AFFDL-TR-68-131
VOLUME III

APPLICATION OF MULTIPARAMETER FLIGHT LOADS DATA TO STRUCTURAL DESIGN CRITERIA

VOLUME III: TIME DISTRIBUTIONS AND PEAK ENVELOPES

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FOREWORD

This report was prepared by North American Rockwell Corporation, Downey, California, for the Structures Division, Air Force Flight Dynamics Laboratory, Wright-Patterson Air Force Base, Ohio, under Air Force Contract No. AF33(615)-3448, Project No. 1367, "Structural Design Criteria," Task No. 136717, "Empirical Loads Interpretation and Analysis."

The study and analysis, on which this report is based, were accomplished by the Methods and Criteria Unit of the Structures and Design Department in the Space Division of North American Rockwell during the period from January 1966 to July 1968. Mr. I. Bouton was Program Manager for North American Rockwell. Mr. E. Durkee of the AFFDL (FDTR) was the Project Engineer.

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This technical report has been reviewed and is approved.

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ABSTRACT

Volume III of this report represents time distribution and peak envelope data from 22.8 flight hours of multiparameter flight loads data. These data were obtained during routine training operations with F-105D airplanes at three different Air Force bases. The graphical and tabulated data presented in Volume III are the output from a computer program described in Volume IV of this report. The graphs have been produced by cathode ray tube (CRT) equipment.

This abstract is subject to special export controls and each transmittal to foreign nationals or foreign governments may be made only with prior approval of the Air Force Flight Dynamics Laboratory (FDTR), Wright-Patterson AFB, Ohio 45433.

The International System of Units (SI) was adopted by the Eleventh General Conference on Weights and Measures, Paris, October, 1960, in Resolution No. 12. Conversion factors for the units used herein are given in the following table:

CONVERSION FACTORS

To Convert from U.S. Customary Units	Multiply By	To Obtain SI Units
Degree	0.017453292519943	radian
Foot	0.3048	meter
$Foot^2$	0.09290304	$meter^2$
$Foot/Sec^2$	0.3048	$meter/second^2$
Free Fall, Standard (g)	9.80665	$meter/second^2$
Inch	0.0254	meter
Inch-pound	0.011521246198	meter-kilograms
Knot	0.5144444444	meter/second
Pound force	4.4482216152605	newton
psf	47.880258	$newton/meter^2$
psi	6894.7572	$newton/meter^2$
psi	6.8947572	$meganewton/meter^2$

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SECTION I

INTRODUCTION

This volume presents the time distribution and peak envelope data for the 22.8 hours of F-105 flight loads data. Distributions are included in both tabulated and graphical form. All data included in this volume were generated by Program 2B, described in Volume IV of this report.

The time distribution data indicate the relative amount of time spent in each interval of airspeed, Mach number and altitude. Other time distribution data include cumulative distributions of time spent above given levels of ten basic parameters (n_x, n_y, n_z, n_{z_e}, p, q, r, $\dot{p}$, $\dot{q}$, $\dot{r}$).

Dwell time data are presented to indicate the amount of time each occurrence of a maneuver is held within a given interval of a loading parameter. This information is useful when considering criteria for combined loading conditions; for example, maneuver plus gust. Dwell time data are presented in several forms. One form of dwell time distribution gives the probability of being in a specified interval of Mach number during any maneuver involving n_z or n_{z_e}. Another form of dwell time distribution gives the probability of exceeding any number of seconds of dwell time for a given maneuver. Dwell time distributions are presented for n_z and n_{z_e} for given intervals of Mach number.

Envelopes are included for peaks of n_x, He (helix angle), pr, pq, and qr, for intervals of altitude and velocity. Envelopes of $\dot{p}$ vs. p are also included.

All time distribution and envelope data generated by the program are included in this volume. However, portions of tables within the specified parameter limits that do not include any useful data have been eliminated from the report.

The "probabilities" indicated in these figures and tables are in reality frequencies of occurrence, expressed as fractions of the total. For large data samples these frequencies would approach the true probabilities. As the available data sample used in this report is small, the "probabilities" determined from the data should be used with discretion.

Due to minor differences between the 7094 computer systems at the Contractor's facility at Downey and the USAF facility at Wright-Patterson AFB, the graphs presented in Figures 1 through 35 could not be produced from the WPAFB tapes containing data for 22.8 hours of flight time. The discussion in Section VIII of Volume I notes that the alphanumeric characters are badly scrambled on the CRT's produced at WPAFB. The tabulated data on Tables I through XXXI were produced on the 7094 at WPAFB and represent correct data for the available 22.8 hours of flight time. The graphs presented in Figures 1 through 35 were produced on the Contractor's SC-4020 plotter. The format of the graphs is correct but the data represents only that portion of the total data available to the Contractor for checkout purposes, as explained in Volume I.

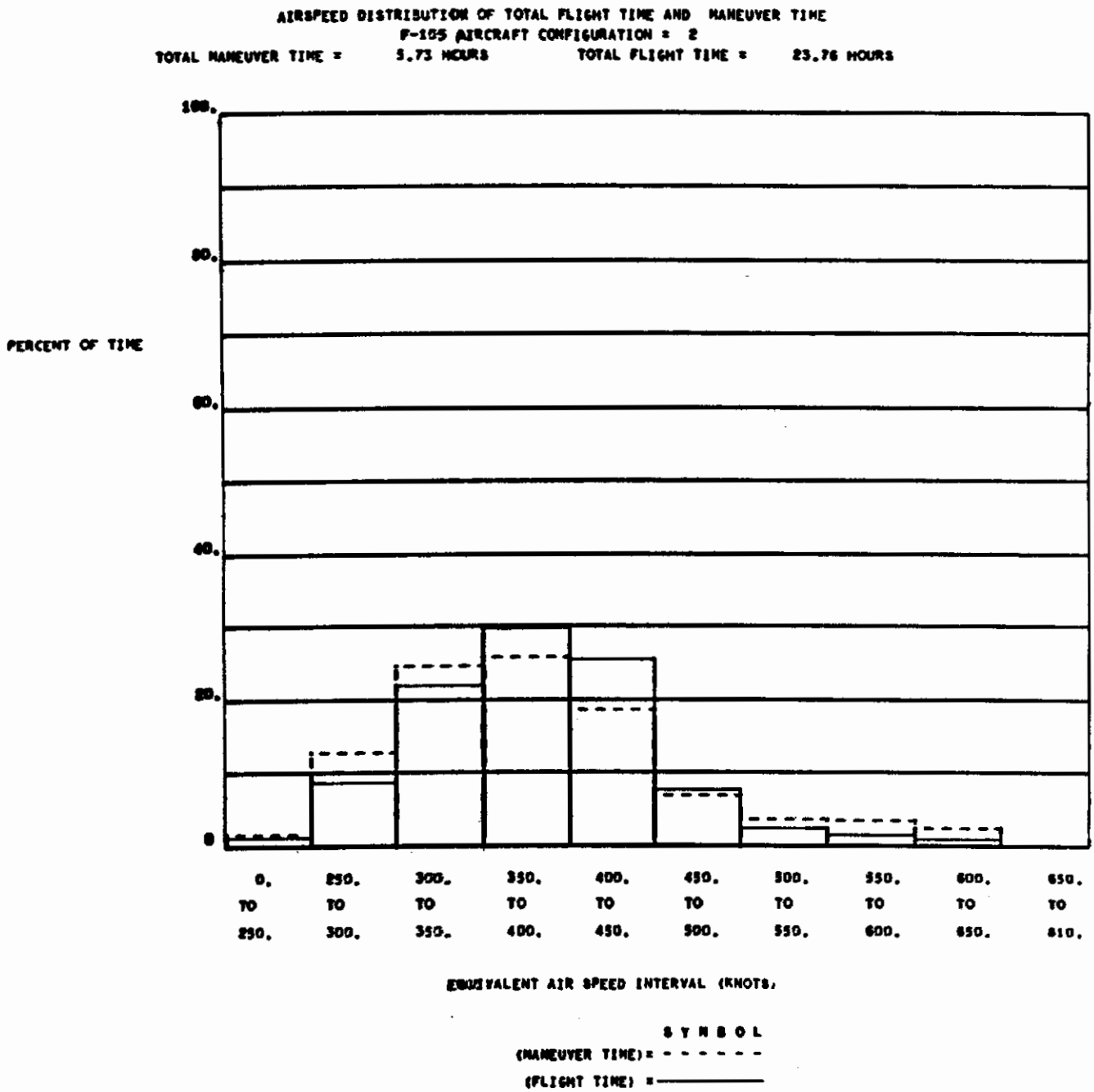
SECTION II

TIME DISTRIBUTIONS - FIGURES

Time distributions are presented in two forms in this section. One is a histogram or bar graph that shows the percent of time spent in each of several intervals of airspeed, altitude and Mach number. The graphs show the data in terms of both total flight time and in terms of maneuver time. Maneuver time is defined as all flight time when there is "activity" in one or more of the loading parameters. A more precise explanation of maneuver time is given in Volume I of this report. Figures 1, 2 and 3 show these data for airspeed, altitude and Mach number, respectively.

The second form of time distribution shows the percent maneuver time spent above any given value of a parameter. These times do not necessarily represent peaks of the data, but include the total times spent above each value. Data are shown for the ten parameters n_x, n_y, n_z, n_{z_e}, p, q, r, $\dot{p}$, $\dot{q}$ and $\dot{r}$ in Figures 4-13, respectively.

