154	-56.6	93.6	116	-73.0	96.6	22.0	-424.8	-18.9	41.0	-585.3	-32.1
191	-47.5	89.1	153	-56.9	93.7	115	-73.6	96.6	22.5	-430.5	-19.3	41.5	-588.9	-32.3
190	-47.7	89.3	152	-57.2	93.8	114	-74.1	96.7	23.0	-436.1	-19.7	42.0	-592.4	-32.6
189	-47.8	89.4	151	-57.6	93.9	113	-74.7	96.8	23.5	-441.6	-20.1			
188	-48.0	89.6	150	-57.9	94.0	112	-75.3	96.8	24.0	-446.9	-20.5			
187	-48.2	89.7	149	-58.3	94.1	111	-75.9	96.9	24.5	-452.1	-21.0			
186	-48.4	89.9	148	-58.6	94.2	110	-76.5	97.0	25.0	-457.2	-21.4			
185	-48.6	90.0	147	-59.0	94.3	109	-77.1	97.0	25.5	-462.3	-21.8			
184	-48.8	90.2	146	-59.3	94.4	108	-77.7	97.1	26.0	-467.2	-22.1			
183	-49.0	90.3	145	-59.7	94.4	107	-78.3	97.2	26.5	-472.0	-22.5			
182	-49.2	90.4	144	-60.1	94.5	106	-78.9	97.2	27.0	-476.7	-22.9			
181	-49.4	90.6	143	-60.5	94.6	105	-79.6	97.3	27.5	-481.3	-23.3			
180	-49.6	90.7	142	-60.8	94.7	104	-80.2	97.4	28.0	-485.9	-23.7			
179	-49.9	90.9	141	-61.2	94.8	103	-80.9	97.4	28.5	-490.3	-24.1			
178	-50.1	91.0	140	-61.6	94.9	102	-81.5	97.5	29.0	-494.7	-24.5			
177	-50.3	91.1	139	-62.0	94.9	101	-82.2	97.6	29.5	-499.0	-24.8			
176	-50.5	91.2	138	-62.4	95.0	100	-82.8	97.6	30.0	-503.3	-25.2			
175	-50.8	91.4	137	-62.9	95.1	99	-83.5	97.7	30.5	-507.4	-25.6			
174	-51.0	91.5	136	-63.3	95.2	98	-84.2	97.8	31.0	-511.5	-25.9			

FIRST
MIDCOURSE

SECOND
MIDCOURSE

MCC1 CHART LOGGING					
		\dot{R}_{REQ} _____	103.0		
R_{13} _____	16.92	\dot{R}_{13^-} _____	103.0	θ_{13} _____	43.87
		$\Delta \dot{R}$ _____	0.0	θ_{9^-} _____	37.97
				$\Delta \theta$ _____	5.90
MCC1	PGNS (N59)	CMC (N59)	AGS	PGNS (N85)	CHART
ΔVX	_____	_____	_____	_____	_____
ΔVY	_____	_____	_____	_____	_____
ΔVZ	_____	_____	_____	_____	_____

MCC2 CHART LOGGING					
		\dot{R}_{REQ} _____	50.2		
R_{28} _____	33.1 kFT	\dot{R}_{28^-} _____	50.2	θ_{28} _____	78.09
		$\Delta \dot{R}$ _____	0.0	θ_{24^-} _____	66.79
				$\Delta \theta$ _____	11.30
MCC2	PGNS (N59)	CMC (N59)	AGS	PGNS (N85)	CHART
ΔVX	_____	_____	_____	_____	_____
ΔVY	_____	_____	_____	_____	_____
ΔVZ	_____	_____	_____	_____	_____

