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1-2-80

F-18 CREW AUTOMATED ESCAPE SYSTEM AND ESCAPE SYSTEM REPLACEMENT PROGRAM

FINAL REPORT

VOLUME II

CDRL ITEM #A005

Task Order No. 23

Contract N62269-78-C-0191

WADC
Tech. Info.

Prepared for
NAVAL AIR DEVELOPMENT CENTER
Warminster, Pennsylvania

October 1979

CSC
COMPUTER SCIENCES CORPORATION

NO DISTRIBUTION
STATEMENT

APPENDIX E

TABLES OF PREDICTED AND ACTUAL NWC SNORT F-18A

SLED TEST DATA AT EJECTION TRAJECTORY EVENTS

ICARUS PROGRAM VALIDATION STUDY
PREDICTED F-18A NWC SLED TEST RESULTS

ROCKET IGNITION

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	0.527	0.524	0.547	0.547	0.522	0.504	0.513	0.523
X	Ft.	-2.1	195.5	399.8	544.8	-2.3	192.8	384.6	525.7
Y	Ft.	6.6	5.7	4.7	4.1	7.1	6.1	5.1	4.4
Z	Ft.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V_x	Ft./Sec.	-17.0	359.7	716.7	979.9	-18.5	367.5	732.2	983.7
V_y	Ft./Sec.	54.3	51.4	47.7	44.6	61.4	58.4	55.0	53.0
V_z	Ft./Sec.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ICARUS PROGRAM VALIDATION STUDY
PREDICTED F-18A NWC SLED TEST RESULTS

ROCKET BURNOUT

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	0.787	0.784	0.817	0.821	0.782	0.763	0.783	0.795
X	Ft.	-3.7	288.9	585.7	796.4	-6.6	284.9	569.7	771.4
Y	Ft.	30.6	28.5	25.8	21.5	35.9	32.9	28.7	24.9
Z	Ft.	-2.1	-2.0	-2.0	-1.9	-3.2	-3.0	-2.9	-2.5
V_x	Ft./Sec.	12.2	365.7	670.3	871.4	-13.9	345.5	644.4	830.4
V_y	Ft./Sec.	117.3	113.8	103.4	87.8	147.3	136.0	109.4	91.7
V_z	Ft./Sec.	-19.6	-18.5	-17.9	-18.1	-30.9	-28.6	-24.9	-22.9

ICARUS PROGRAM VALIDATION STUDY
 PREDICTED F-18A NWC SLED TEST RESULTS

DROGUE GUN FIRE

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	0.901	0.901	0.949	0.941	0.937	0.904	0.919	0.939
X	Ft.	-2.4	331.0	672.4	898.5	-8.8	332.7	654.7	886.7
Y	Ft.	43.6	41.4	39.3	32.0	58.2	51.3	43.1	37.9
Z	Ft.	-4.2	-4.1	-4.7	-4.8	-7.9	-6.6	-6.1	-6.8
V_x	Ft./Sec.	12.3	357.8	644.3	834.0	-14.1	334.2	605.3	772.7
V_y	Ft./Sec.	113.2	108.9	100.6	85.4	139.8	126.0	102.6	86.0
V_z	Ft./Sec.	-19.7	-20.5	-24.8	-31.4	-30.9	-24.2	-25.0	-38.5

TABLE 2-4

ICARUS PROGRAM VALIDATION STUDY
PREDICTED F-18A NWC SLED TEST RESULTS

DROGUE PARACHUTE FULL INFLATION

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	1.610	1.600	1.335	1.441	1.570	1.330	1.312	1.290
X	Ft.	6.3	558.0	900.4	1259.7	-17.4	465.9	868.7	1128.1
Y	Ft.	113.5	103.6	71.8	61.6	136.6	99.3	77.2	61.0
Z	Ft.	-18.1	-18.3	-14.8	-20.3	-26.6	-14.6	-17.2	-19.3
V_x	Ft./Sec.	11.8	288.1	528.3	599.5	-13.1	286.6	474.9	591.8
V_y	Ft./Sec.	83.5	69.7	68.2	42.9	107.5	97.5	70.2	50.5
V_z	Ft./Sec.	-19.1	-18.0	-24.3	-25.4	-27.8	-15.0	-24.1	-31.1

TABLE E-5

ICARUS PROGRAM VALIDATION STUDY
 PREDICTED F-18A NWC SLED TEST RESULTS
 MAIN PARACHUTE PACK OPENING

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	1.871	1.905	2.059	2.027	1.990	2.071	3.826	1.902
X	Ft.	9.3	640.7	1207.5	1544.9	-22.6	645.6	1516.2	1407.7
Y	Ft.	133.8	122.3	105.9	77.5	177.3	153.2	105.1	81.7
Z	Ft.	-23.1	-23.4	-28.3	-32.5	-37.8	-23.9	-58.8	-34.3
V_x	Ft./Sec.	11.3	254.8	346.4	400.6	-11.6	207.7	156.2	361.5
V_y	Ft./Sec.	72.2	53.9	26.3	14.6	86.7	51.5	-29.0	19.1
V_z	Ft./Sec.	-18.4	-14.5	-16.0	-18.9	-26.0	-11.0	-10.6	-18.0

TABLE 6

ICARUS PROGRAM VALIDATION STUDY
PREDICTED F-18A NWC SLED TEST RESULTS

MAIN PARACHUTE RISER LINE STRETCH

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	2.964	2.314	2.374	2.316	3.590	2.541	4.460	2.172
X	Ft.	21.5	742.0	1315.0	1658.7	-40.3	741.2	1613.5	1503.2
Y	Ft.	192.1	142.1	112.5	80.4	270.2	173.6	80.9	85.5
Z	Ft.	-42.8	-28.9	-33.2	-37.8	-77.9	-29.3	-65.4	-39.3
V_x	Ft./Sec.	10.6	240.5	336.0	385.4	-10.8	198.1	150.5	342.9
V_y	Ft./Sec.	35.0	41.1	16.0	6.6	30.7	35.1	-47.0	7.8
V_z	Ft./Sec.	-17.8	-13.3	-15.4	-16.3	-24.1	-12.1	-10.6	-19.4

TABLE 27

ICARUS PROGRAM VALIDATION STUDY
 PREDICTED F-18A NWC SLED TEST RESULTS
 MAIN PARACHUTE FULL INFLATION

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	5.700	3.900	2.909	2.801	5.200	(3.280) 3.330*	5.235	2.720
X	Ft.	46.2	971.8	1446.3	1797.2	-50.4	(838.6)	1688.9	1621.6
Y	Ft.	159.5	153.3	116.5	80.0	267.6	(183.2)	48.7	84.1
Z	Ft.	-78.6	-40.8	-39.0	-43.1	-110.1	(-36.8)	-70.1	-47.2
V_x	Ft./Sec.	1.3	43.0	146.0	162.1	-1.6	(58.3)	37.6	92.7
V_y	Ft./Sec.	-39.7	-17.4	-2.3	-7.8	-30.4	(-5.8)	-29.4	-9.8
V_z	Ft./Sec.	-0.6	-2.1	-6.4	-5.9	-11.6	(-5.7)	-1.5	-5.8

*predicted data not available for this time.

TABLE 3

ICARUS PROGRAM VALIDATION STUDY
 PREDICTED F-18A NWC SLED TEST RESULTS
 PEAK TRAJECTORY HEIGHT

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	3.900	3.210	2.810	2.490	4.380	3.180	2.751	2.380
X	Ft.	31.7	915.0	1430.0	1720.0	-46.7	831.8	1318.7	1565.7
Y	Ft.	208.2	160.1	116.6	81.2	281.2	183.6	121.5	86.1
Z	Ft.	-58.4	-37.9	-38.2	-40.2	-95.6	-36.0	-45.3	-43.4
V_x	Ft./Sec.	10.8	133.4	183.1	320.3	-6.2	78.1	218.2	260.9
V_y	Ft./Sec.	0.1	0.6	1.5	-0.3	-1.7	-1.7	0.1	1.7
V_z	Ft./Sec.	-15.7	-5.6	-8.5	-13.4	-21.0	-9.2	-15.0	-17.2

ICARUS PROGRAM VALIDATION STUDY
ACTUAL F-18A NWC SLED TEST RESULTS

ROCKET IGNITION

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V _{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V _{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	0.551	0.544	0.560	0.558	0.544	0.525	0.521	0.524
X	Ft.	-1.7	220.3	444.5	590.5	-1.6	N/A	441.1	567.4
Y	Ft.	7.0	5.5	3.9	1.9	7.6	N/A	5.1	2.0
Z	Ft.	0.3	-0.7	0.2	0.0	-0.1	N/A	0.4	0.2
V _x	Ft./Sec.	-10.0	362.0	706.0	944.0	-4.0	N/A	707.0	959.0
V _y	Ft./Sec.	60.0	49.0	42.0	29.0	64.0	N/A	54.0	37.0
V _z	Ft./Sec.	-4.0	-1.0	-5.0	-7.0	-7.0	N/A	-5.0	-2.0

TABLE E-10

ICARUS PROGRAM VALIDATION STUDY
ACTUAL F-18A NWC SLED TEST RESULTS

ROCKET BURNOUT

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	0.811	0.804	0.830	0.832	0.804	0.784	0.776	0.796
X	Ft.	-2.5	321.3	639.4	841.7	-4.1	N/A	616.8	821.5
Y	Ft.	32.0	28.3	22.6	12.3	37.2	N/A	27.9	19.1
Z	Ft.	-2.2	-4.2	-4.6	-3.9	-3.9	N/A	-0.5	-1.4
V_x	Ft./Sec.	11.0	353.0	606.0	776.0	2.0	N/A	623.0	787.0
V_y	Ft./Sec.	107.0	106.0	80.0	33.0	136.0	N/A	107.0	75.0
V_z	Ft./Sec.	-18.0	-28.0	-31.0	-13.0	-35.0	N/A	-23.0	10.0

TABLE 11

ICARUS PROGRAM VALIDATION STUDY
ACTUAL F-18A NWC SLED TEST RESULTS

DROGUE GUN FIRE

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	0.901	0.901	0.949	0.940	0.937	0.904	0.919	0.939
X	Ft.	-1.3	358.1	713.8	926.5	-5.0	N/A	711.8	938.3
Y	Ft.	43.0	40.0	33.4	15.7	57.7	N/A	45.1	32.1
Z	Ft.	-4.0	-7.9	-8.5	-5.0	-8.9	N/A	-4.7	1.5
V_x	Ft./Sec.	14.0	346.0	576.0	726.0	0.0	N/A	590.0	730.0
V_y	Ft./Sec.	109.0	110.0	76.0	27.0	138.0	N/A	105.0	86.0
V_z	Ft./Sec.	-24.0	-33.0	-33.0	-8.0	-40.0	N/A	-35.0	28.0

ICARUS PROGRAM VALIDATION STUDY
 ACTUAL F-18A NWC SLED TEST RESULTS
 DROGUE PARACHUTE FULL INFLATION

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	1.610	1.600	1.335	1.440	1.570	1.330	1.312	1.290
X	Ft.	13.0	592.4	935.0	1261.7	-10.9	N/A	941.7	1185.6
Y	Ft.	115.0	106.1	58.2	26.8	140.2	107.2	80.2	58.6
Z	Ft.	-21.0	-29.1	-21.5	-8.5	-32.4	-21.5	-15.2	12.1
V_x	Ft./Sec.	18.0	269.0	480.0	533.0	0.0	278.0	468.0	581.0
V_y	Ft./Sec.	81.0	67.0	43.0	12.0	107.0	101.0	69.0	53.0
V_z	Ft./Sec.	-23.0	-24.0	-35.0	-9.0	-35.0	-29.0	-26.0	22.0

ICARUS PROGRAM VALIDATION STUDY ACTUAL F-18A NWC SLED TEST RESULTS

MAIN PARACHUTE PACK OPENING

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	1.871	1.905	2.058	2.026	1.990	2.071	3.826	1.902
x	Ft.	16.9	676.7	1243.0	1538.2	-14.8	N/A	N/A	1483.5
y	Ft.	136.0	125.3	79.8	28.6	182.7	165.5	N/A	79.4
z	Ft.	-26.9	-36.8	-45.4	-12.5	-45.2	-40.5	N/A	21.7
V_x	Ft./Sec.	13.0	240.0	329.0	377.0	1.0	200.0	N/A	361.0
V_y	Ft./Sec.	69.0	51.0	14.0	-6.0	82.0	52.0	N/A	18.0
V_z	Ft./Sec.	-23.0	-21.0	-25.0	-4.0	-32.0	-21.0	N/A	10.0

ICARUS PROGRAM VALIDATION STUDY
ACTUAL F-18A NWC SLED TEST RESULTS

MAIN PARACHUTE RISER LINE STRETCH

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	2.964	2.314	2.373	2.315	3.590	2.541	4.460	2.172
X	Ft.	33.8	780.5	1350.9	1649.6	-23.8	N/A	N/A	1585.1
Y	Ft.	195.9	144.8	82.4	25.4	264.9	N/A	N/A	83.7
Z	Ft.	-51.1	-45.7	-53.4	-13.3	-85.7	N/A	N/A	24.4
V_x	Ft./Sec.	15.0	219.0	303.0	337.0	5.0	N/A	N/A	328.0
V_y	Ft./Sec.	34.0	37.0	-2.0	-13.0	23.0	N/A	N/A	12.0
V_z	Ft./Sec.	-20.0	-21.0	-22.0	-3.0	-26.0	N/A	N/A	7.0

ICARUS PROGRAM VALIDATION STUDY
ACTUAL F-18A NWC SLED TEST RESULTS

MAIN PARACHUTE FULL INFLATION

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	5.700	3.900	2.908	2.800	5.200	3.330	5.235	2.720
X	Ft.	68.4	916.7	1484.2	1775.0	-25.7	N/A	N/A	1714.4
Y	Ft.	171.3	150.9	79.2	18.9	261.0	N/A	N/A	81.1
Z	Ft.	-94.7	-56.0	-66.2	-13.7	-109.7	N/A	N/A	26.1
V_x	Ft./Sec.	2.0	-4.0	120.0	111.0	10.0	N/A	N/A	97.0
V_y	Ft./Sec.	-37.0	-14.0	-13.0	-13.0	-23.0	N/A	N/A	-8.0
V_z	Ft./Sec.	0.0	7.0	-21.0	-3.0	-6.0	N/A	N/A	5.0

ICARUS PROGRAM VALIDATION STUDY
ACTUAL F-18A NWC SLED TEST RESULTS

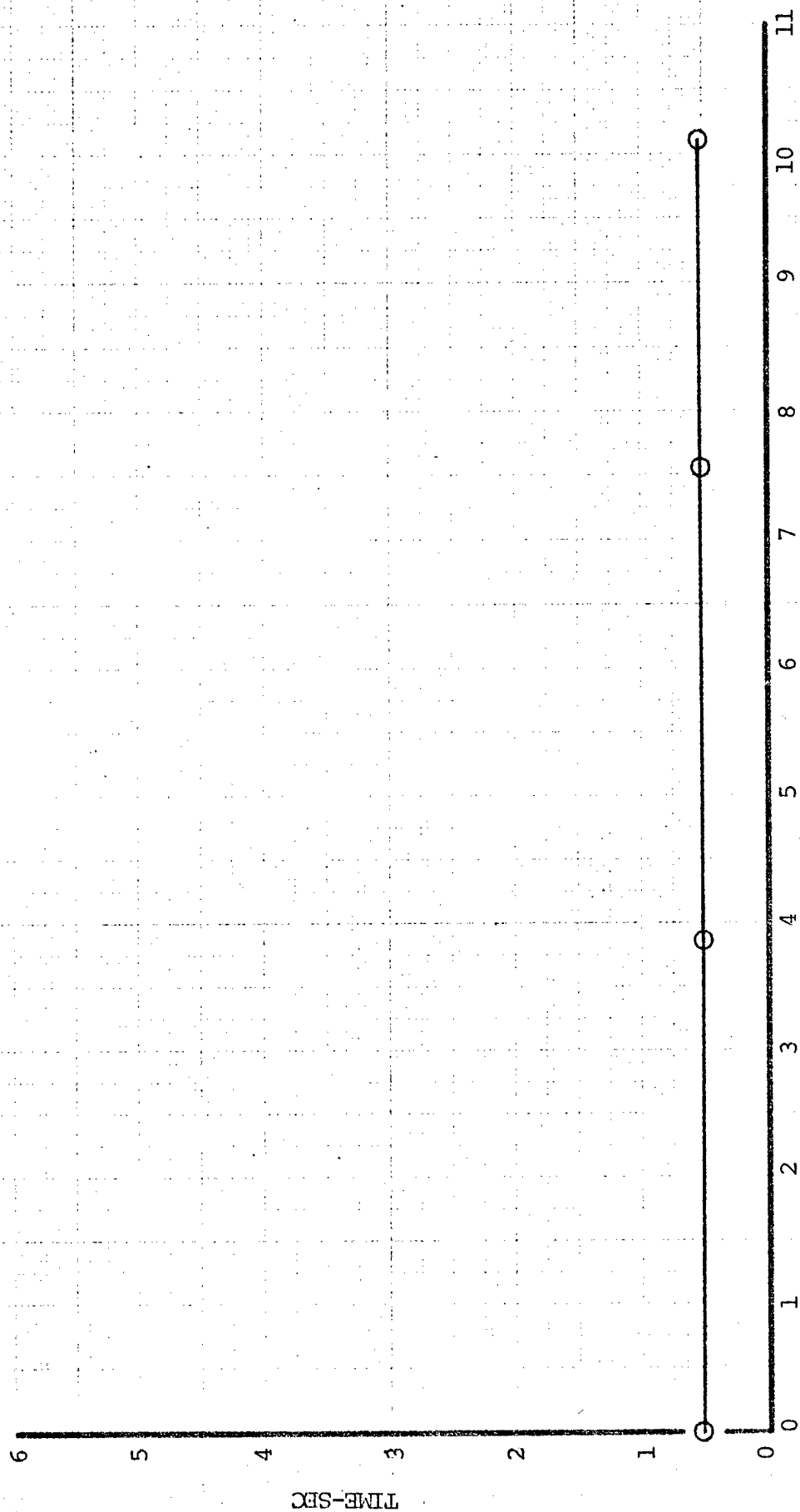
PEAK TRAJECTORY HEIGHT

PARAMETER	UNITS	TEST 1	TEST 2	TEST 6	TEST 8	TEST 3	TEST 4	TEST 5	TEST 7
V_{target}	KEAS	0	225	435	600	0	225	435	600
Percentile	%	98	98	98	98	3	3	3	3
V_{test}	Ft./Sec.	0	377	735	1000	0	387	755	1011
t	Sec.	3.979	2.925	2.349	1.860	4.255	N/A	2.821	2.300
X	Ft.	49.3	892.9	1343.1	1468.8	-25.6	N/A	1457.7	1630.0
Y	Ft.	214.7	158.9	82.5	29.2	273.7	N/A	125.1	84.5
Z	Ft.	-71.2	-56.1	-53.5	-11.4	-99.7	N/A	-35.6	24.9
V_x	Ft./Sec.	15.0	81.0	307.0	410.0	6.0	N/A	210.0	282
V_y	Ft./Sec.	-1.0	1.0	0.0	0.0	1.0	N/A	0.0	0.0
V_z	Ft./Sec.	-21.0	-6.0	-23.0	-3.0	-21.0	N/A	-12.0	3.0

APPENDIX F

GRAPHS COMPARING PREDICTED AND ACTUAL NWC SNORT
F-18A SLED TEST DATA AT EJECTION TRAJECTORY EVENTS

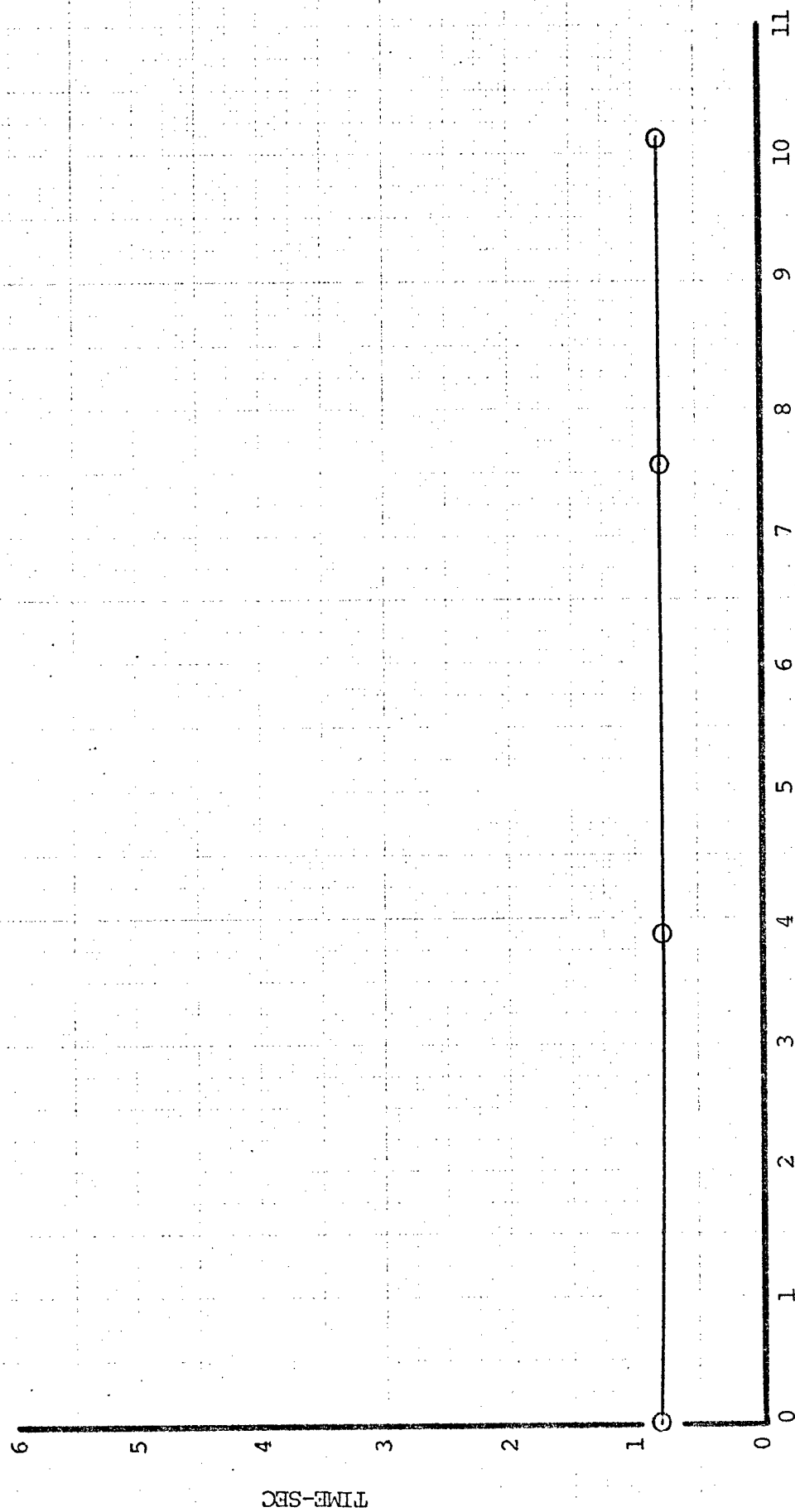
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 ROCKET IGNITION
 3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-1

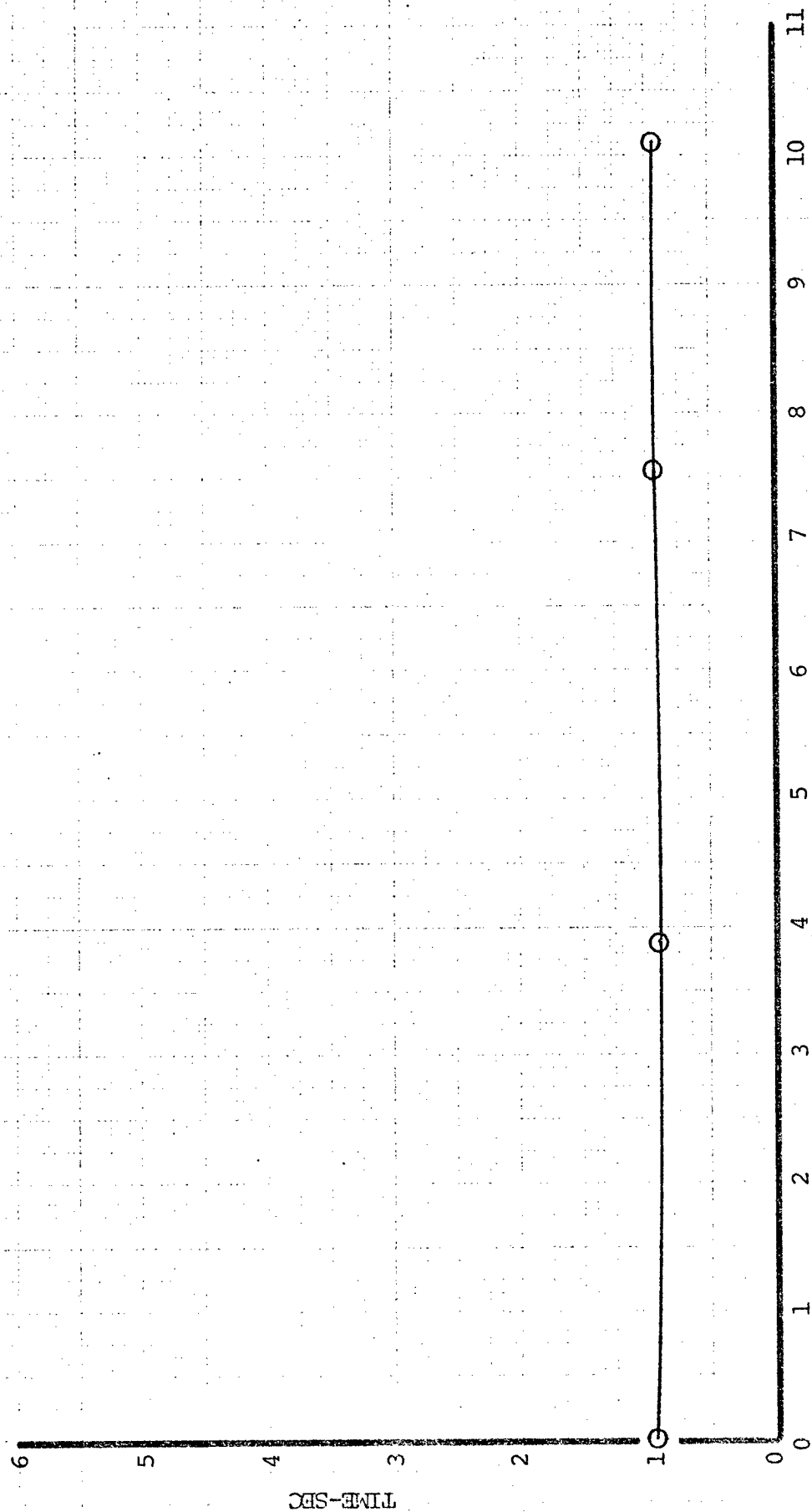
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 ROCKET BURNOUT
 3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-2

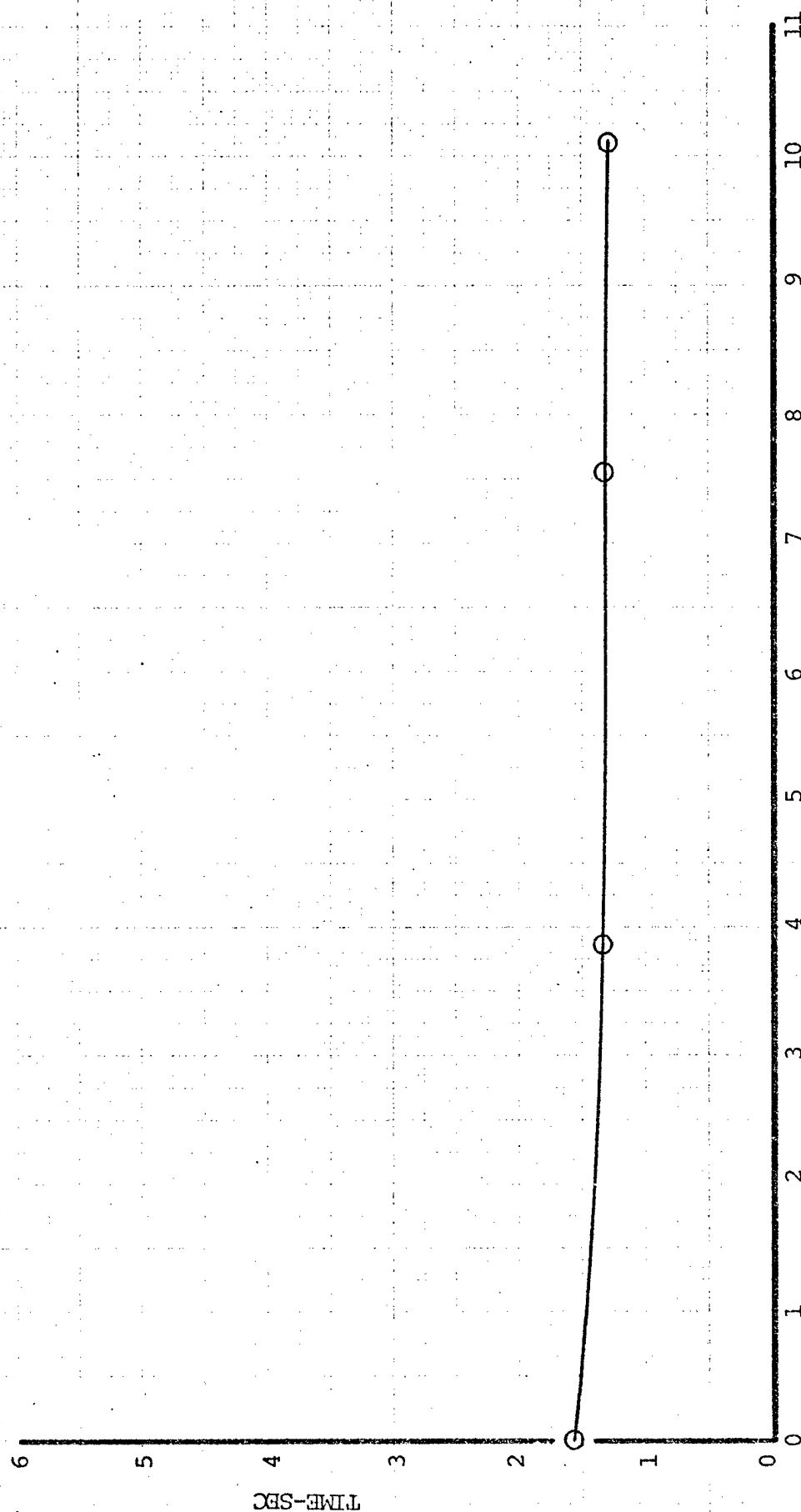
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 DROGUE GUN FIRE
 3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-3

ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 DROGUE PARACHUTE FULL INFLATION
 3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-4

ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 MAIN PARACHUTE PACK OPENING
 3 PERCENTILE DUMMY

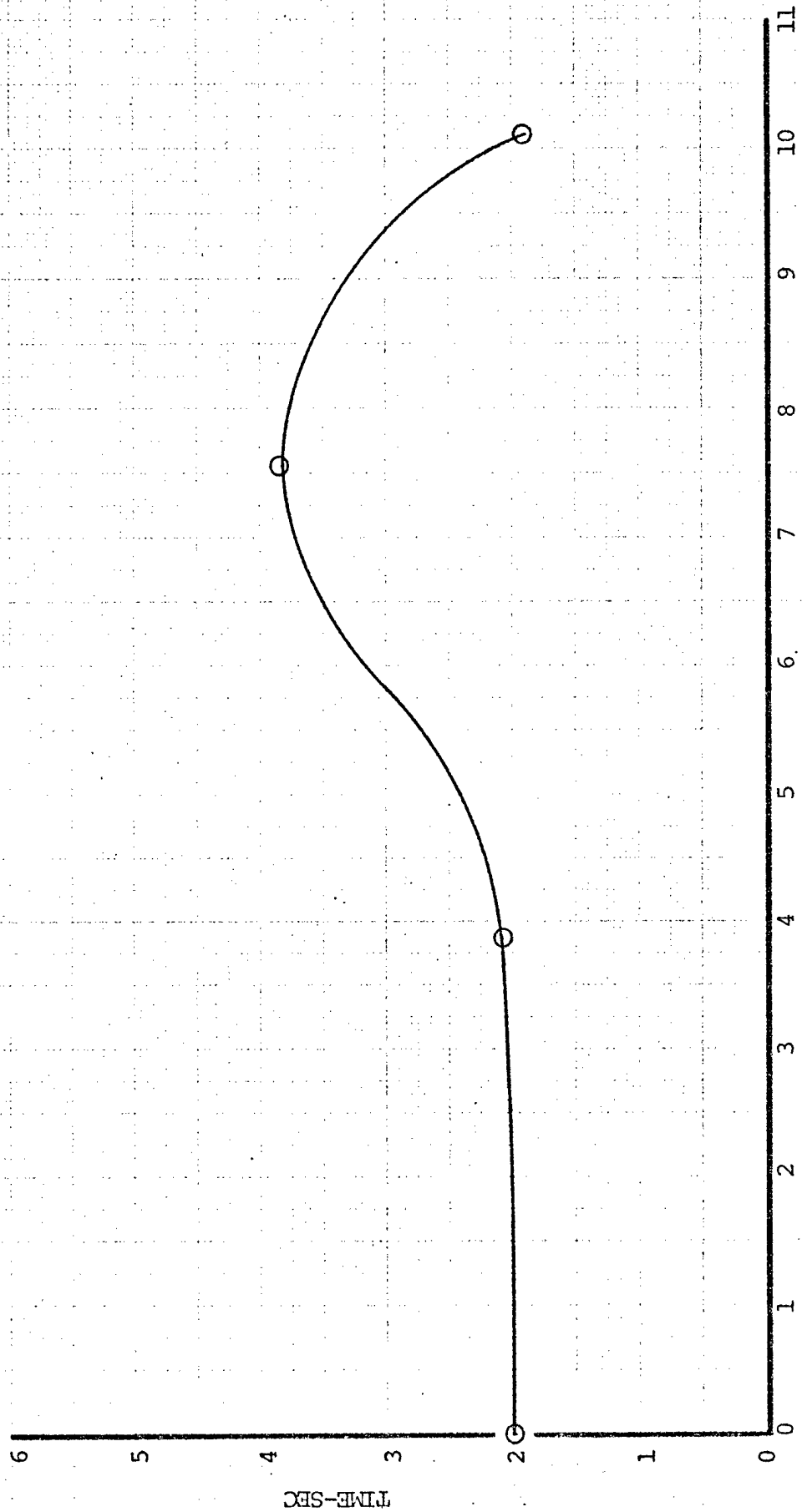
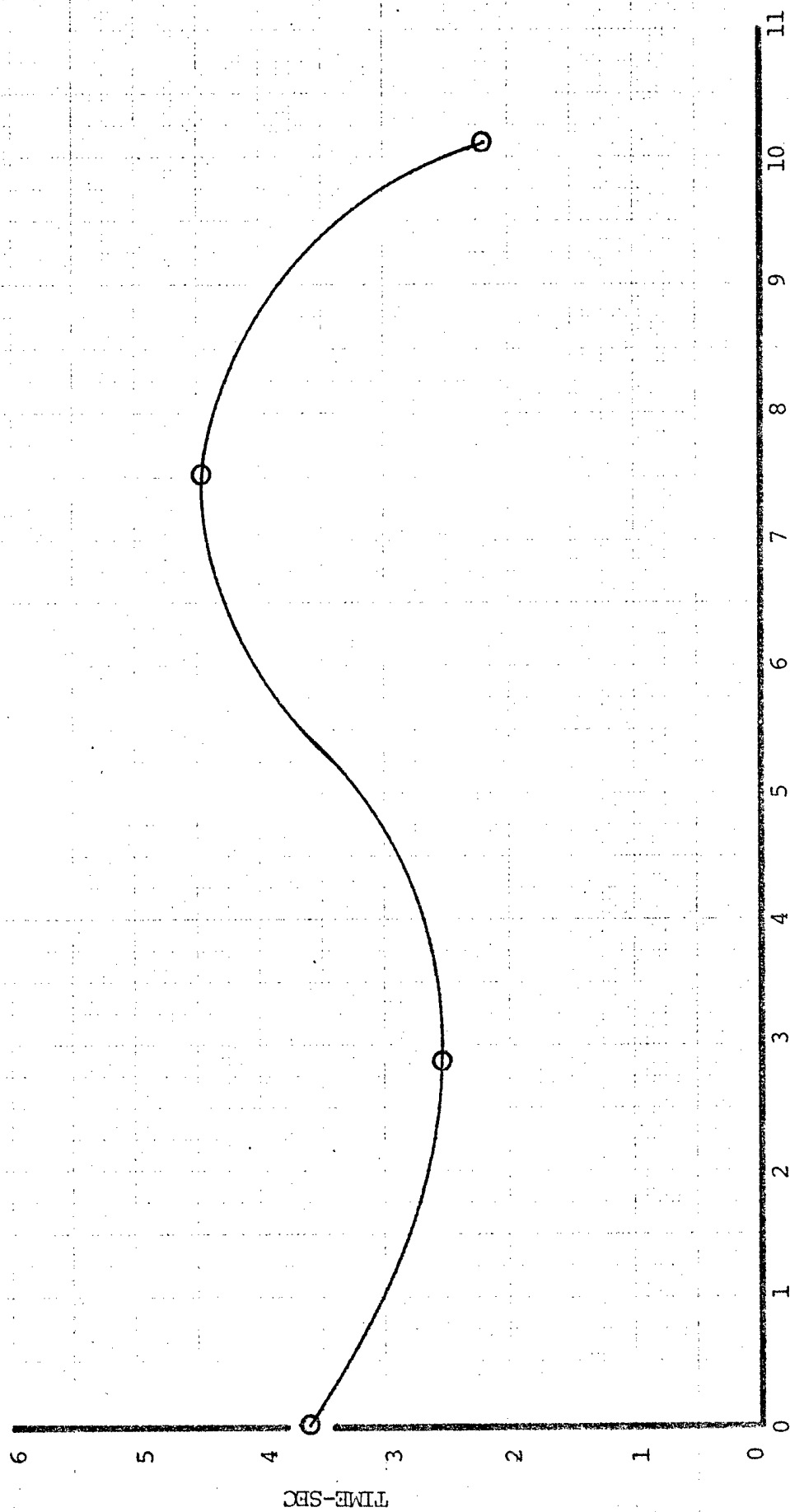


FIGURE F-5

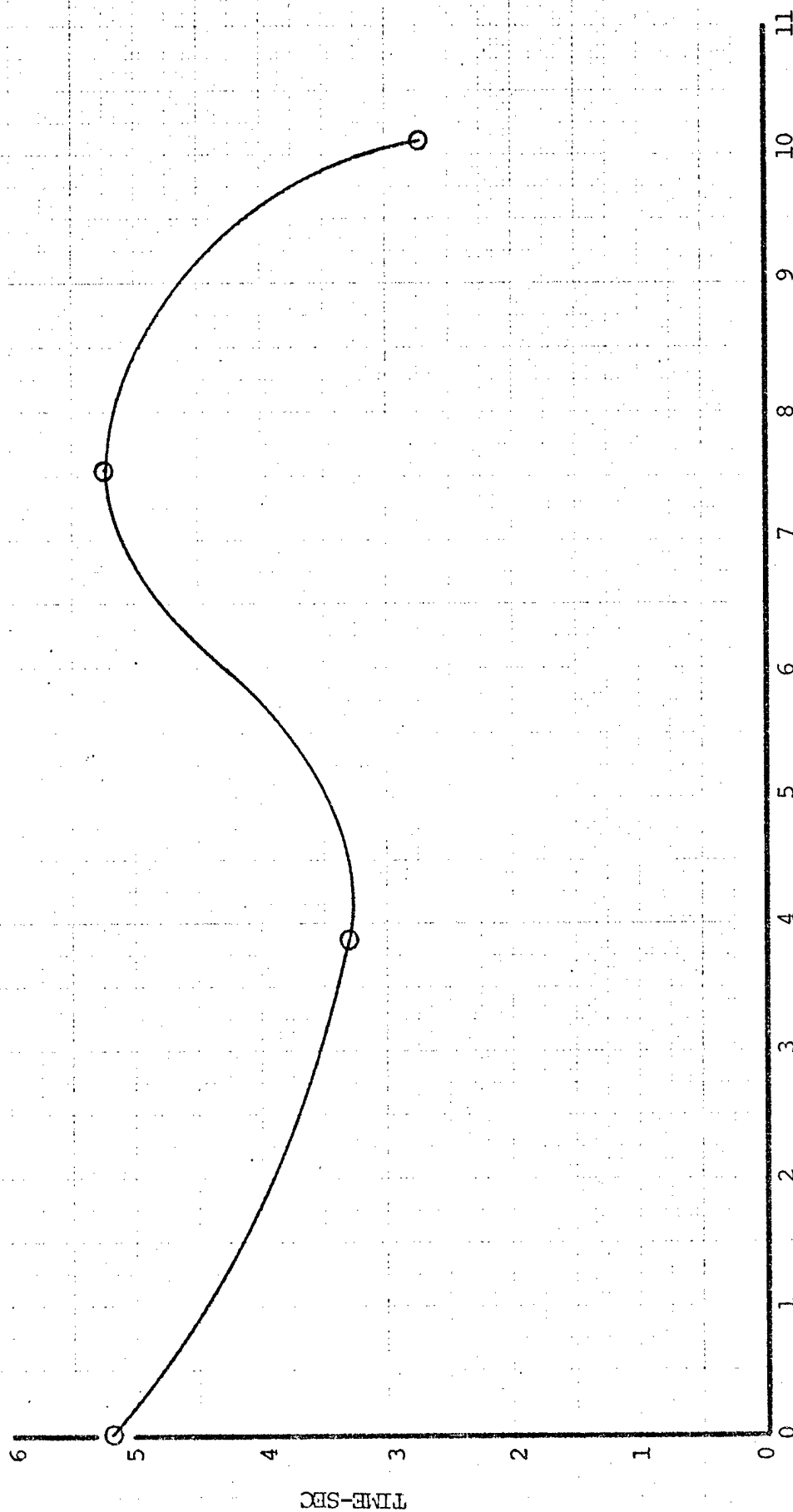
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 MAIN PARACHUTE RISER LINE STRETCH
 3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-6

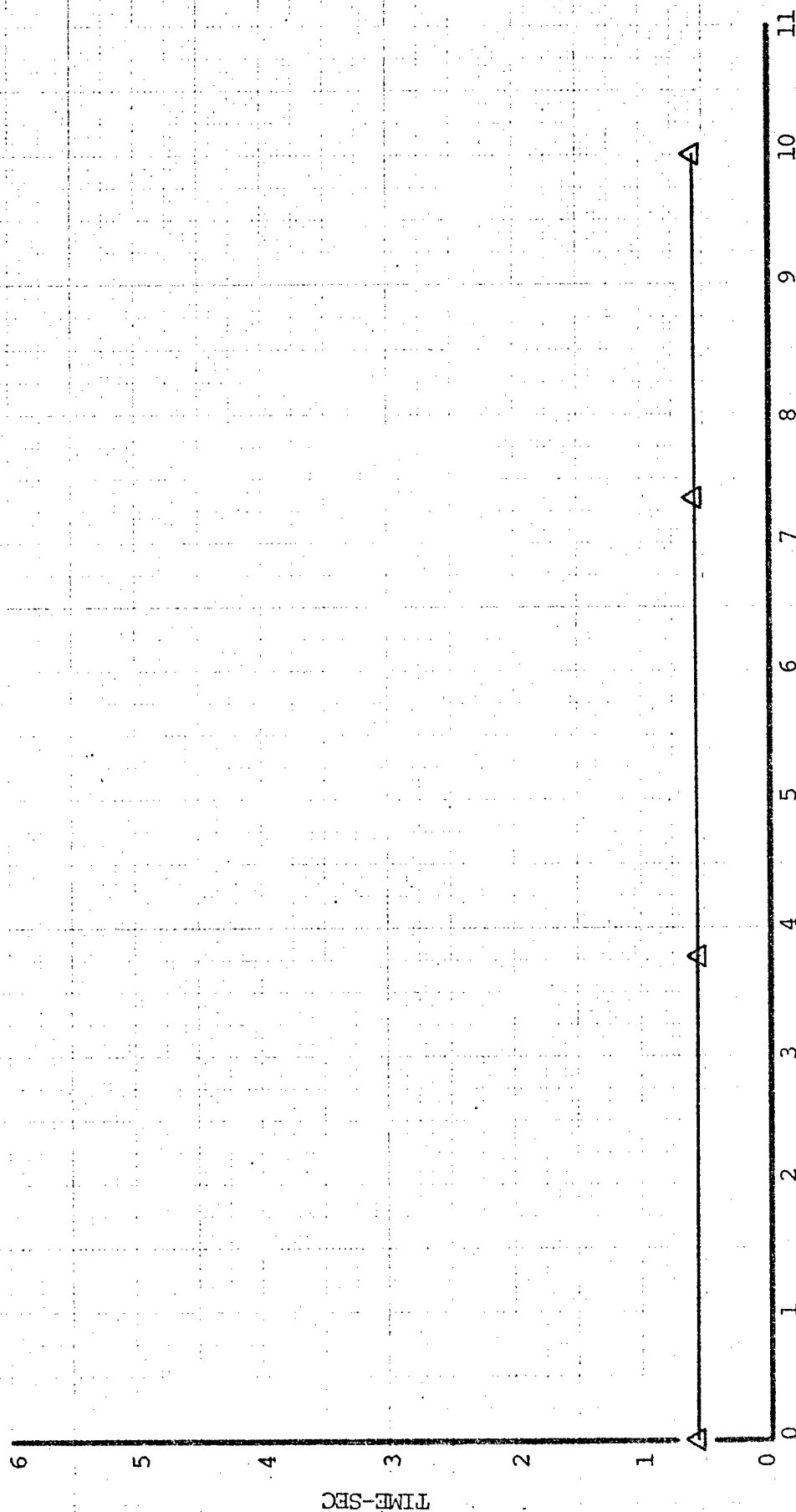
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 MAIN PARACHUTE FULL INFLATION
 3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-7

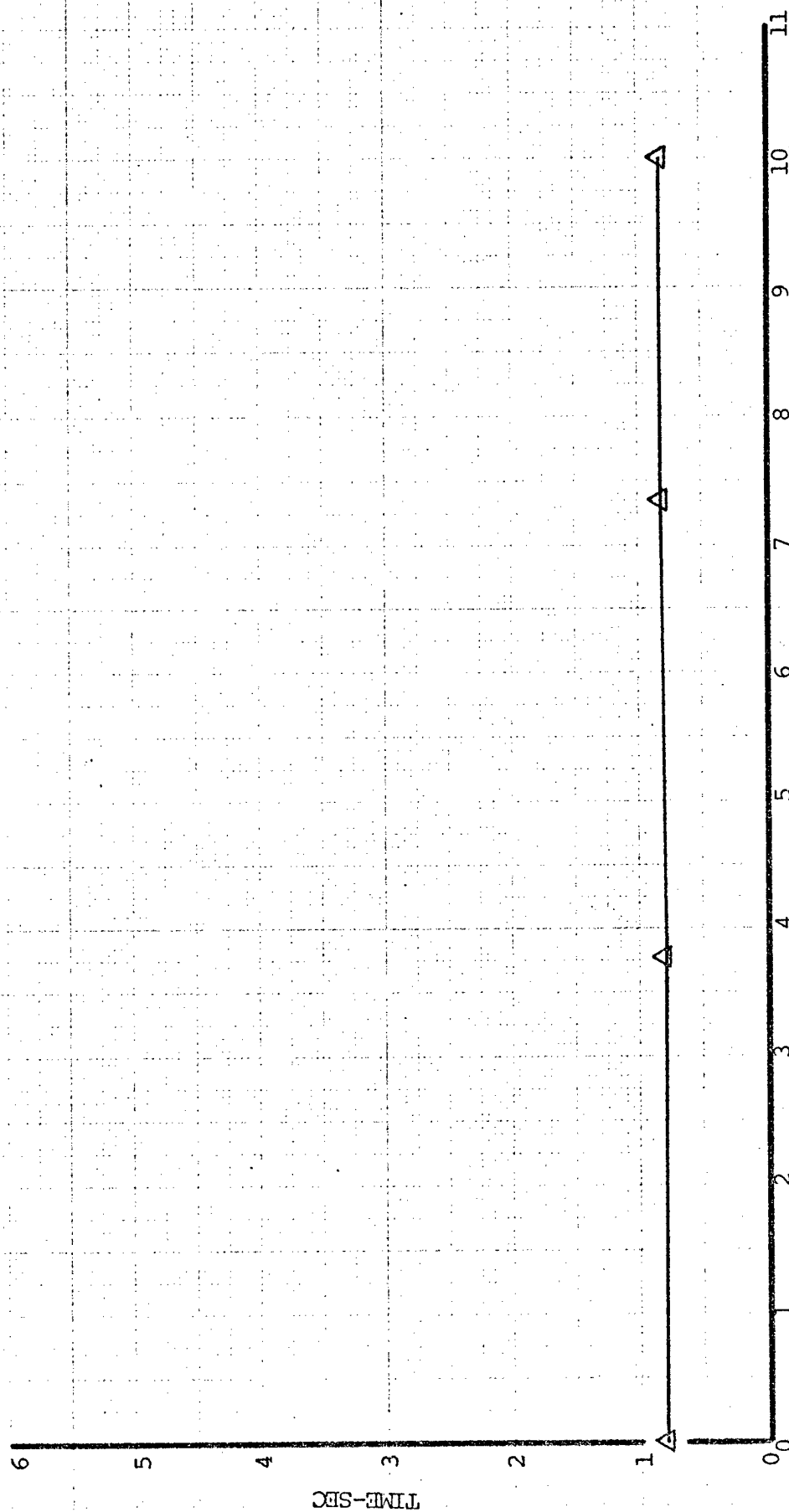
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 ROCKET IGNITION
 98 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-8

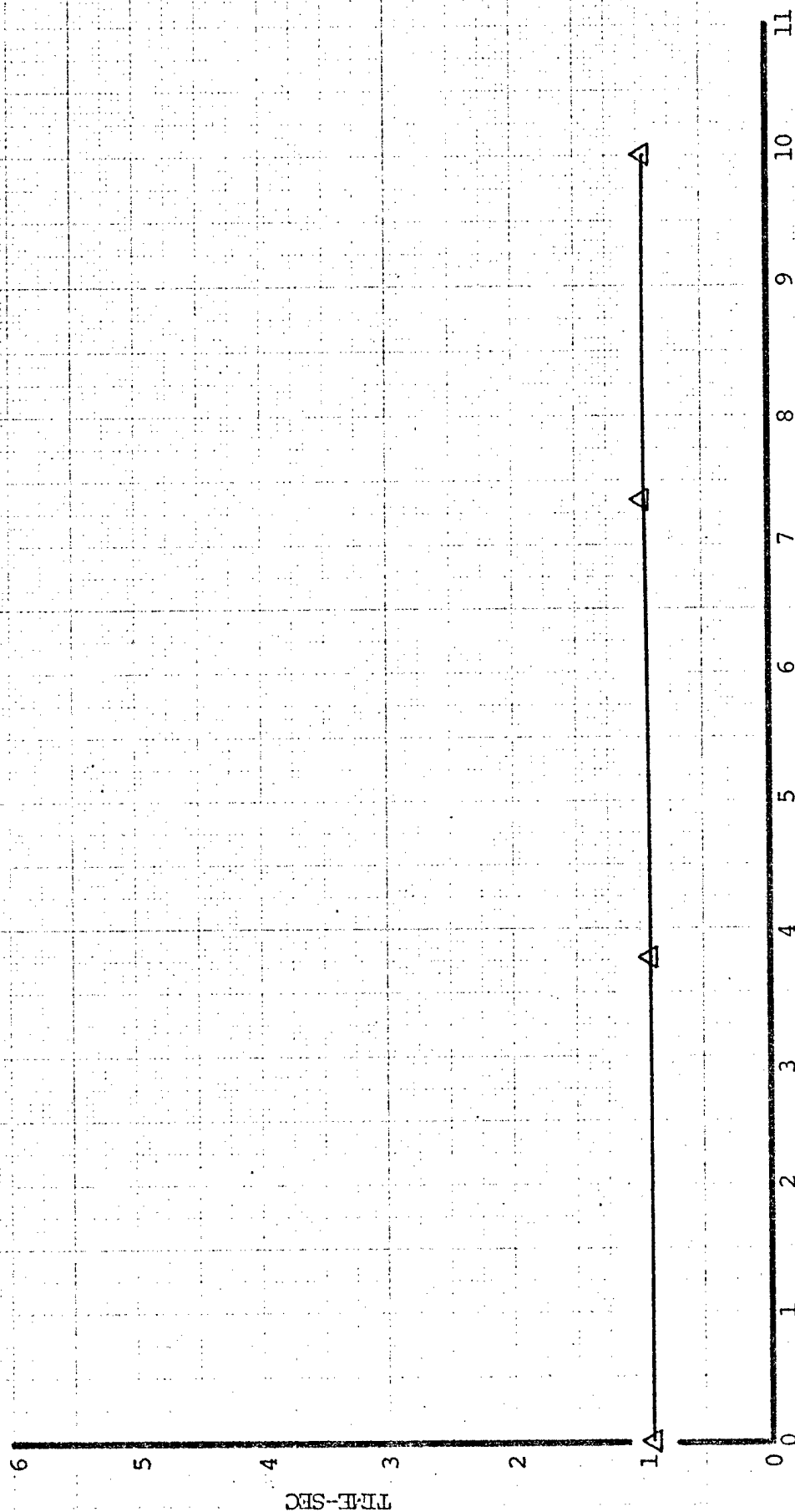
ICARUS PROGRAM VALIDATION STUDY
ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
ROCKET BURNOUT
98 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-9

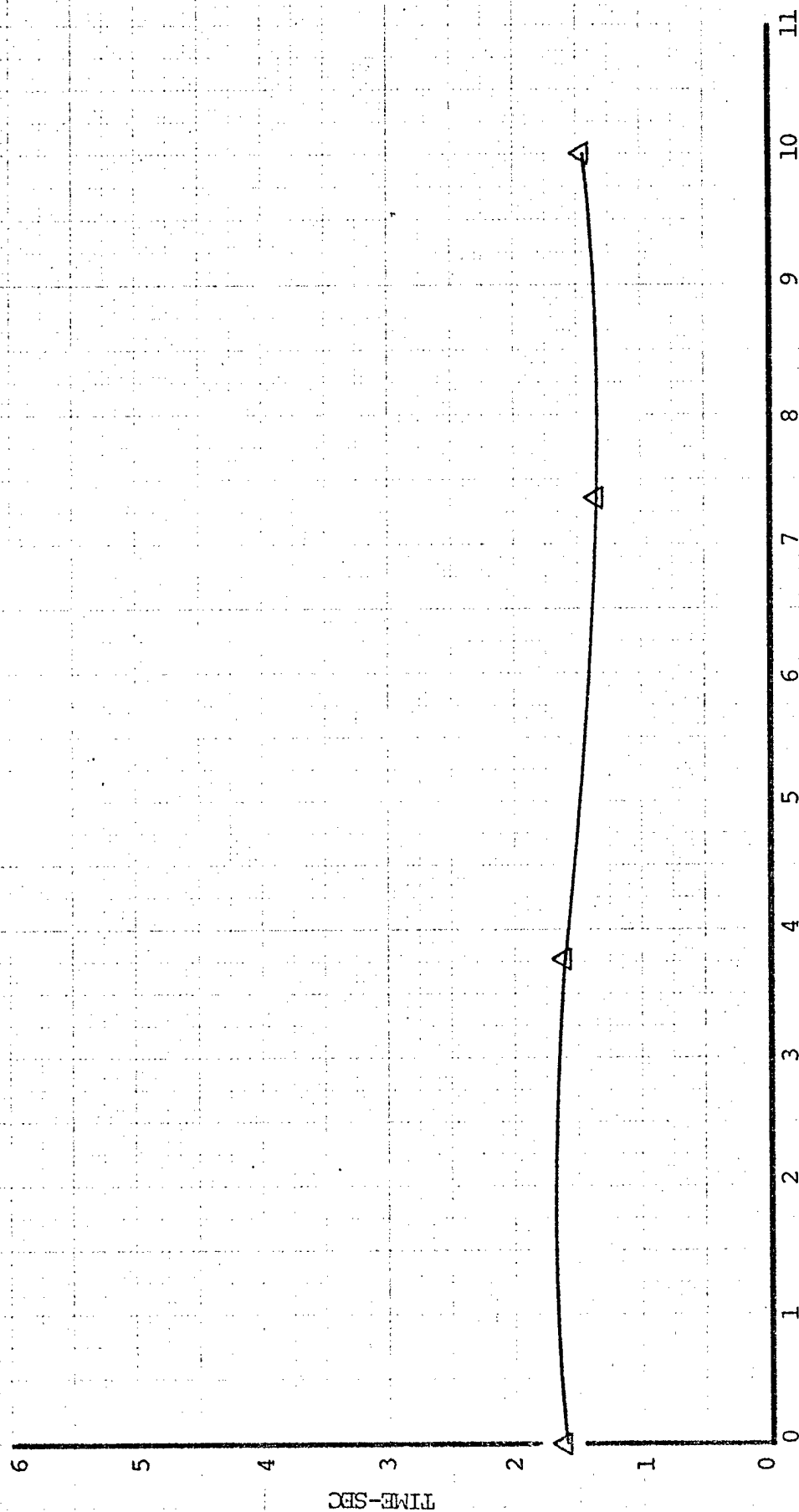
ICARUS PROGRAM VALIDATION STUDY
ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
DROGUE GUN FIRE
98 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-10

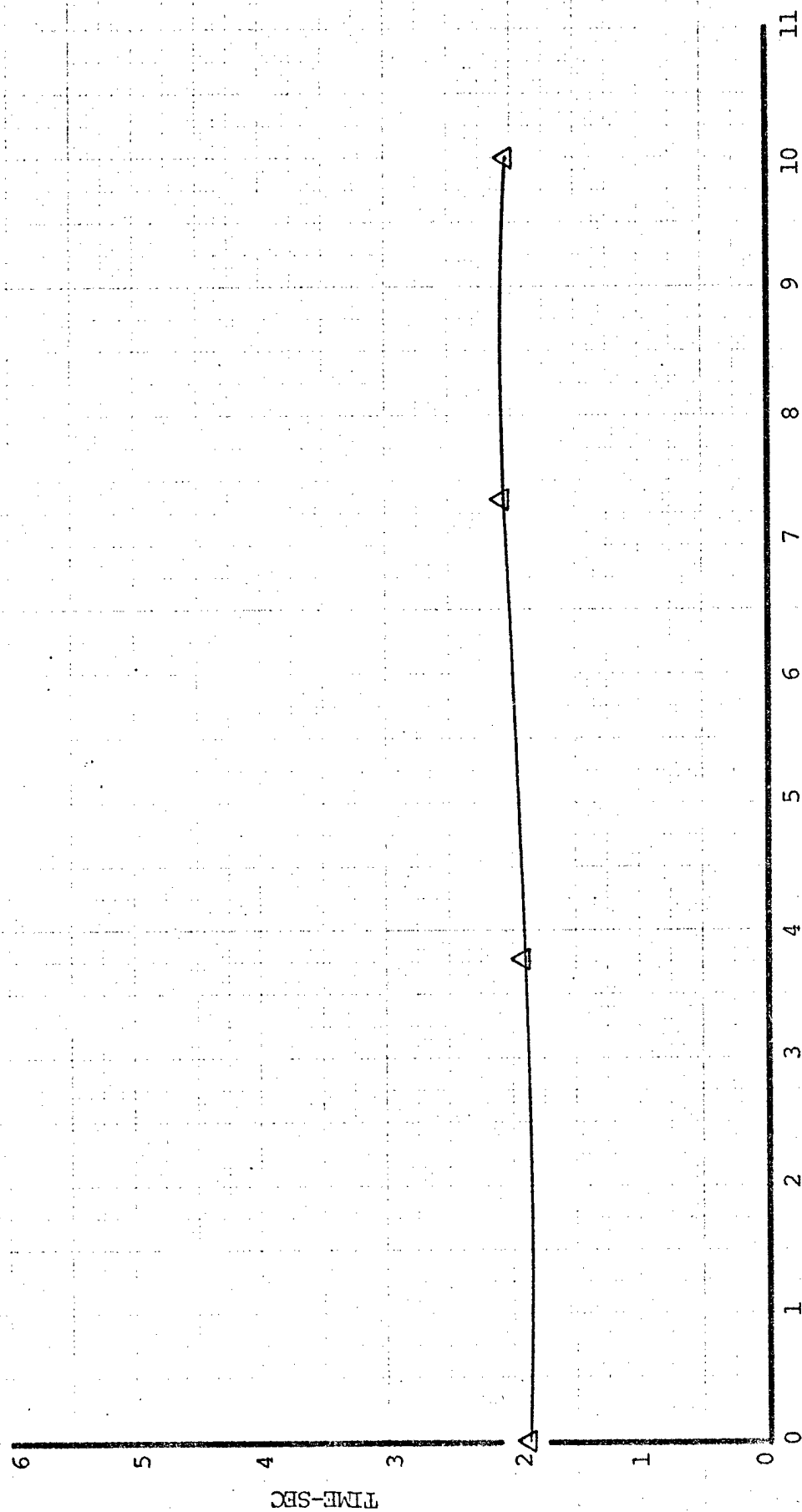
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 DROGUE PARACHUTE FULL INFLATION
 98 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-11

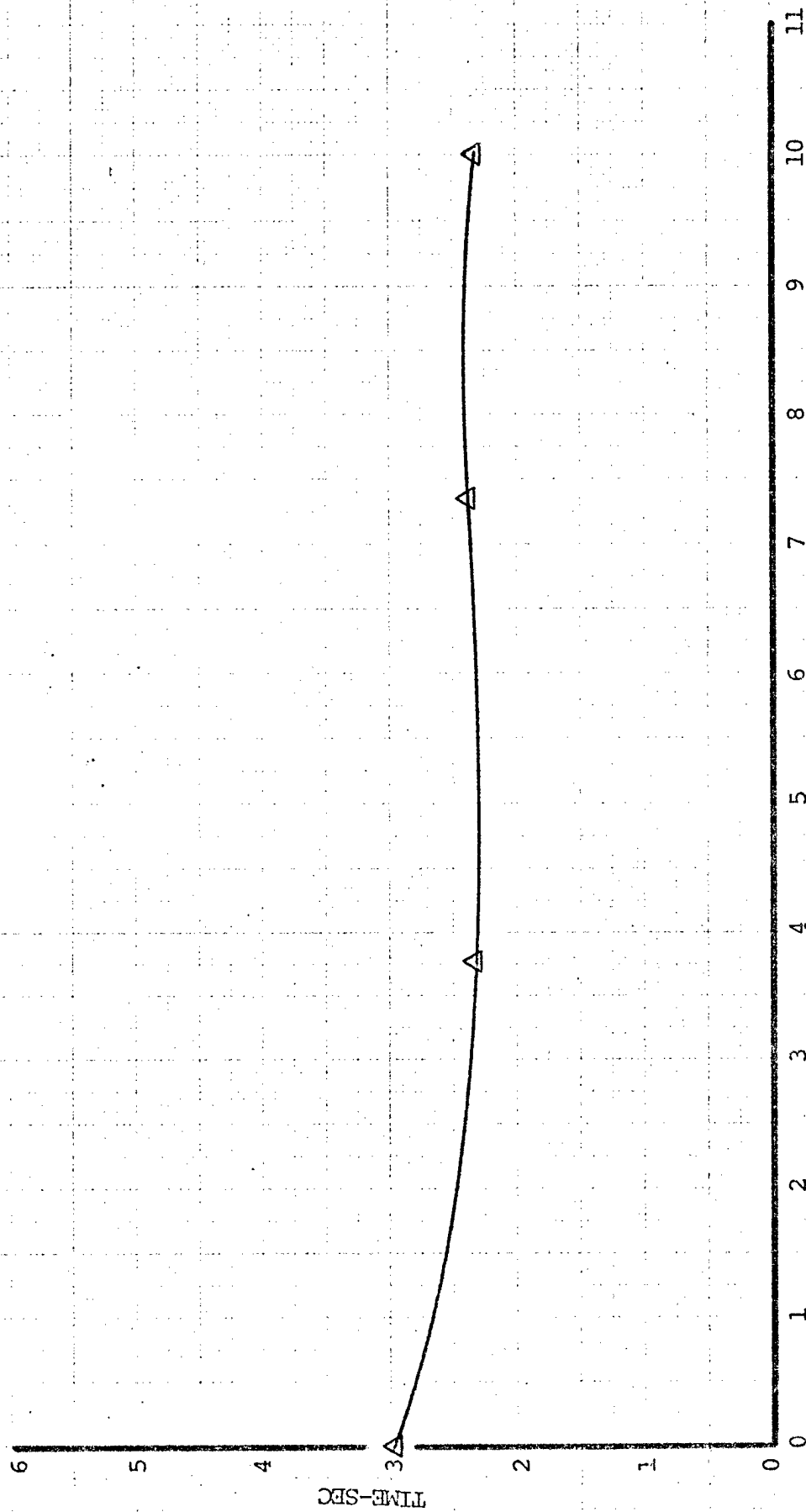
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 MAIN PARACHUTE PACK OPENING
 98 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-12

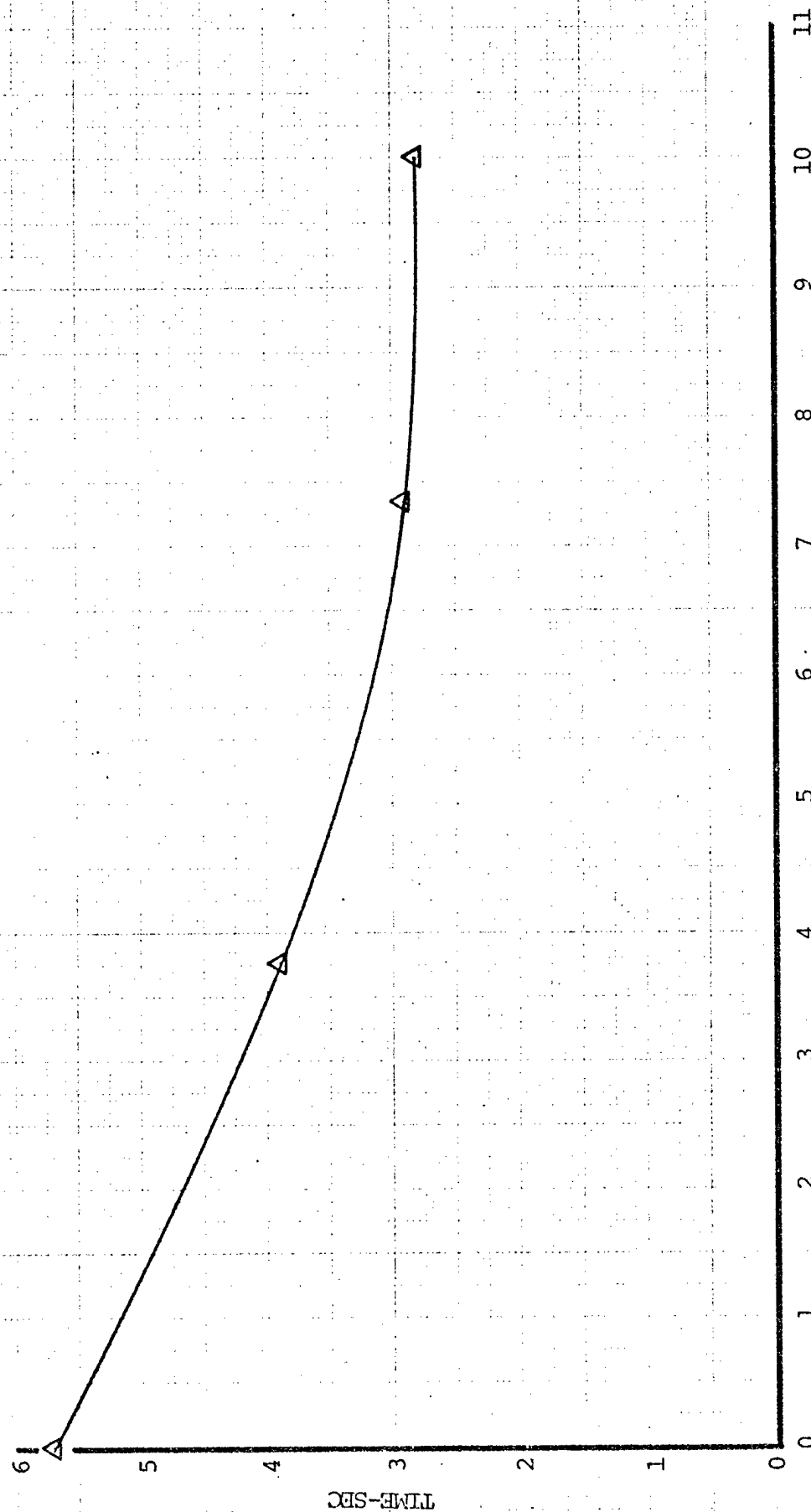
ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 MAIN PARACHUTE RISER LINE STRETCH
 98 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-13

ICARUS PROGRAM VALIDATION STUDY
 ACTUAL NWC SNORT F-18A SLED TEST EVENT TIMES
 MAIN PARACHUTE FULL INFLATION
 98 PERCENTILE DUMMY

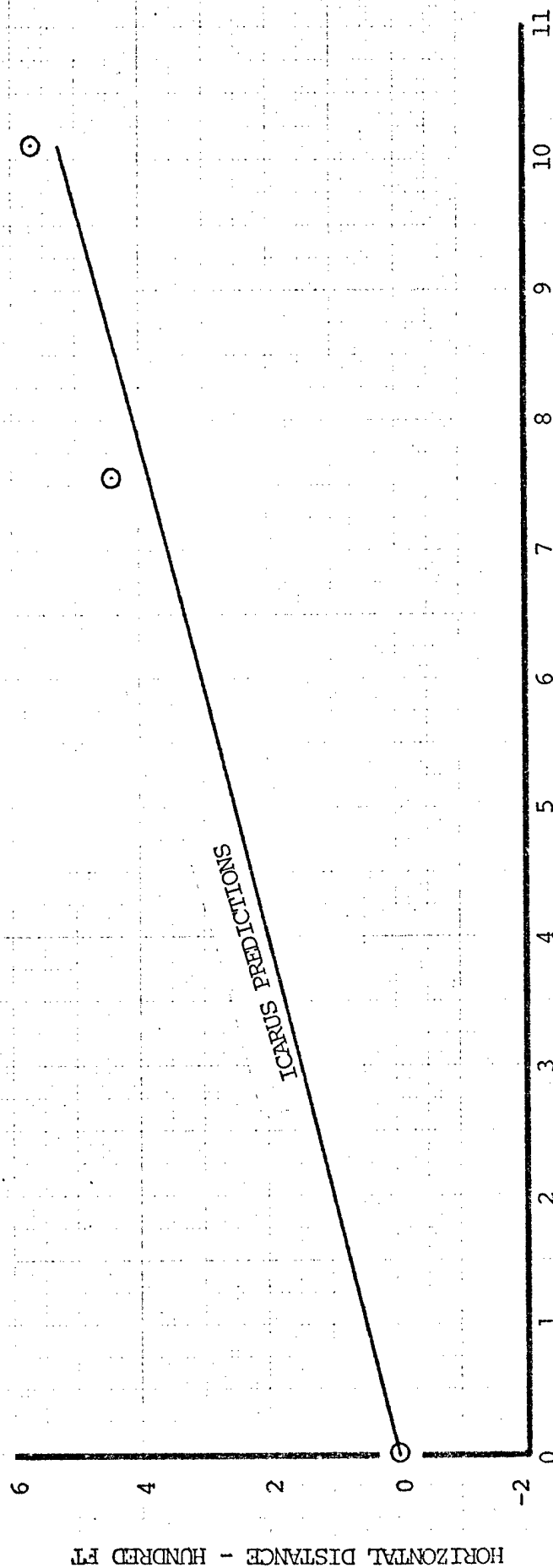


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-14

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET IGNITION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-15

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
3 PERCENTILE DUMMY

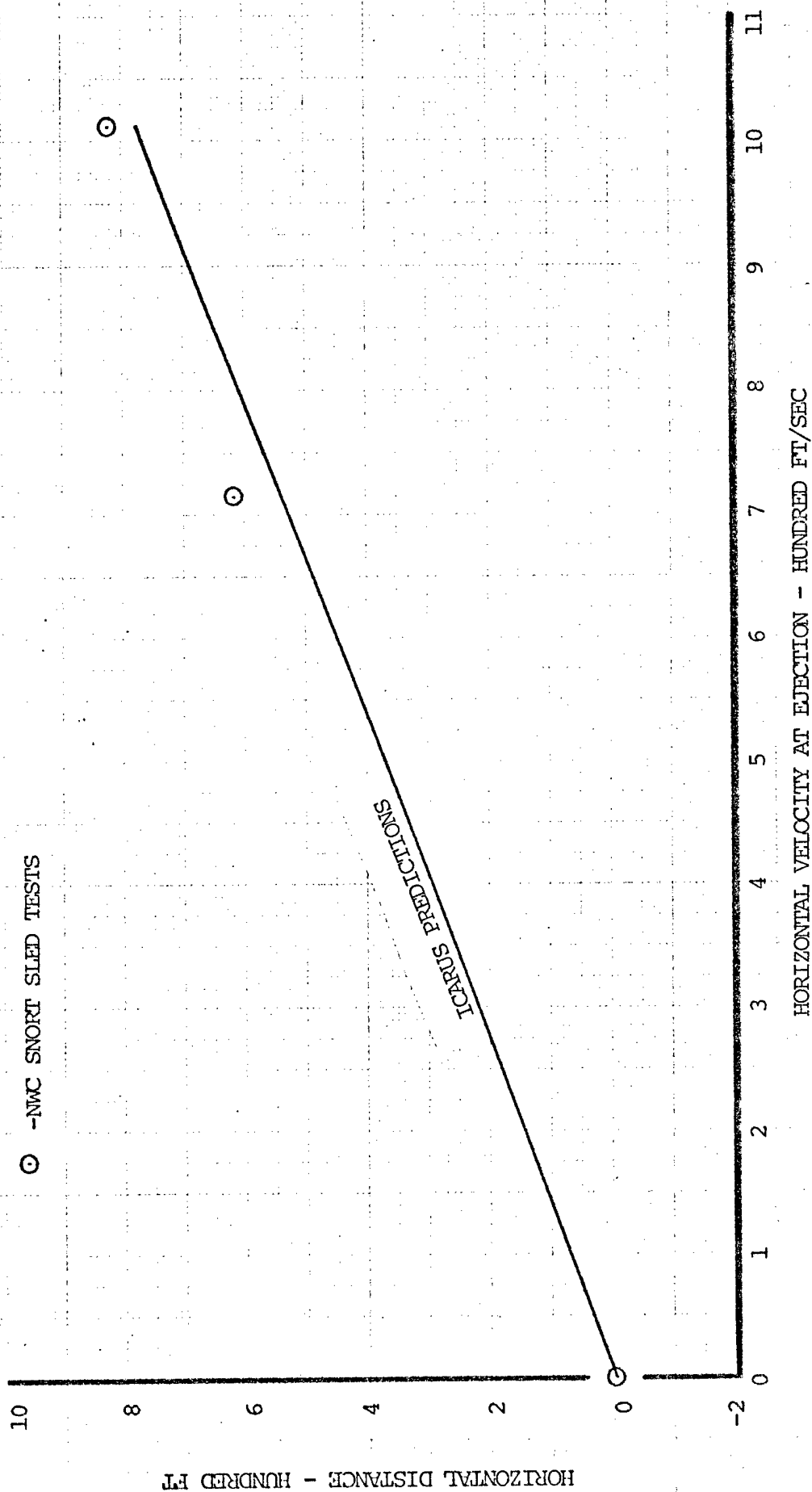


FIGURE F-16

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE GUN FIRE
 3 PERCENTILE DUMMY