Figure 1



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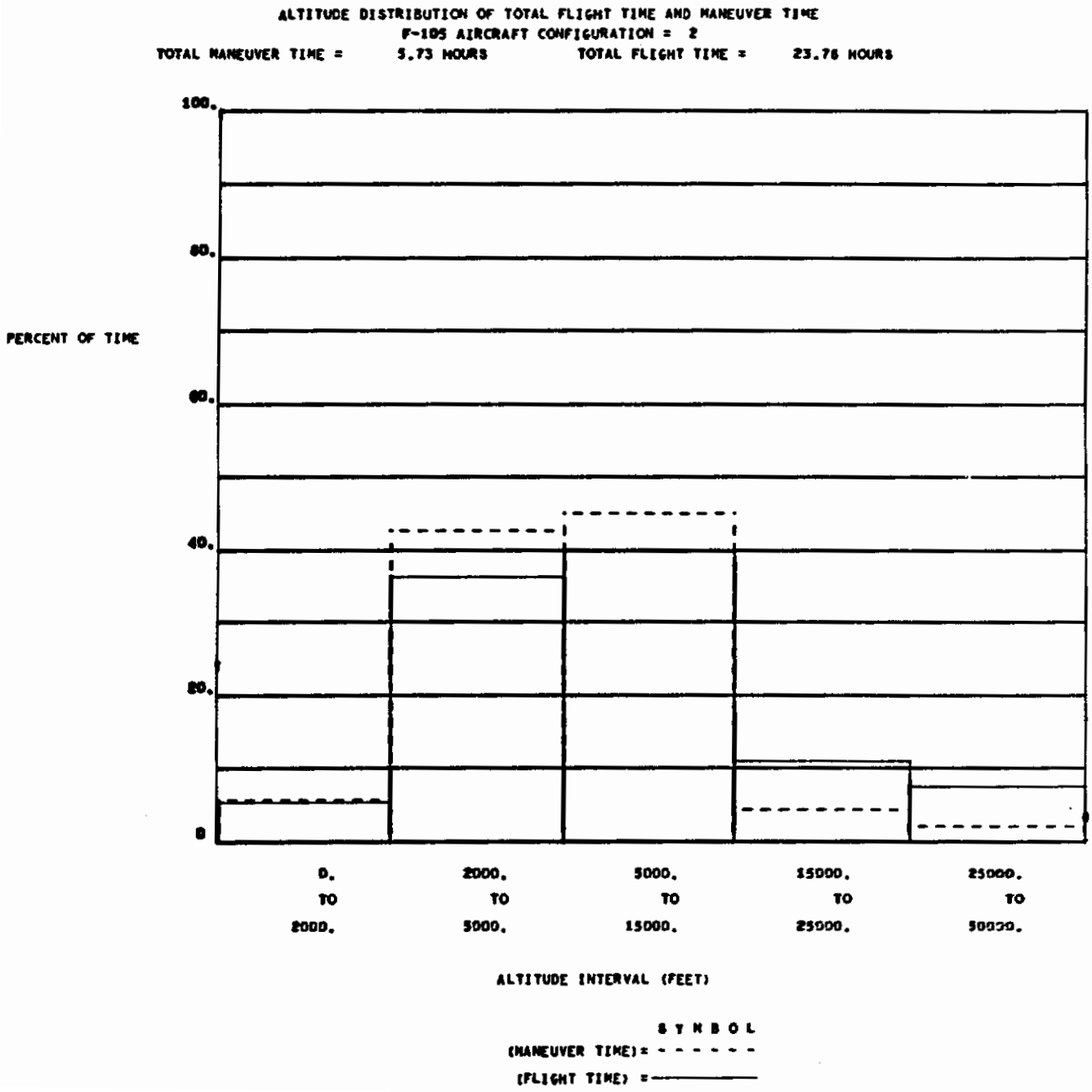

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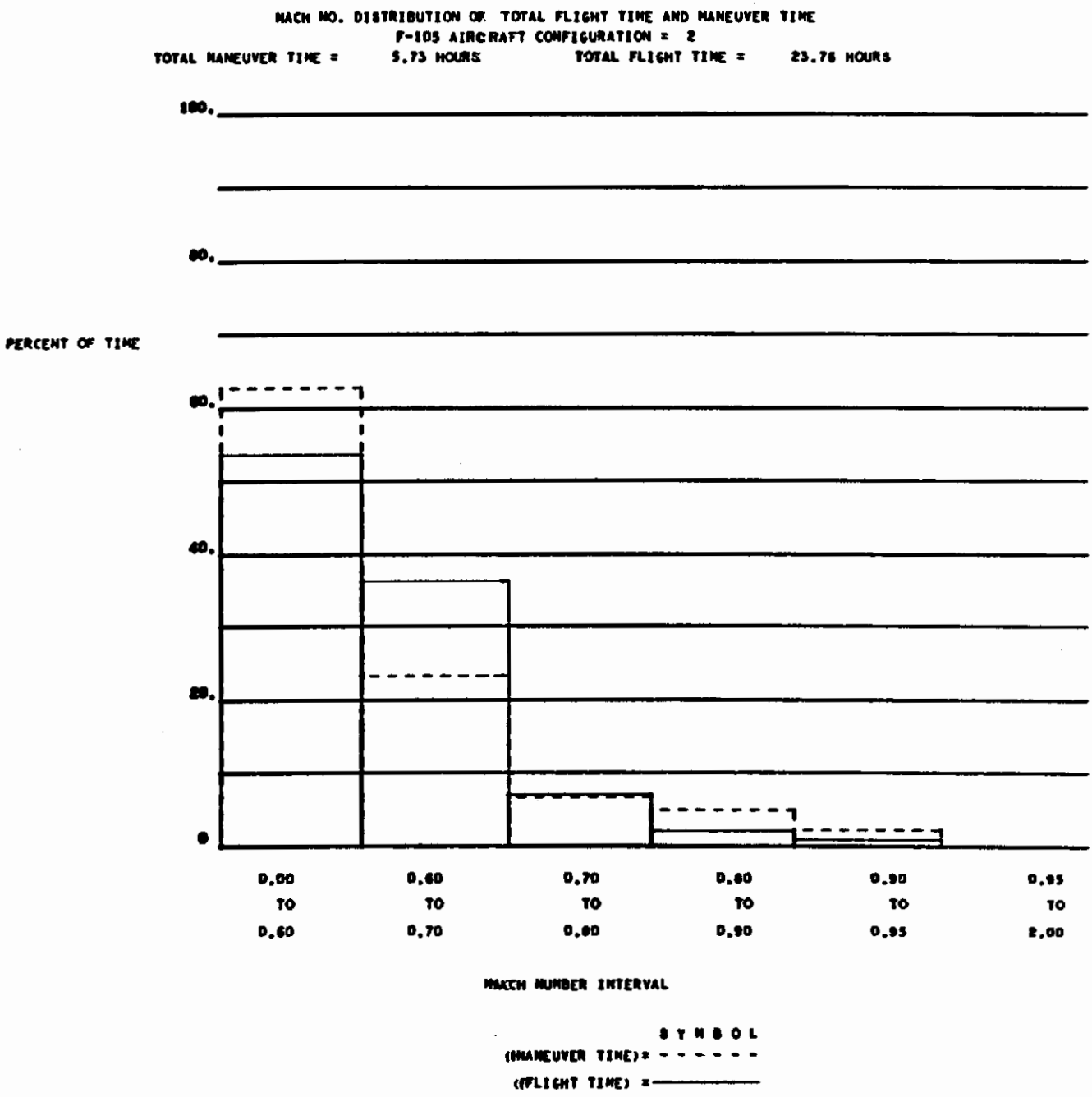

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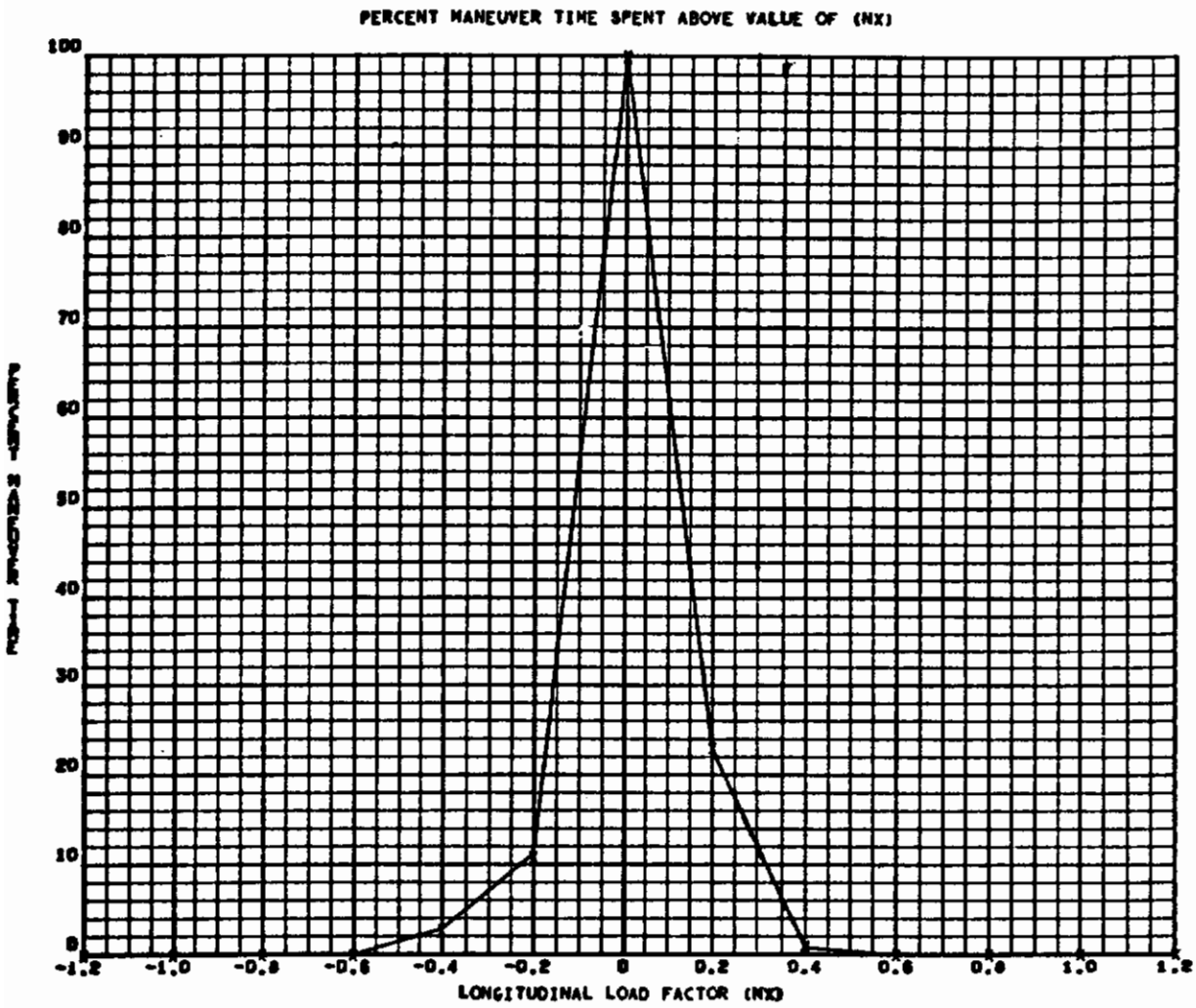