MIDCOURSE
LOGGING

FIRST
MIDCOURSE

MIDCOURSE
LOGGING

TPI BU
DIR ASC TWEAK

TPI BACKUP
DIRECT ASCENT

TPI BACKUP
DIRECT ASCENT

CDH BACKUP
NOMINAL ASCENT

CSI BACKUP
NOMINAL ASCENT

FIRST
MIDCOURSE

SECOND
MIDCOURSE

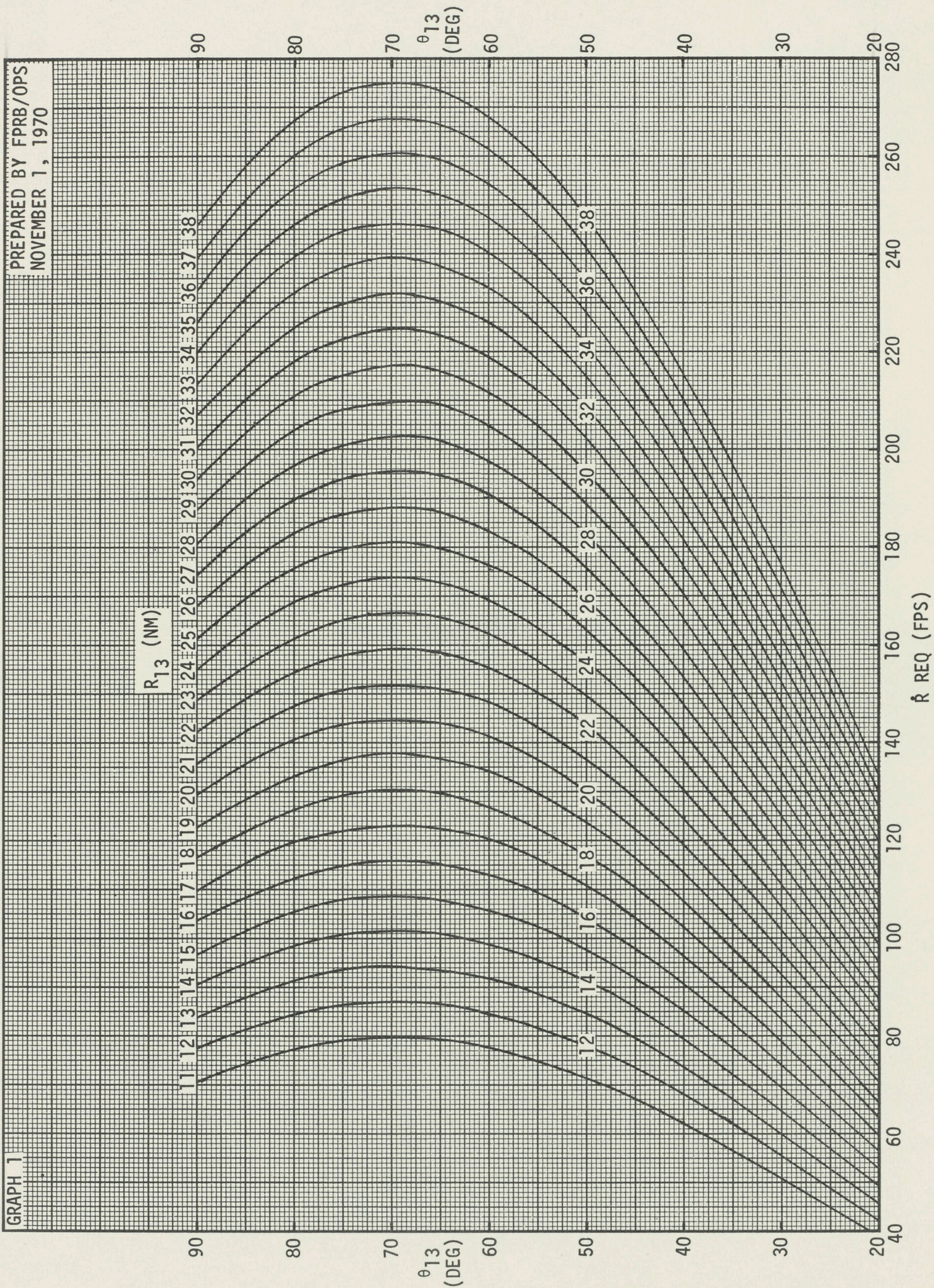
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FIRST
MIDCOURSE