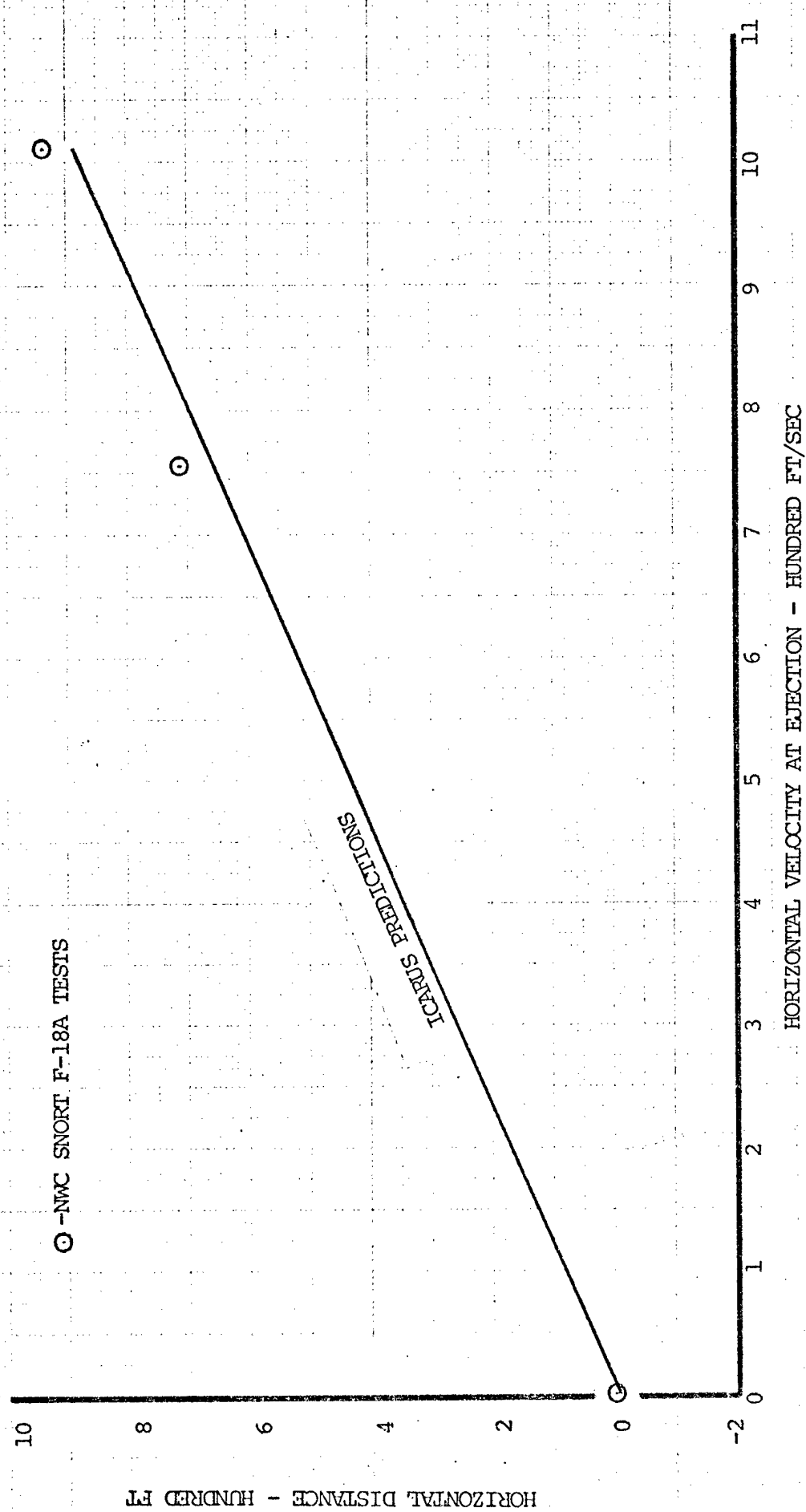


FIGURE F-17

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE PARACHUTE FULL INFLATION
 3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

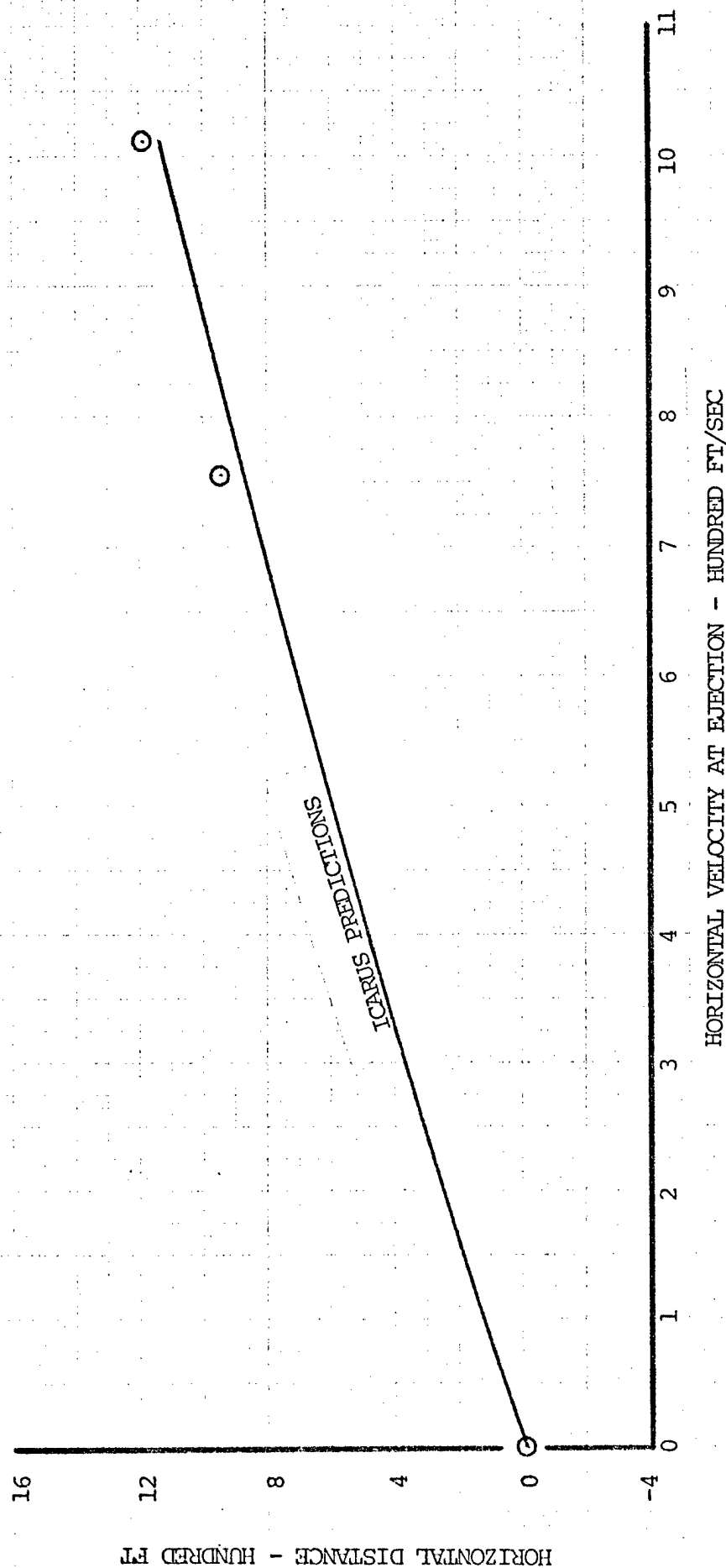
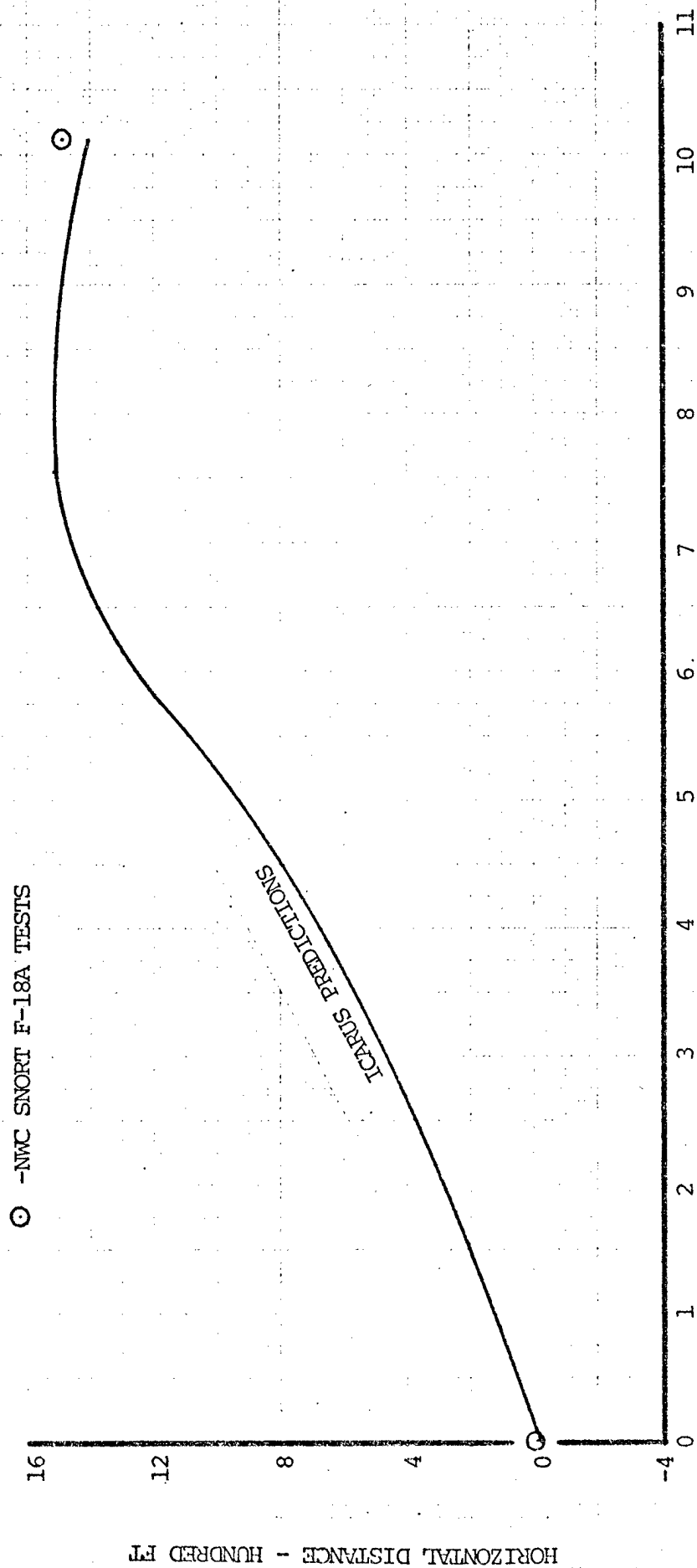


FIGURE F-18

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE PACK OPENING
3 PERCENTILE DUMMY



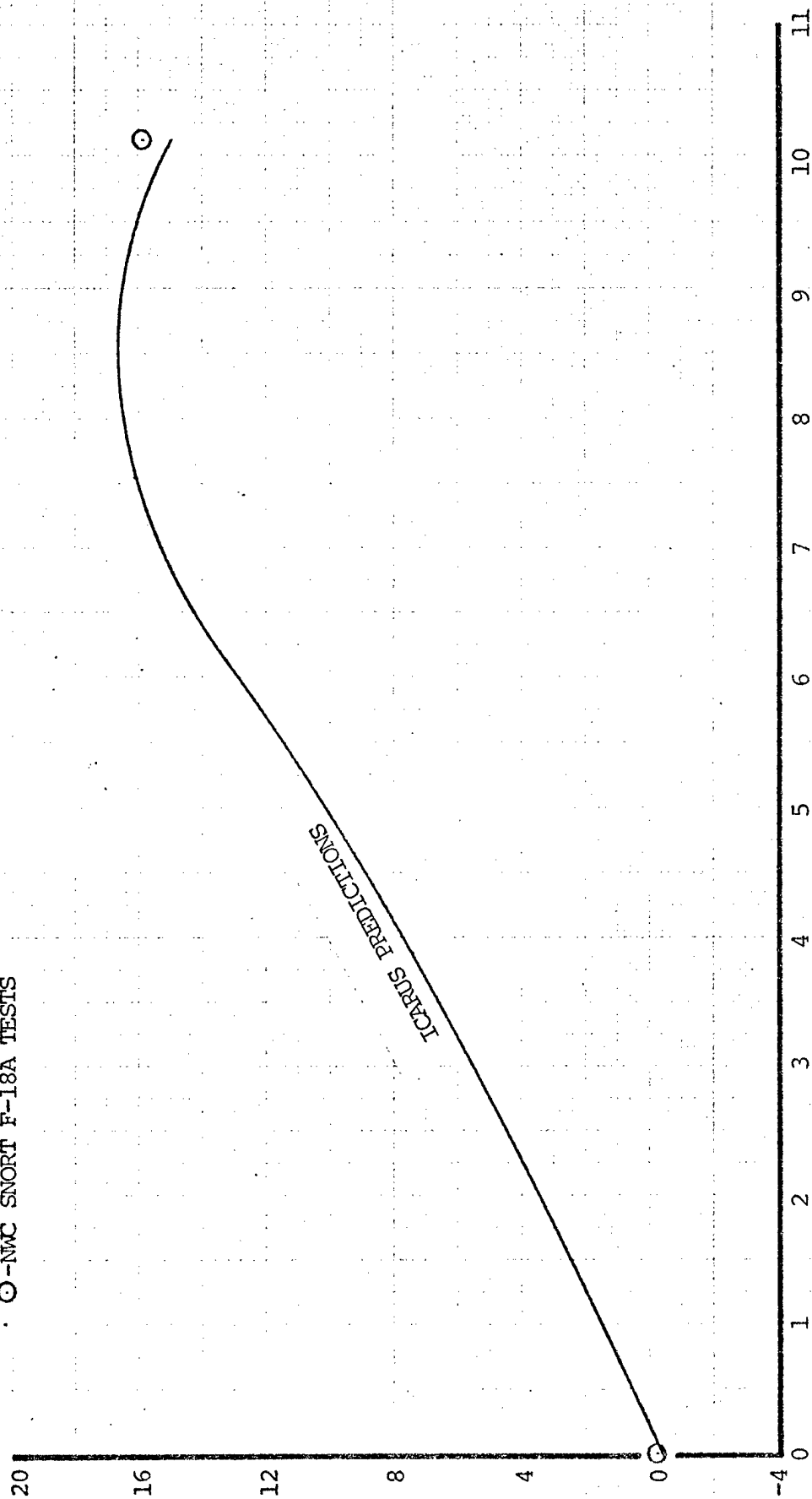
HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-19

HORIZONTAL DISTANCE - HUNDRED FT

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
3 PERCENTILE DUMMY

○ - NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-20

HORIZONTAL DISTANCE - HUNDRED FT

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY

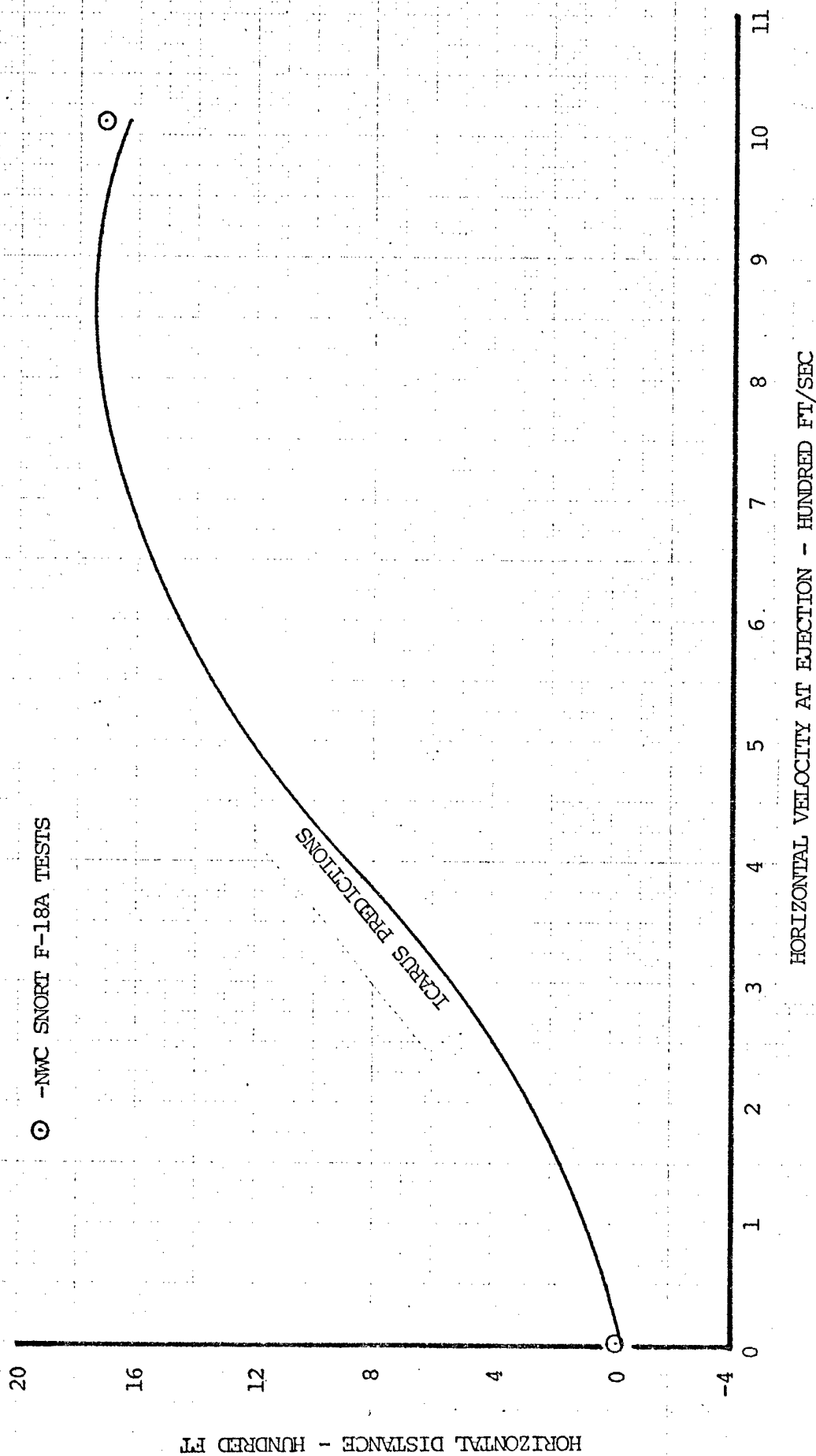


FIGURE F-21

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET IGNITION
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

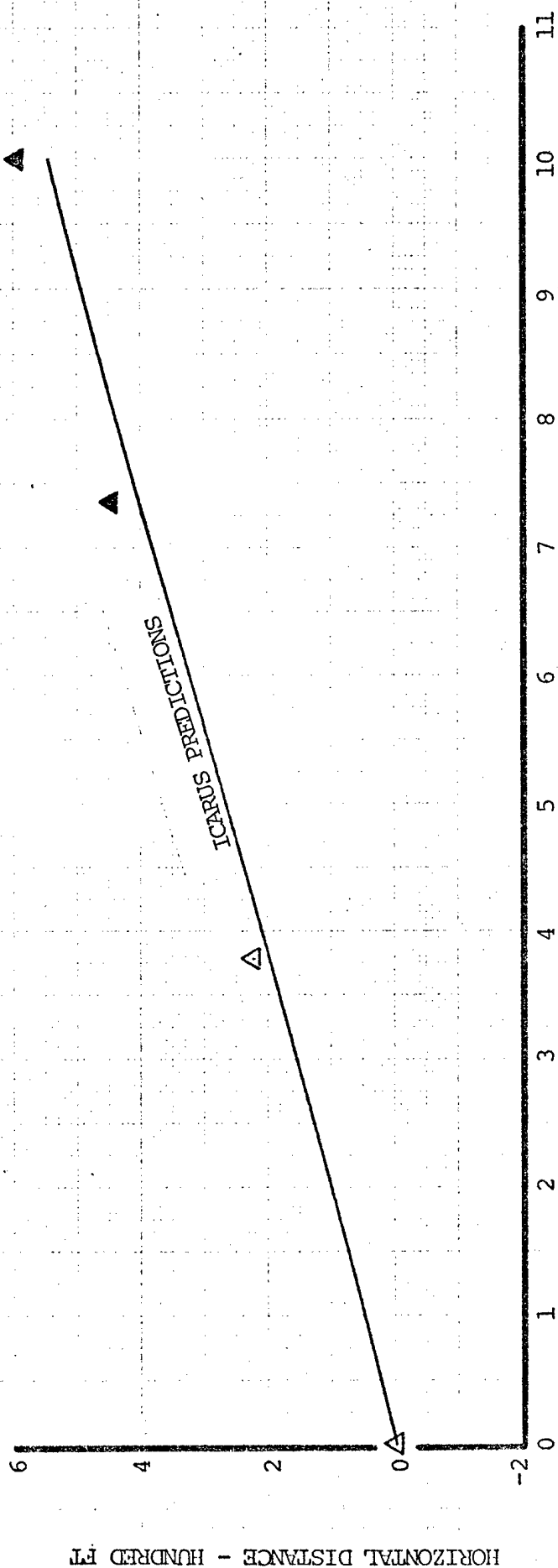


FIGURE F-22

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 ROCKET BURNOUT
 98 PERCENTILE DUMMY

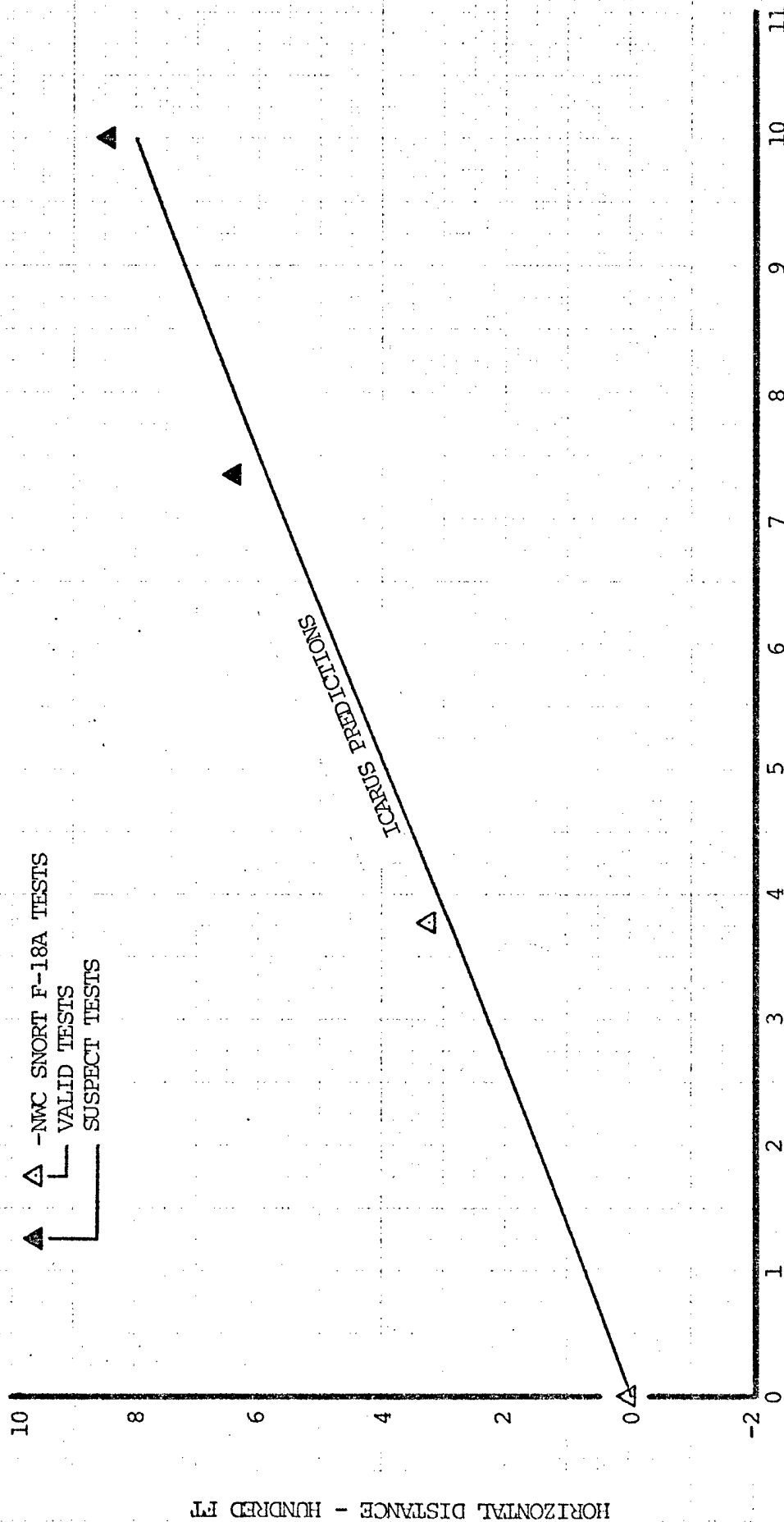
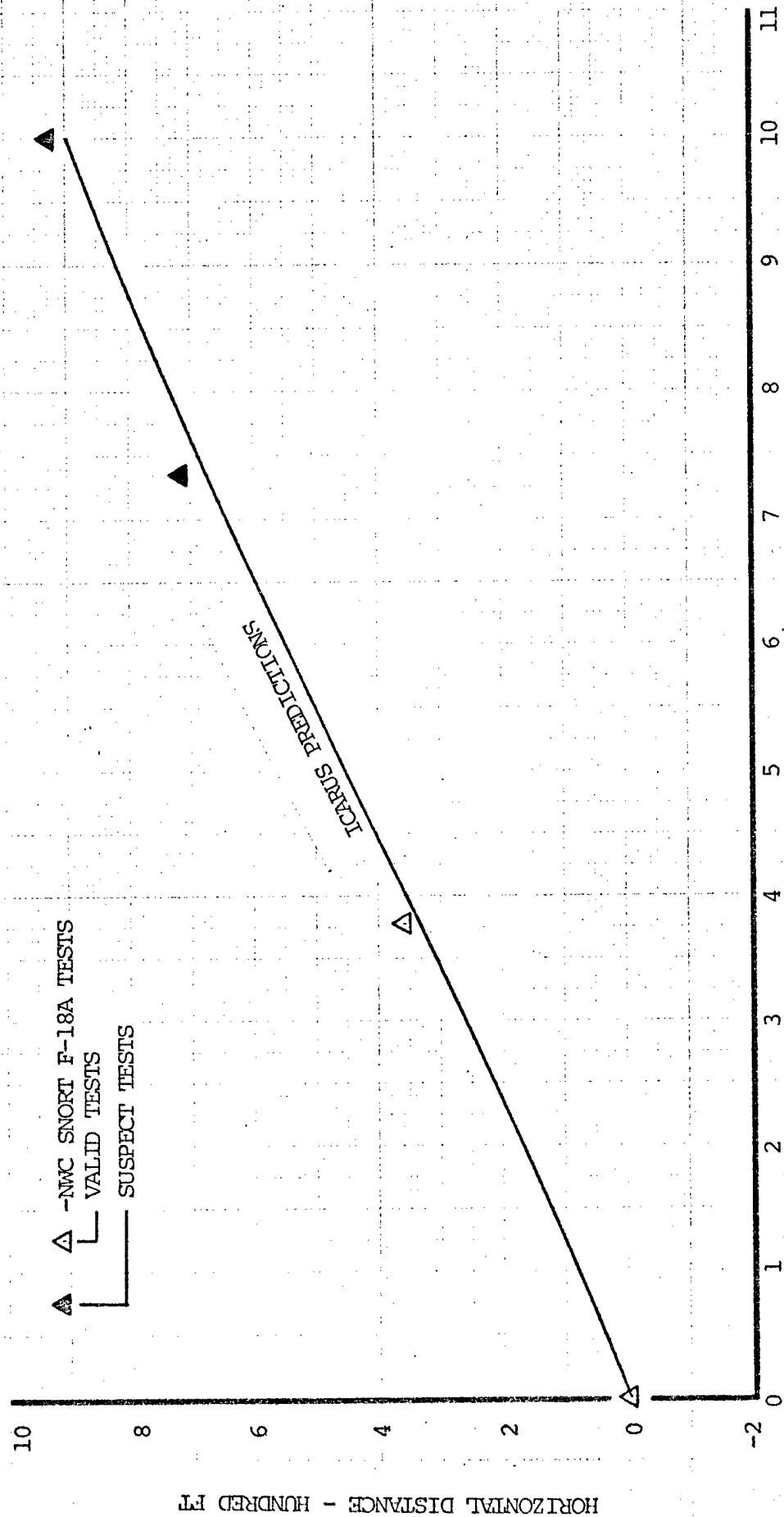


FIGURE F-23

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE GUN FIRE
98 PERCENTILE DUMMY

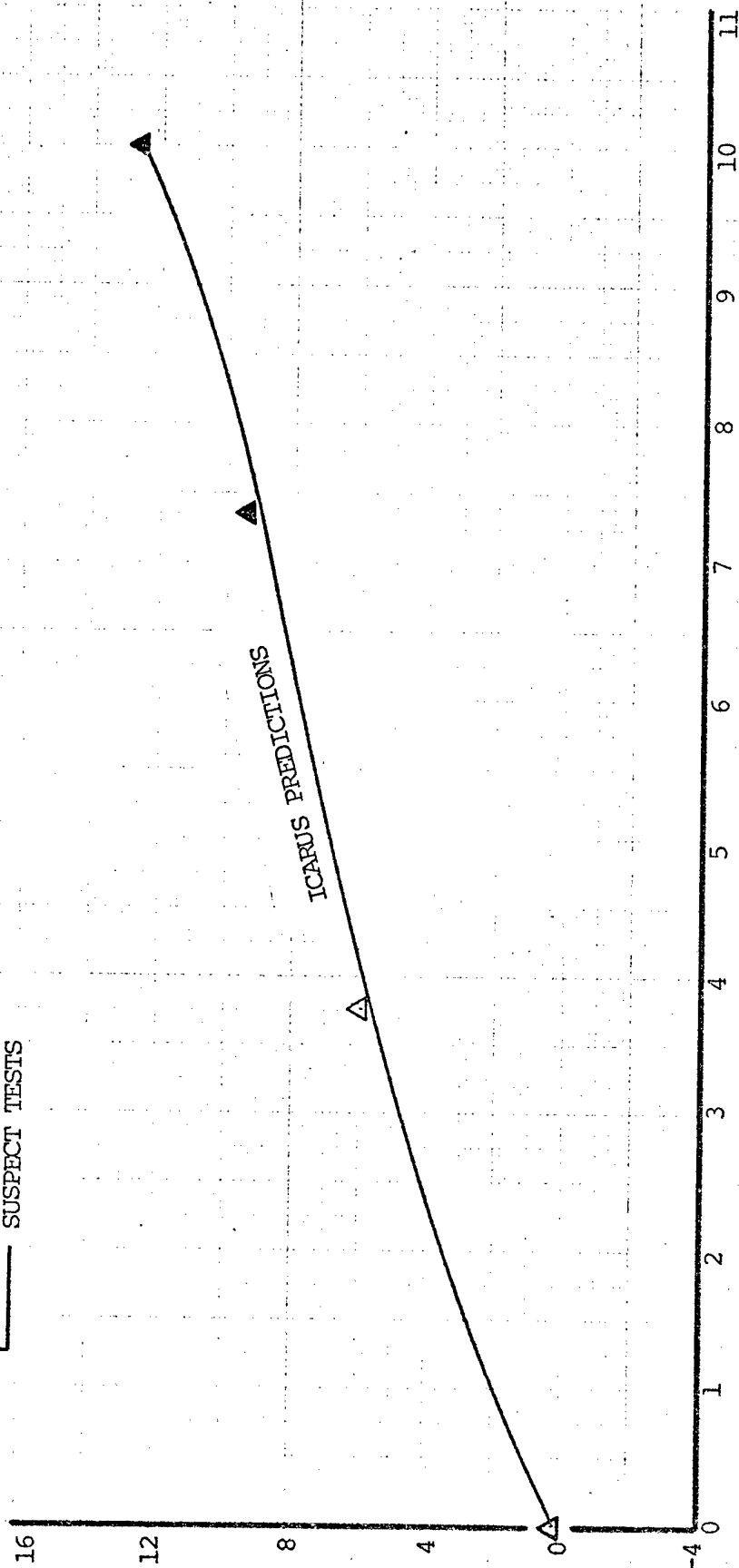


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-24

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
△ VALID TESTS
SUSPECT TESTS



HORIZONTAL DISTANCE - HUNDRED FT

FIGURE F-25

HORIZONTAL DISTANCE - HUNDRED FT

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE PACK OPENING
98 PERCENTILE DUMMY

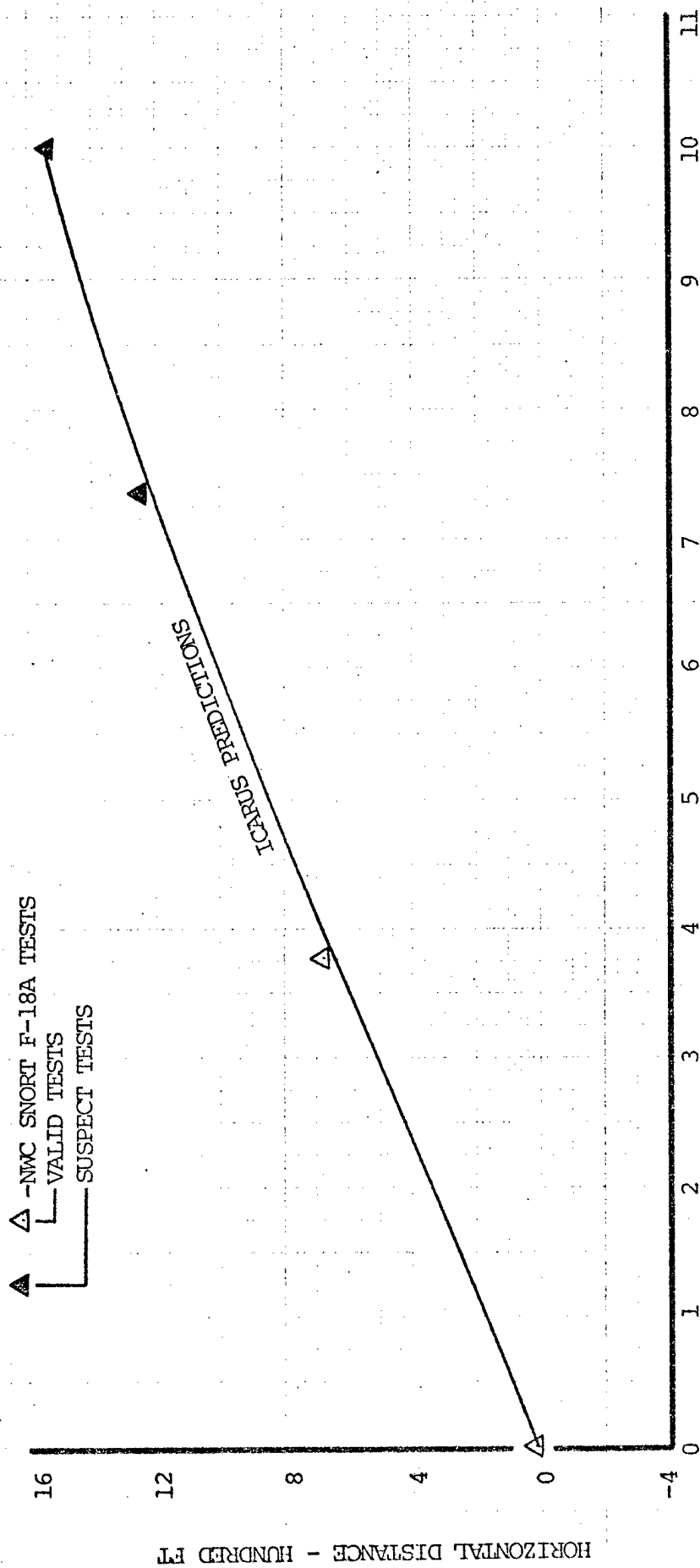
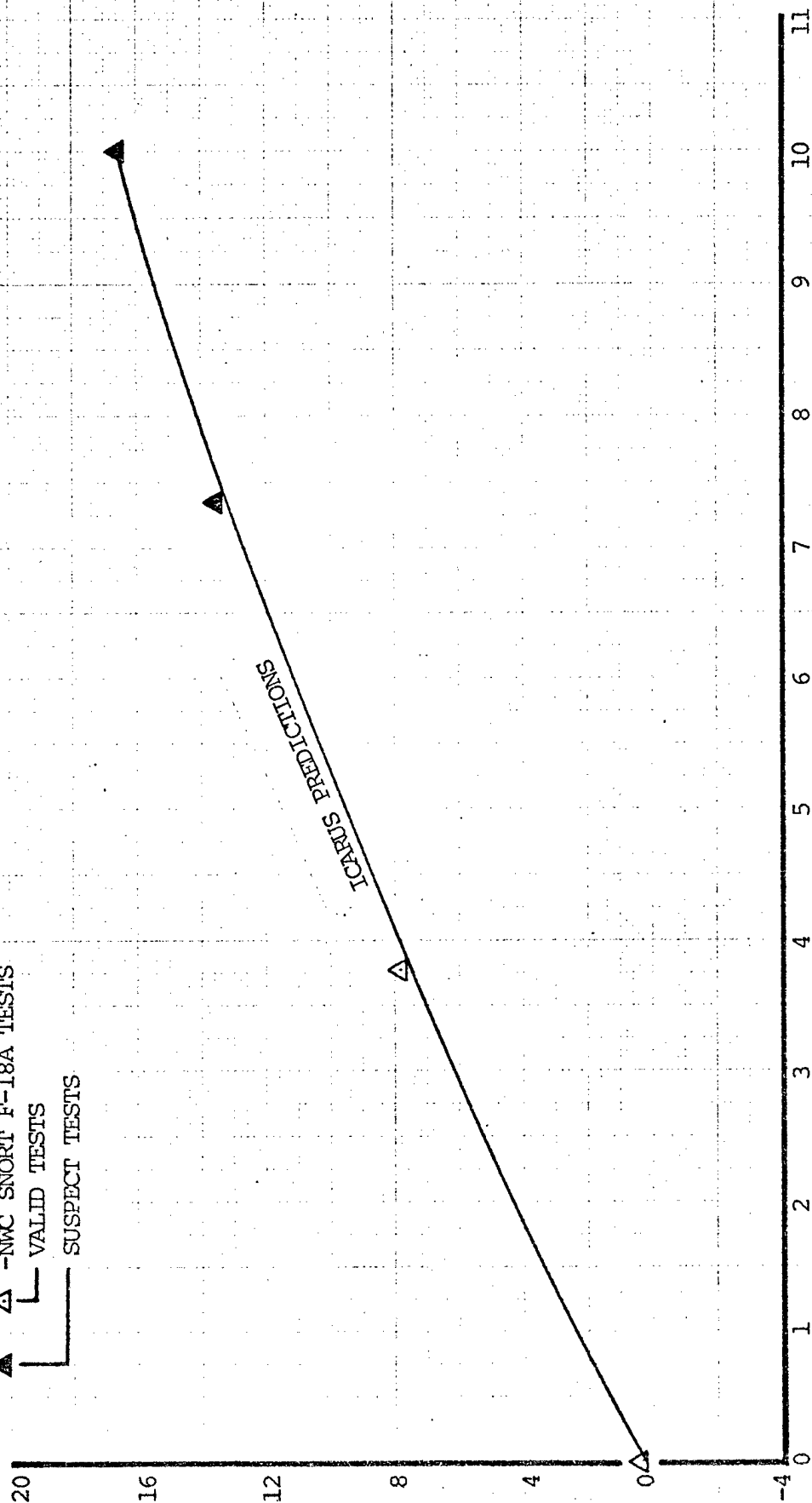


FIGURE F-26

ICAFUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

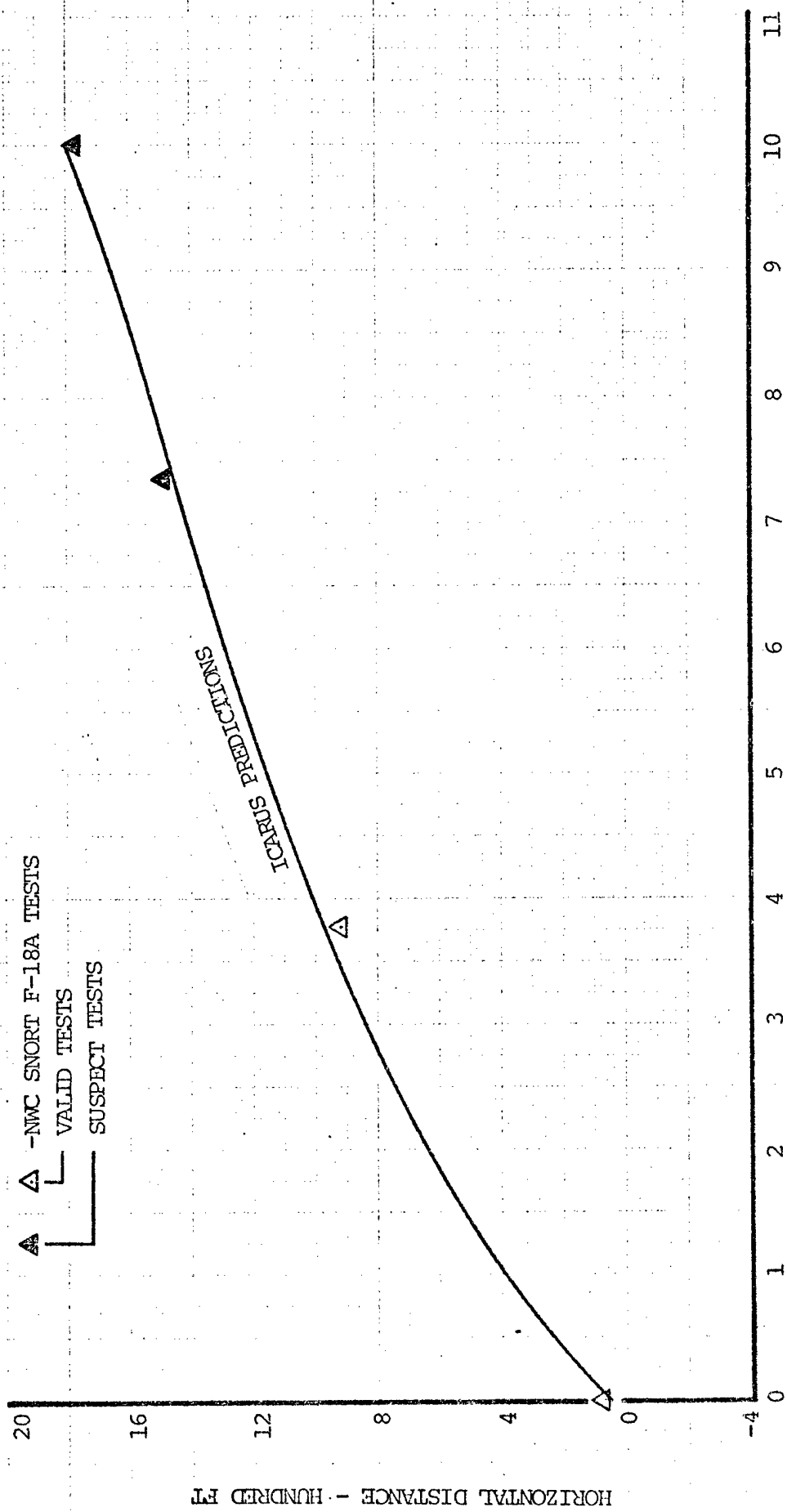
HORIZONTAL DISTANCE - HUNDRED FT



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-27

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY



HORIZONTAL DISTANCE - HUNDRED FT

HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-28

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 ROCKET IGNITION
 3 PERCENTILE DUMMY

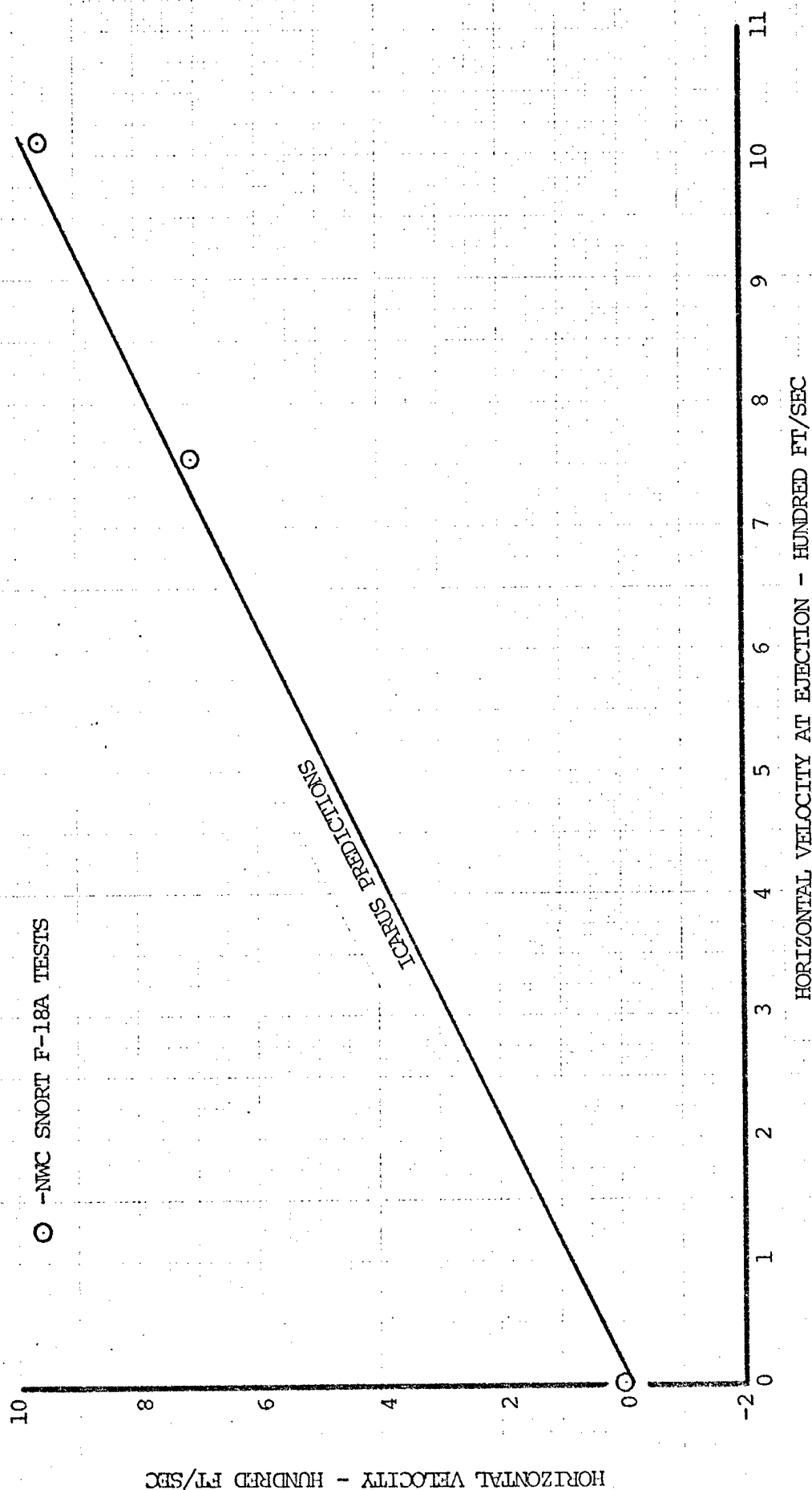


FIGURE F-29

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
3 PERCENTILE DUMMY

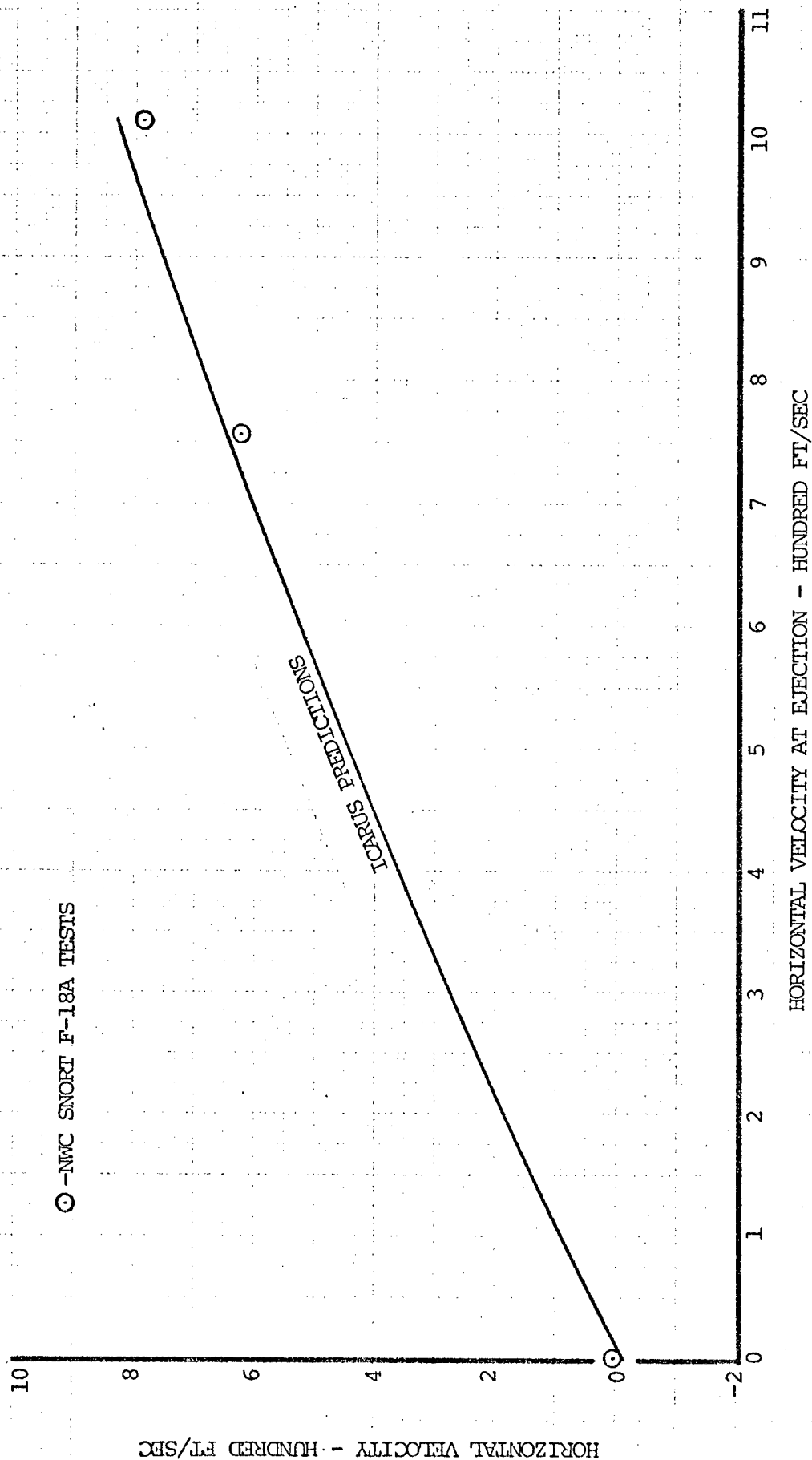
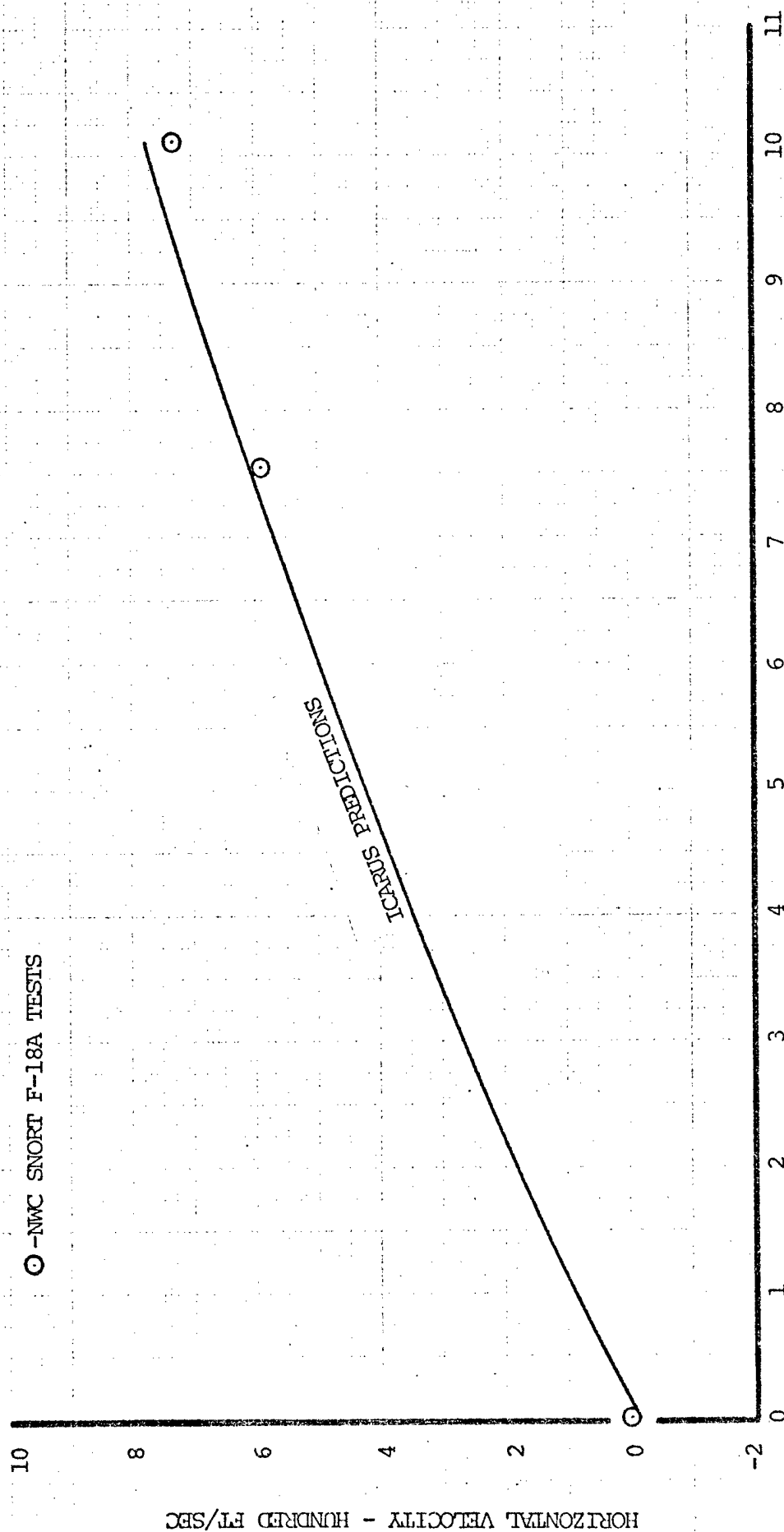


FIGURE F-30

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE GUN FIRE
 3 PERCENTILE DUMMY

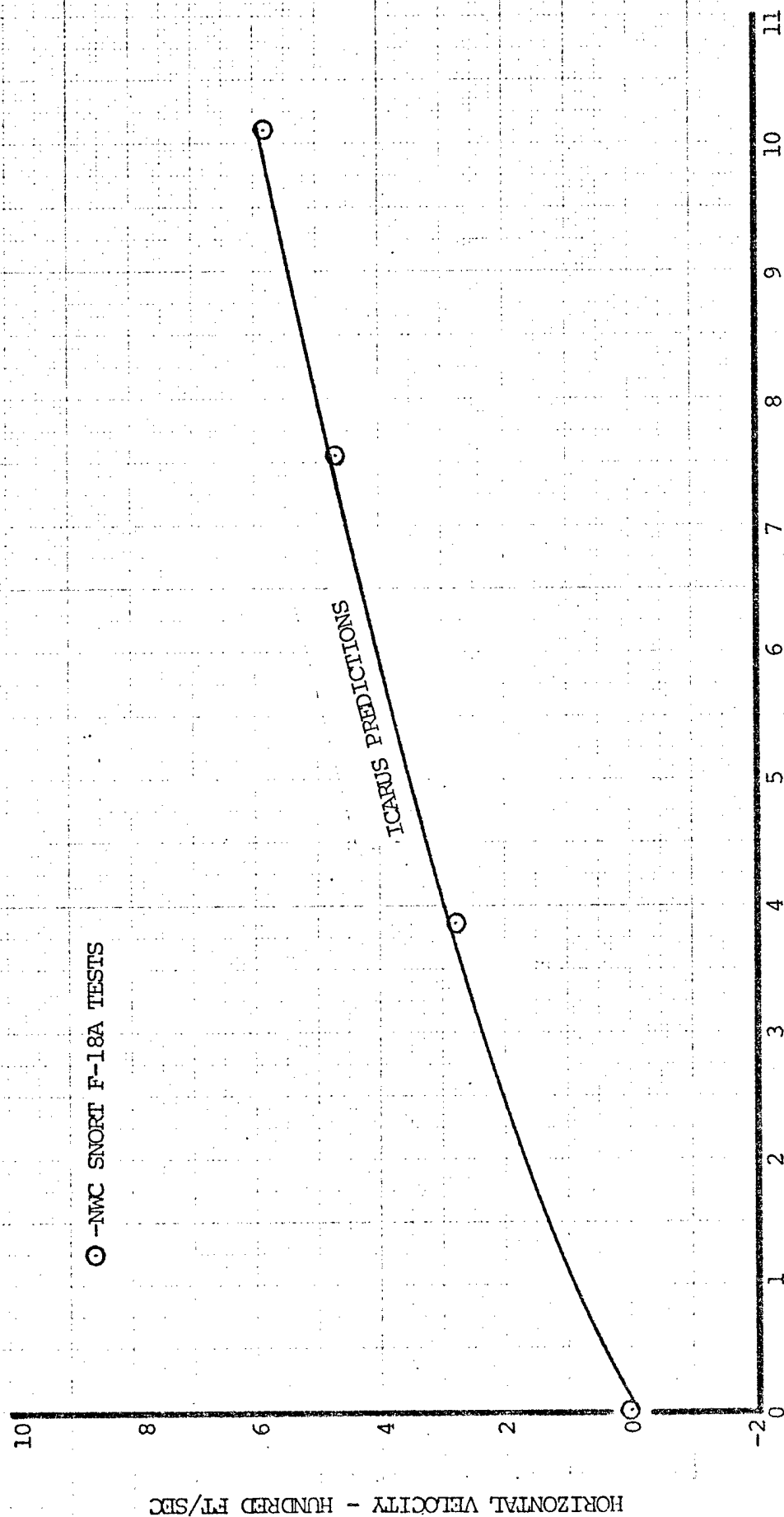
○ - NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-31

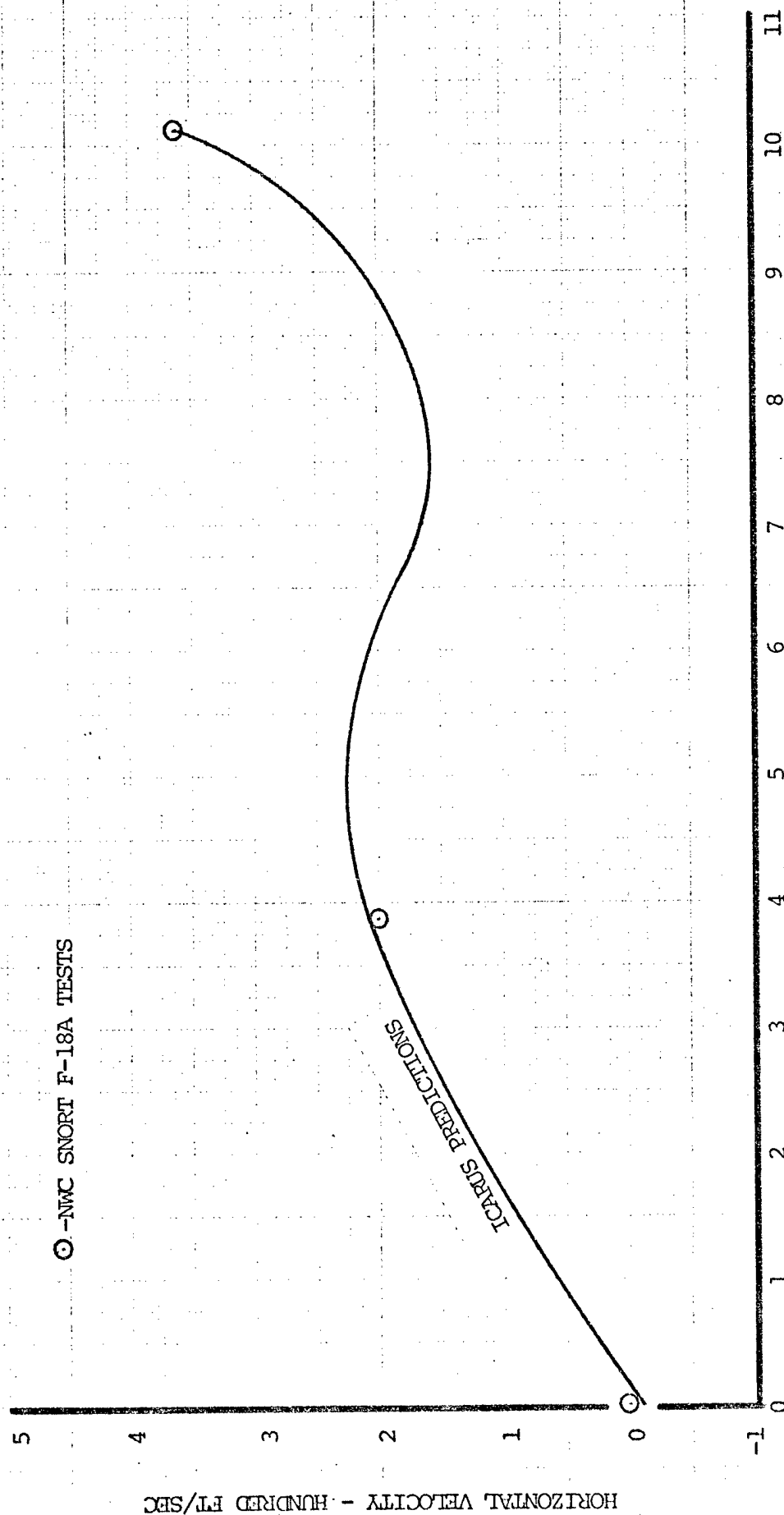
ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-32

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE PACK OPENING
3 PERCENTILE DUMMY

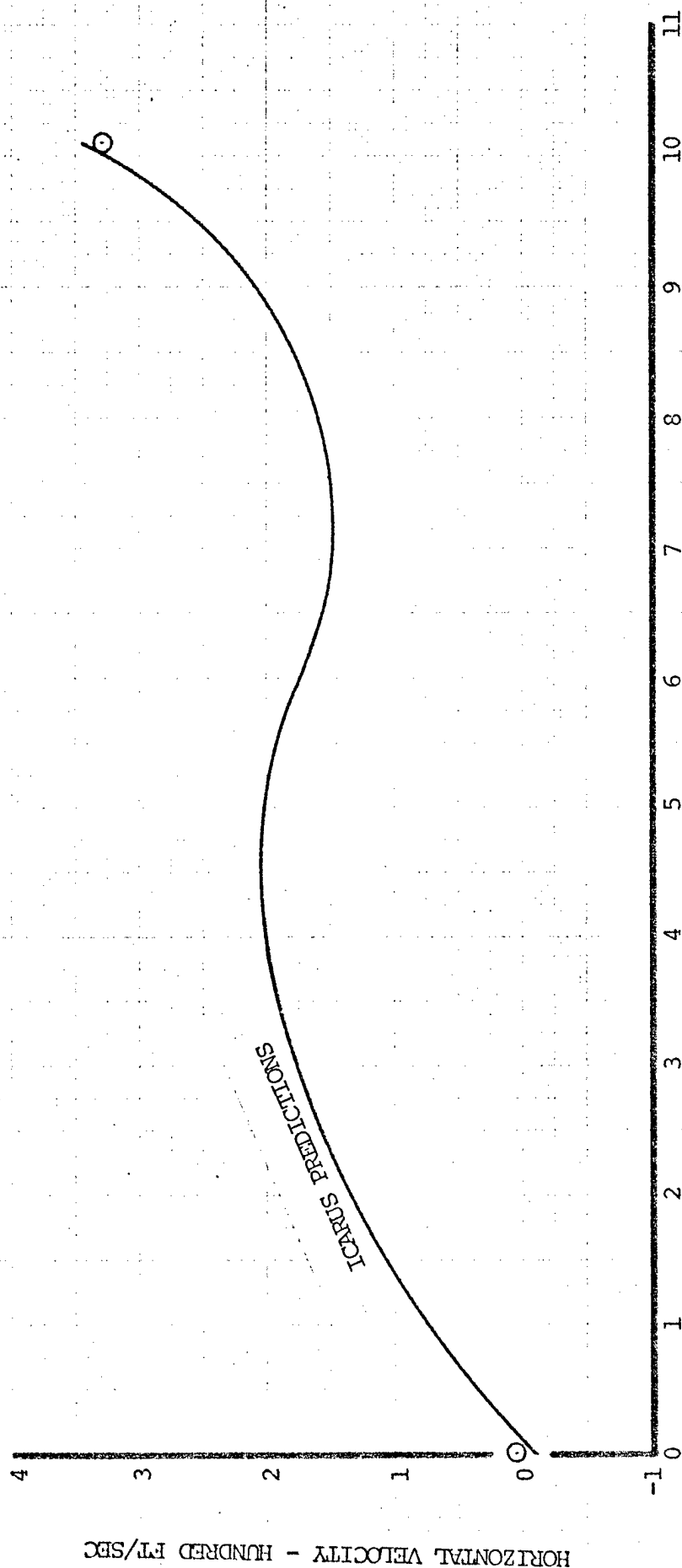


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-33

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 MAIN PARACHUTE RISER LINE STRETCH
 3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-34

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

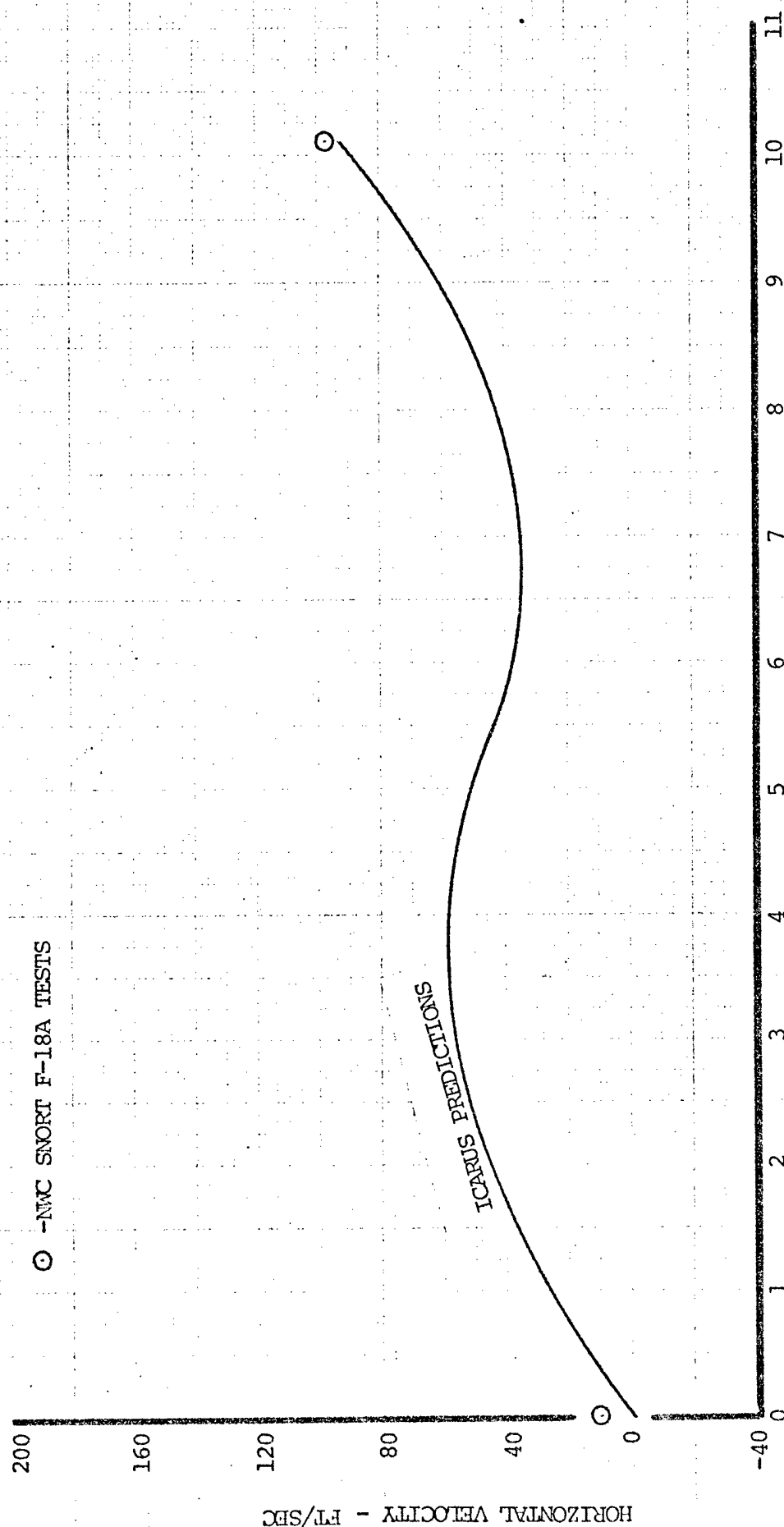
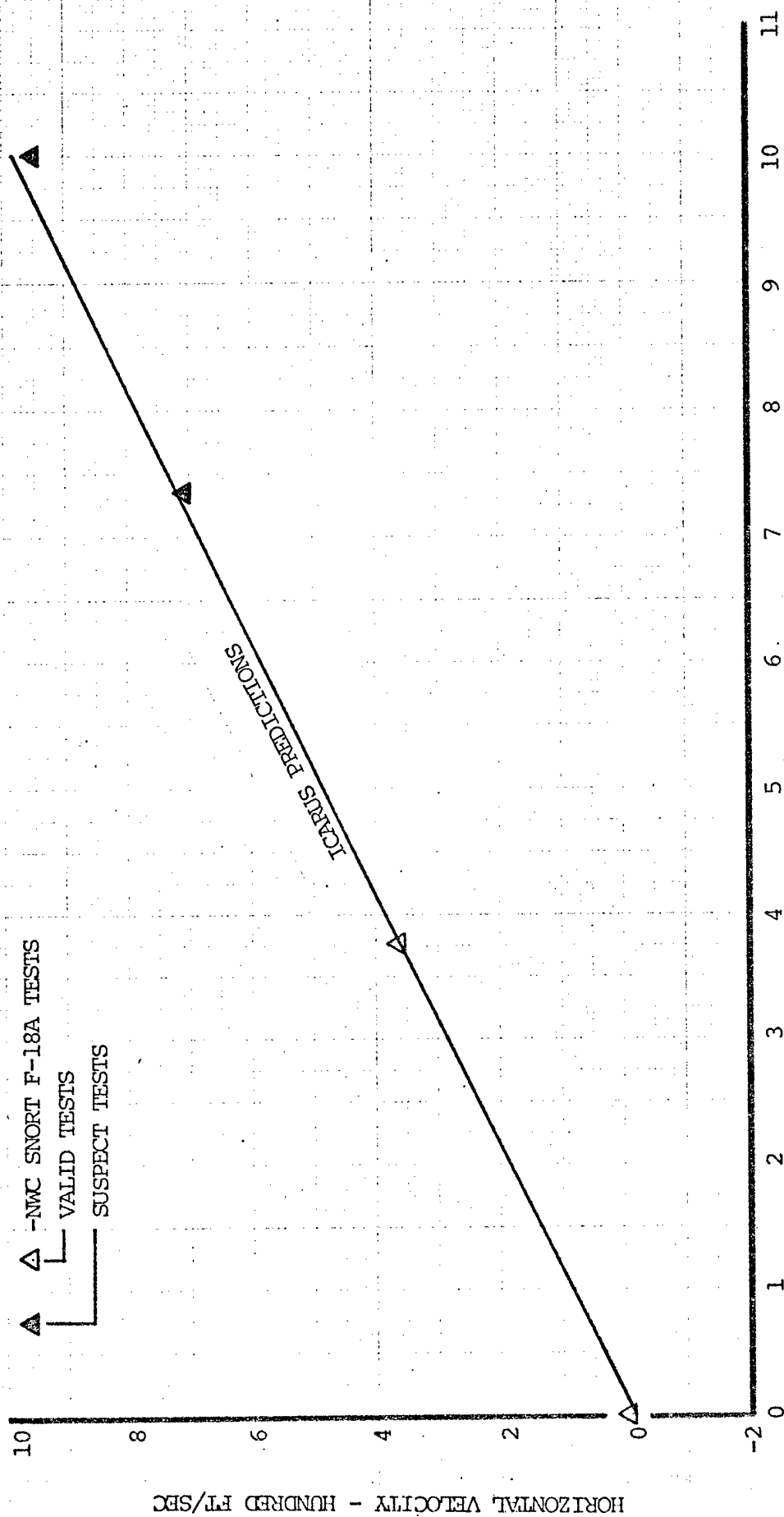


FIGURE F-35

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 ROCKET IGNITION
 98 PERCENTILE DUMMY

△ -NWC SNORT F-18A TESTS
 △ -VALID TESTS
 △ -SUSPECT TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-36

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
98 PERCENTILE DUMMY

△-NWC SNORT F-18A TESTS
VALID TESTS
SUSPECT TESTS

HORIZONTAL VELOCITY - HUNDRED FT/SEC

ICARUS PREDICTIONS

HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-37

COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE GUN FIRE
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

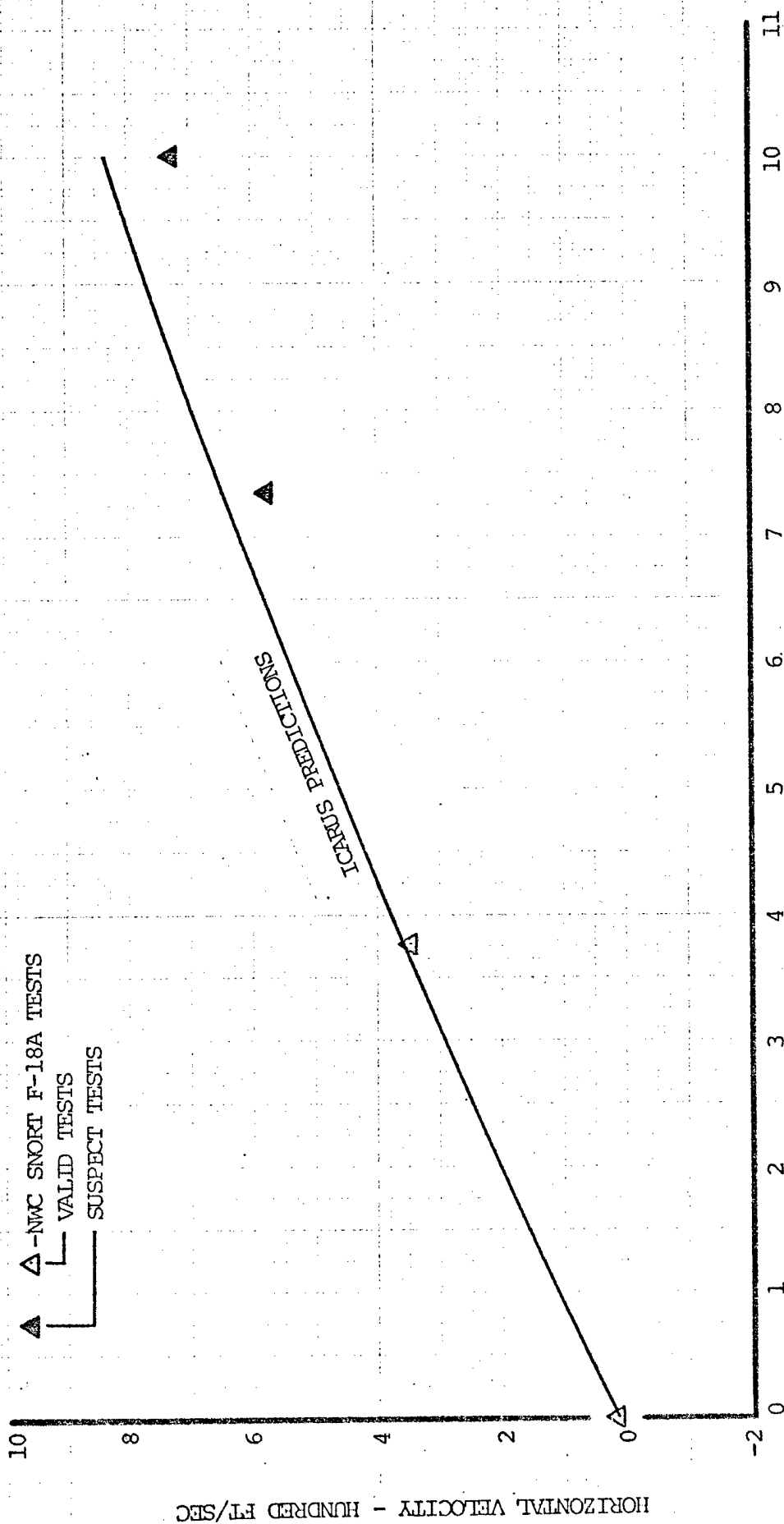
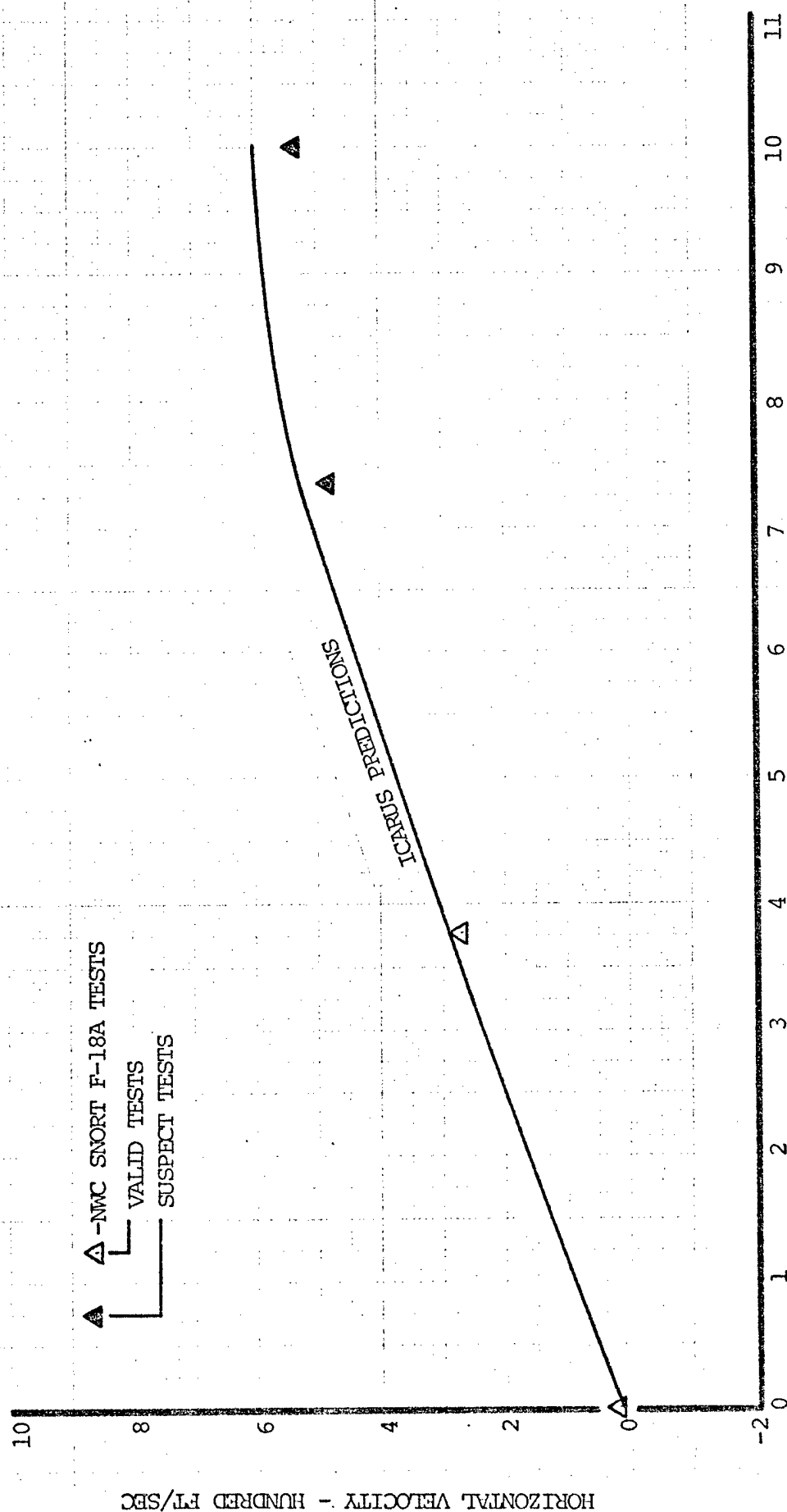