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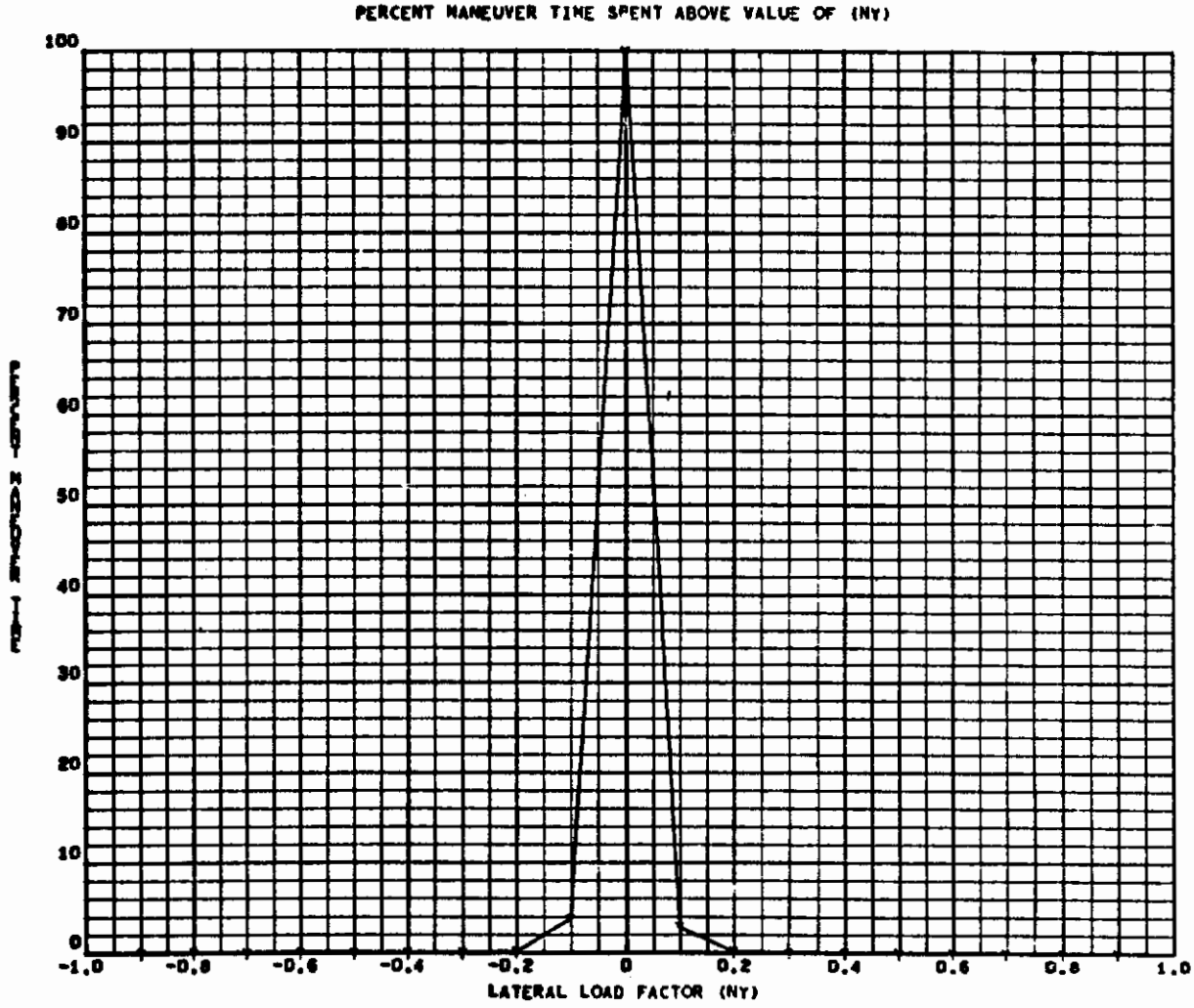

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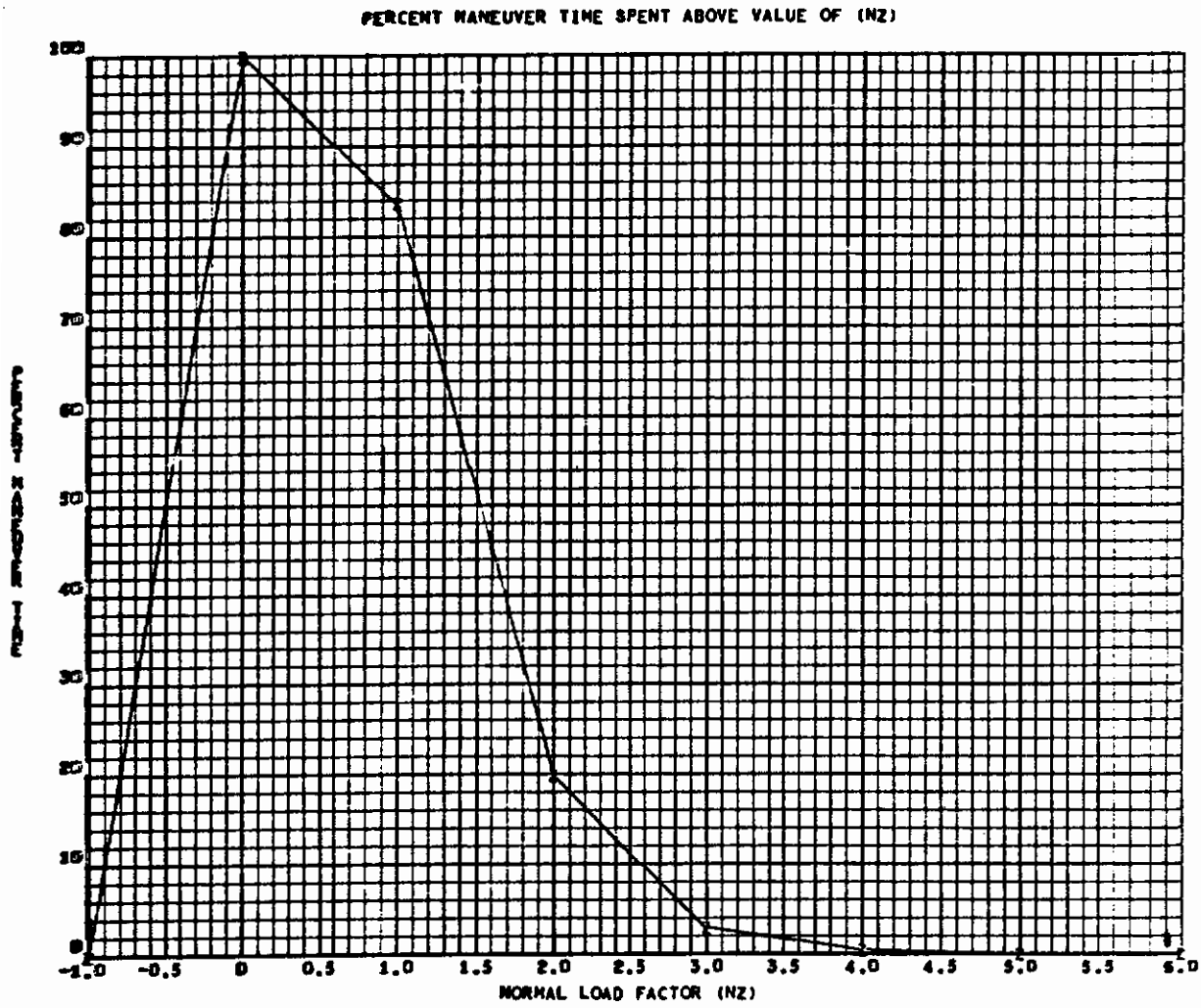