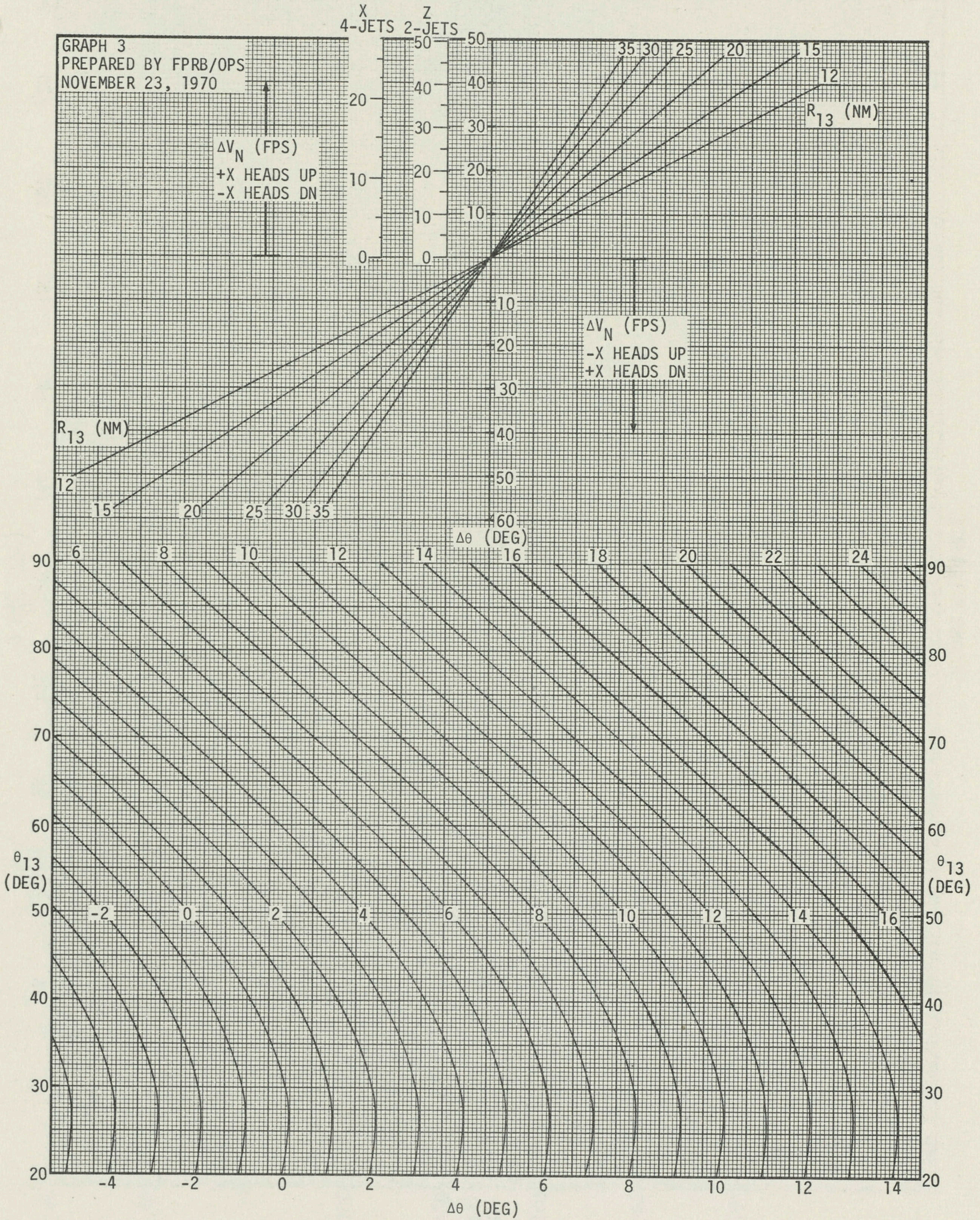
FIRST MIDCOURSE / MIDCOURSE LOGGING / TPI BU DIR ASC TWEAK / TPI BACKUP DIRECT ASCENT / TPI BACKUP DIRECT ASCENT / TPI BACKUP DIRECT ASCENT / CDH BACKUP NOMINAL ASCENT / CSI BACKUP NOMINAL ASCENT