FIGURE F-38

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-39

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 MAIN PARACHUTE PACK OPENING
 98 PERCENTILE DUMMY

 Δ -NWC SNORT F-18A TESTS
 VALID TESTS
 SUSPECT TESTS

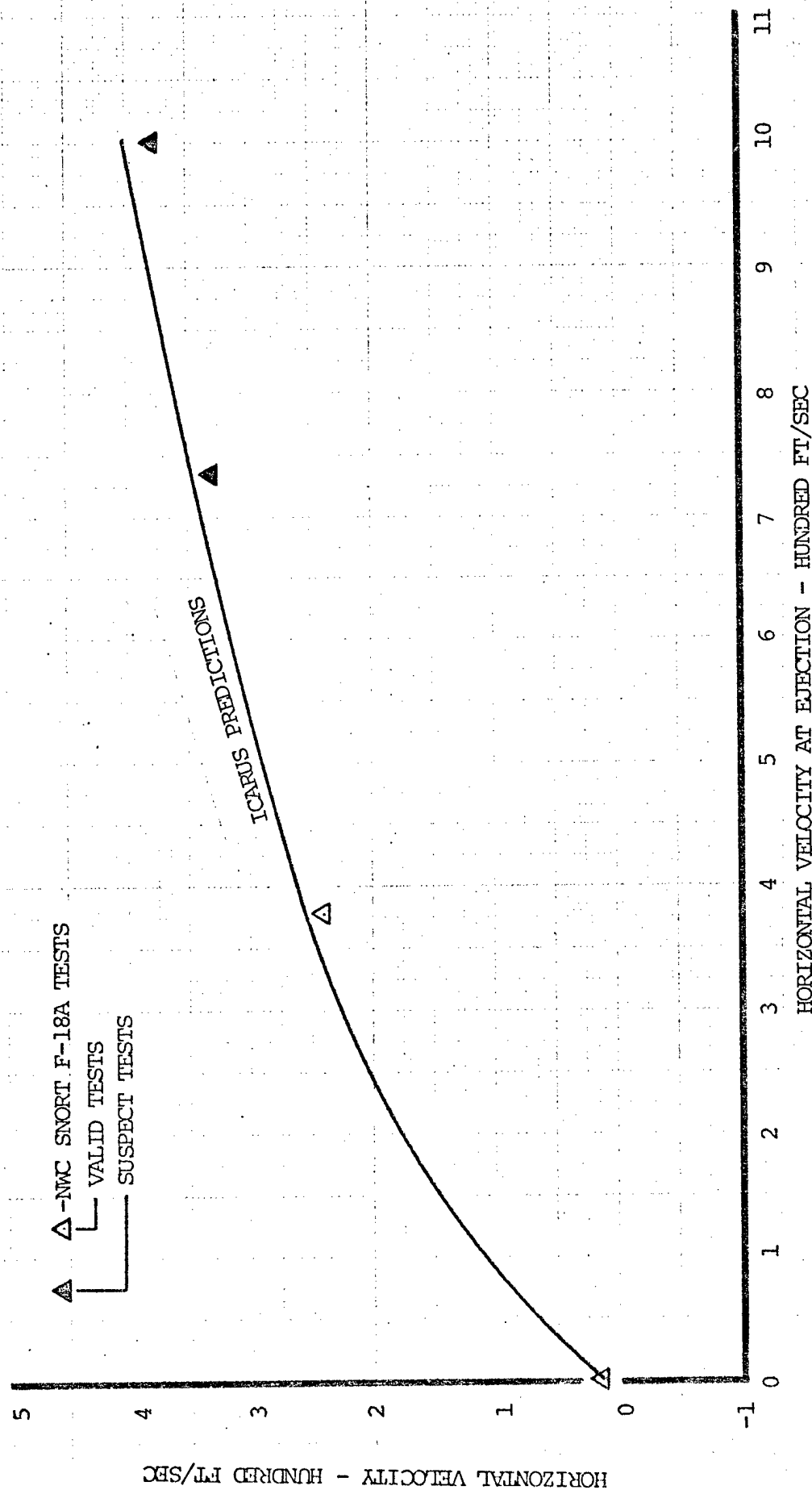


FIGURE F-40

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

ICARUS PREDICTIONS

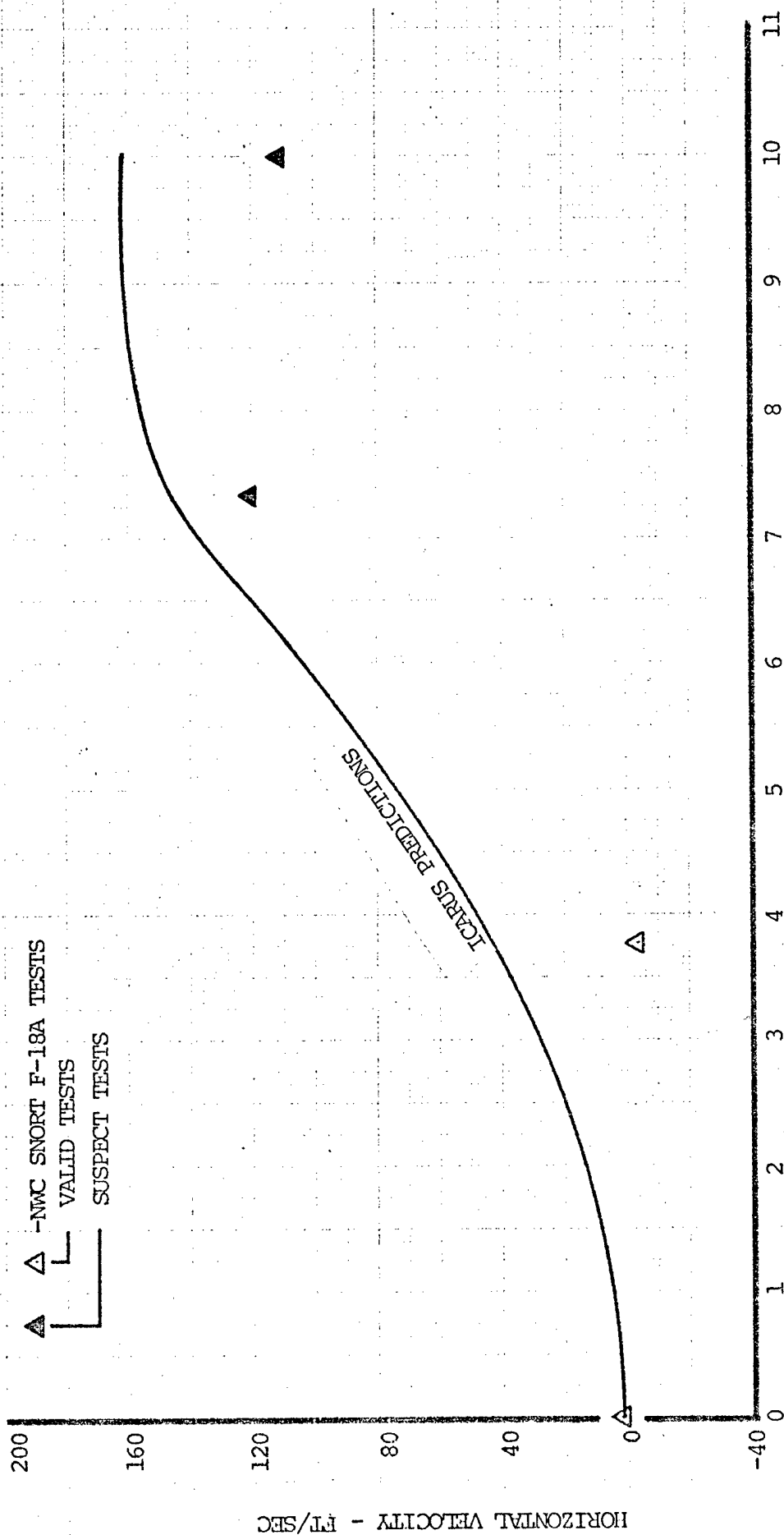
HORIZONTAL VELOCITY - HUNDRED FT/SEC

HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-41

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 MAIN PARACHUTE FULL INFLATION
 98 PERCENTILE DUMMY

△ -NWC SNORT F-18A TESTS
 △ -VALID TESTS
 △ -SUSPECT TESTS

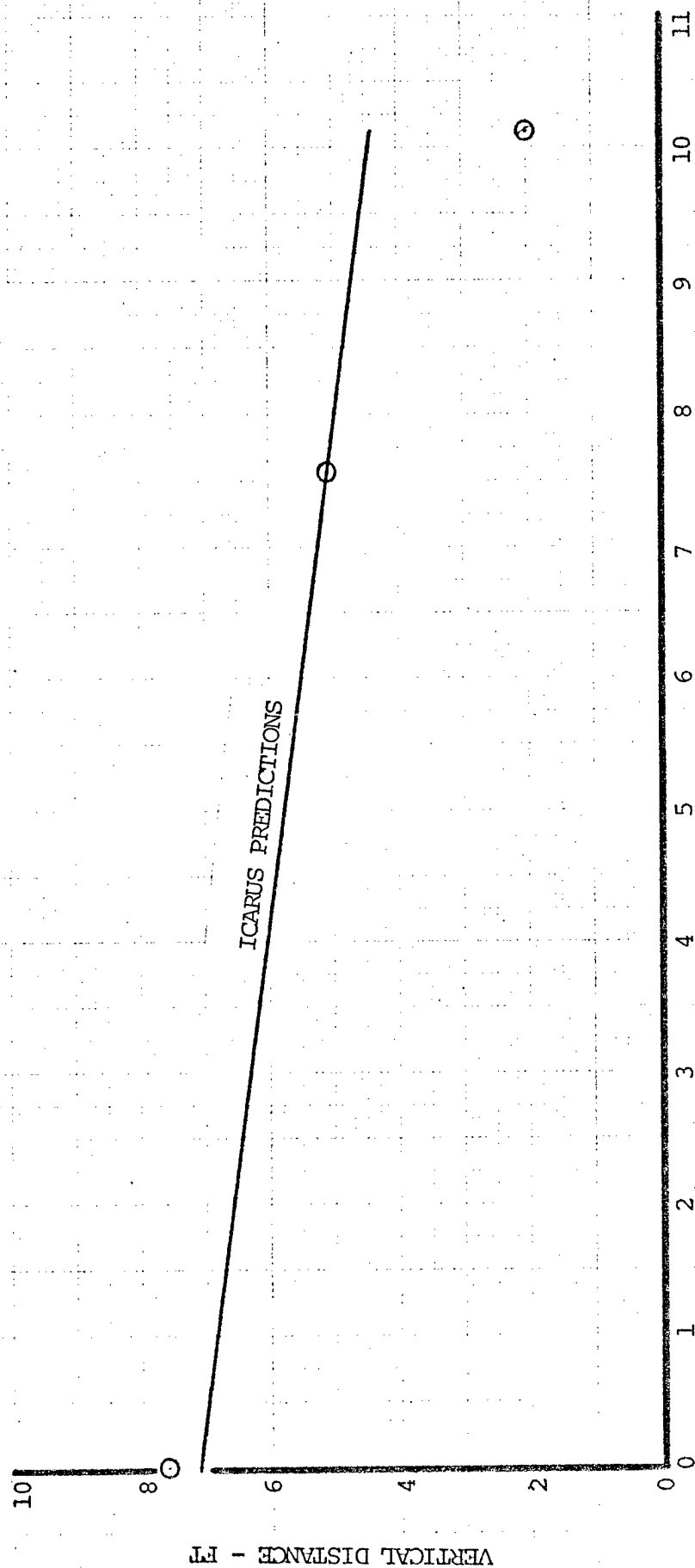


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-42

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET IGNITION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-43

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
3 PERCENTILE DUMMY

○ - NWC SNORT F-18A TESTS

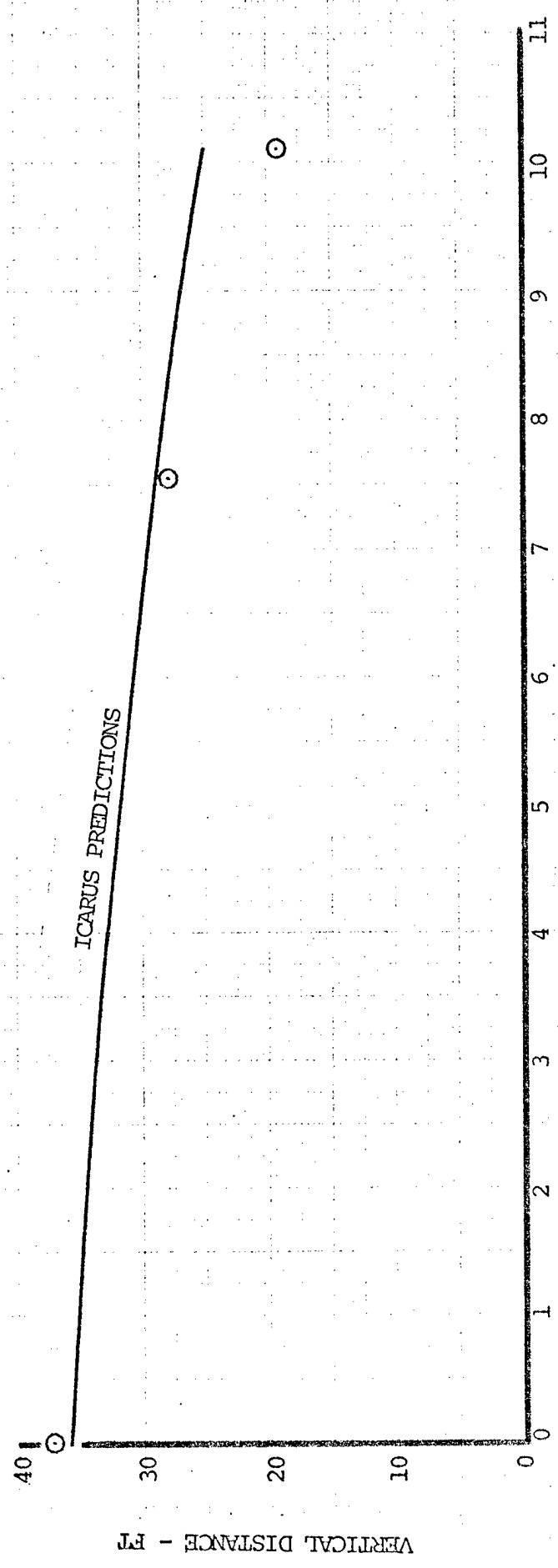


FIGURE F-44

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE GUN FIRE
 3 PERCENTILE DUMMY

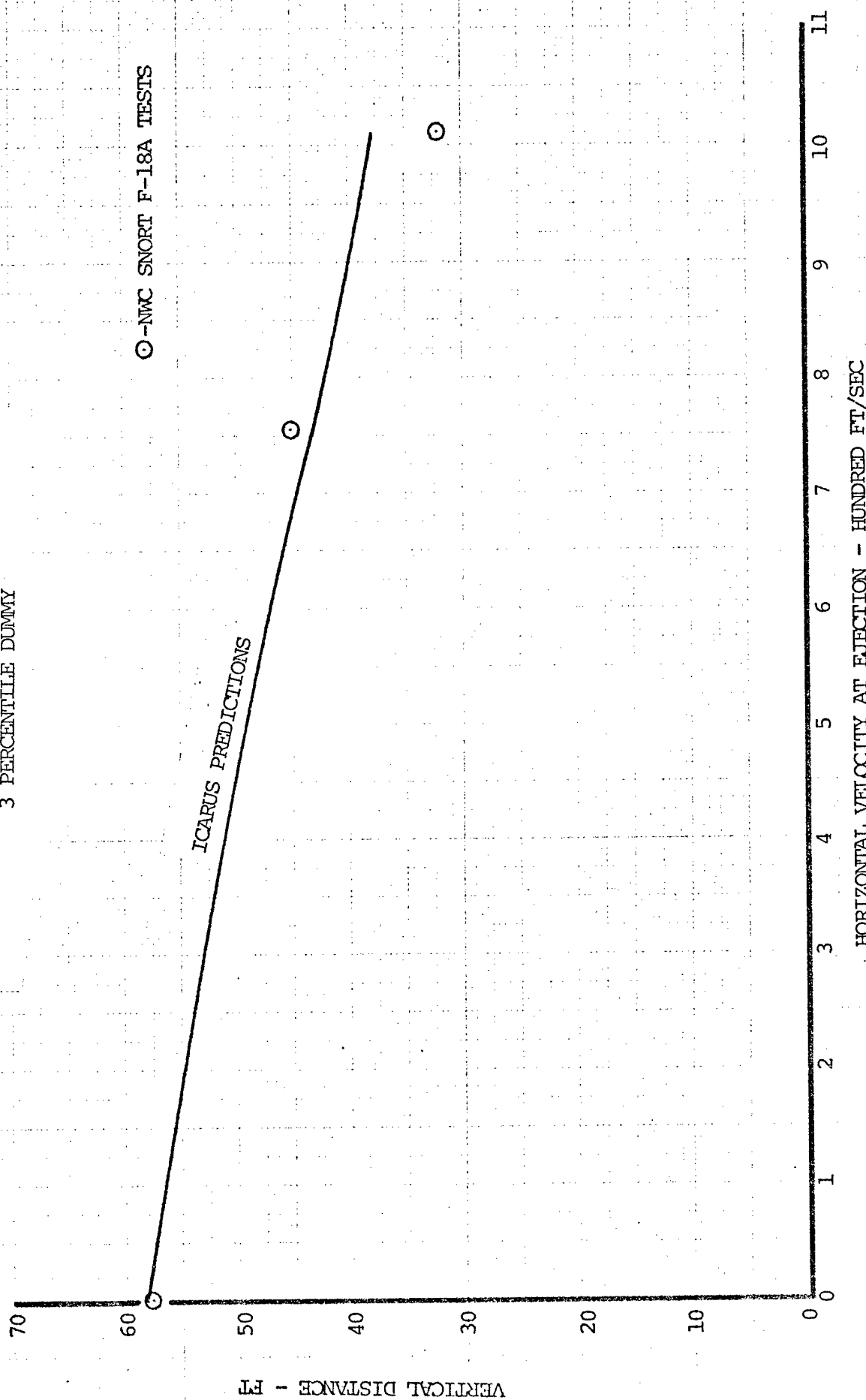
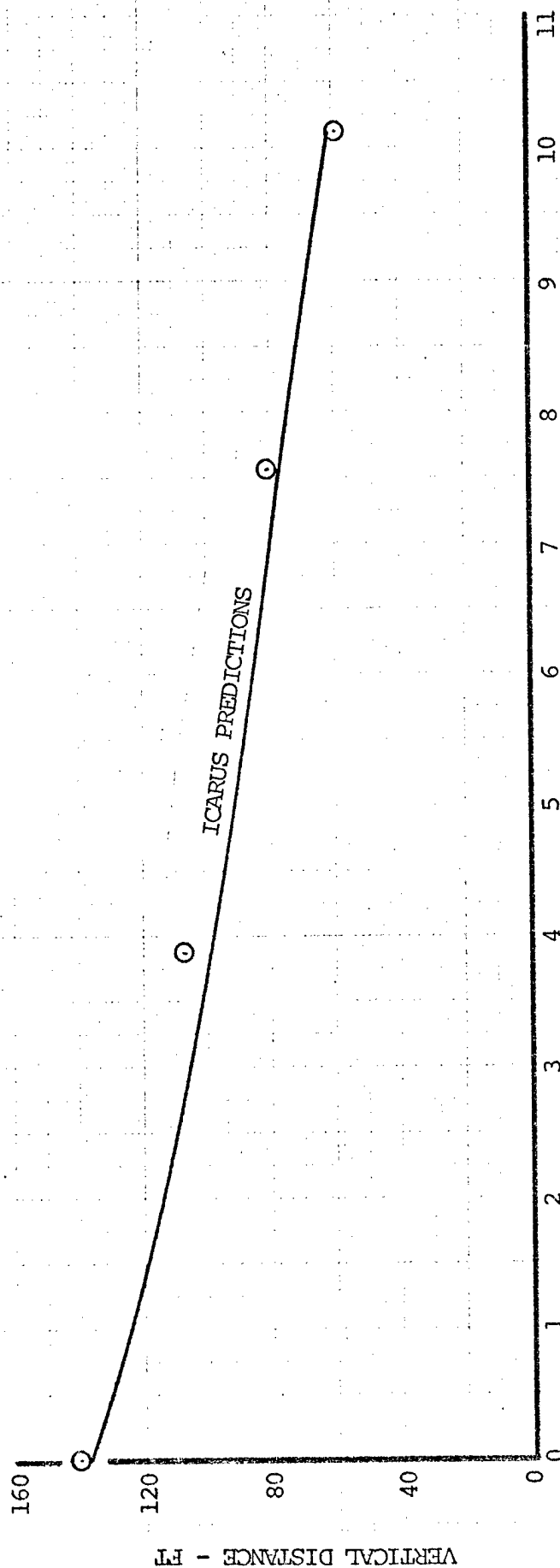


FIGURE F-45

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

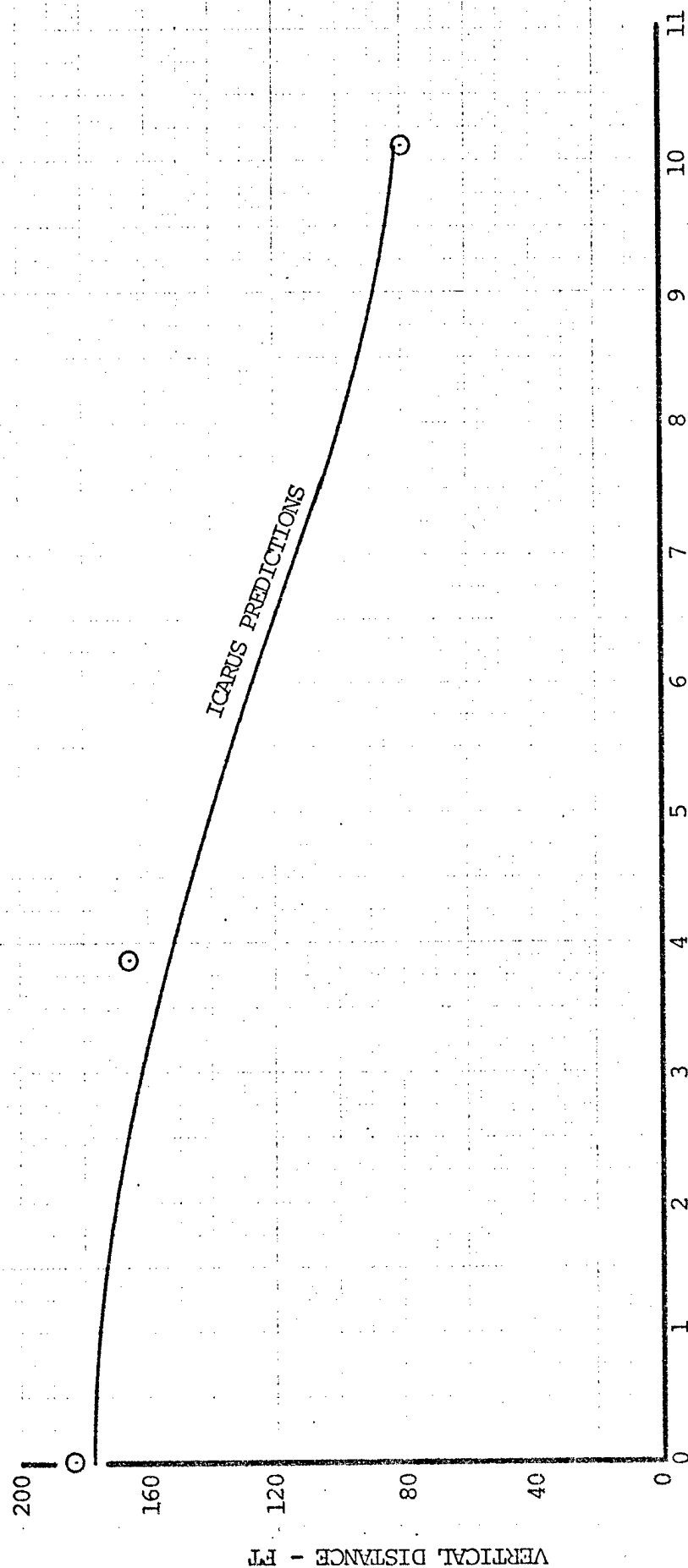


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-46

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 MAIN PARACHUTE PACK OPENING
 3 PERCENTILE DUMMY

○ - NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-47

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
3 PERCENTILE DUMMY

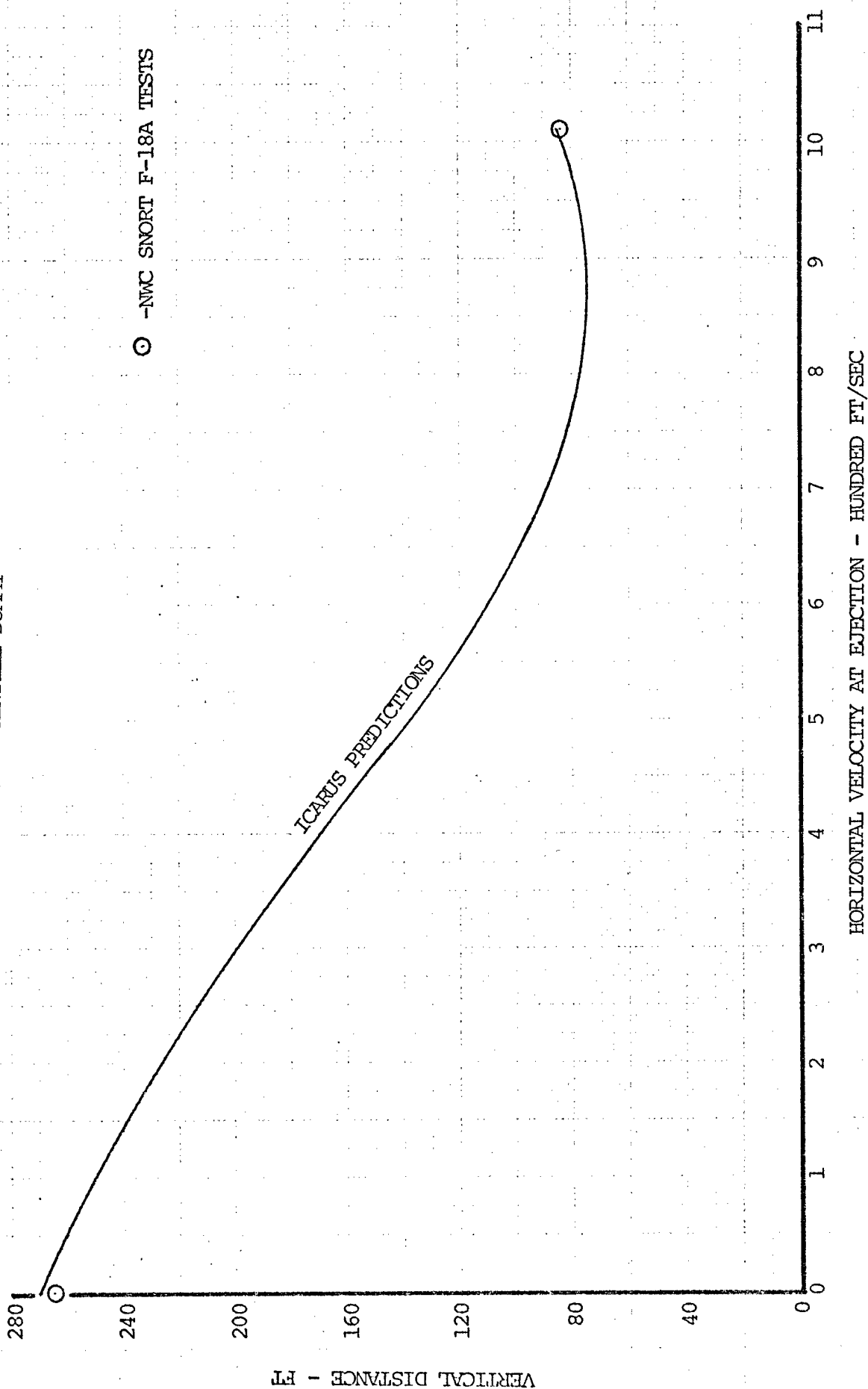
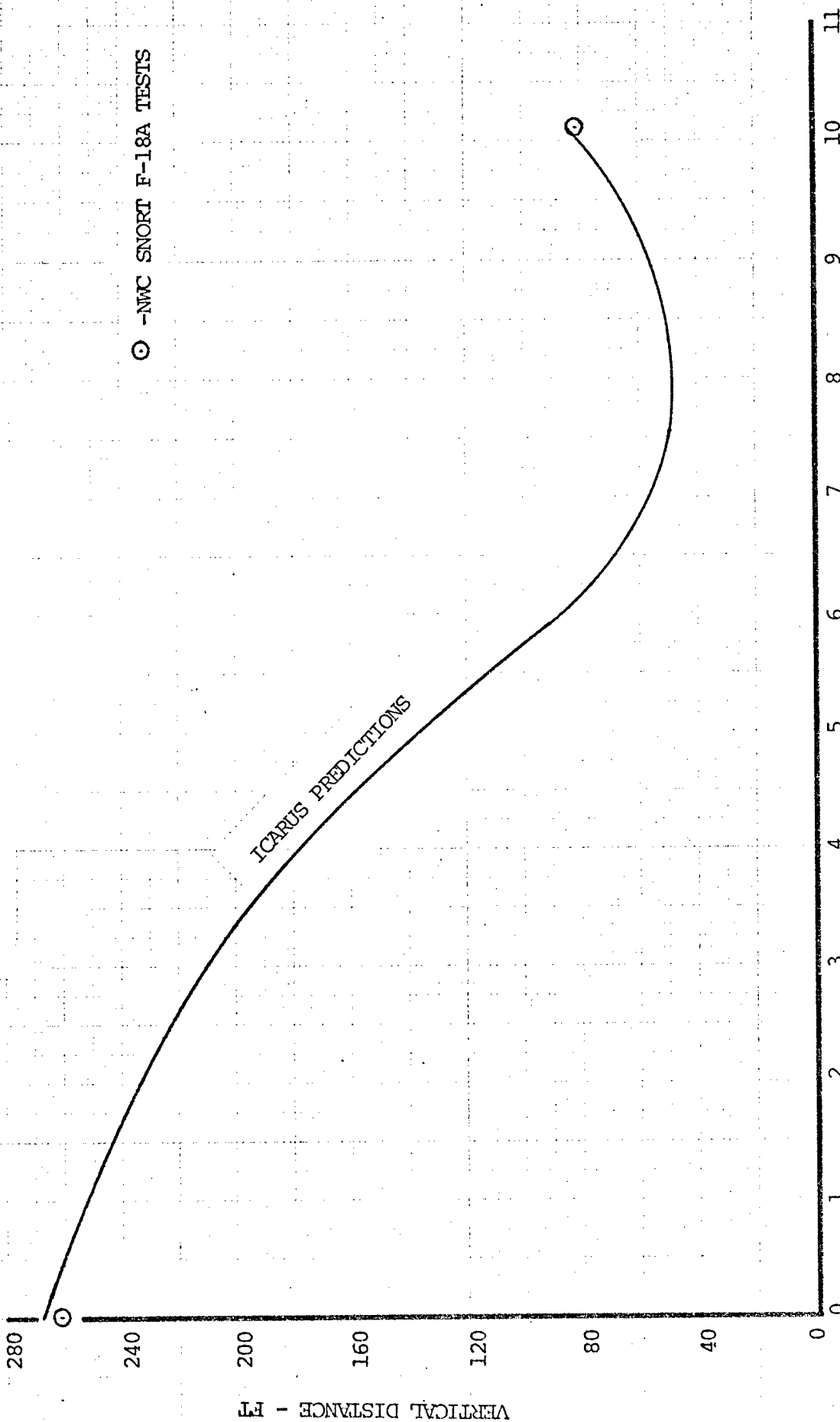


FIGURE F-48

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-49

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET IGNITION
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

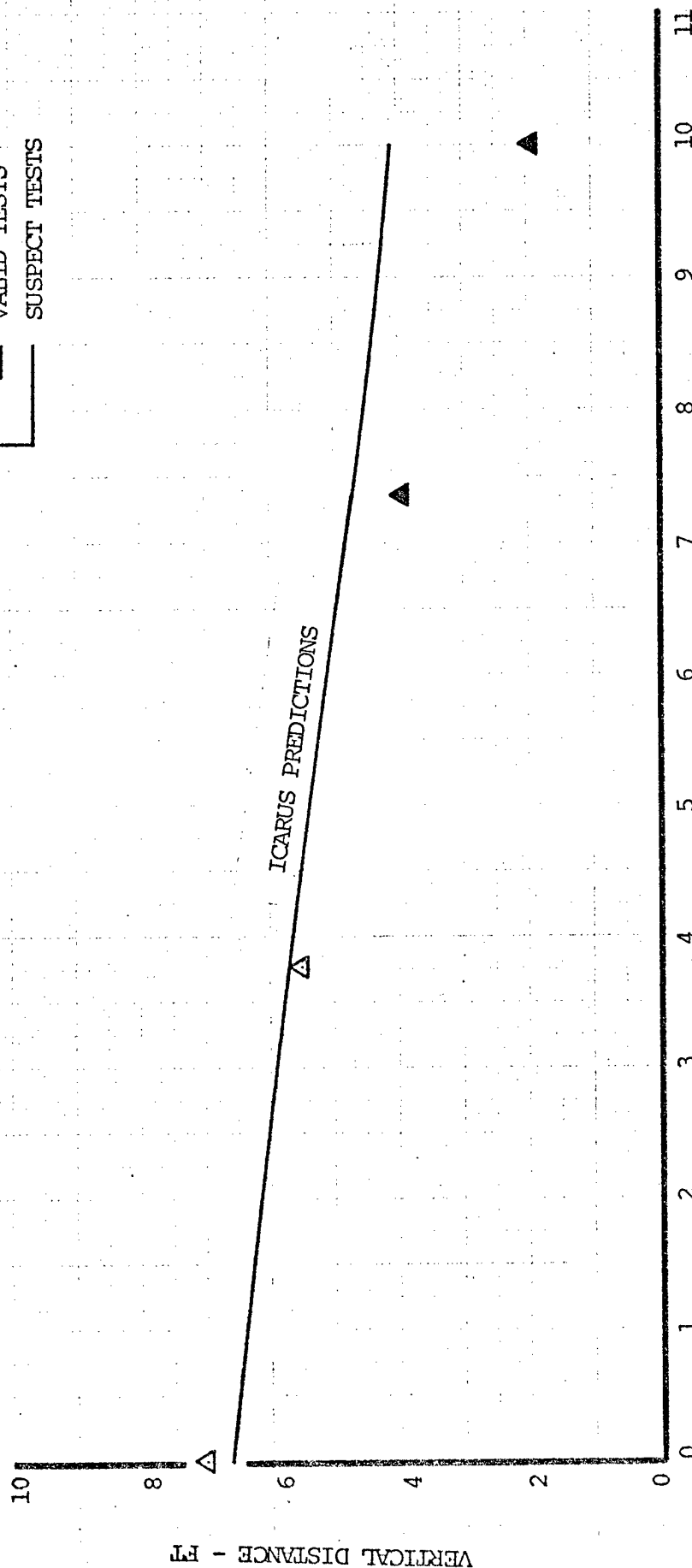


FIGURE F-50

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
98 PERCENTILE DUMMY

▲ -NWC SNORT SLED TESTS
└─ VALID TESTS
└─ SUSPECT TESTS

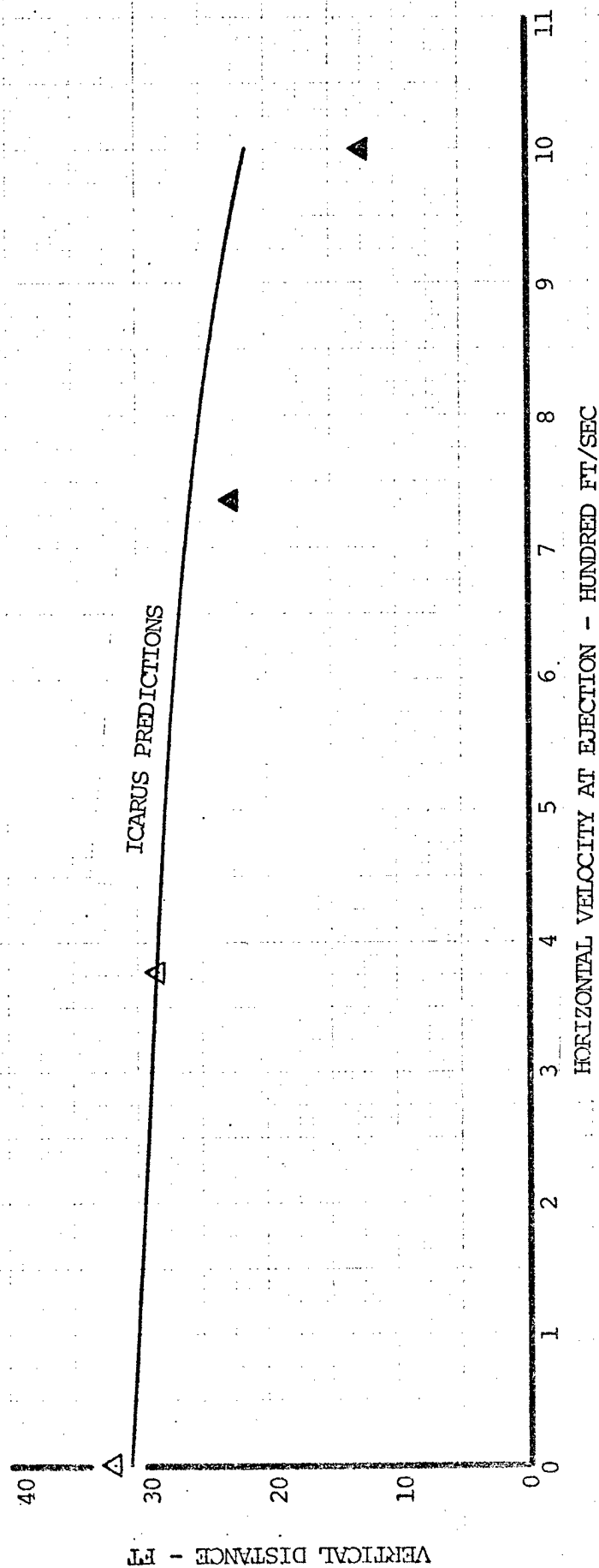


FIGURE F-51

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE GUN FIRE
 98 PERCENTILE DUMMY

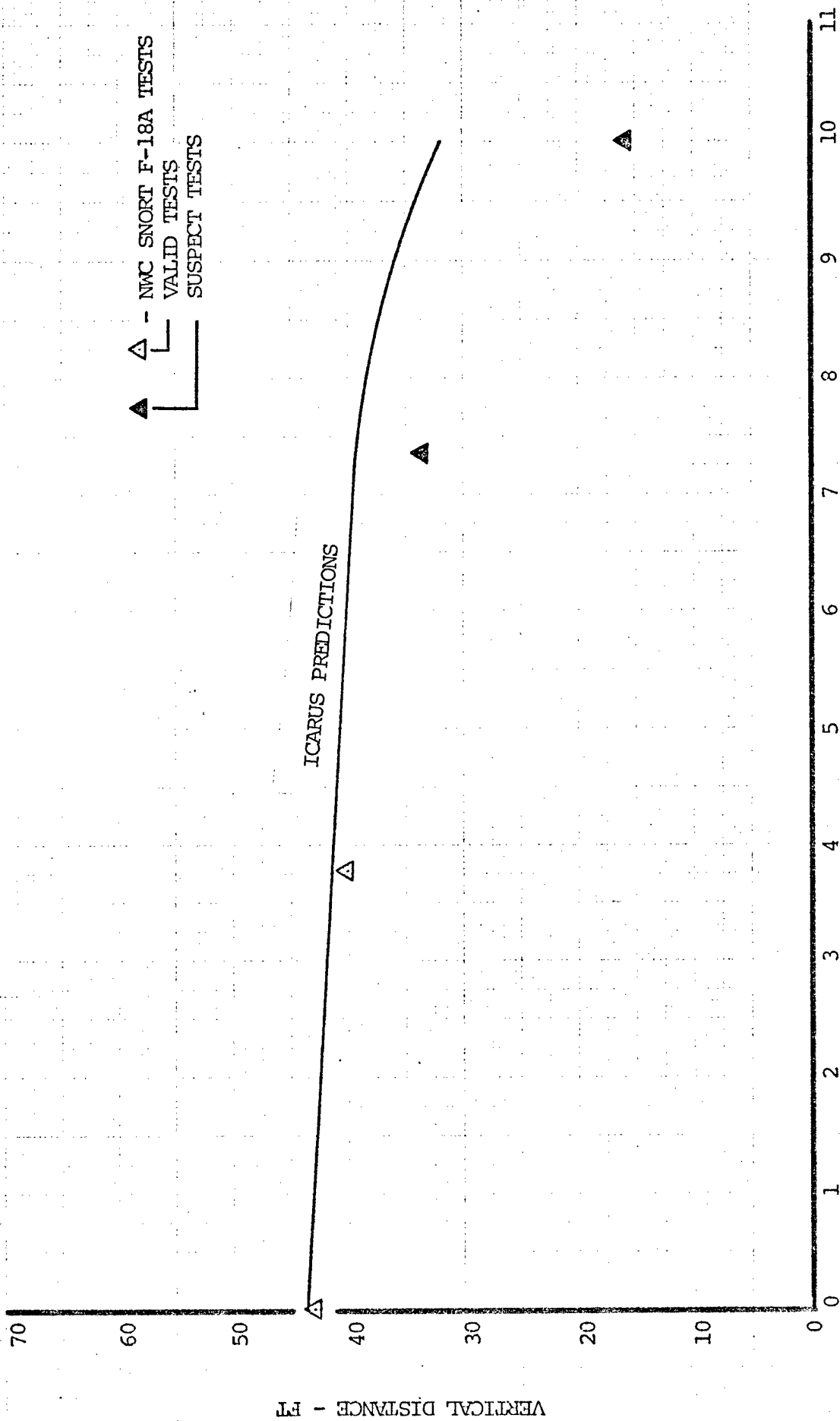


FIGURE F-52

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE PARACHUTE FULL INFLATION
 98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
 └ VALID TESTS
 └ SUSPECT TESTS

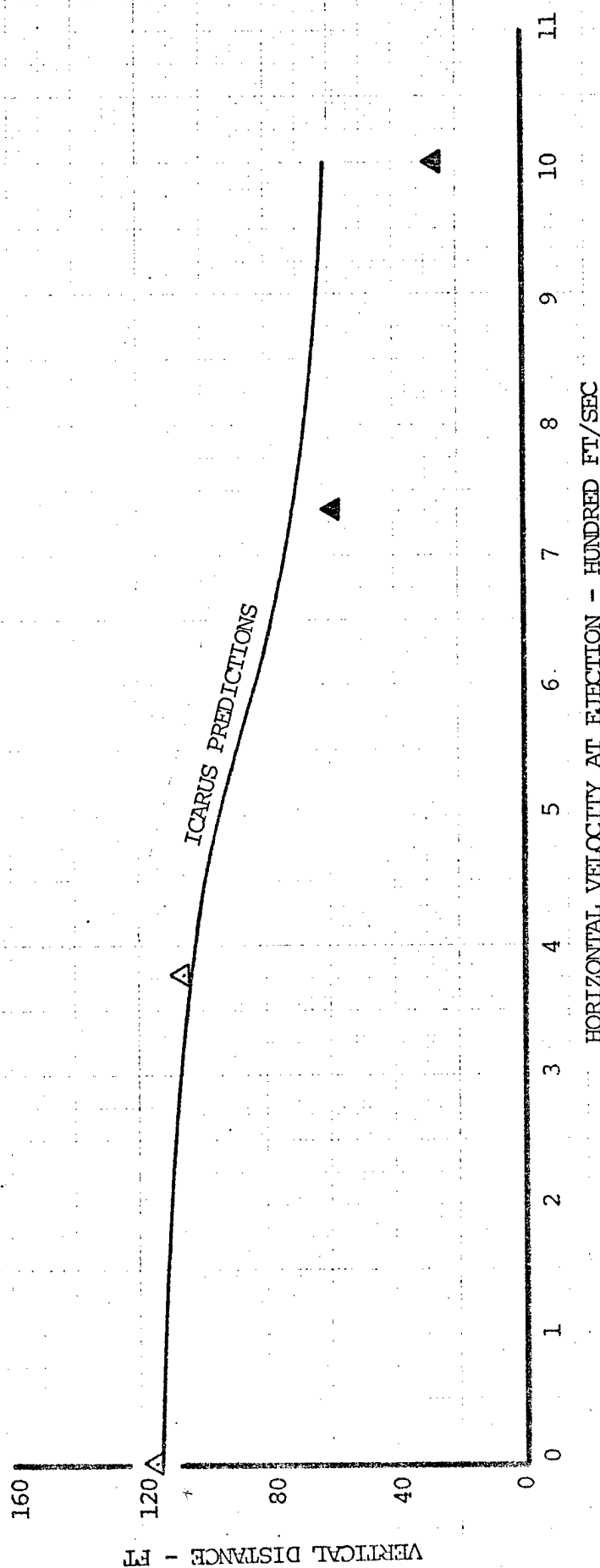
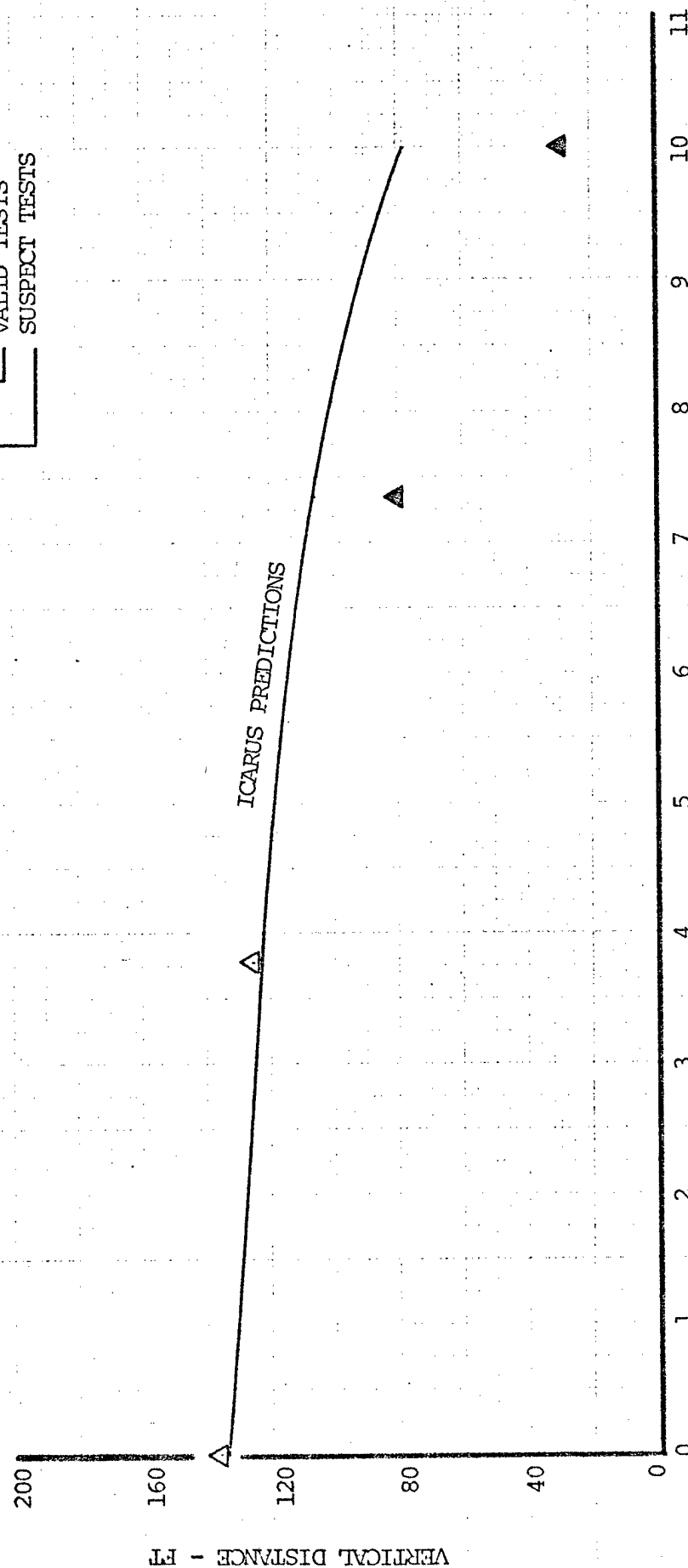


FIGURE F-53

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 MAIN PARACHUTE PACK OPENING
 98 PERCENTILE DUMMY

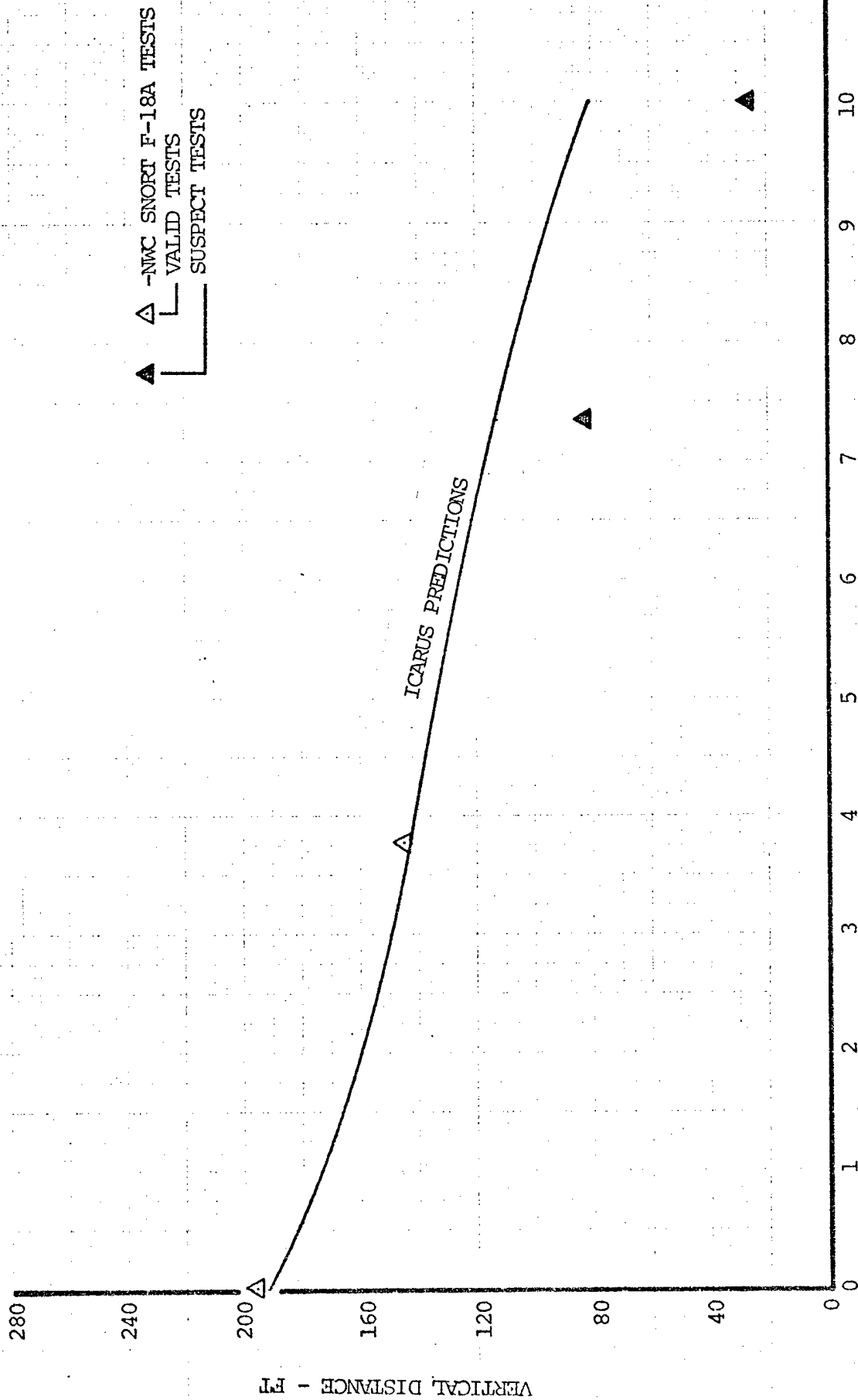
▲ -NWC SNORT F-18A TESTS
 ▲ VALID TESTS
 ▲ SUSPECT TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-54

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
98 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-55

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY

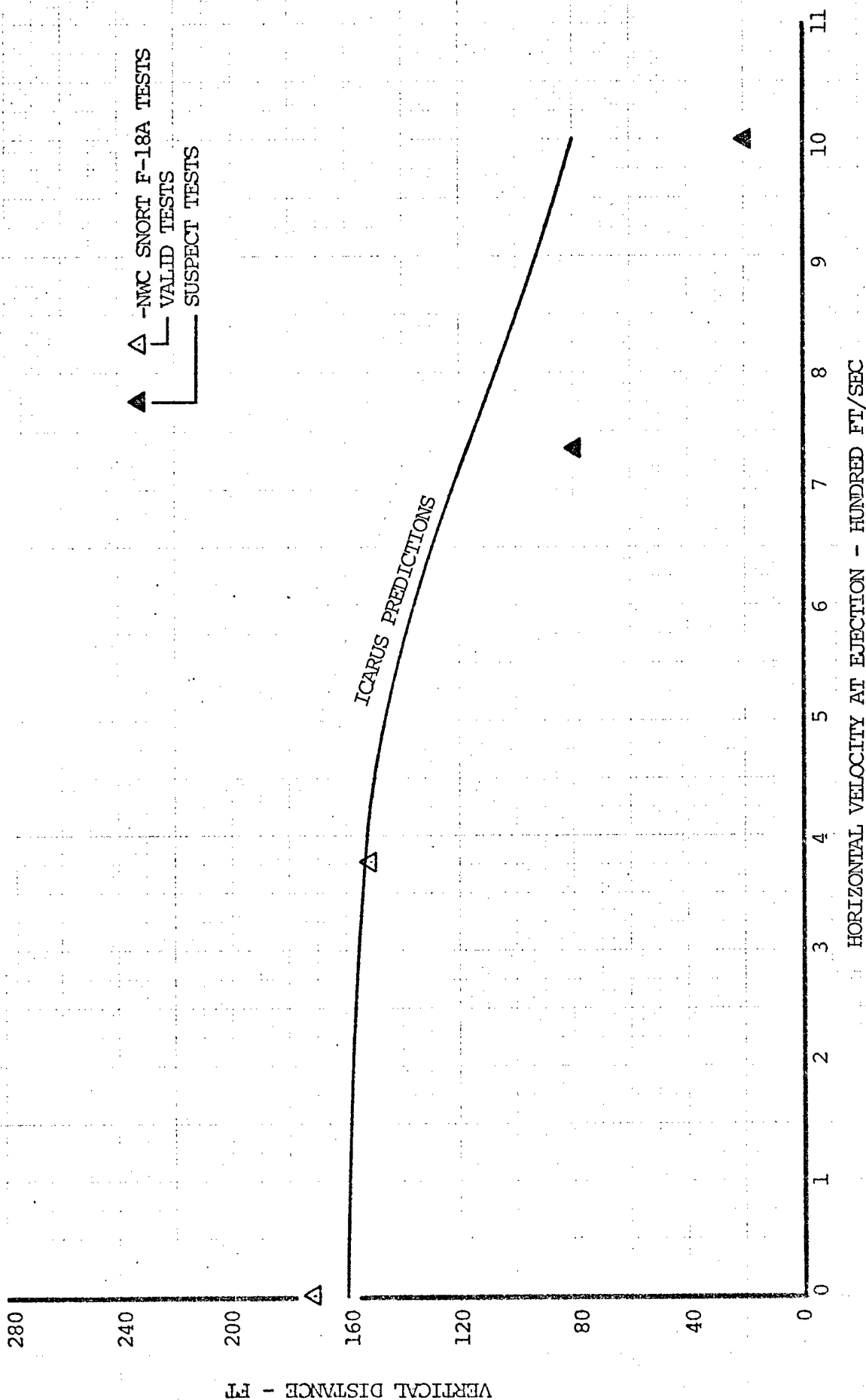
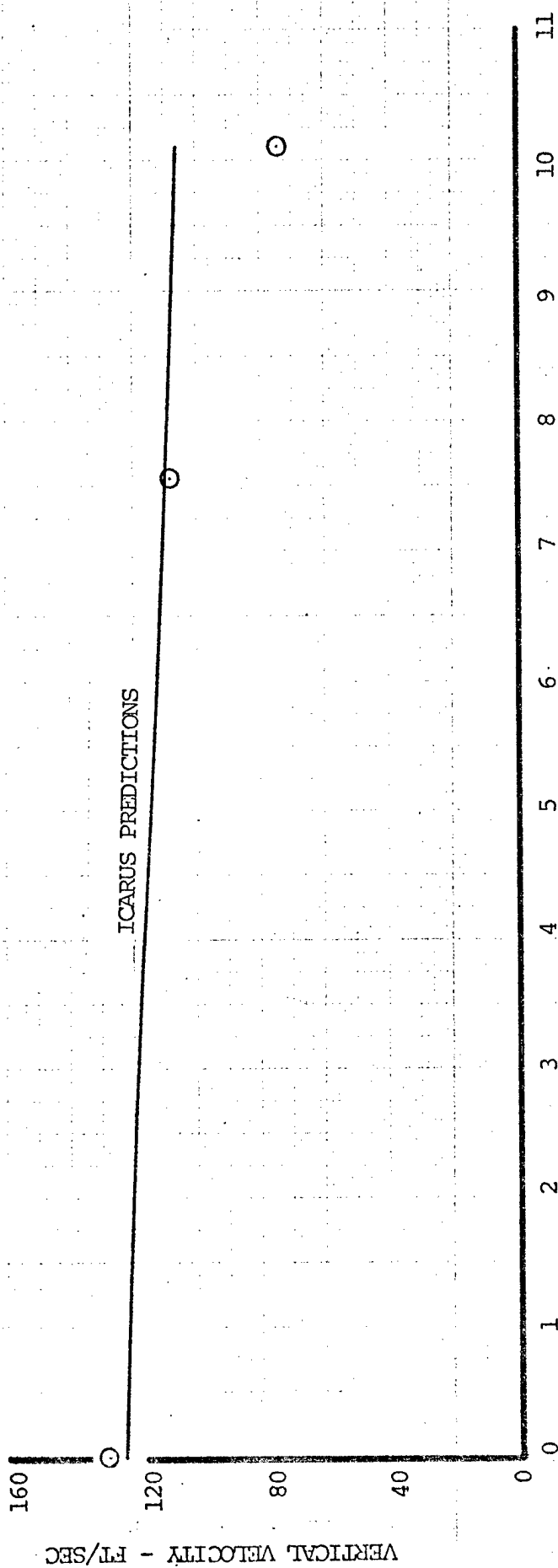


FIGURE F-56

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 ROCKET IGNITION
 3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

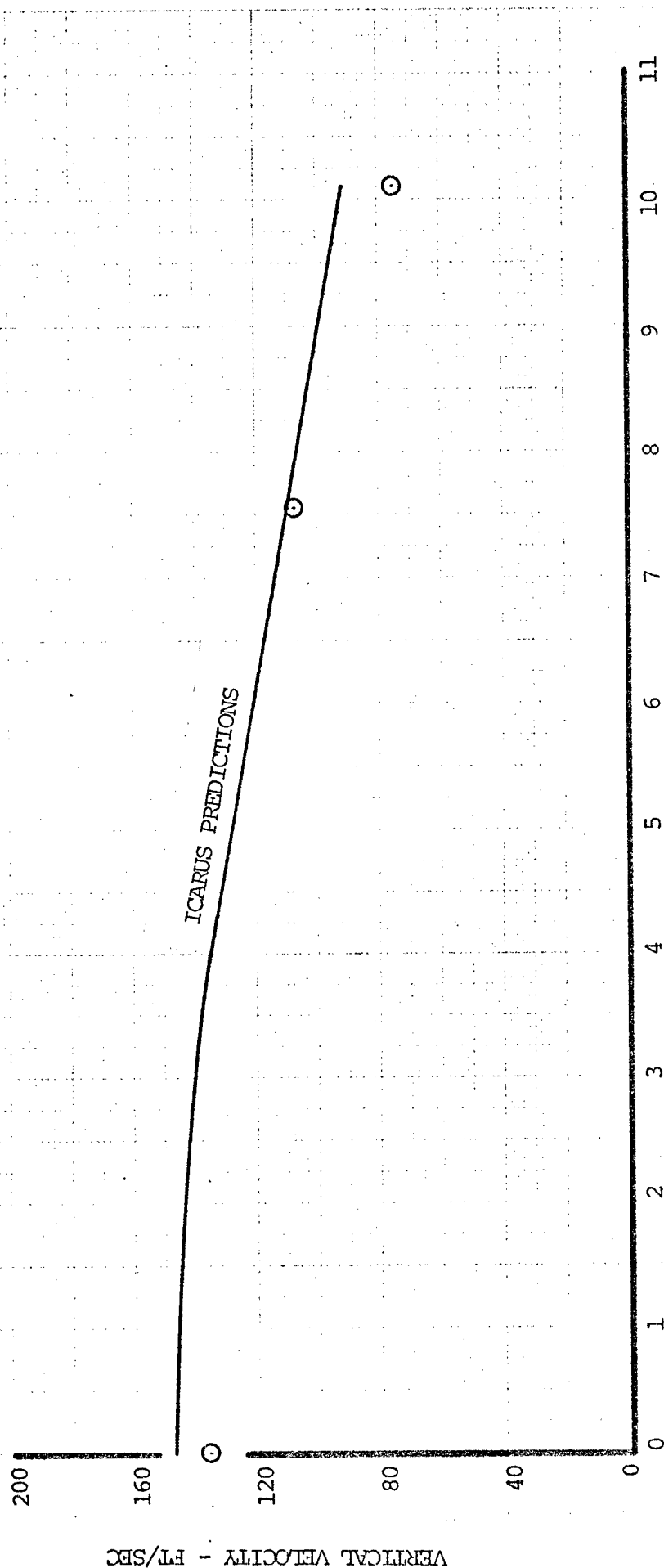


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-57

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-58

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE GUN FIRE
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

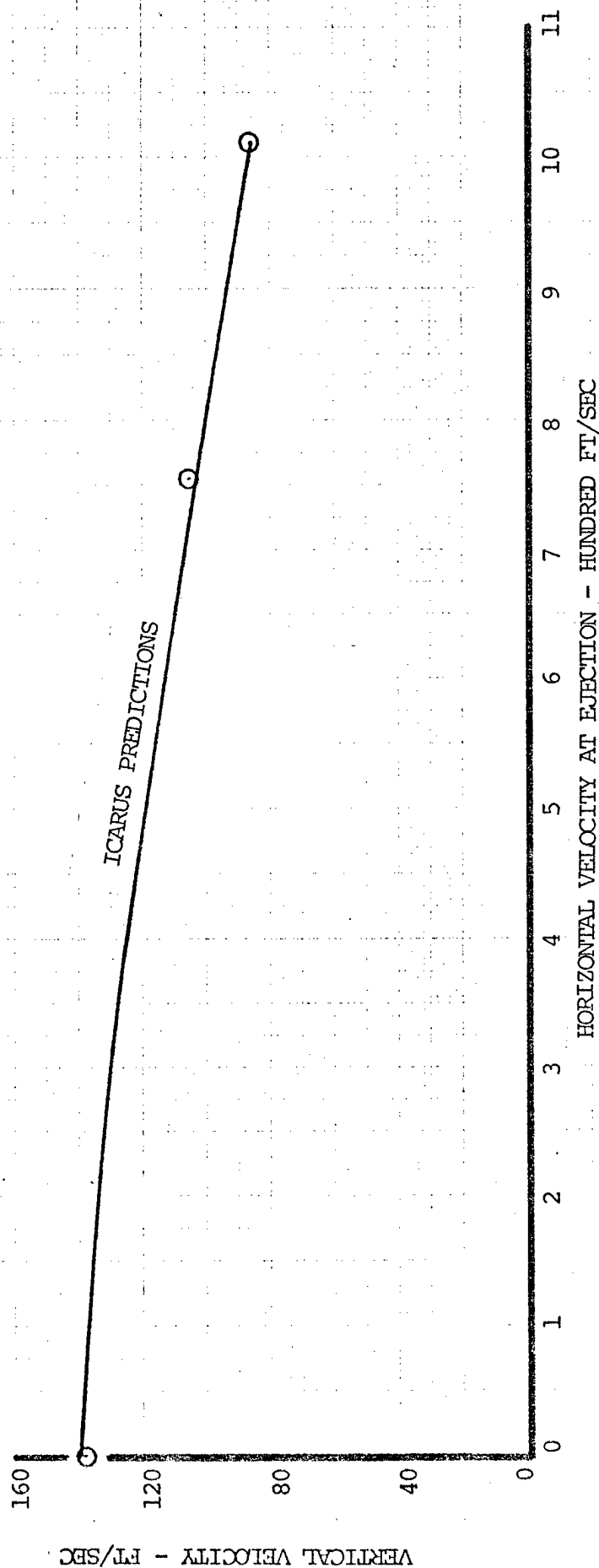


FIGURE F-59

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY

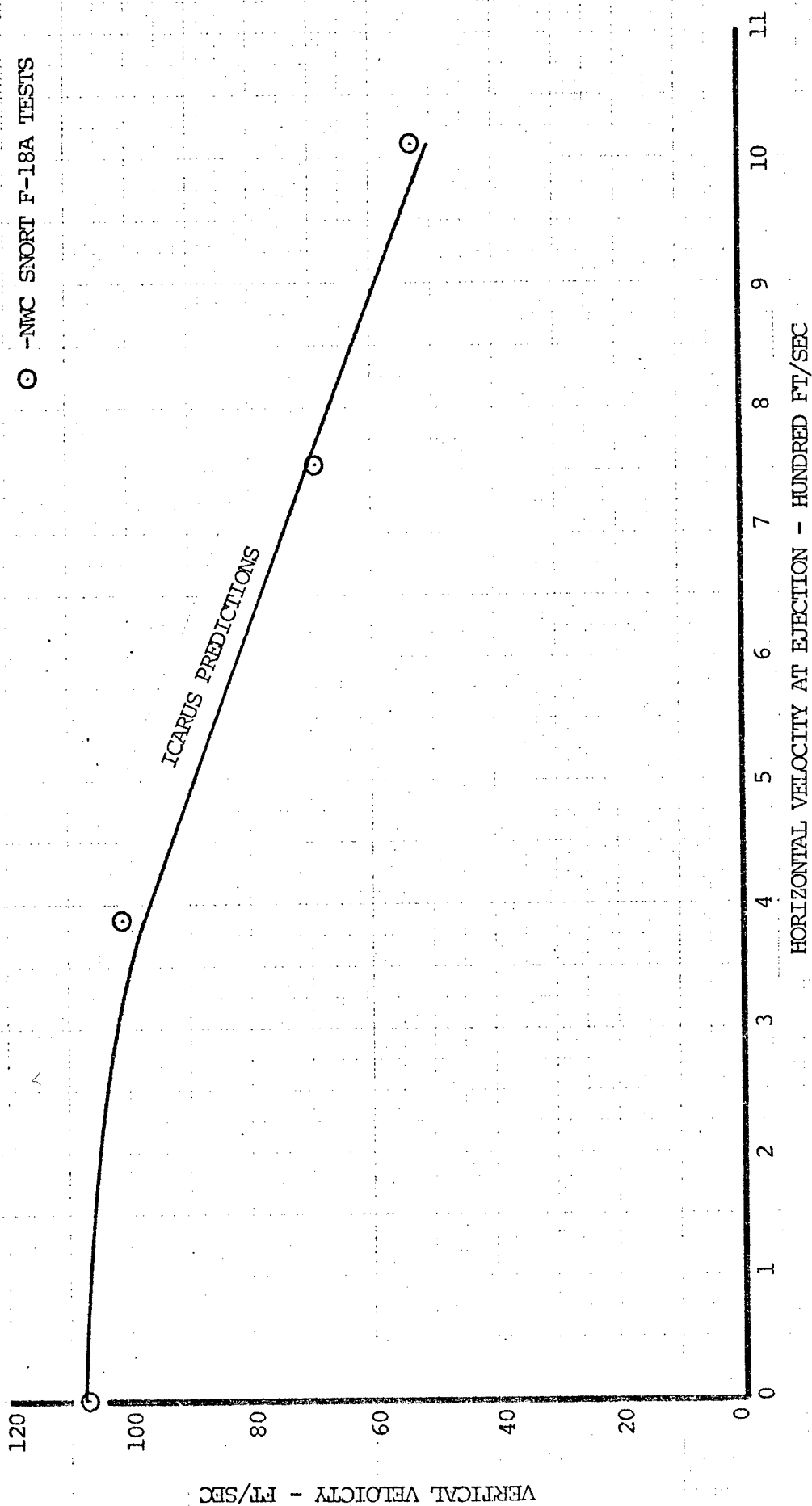


FIGURE F-60

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE PACK OPENING
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

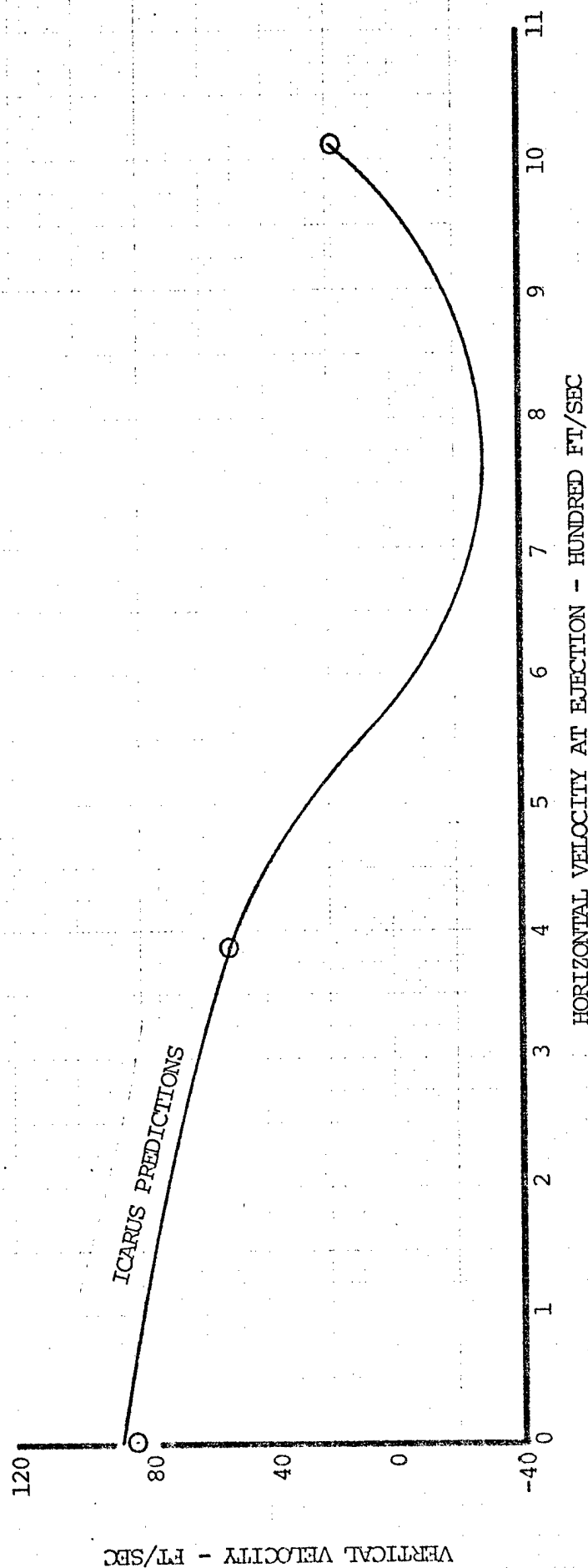


FIGURE F-61

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

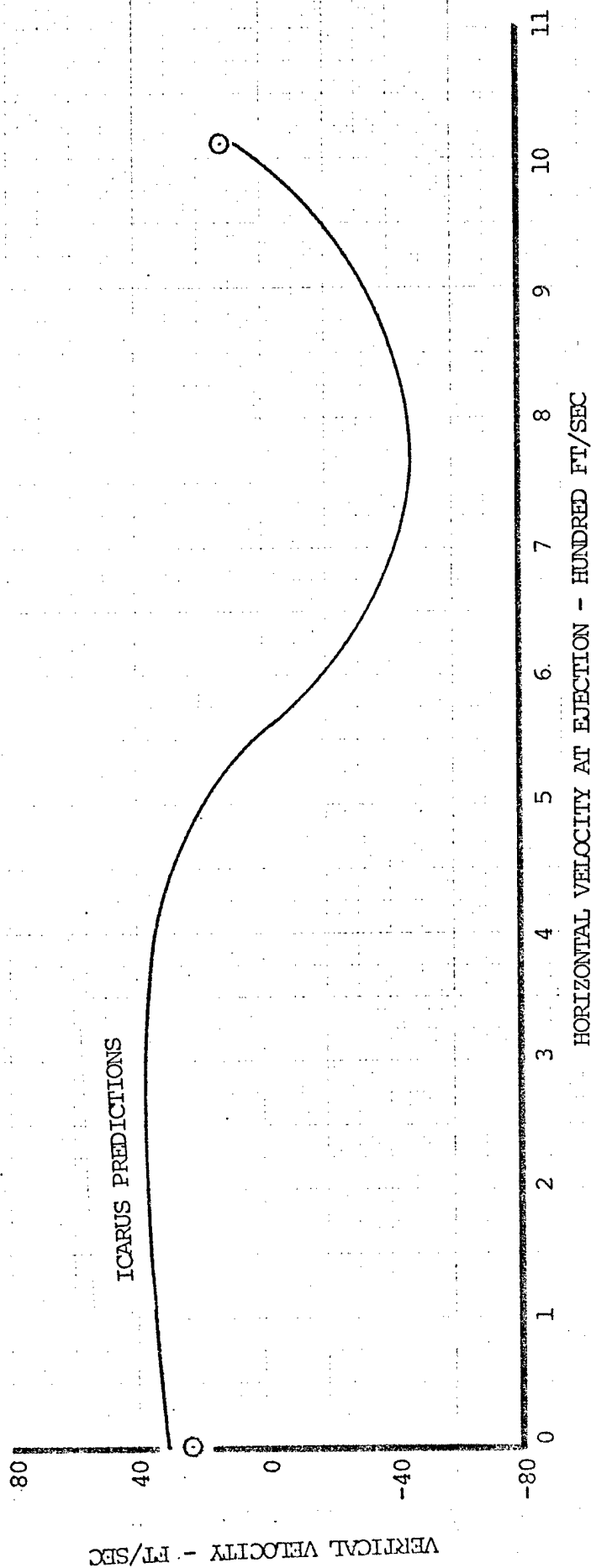
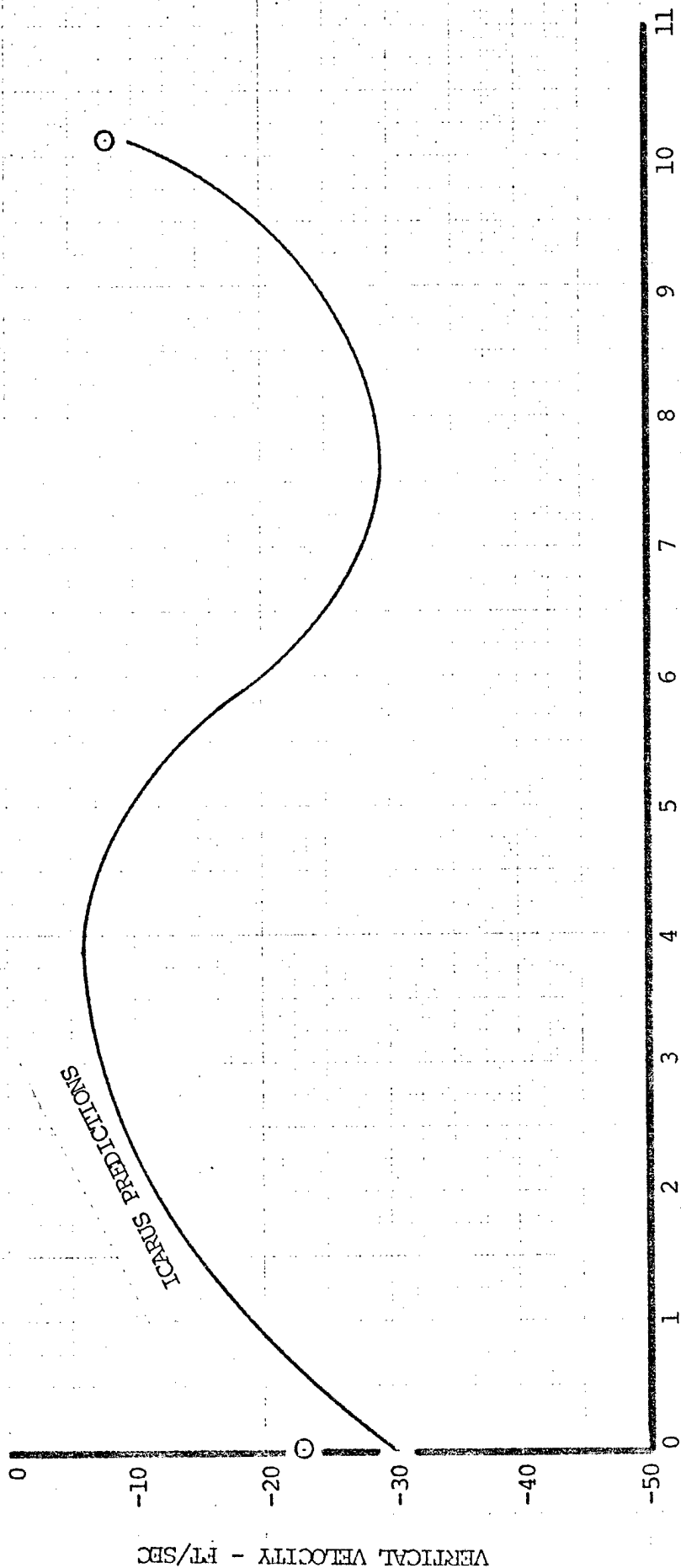