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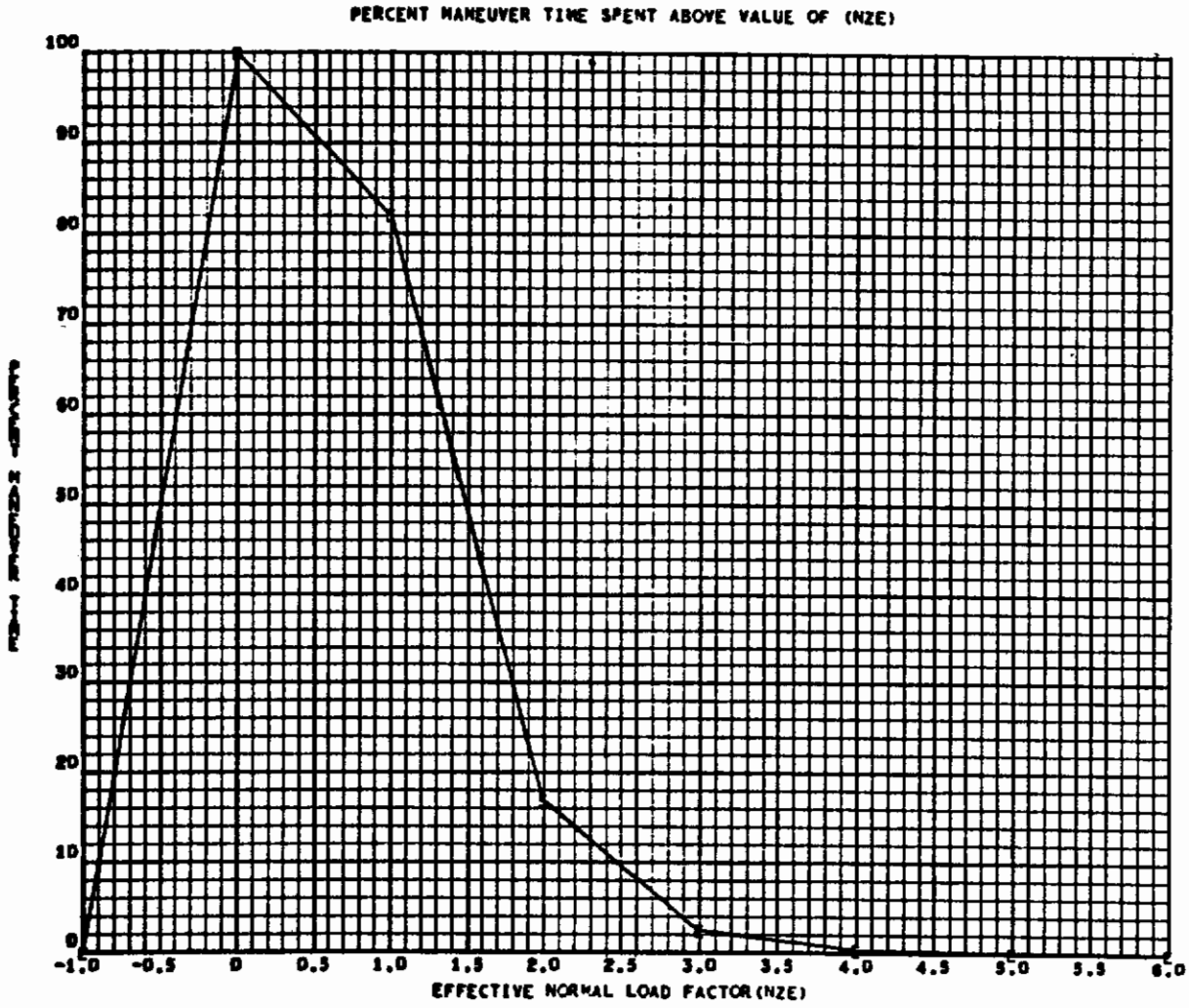

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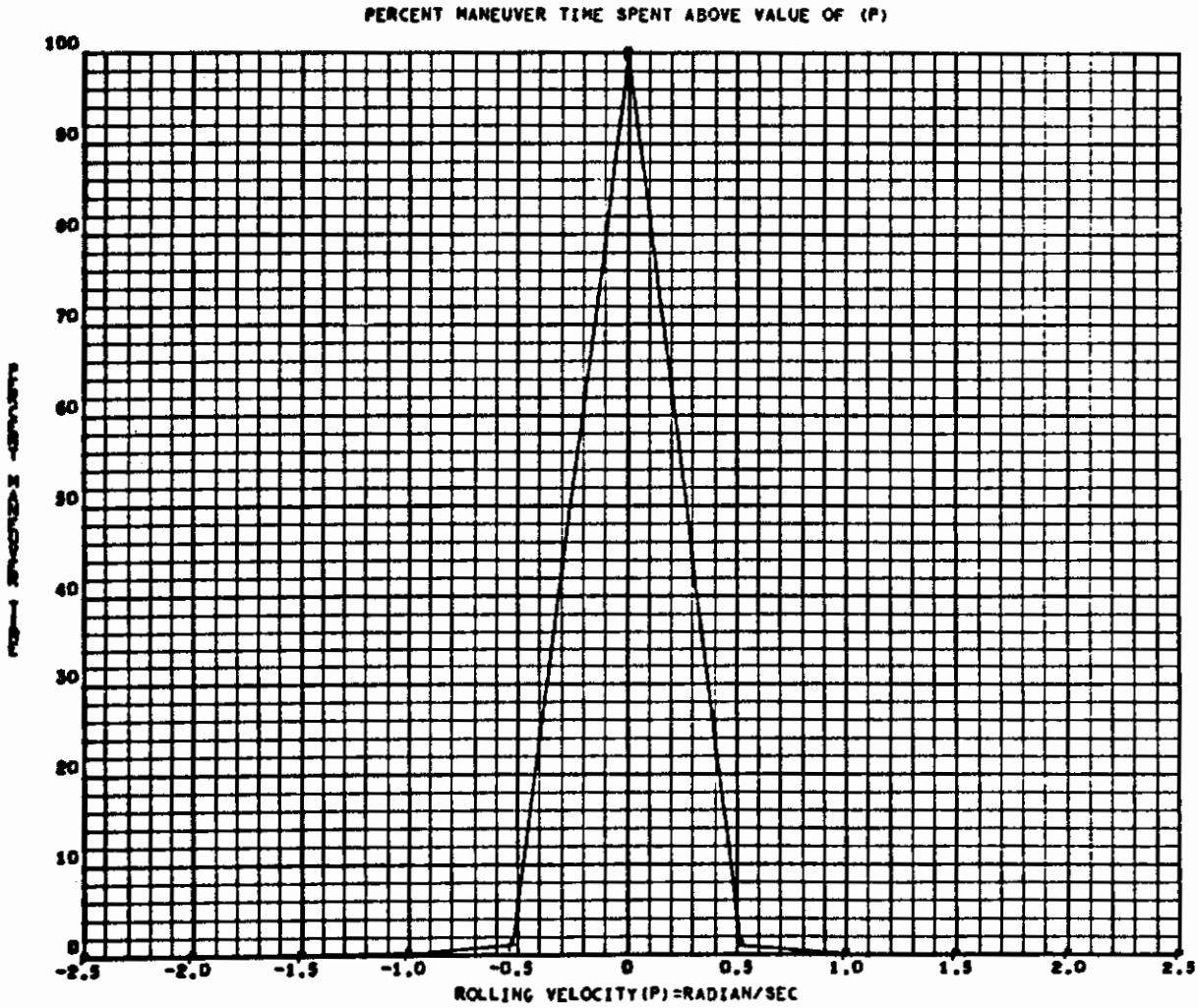

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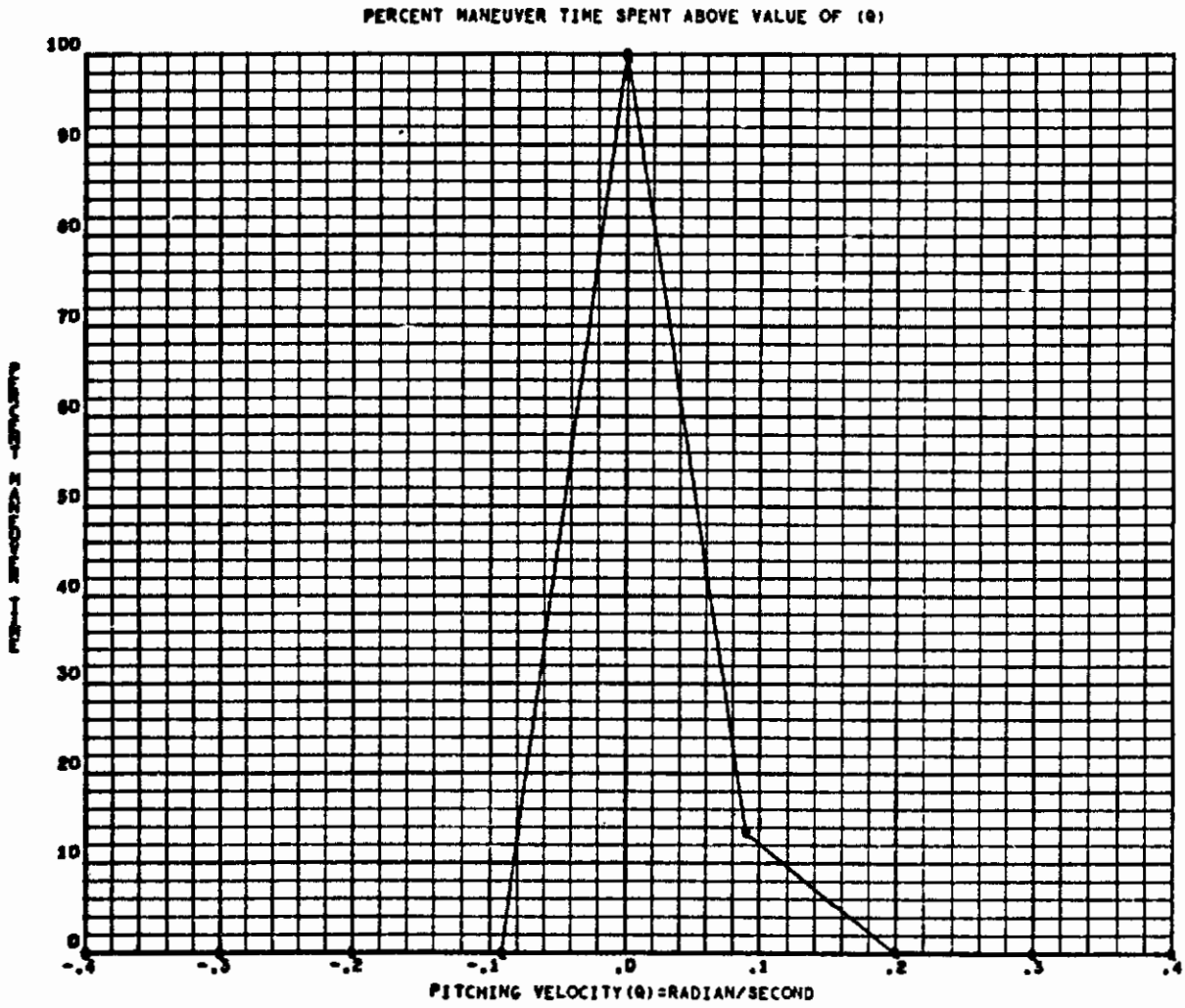