GRAPH 1
 PREPARED BY FPRB/OPS
 NOVEMBER 1, 1970

FIRST MIDCOURSE

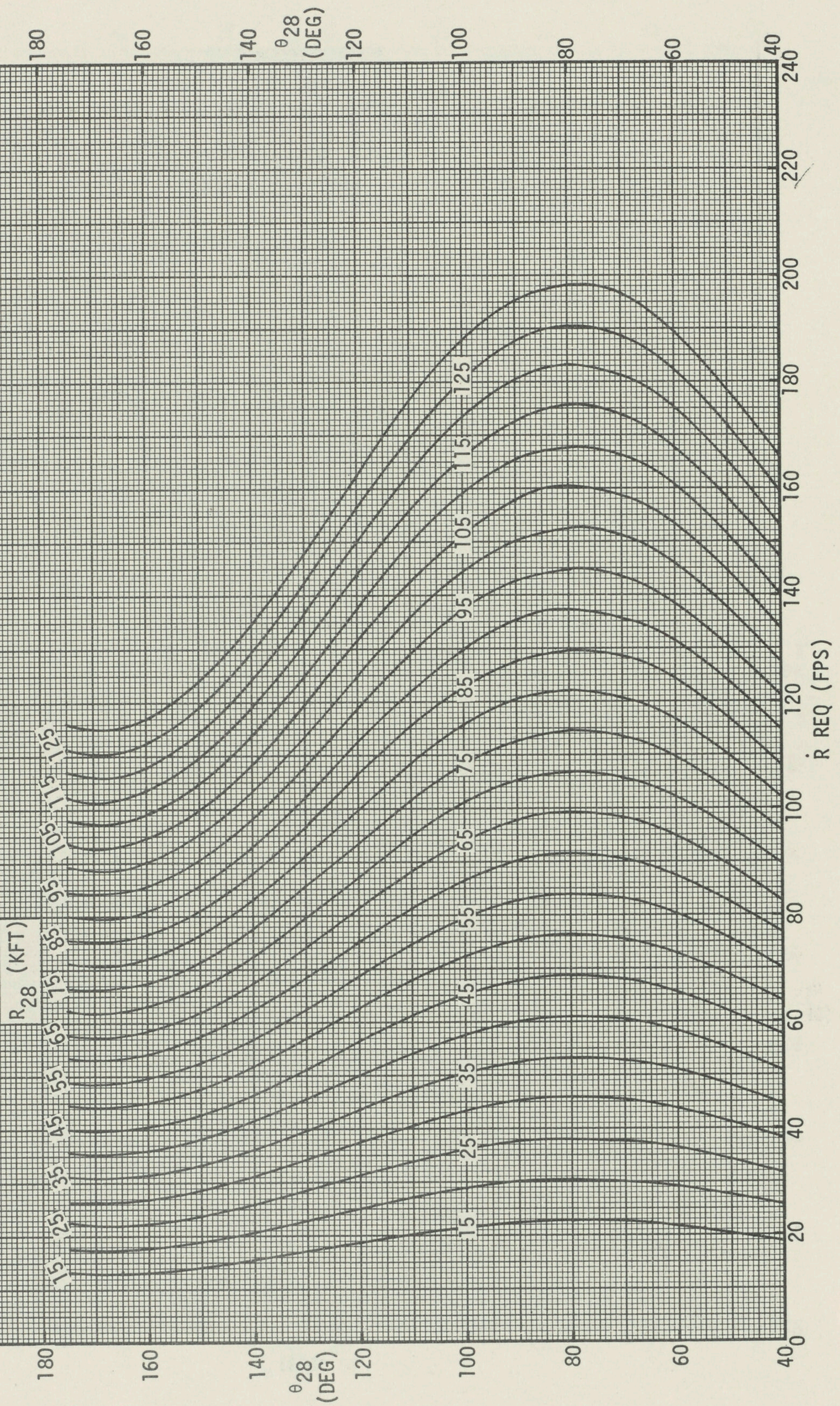


FIRST MIDCOURSE



PREPARED BY FPRB/OPS
NOVEMBER 1, 1970

GRAPH 1



MIDCOURSE LOGGING

FIRST MIDCOURSE

TPI BU DIR ASC TWEAK