FIGURE F-62

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-63

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET IGNITION
98 PERCENTILE DUMMY

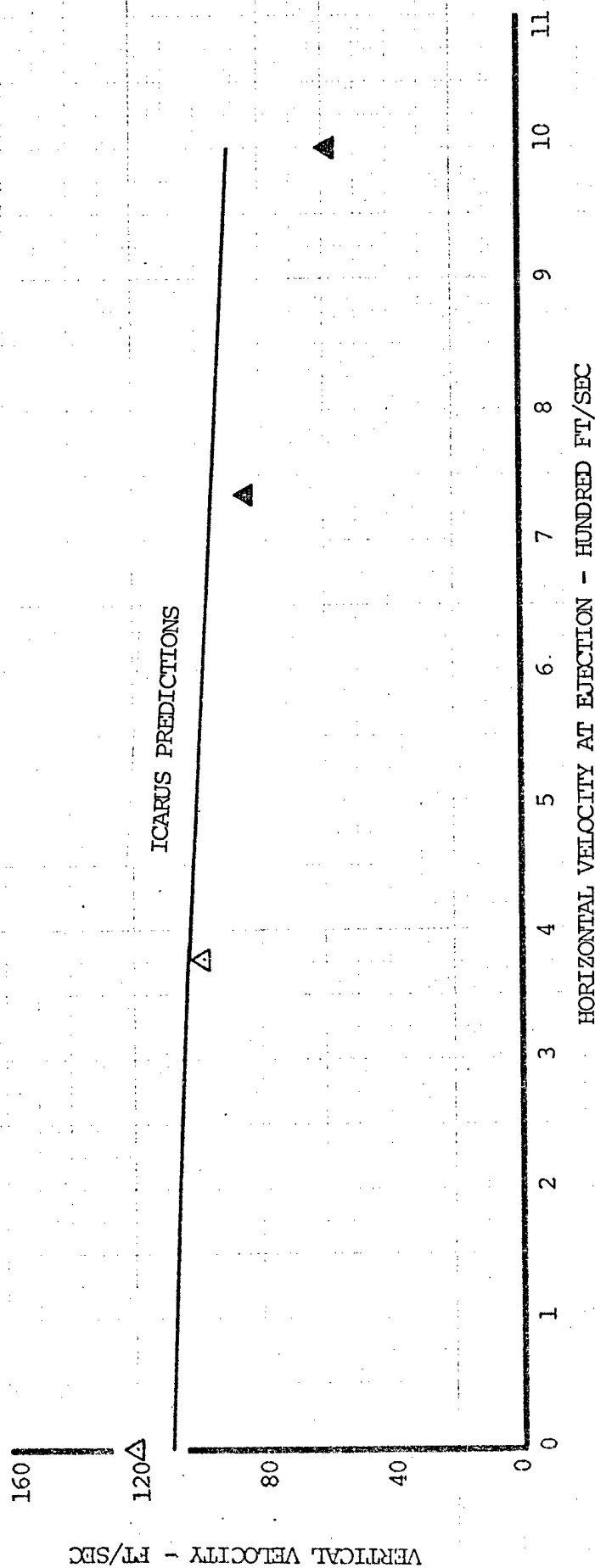
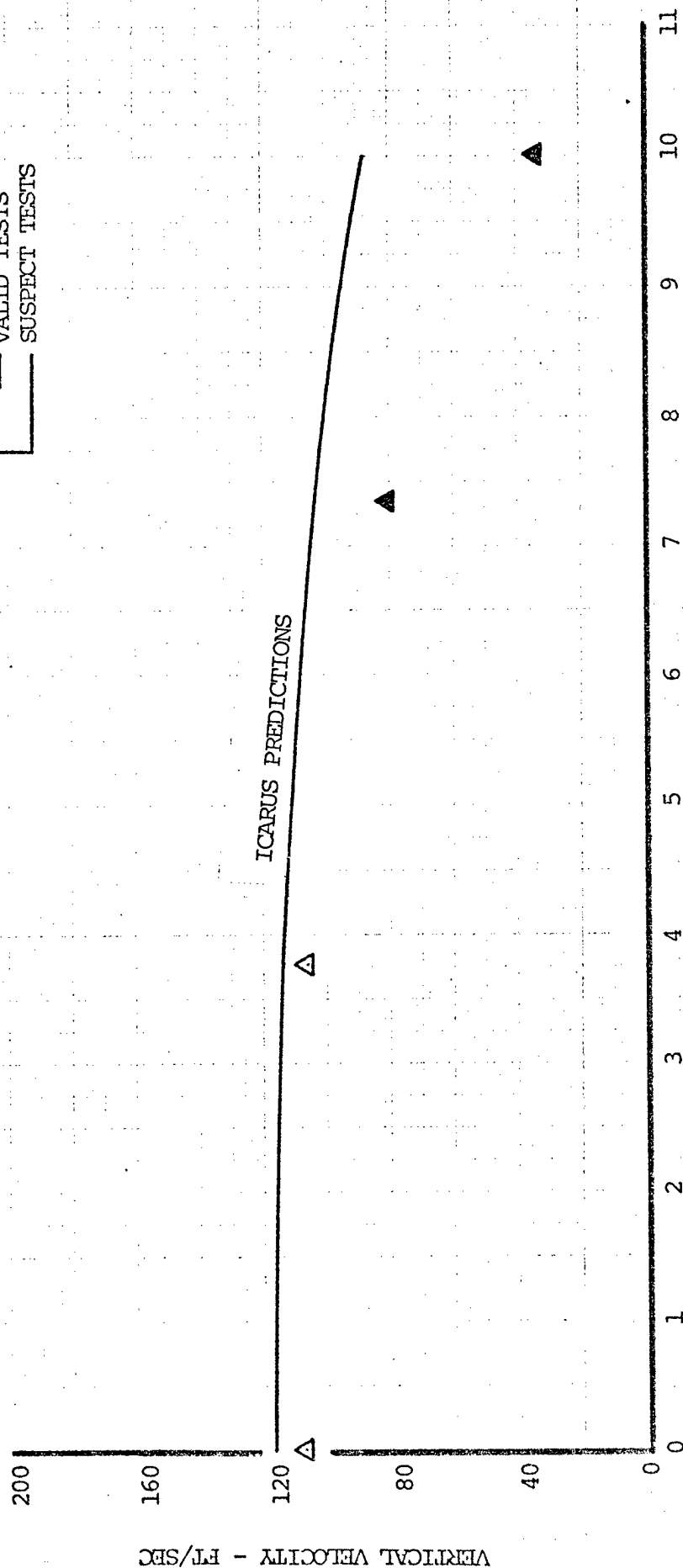


FIGURE F-64

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 ROCKET BURNOUT
 98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
 ▲ -VALID TESTS
 ▲ -SUSPECT TESTS

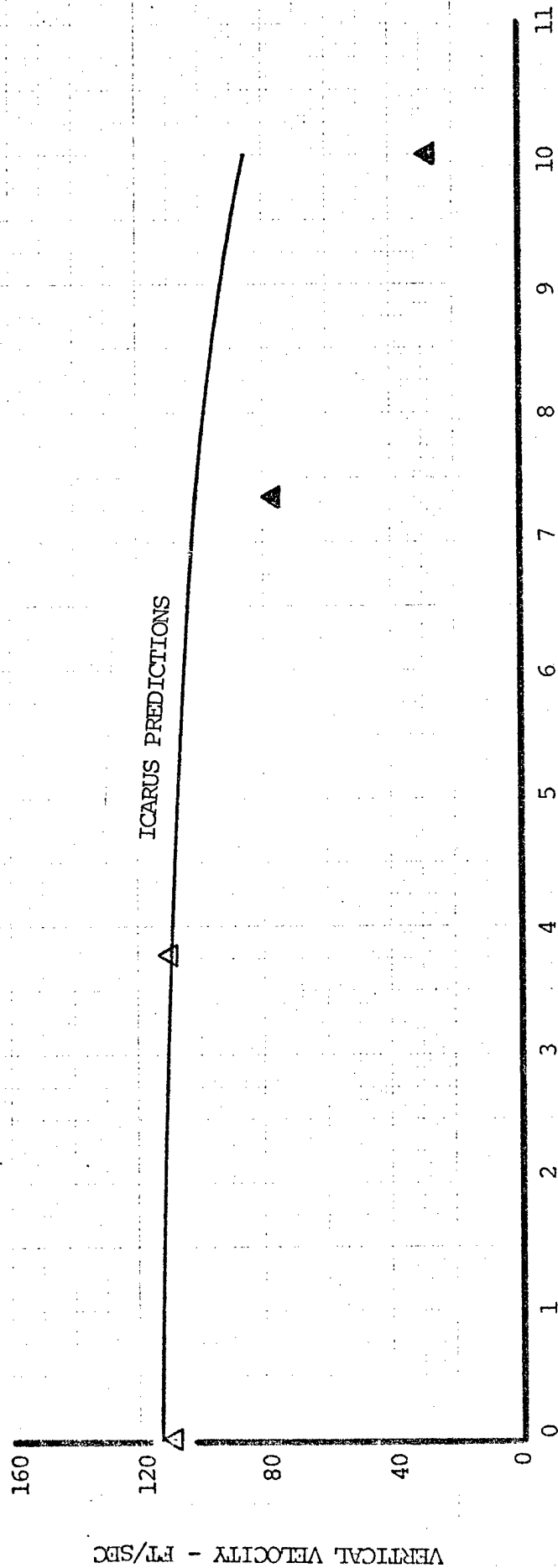


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-65

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE GUN FIRE
 98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
 — VALID TESTS
 — SUSPECT TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

ICARUS PREDICTIONS

FIGURE F-66

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY

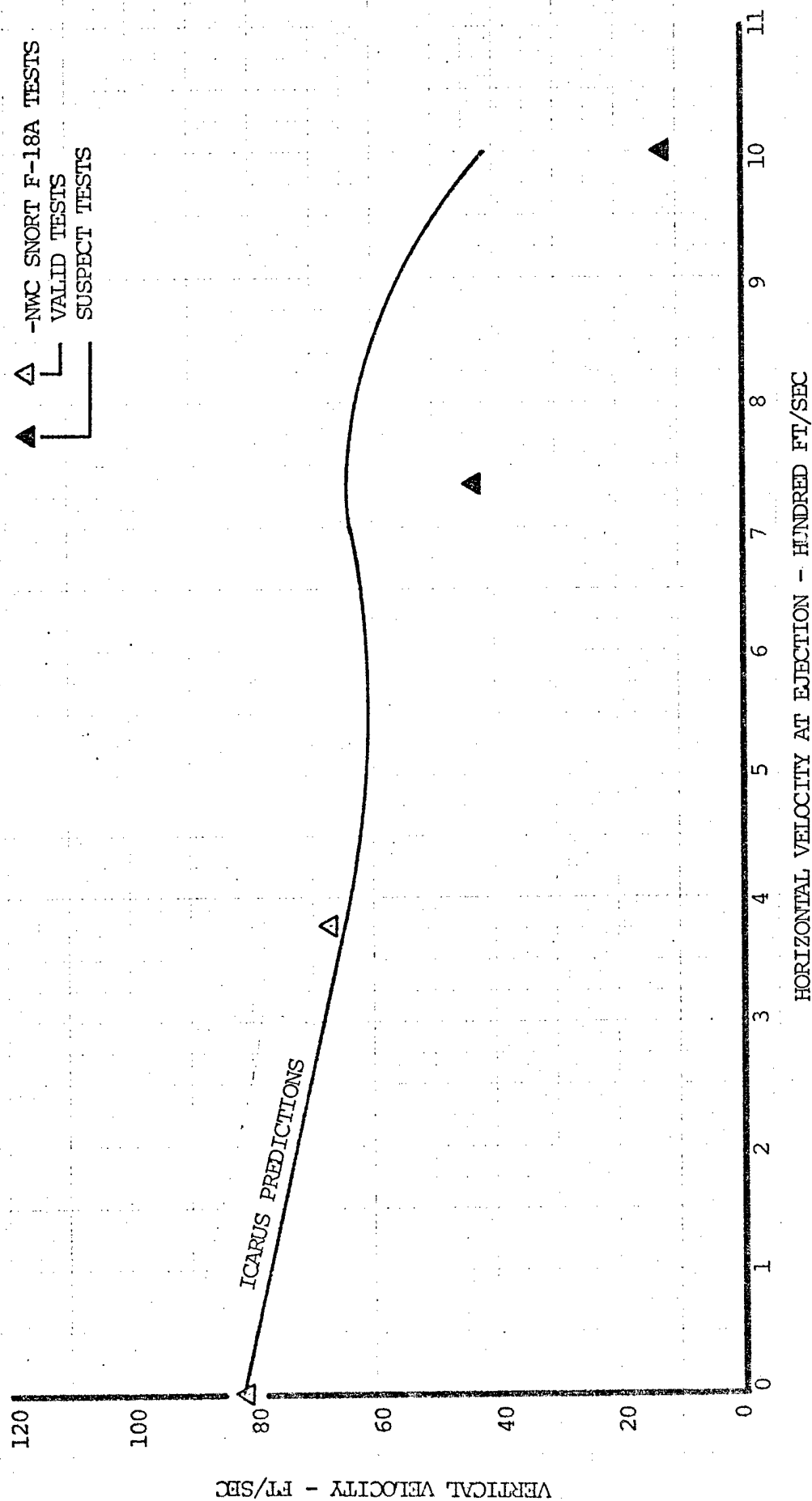


FIGURE F-67

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE PACK OPENING
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

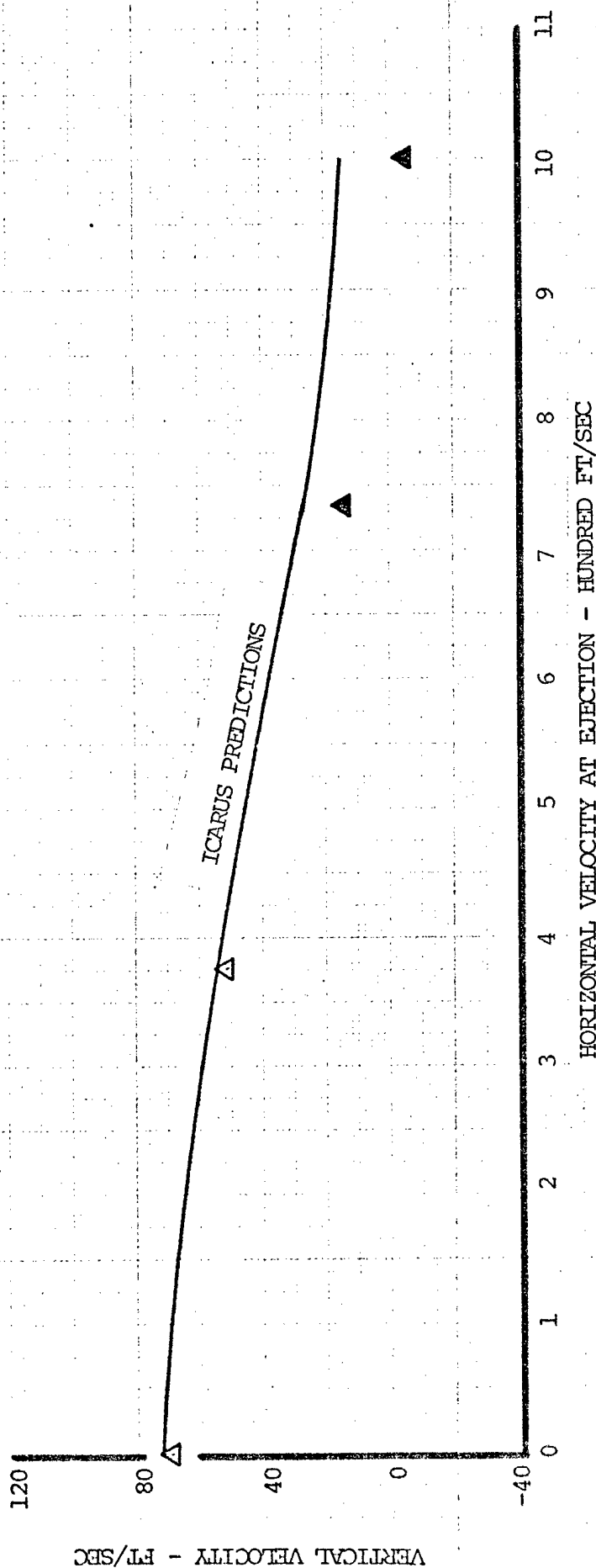


FIGURE F-68

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

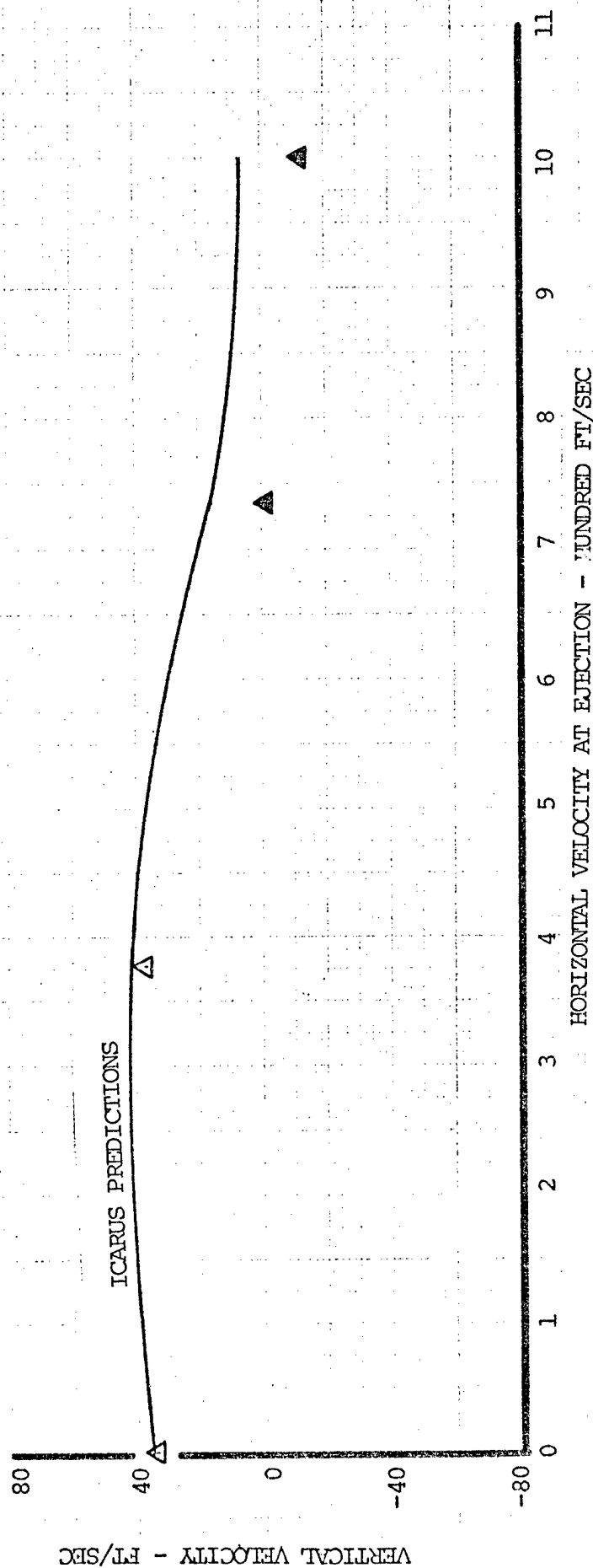


FIGURE F-69

ICARUS PROGRAM VALIDATION TESTS
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
▲ VALID TESTS
▲ SUSPECT TESTS

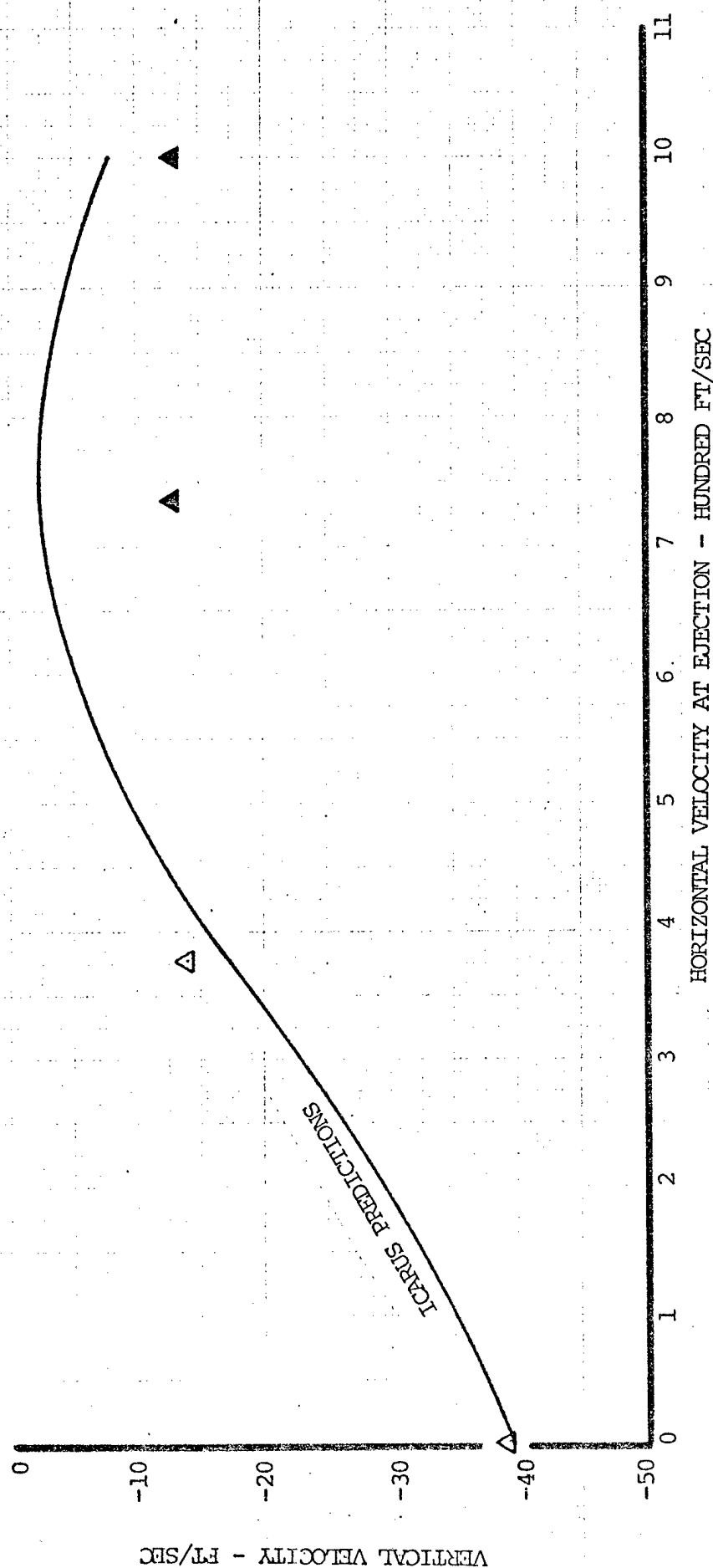
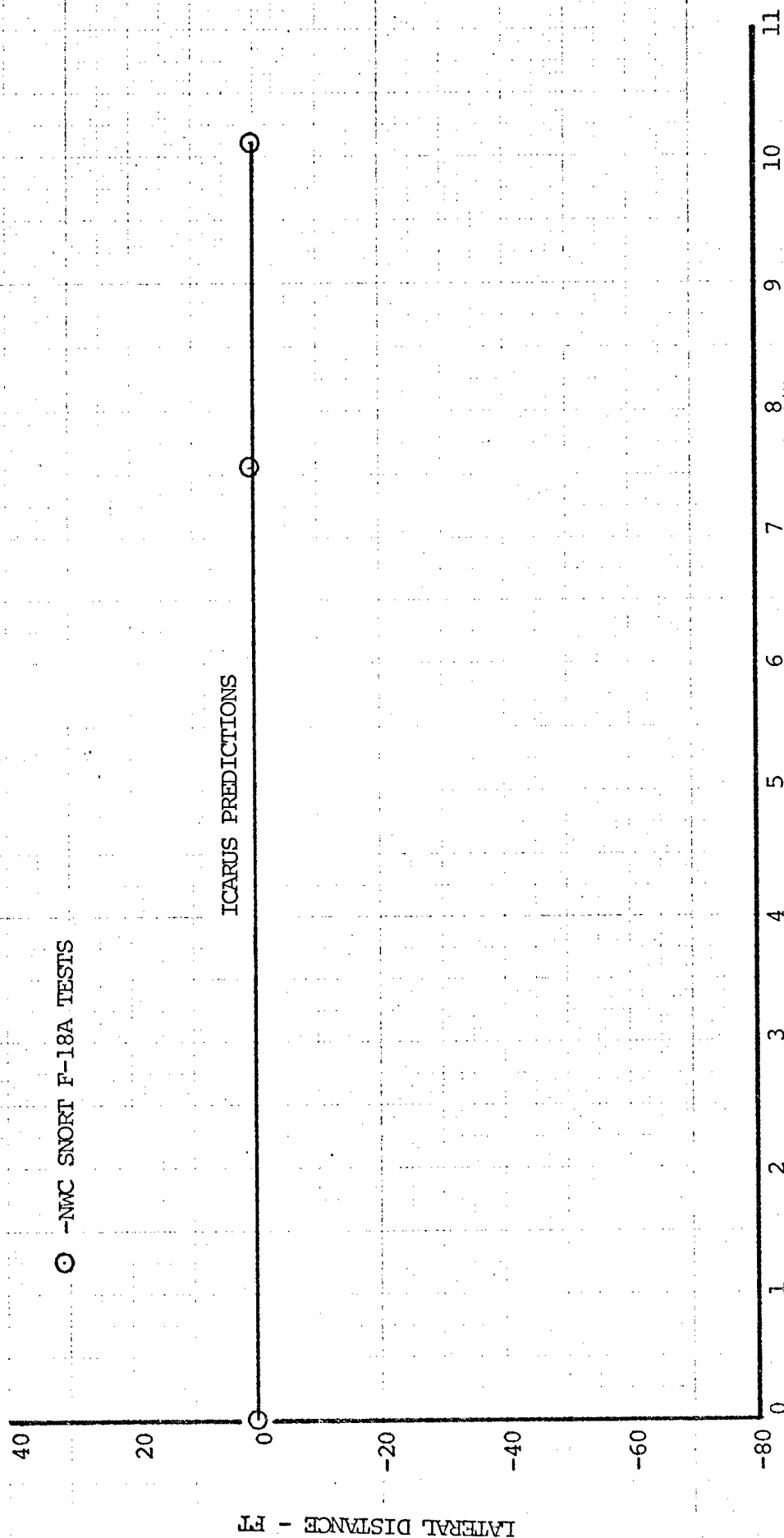


FIGURE F-70

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET IGNITION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

ICARUS PREDICTIONS

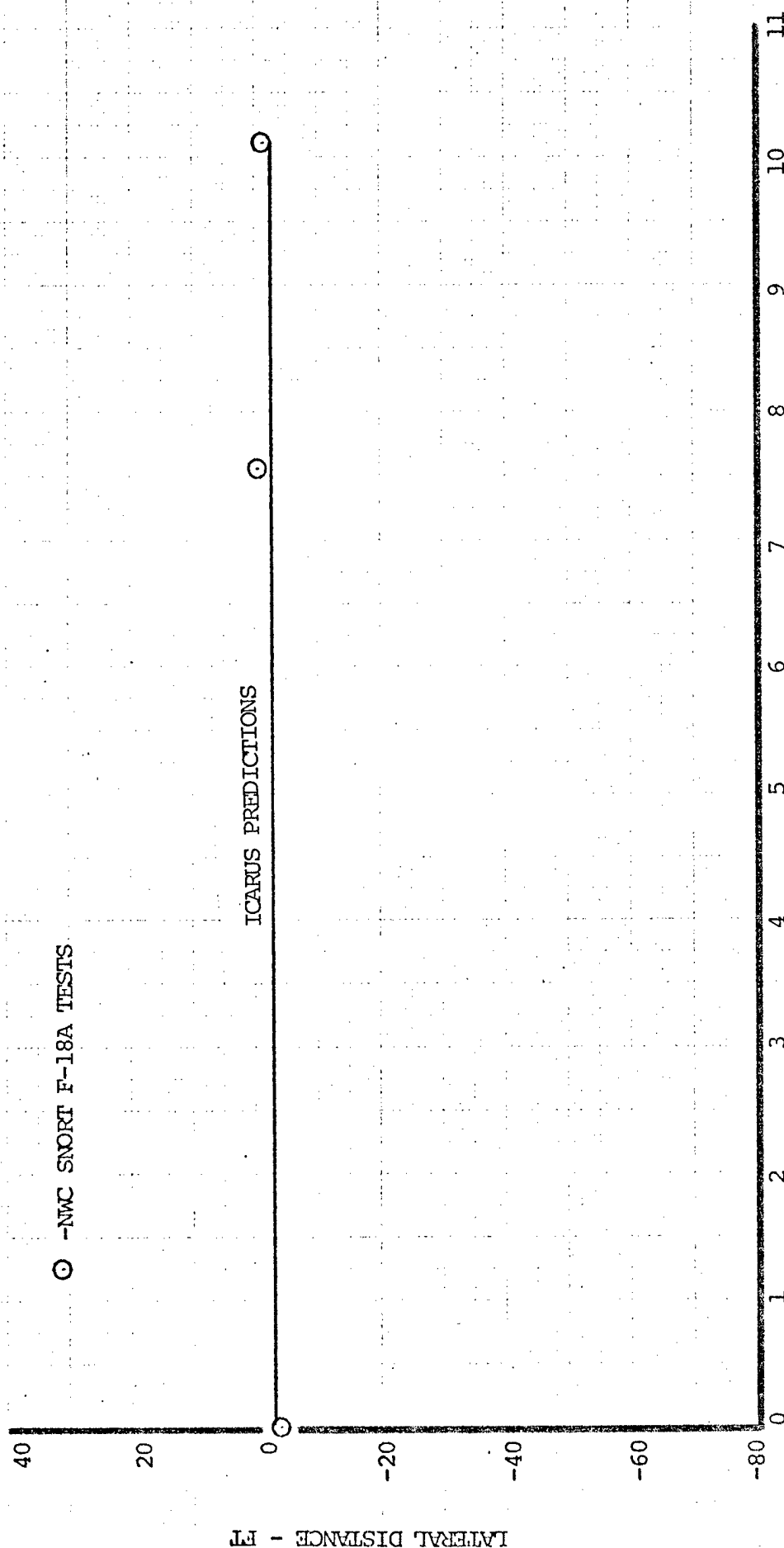


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-71

LATERAL DISTANCE - FT

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
3 PERCENTILE DUMMY

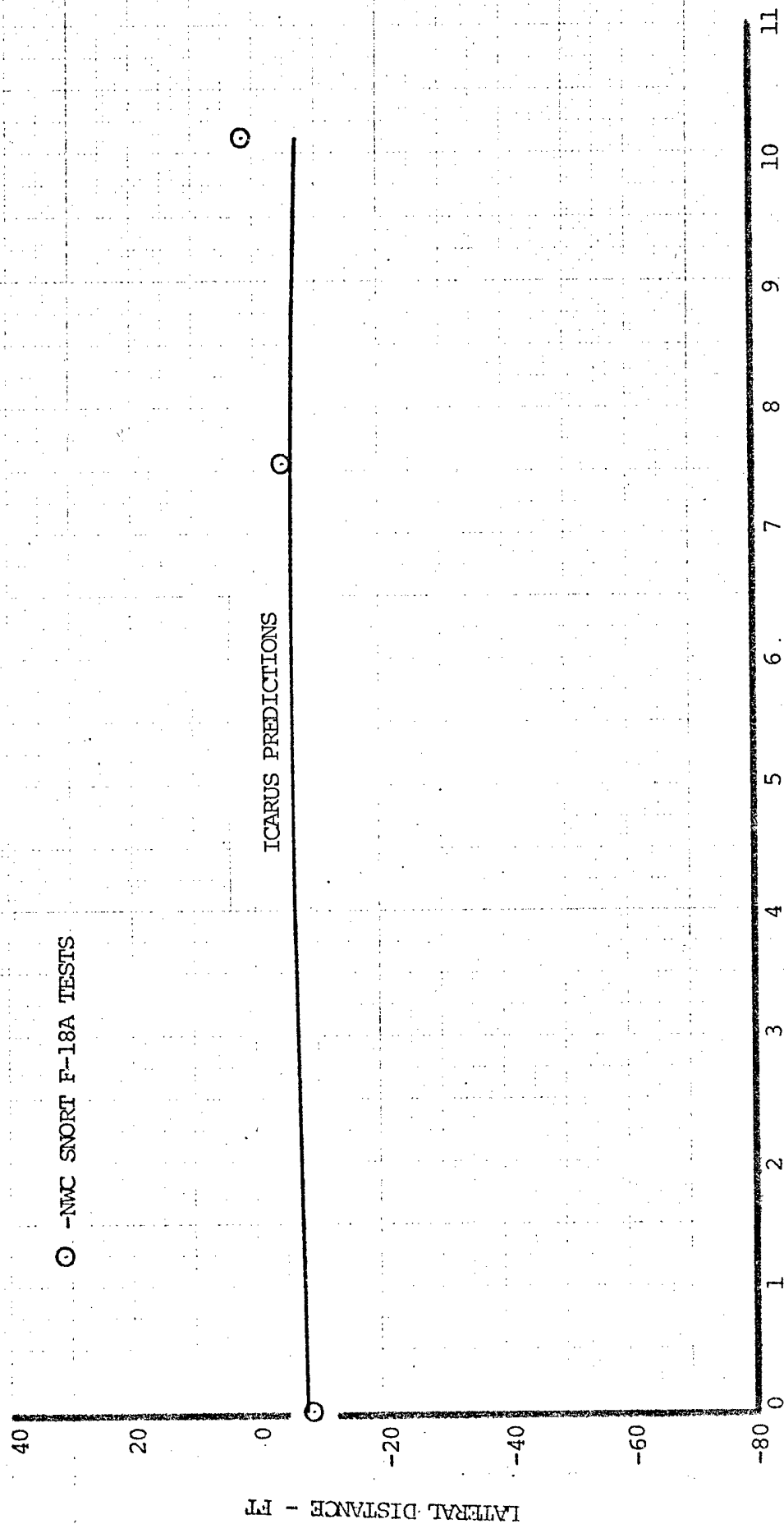


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-72

LATERAL DISTANCE - FT

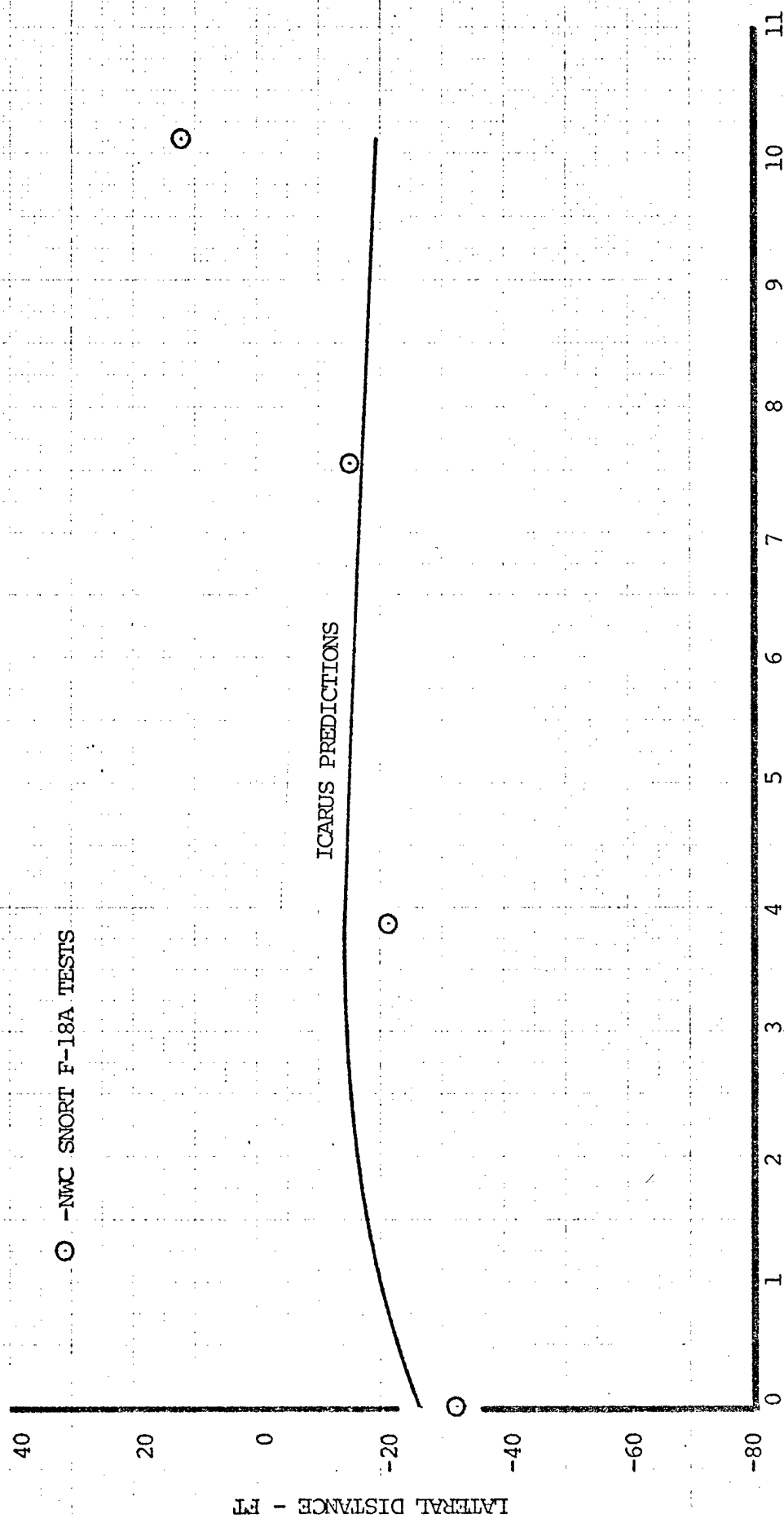
ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE GUN FIRE
3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-73

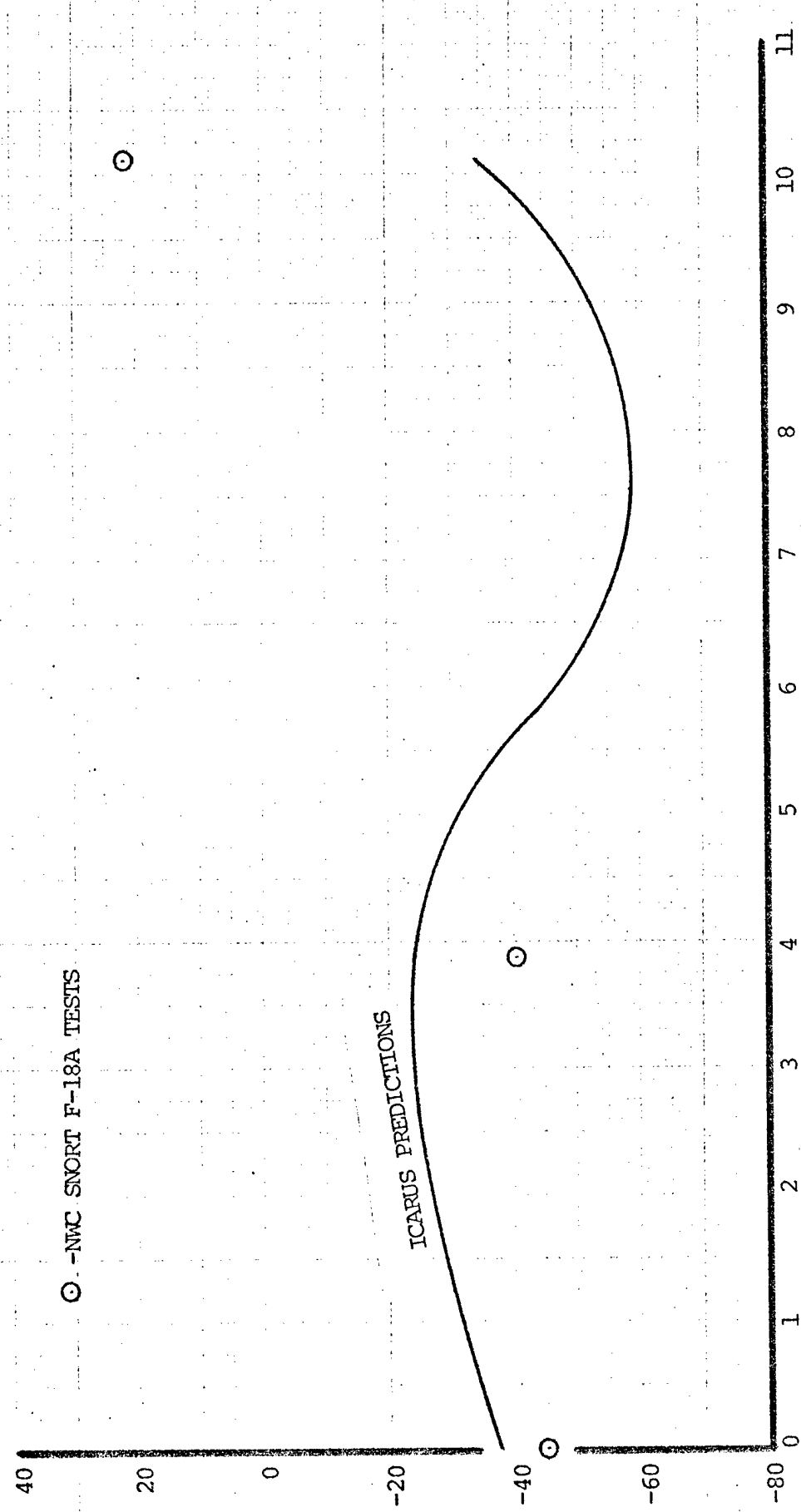
ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-74

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 MAIN PARACHUTE PACK OPENING
 3 PERCENTILE DUMMY



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-75

LATERAL DISTANCE - FT

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

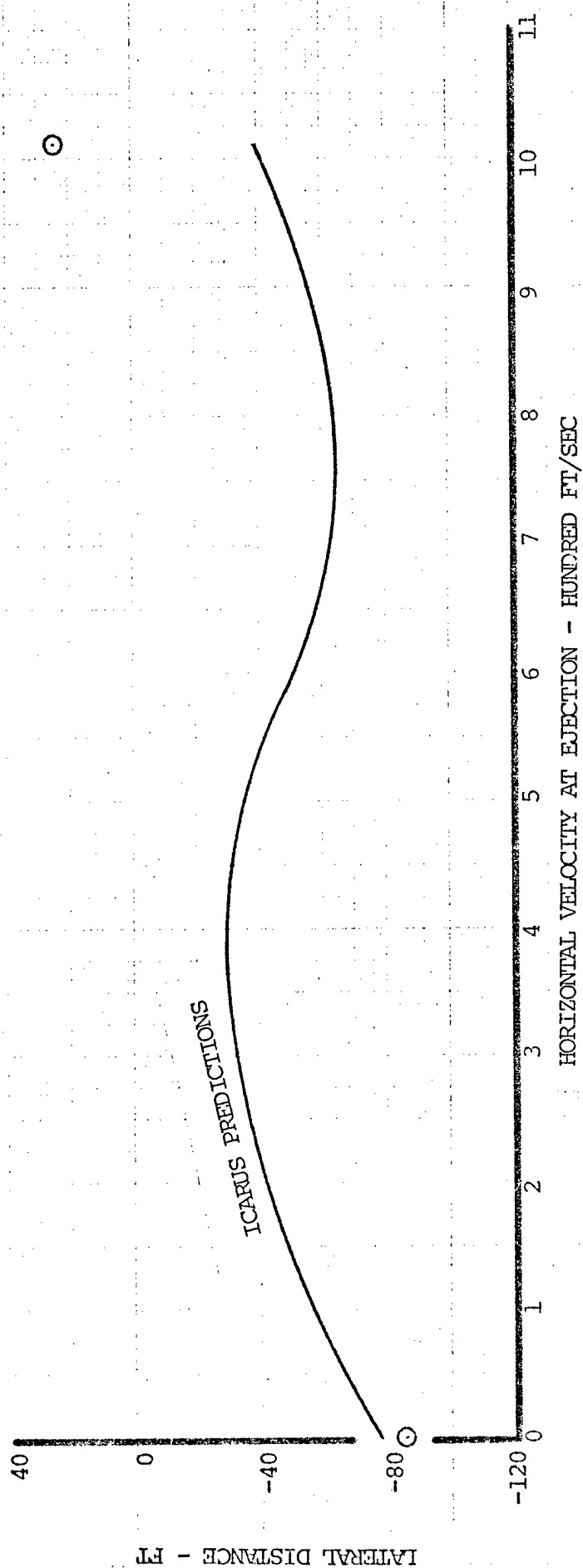


FIGURE F-76

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

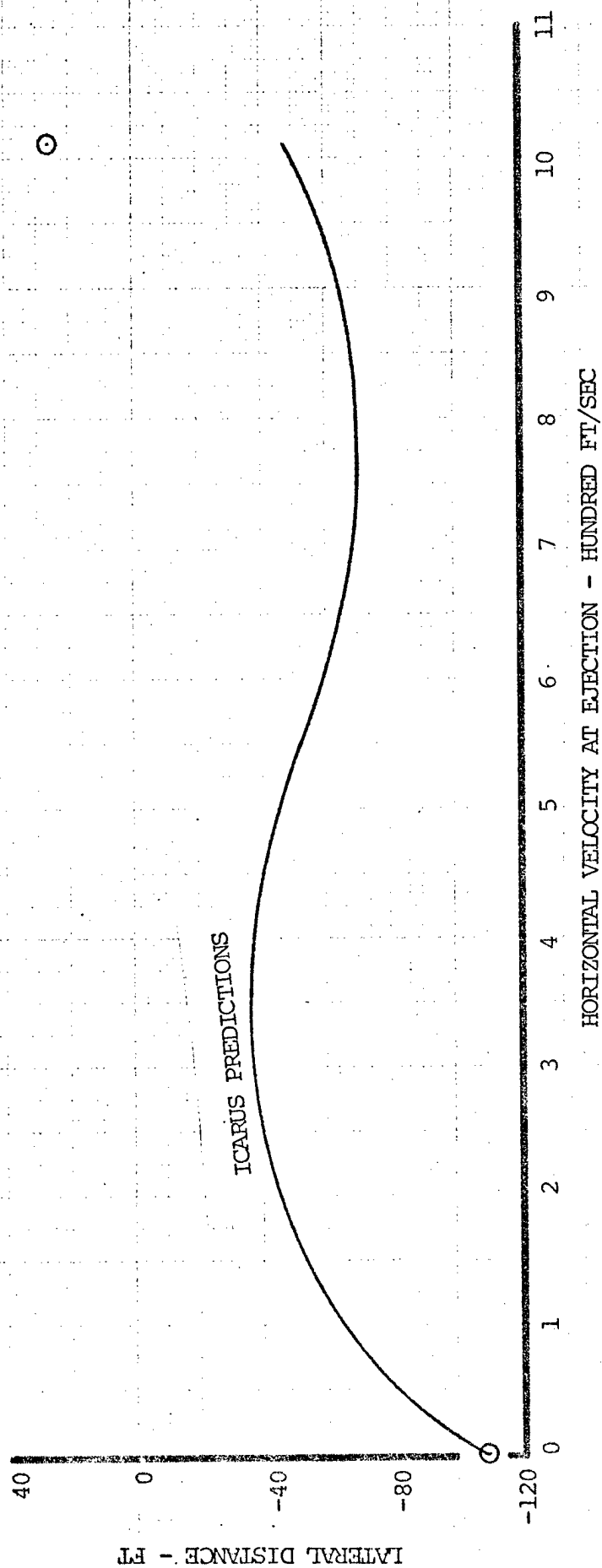


FIGURE F-77

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 ROCKET IGNITION
 98 PERCENTILE DUMMY

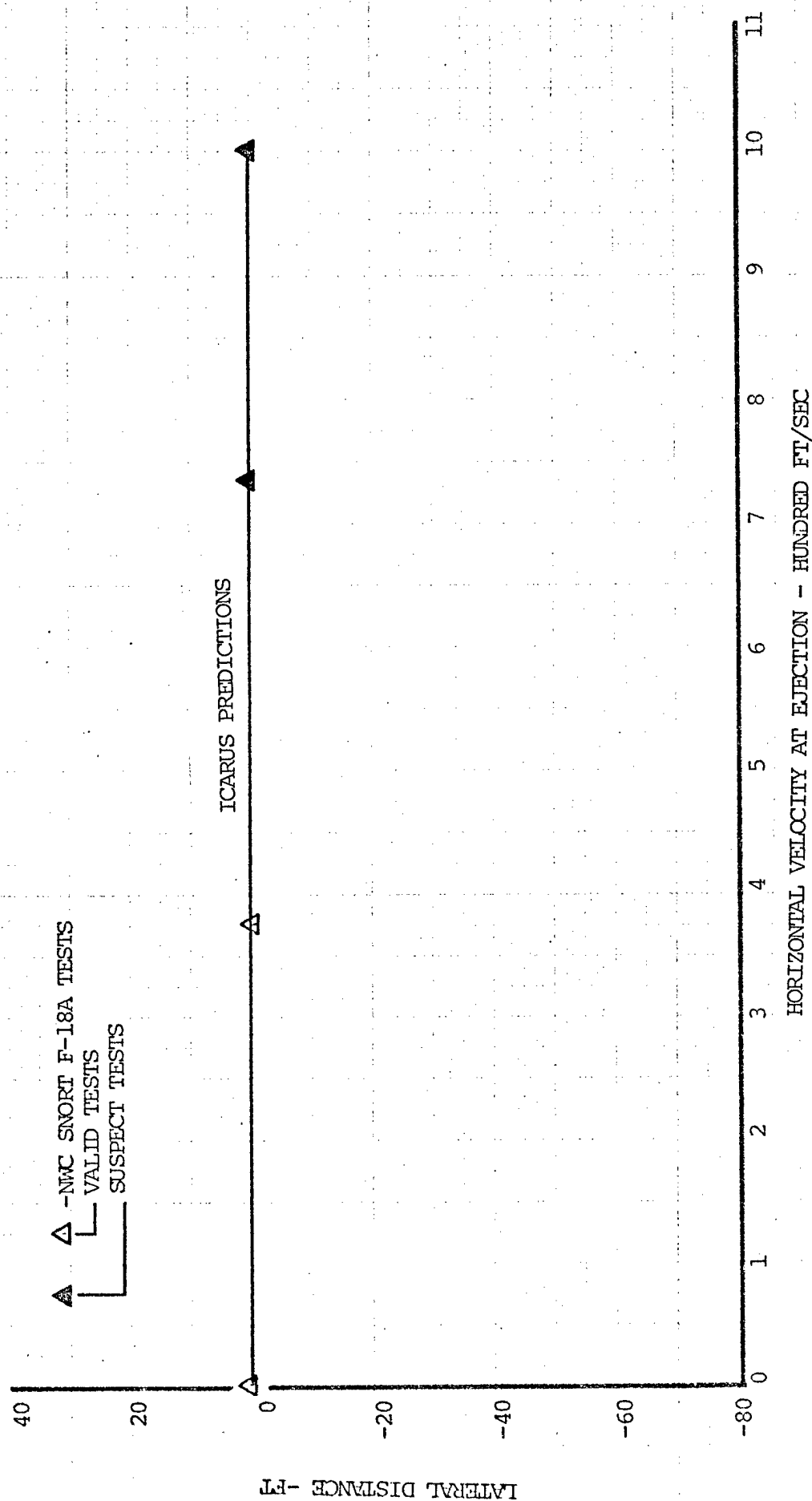


FIGURE F-78

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

LATERAL DISTANCE - FT

ICARUS PREDICTIONS

HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-79

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE GUN FIRE
 98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
 ▲ -VALID TESTS
 ▲ -SUSPECT TESTS

LATERAL DISTANCE - FT

ICARUS PREDICTIONS

HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-30

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 DROGUE PARACHUTE FULL INFLATION
 98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
 ▲ -VALID TESTS
 ▲ -SUSPECT TESTS

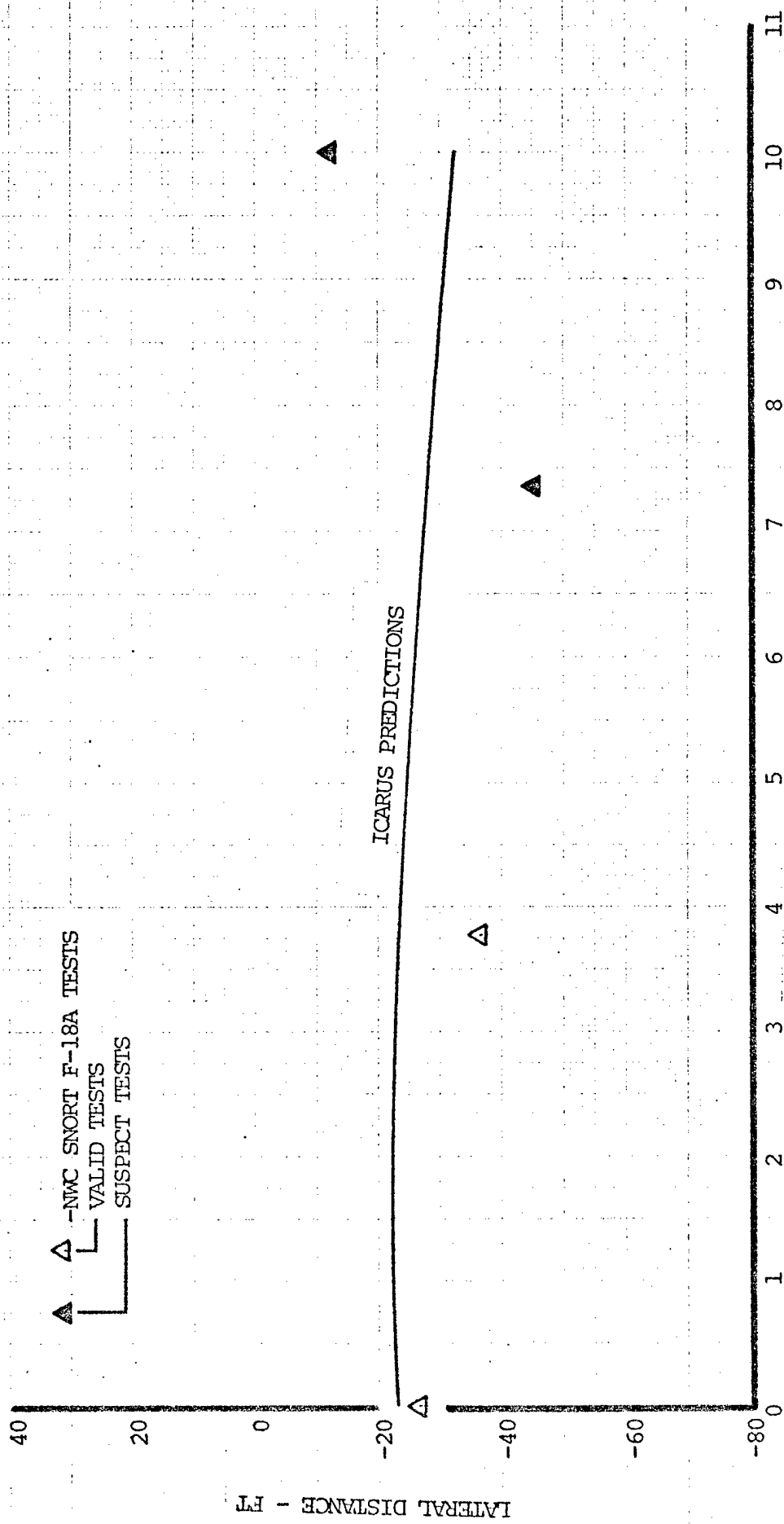
LATERAL DISTANCE - FT

ICARUS PREDICTIONS

HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-81

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL TEST DATA
 MAIN PARACHUTE PACK OPENING
 98 PERCENTILE DUMMY

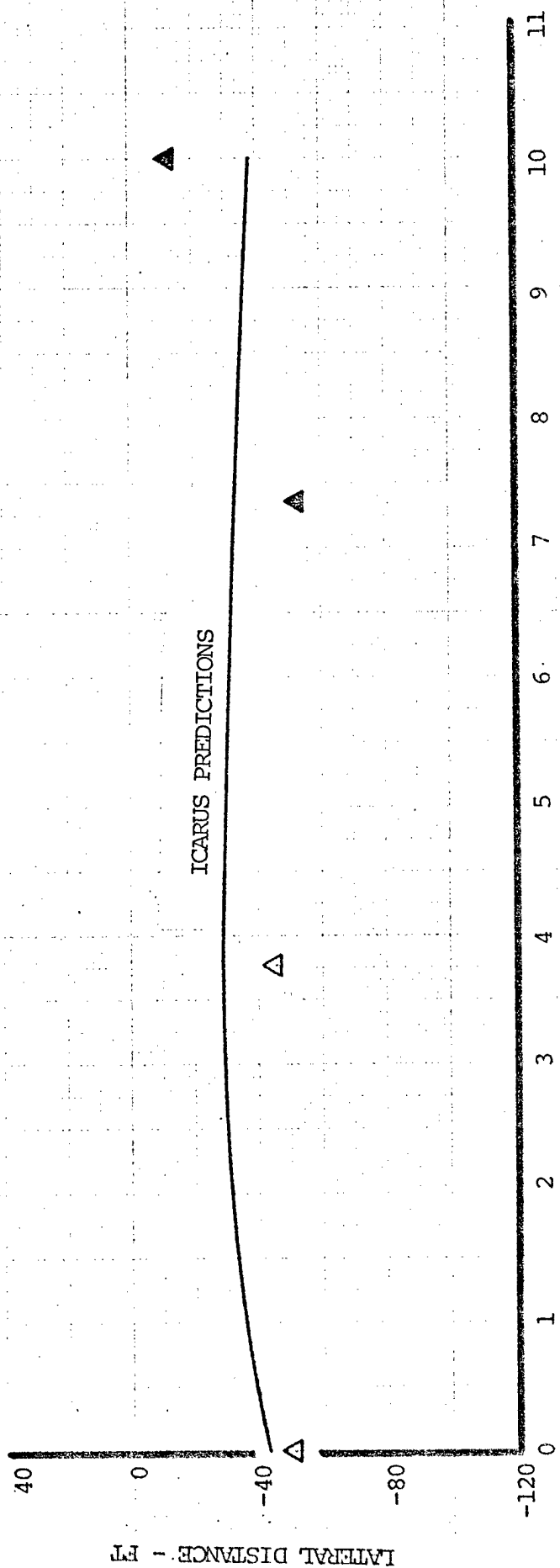


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-82

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
98 PERCENTILE DUMMY

△ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-83

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

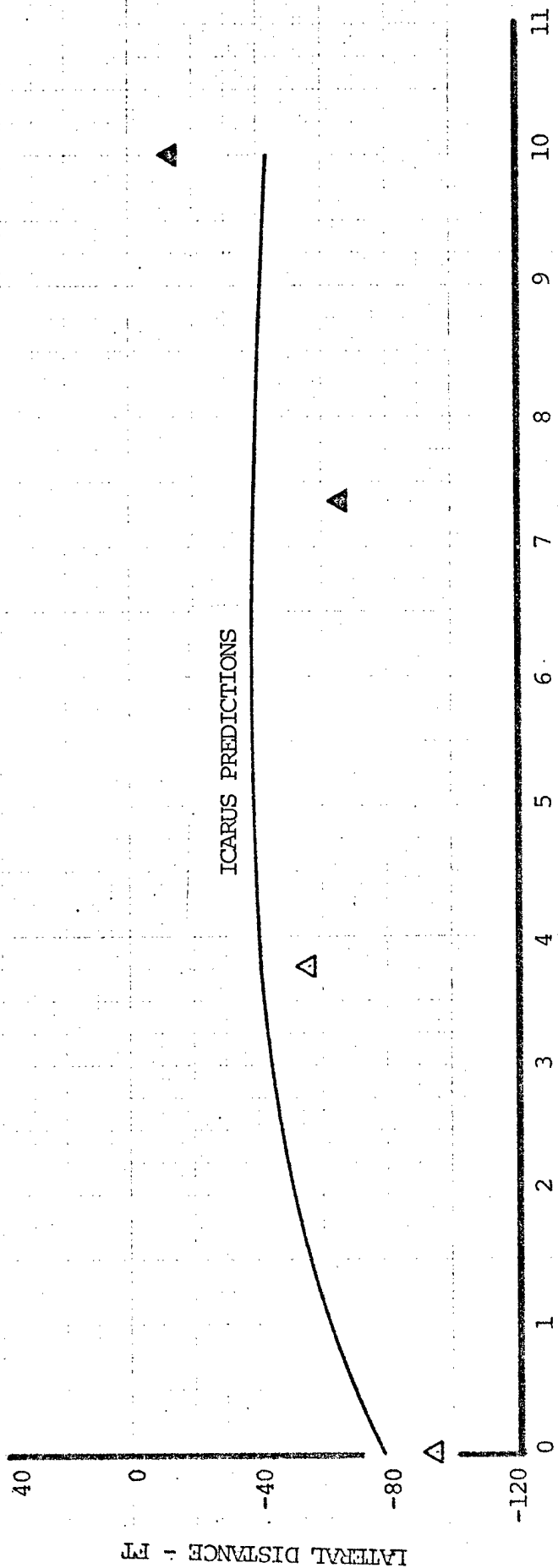


FIGURE F-84

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET IGNITION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

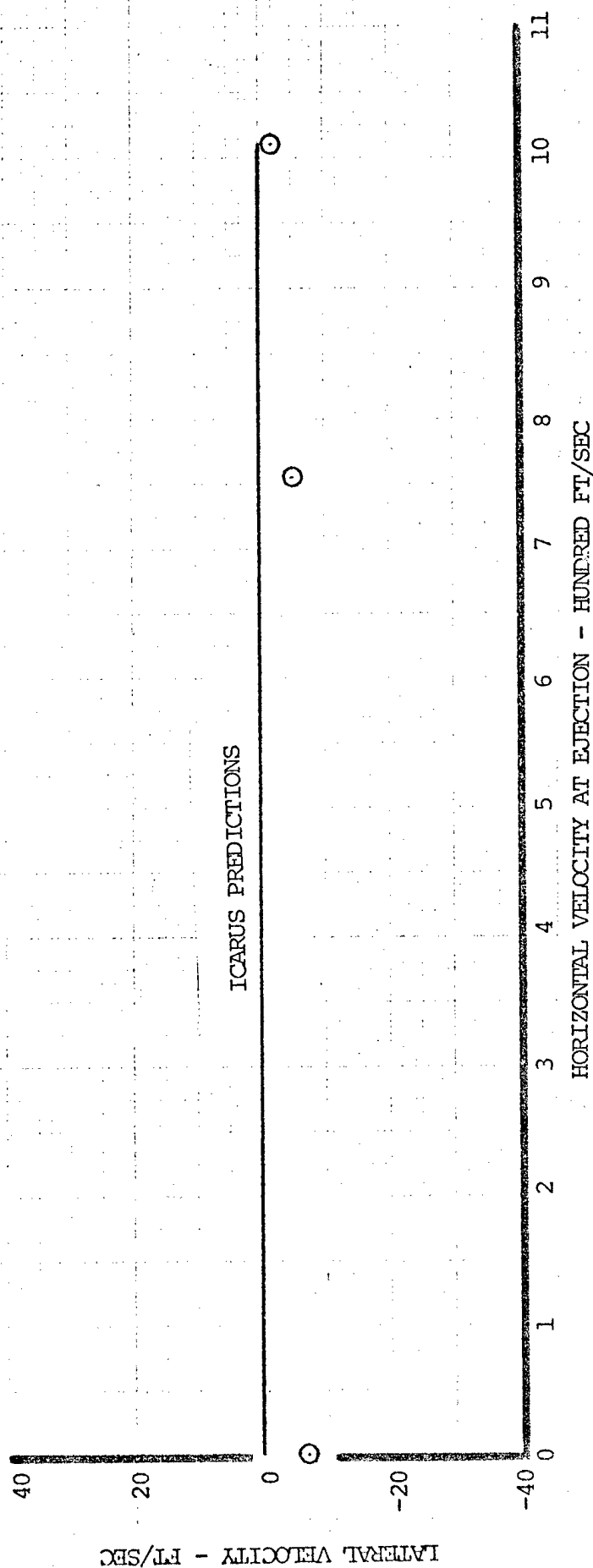


FIGURE F-85

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

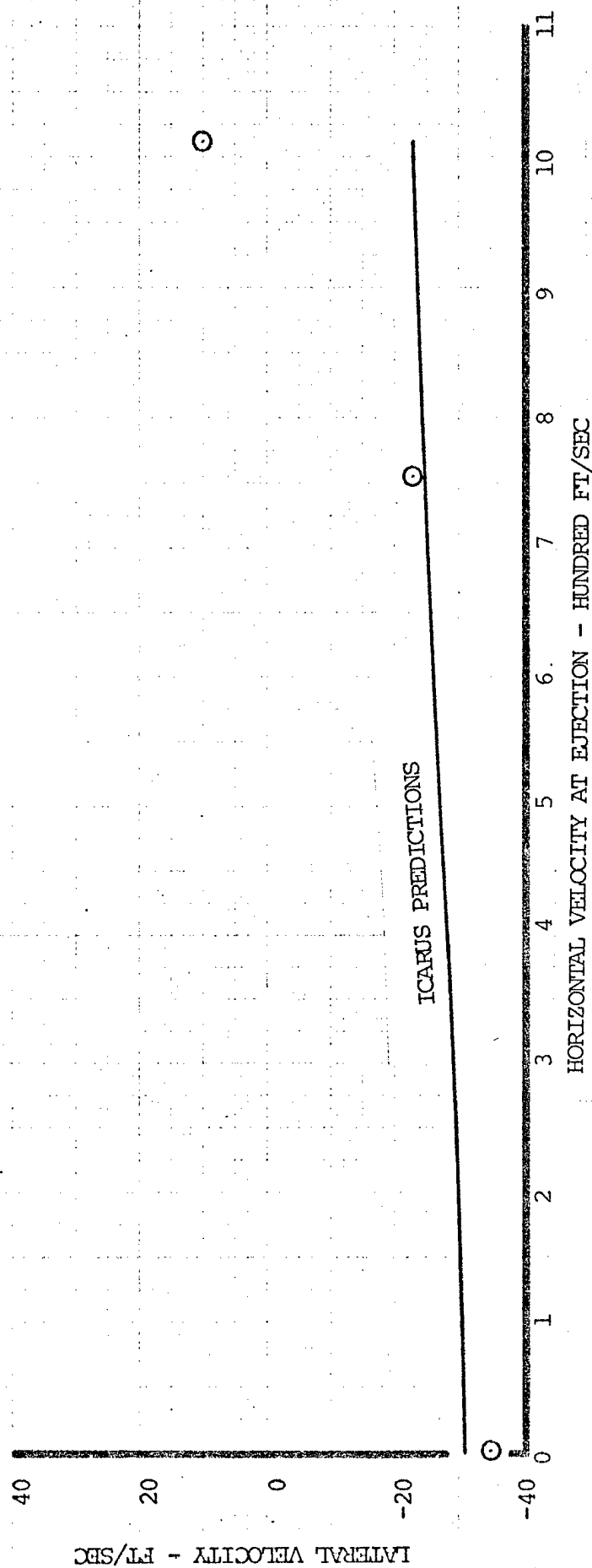


FIGURE F-86

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE GUN FIRE
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

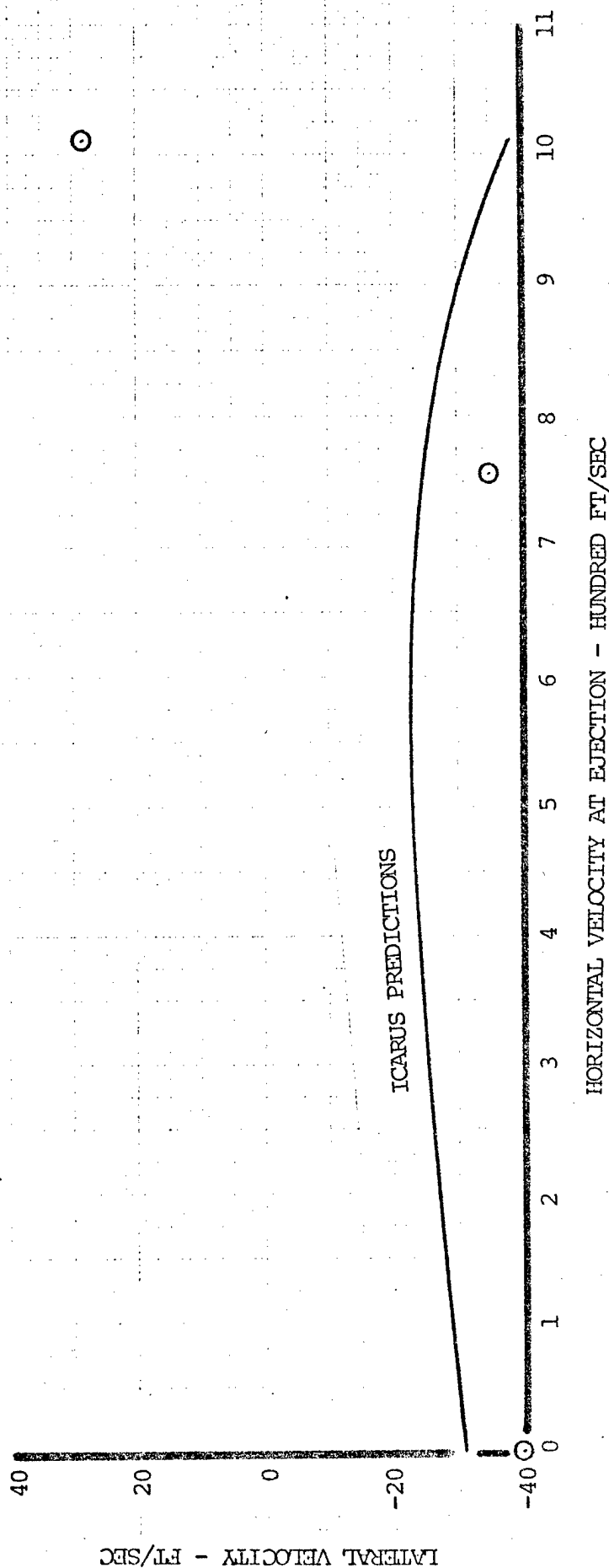


FIGURE F-87

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

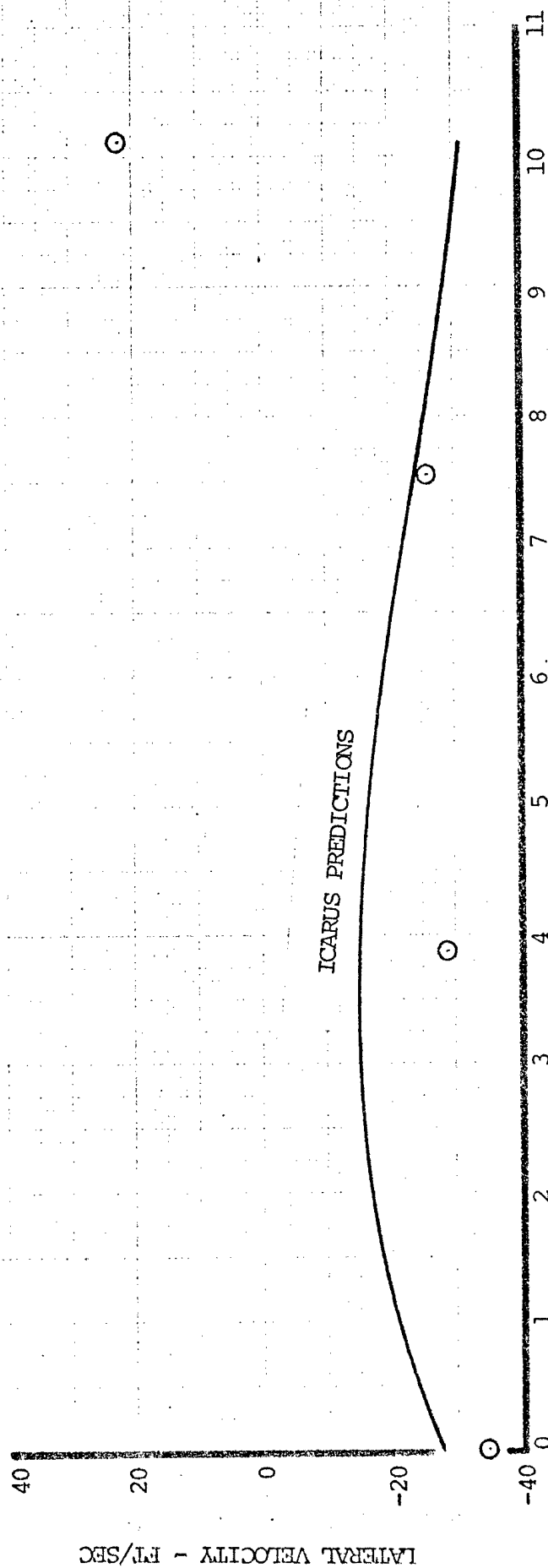


FIGURE F-83

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE PACK OPENING
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