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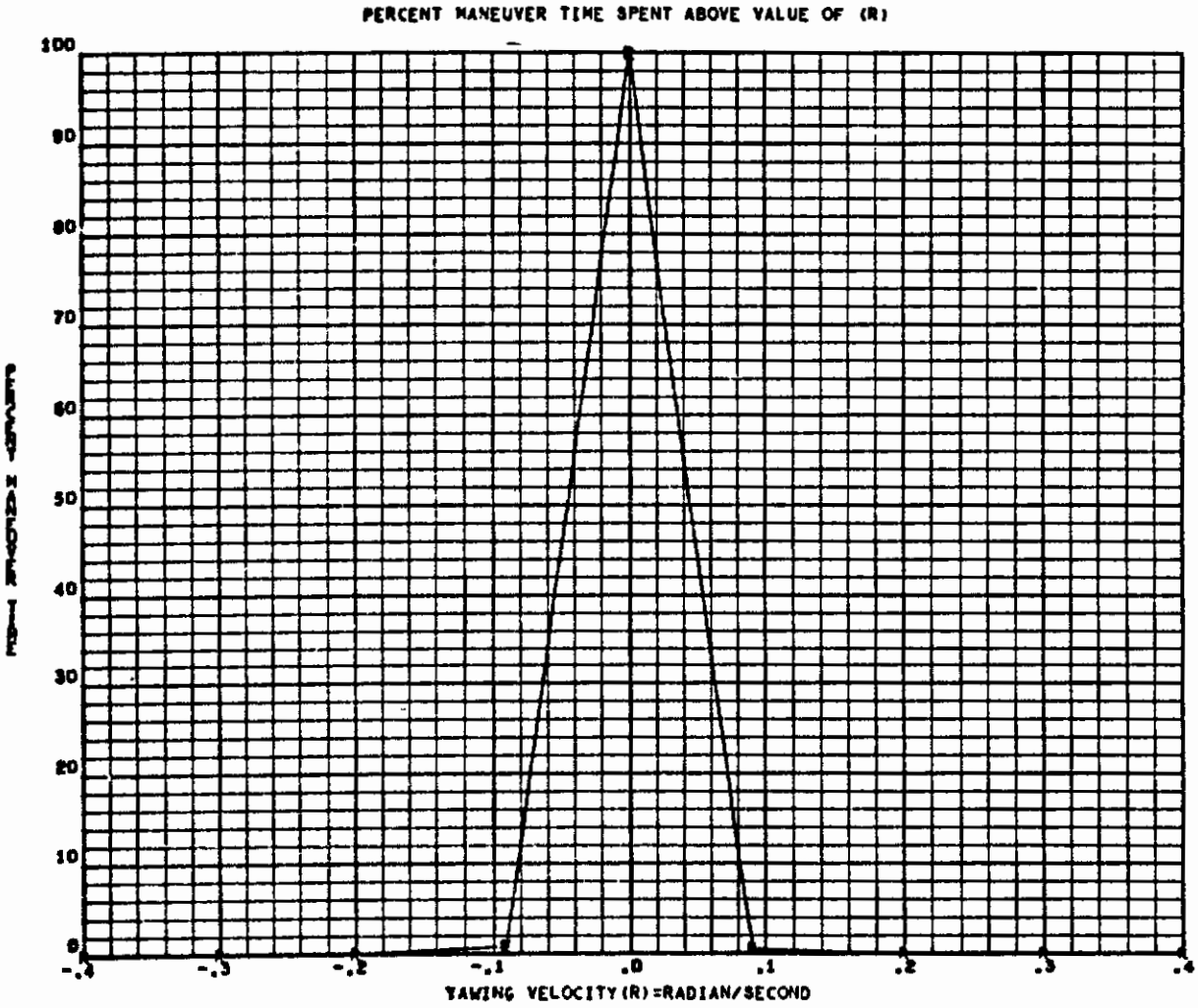

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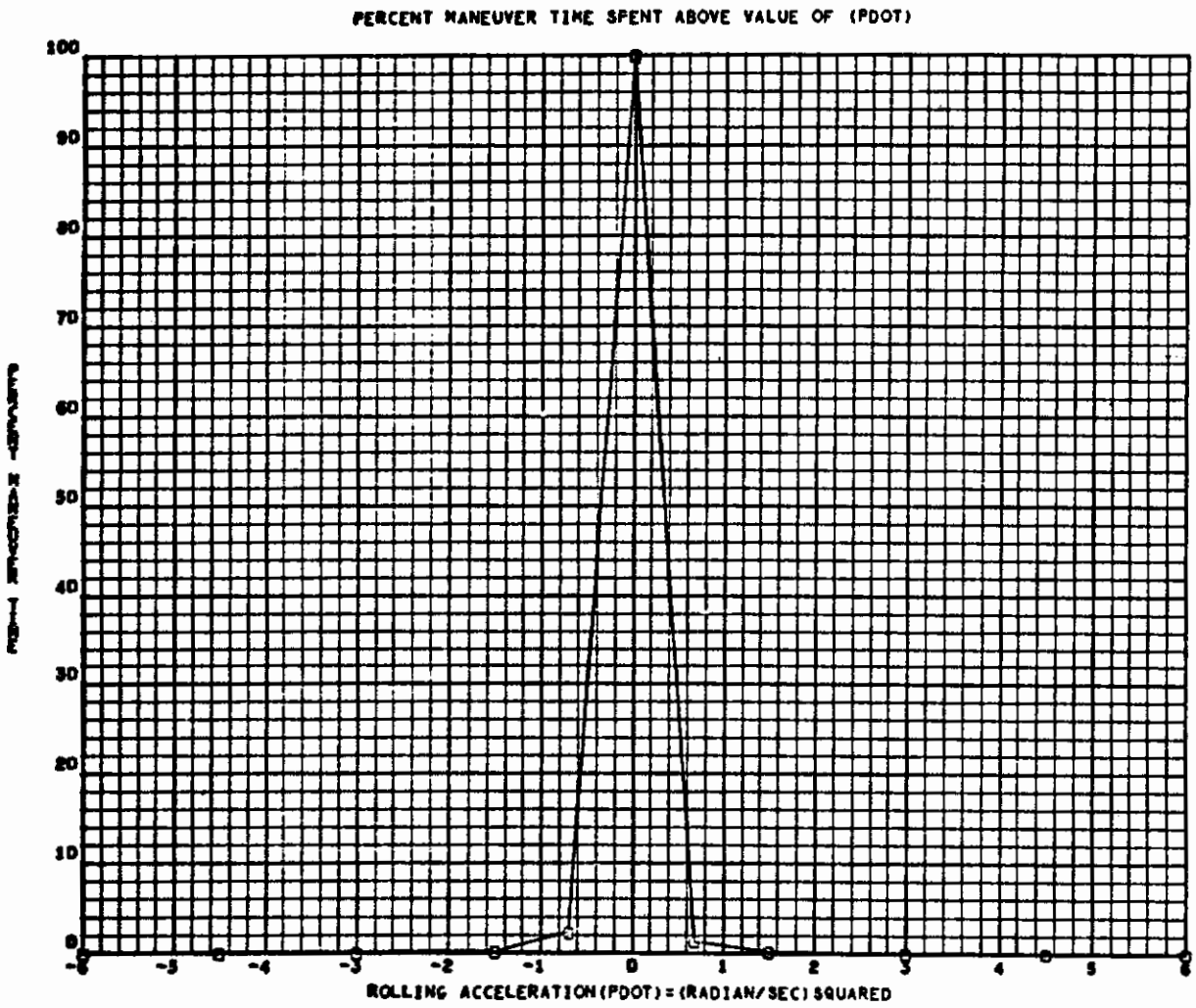
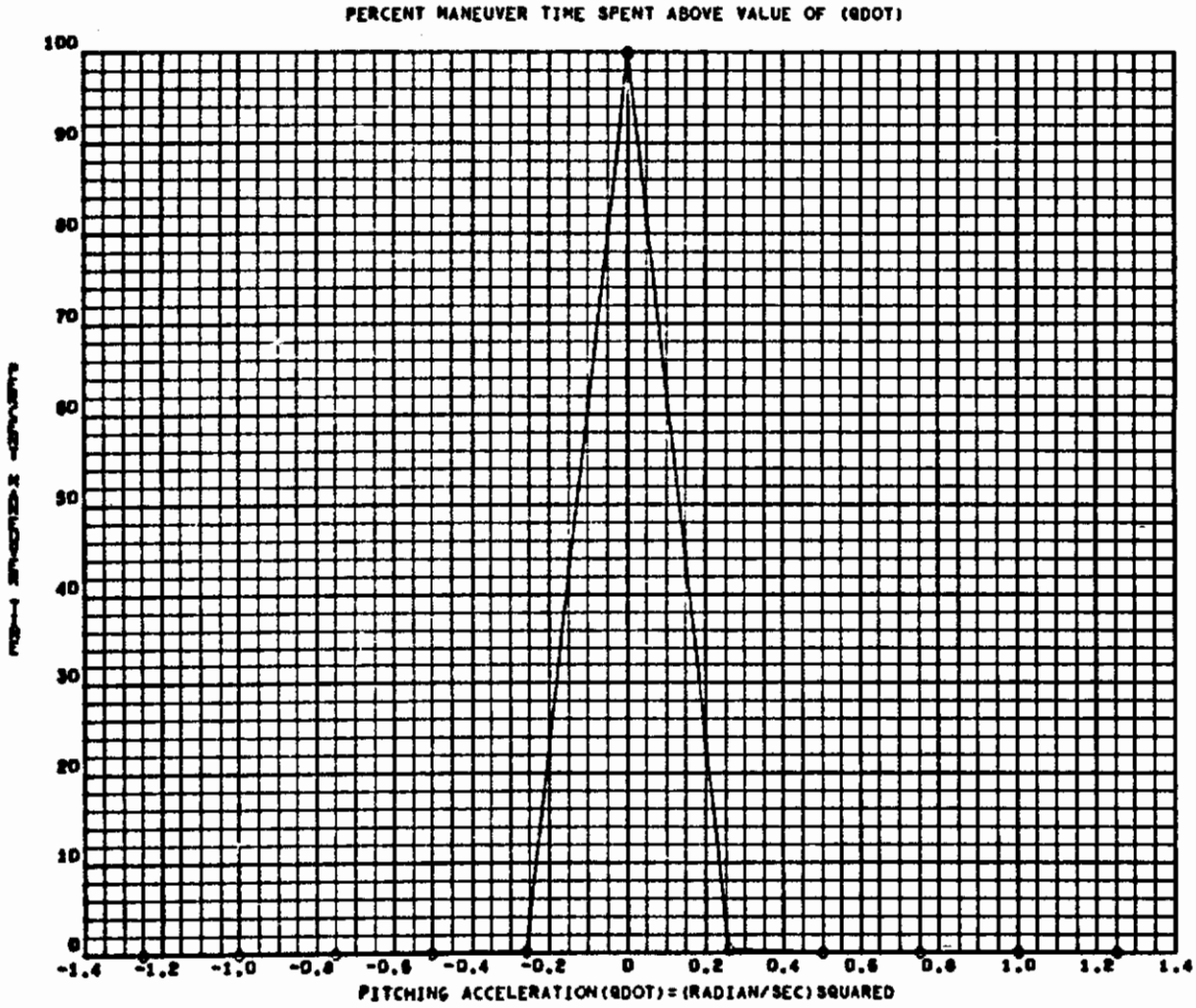