TPI BACKUP DIRECT ASCENT

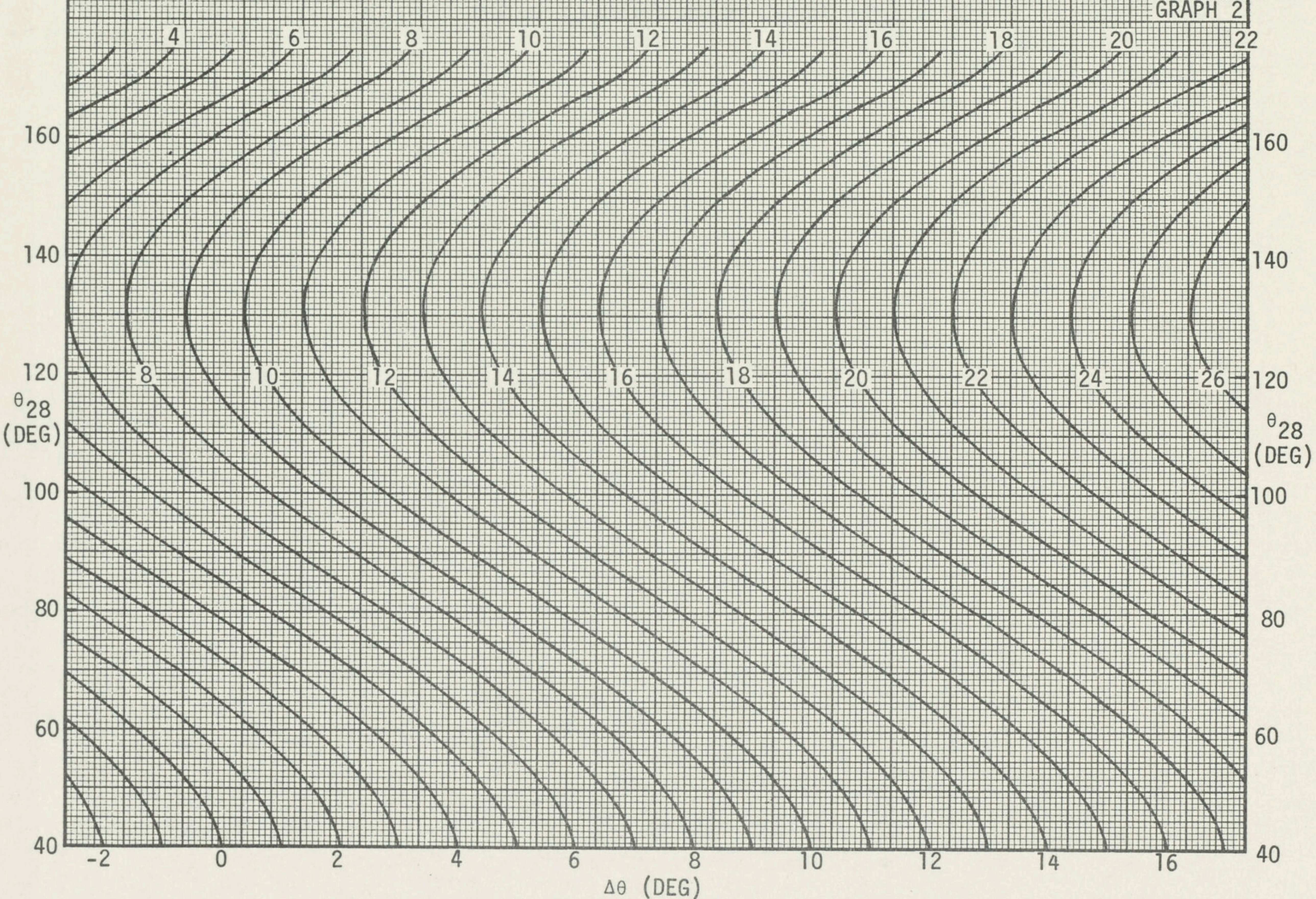
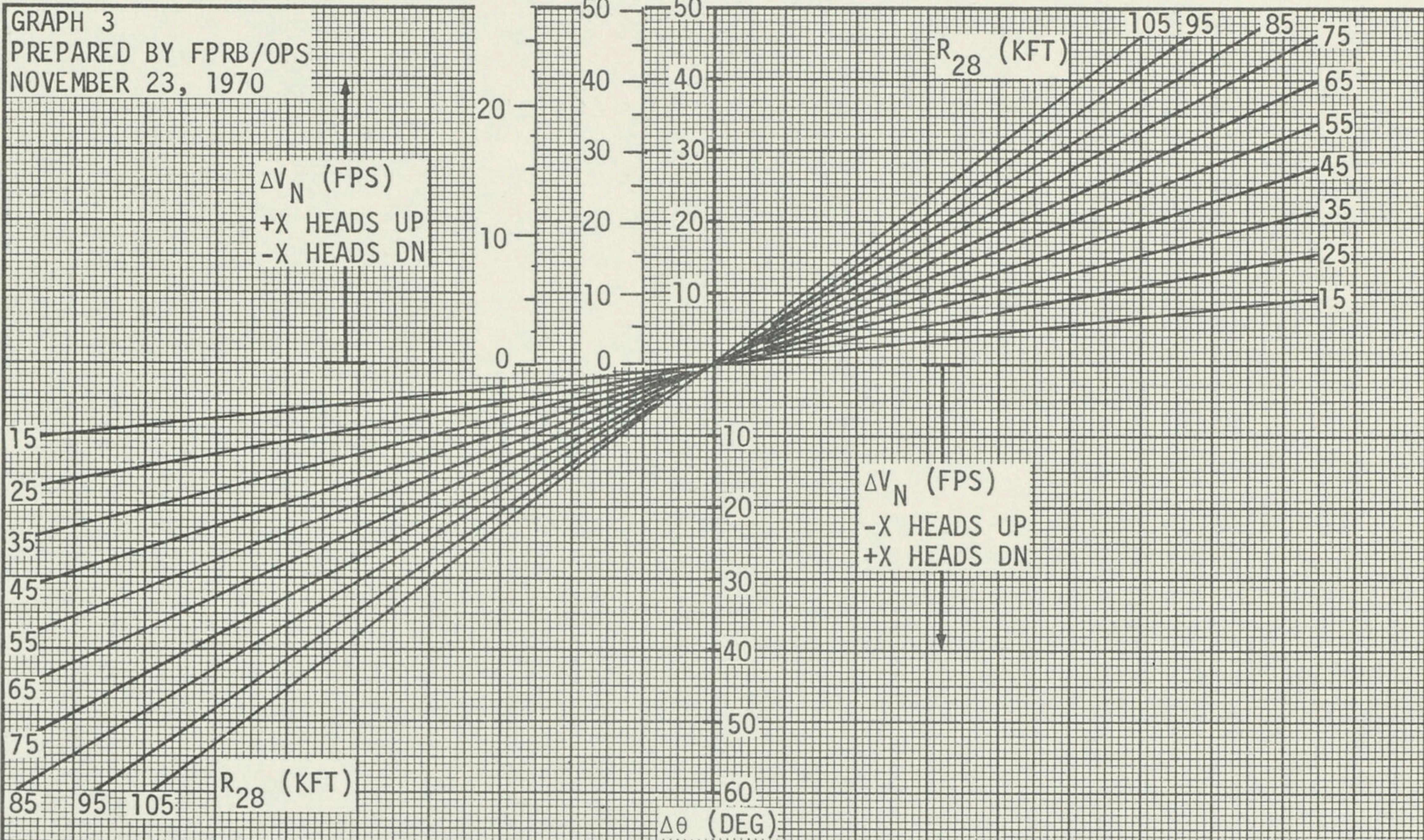
TPI BACKUP DIRECT ASCENT

CDH BACKUP NOMINAL ASCENT

SECOND MIDCOURSE

SECOND MIDCOURSE

GRAPH 3
PREPARED BY FPRB/OPS
NOVEMBER 23, 1970



SECOND
MIDCOURSE

SECOND
MIDCOURSE

SECOND
MIDCOURSE

TPI BACKUP
DIRECT ASCENT

TPI BACKUP
DIRECT ASCENT

TPI BU
DIR ASC TWEAK

MIDCOURSE
LOGGING

FIRST
MIDCOURSE

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