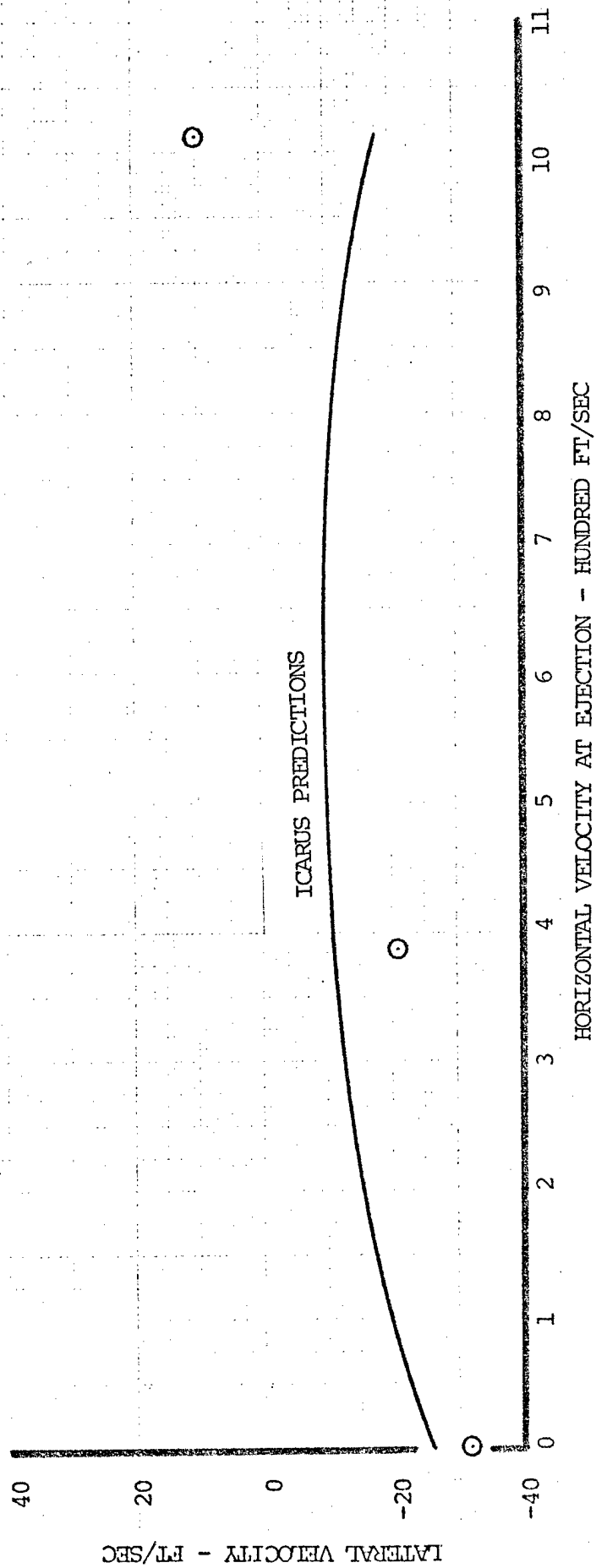
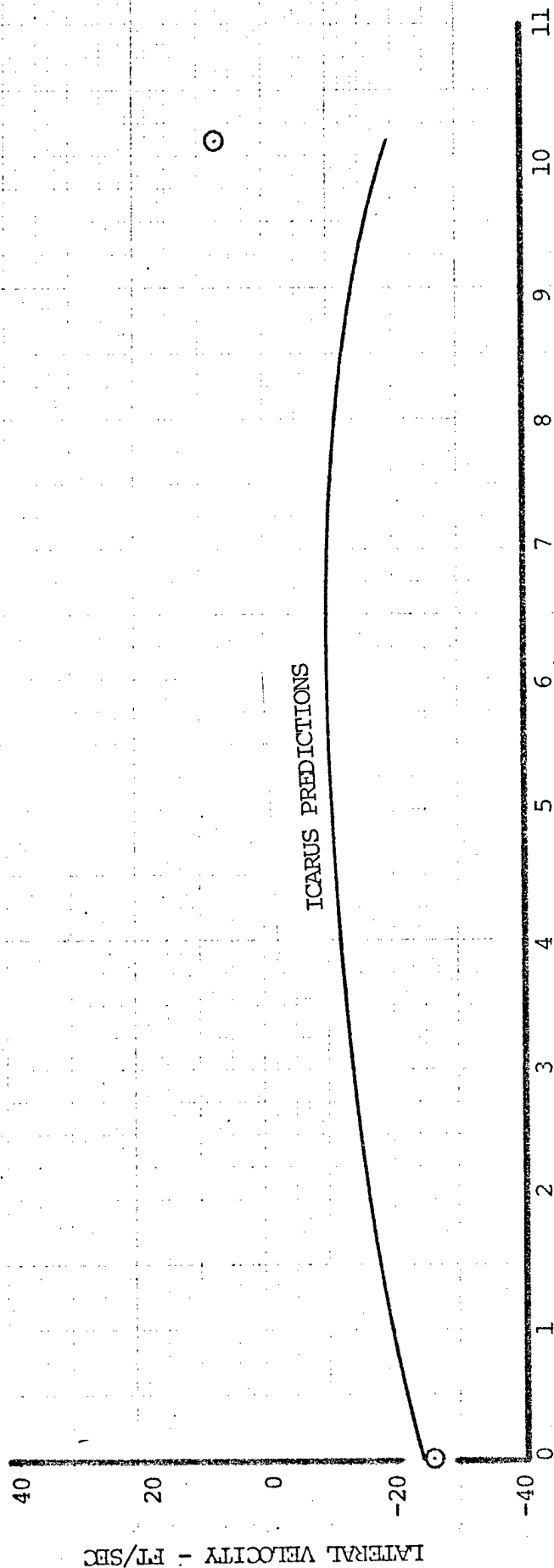


FIGURE F-89

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS

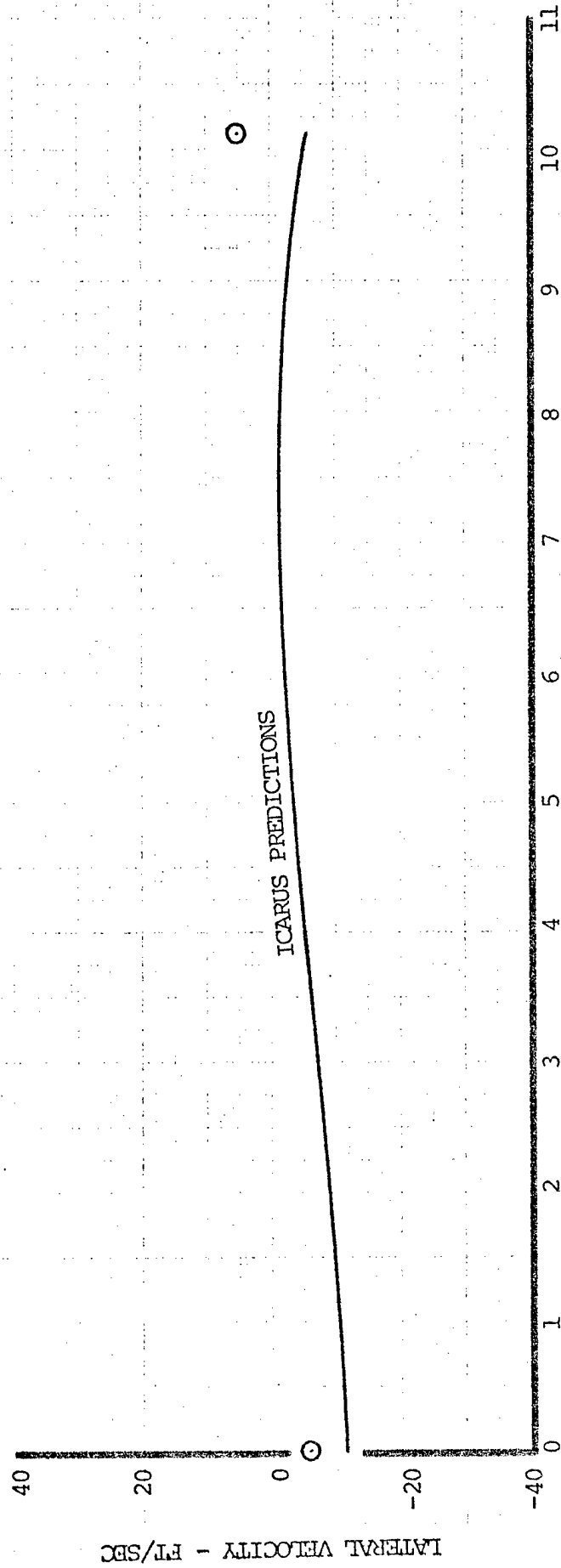


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-90

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
3 PERCENTILE DUMMY

○ -NWC SNORT F-18A TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-91

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET IGNITION
98 PERCENTILE DUMMY

▲ - NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

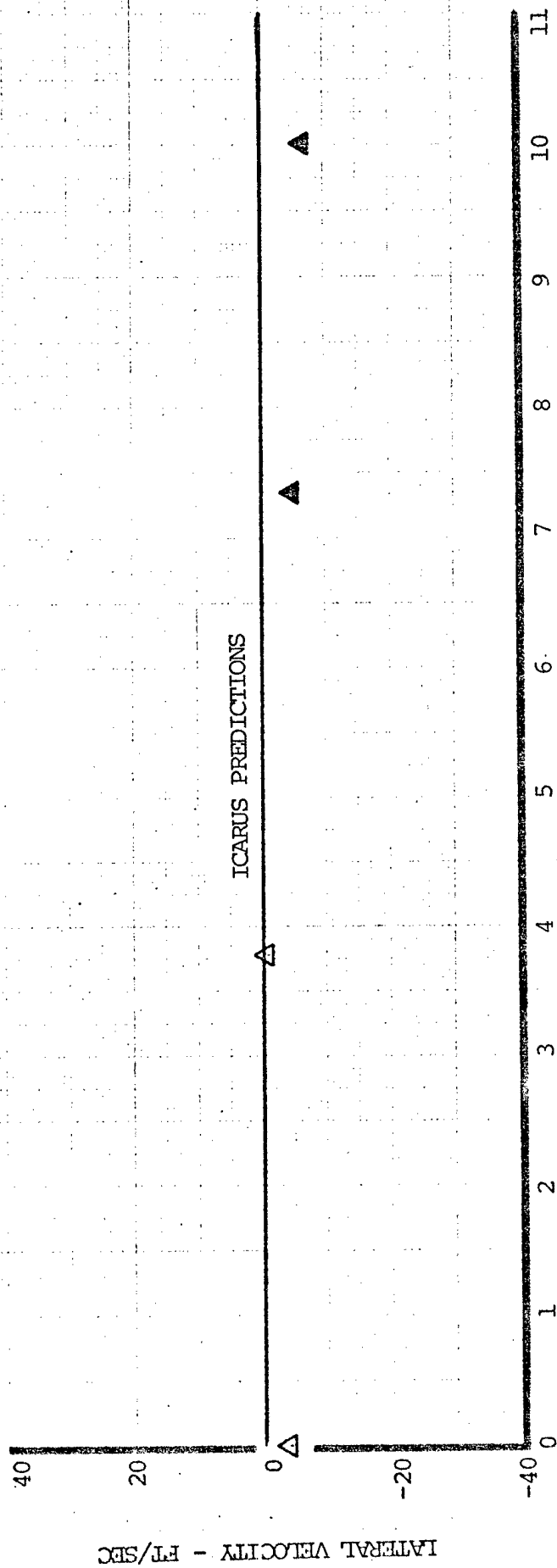
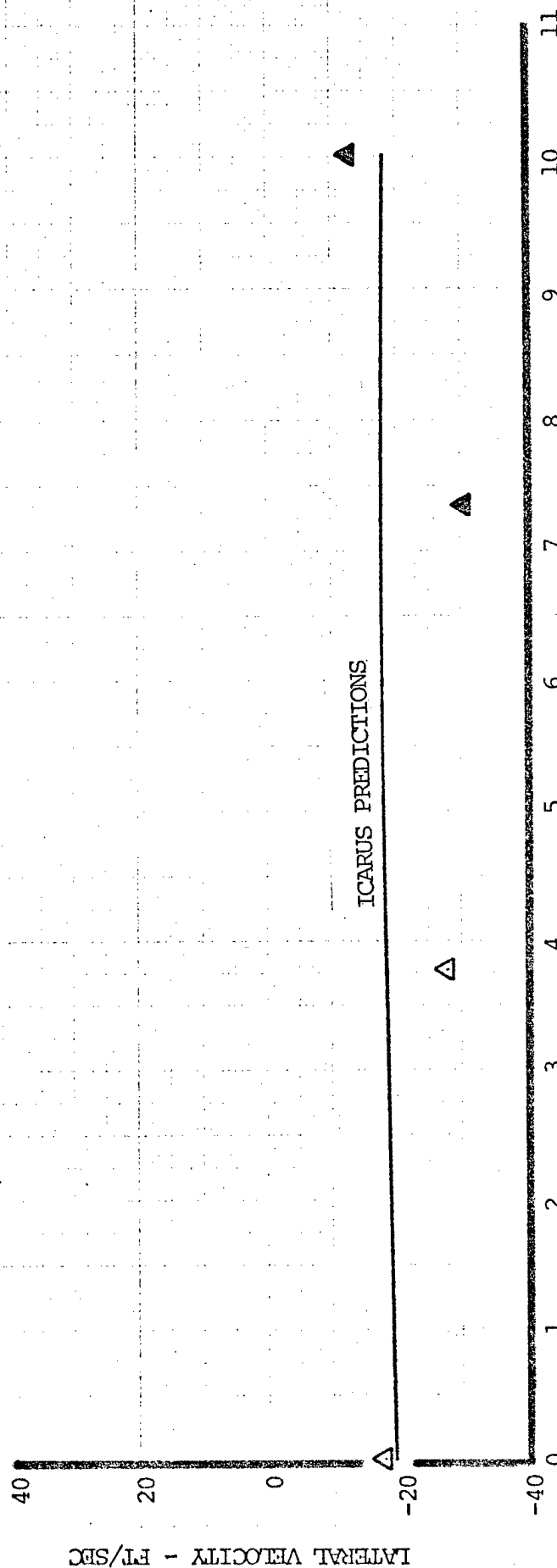


FIGURE F-92

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
ROCKET BURNOUT
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

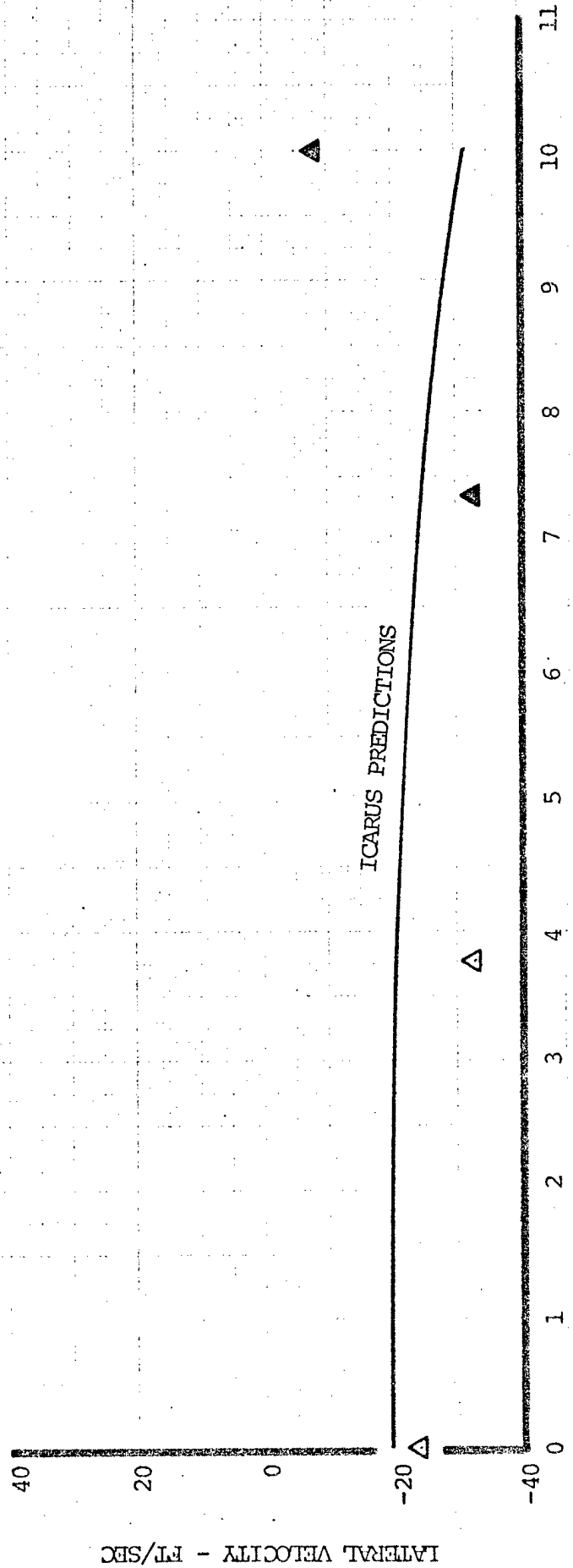


HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

FIGURE F-93

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE GUN FIRE
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS



HORIZONTAL VELOCITY AT EJECTION - HUNDRED FT/SEC

ICARUS PREDICTIONS

FIGURE F-94

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
DROGUE PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY

Δ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

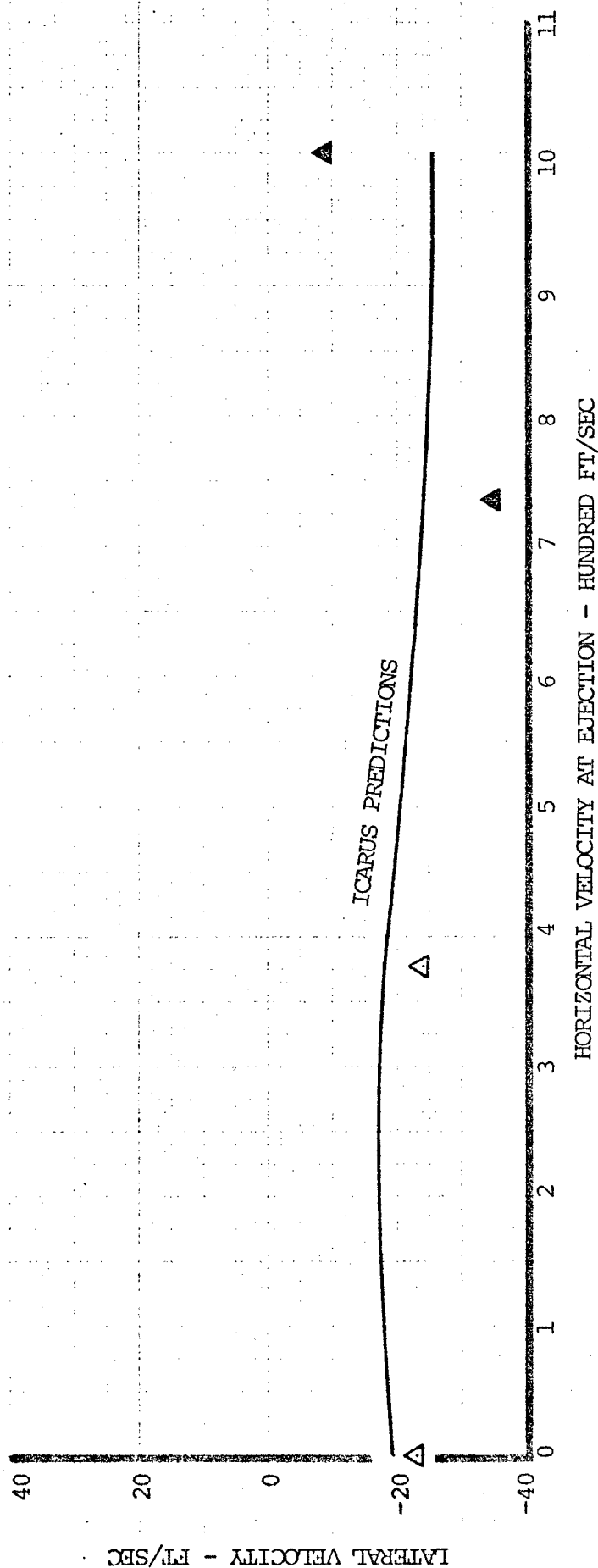


FIGURE F-95

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE PACK OPENING
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└─ VALID TESTS
└─ SUSPECT TESTS

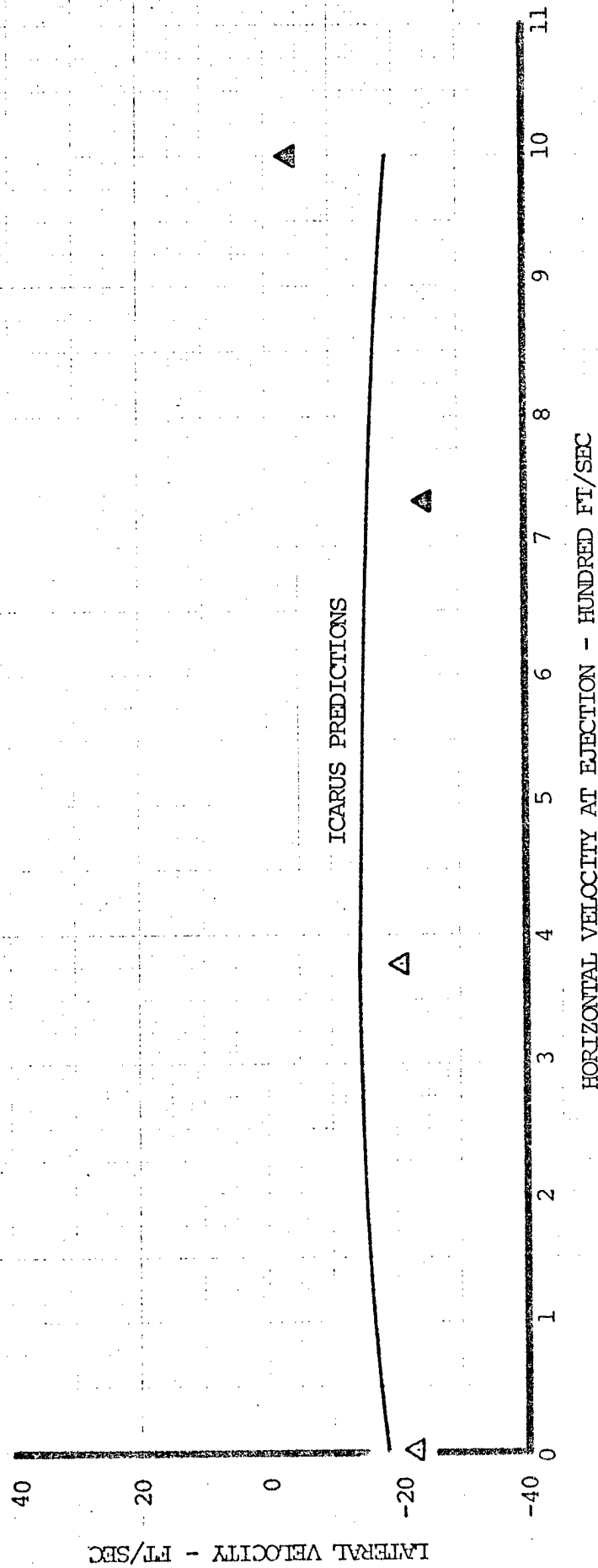


FIGURE F-96

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE RISER LINE STRETCH
98 PERCENTILE DUMMY

▲ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

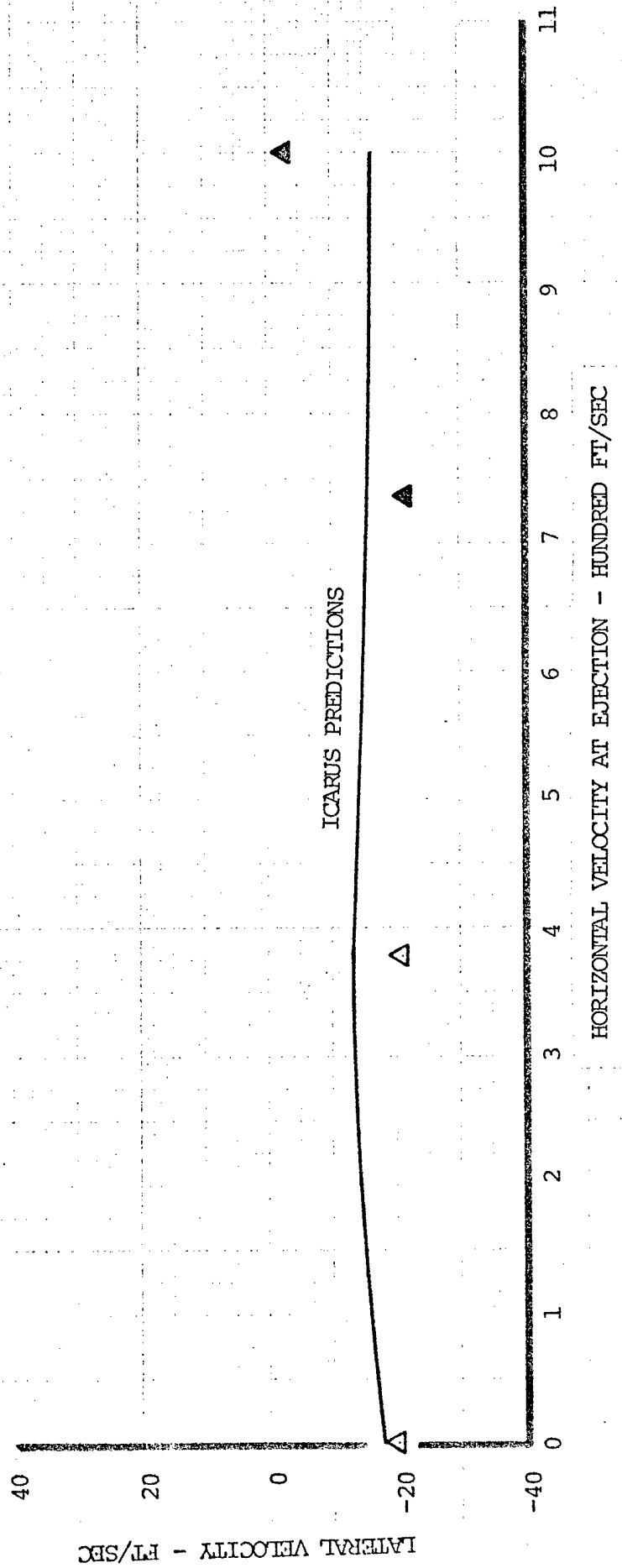


FIGURE F-97

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAIN PARACHUTE FULL INFLATION
98 PERCENTILE DUMMY

Δ -NWC SNORT F-18A TESTS
└ VALID TESTS
└ SUSPECT TESTS

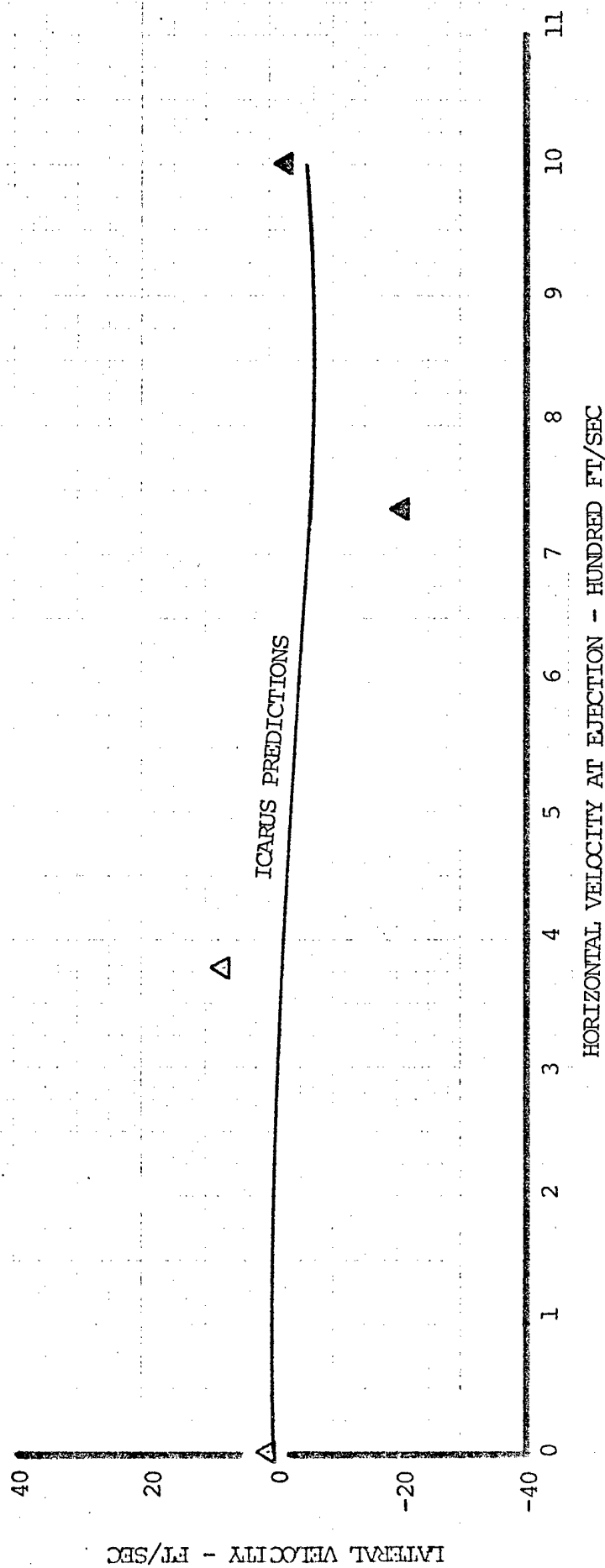


FIGURE F-98

ICARUS PROGRAM VALIDATION STUDY
COMPARISON OF PREDICTED AND ACTUAL TEST DATA
MAXIMUM TRAJECTORY HEIGHT

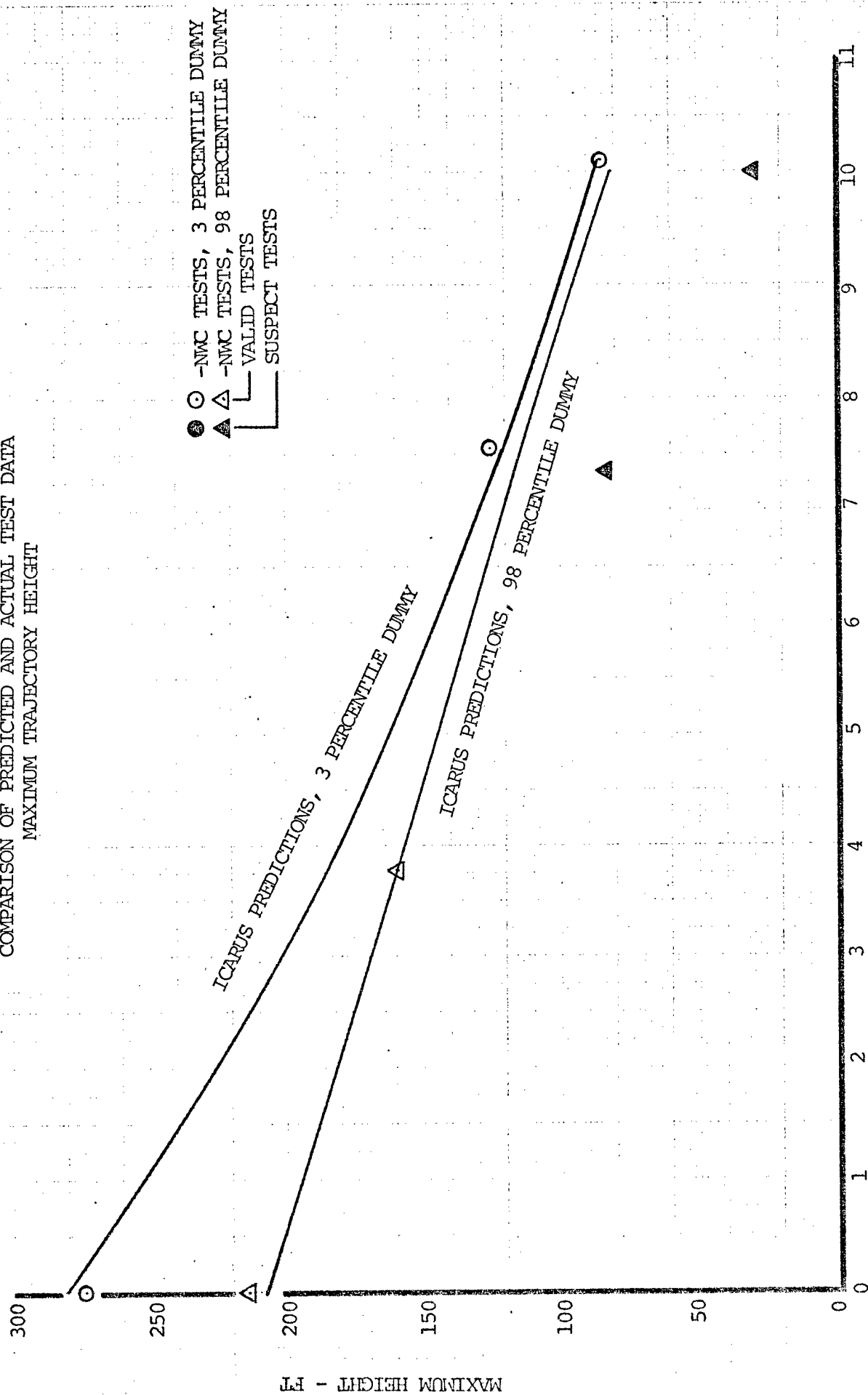


FIGURE F-99

ICARUS PROGRAM VALIDATION STUDY COMPARISON OF PREDICTED AND ACTUAL TEST DATA DOWNRANGE DISTANCE AT MAXIMUM TRAJECTORY HEIGHT

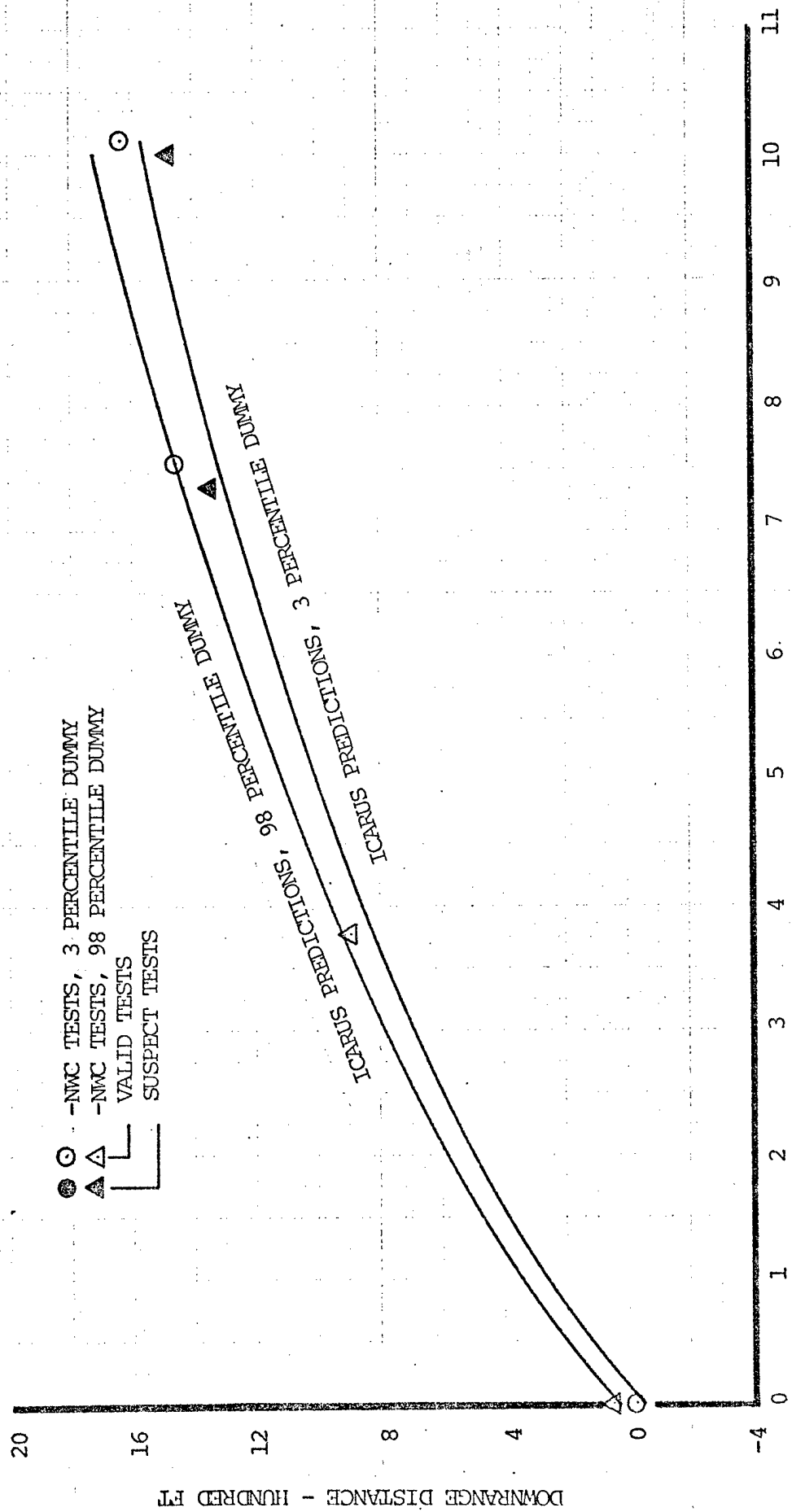


FIGURE F-100

APPENDIX G

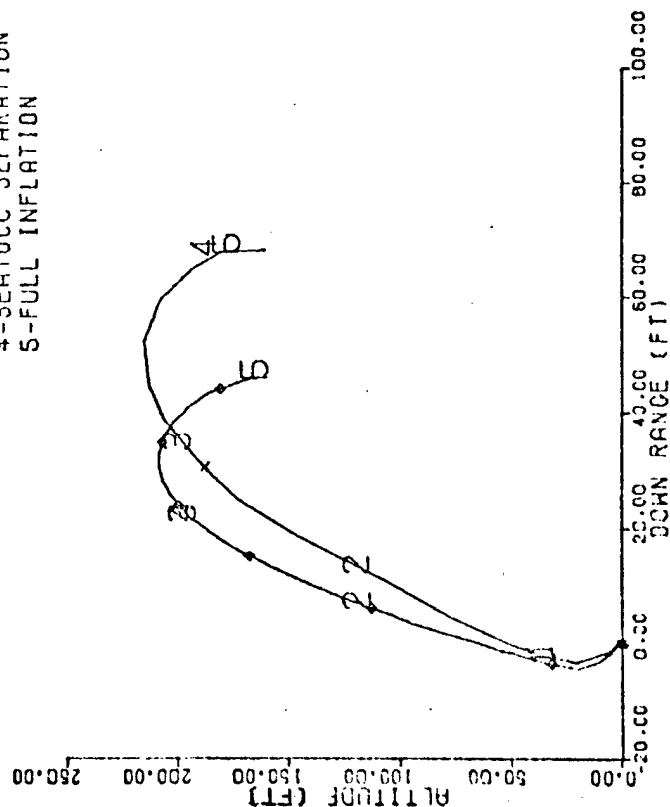
GRAPHS OF PREDICTED AND ACTUAL NWC SNORT F-18A

SLED TEST TRAJECTORY DATA

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A/NWC SNORT TEST DATA
 TEST 1 0 KEAS 98 PERCENTILE DUMMY

X ACTUAL
 ◇ PREDICTED

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION



- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

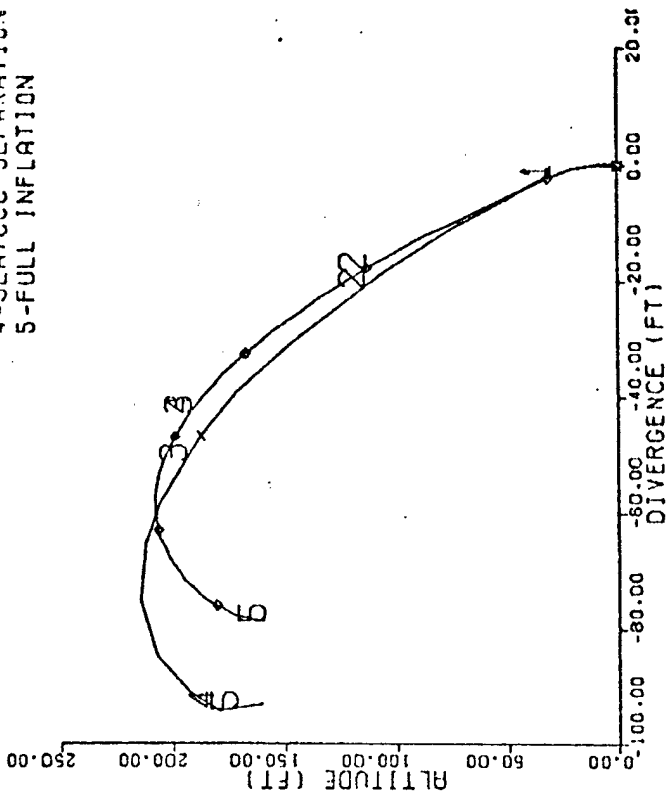


FIGURE G-1

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18ANWC SNORT TEST DATA
 TEST 1 0 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

X ACTUAL
 ◇ PREDICTED

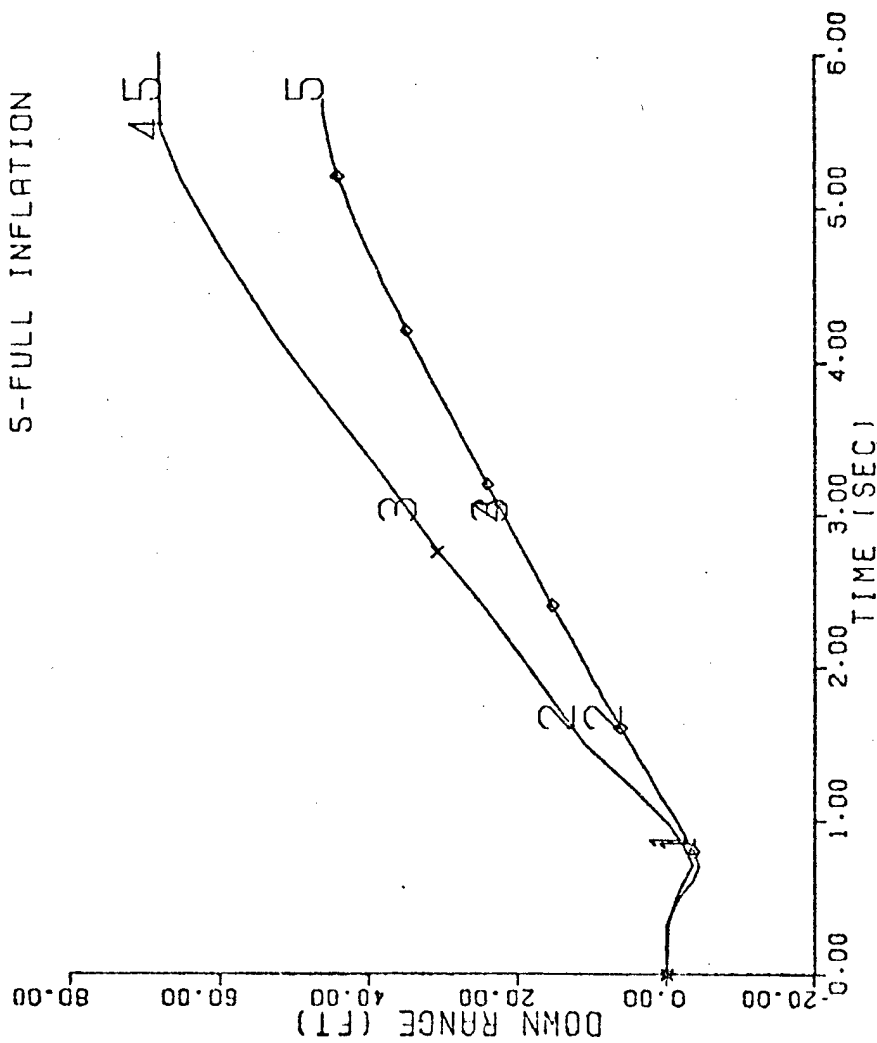


FIGURE G-2

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18ANWC SNORT TEST DATA
 TEST 1 0 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

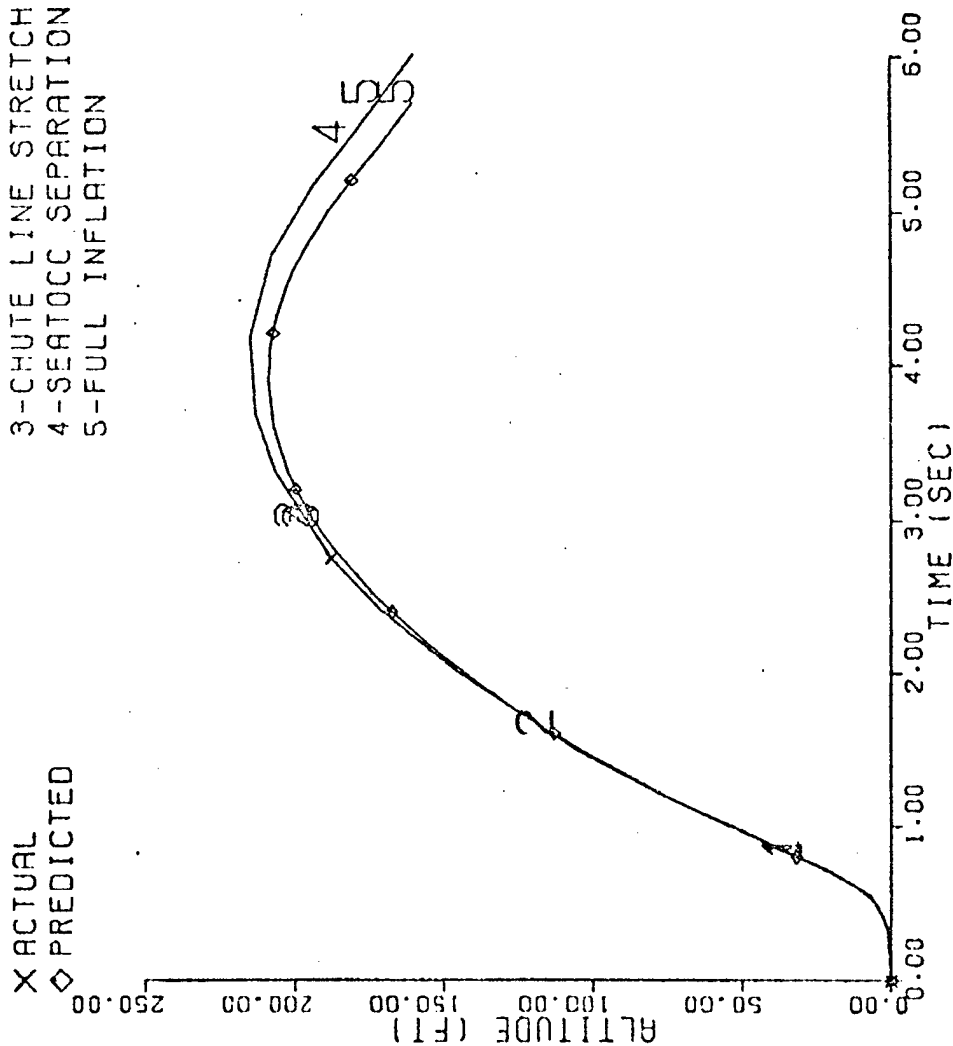


FIGURE G-3

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18ANWC SNORT TEST DATA
 TEST 1 0 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

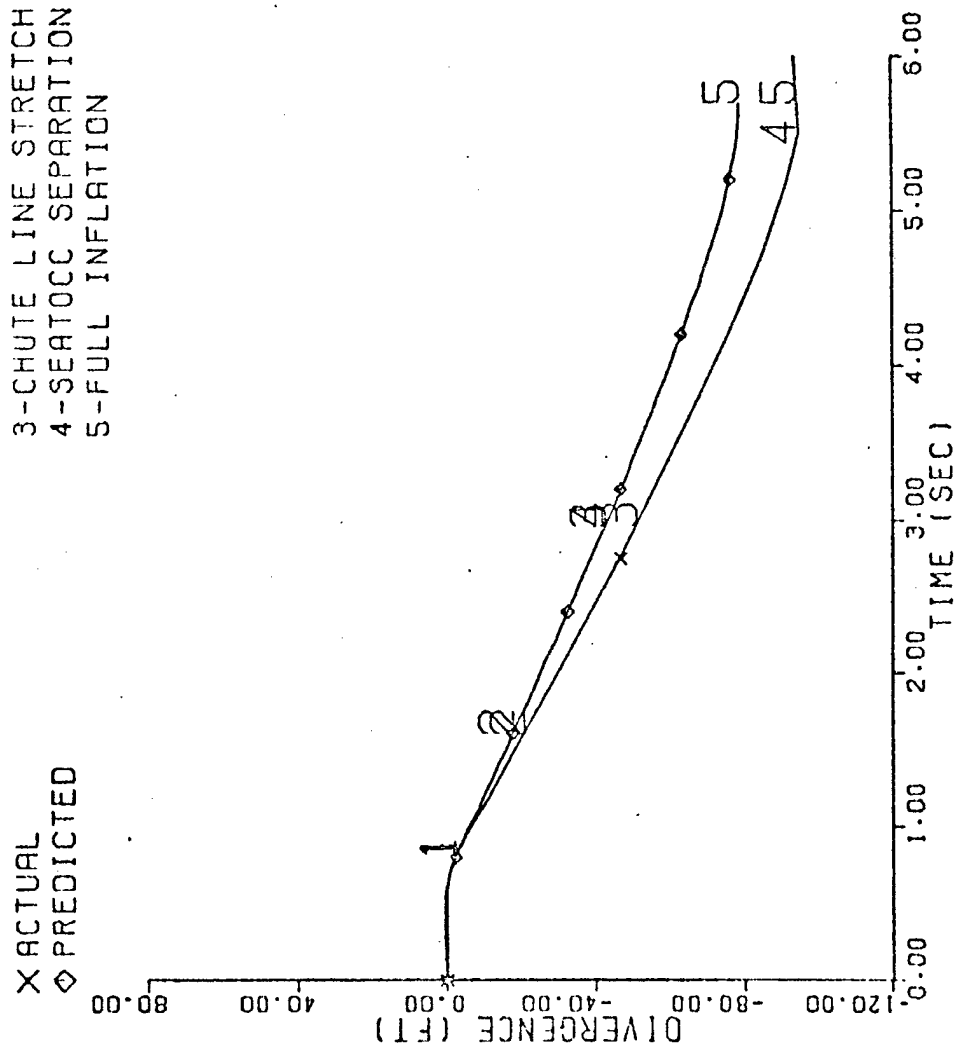


FIGURE G-4

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18ANWC SNORT TEST DATA
 TEST 1 0 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

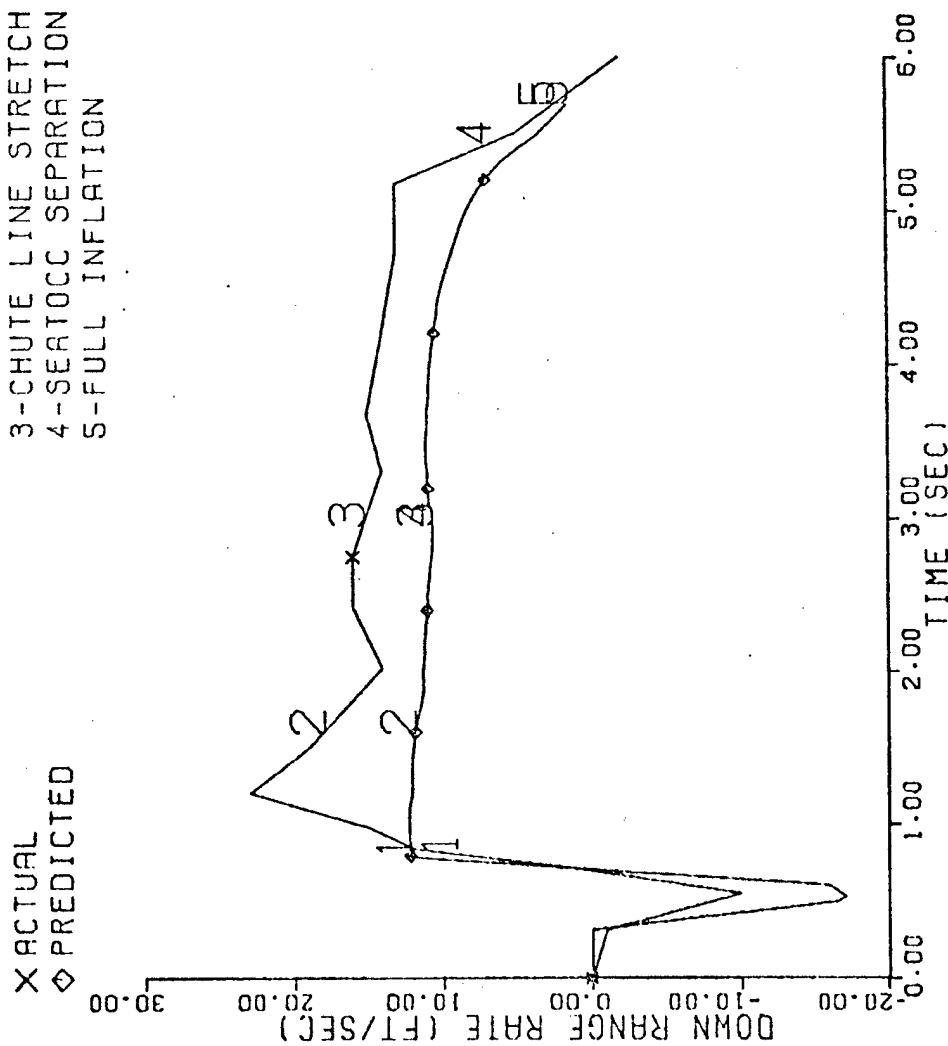


FIGURE G-5

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18ANWC SNORT TEST DATA
 TEST 1 0 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

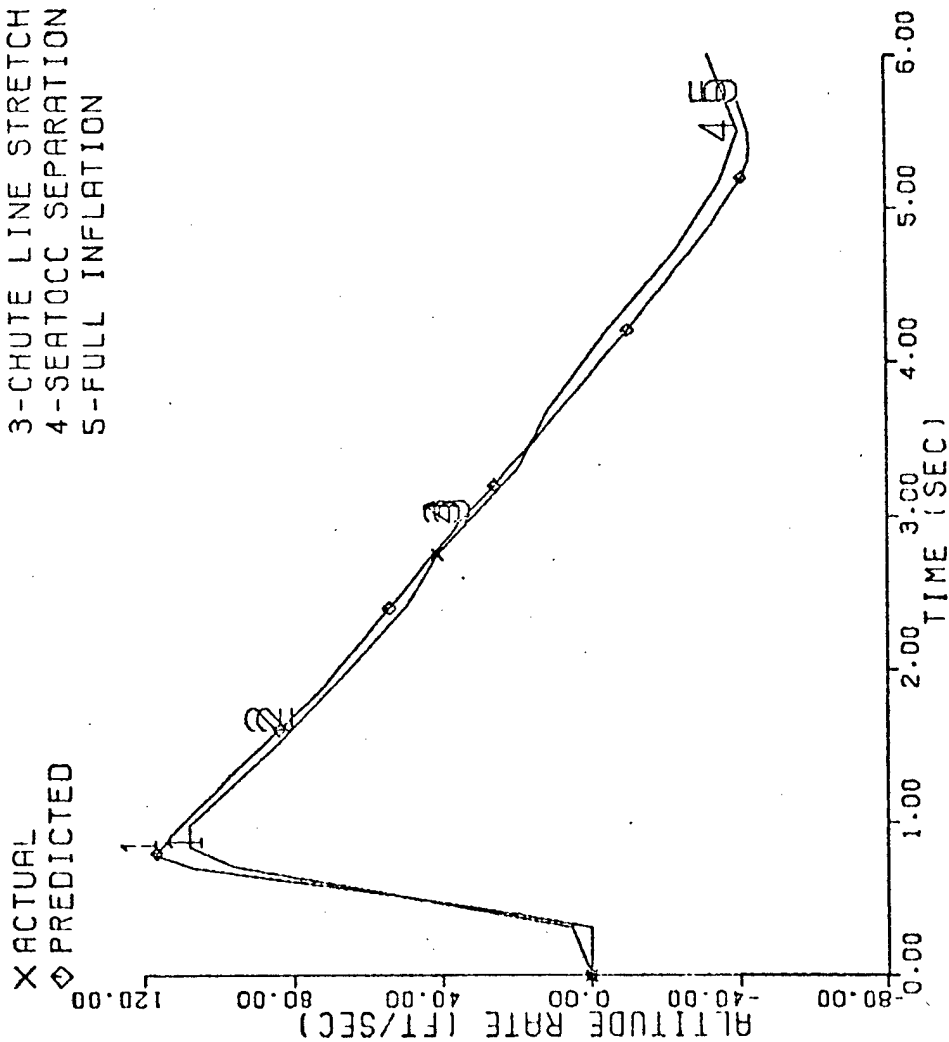


FIGURE G-6

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18ANWC SNORT TEST DATA
 TEST 1 0 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

X ACTUAL
 ◇ PREDICTED

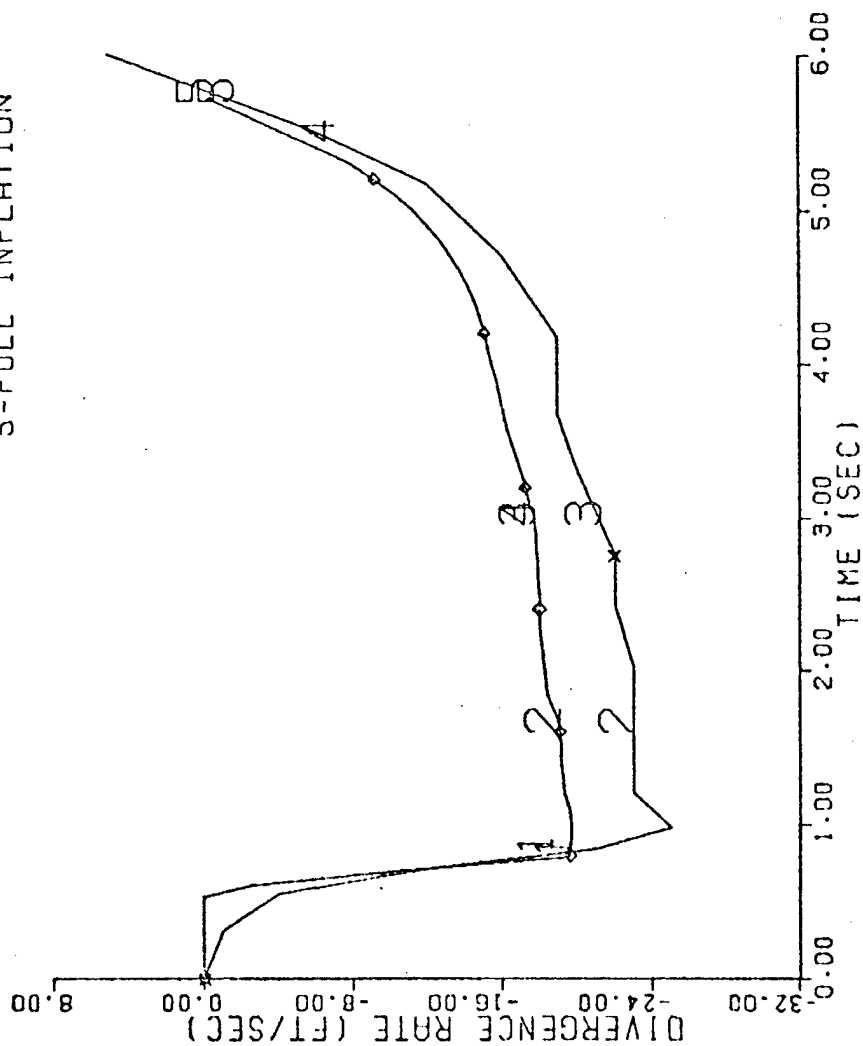


FIGURE G-7

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 2 225 KEAS 98 PERCENTILE DUMMY

X ACTUAL
 ◇ PREDICTED

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

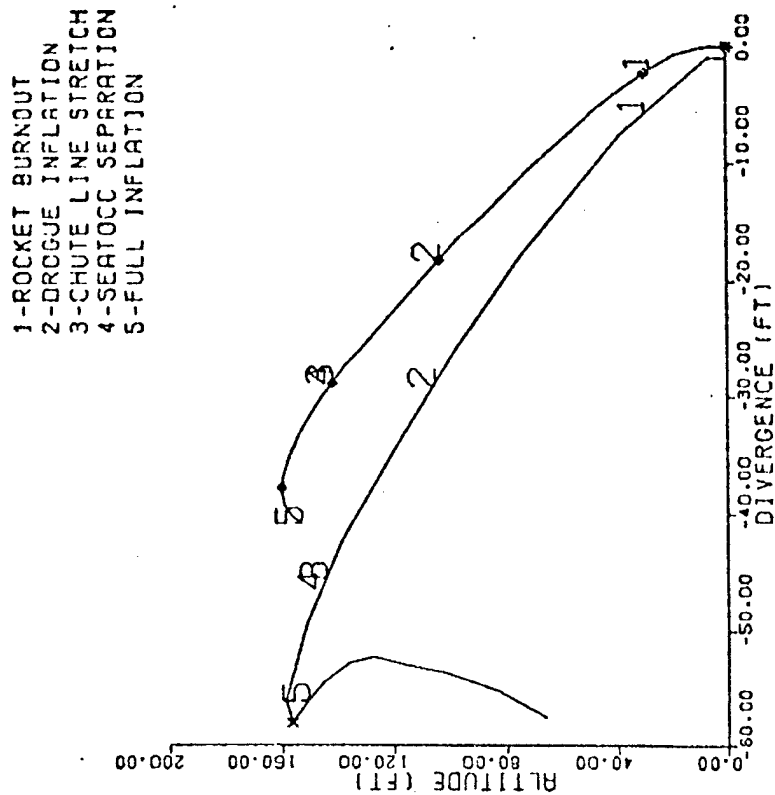
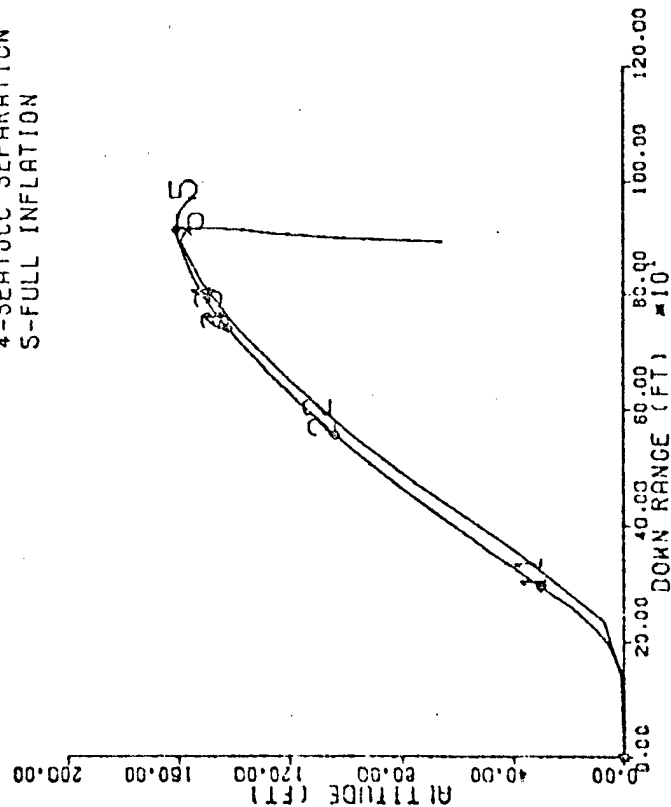


FIGURE G-8

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 2 225 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

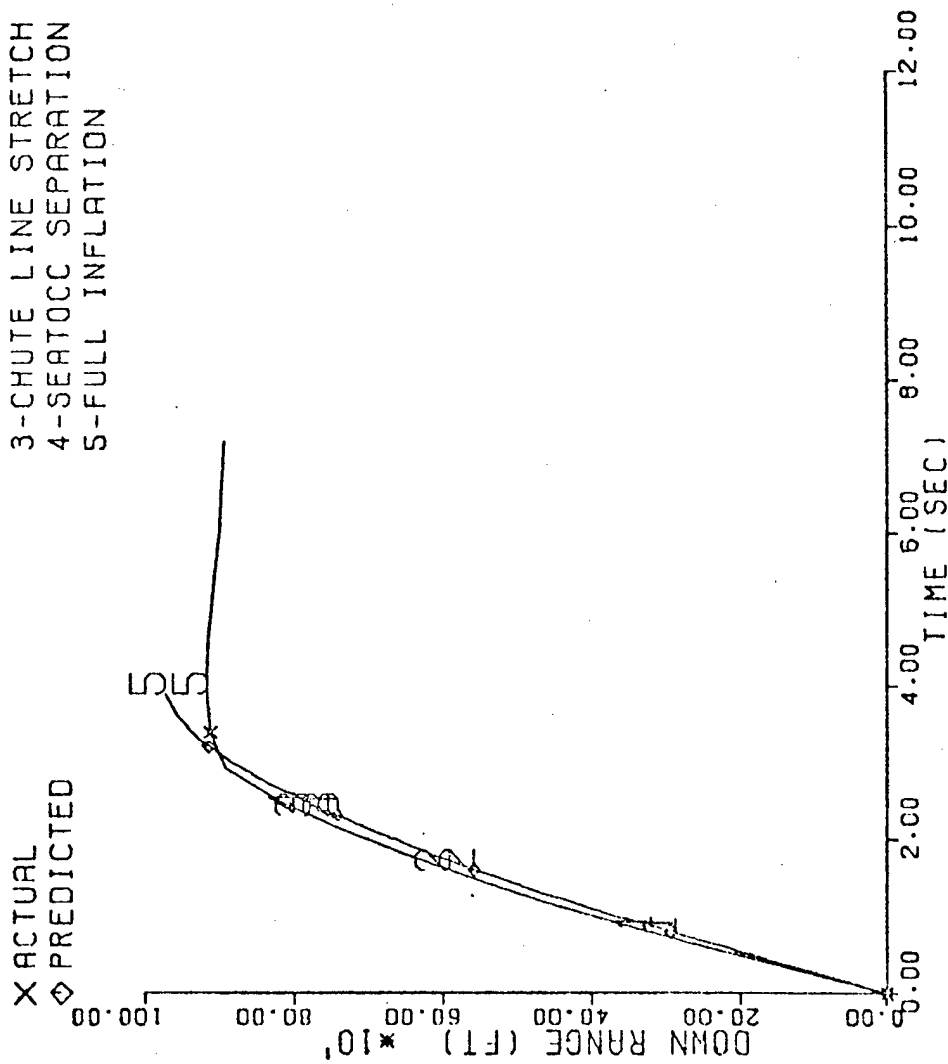


FIGURE G-9

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 2 225 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

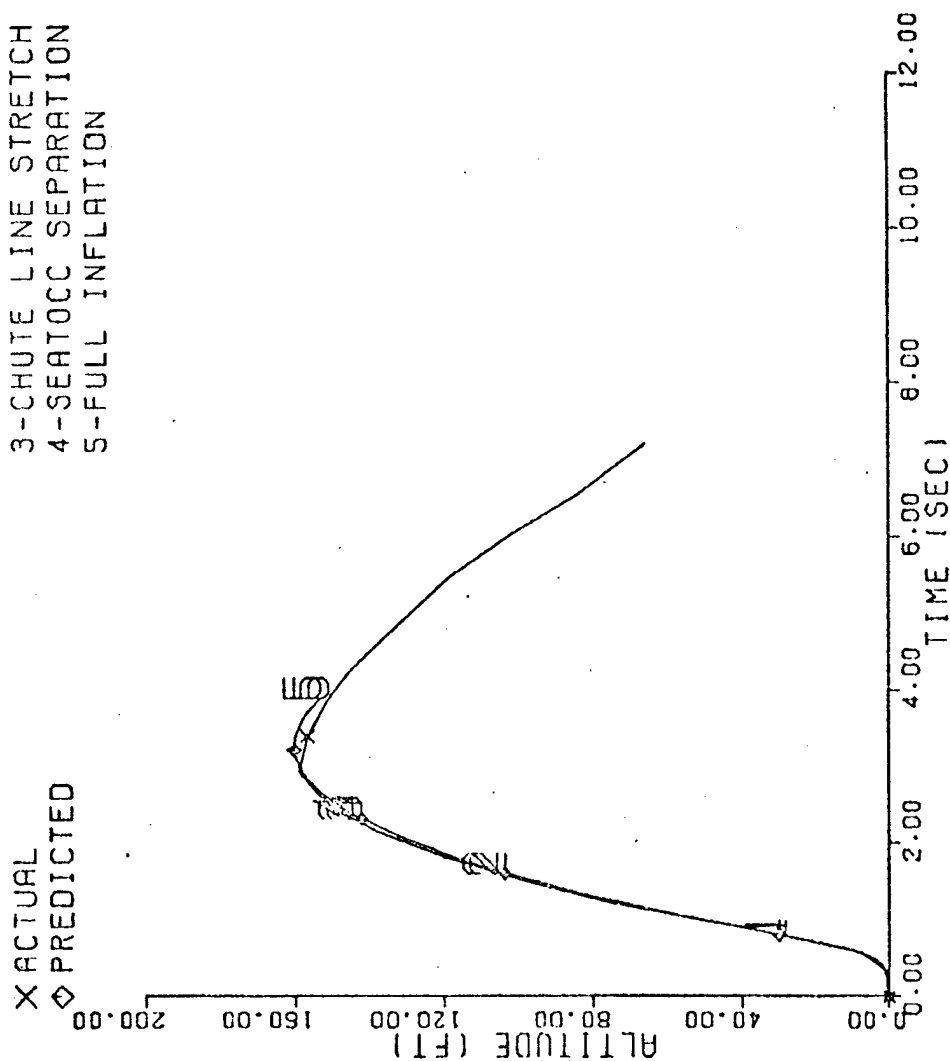


FIGURE G-10

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 2 225 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

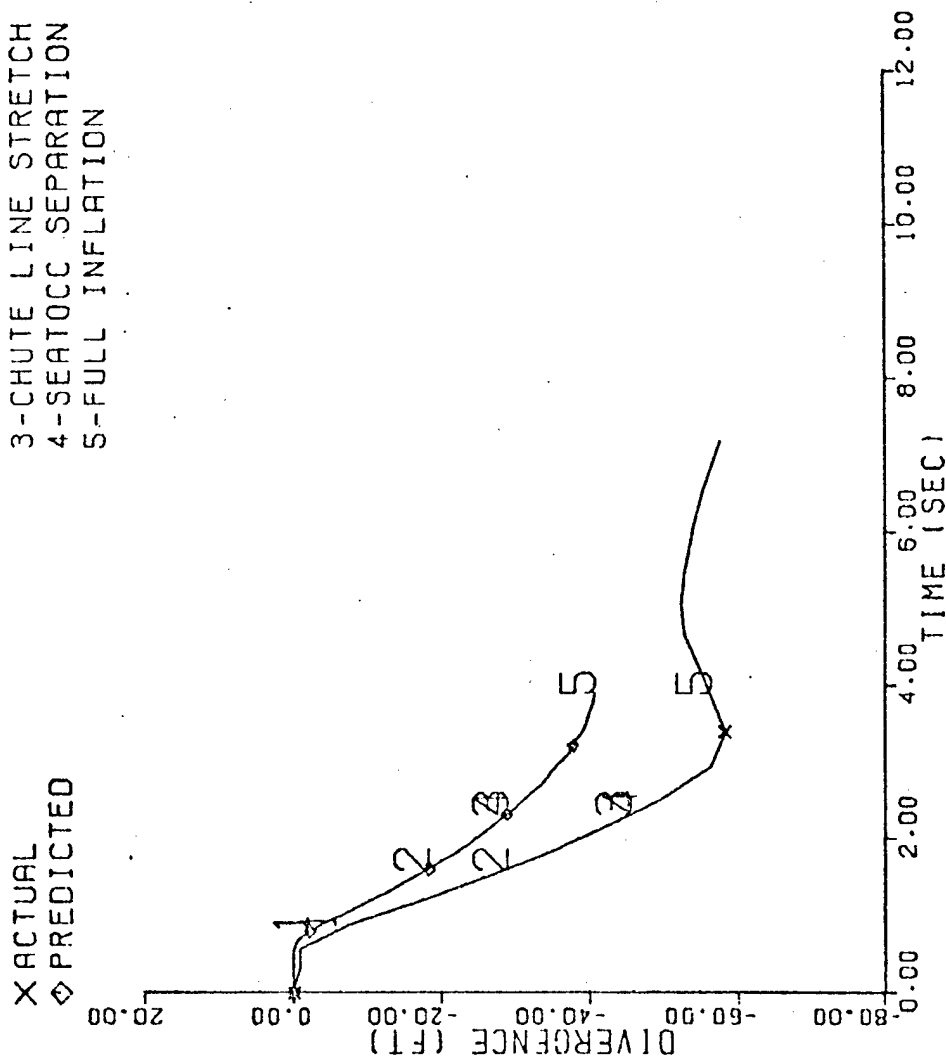


FIGURE G-11

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 2 225 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

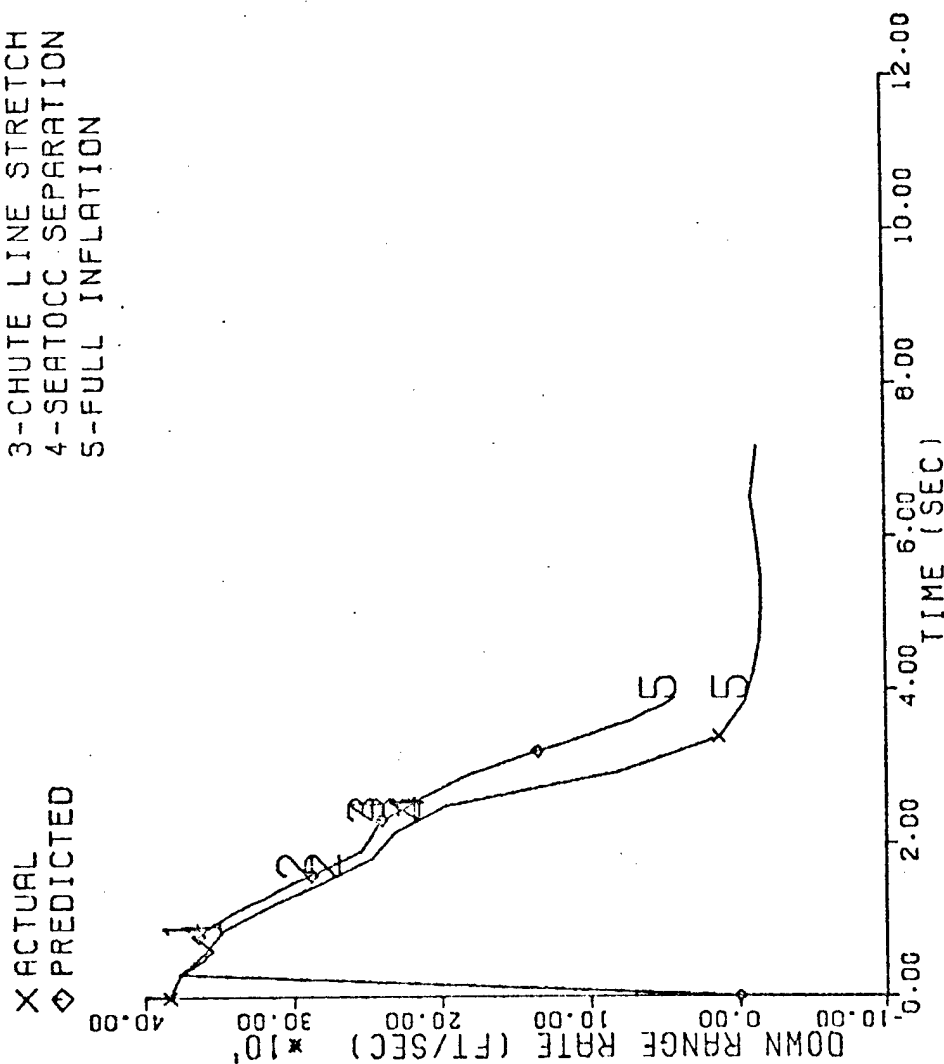


FIGURE G-12

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 2 225 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

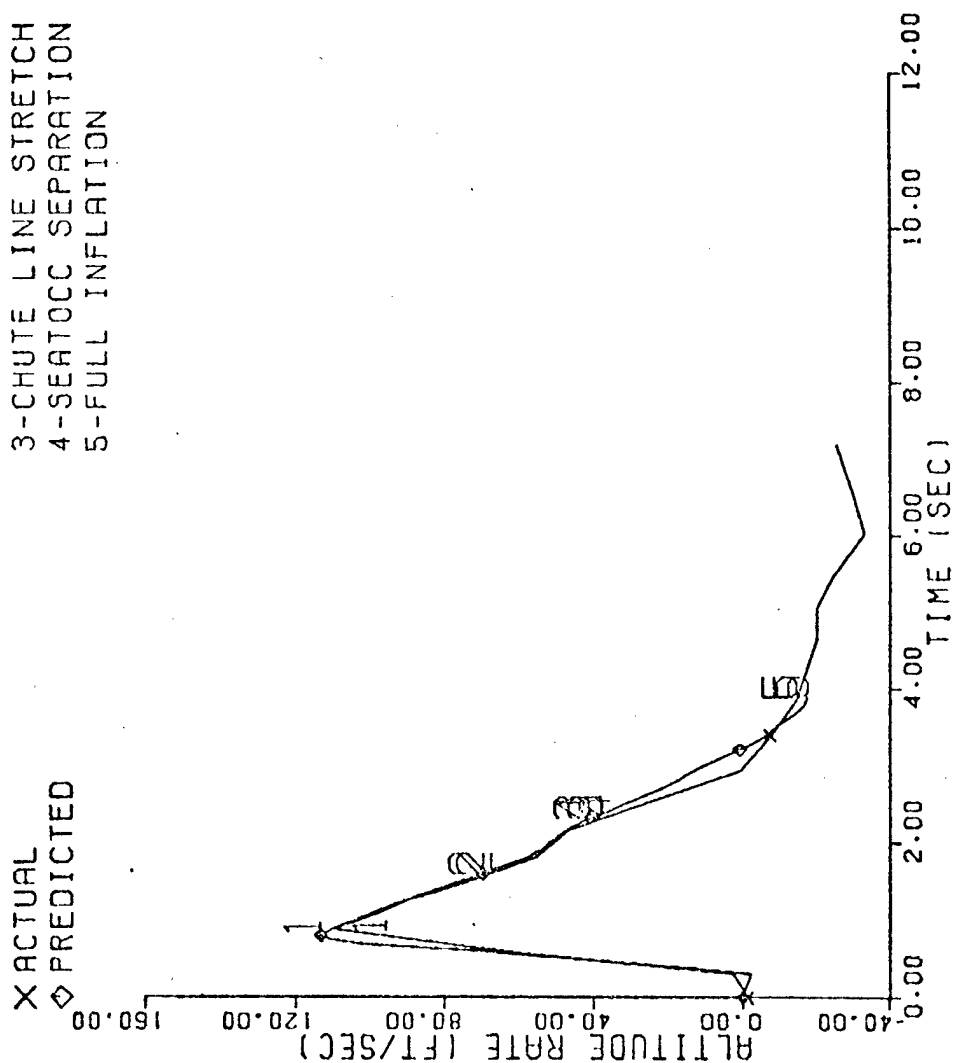


FIGURE G-13

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 2 225 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