Figure 12



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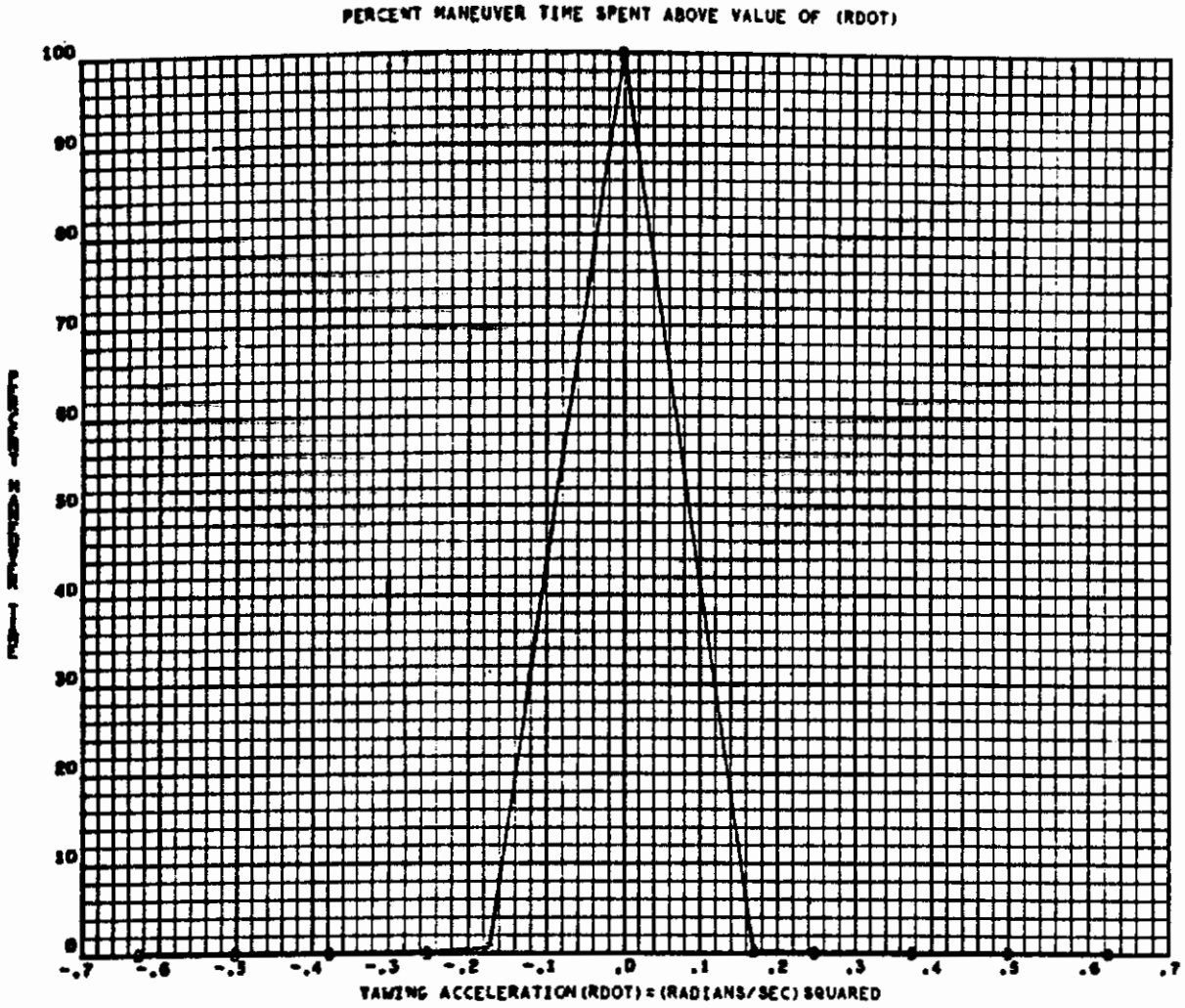


SECTION III

DWELL TIME DISTRIBUTIONS - FIGURES

A dwell time of a parameter is the length of time the value of the parameter remains within a given interval. Thus, as the value varies with time, it may traverse several intervals, remaining within each for a certain length of time. Over a long period of time, a distribution of dwell times for each interval is developed. Dwell time distributions are presented for n_z and n_{z_e} for various ranges of Mach number.

Figures 14 and 15 are histograms giving the frequency of occurrence of a Mach number during the time when n_z or n_{z_e} exhibit a dwell time, regardless of length. These figures are similar to Figure 3, but omit the times when n_z or n_{z_e} are below threshold values.

Frequency distributions of dwell time of n_z and n_{z_e} are shown in Figures 16-27. The times are grouped into intervals one second in length. Separate graphs are presented for each of six Mach number intervals. These graphs indicate conditional probabilities of exceeding a given dwell time while in a particular n_z, Mach number interval. These data may be used in conjunction with the marginal probabilities of the other load parameters to determine joint probabilities of occurrence of combinations that produce structurally significant loads.

Figures 28 and 29 show the dwell time frequency data rearranged to show the probability of exceeding a value of n_z or n_{z_e}. In this presentation, no distinction is made between lengths of dwell times. These data are useful for showing the relative probabilities of various n_z, Mach number combinations, for cases in which n_z (or n_{z_e}) is the main loading parameter.

Figure 14

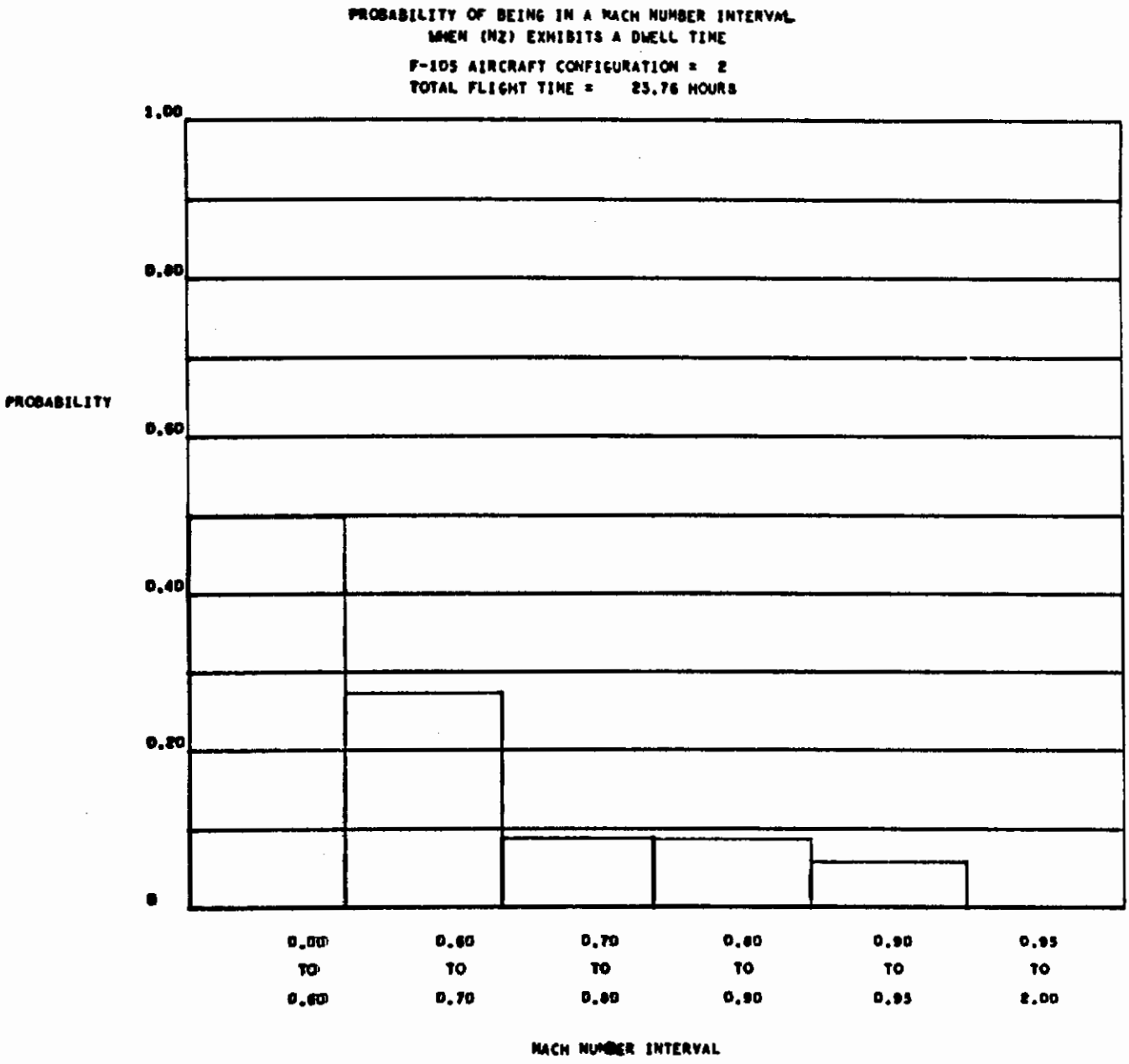


Figure 15

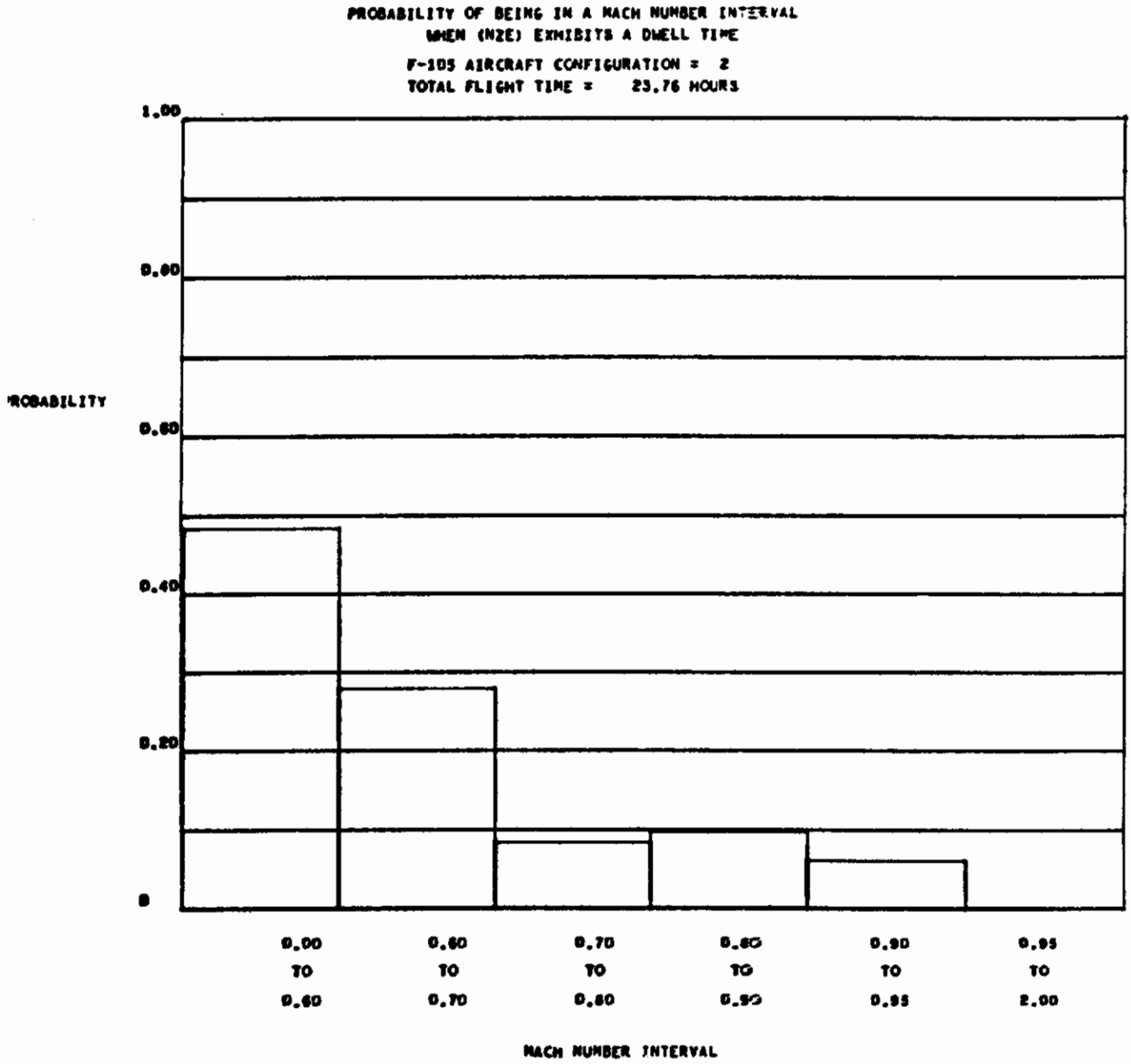
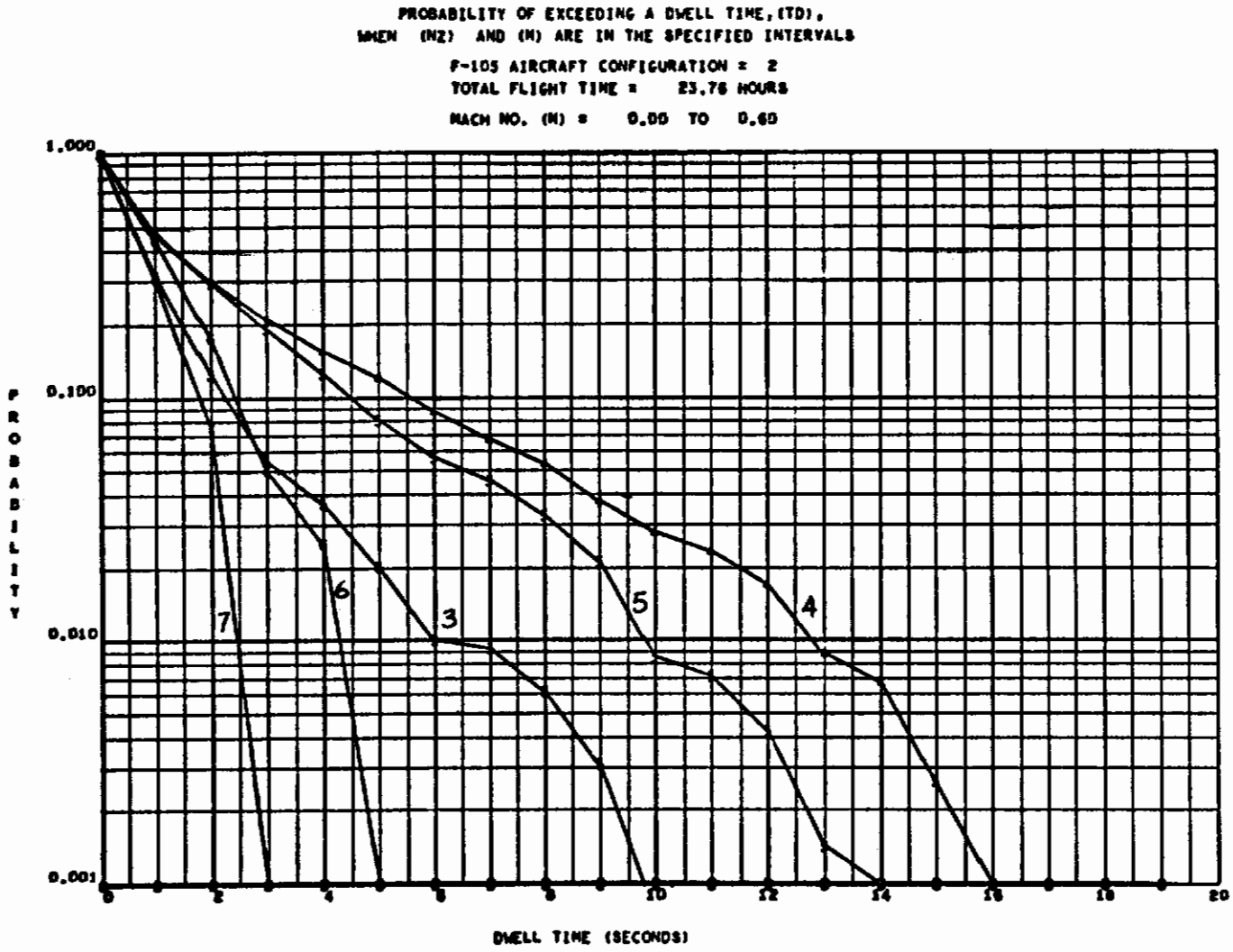
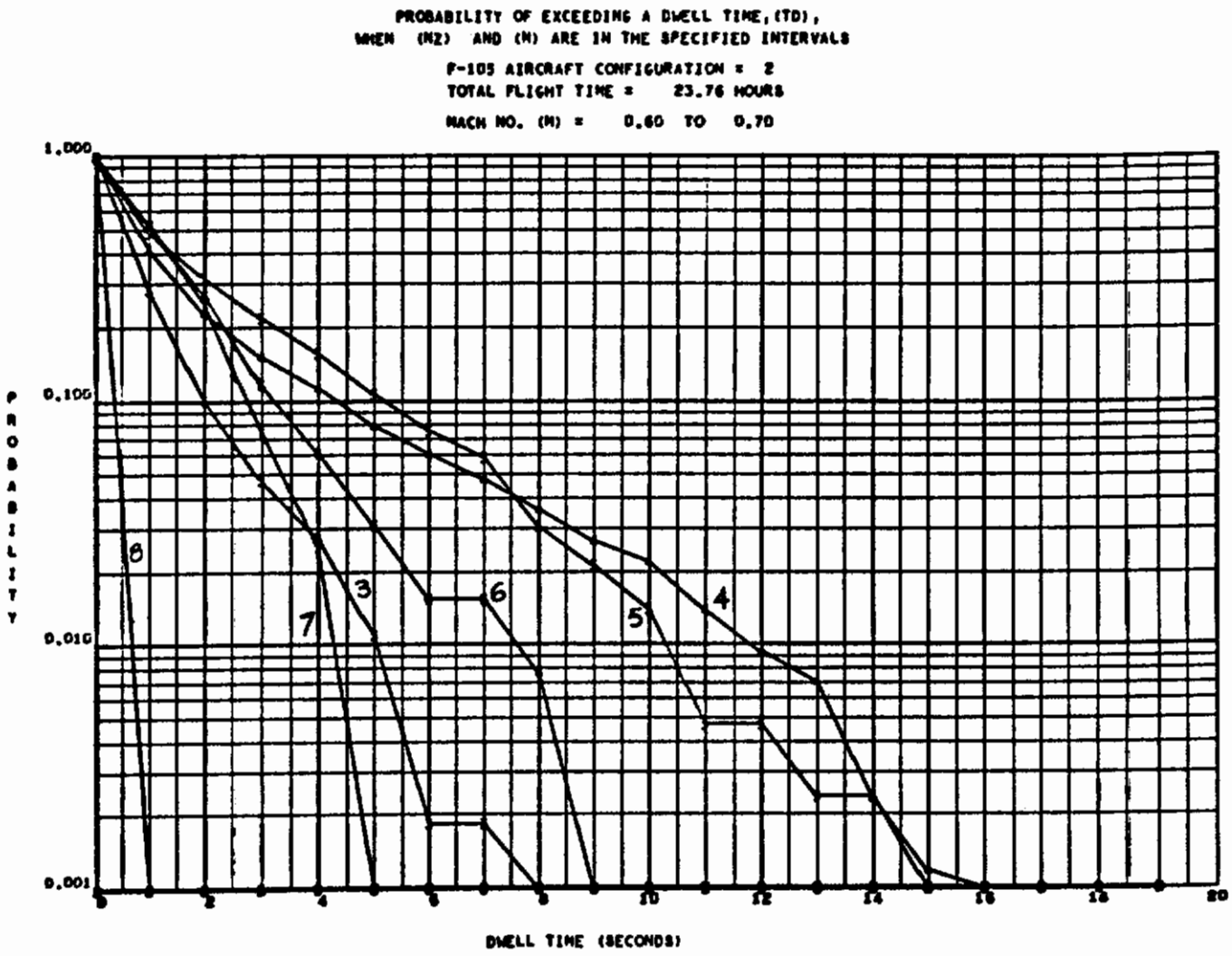