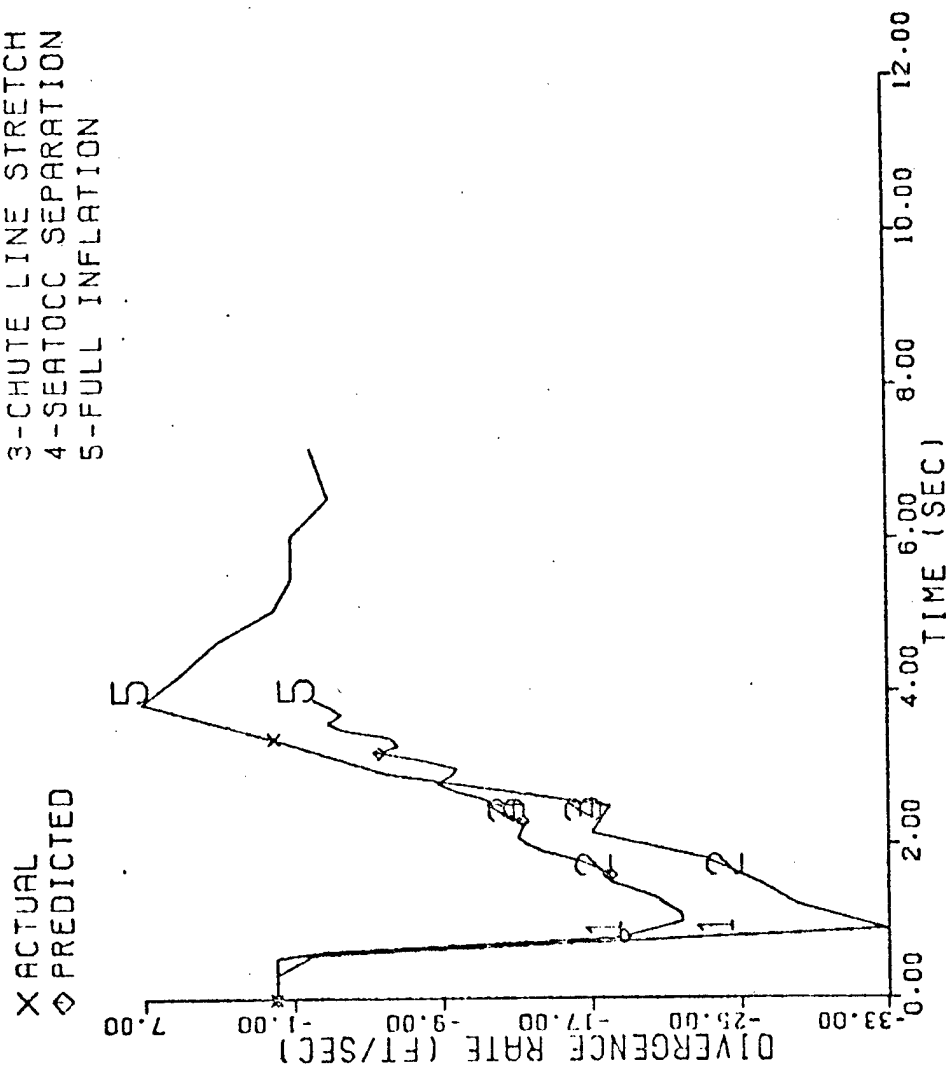
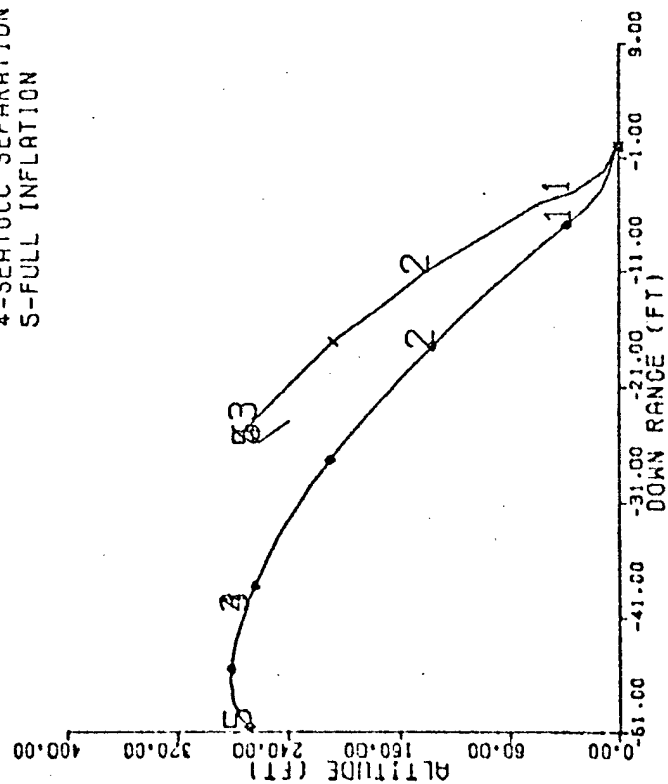


FIGURE G-14

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 3 0 KEAS 3 PERCENTILE DUMMY

X ACTUAL
 ◇ PREDICTED

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION



- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

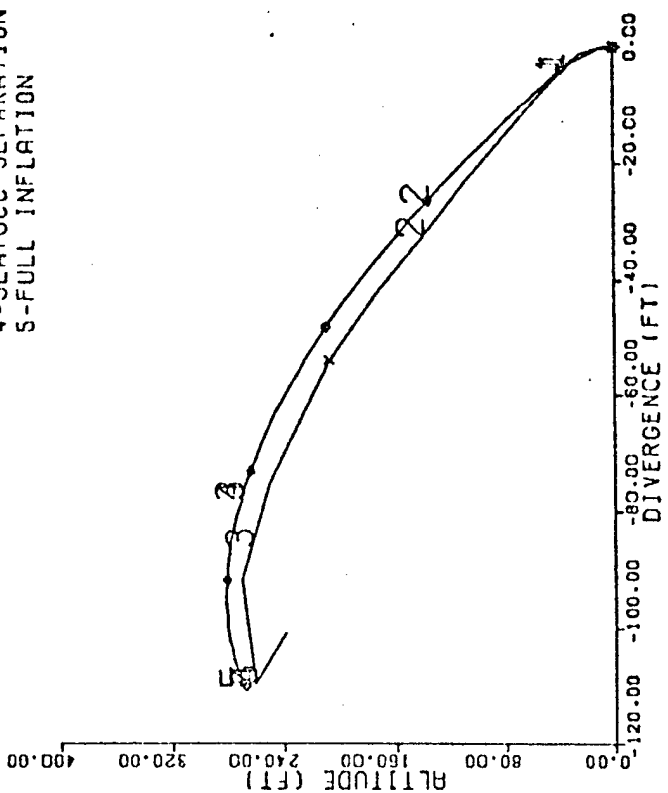


FIGURE G-15

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 3 0 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

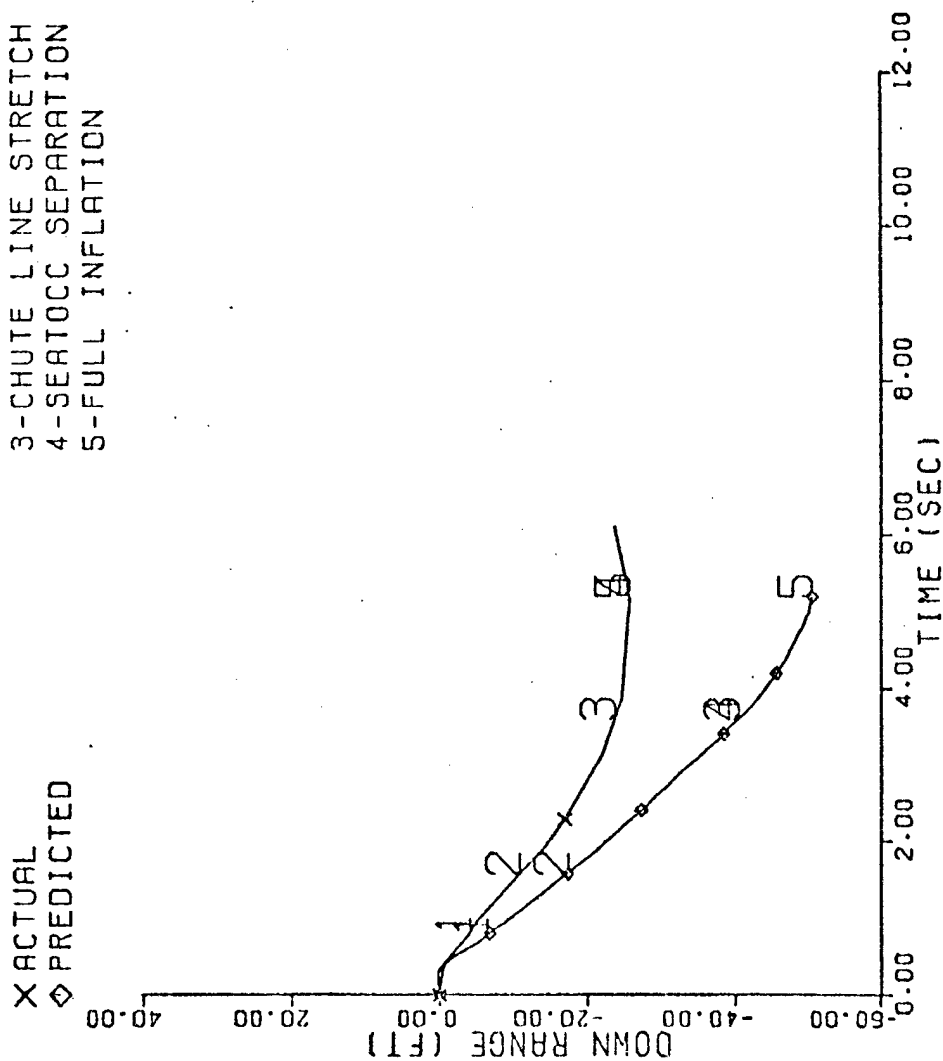


FIGURE G-16

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 3 0 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

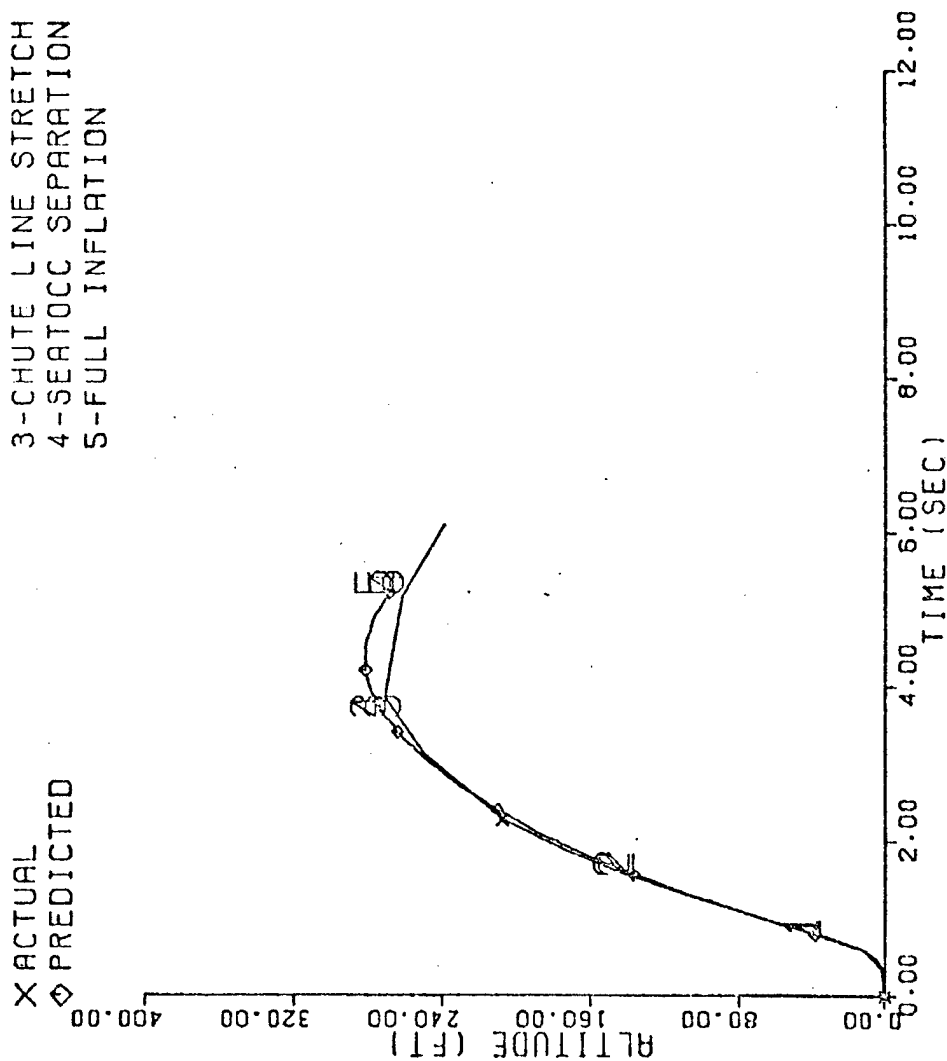


FIGURE G-17

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 3 0 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

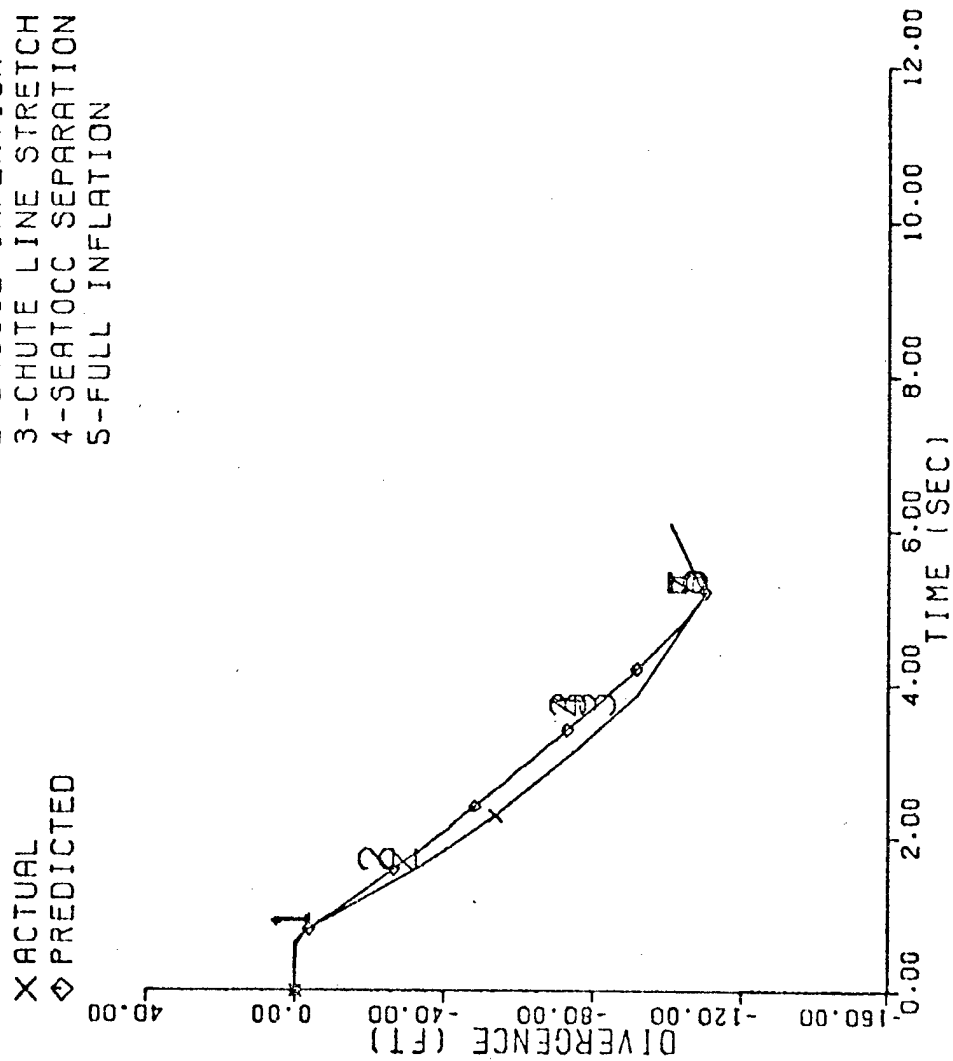


FIGURE G-18

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 3 0 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

X ACTUAL
 ◇ PREDICTED

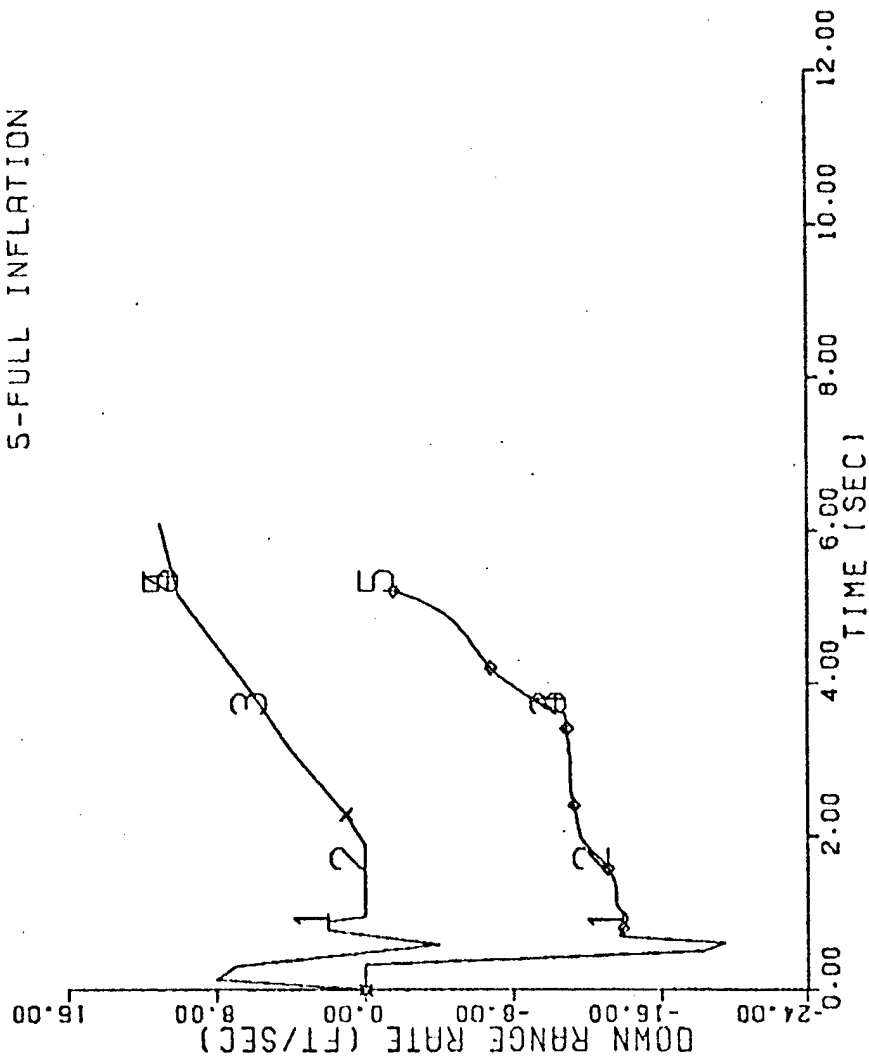


FIGURE G-19

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 3 0 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

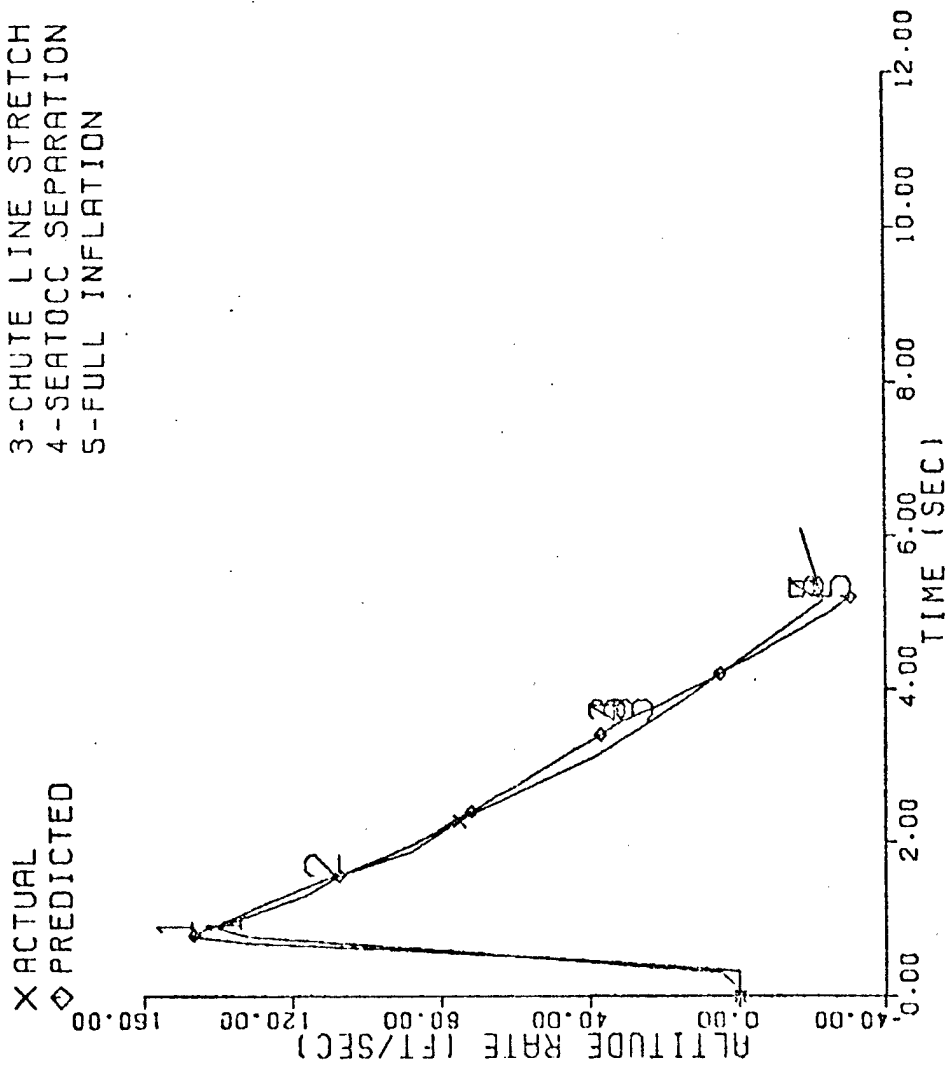


FIGURE G-20

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 3 0 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

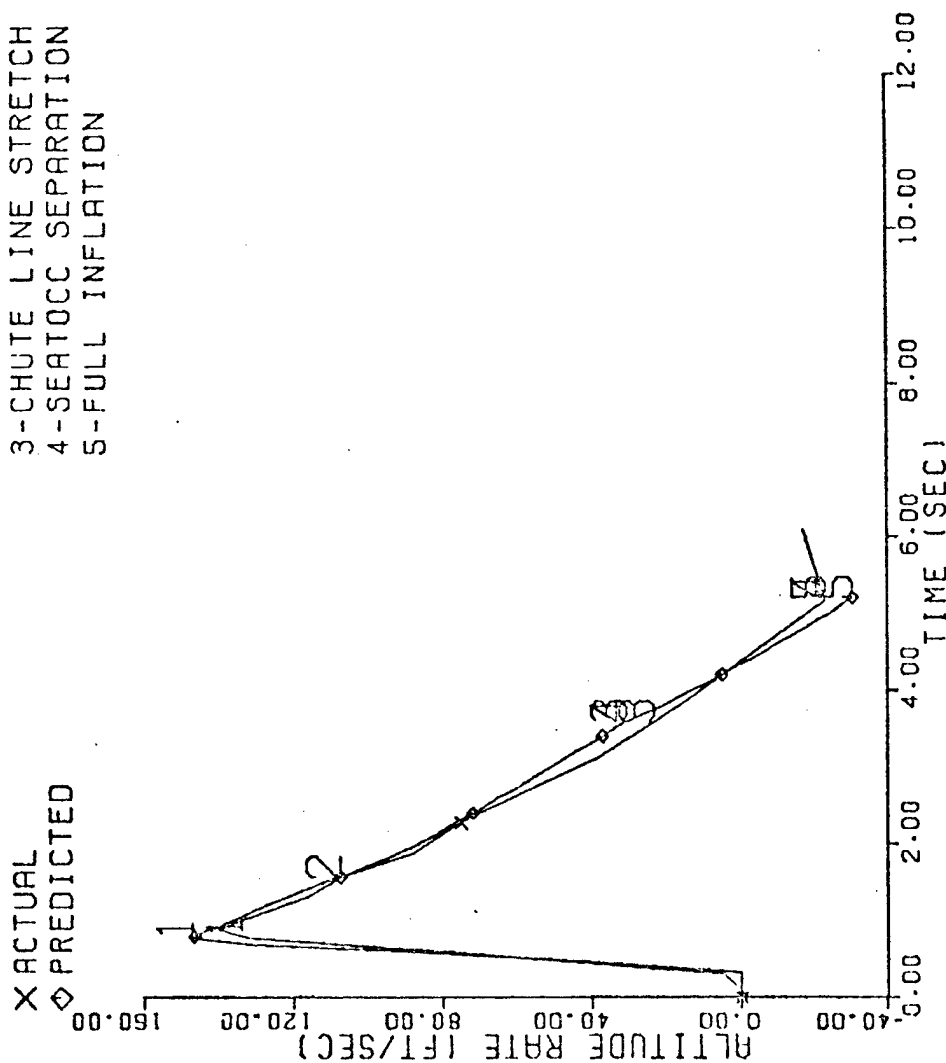


FIGURE G-20

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 3 0 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

X ACTUAL
 ◇ PREDICTED

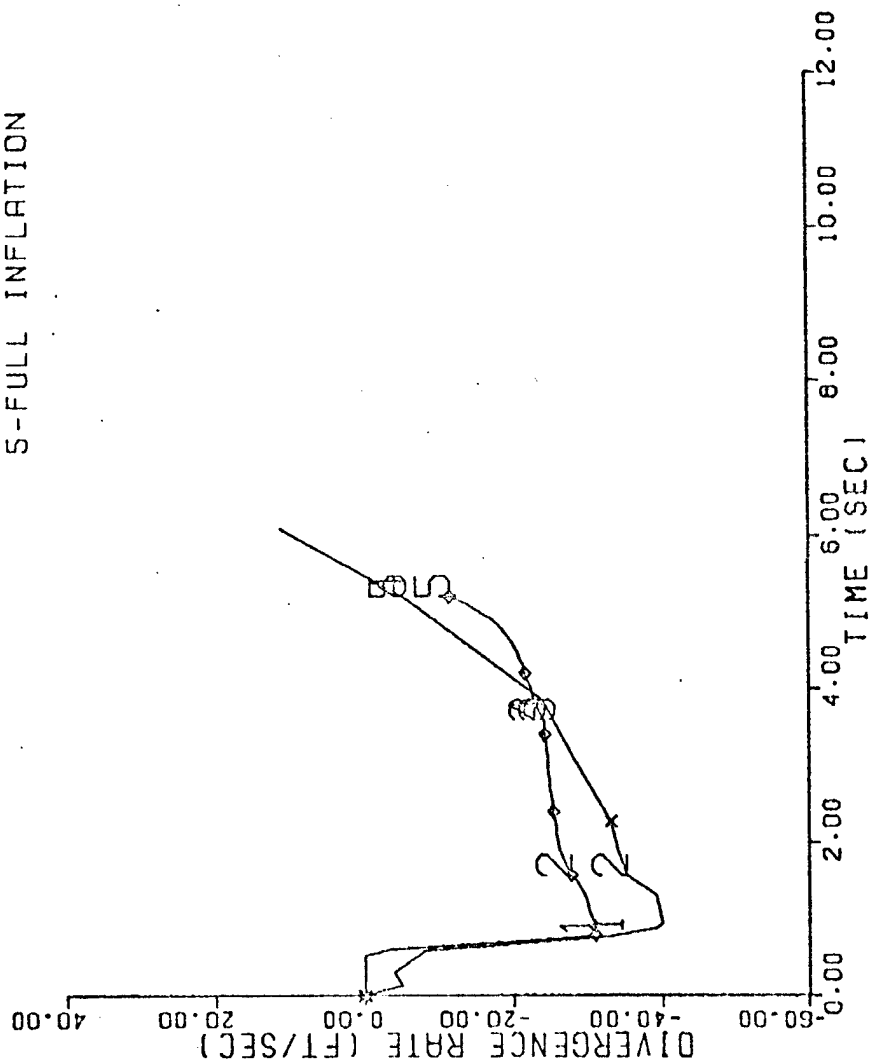
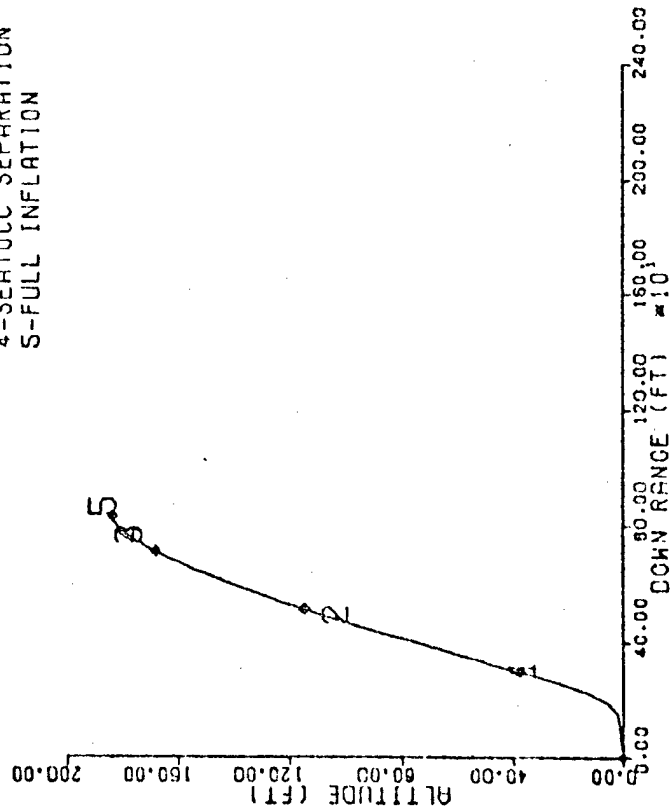


FIGURE G-21

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 4 225 KEAS 3 PERCENTILE DUMMY

◇ PREDICTED

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION



- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

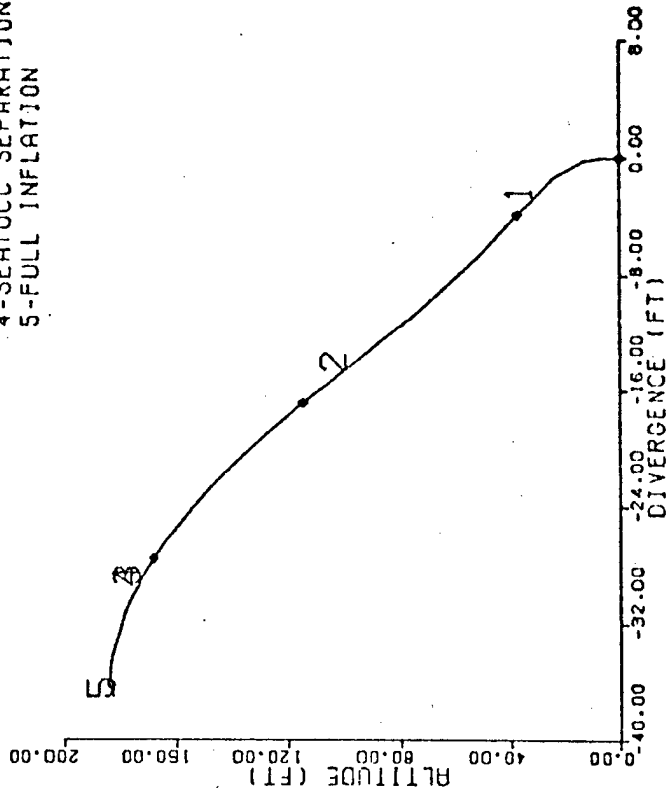


FIGURE G-22

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 4 225 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

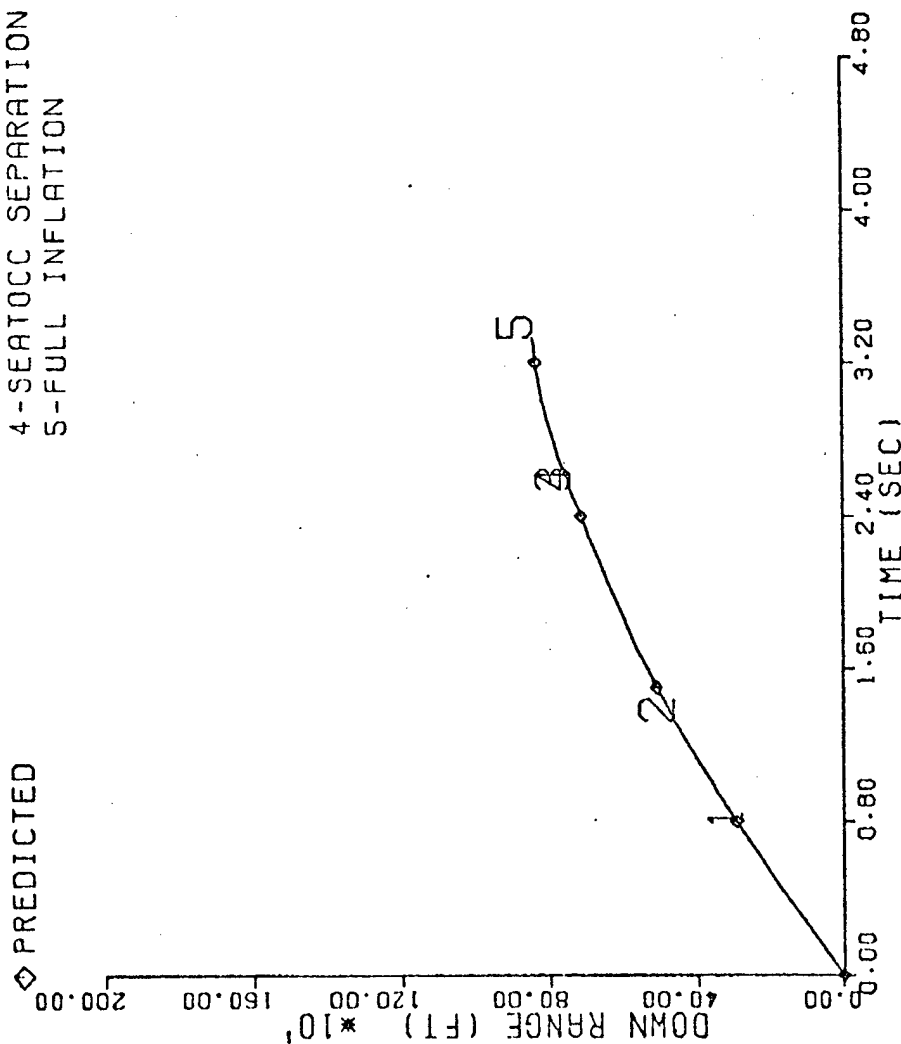


FIGURE G-23

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 4 225 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

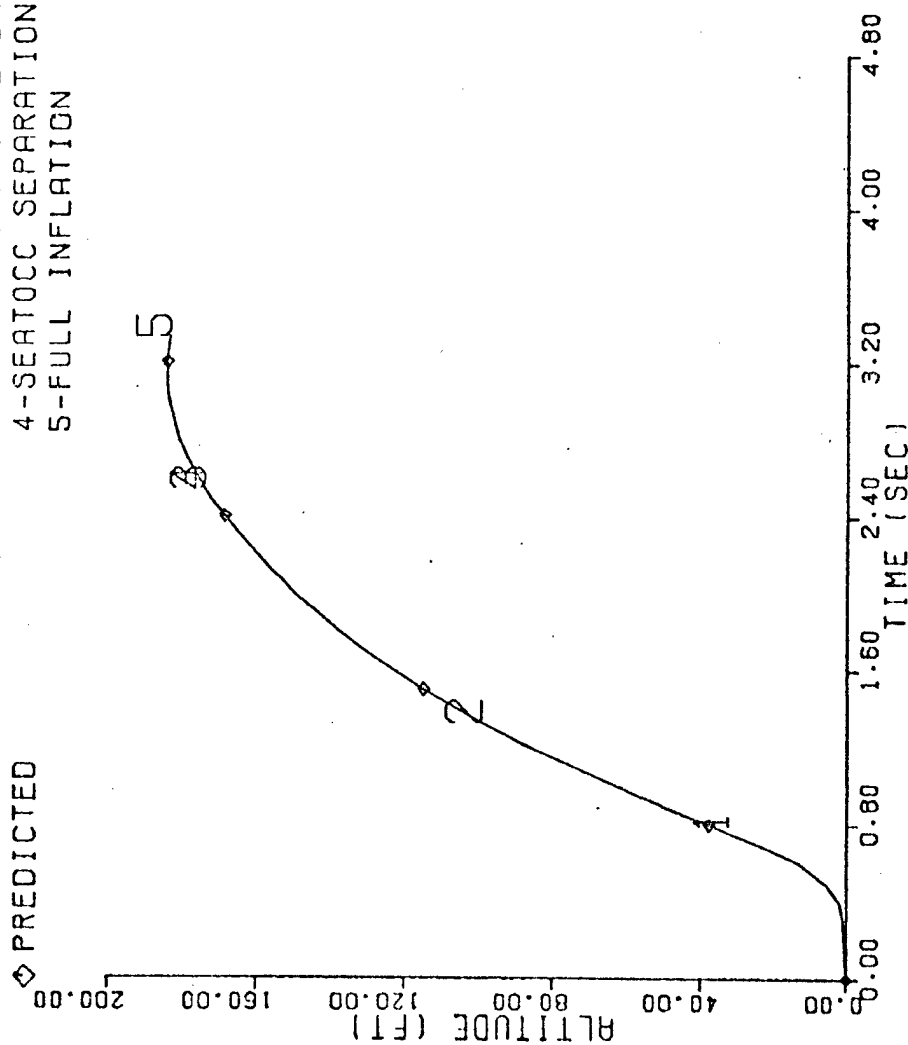


FIGURE G-24

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 4 225 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

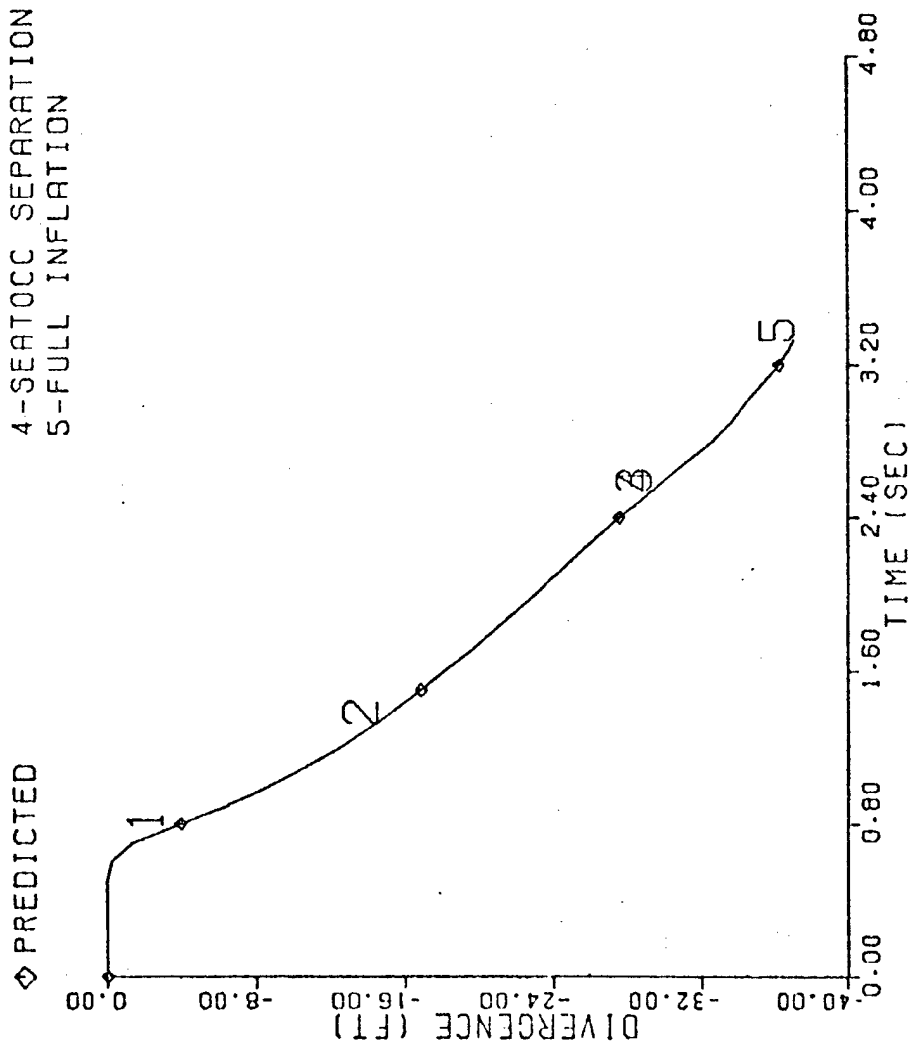


FIGURE G-25

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 4 225 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

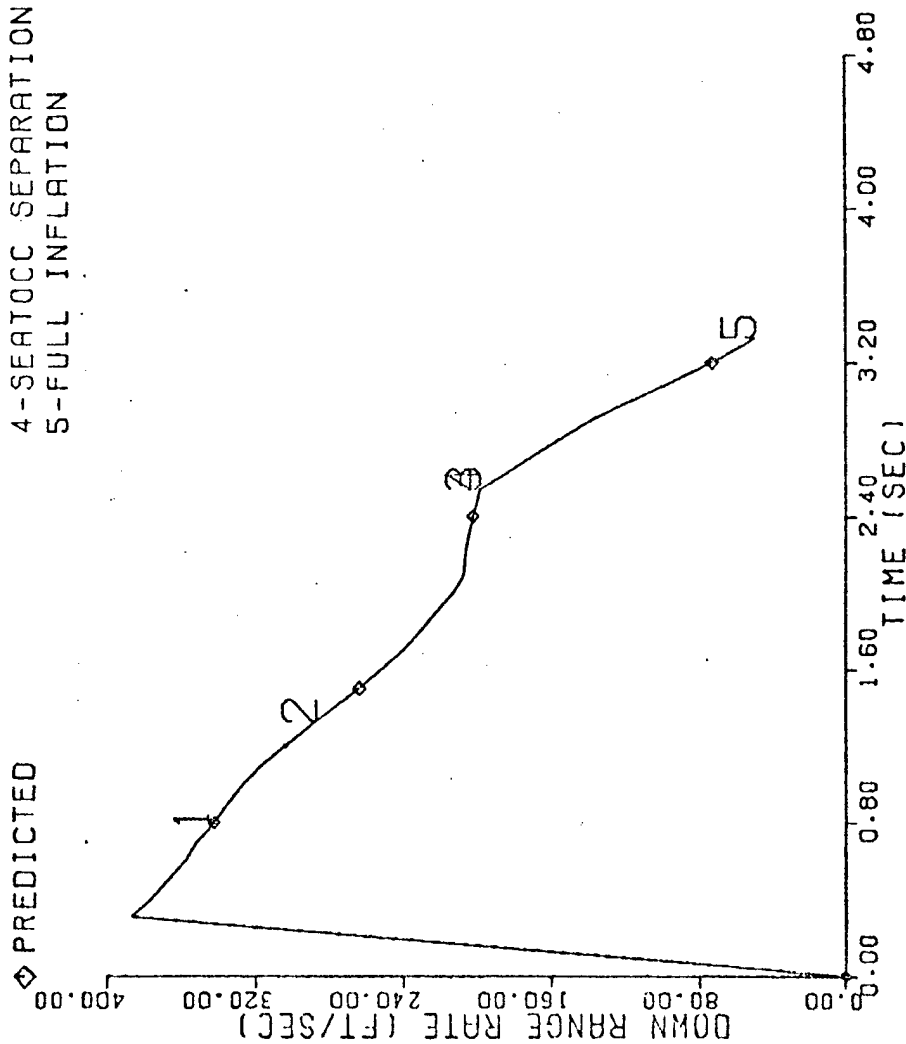


FIGURE G-26

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 4 225 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

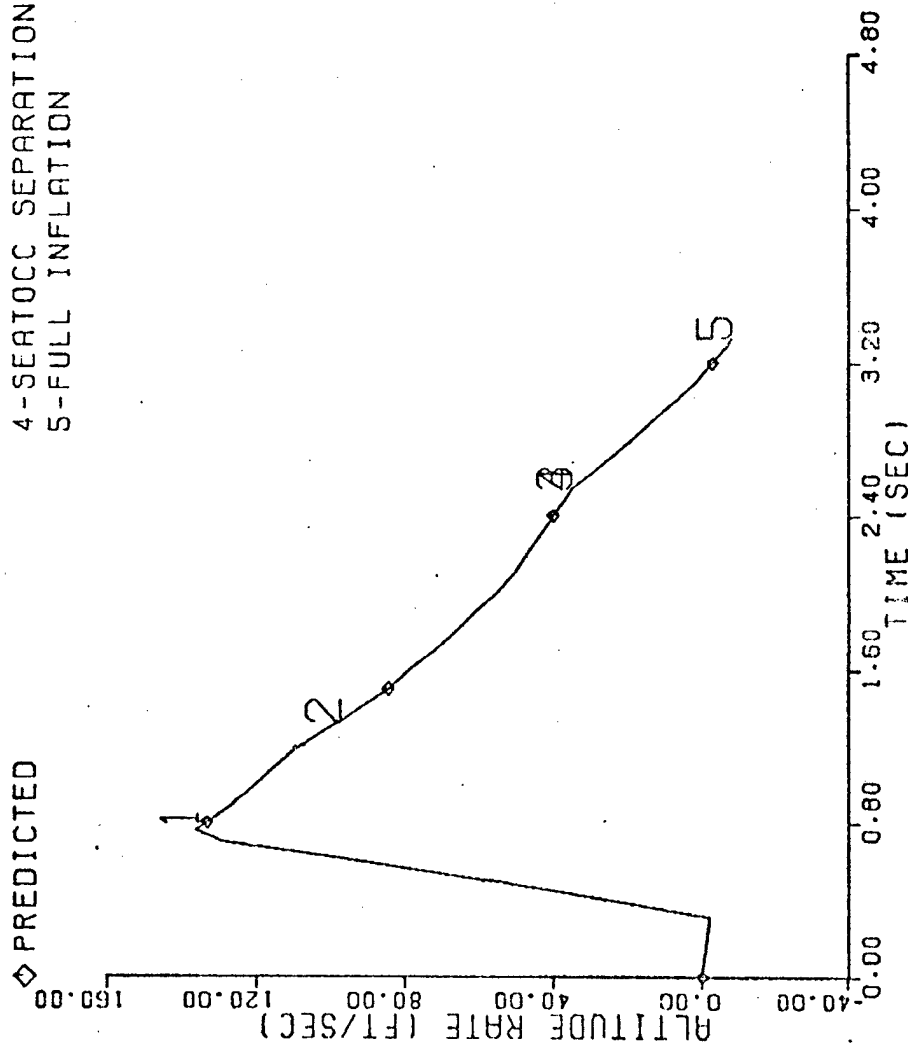


FIGURE G-27

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 4 225 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

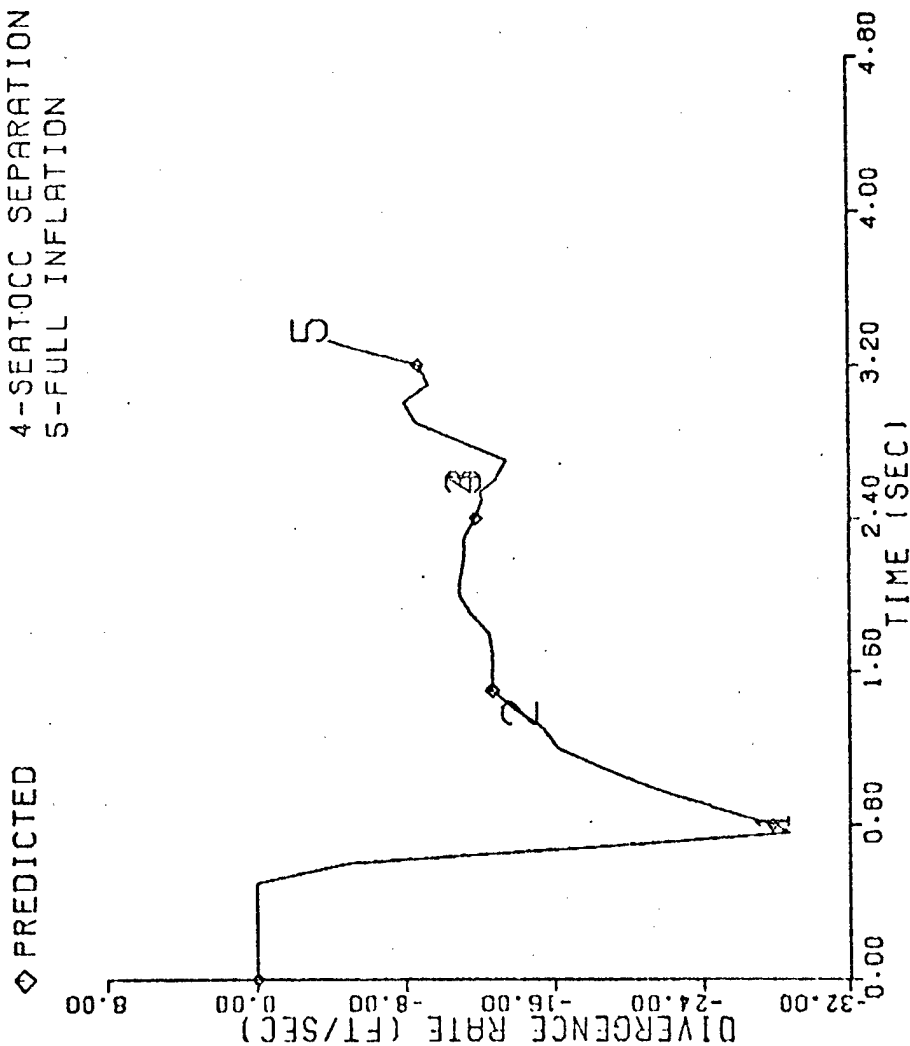
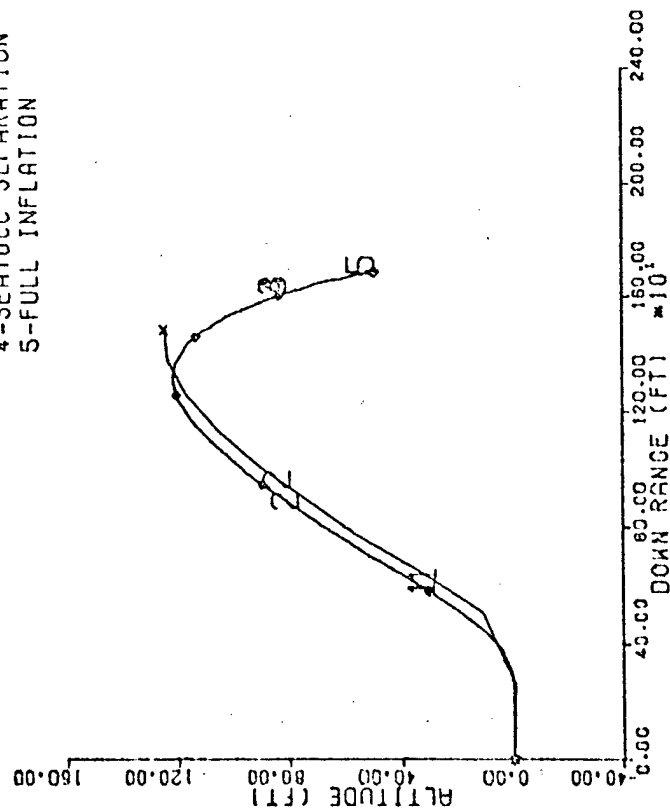


FIGURE G-28

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 5 435 KEAS 3 PERCENTILE DUMMY

X ACTUAL
 ◇ PREDICTED

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION



- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

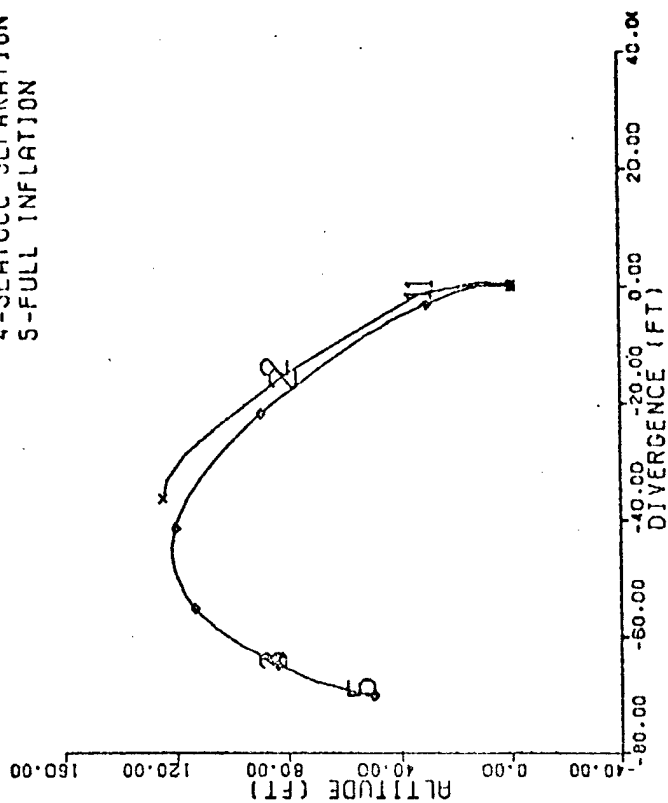


FIGURE G-29

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 5 435 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

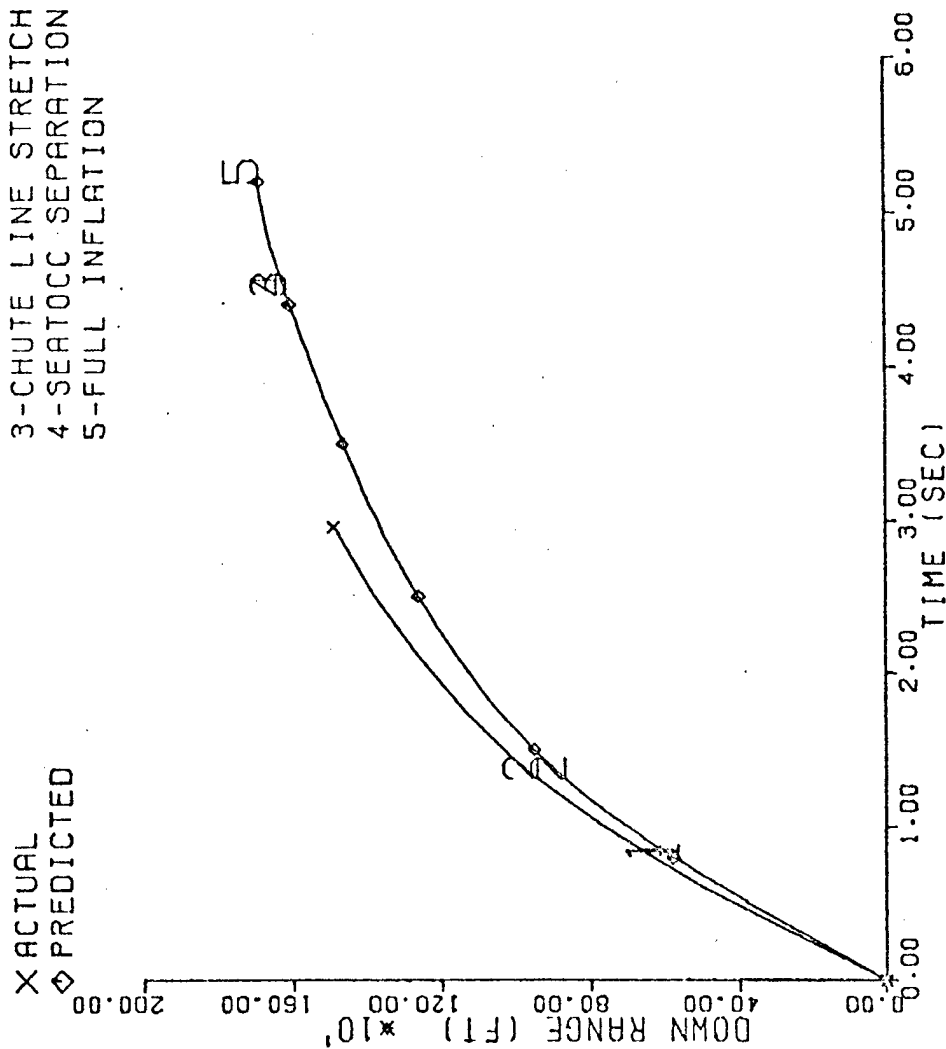


FIGURE G-30

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 5 435 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

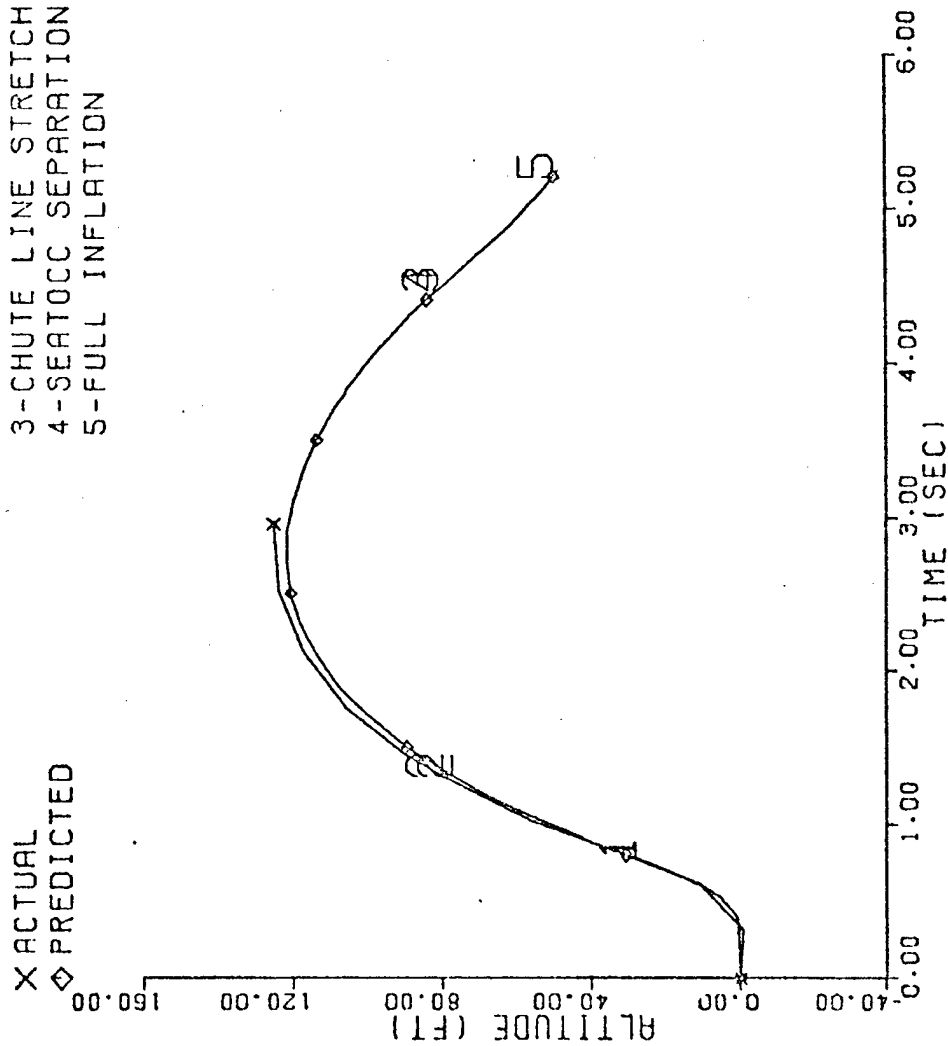


FIGURE G-31

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 5 435 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

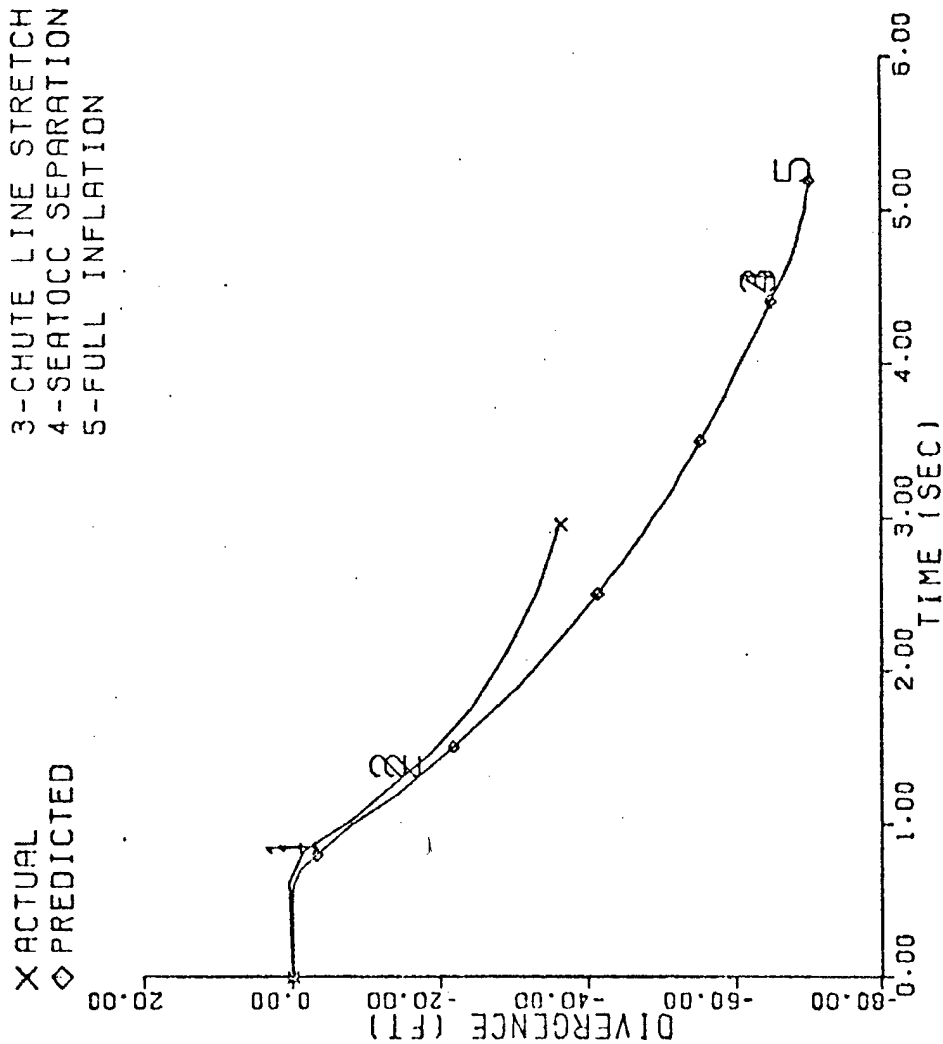


FIGURE G-32

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 5 435 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

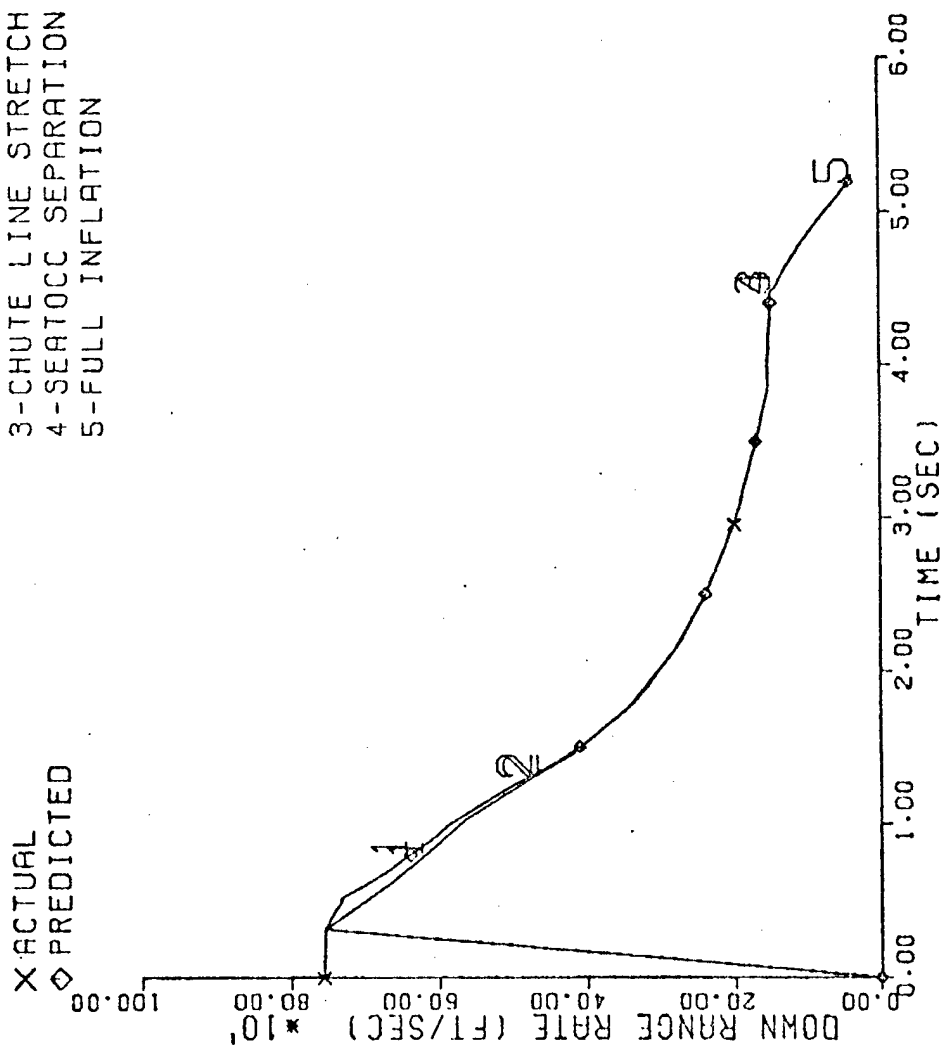


FIGURE G-33

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 5 435 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

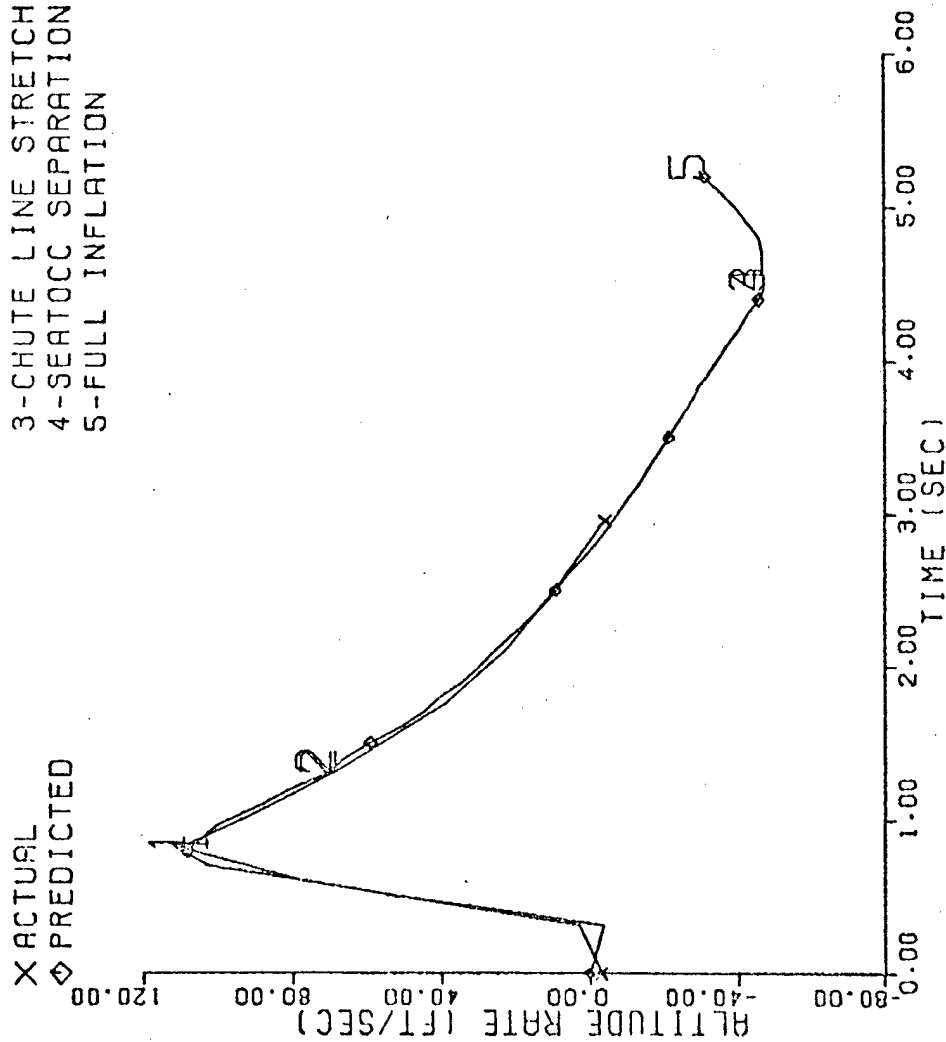


FIGURE G-34

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 5 435 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

X ACTUAL
 ◇ PREDICTED

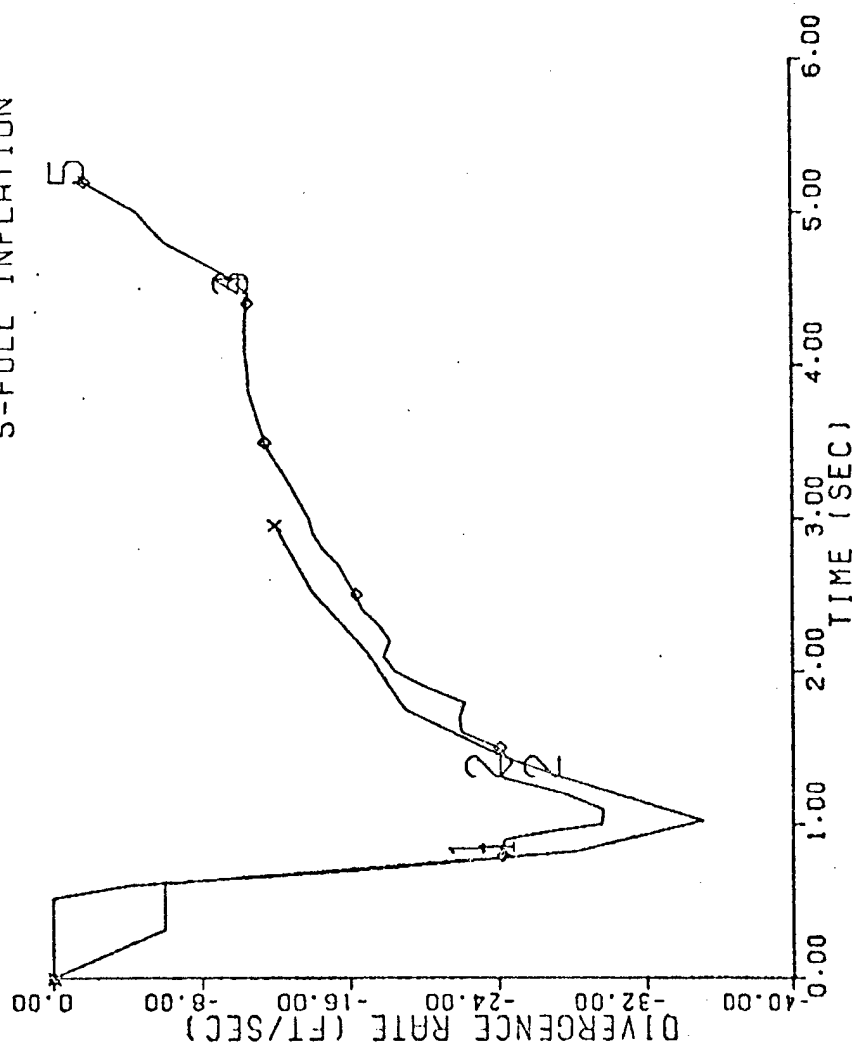
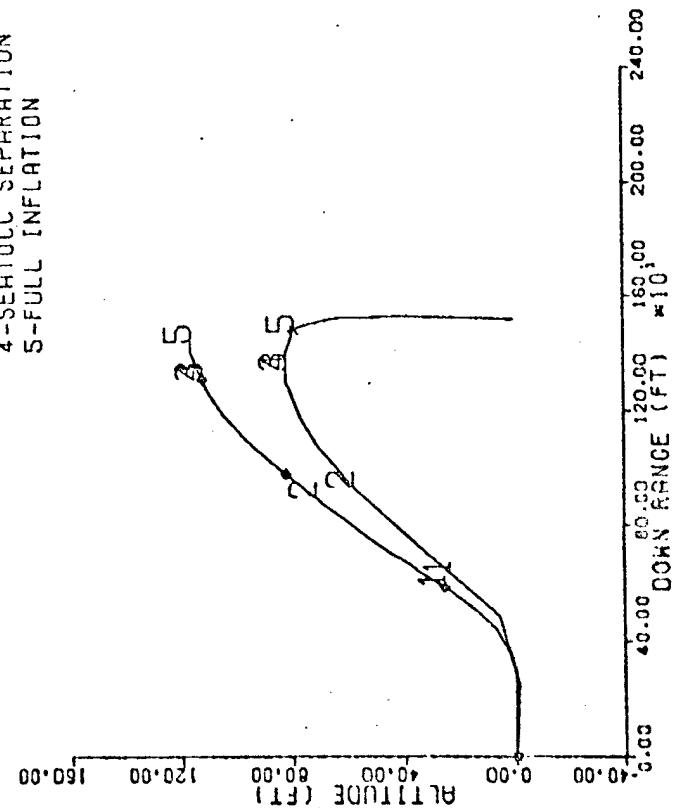


FIGURE G-35

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 6 435 KEAS 98 PERCENTILE DUMMY

X ACTUAL
 ◇ PREDICTED

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION



- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

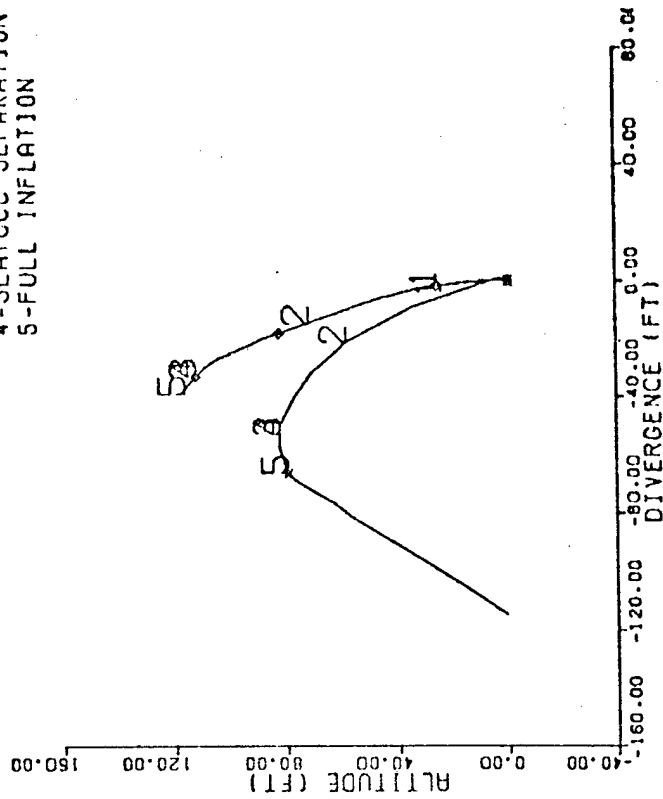


FIGURE G-36

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNCR TEST DATA
 TEST 6 435 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

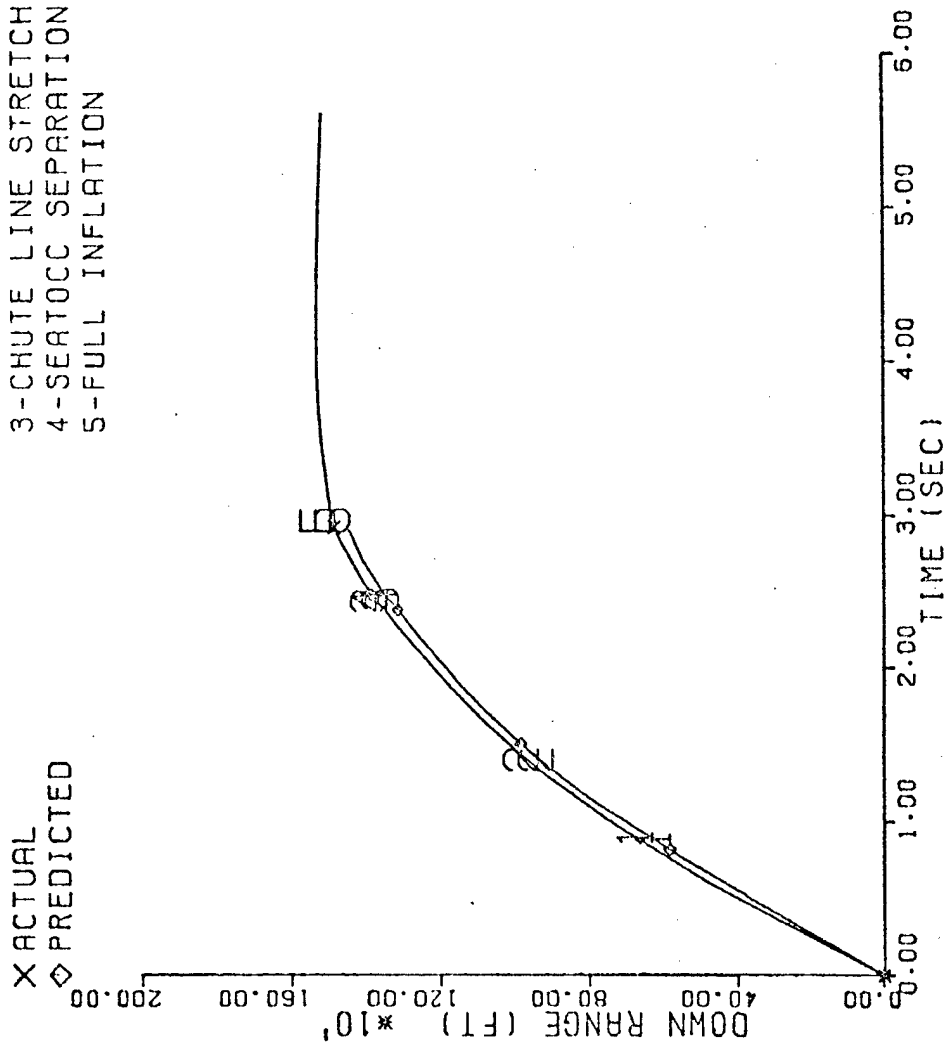


FIGURE G-37

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 6 435 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

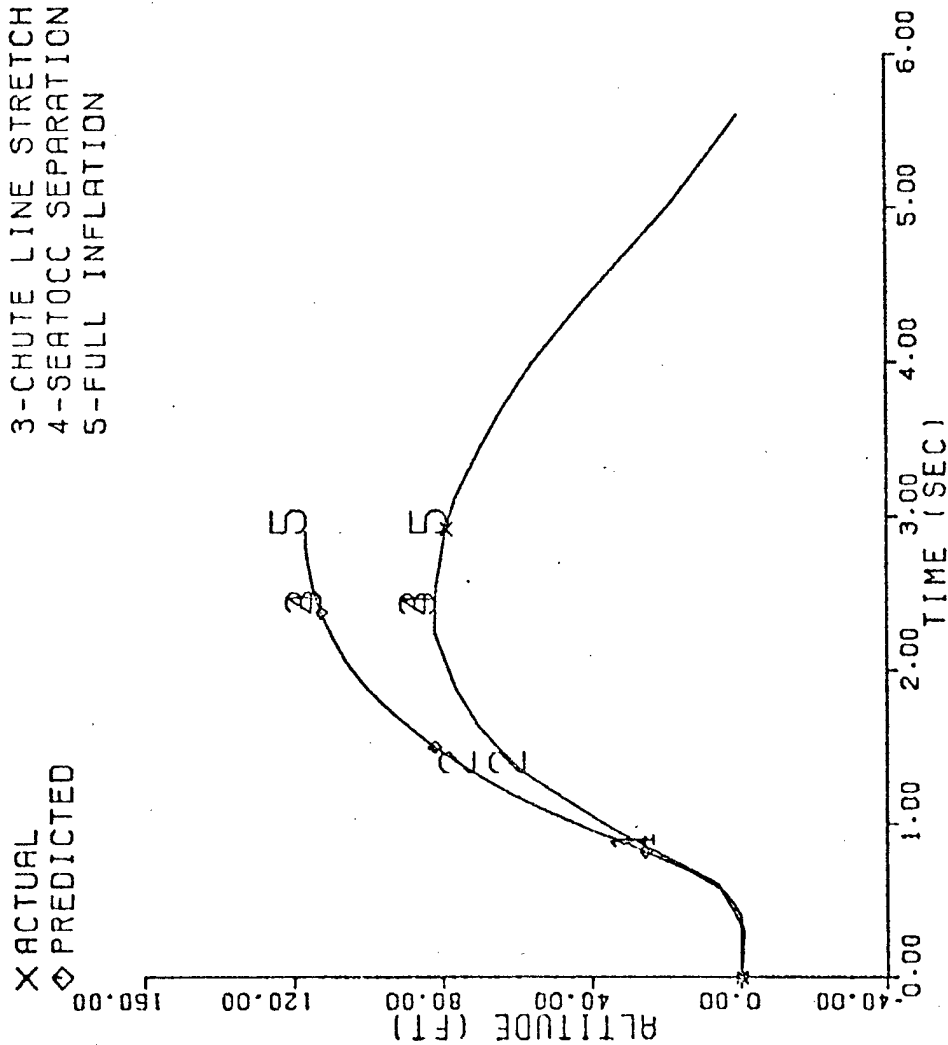


FIGURE G-38

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 6 435 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

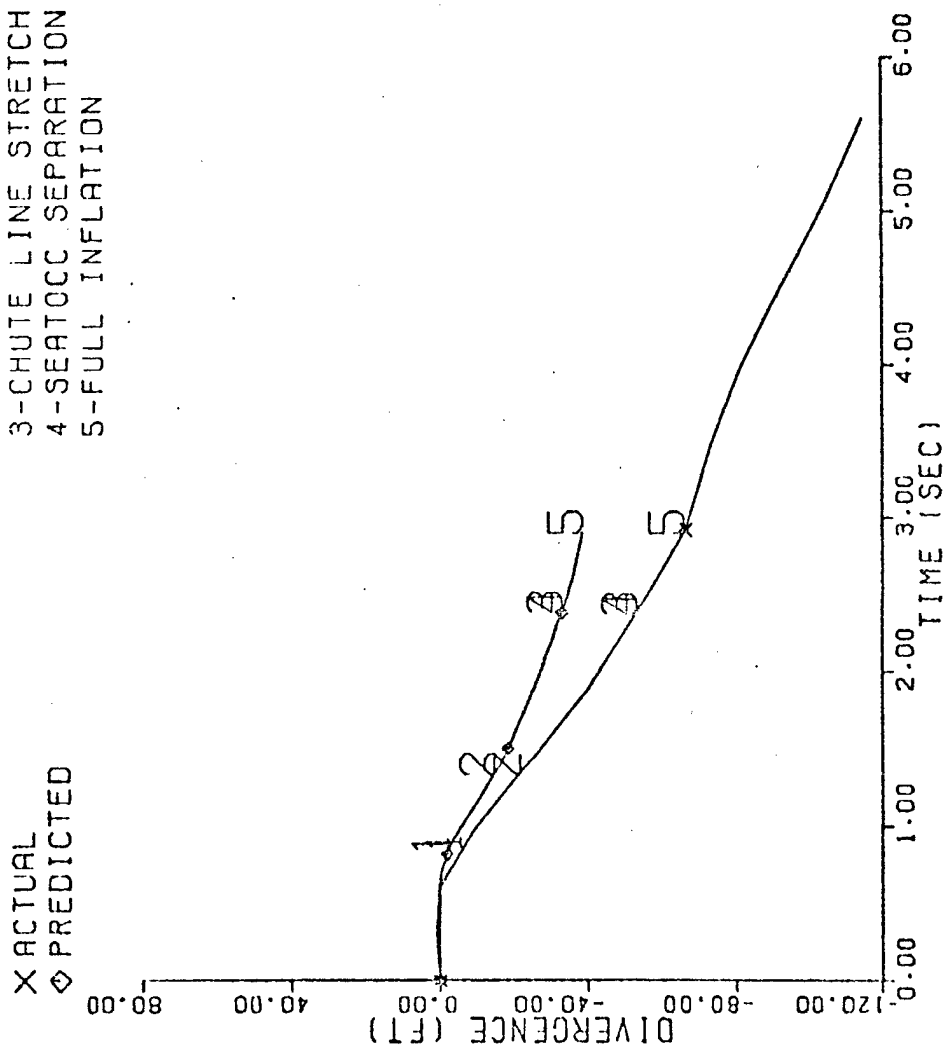


FIGURE G-39

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 6 435 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

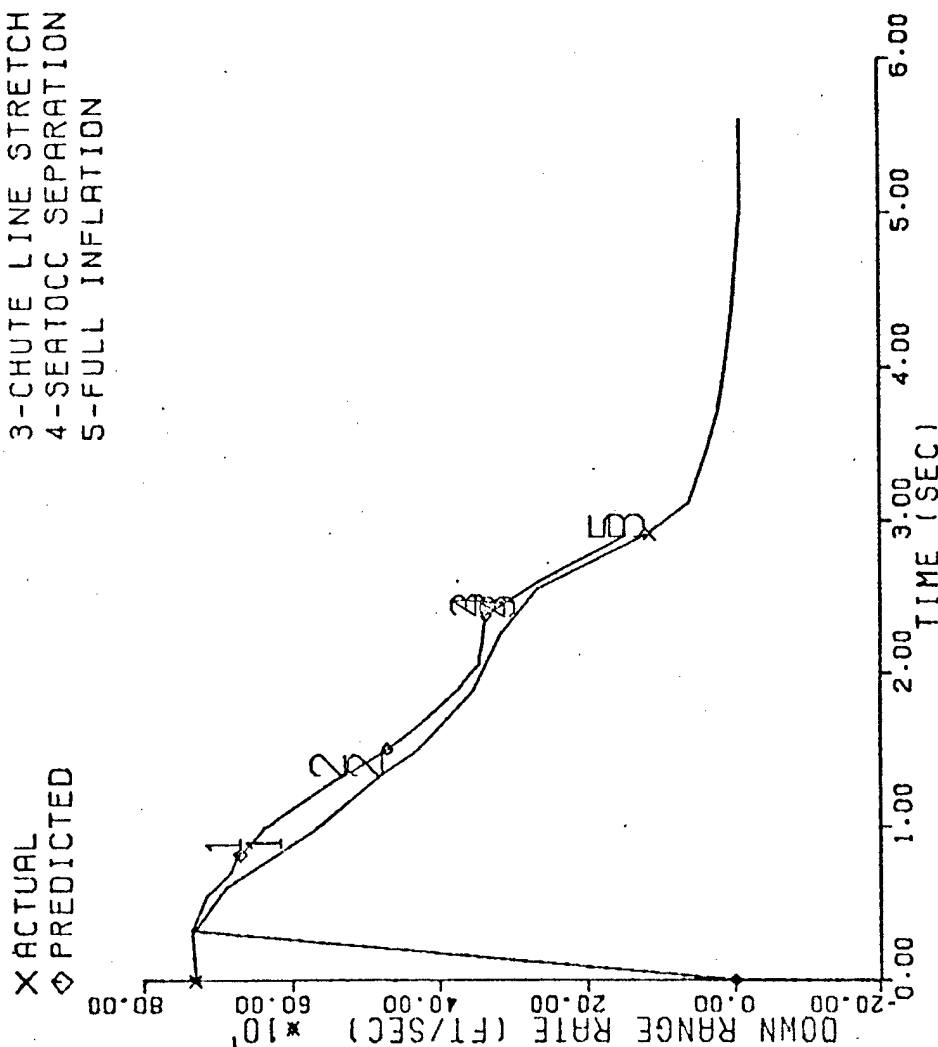


FIGURE G-40

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 6 435 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

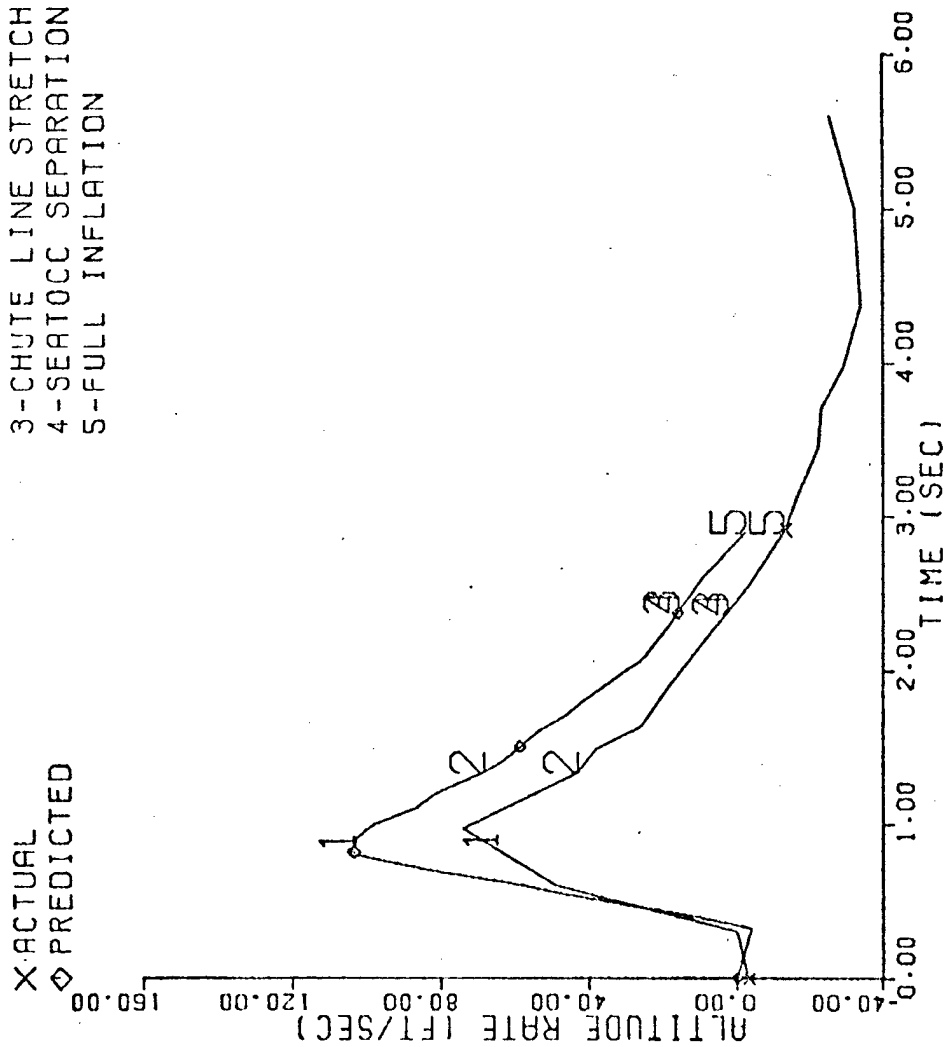


FIGURE G-41

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 6 435 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

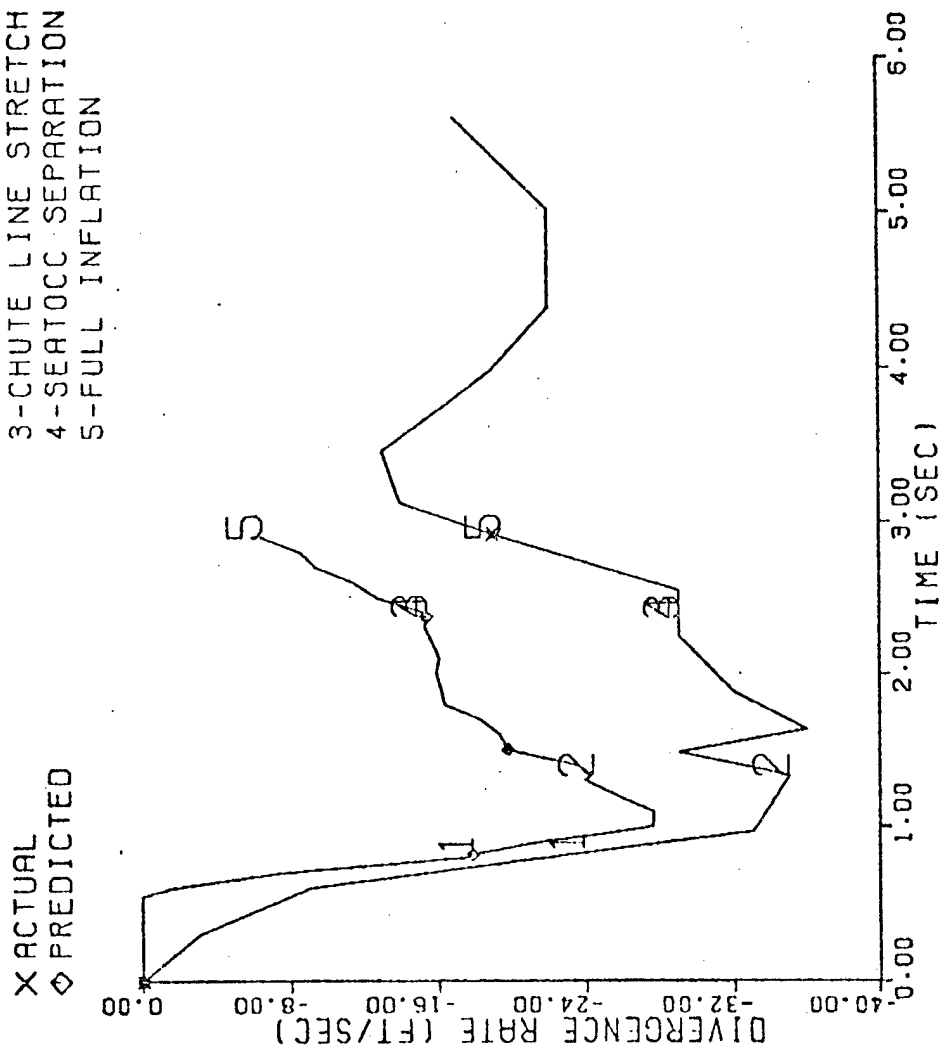


FIGURE G-42

ICARUS PROGRAM VALIDATION STUDY COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA TEST 7 600 KEAS 3 PERCENTILE DUMMY

X ACTUAL
 ◇ PREDICTED

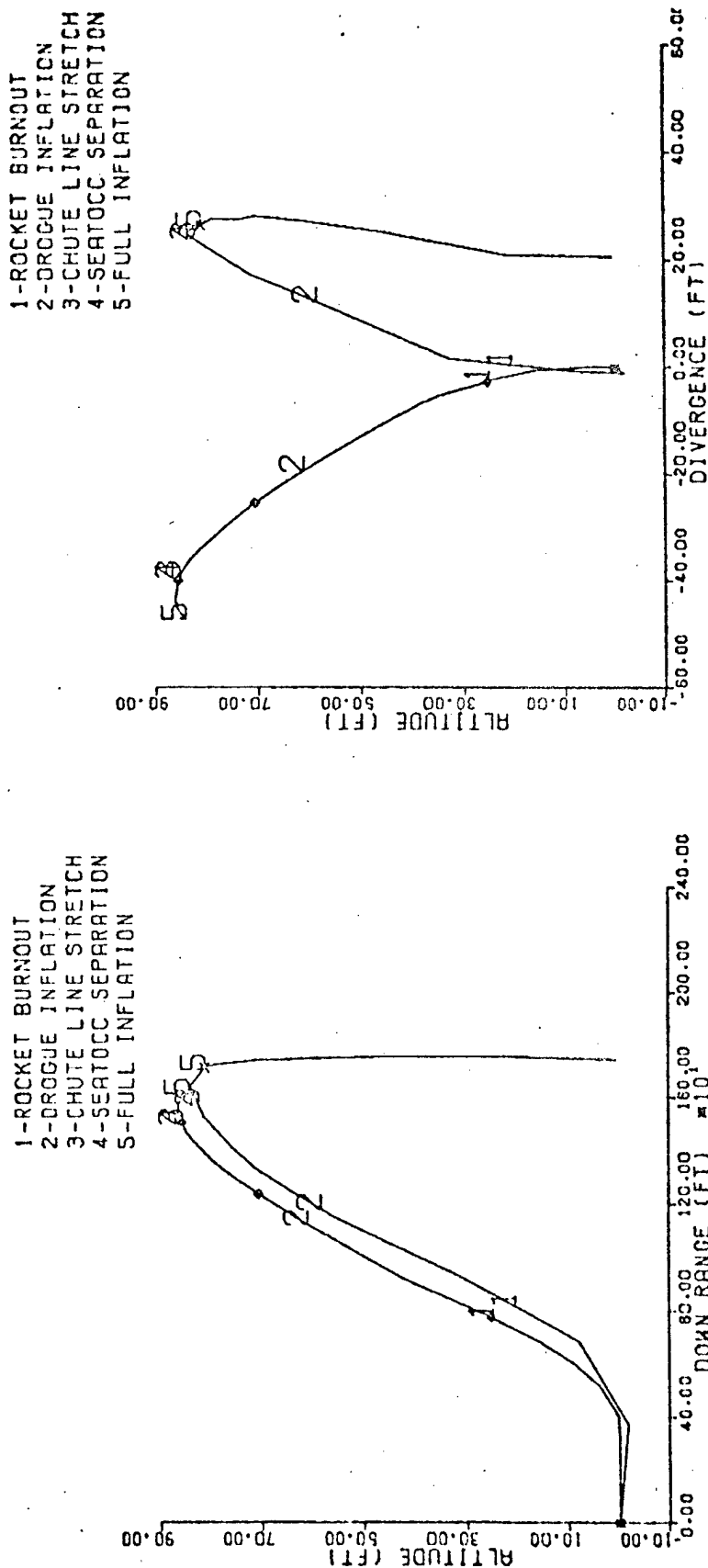


FIGURE G-43

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 7 600 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

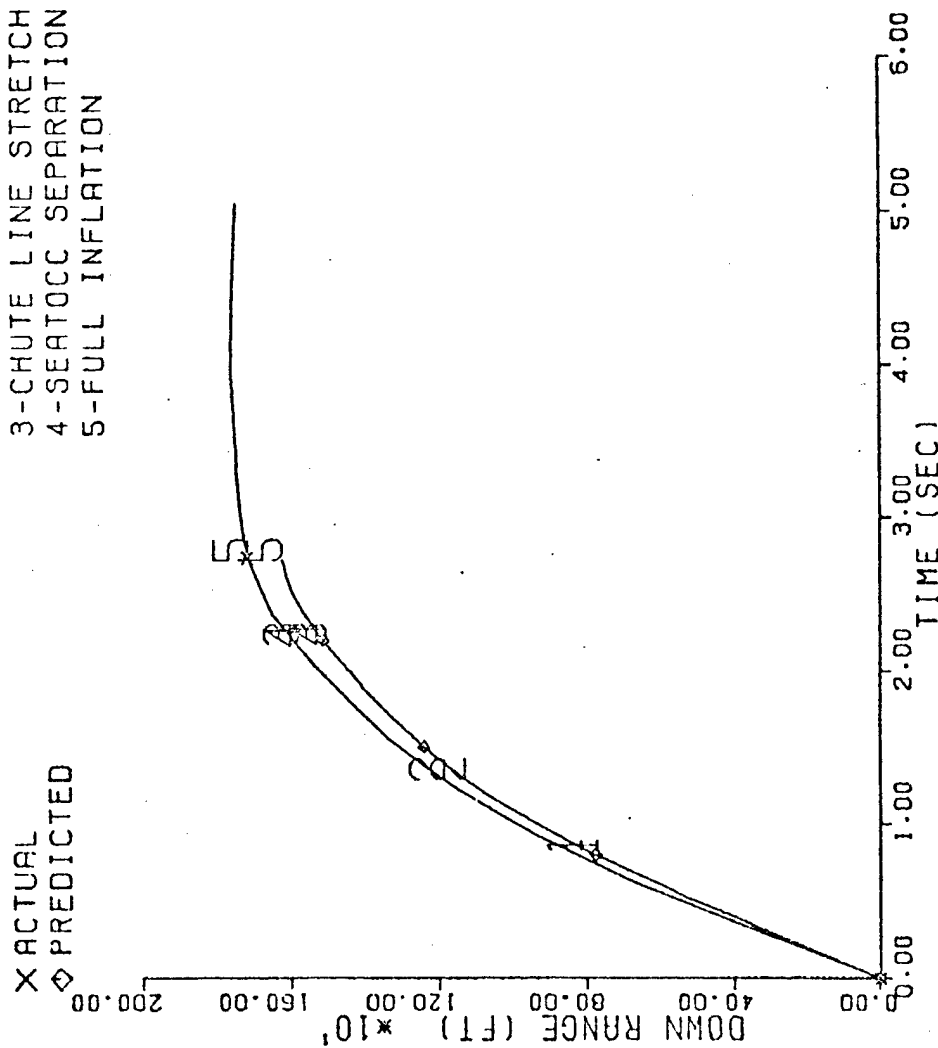


FIGURE G-44

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 7 600 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

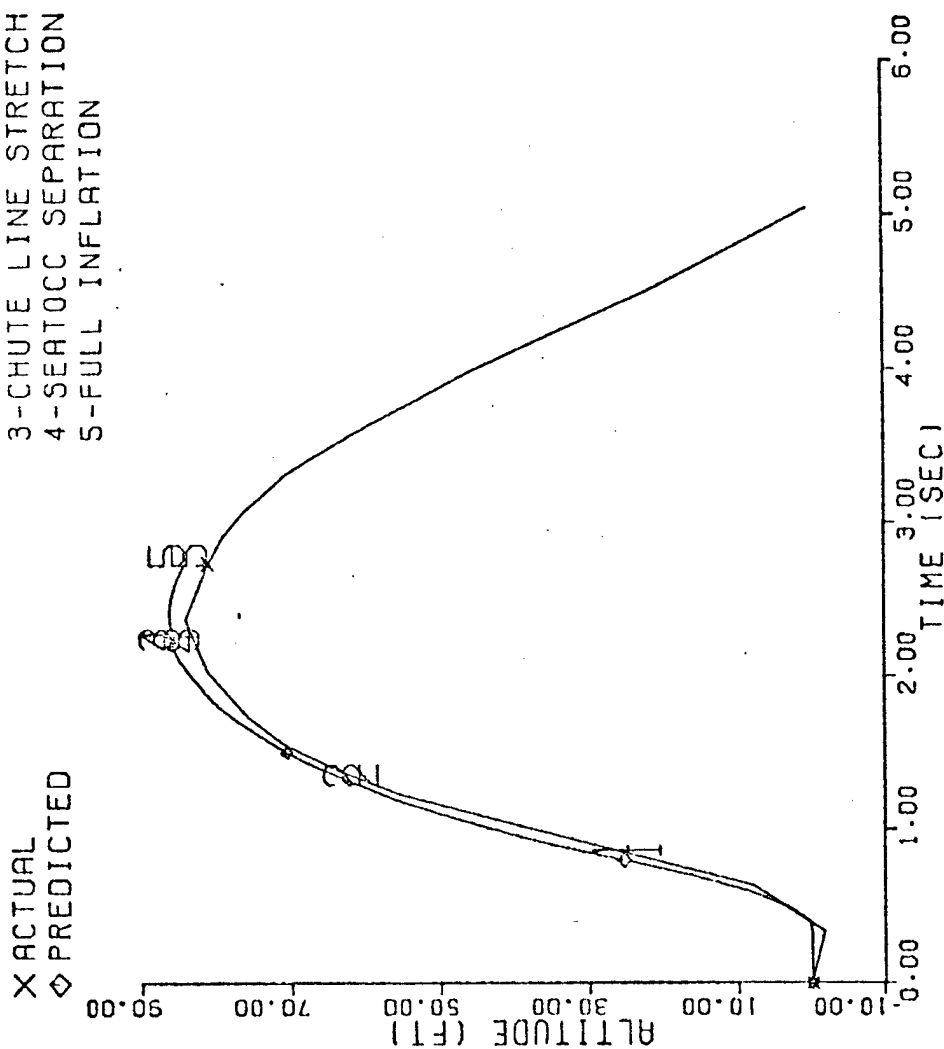


FIGURE G-45

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 7 600 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

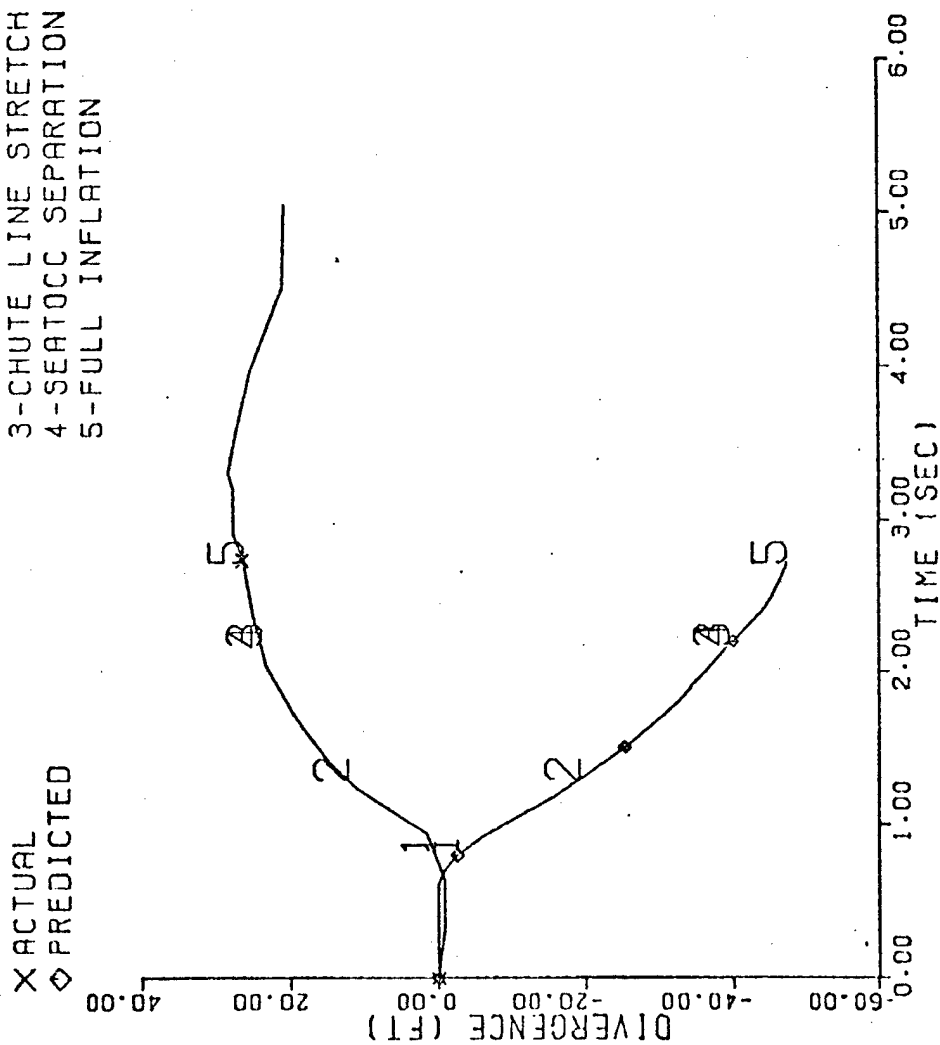


FIGURE G-46

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 7 600 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

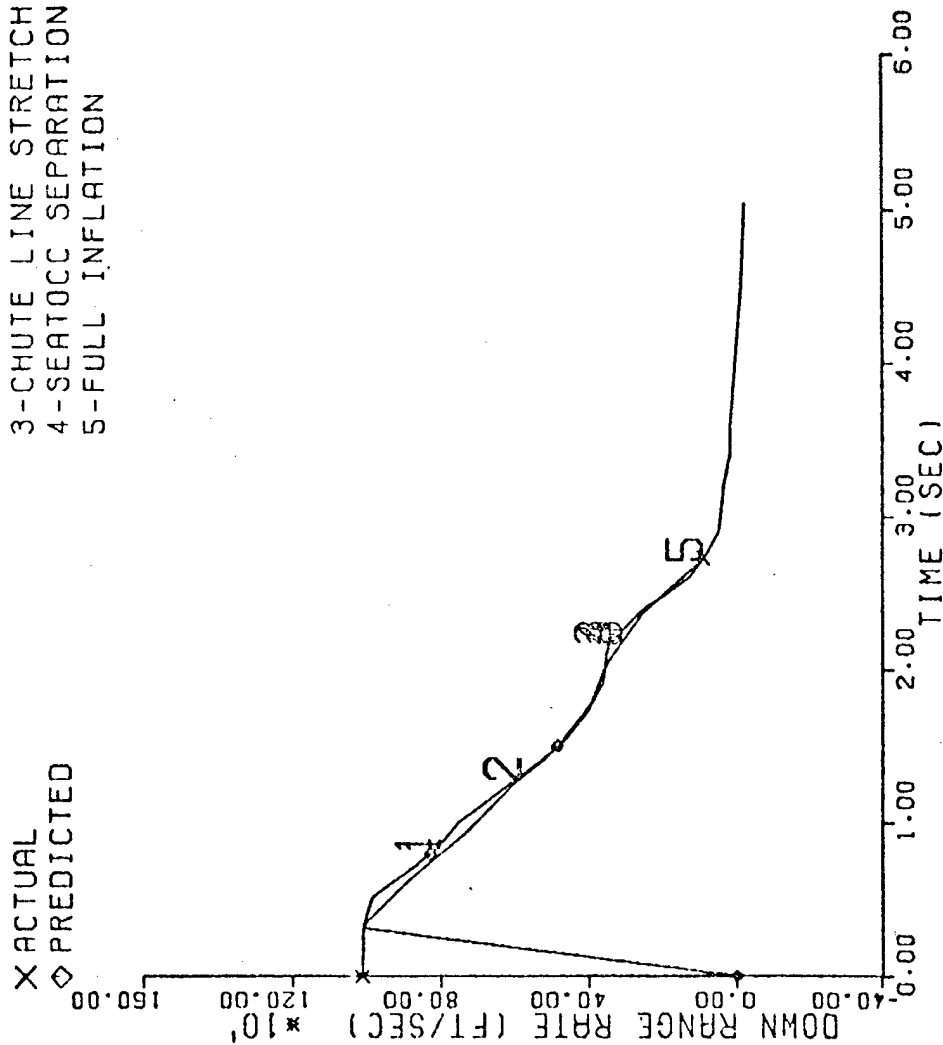


FIGURE G-47

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 7 600 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

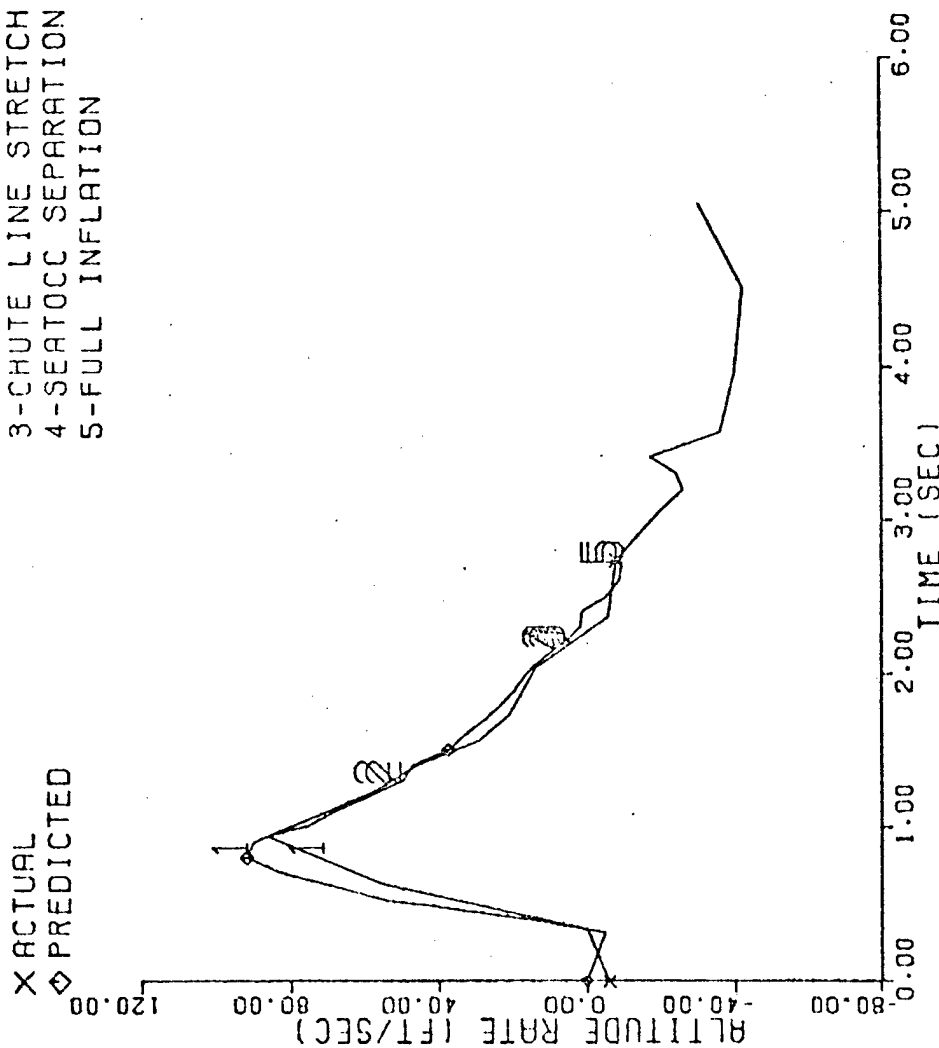


FIGURE G-43

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 7 600 KEAS 3 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

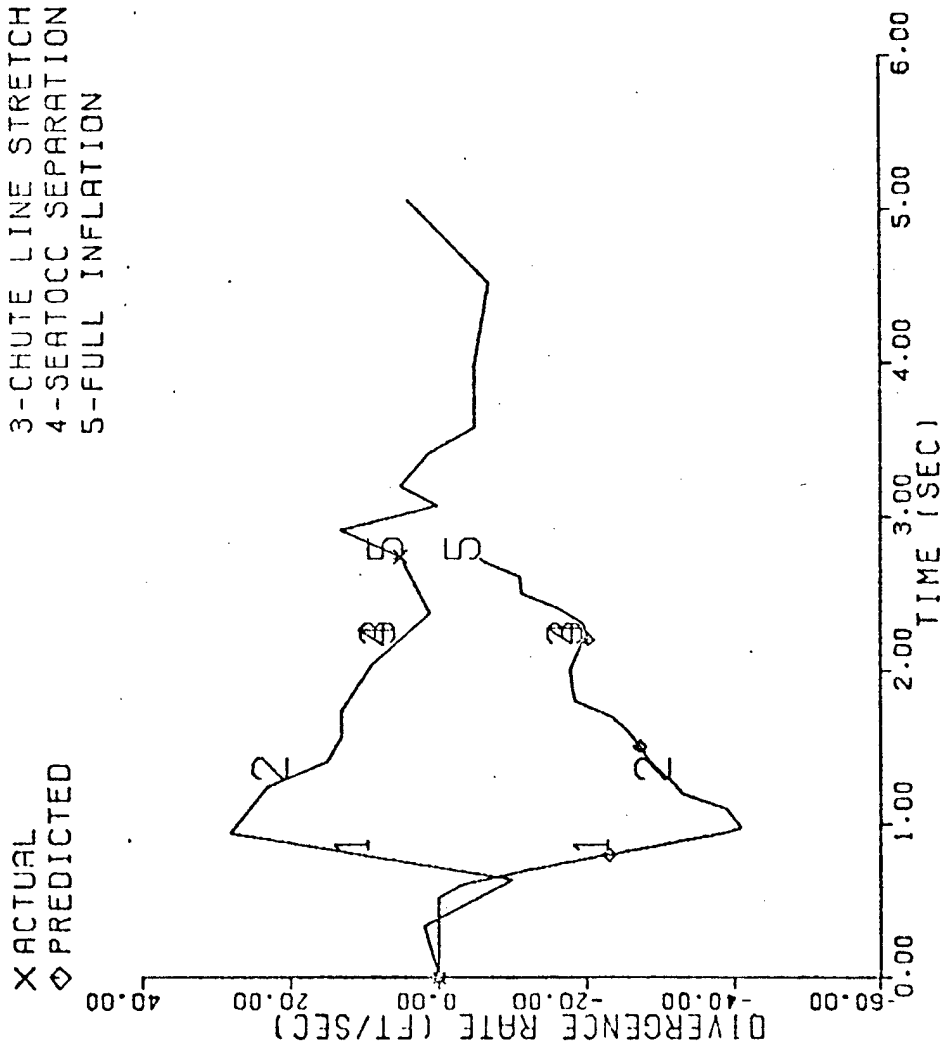
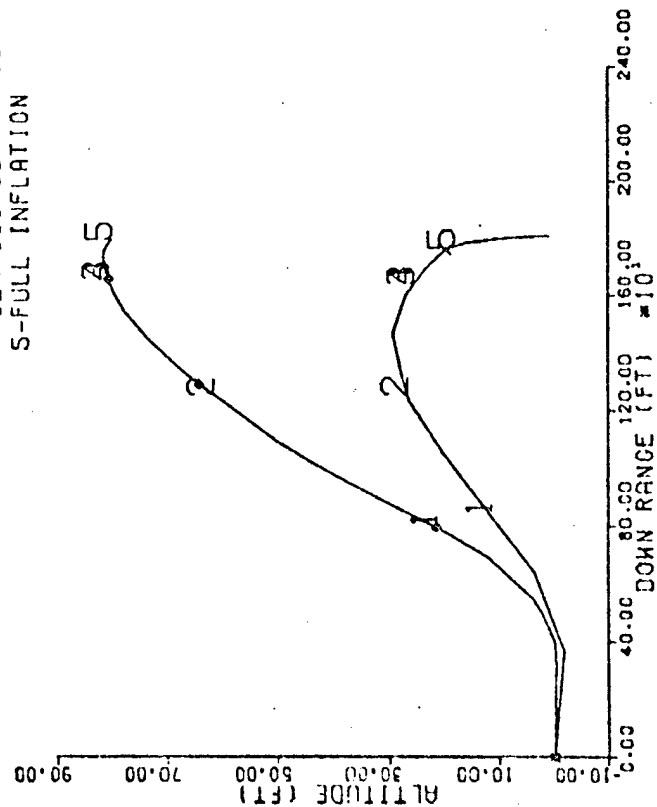


FIGURE G-49

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 8 600 KEAS 98 PERCENTILE DUMMY

X ACTUAL
 ◇ PREDICTED

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION



- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

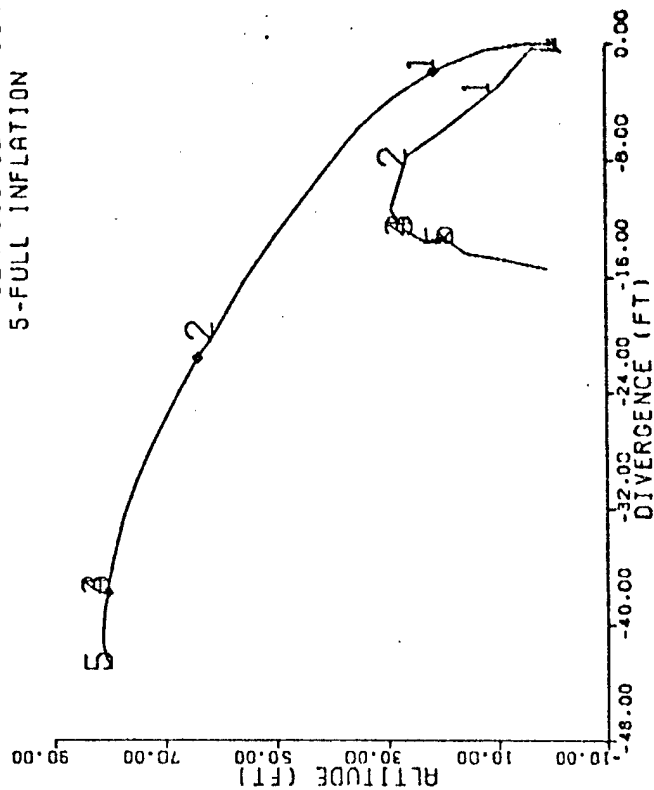


FIGURE G-50

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 8 600 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

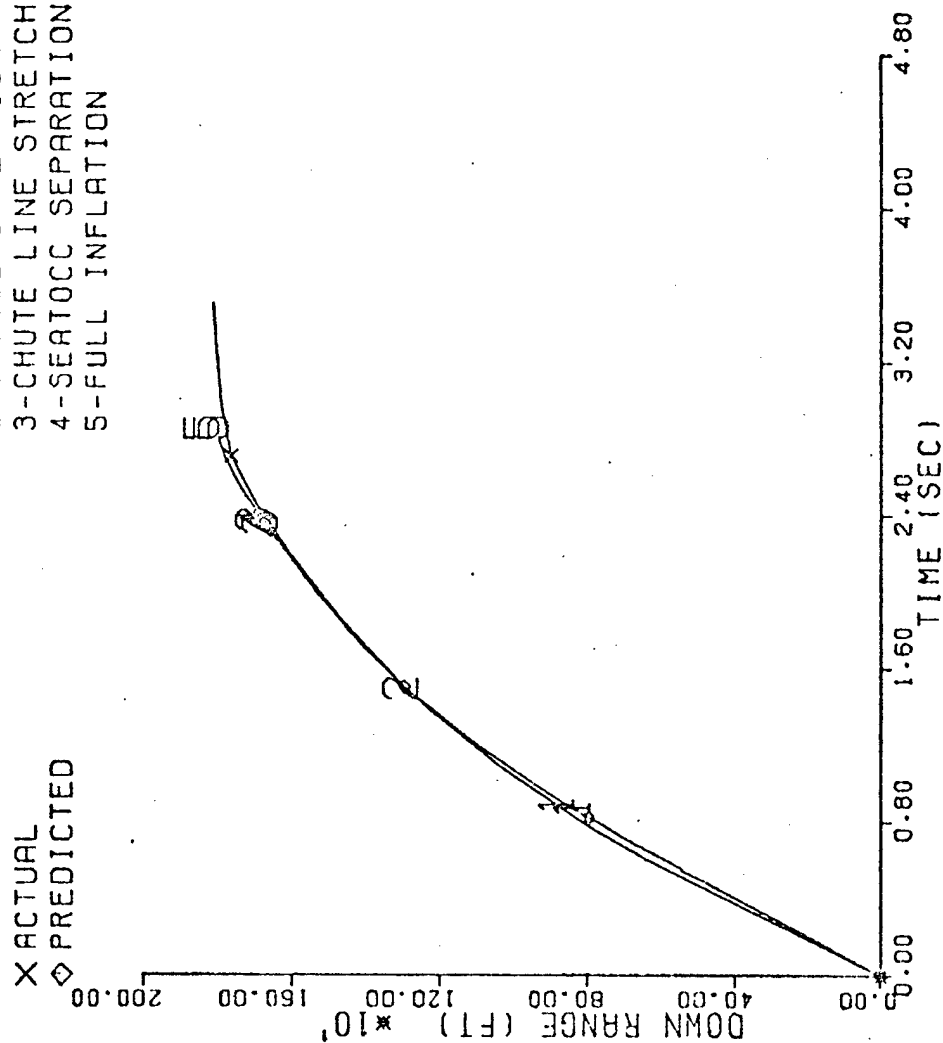


FIGURE G-51

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 8 600 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

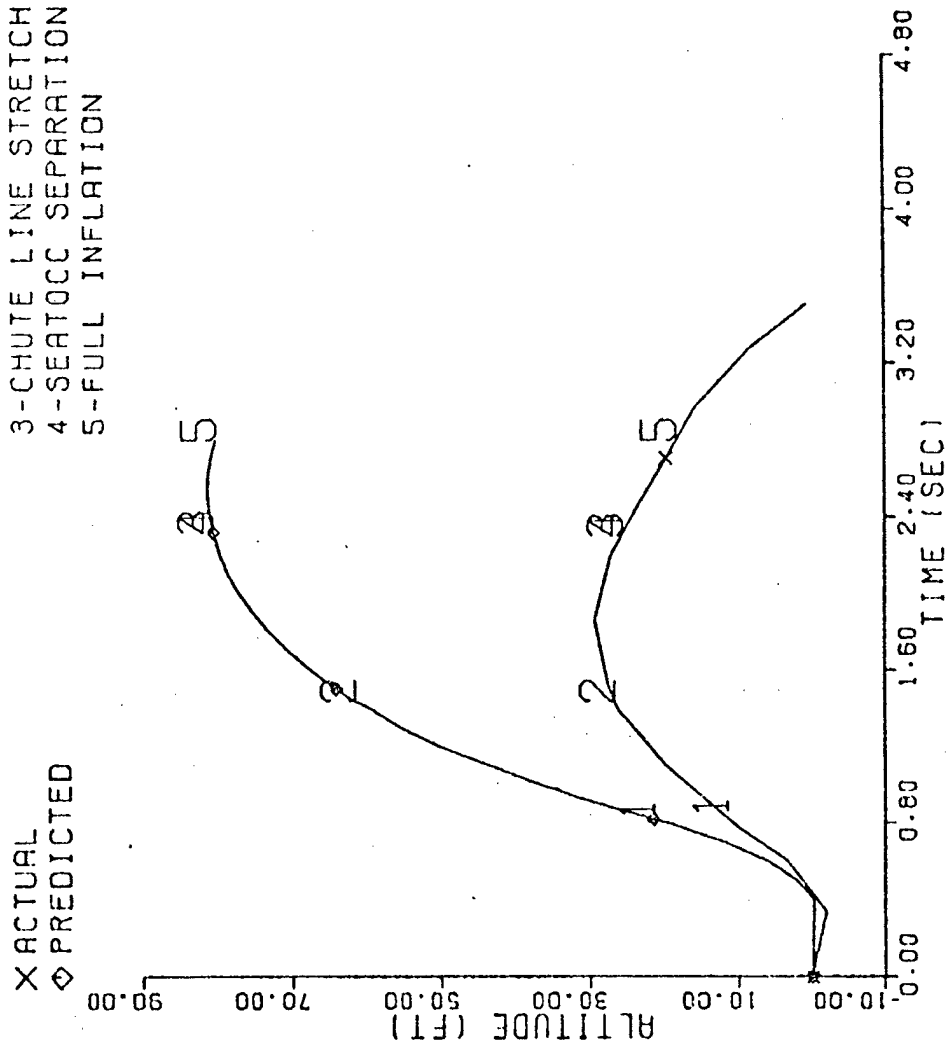


FIGURE G-52

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 8 600 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

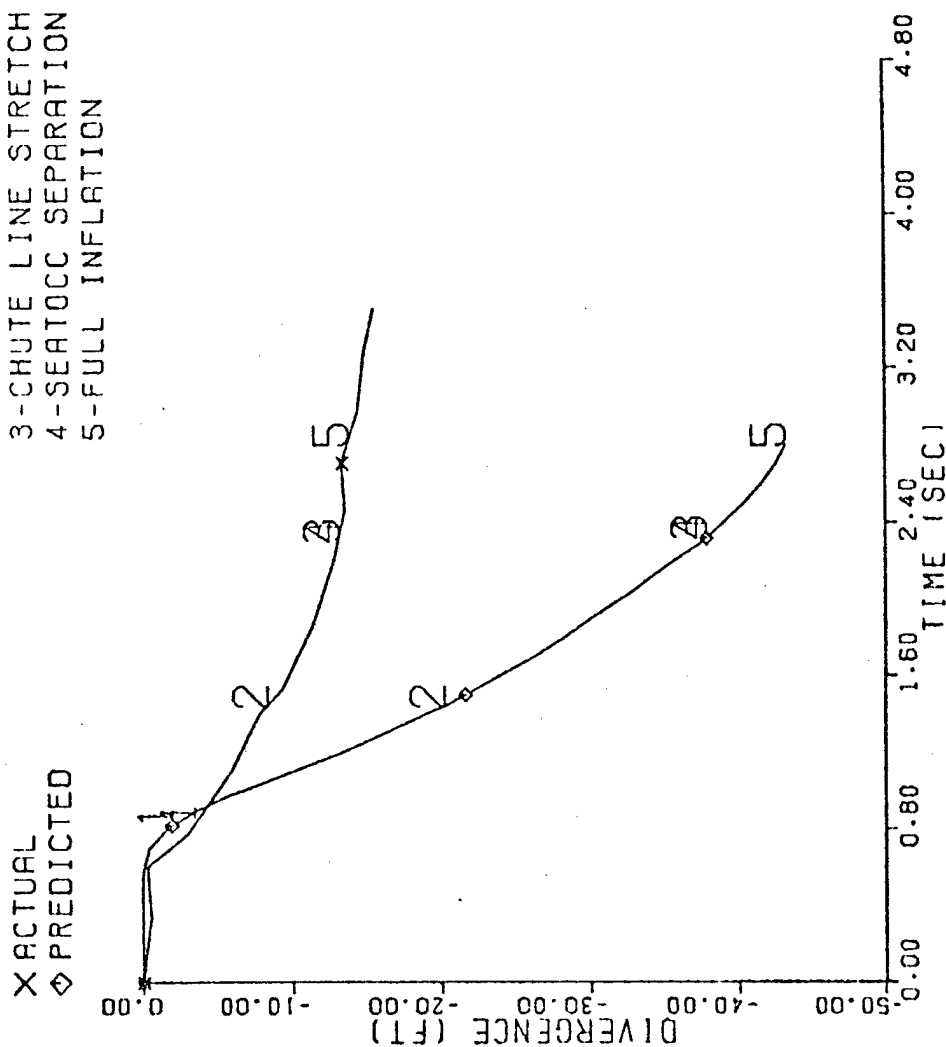


FIGURE G-53

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 8 600 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

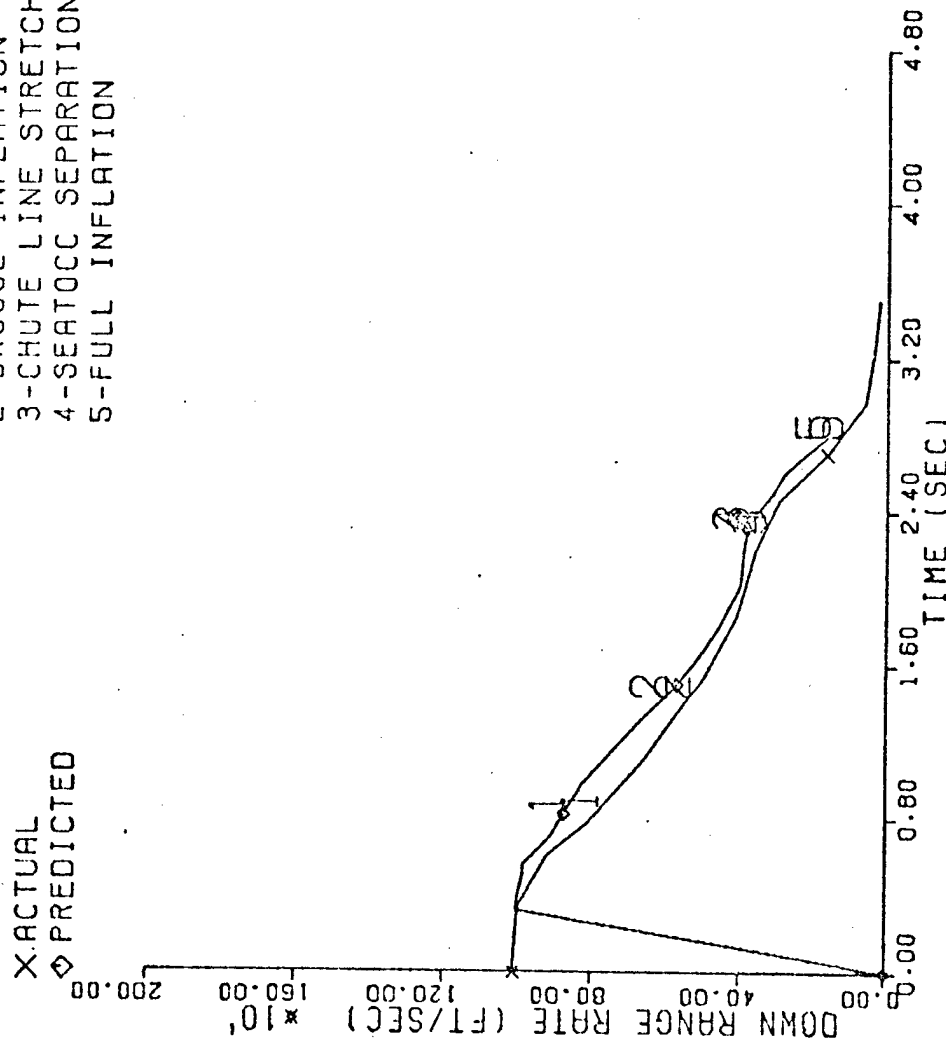


FIGURE G-54

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 8 600 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

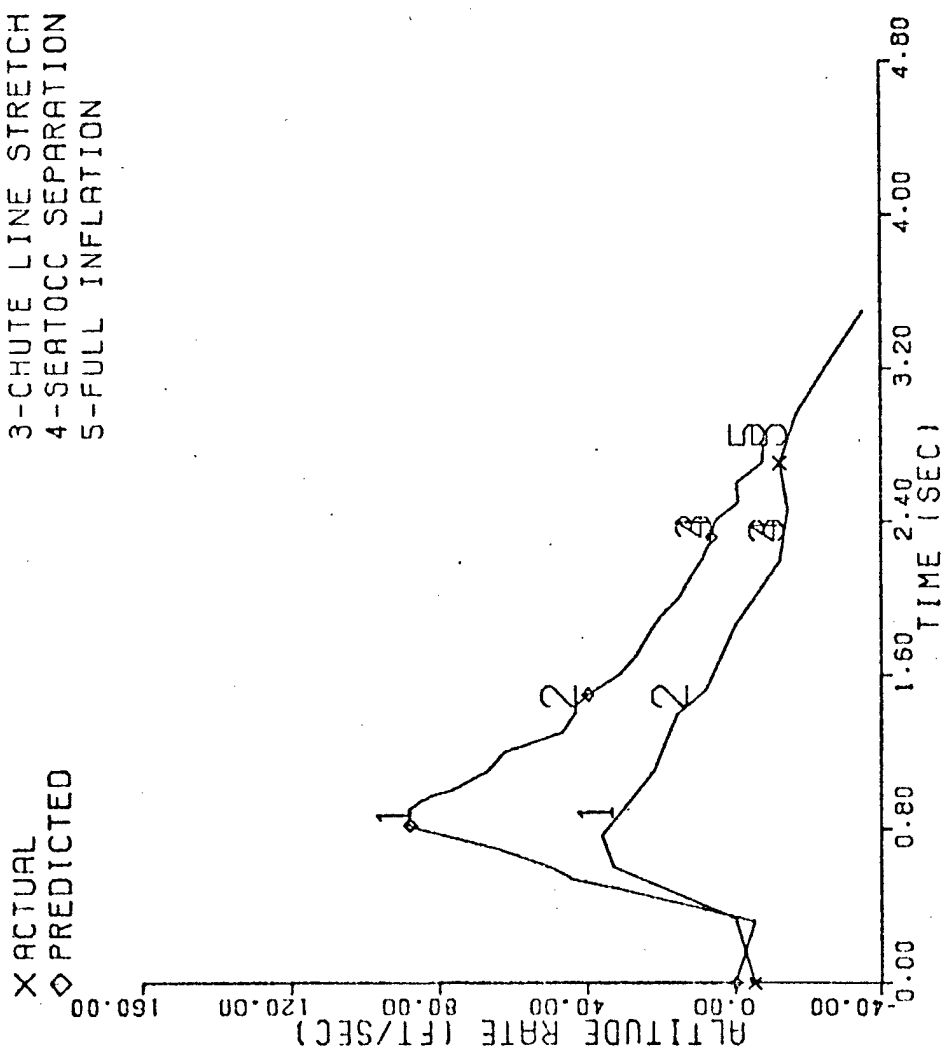


FIGURE G-55

ICARUS PROGRAM VALIDATION STUDY
 COMPARISON OF PREDICTED AND ACTUAL F-18A NWC SNORT TEST DATA
 TEST 8 600 KEAS 98 PERCENTILE DUMMY

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH
- 4-SEATOCC SEPARATION
- 5-FULL INFLATION

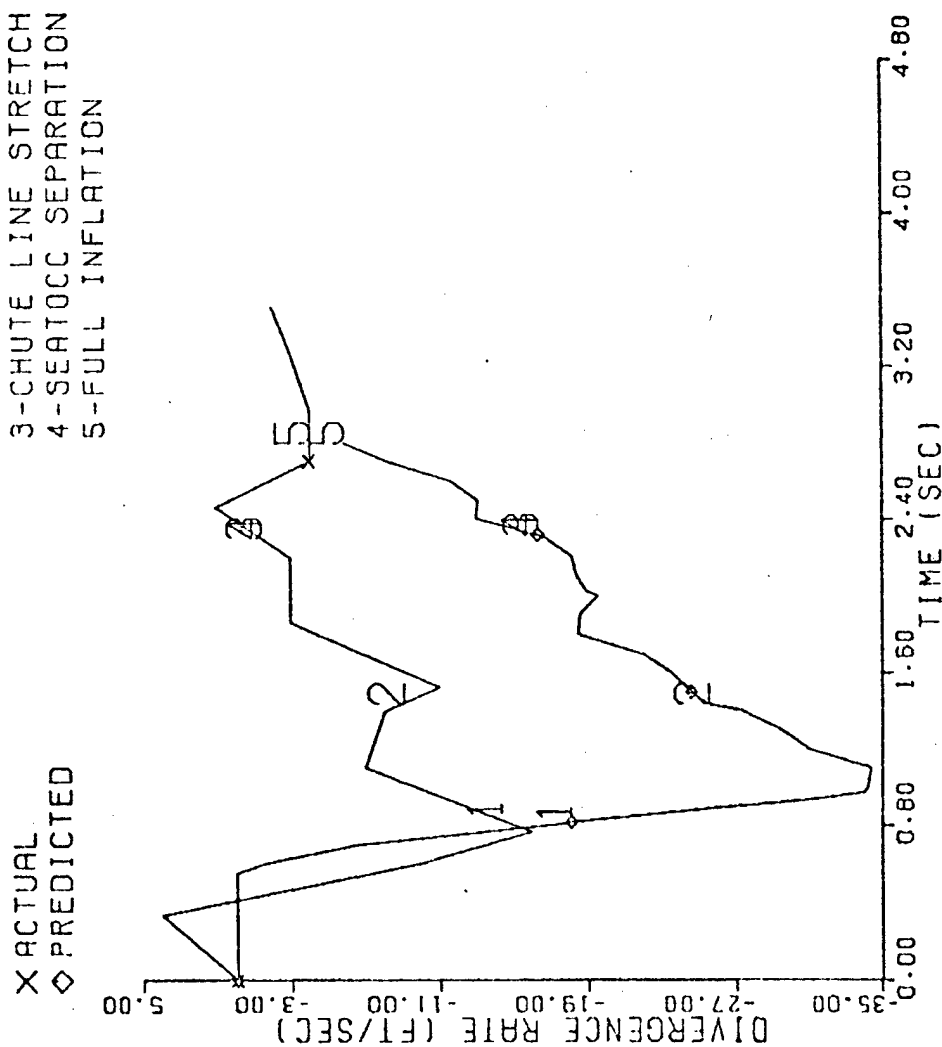


FIGURE G-56

APPENDIX H

Plotting Program (ICAPLTS)

The following examples show how to run the plotting program to plot 2 test files. Four basic plotting options are available to the user. An example of each is provided. (It should be noted that event times input are not the correct times.)

```
/get,tape1=f18nwc1,tape2=pl t1  
/call,icaplot
```

START OF TAPE
OPTIONS?C
ENTER NUMBER OF FILES
2

SPECIFY PLOTTING DESIRED:

1. GENERATE STANDARD TEST PLOTS
2 PLOTS PER PAGE
ALT VS DOWNRANGE
ALT VS DIVERGENCE

2. GENERATE 6 SUCCESSIVE PLOTS
1 PLOT PER PAGE
ALTITUDE VS TIME
DOWNRANGE VS TIME
DIVERGENCE VS TIME
X VEL VS TIME
Y VEL VS TIME
Z VEL VS TIME

3. SELECT SPECIFIC OPTIONS

4. JUST PLOT - NO OPTIONS

THE FOLLOWING OPTIONS ARE IMPLEMENTED WITH (1,2):

AUTOMATIC HARDCOPY
3 LINES OF TITLE
TITLE FOR EACH PLOT
PLOT EVENT TIMES

? 1

ENTER 3 LINES OF TITLE
? demonstration plots
? plotting option 1
? nwc test 1
ENTER TITLE FOR FILE NUMBER 1
? nwc data
ENTER TITLE FOR FILE NUMBER 2
? nadc data

ENTER NUMBER OF EVENTS FOR FILE NUMBER 1

? 5

ENTER TIME FOR EVENT 1-ROCKET BURNOUT

? 3

ENTER TIME FOR EVENT 2-DROGUE INFLATION

? 5

ENTER TIME FOR EVENT 3-CHUTE LINE STRETCH

? 7

ENTER TIME FOR EVENT 4-SEATOCC SEPARATION

? 9

ENTER TIME FOR EVENT 5-FULL INFLATION

? 1.1

ENTER NUMBER OF EVENTS FOR FILE NUMBER 2
 ? 5
 ENTER TIME FOR EVENT 1-ROCKET BURNOUT
 ? .4
 ENTER TIME FOR EVENT 2-DROGUE INFLATION
 ? .6
 ENTER TIME FOR EVENT 3-CHUTE LINE STRETCH
 ? .8
 ENTER TIME FOR EVENT 4-SEATOCC SEPARATION
 ? 1.0
 ENTER TIME FOR EVENT 5-FULL INFLATION
 ? 1.2
 DO YOU WISH TO OUTPUT THE DATE
 ON EACH PLOT (Y,N)?

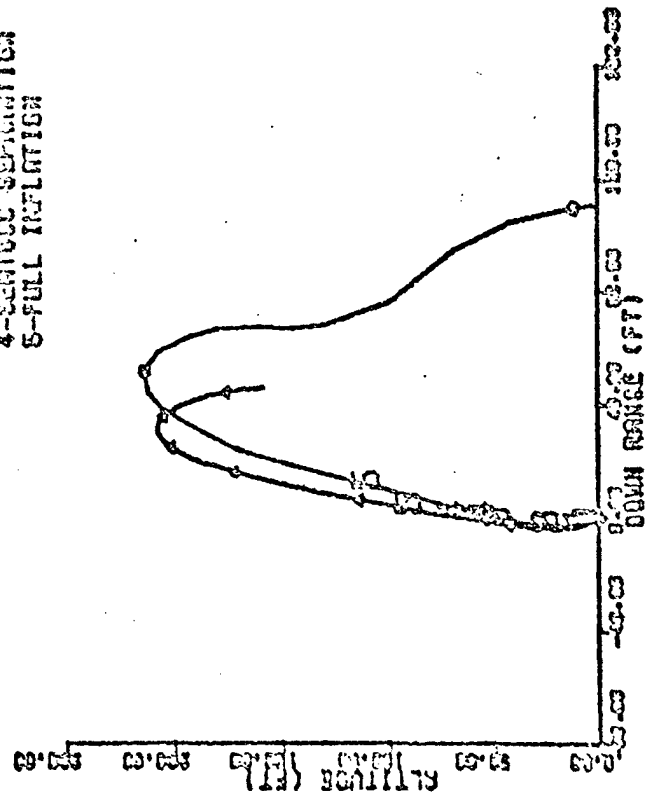
? 9

DEMONSTRATION PLOTS
PLOTING OPTION 1
HWC TEST 1

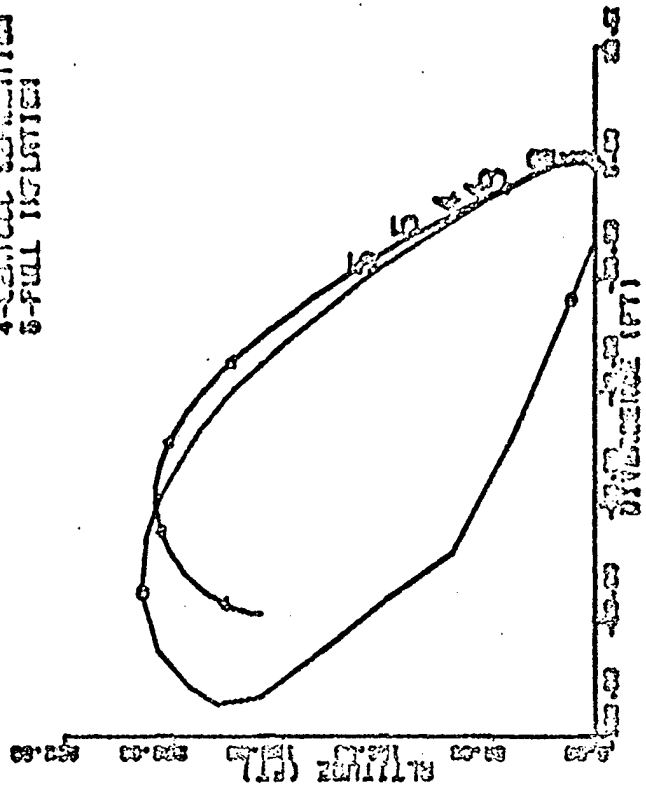
4 SEP 79

ONHC DATA
ANADC DATA

- 1-ROCKET BURST
- 2-ROCKET INFLATION
- 3-GRATE LINE STRETCH
- 4-CEATCOG SEPARATION
- 5-FULL INFLATION



- 1-ROCKET BURST
- 2-ROCKET INFLATION
- 3-GRATE LINE STRETCH
- 4-CEATCOG SEPARATION
- 5-FULL INFLATION



/set,tape1=f18nuc1,tape2=pl t1
/call,icaplot

START OF TAPE
OPTIONS?C
ENTER NUMBER OF FILES
2

SPECIFY PLOTTING DESIRED:

1. GENERATE STANDARD TEST PLOTS
 - 2 PLOTS PER PAGE
 - ALT VS DOWNRANGE
 - ALT VS DIVERGENCE
2. GENERATE 6 SUCCESSIVE PLOTS
 - 1 PLOT PER PAGE
 - ALTITUDE VS TIME
 - DOWNRANGE VS TIME
 - DIVERGENCE VS TIME
 - X VEL VS TIME
 - Y VEL VS TIME
 - Z VEL VS TIME
3. SELECT SPECIFIC OPTIONS
4. JUST PLOT - NO OPTIONS

THE FOLLOWING OPTIONS ARE IMPLEMENTED WITH <1,2>:
AUTOMATIC HARDCOPY
3 LINES OF TITLE
TITLE FOR EACH PLOT
PLOT EVENT TIMES

? 2

ENTER 3 LINES OF TITLE
? demonstration plots
? plotting option 2
? nwc test 1
ENTER TITLE FOR FILE NUMBER 1
? nwc data
ENTER TITLE FOR FILE NUMBER 2
? nadc data

ENTER NUMBER OF EVENTS FOR FILE NUMBER 1
? 3
ENTER TIME FOR EVENT 1-ROCKET BURNOUT
? .4
ENTER TIME FOR EVENT 2-DROGUE INFLATION
? .7
ENTER TIME FOR EVENT 3-CHUTE LINE STRETCH
? 1.0

ENTER NUMBER OF EVENTS FOR FILE NUMBER 2

? 2

ENTER TIME FOR EVENT 1-ROCKET BURNOUT

? 1.2

ENTER TIME FOR EVENT 2-DROGUE INFLATION

? 1.7

DO YOU WISH TO OUTPUT THE DATE

ON EACH PLOT (Y,N)?

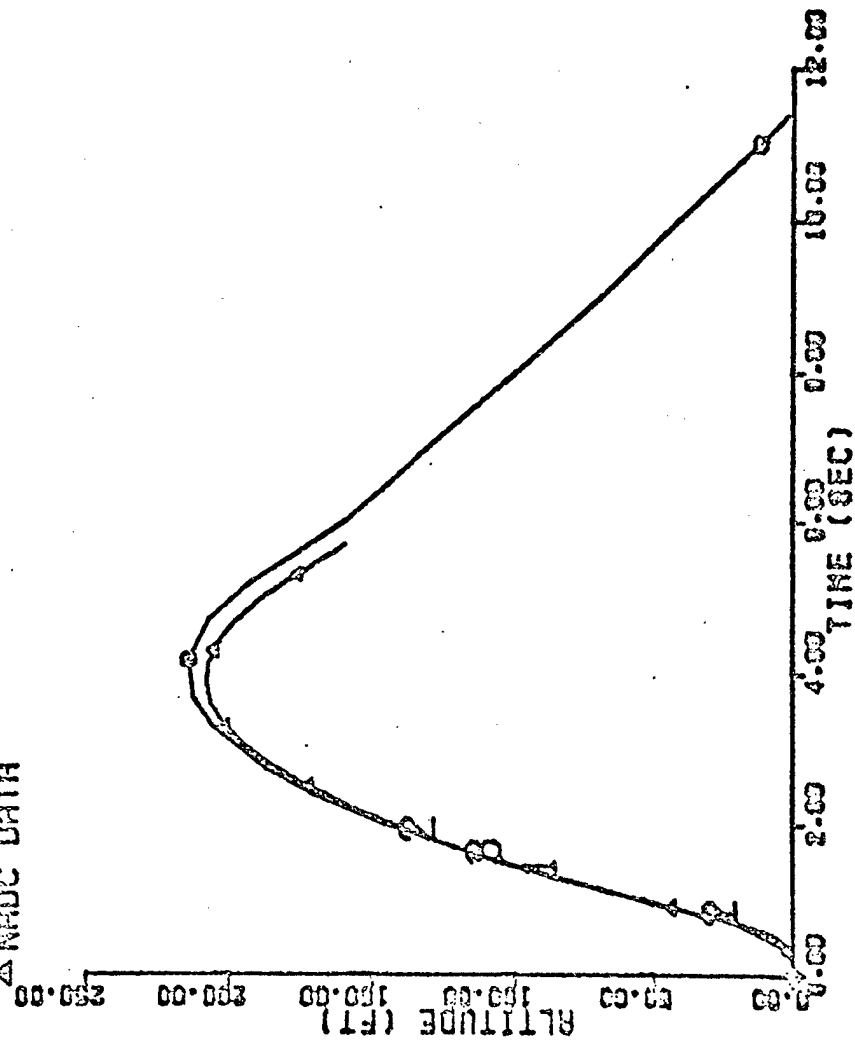
? Y

DEMONSTRATION PLOT3
 PLOTTING OPTION 2
 NNC TEST 1

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O NNC DATA
 Δ NADC DATA

1-ROCKET BURNOUT
 2-DROGUE INFLATION
 3-CHUTE LINE STRETCH

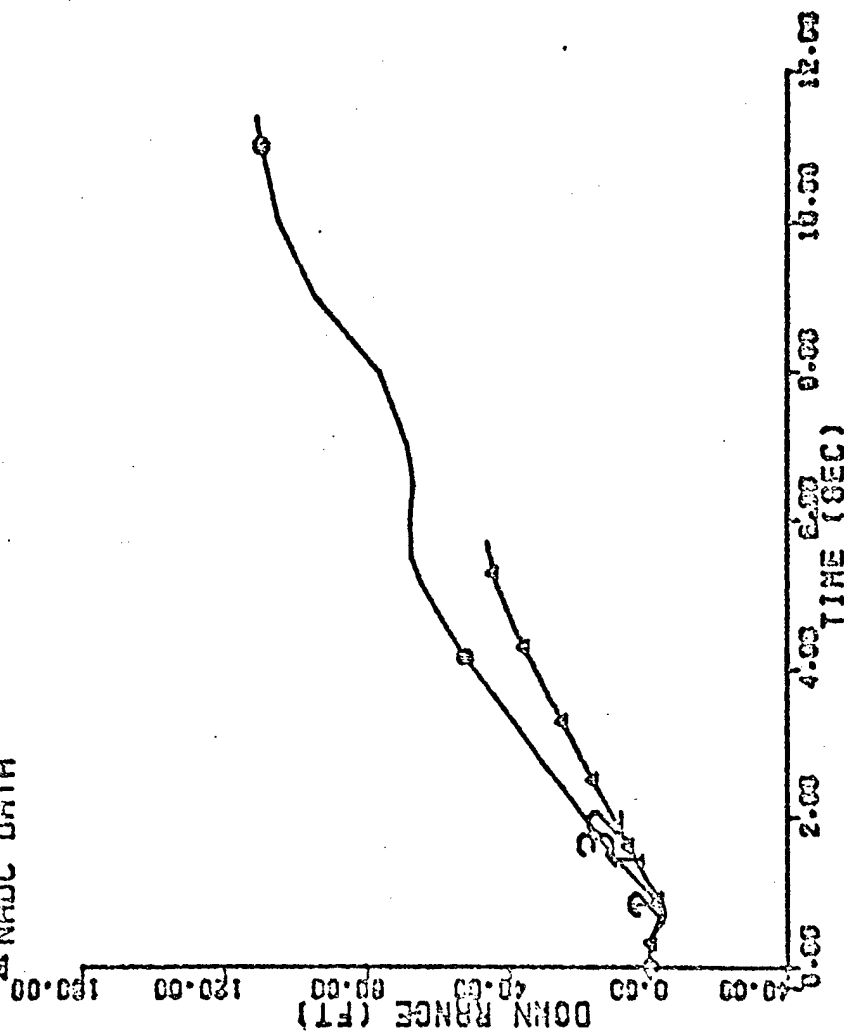


DEMONSTRATION PLOTS
 PLOTTING OPTION 2
 NMC TEST 1

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1-ROCKET BURSTOUT
 2-DROGUE INFLATION
 3-CHUTE LINE STRETCH

○ NMC DATA
 △ NADC DATA

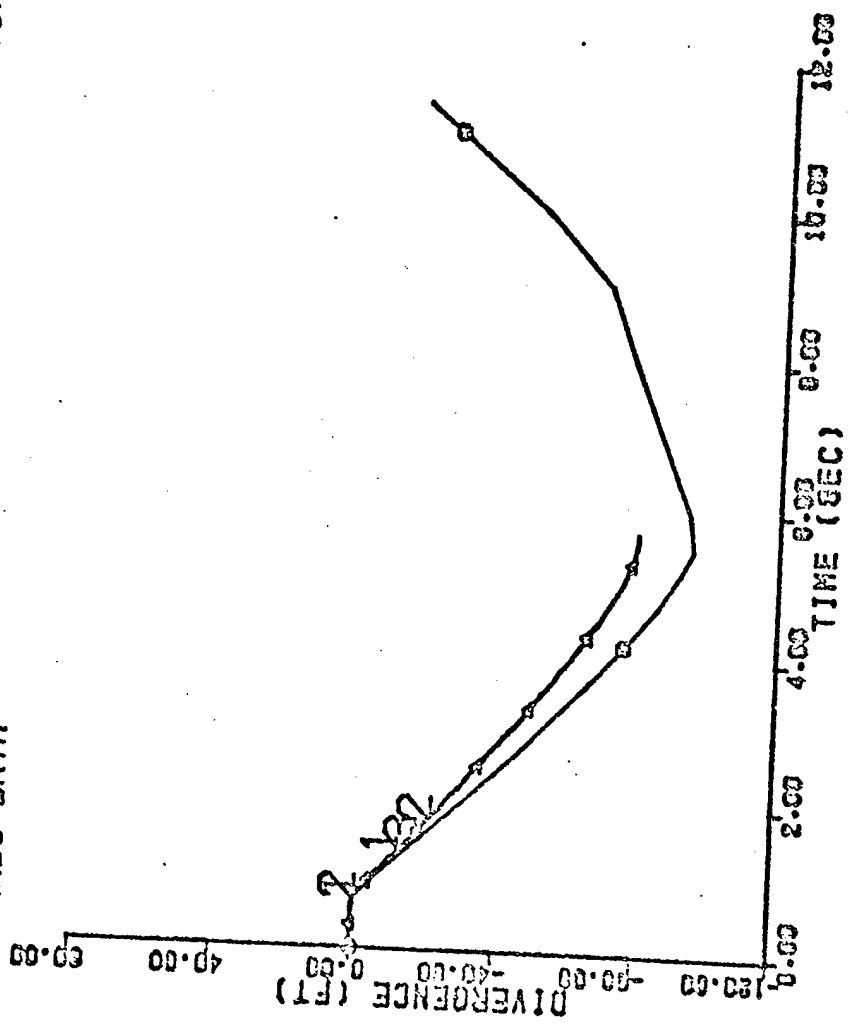


DEMONSTRATION PLOTS
 PLOTTING OPTION 2
 NMC TEST 1

4 SEP 79

- 1-ROCKET BURNOUT
- 2-DROGUE INFLATION
- 3-CHUTE LINE STRETCH

○ NMC DATA
 △ NRDC DATA

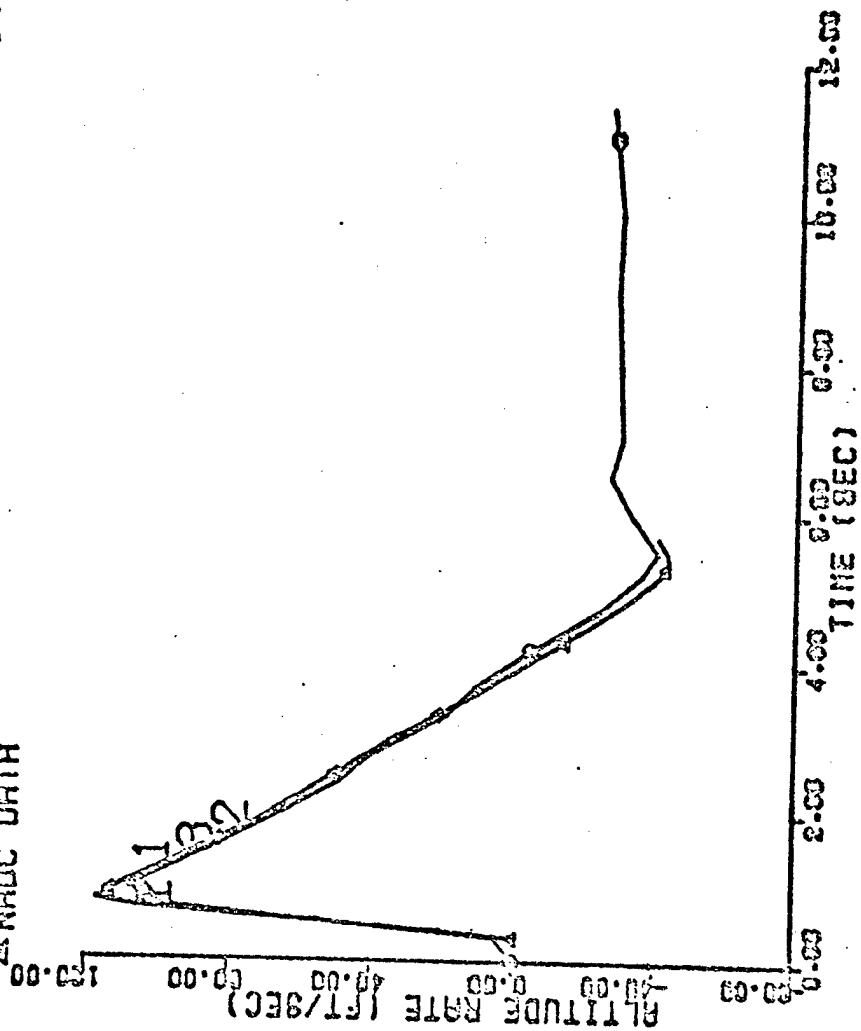


DEMONSTRATION PLOTS
 PLOTTING OPTION 2
 NWC TEST 1

4 SEP 79

1-ROCKET BURNOUT
 2-DROGUE INFLATION
 3-CHUTE LINE STRETCH

○ NWC DATA
 △ NADC DATA

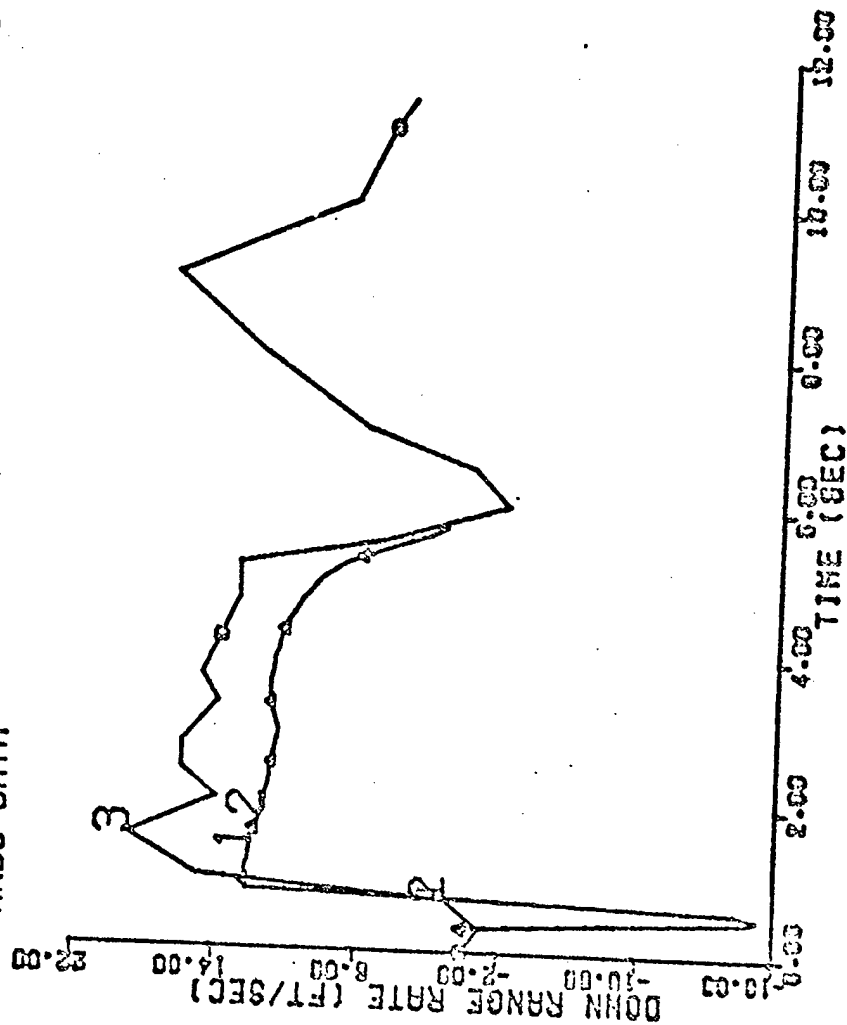


DEMONSTRATION PLOTS
PLOTING OPTION 2
NHC TEST 1

4 SEP 79

○ NHC DATA
△ NADC DATA

1-ROCKET BURNOUT
2-DROGUE INFLATION
3-CHUTE LINE STRETCH

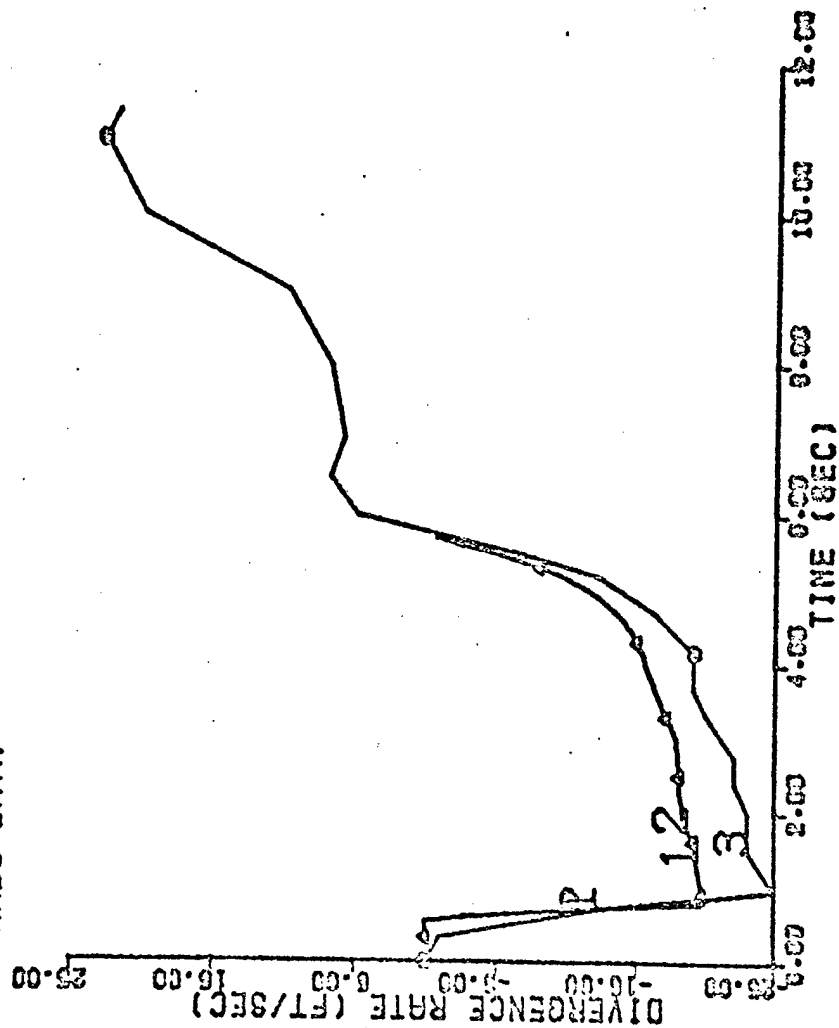


DEMONSTRATION PLOTS
 PLOTTING OPTION 2
 NWC TEST 1

4 SEP 79

1-ROCKET BURNOUT
 2-DROGUE INFLATION
 3-CHUTE LINE STRETCH

O NWC DATA
 A NADC DATA



```
/set, tape1=f18nwcl, tape2=pl t1  
/call, icaplot
```

START OF TAPE
OPTIONS?C
ENTER NUMBER OF FILES
? 2

SPECIFY PLOTTING DESIRED:

1. GENERATE STANDARD TEST PLOTS
 2 PLOTS PER PAGE
 ALT VS DOWNRANGE
 ALT VS DIVERGENCE

2. GENERATE 6 SUCCESSIVE PLOTS
 1 PLOT PER PAGE
 ALTITUDE VS TIME
 DOWNRANGE VS TIME
 DIVERGENCE VS TIME
 X VEL VS TIME
 Y VEL VS TIME
 Z VEL VS TIME

3. SELECT SPECIFIC OPTIONS

4. JUST PLOT - NO OPTIONS

THE FOLLOWING OPTIONS ARE IMPLEMENTED WITH (1,2):
 AUTOMATIC HARDCOPY
 3 LINES OF TITLE
 TITLE FOR EACH PLOT
 PLOT EVENT TIMES

? 3 ENTER NUMBER OF PLOTS PER PAGE (1,2)
 ? 1
 DO YOU WANT 3 LINES OF TITLE? (Y,N)
 ? Y
 DO YOU WANT EVENTS PLOTTED? (Y,N)
 ? N
 DO YOU WANT TO LABEL FILES? (Y,N)
 ? Y

ENTER 3 LINES OF TITLE
? demonstration plotting
? plotting option 3
? nwc test 1
ENTER TITLE FOR FILE NUMBER 1
? nwc data
ENTER TITLE FOR FILE NUMBER 2
? nadc data
DO YOU WISH TO OUTPUT THE DATE
ON EACH PLOT (Y,N)?
? y

THE FOLLOWING ARE THE CODES FOR THE PLOTTING VARIABLES

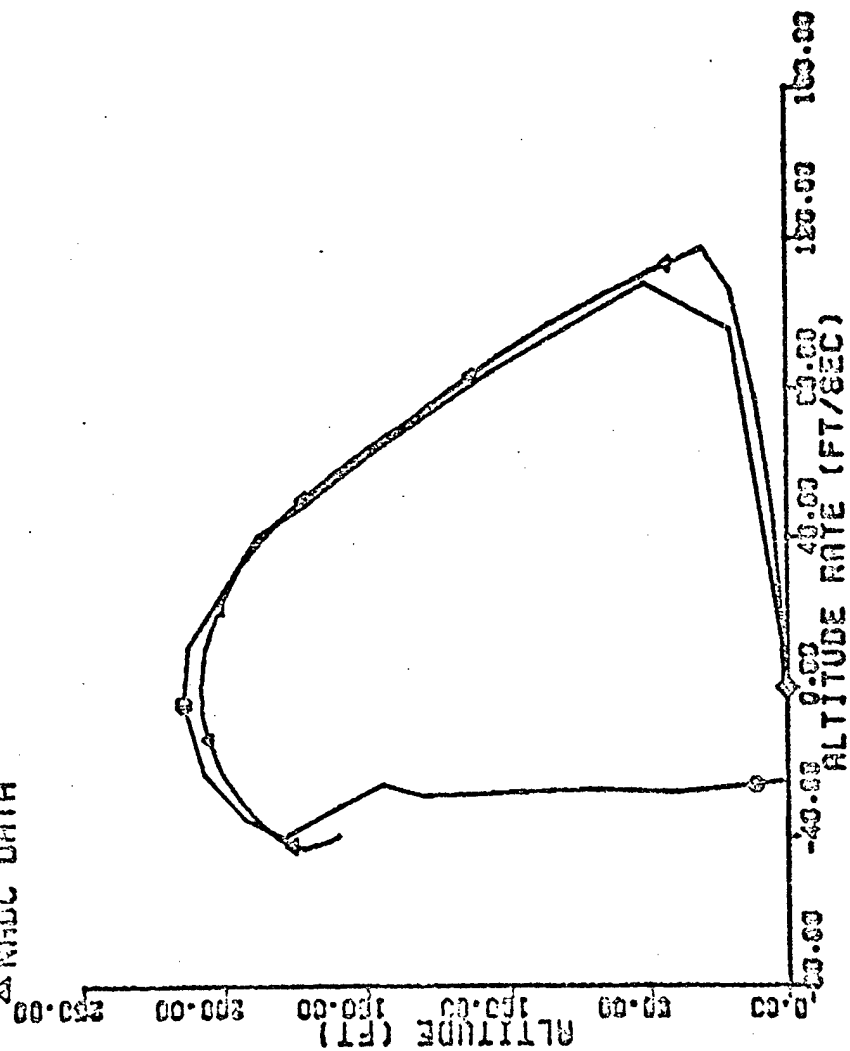
1---X ACCELERATION
2---Y ACCELERATION
3---Z ACCELERATION
4---X VELOCITY
5---Y VELOCITY
6---Z VELOCITY
7---X POSITION
8---Y POSITION
9---Z POSITION
10---YAW RATE
11---PITCH RATE
12---ROLL RATE
13---YAW
14---PITCH
15---ROLL
16---TIME

ENTER THE CODE FOR THE INDEPENDENT VARIABLE
FOLLOWED BY THAT OF THE DEPENDENT VARIABLE
? 5 8

DEMONSTRATION PLOTTING
 PLOTTING OPTION 3
 NMC TEST 1

4 SEP 79

○ NMC DATA
 △ NADC DATA



DO YOU WANT TO PLOT AGAIN?
? n

```
/get,tape1=f18nwcl,tape2=pl t1  
/call,icaplot
```

START OF TAPE
OPTIONS?C
ENTER NUMBER OF FILES
? 2

SPECIFY PLOTTING DESIRED:

1. GENERATE STANDARD TEST PLOTS
2 PLOTS PER PAGE
ALT VS DOWNRANGE
ALT VS DIVERGENCE

2. GENERATE 6 SUCCESSIVE PLOTS
1 PLOT PER PAGE
ALTITUDE VS TIME
DOWNRANGE VS TIME
DIVERGENCE VS TIME
X VEL VS TIME
Y VEL VS TIME
Z VEL VS TIME

3. SELECT SPECIFIC OPTIONS

4. JUST PLOT - NO OPTIONS

THE FOLLOWING OPTIONS ARE IMPLEMENTED WITH (1,2):
AUTOMATIC HARDCOPY
3 LINES OF TITLE
TITLE FOR EACH PLOT
PLOT EVENT TIMES

? 4
ENTER NUMBER OF PLOTS PER PAGE (1,2)
? 1

DO YOU WISH TO OUTPUT THE DATE
ON EACH PLOT (Y,N)?

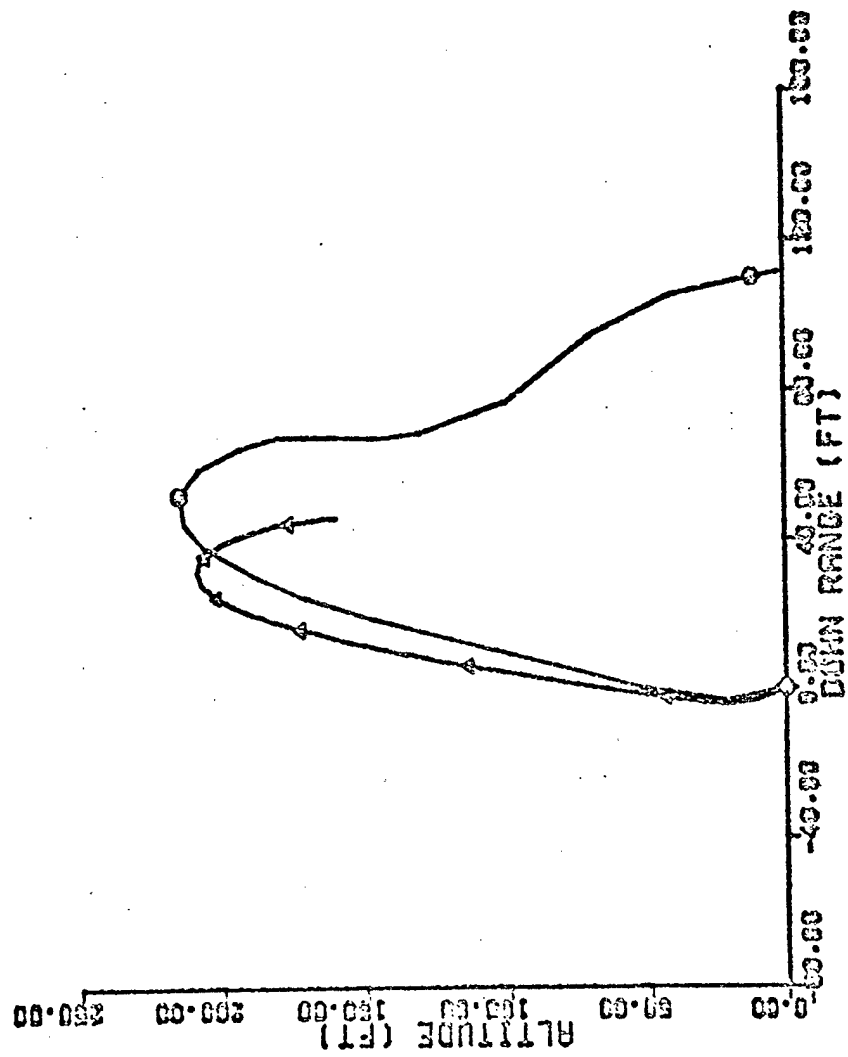
? Y

THE FOLLOWING ARE THE CODES FOR THE PLOTTING VARIABLES

1---X ACCELERATION
2---Y ACCELERATION
3---Z ACCELERATION
4---X VELOCITY
5---Y VELOCITY
6---Z VELOCITY
7---X POSITION
8---Y POSITION
9---Z POSITION
10---YAW RATE
11---PITCH RATE
12---ROLL RATE
13---YAW
14---PITCH
15---ROLL
16---TIME

ENTER THE CODE FOR THE INDEPENDENT VARIABLE
FOLLOWED BY THAT OF THE DEPENDENT VARIABLE
? 7 8

4 SEP 79



DO YOU WANT TO PLOT AGAIN?
? n

APPENDIX I

```

PROGRAM YTHRUST (INPUT, OUTPUT)
DIMENSION T(100), TABNAM(35,2)
DATA (TABNAM(I,1), I=1,31) / .0, .01, .02, .03, .04, .05, .06, .07, .08,
1 .09, .10, .11, .12, .13, .14, .15, .16, .17, .18, .19, .2, .21, .22,
2 .23, .24, .25, .26, .27, .28, .29, .3 /
DATA (TABNAM(I,2), I=1,31) / .0, .4755, .95, .4505, .4, .4513, .16, .4562, .99,
1 .4694, .32, .4629, .95, .4611, .37, .4615, .05, .4618, .40, .4614, .2, .4612, .05, .4609, .38,
3 .4694, .21, .4593, .11, .4581, .13, .4567, .96, .4554, .62, .4537, .87, .4504, .18,
4 .4474, .03, .4440, .78, .4409, .99, .4364, .23, .4284, .04, .4084, .6, .3287, .59,
5 .1754, .14, .650, .48, .67, .8, .0, .0 /
DATA (NPOINT,31), (TBURN=.26), (J1=0)
TSTRT=TABNAM(1,1)
TSTP=TABNAM(100,1)
THSTP=TABNAM(1,2)
THSTP=TABNAM(100,2)
TPRNT=THURP/(TSTP-TSTRT)
AOLD=0.0
N1=NPOINT-1
DO 10 I=1, N1
AOLD=AOLD+(TABNAM(I,2)+TABNAM(I+1,2))*(TABNAM(I+1,1))-
1 TABNAM(I,1))/2.0
10 CONTINUE
15 ANEW=0.0
THEW(1,1)=TABNAM(1,1)
THEW(1,2)=TABNAM(1,2)/TPRNT
DO 20 I=2, NPOINT
THEW(I,1)=THEW(I-1,1)+(TABNAM(I,1)-TABNAM(I-1,1))*TPRNT
THEW(I,2)=TABNAM(I,2)/TPRNT
ANEW=ANEW+(THEW(I-1,2)+THEW(I,2))*(THEW(I-1,1)-THEW(I,1))/2.0
20 CONTINUE
APRNT=ANEW/AOLD
IF (APRNT.GT.0.98.AND.APRNT.LT.1.02) GO TO 50
TPRNT=TPRNT*APRNT
J1=J1+1
IF (J1.GT.3) GO TO 50
GO TO 15
50 CONTINUE
PRINT 120, APRNT
PRINT 130, INPUT
PRINT 105
DO 40 I=1, NPOINT
PRINT 110, TABNAM(I,1), TABNAM(I,2)
60 CONTINUE
PRINT 200, NPOINT
PRINT 195
DO 70 I=1, NPOINT
PRINT 210, THEW(I,1), THEW(I,2)
70 CONTINUE
100 FORMAT(10X, 'OLD THRUST TABLE *14,* POINTS*)
105 FORMAT(//14X, 'TIME*,17X, 'THRUST*)
110 FORMAT(10X, F12.4, 10X, F12.4)
120 FORMAT(//10X, 'NEW AREA / OLD AREA = ', F12.2)
200 FORMAT(10X, 'NEW THRUST TABLE *14,* POINTS*)
210 FORMAT(10X, F12.4, 10X, F12.4)
STOP

```

← NPOINT = No. of POINTS.
← TBURN = NEW BURN TIME

← TIME (SEC)

← THRUST (LBS)

000100
000110
000120
000130
000140
000150
000160
000170
000180
000190
000200
000210
000220
000230
000240
000250
000260
000270
000280
000290
000300
000310
000320
000330
000340
000350
000360
000370
000380
000390
000400
000410
000420
000430
000440
000450
000460
000470
000480
000490
000500
000510
000520
000530
000540
000550
000560
000570
000580
000590
000600
000610
000620
000630
000640

NEW AREA / OLD AREA = 1.00
 OLD THRUST TABLE 31 POINTS

TIME	THRUST
.0000	.0000
.0100	4755.9500
.0200	4505.4000
.0300	4513.1600
.0400	4562.9900
.0500	4604.3200
.0600	4620.9500
.0700	4611.3700
.0800	4615.0500
.0900	4618.4000
.1000	4614.2000
.1100	4612.0500
.1200	4609.3800
.1300	4604.2100
.1400	4593.1100
.1500	4581.1300
.1600	4567.9600
.1700	4554.6200
.1800	4537.3700
.1900	4509.1800
.2000	4474.0300
.2100	4440.7800
.2200	4409.9900
.2300	4364.2300
.2400	4284.0400
.2500	4034.6000
.2600	3287.5900
.2700	1754.1400
.2800	650.4800
.2900	67.8000
.3000	.0000

NEW THRUST TABLE 31 POINTS

TIME	THRUST
.0000	.0000
.0087	5487.6346
.0173	5198.5385
.0260	5207.4923
.0347	5264.9885
.0433	5312.6769
.0520	5331.8654
.0607	5320.8115
.0693	5325.0577
.0780	5328.9231
.0867	5324.0769
.0953	5321.5962
.1040	5318.5154
.1127	5312.5500
.1213	5299.7423
.1300	5285.9192
.1387	5270.7231
.1473	5255.3308
.1560	5236.0038
.1647	5202.9000
.1733	5162.3423
.1820	5123.9769
.1907	5083.4500
.1993	5035.6500
.2080	4943.1231
.2167	4713.0000
.2253	3793.3731
.2340	2024.0077
.2427	750.5538
.2513	78.2308
.2600	.0000

APPENDIX J

LISTING OF OUTPUT FROM PROGRAM COMPARE

TAPE 1 = ICARUS PROGRAM VALIDATION STUDY
F-18A NWC SHORT SLED TEST 3, 0 KEAS, 03 PERCENTILE DUMMY

TAPE 2 = ICARUS PROGRAM VALIDATION STUDY
F-18A NWC SHORT SLED TEST 4, 225 KEAS, 03 PERCENTILE DUMMY

TAPE 3 = ICARUS PROGRAM VALIDATION STUDY
F-18A NWC SHORT SLED TEST 5, 435 KEAS, 03 PERCENTILE DUMMY

TAPE 4 = ICARUS PROGRAM VALIDATION STUDY
F-18A NWC SHORT SLED TEST 7, 600 KEAS, 03 PERCENTILE DUMMY

TAPE 5 = ICARUS PROGRAM VALIDATION STUDY
F-18A NWC SHORT SLED TEST 1, 0 KEAS, 98 PERCENTILE DUMMY

TAPE 6 = ICARUS PROGRAM VALIDATION STUDY
F-18A NWC SHORT SLED TEST 2, 225 KEAS, 98 PERCENTILE DUMMY

TAPE 7 = ICARUS PROGRAM VALIDATION STUDY
F-18A NWC SHORT SLED TEST 6, 435 KEAS, 98 PERCENTILE DUMMY

TAPE 8 = ICARUS PROGRAM VALIDATION STUDY
F-18A NWC SHORT SLED TEST 8, 600 KEAS, 98 PERCENTILE DUMMY

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
1 ISMA	1	1	1	1	1	1	1	1
2 ISTOP	0	0	0	0	0	0	0	0
3 ISMS	1	1	1	1	1	1	1	1
4 ISEAT	0	0	0	0	0	0	0	0
5 INT(5)	1	1	1	1	1	1	1	1
6 INT(6)	1	1	1	1	1	1	1	1
7 INT(7)	0	0	0	0	0	0	0	0
8 INT(8)	0	0	0	0	0	0	0	0
9 INT(9)	1	1	1	1	1	1	1	1
10 INT(10)	0	0	0	0	0	0	0	0
11 INT(11)	0	0	0	0	0	0	0	0
12 INT(12)	0	0	0	0	0	0	0	0
13 INT(13)	0	0	0	0	0	0	0	0
14 INT(14)	0	0	0	0	0	0	0	0
15 INT(15)	0	0	0	0	0	0	0	0
16 INT(16)	0	0	0	0	0	0	0	0
17 INT(17)	0	0	0	0	0	0	0	0
18 INT(18)	0	0	0	0	0	0	0	0
19 INT(19)	0	0	0	0	0	0	0	0
20 INT(20)	0	0	0	0	0	0	0	0
21 INT(21)	0	0	0	0	0	0	0	0
22 INT(22)	0	0	0	0	0	0	0	0
23 INT(23)	0	0	0	0	0	0	0	0
24 INT(24)	0	0	0	0	0	0	0	0
25 INT(25)	0	0	0	0	0	0	0	0
26 INT(26)	0	0	0	0	0	0	0	0
27 INT(27)	0	0	0	0	0	0	0	0
28 INT(28)	0	0	0	0	0	0	0	0
29 INT(29)	0	0	0	0	0	0	0	0
30 INT(30)	0	0	0	0	0	0	0	0
31 IPROP	1	1	1	1	1	1	1	1
32 IPLOT	0	0	0	0	0	0	0	0
33 IRECH	0	0	0	0	0	0	0	0
34 IAERO	0	0	0	0	0	0	0	0
35 IDFLT	1	1	1	1	1	1	1	1
36 ITARP	1	1	1	1	1	1	1	1
37 IRSW(1)	0	0	0	0	0	0	0	0
38 IRSW(2)	1	1	1	1	1	1	1	1
39 IRSW(3)	1	1	1	1	1	1	1	1
40 IRSW(4)	1	1	1	1	1	1	1	1
41 IRSW(5)	1	1	1	1	1	1	1	1
42 IRSW(6)	0	0	0	0	0	0	0	0
43 IRSW(7)	0	0	0	0	0	0	0	0
44 IRSW(8)	0	0	0	0	0	0	0	0
45 IRSW(9)	0	0	0	0	0	0	0	0
46 IRSW(10)	1	1	1	1	1	1	1	1
47 IRSW(11)	0	0	0	0	0	0	0	0
48 IRSW(12)	0	0	0	0	0	0	0	0
49 IRSW(13)	1	1	1	1	1	1	1	1
50 IRSW(14)	1	1	1	1	1	1	1	1
51 IRSW(15)	1	1	1	1	1	1	1	1
52 IRSW(16)	1	1	1	1	1	1	1	1
53 IRSW(17)	1	1	1	1	1	1	1	1
54 IRSW(18)	0	0	0	0	0	0	0	0
55 IRSW(19)	1	1	1	1	1	1	1	1
56 IRSW(20)	0	0	0	0	0	0	0	0
57 IRSW(21)	0	0	0	0	0	0	0	0
58 IRSW(22)	0	0	0	0	0	0	0	0
59 IRSW(23)	0	0	0	0	0	0	0	0
60 IRSW(24)	0	0	0	0	0	0	0	0
61 IRSW(25)	2	2	2	2	2	2	2	2
62 IRSW(26)	0	0	0	0	0	0	0	0
63 IRSW(27)	0	0	0	0	0	0	0	0
64 IRSW(28)	0	0	0	0	0	0	0	0
65 IRSW(29)	0	0	0	0	0	0	0	0
66 IRSW(30)	0	0	0	0	0	0	0	0
67 IRSW(31)	0	0	0	0	0	0	0	0
68 IRSW(32)	0	0	0	0	0	0	0	0
69 IRSW(33)	0	0	0	0	0	0	0	0
70 IRSW(34)	0	0	0	0	0	0	0	0
71 IRSW(35)	0	0	0	0	0	0	0	0

	TAPF1	TAPF2	TAPF3	TAPF4	TAPF5	TAPF6	TAPF7	TAPF8
SECTION 1 CONTAINS 12 ITEMS								
1 PHIC	-90.0000	-90.0000	-90.0000	-90.0000	-90.0000	-90.0000	-90.0000	-90.0000
2 PSIC	-22.0000	-22.0000	-22.0000	-22.0000	-22.0000	-22.0000	-22.0000	-22.0000
3 THETAC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4 PHISC	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000
5 PSISC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6 THETSC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7 PSIV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8 VROC	0.0000	-1.9000	-3.8000	-5.1000	0.0000	-1.9000	-3.7000	-5.0000
9 AAT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10 YAW	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11 PITCH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12 ROLL	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000

		TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 2 CONTAINS 76 ITEMS									
1	XAC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	YAC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	ZAC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	XCS	.9208	.9083	.9083	.9083	1.0000	.9917	.9958	.9875
5	YCS	1.4673	1.4414	1.4356	1.4364	1.0633	1.0964	1.1131	1.1080
6	ZCS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	XCDC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	YCDC	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617
9	ZCDC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	XCRC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	YCRC	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617
12	ZCRC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	YCM	1.1467	1.1220	1.1230	1.1260	1.2020	1.1859	1.1894	1.1786
14	YCM	1.4617	1.4194	1.4098	1.4108	.9808	1.0309	1.0561	1.0483
15	ZCM	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	YCRDL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	YCRDL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	ZCRDL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	YCLDL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	YCLDL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	ZCLDL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	YCRREO	-.0833	-.0833	-.0833	-.0833	-.0833	-.0833	-.0833	-.0833
23	YCRREO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	ZCRREO	.4167	.4167	.4167	.4167	.4167	.4167	.4167	.4167
25	YCLREO	-.0833	-.0833	-.0833	-.0833	-.0833	-.0833	-.0833	-.0833
26	YCLREO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	ZCLREO	-.4167	-.4167	-.4167	-.4167	-.4167	-.4167	-.4167	-.4167
28	YCRCHA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	YCRCHA	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500
30	ZCRCHA	.4167	.4167	.4167	.4167	.4167	.4167	.4167	.4167
31	YCLCHA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	YCLCHA	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500
33	ZCLCHA	-.4167	-.4167	-.4167	-.4167	-.4167	-.4167	-.4167	-.4167
34	YCRCC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	YCRCC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	ZCRCC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	YCR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	YCR	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617
39	ZCR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	YCLR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
41	YCLR	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617	3.9617
42	ZCLR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
43	YCSA	.5733	.5733	.5733	.5733	.5733	.5733	.5733	.5733
44	YCSA	1.4758	1.4758	1.4758	1.4758	1.2375	1.2375	1.2375	1.2375
45	ZCSA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
46	YCSG	.3675	.3675	.3675	.3675	.3675	.3675	.3675	.3675
47	YCSG	.9117	.9117	.9117	.9117	.4950	.4950	.4950	.4950
48	ZCSG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
49	YCHG	1.1467	1.1220	1.1230	1.1260	1.2020	1.1859	1.1894	1.1786
50	YCHG	1.4617	1.4194	1.4098	1.4108	.9808	1.0309	1.0561	1.0483
51	ZCHG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
52	YCSACG	.3675	.3675	.3675	.3675	.3675	.3675	.3675	.3675
53	YCSACG	.9117	.9117	.9117	.9117	.4950	.4950	.4950	.4950
54	ZCSACG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
55	YCHDA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
56	YCHDA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
57	ZCHDA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
58	YCHDR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
59	YCHDR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
60	ZCHDR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
61	YCRSBR	1.0313	1.0313	1.0313	1.0313	1.0313	1.0313	1.0313	1.0313
62	YCRSBR	-.1142	-.1142	-.1142	-.1142	-.5308	-.5308	-.5308	-.5308
63	ZCRSBR	.6642	.6642	.6642	.6642	.6642	.6642	.6642	.6642
64	YCLSBR	1.0313	1.0313	1.0313	1.0313	1.0313	1.0313	1.0313	1.0313
65	YCLSBR	-.1142	-.1142	-.1142	-.1142	-.5308	-.5308	-.5308	-.5308
66	ZCLSBR	-.6642	-.6642	-.6642	-.6642	-.6642	-.6642	-.6642	-.6642
67	YCRCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
68	YCRCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
69	ZCRCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
70	YCLCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
71	YCLCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
72	ZCLCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
73	YSEAT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
74	XCP	.9080	.9080	.9080	.9080	.9980	.9980	.9980	.9980
75	YCP	4.4460	4.4460	4.4460	4.4460	4.4460	4.4460	4.4460	4.4460
76	ZCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 3 CONTAINS 14 ITEMS								
1 XA	-.6859	-.6859	-.6859	-.6859	-.6859	-.6859	-.6859	-.6859
2 YA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3 ZA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4 FDW	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5 FLW	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6 FTW	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7 FCW	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8 VAO	0.0000	387.0000	755.0000	1011.0000	0.0000	377.0000	735.0000	1000.0000
9 MUDOT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10 PDA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11 *DA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12 RDA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13 TFAR	89.0000	93.5000	96.2000	91.3000	82.0000	81.0000	106.0000	91.3000
14 PHRS	925.9000	930.4000	934.6800	930.2600	931.2000	932.0000	929.4000	930.2600

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 4 CONTAINS 6 ITEMS								
1 ARSAR	89.0000	89.0000	89.0000	89.0000	89.0000	89.0000	89.0000	89.0000
2 PRSAR	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000
3 GRSAR	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000
4 ALSAR	89.0000	89.0000	89.0000	89.0000	89.0000	89.0000	89.0000	89.0000
5 BLSAR	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000
6 GLSAR	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000

		TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 5 CONTAINS	5 ITEMS								
1	KX	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	KY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	KZ	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	HUF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	XSRTOL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 6 CONTAINS 3 ITEMS								
1 LDL0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2 LDL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3 FADART	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 7 CONTAINS 40 ITEMS								
1 IXYS	16.9000	16.9000	16.9000	16.9000	25.5000	25.5000	25.5000	25.5000
2 IXYS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3 IXYS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4 IYYS	19.0000	19.0000	19.0000	19.0000	28.5000	28.5000	28.5000	28.5000
5 IYYS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6 IYYS	6.3000	6.3000	6.3000	6.3000	8.2000	8.2000	8.2000	8.2000
7 IXXH	11.9200	11.9200	11.9200	11.9200	11.9200	11.9200	11.9200	11.9200
8 IXXH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9 IXXH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10 IYH	15.0400	15.0400	15.0400	15.0400	15.0400	15.0400	15.0400	15.0400
11 IYH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12 IYH	5.6900	5.6900	5.6900	5.6900	5.6900	5.6900	5.6900	5.6900
13 IXXSA	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000
14 IXXSA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15 IXXSA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16 IYSA	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
17 IYSA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18 IYSA	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
19 GUS	367.0000	367.0000	366.0000	363.0000	445.0000	451.0000	455.0000	453.0000
20 GUM	221.0000	224.0000	223.0000	220.0000	302.0000	308.0000	312.0000	310.0000
21 GUSA	143.0000	143.0000	143.0000	143.0000	143.0000	143.0000	143.0000	143.0000
22 GWARD	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23 GWC	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
24 GWDG	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
25 GWRG	16.5000	16.5000	16.5000	16.5000	16.5000	16.5000	16.5000	16.5000
26 SS	7.5000	7.5000	7.5000	7.5000	7.5000	7.5000	7.5000	7.5000
27 SM	9.6000	9.6000	9.6000	9.6000	9.6000	9.6000	9.6000	9.6000
28 SSA	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
29 WX	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30 WY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31 WZ	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32 RRARS	1.5450	1.5450	1.5450	1.5450	1.5450	1.5450	1.5450	1.5450
33 RRARM	1.7480	1.7480	1.7480	1.7480	1.7480	1.7480	1.7480	1.7480
34 RRARSA	1.3800	1.3800	1.3800	1.3800	1.3800	1.3800	1.3800	1.3800
35 CREH	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36 TRAVEL	4.7000	4.7000	4.7000	4.7000	4.7000	4.7000	4.7000	4.7000
37 SCRENO	1.0000	.6600	.3300	0.0000	1.0000	.6600	.3300	0.0000
38 SCRENI	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39 SUN	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40 CPCG	.8500	.8500	.8500	.8500	.8500	.8500	.8500	.8500

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 8 CONTAINS 16 ITEMS								
1 KSDC	2000.0000	2000.0000	2000.0000	2000.0000	2000.0000	2000.0000	2000.0000	2000.0000
2 KSWRD	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3 KSDC	2000.0000	2000.0000	2000.0000	2000.0000	2000.0000	2000.0000	2000.0000	2000.0000
4 ALTRO	6000.0000	6000.0000	6000.0000	6000.0000	6000.0000	6000.0000	6000.0000	6000.0000
5 SSDC	78.5400	78.5400	78.5400	78.5400	78.5400	78.5400	78.5400	78.5400
6 DDC	7.8531	7.8531	7.8531	7.8531	7.8531	7.8531	7.8531	7.8531
7 DDC	27.4889	27.4889	27.4889	27.4889	27.4889	27.4889	27.4889	27.4889
8 SC	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000
9 SWRD	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10 UDP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11 VDP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12 WDP	-55.0000	-55.0000	-55.0000	-55.0000	-55.0000	-55.0000	-55.0000	-55.0000
13 FOSO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14 KSDC	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000
15 KSDC	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000
16 TAUEXP	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 9 CONTAINS 10 ITEMS								
1 LWRPL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2 LDCL	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000
3 LSLDC	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000
4 LFL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5 LRISER	2.5000	2.5000	2.5000	2.5000	2.5000	2.5000	2.5000	2.5000
6 LSLRC	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000
7 LSG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8 CATSK	6.0600	6.0600	6.0600	6.0600	6.0600	6.0600	6.0600	6.0600
9 DWRDCG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10 LRECOV	14.0000	14.0000	14.0000	14.0000	14.0000	14.0000	14.0000	14.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 10 CONTAINS 9 ITEMS								
1 TCI	.3270	.3080	.3130	.3190	.3130	.3040	.3260	.3200
2 TCU	.3270	.3080	.3130	.3190	.3130	.3040	.3260	.3200
3 TRI	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4 TRRO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5 TDP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6 TWRDI	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7 TWRDO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8 TSTOP	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
9 PRFRQ	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 11 CONTAINS 24 ITEMS								
1 STO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2 DTATR	.0050	.0050	.0050	.0050	.0050	.0050	.0050	.0050
3 DTCT	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010
4 DTSRR	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010
5 DTD	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010
6 DTDE	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010
7 DTWI	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8 DTRCO	.0010	.0010	.0010	.0010	.0010	.0010	.0010	.0010
9 DTRCF	.0100	.0100	.0100	.0100	.0100	.0100	.0100	.0100
10 DTSMS	.0100	.0100	.0100	.0100	.0100	.0100	.0100	.0100
11 STAR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12 ALPHAT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13 CNT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14 XTAR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15 ZTAR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16 CMA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17 PCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18 PO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19 RO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20 RO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21 CLPHA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22 CMMA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23 CNRMA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24 RRC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 12 CONTAINS 12 ITEMS								
1 CX	404.2200	404.2200	404.2200	404.2200	404.2200	404.2200	404.2200	404.2200
2 XSLACK	.0830	.0830	.0830	.0830	.0830	.0830	.0830	.0830
3 SXP	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900
4 SXN	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900
5 CY	404.2200	404.2200	404.2200	404.2200	404.2200	404.2200	404.2200	404.2200
6 SY	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900
7 CZ	166.4300	166.4300	166.4300	166.4300	166.4300	166.4300	166.4300	166.4300
8 ZSLACK	.1660	.1660	.1660	.1660	.1660	.1660	.1660	.1660
9 SZP	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900	33286.1900
10 ZROT	-.0740	-.0740	-.0740	-.0740	-.0740	-.0740	-.0740	-.0740
11 SZN1	17131.2900	17131.2900	17131.2900	17131.2900	17131.2900	17131.2900	17131.2900	17131.2900
12 SZN2	42484.3000	42484.3000	42484.3000	42484.3000	42484.3000	42484.3000	42484.3000	42484.3000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 13 CONTAINS 20 ITEMS								
1 XKSLIP	35000.0000	35000.0000	35000.0000	35000.0000	35000.0000	35000.0000	35000.0000	35000.0000
2 ZKSLIP	20000.0000	20000.0000	20000.0000	20000.0000	20000.0000	20000.0000	20000.0000	20000.0000
3 XCCLIP	200.0000	200.0000	200.0000	200.0000	200.0000	200.0000	200.0000	200.0000
4 ZCCLIP	200.0000	200.0000	200.0000	200.0000	200.0000	200.0000	200.0000	200.0000
5 UMSLIP	.0250	.0250	.0250	.0250	.0250	.0250	.0250	.0250
6 XYKTOR	261.7801	261.7801	261.7801	261.7801	261.7801	261.7801	261.7801	261.7801
7 XYCTOR	1.7452	1.7452	1.7452	1.7452	1.7452	1.7452	1.7452	1.7452
8 UMTUBE	.0250	.0250	.0250	.0250	.0250	.0250	.0250	.0250
9 FKTUBE	20000.0000	20000.0000	20000.0000	20000.0000	20000.0000	20000.0000	20000.0000	20000.0000
10 FCTUBE	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
11 POWER	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500
12 SRCDEF	75000.0000	75000.0000	75000.0000	75000.0000	75000.0000	75000.0000	75000.0000	75000.0000
13 TUPLTH1	2.7800	2.7800	2.7800	2.7800	2.7800	2.7800	2.7800	2.7800
14 TUPLTH2	3.2800	3.2800	3.2800	3.2800	3.2800	3.2800	3.2800	3.2800
15 TUPLTH3	3.6600	3.6600	3.6600	3.6600	3.6600	3.6600	3.6600	3.6600
16 XCTCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17 YCTCP	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500	3.7500
18 ZCTCP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19 STNCEL	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20 RAILHT	3.6600	3.6600	3.6600	3.6600	3.6600	3.6600	3.6600	3.6600

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
SECTION 14 CONTAINS 7 ITEMS								
1 TMLAP1	.6100	.5900	.6000	.6200	.5900	.5900	.6230	.6210
2 TMLAP2	1.6630	1.7630	3.5130	1.5830	1.5500	1.5970	1.7320	1.7070
3 ALT2	13000.0000	13000.0000	13000.0000	13000.0000	13000.0000	13000.0000	13000.0000	13000.0000
4 ALT1	6000.0000	6000.0000	6000.0000	6000.0000	6000.0000	6000.0000	6000.0000	6000.0000
5 TIMPG7	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000
6 SMSEPF	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
7 SBRON	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE TCL	CONTAINS 25 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	.0100	.0100	.0100	.0100	.0100	.0100	.0100	.0100
3	.0200	.0200	.0200	.0200	.0200	.0200	.0200	.0200
4	.0300	.0300	.0300	.0300	.0300	.0300	.0300	.0300
5	.0400	.0400	.0400	.0400	.0400	.0400	.0400	.0400
6	.0500	.0500	.0500	.0500	.0500	.0500	.0500	.0500
7	.0600	.0600	.0600	.0600	.0600	.0600	.0600	.0600
8	.0700	.0700	.0700	.0700	.0700	.0700	.0700	.0700
9	.0800	.0800	.0800	.0800	.0800	.0800	.0800	.0800
10	.0900	.0900	.0900	.0900	.0900	.0900	.0900	.0900
11	.1000	.1000	.1000	.1000	.1000	.1000	.1000	.1000
12	.1100	.1100	.1100	.1100	.1100	.1100	.1100	.1100
13	.1200	.1200	.1200	.1200	.1200	.1200	.1200	.1200
14	.1300	.1300	.1300	.1300	.1300	.1300	.1300	.1300
15	.1400	.1400	.1400	.1400	.1400	.1400	.1400	.1400
16	.1500	.1500	.1500	.1500	.1500	.1500	.1500	.1500
17	.1600	.1600	.1600	.1600	.1600	.1600	.1600	.1600
18	.1700	.1700	.1700	.1700	.1700	.1700	.1700	.1700
19	.1800	.1800	.1800	.1800	.1800	.1800	.1800	.1800
20	.1900	.1900	.1900	.1900	.1900	.1900	.1900	.1900
21	.2000	.2000	.2000	.2000	.2000	.2000	.2000	.2000
22	.2100	.2100	.2100	.2100	.2100	.2100	.2100	.2100
23	.2200	.2200	.2200	.2200	.2200	.2200	.2200	.2200
24	.2300	.2300	.2300	.2300	.2300	.2300	.2300	.2300
25	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	777.0000	777.0000	777.0000	777.0000	777.0000	777.0000	777.0000	777.0000
3	1074.5000	1074.5000	1074.5000	1074.5000	1074.5000	1074.5000	1074.5000	1074.5000
4	1441.0000	1441.0000	1441.0000	1441.0000	1441.0000	1441.0000	1441.0000	1441.0000
5	1911.0000	1911.0000	1911.0000	1911.0000	1911.0000	1911.0000	1911.0000	1911.0000
6	2344.9000	2344.9000	2344.9000	2344.9000	2344.9000	2344.9000	2344.9000	2344.9000
7	2765.0000	2765.0000	2765.0000	2765.0000	2765.0000	2765.0000	2765.0000	2765.0000
8	2934.0000	2934.0000	2934.0000	2934.0000	2934.0000	2934.0000	2934.0000	2934.0000
9	2826.0000	2826.0000	2826.0000	2826.0000	2826.0000	2826.0000	2826.0000	2826.0000
10	2543.5000	2543.5000	2543.5000	2543.5000	2543.5000	2543.5000	2543.5000	2543.5000
11	2246.5000	2246.5000	2246.5000	2246.5000	2246.5000	2246.5000	2246.5000	2246.5000
12	2054.5000	2054.5000	2054.5000	2054.5000	2054.5000	2054.5000	2054.5000	2054.5000
13	1659.5000	1659.5000	1659.5000	1659.5000	1659.5000	1659.5000	1659.5000	1659.5000
14	1719.5000	1719.5000	1719.5000	1719.5000	1719.5000	1719.5000	1719.5000	1719.5000
15	1804.5000	1804.5000	1804.5000	1804.5000	1804.5000	1804.5000	1804.5000	1804.5000
16	1992.5000	1992.5000	1992.5000	1992.5000	1992.5000	1992.5000	1992.5000	1992.5000
17	2206.0000	2206.0000	2206.0000	2206.0000	2206.0000	2206.0000	2206.0000	2206.0000
18	2386.0000	2386.0000	2386.0000	2386.0000	2386.0000	2386.0000	2386.0000	2386.0000
19	2567.0000	2567.0000	2567.0000	2567.0000	2567.0000	2567.0000	2567.0000	2567.0000
20	2557.0000	2557.0000	2557.0000	2557.0000	2557.0000	2557.0000	2557.0000	2557.0000
21	2437.5000	2437.5000	2437.5000	2437.5000	2437.5000	2437.5000	2437.5000	2437.5000
22	2193.0000	2193.0000	2193.0000	2193.0000	2193.0000	2193.0000	2193.0000	2193.0000
23	959.0000	959.0000	959.0000	959.0000	959.0000	959.0000	959.0000	959.0000
24	624.5000	624.5000	624.5000	624.5000	624.5000	624.5000	624.5000	624.5000
25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPF1	TAPE2	TAPE3	TAPL4	TAPF5	TAPF6	TAPE7	TAPE8
TABLE TCR	CONTAINS 25 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	.0100	.0100	.0100	.0100	.0100	.0100	.0100	.0100
3	.0200	.0200	.0200	.0200	.0200	.0200	.0200	.0200
4	.0300	.0300	.0300	.0300	.0300	.0300	.0300	.0300
5	.0400	.0400	.0400	.0400	.0400	.0400	.0400	.0400
6	.0500	.0500	.0500	.0500	.0500	.0500	.0500	.0500
7	.0600	.0600	.0600	.0600	.0600	.0600	.0600	.0600
8	.0700	.0700	.0700	.0700	.0700	.0700	.0700	.0700
9	.0800	.0800	.0800	.0800	.0800	.0800	.0800	.0800
10	.0900	.0900	.0900	.0900	.0900	.0900	.0900	.0900
11	.1000	.1000	.1000	.1000	.1000	.1000	.1000	.1000
12	.1100	.1100	.1100	.1100	.1100	.1100	.1100	.1100
13	.1200	.1200	.1200	.1200	.1200	.1200	.1200	.1200
14	.1300	.1300	.1300	.1300	.1300	.1300	.1300	.1300
15	.1400	.1400	.1400	.1400	.1400	.1400	.1400	.1400
16	.1500	.1500	.1500	.1500	.1500	.1500	.1500	.1500
17	.1600	.1600	.1600	.1600	.1600	.1600	.1600	.1600
18	.1700	.1700	.1700	.1700	.1700	.1700	.1700	.1700
19	.1800	.1800	.1800	.1800	.1800	.1800	.1800	.1800
20	.1900	.1900	.1900	.1900	.1900	.1900	.1900	.1900
21	.2000	.2000	.2000	.2000	.2000	.2000	.2000	.2000
22	.2100	.2100	.2100	.2100	.2100	.2100	.2100	.2100
23	.2200	.2200	.2200	.2200	.2200	.2200	.2200	.2200
24	.2300	.2300	.2300	.2300	.2300	.2300	.2300	.2300
25	.2500	.2500	.2500	.2500	.2500	.2500	.2500	.2500
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	777.0000	777.0000	777.0000	777.0000	777.0000	777.0000	777.0000	777.0000
3	1074.5000	1074.5000	1074.5000	1074.5000	1074.5000	1074.5000	1074.5000	1074.5000
4	1441.0000	1441.0000	1441.0000	1441.0000	1441.0000	1441.0000	1441.0000	1441.0000
5	1911.0000	1911.0000	1911.0000	1911.0000	1911.0000	1911.0000	1911.0000	1911.0000
6	2344.9000	2344.9000	2344.9000	2344.9000	2344.9000	2344.9000	2344.9000	2344.9000
7	2765.0000	2765.0000	2765.0000	2765.0000	2765.0000	2765.0000	2765.0000	2765.0000
8	2934.0000	2934.0000	2934.0000	2934.0000	2934.0000	2934.0000	2934.0000	2934.0000
9	2826.0000	2826.0000	2826.0000	2826.0000	2826.0000	2826.0000	2826.0000	2826.0000
10	2543.5000	2543.5000	2543.5000	2543.5000	2543.5000	2543.5000	2543.5000	2543.5000
11	2246.5000	2246.5000	2246.5000	2246.5000	2246.5000	2246.5000	2246.5000	2246.5000
12	2054.5000	2054.5000	2054.5000	2054.5000	2054.5000	2054.5000	2054.5000	2054.5000
13	1659.5000	1659.5000	1659.5000	1659.5000	1659.5000	1659.5000	1659.5000	1659.5000
14	1719.5000	1719.5000	1719.5000	1719.5000	1719.5000	1719.5000	1719.5000	1719.5000
15	1804.5000	1804.5000	1804.5000	1804.5000	1804.5000	1804.5000	1804.5000	1804.5000
16	1992.5000	1992.5000	1992.5000	1992.5000	1992.5000	1992.5000	1992.5000	1992.5000
17	2206.0000	2206.0000	2206.0000	2206.0000	2206.0000	2206.0000	2206.0000	2206.0000
18	2386.0000	2386.0000	2386.0000	2386.0000	2386.0000	2386.0000	2386.0000	2386.0000
19	2567.0000	2567.0000	2567.0000	2567.0000	2567.0000	2567.0000	2567.0000	2567.0000
20	2557.0000	2557.0000	2557.0000	2557.0000	2557.0000	2557.0000	2557.0000	2557.0000
21	2437.5000	2437.5000	2437.5000	2437.5000	2437.5000	2437.5000	2437.5000	2437.5000
22	2193.0000	2193.0000	2193.0000	2193.0000	2193.0000	2193.0000	2193.0000	2193.0000
23	959.0000	959.0000	959.0000	959.0000	959.0000	959.0000	959.0000	959.0000
24	624.5000	624.5000	624.5000	624.5000	624.5000	624.5000	624.5000	624.5000
25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE TLR	CONTAINS 25 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	.0100	.0100	.0100	.0100	.0100	.0100	.0100	.0100
3	.0200	.0200	.0200	.0200	.0200	.0200	.0200	.0200
4	.0300	.0300	.0300	.0300	.0300	.0300	.0300	.0300
5	.0400	.0400	.0400	.0400	.0400	.0400	.0400	.0400
6	.0500	.0500	.0500	.0500	.0500	.0500	.0500	.0500
7	.0600	.0600	.0600	.0600	.0600	.0600	.0600	.0600
8	.0700	.0700	.0700	.0700	.0700	.0700	.0700	.0700
9	.0800	.0800	.0800	.0800	.0800	.0800	.0800	.0800
10	.0900	.0900	.0900	.0900	.0900	.0900	.0900	.0900
11	.1000	.1000	.1000	.1000	.1000	.1000	.1000	.1000
12	.1100	.1100	.1100	.1100	.1100	.1100	.1100	.1100
13	.1200	.1200	.1200	.1200	.1200	.1200	.1200	.1200
14	.1300	.1300	.1300	.1300	.1300	.1300	.1300	.1300
15	.1400	.1400	.1400	.1400	.1400	.1400	.1400	.1400
16	.1500	.1500	.1500	.1500	.1500	.1500	.1500	.1500
17	.1600	.1600	.1600	.1600	.1600	.1600	.1600	.1600
18	.1700	.1700	.1700	.1700	.1700	.1700	.1700	.1700
19	.1800	.1800	.1800	.1800	.1800	.1800	.1800	.1800
20	.1900	.1900	.1900	.1900	.1900	.1900	.1900	.1900
21	.2000	.2000	.2000	.2000	.2000	.2000	.2000	.2000
22	.2100	.2100	.2100	.2100	.2100	.2100	.2100	.2100
23	.2200	.2200	.2200	.2200	.2200	.2200	.2200	.2200
24	.2300	.2300	.2300	.2300	.2300	.2300	.2300	.2300
25	.2400	.2400	.2400	.2400	.2400	.2400	.2400	.2400
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1834.0000	1834.0000	1834.0000	1834.0000	1834.0000	1834.0000	1834.0000	1834.0000
3	1738.0000	1738.0000	1737.0000	1737.0000	1738.0000	1738.0000	1737.0000	1737.0000
4	1749.0000	1749.0000	1748.0000	1748.0000	1749.0000	1749.0000	1748.0000	1748.0000
5	1760.0000	1760.0000	1759.0000	1759.0000	1760.0000	1760.0000	1759.0000	1759.0000
6	1771.0000	1771.0000	1771.0000	1771.0000	1771.0000	1771.0000	1771.0000	1771.0000
7	1782.0000	1782.0000	1782.0000	1782.0000	1782.0000	1782.0000	1782.0000	1782.0000
8	1781.0000	1781.0000	1780.0000	1780.0000	1781.0000	1781.0000	1780.0000	1780.0000
9	1780.0000	1780.0000	1778.0000	1778.0000	1780.0000	1780.0000	1778.0000	1778.0000
10	1779.0000	1779.0000	1776.0000	1776.0000	1779.0000	1779.0000	1776.0000	1776.0000
11	1779.0000	1778.0000	1775.0000	1775.0000	1779.0000	1779.0000	1775.0000	1775.0000
12	1777.0000	1776.0000	1770.0000	1770.0000	1777.0000	1777.0000	1770.0000	1770.0000
13	1776.0000	1771.0000	1765.0000	1765.0000	1776.0000	1776.0000	1765.0000	1765.0000
14	1771.0000	1765.0000	1755.0000	1755.0000	1771.0000	1771.0000	1760.0000	1755.0000
15	1766.0000	1761.0000	1755.0000	1750.0000	1766.0000	1766.0000	1755.0000	1750.0000
16	1760.0000	1755.0000	1750.0000	1708.0000	1760.0000	1760.0000	1750.0000	1708.0000
17	1750.0000	1750.0000	1708.0000	1660.0000	1750.0000	1750.0000	1708.0000	1660.0000
18	1708.0000	1708.0000	1660.0000	1603.0000	1708.0000	1708.0000	1660.0000	1603.0000
19	1661.0000	1661.0000	1603.0000	1354.0000	1661.0000	1661.0000	1603.0000	1353.0000
20	1604.0000	1604.0000	1354.0000	911.0000	1604.0000	1604.0000	1354.0000	911.0000
21	1354.0000	1354.0000	911.0000	469.0000	1354.0000	1354.0000	911.0000	469.0000
22	911.0000	911.0000	469.0000	26.0000	911.0000	911.0000	469.0000	26.0000
23	469.0000	469.0000	26.0000	14.0000	469.0000	469.0000	26.0000	15.0000
24	26.0000	26.0000	13.0000	2.0000	26.0000	26.0000	13.0000	4.0000
25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPF1	TAPF2	TAPF3	TAPF4	TAPF5	TAPF6	TAPF7	TAPF8
TABLE TRR	CONTAINS 25 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	.0100	.0100	.0100	.0100	.0100	.0100	.0100	.0100
3	.0200	.0200	.0200	.0200	.0200	.0200	.0200	.0200
4	.0300	.0300	.0300	.0300	.0300	.0300	.0300	.0300
5	.0400	.0400	.0400	.0400	.0400	.0400	.0400	.0400
6	.0500	.0500	.0500	.0500	.0500	.0500	.0500	.0500
7	.0600	.0600	.0600	.0600	.0600	.0600	.0600	.0600
8	.0700	.0700	.0700	.0700	.0700	.0700	.0700	.0700
9	.0800	.0800	.0800	.0800	.0800	.0800	.0800	.0800
10	.0900	.0900	.0900	.0900	.0900	.0900	.0900	.0900
11	.1000	.1000	.1000	.1000	.1000	.1000	.1000	.1000
12	.1100	.1100	.1100	.1100	.1100	.1100	.1100	.1100
13	.1200	.1200	.1200	.1200	.1200	.1200	.1200	.1200
14	.1300	.1300	.1300	.1300	.1300	.1300	.1300	.1300
15	.1400	.1400	.1400	.1400	.1400	.1400	.1400	.1400
16	.1500	.1500	.1500	.1500	.1500	.1500	.1500	.1500
17	.1600	.1600	.1600	.1600	.1600	.1600	.1600	.1600
18	.1700	.1700	.1700	.1700	.1700	.1700	.1700	.1700
19	.1800	.1800	.1800	.1800	.1800	.1800	.1800	.1800
20	.1900	.1900	.1900	.1900	.1900	.1900	.1900	.1900
21	.2000	.2000	.2000	.2000	.2000	.2000	.2000	.2000
22	.2100	.2100	.2100	.2100	.2100	.2100	.2100	.2100
23	.2200	.2200	.2200	.2200	.2200	.2200	.2200	.2200
24	.2300	.2300	.2300	.2300	.2300	.2300	.2300	.2300
25	.2400	.2400	.2400	.2400	.2400	.2400	.2400	.2400
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	3669.0000	3669.0000	3667.0000	3667.0000	3669.0000	3669.0000	3667.0000	3667.0000
3	3475.0000	3475.0000	3474.0000	3474.0000	3475.0000	3475.0000	3474.0000	3474.0000
4	3498.0000	3498.0000	3496.0000	3496.0000	3498.0000	3498.0000	3496.0000	3496.0000
5	3520.0000	3520.0000	3519.0000	3519.0000	3520.0000	3520.0000	3519.0000	3519.0000
6	3542.0000	3542.0000	3541.0000	3541.0000	3542.0000	3542.0000	3541.0000	3541.0000
7	3564.0000	3564.0000	3563.0000	3563.0000	3564.0000	3564.0000	3563.0000	3563.0000
8	3586.0000	3586.0000	3585.0000	3585.0000	3586.0000	3586.0000	3585.0000	3585.0000
9	3608.0000	3608.0000	3607.0000	3607.0000	3608.0000	3608.0000	3607.0000	3607.0000
10	3630.0000	3630.0000	3629.0000	3629.0000	3630.0000	3630.0000	3629.0000	3629.0000
11	3652.0000	3652.0000	3651.0000	3651.0000	3652.0000	3652.0000	3651.0000	3651.0000
12	3674.0000	3674.0000	3673.0000	3673.0000	3674.0000	3674.0000	3673.0000	3673.0000
13	3696.0000	3696.0000	3695.0000	3695.0000	3696.0000	3696.0000	3695.0000	3695.0000
14	3718.0000	3718.0000	3717.0000	3717.0000	3718.0000	3718.0000	3717.0000	3717.0000
15	3740.0000	3740.0000	3739.0000	3739.0000	3740.0000	3740.0000	3739.0000	3739.0000
16	3762.0000	3762.0000	3761.0000	3761.0000	3762.0000	3762.0000	3761.0000	3761.0000
17	3784.0000	3784.0000	3783.0000	3783.0000	3784.0000	3784.0000	3783.0000	3783.0000
18	3806.0000	3806.0000	3805.0000	3805.0000	3806.0000	3806.0000	3805.0000	3805.0000
19	3828.0000	3828.0000	3827.0000	3827.0000	3828.0000	3828.0000	3827.0000	3827.0000
20	3850.0000	3850.0000	3849.0000	3849.0000	3850.0000	3850.0000	3849.0000	3849.0000
21	3872.0000	3872.0000	3871.0000	3871.0000	3872.0000	3872.0000	3871.0000	3871.0000
22	3894.0000	3894.0000	3893.0000	3893.0000	3894.0000	3894.0000	3893.0000	3893.0000
23	3916.0000	3916.0000	3915.0000	3915.0000	3916.0000	3916.0000	3915.0000	3915.0000
24	3938.0000	3938.0000	3937.0000	3937.0000	3938.0000	3938.0000	3937.0000	3937.0000
25	3960.0000	3960.0000	3959.0000	3959.0000	3960.0000	3960.0000	3959.0000	3959.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE CDC	CONTAINS 2 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1000.0000	1000.0000	1000.0000	1000.0000	1000.0000	1000.0000	1000.0000	1000.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE CHOC	CONTAINS 2 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE CTDC	CONTAINS 2 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000
1	.7550	.7550	.7550	.7550	.7550	.7550	.7550	.7550
2	.7550	.7550	.7550	.7550	.7550	.7550	.7550	.7550

	TAPF1	TAPF2	TAPF3	TAPF4	TAPF5	TAPF6	TAPF7	TAPF8
TABLE CNRC	CONTAINS 11 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
3	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000
4	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000
5	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000
6	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000
7	30.0000	30.0000	30.0000	30.0000	30.0000	30.0000	30.0000	30.0000
8	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000
9	37.0000	37.0000	37.0000	37.0000	37.0000	37.0000	37.0000	37.0000
10	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000
11	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200
3	-0.0300	-0.0300	-0.0300	-0.0300	-0.0300	-0.0300	-0.0300	-0.0300
4	-0.0100	-0.0100	-0.0100	-0.0100	-0.0100	-0.0100	-0.0100	-0.0100
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	.0300	.0300	.0300	.0300	.0300	.0300	.0300	.0300
7	.0700	.0700	.0700	.0700	.0700	.0700	.0700	.0700
8	.1300	.1300	.1300	.1300	.1300	.1300	.1300	.1300
9	.1800	.1800	.1800	.1800	.1800	.1800	.1800	.1800
10	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000
11	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000

	TAPF1	TAPF2	TAPF3	TAPF4	TAPF5	TAPF6	TAPF7	TAPF8
TARLE CTRC	CONTAINS 11 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
3	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000
4	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000	15.0000
5	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000	20.0000
6	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000
7	30.0000	30.0000	30.0000	30.0000	30.0000	30.0000	30.0000	30.0000
8	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000
9	37.0000	37.0000	37.0000	37.0000	37.0000	37.0000	37.0000	37.0000
10	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000	75.0000
11	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000	180.0000
1	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000
2	1.5200	1.5200	1.5200	1.5200	1.5200	1.5200	1.5200	1.5200
3	1.5400	1.5400	1.5400	1.5400	1.5400	1.5400	1.5400	1.5400
4	1.5400	1.5400	1.5400	1.5400	1.5400	1.5400	1.5400	1.5400
5	1.5200	1.5200	1.5200	1.5200	1.5200	1.5200	1.5200	1.5200
6	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000	1.5000
7	1.4600	1.4600	1.4600	1.4600	1.4600	1.4600	1.4600	1.4600
8	1.3750	1.3750	1.3750	1.3750	1.3750	1.3750	1.3750	1.3750
9	1.3250	1.3250	1.3250	1.3250	1.3250	1.3250	1.3250	1.3250
10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE TOFFI CONTAINS 2 POINTS								
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1000.0000	1000.0000	1000.0000	1000.0000	1000.0000	1000.0000	1000.0000	1000.0000
1	.6330	.4260	.3930	.3510	.7090	.6900	.3860	.5000
2	.6330	.4260	.3930	.3510	.7090	.6900	.3860	.5000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE TRSRLS CONTAINS 2 POINTS								
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	500.0000	500.0000	500.0000	600.0000	500.0000	500.0000	500.0000	600.0000
1	1.6000	.4700	.6340	.2700	1.0930	.4090	.3150	.2890
2	1.6000	.4700	.6340	.2700	1.0930	.4090	.3150	.2890

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE TRLSFI CONTAINS 2 POINTS								
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	500.0000	500.0000	500.0000	600.0000	500.0000	500.0000	500.0000	600.0000
1	1.6100	.7890	.7750	.5480	2.7360	1.5860	.5350	.4450
2	1.6100	.7890	.7750	.5480	2.7360	1.5860	.5350	.4450

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE CARD	CONTAINS 2 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	-1.0000	-1.0000	-1.0000	-1.0000	-1.0000	-1.0000	-1.0000	-1.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
TABLE TWO	CONTAINS 2 POINTS							
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	-0.2400	-0.2400	-0.2400	-0.2400	-0.2400	-0.2400	-0.2400	-0.2400
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	TAPF1	TAPF2	TAPF3	TAPF4	TAPF5	TAPF6	TAPF7	TAPF8
TABLE VCSB CONTAINS 6 POINTS								
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1.9267	1.9267	1.9267	1.9267	1.9267	1.9267	1.9267	1.9267
3	3.5267	3.5267	3.5267	3.5267	3.5267	3.5267	3.5267	3.5267
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	1.9267	1.9267	1.9267	1.9267	1.9267	1.9267	1.9267	1.9267
6	3.5267	3.5267	3.5267	3.5267	3.5267	3.5267	3.5267	3.5267
1	.1458	.1458	.1458	.1458	.1458	.1458	.1458	.1458
2	.1458	.1458	.1458	.1458	.1458	.1458	.1458	.1458
3	.1458	.1458	.1458	.1458	.1458	.1458	.1458	.1458
4	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458
5	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458
6	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458	-.1458

		TAPE1	TAPE2	TAPE3	TAPE4	TAPE5	TAPE6	TAPE7	TAPE8
AERODYNAMIC COEFFICIENTS FILE CONTAINS 12 TABLES									
1	CXS	1	1	1	1	1	1	1	1
2	CYS	2	2	2	2	2	2	2	2
3	C7S	3	3	3	3	3	3	3	3
4	CLS	4	4	4	4	4	4	4	4
5	CMS	5	5	5	5	5	5	5	5
6	CNS	6	6	6	6	6	6	6	6
7	CXH	21	21	21	21	21	21	21	21
8	CYH	22	22	22	22	22	22	22	22
9	CZH	23	23	23	23	23	23	23	23
10	CLM	24	24	24	24	24	24	24	24
11	CHM	25	25	25	25	25	25	25	25
12	CHM	26	26	26	26	26	26	26	26

```

*****
1  TAPE7,TAPE8,TAPE9,TAPE10)
*****
*
* THIS PROGRAM WILL READ UP TO 10 ICARUS PROGRAM FORMATTED INPUT DATA
* FILES AND PRINT THE INDIVIDUAL PARAMETERS IN A COLUMN BY TAPE NUMBER
* FORMAT FOR VISUAL COMPARISON PURPOSES. AN OPTION IS ALSO AVAILABLE
* THAT WILL CALCULATE THE AVERAGE OF EACH INDIVIDUAL SECTION PARAMETER.
* THE PROGRAM VARIABLES NTAPES AND IAVG MUST BE SPECIFIED BEFORE
* COMPILATION OF THIS PROGRAM.
* THE SEQUENCE AND NUMBER OF PARAMETERS ARE DETERMINED FROM TAPE1.
* ALL OTHER TAPES ARE ASSUMED TO HAVE THIS SAME SEQUENCE AND NUMBER OF
* PARAMETERS.
*
*****
15  DIMENSION ITITLE(8),IVAR(12,4),IVAL(12,50),AVAL(12,50),NTAPE(10)
*****
DATA (NTAPE(1),I=1,10)/7H TAPE1,7H TAPE2,7H TAPE3,7H TAPE4,
1 7H TAPE5,7H TAPE6,7H TAPE7,7H TAPE8,7H TAPE9,7H TAPE10/
DATA NAVG/7H AVERAGE/

C NTAPES IS THE NUMBER OF INPUT DATA TAPES TO BE READ (1 - 10)
C IAVG IS THE OPTION TO CALCULATE THE AVERAGE OF EACH INDIVIDUAL SECTION
C PARAMETER.
C      0 = DO NOT CALCULATE THE AVERAGE
C      1 = CALCULATE AND PRINT THE AVERAGE
C      IAVG = 0

30  C SKIP START LINE
    DO 10 I=1,NTAPES
    10 READ(I,1000) IOUN
    C READ AND PRINT TITLES
    PRINT 2000
    DO 20 J=1,NTAPES
    READ(I,1100) (ITITLE(J),J=1,8)
    PRINT 2100,I,(ITITLE(J),J=1,8)
    READ(I,1100) (ITITLE(J),J=1,8)
    20 PRINT 2200,(ITITLE(J),J=1,8)
    C READ AND PRINT FLAGS
    PRINT 2300,(NTAPE(I),I=1,NTAPES)
    PRINT 2800
    N = 0
    DO 40 K=1,19
    DO 30 I=1,NTAPES
    30 READ(I,1200) ((IVAR(I,M),IVAL(I,M)),M=1,4)
    DO 40 M=1,4
    IF (IVAR(I,M)) .EQ. 8H ) GO TO 40
    N = N+1
    PRINT 2400,N,IVAR(I,M),(IVAL(I,M),I=1,NTAPES)
40  CONTINUE
    C READ AND PRINT SECTIONS
    50 READ(I,1300) IOUN
    IF (IOUN .NE. 7HSECTION) GO TO 110
    BACKSPACE 1
    READ(I,1300) IOUN,NUM
    BACKSPACE 1
55

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60 IF (I*AVG .EQ. 0) PRINT 2300, (N, RE(I), I=1, NTAPES)
   IF (I*AVG .NE. 0) PRINT 2300, (N, RE(I), I=1, NTAPES), NAVG
   PRINT 2400
   N = 0
   READ(1,1100) (ITITLE(J), J=1,8)
   PRINT 2500, (ITITLE(J), J=1,8)
   DO 60 I=2, NTAPES
65 READ(1,1000) IDUM
   LINES = ((IDUM-1)/3) + 1
   DO 120 K=1, LINES
   DO 70 I=1, NTAPES
70 READ(1,1400) ((IVAR(I,M), AVAL(I,M)), M=1,3)
   DO 100 M=1,3
   IF (IVAR(I,M) .EQ. 7H ) GO TO 100
   N = N+1
   IF (I*AVG .EQ. 0) GO TO 90
   SUM = 0.0
   DO 80 I=1, NTAPES
80 SUM = SUM+AVAL(I,M)
   AVG = SUM/NTAPES
   PRINT 2600, N, IVAR(I,M), (AVAL(I,M), I=1, NTAPES), AVG
   GO TO 100
90 PRINT 2600, N, IVAR(I,M), (AVAL(I,M), I=1, NTAPES)
100 CONTINUE
   GO TO 50
   C READ AND PRINT TABLES
110 BACKSPACE 1
120 READ(1,1500) IDUM, INAM
   IF (IDUM .NE. 5HTABLE) GO TO 160
   NL = 2
   IF (INAM .EQ. 4HVCSE) NL = 3
   BACKSPACE 1
   READ(1,1500) IDUM, INAM, NUM
   BACKSPACE 1
   PRINT 2300, (NTAPE(I), I=1, NTAPES)
   PRINT 2400
   READ(1,1100) (ITITLE(J), J=1,8)
   PRINT 2500, (ITITLE(J), J=1,8)
   DO 130 I=2, NTAPES
130 READ(1,1000) IDUM
   DO 150 K=1, NL
   N = 0
   DO 140 I=1, NTAPES
140 READ(1,1600) (AVAL(I,M), M=1, NUM)
   DO 150 M=1, NUM
   N = N+1
150 PRINT 2700, N, (AVAL(I,M), I=1, NTAPES)
   GO TO 120
   C READ AND PRINT AERODYNAMIC COEFFICIENT TABLE NAMES AND SEQUENCE NUMBERS
160 PRINT 2300, (NTAPE(I), I=1, NTAPES)
   PRINT 2400
   N = 0
   BACKSPACE 1
   READ(1,1100) (ITITLE(J), J=1,8)
   PRINT 2500, (ITITLE(J), J=1,8)
   DO 170 I=2, NTAPES

```

```

115
120      N = N+1
      MVAL(1,1700) IVAL(K,1), IVAL(K,
100 100 I=2,NTAPLS
      READ(I,1000) IVAL(K,1)
125      PRINT 2400,N, IVAL(K,1), (IVAL(K,I), I=1,NTAPES)
      1000 FORMAT(A7)
      1100 FORMAT(BA10)
      1200 FORMAT(A8,12,3(10X,A8,12))
      1300 FORMAT(A7,13X,13)
      1400 FORMAT(A7,3X,F10.4,2(10X,A7,3X,F10.4))
      1500 FORMAT(A5,1X,A7,10X,13)
      1600 FORMAT(8F10.4)
      1700 FORMAT(A7,1X,12)
      1800 FORMAT(8X,12)
      2000 FORMAT(1H)
      2100 FORMAT(1H0,NTAPE,12,0 = 0,BA10)
      2200 FORMAT(1H,0X,BA10)
      2300 FORMAT(1H1,19X,A7,10(4),A7))
      2400 FORMAT(1H,13,2X,A10,13(1X,110))
      2500 FORMAT(1H,BA10)
      2600 FORMAT(1H,13,2X,A10,11(1X,F10.4))
      2700 FORMAT(1H,13,2X,10X,1V(1X,F10.4))
      2800 FORMAT(1H)
      END

```