Figure 16



SYMBOL	LOAD FACTOR RANGE OF (NZ)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 17

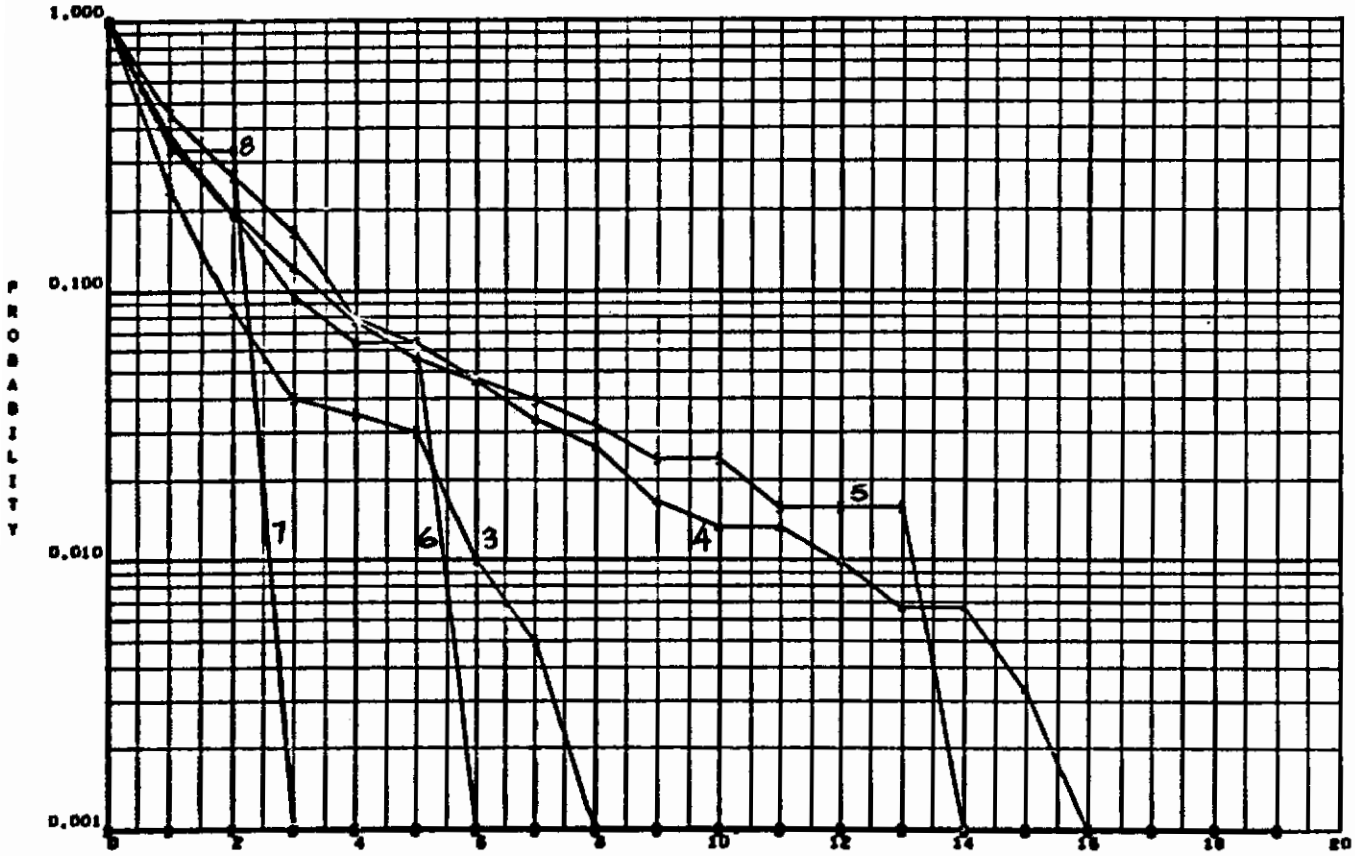


SYMBOL	LOAD FACTOR RANGE OF (NZ)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 18

PROBABILITY OF EXCEEDING A DWELL TIME, (TD),
WHEN (NZ) AND (N) ARE IN THE SPECIFIED INTERVALS

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS
MACH NO. (M) = 0.70 TO 0.80



SYMBOL	LOAD FACTOR RANGE OF (NZ)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 19

PROBABILITY OF EXCEEDING A DWELL TIME, (TD),
WHEN (NZ) AND (M) ARE IN THE SPECIFIED INTERVALS

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS
MACH NO. (M) = 0.80 TO 0.90

DWELL TIME (SECONDS)

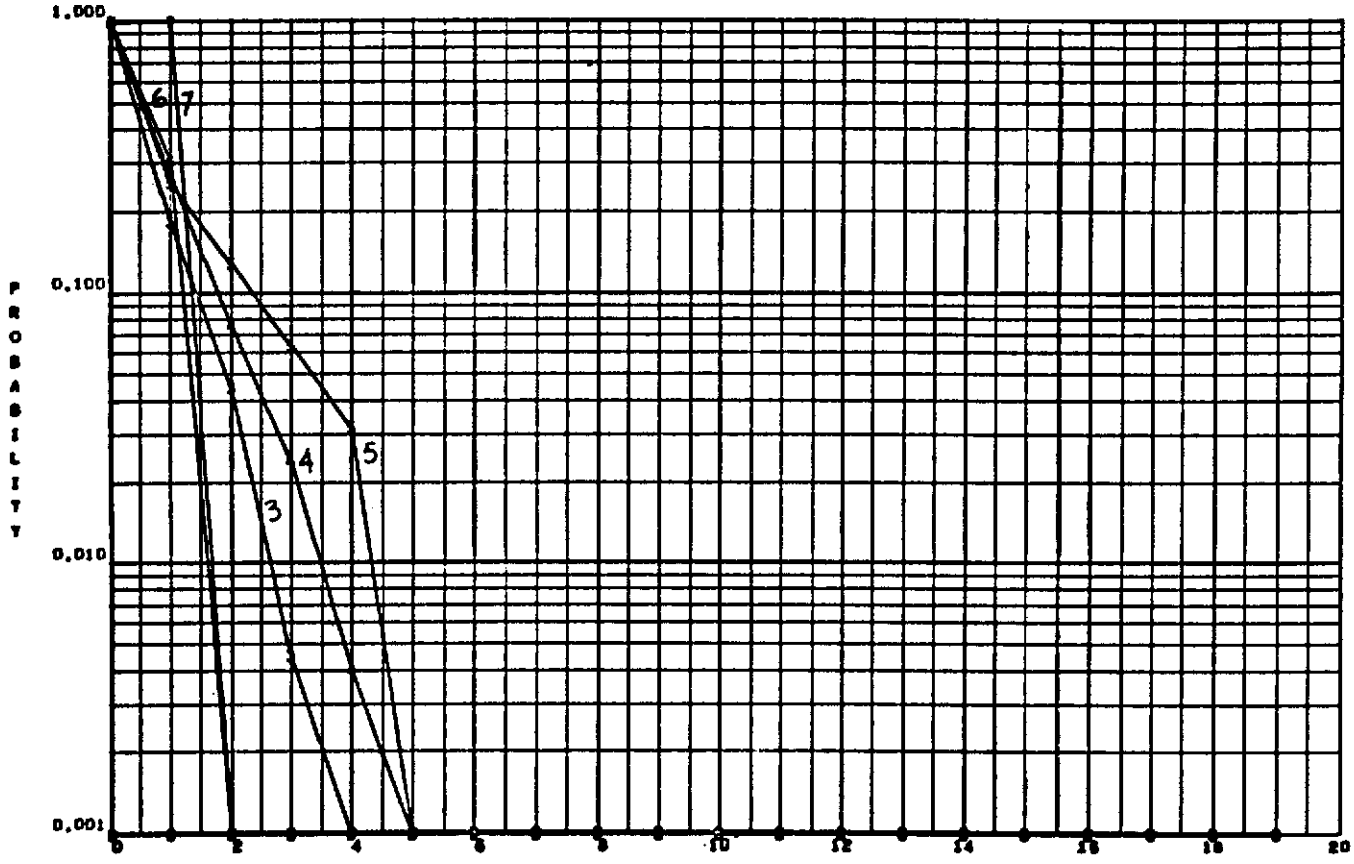
SYMBOL	LOAD FACTOR RANGE OF (NZ)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 20

PROBABILITY OF EXCEEDING A DWELL TIME, (TD),
WHEN (NZ) AND (M) ARE IN THE SPECIFIED INTERVALS

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS

MACH NO. (M) = 0.90 TO 0.95

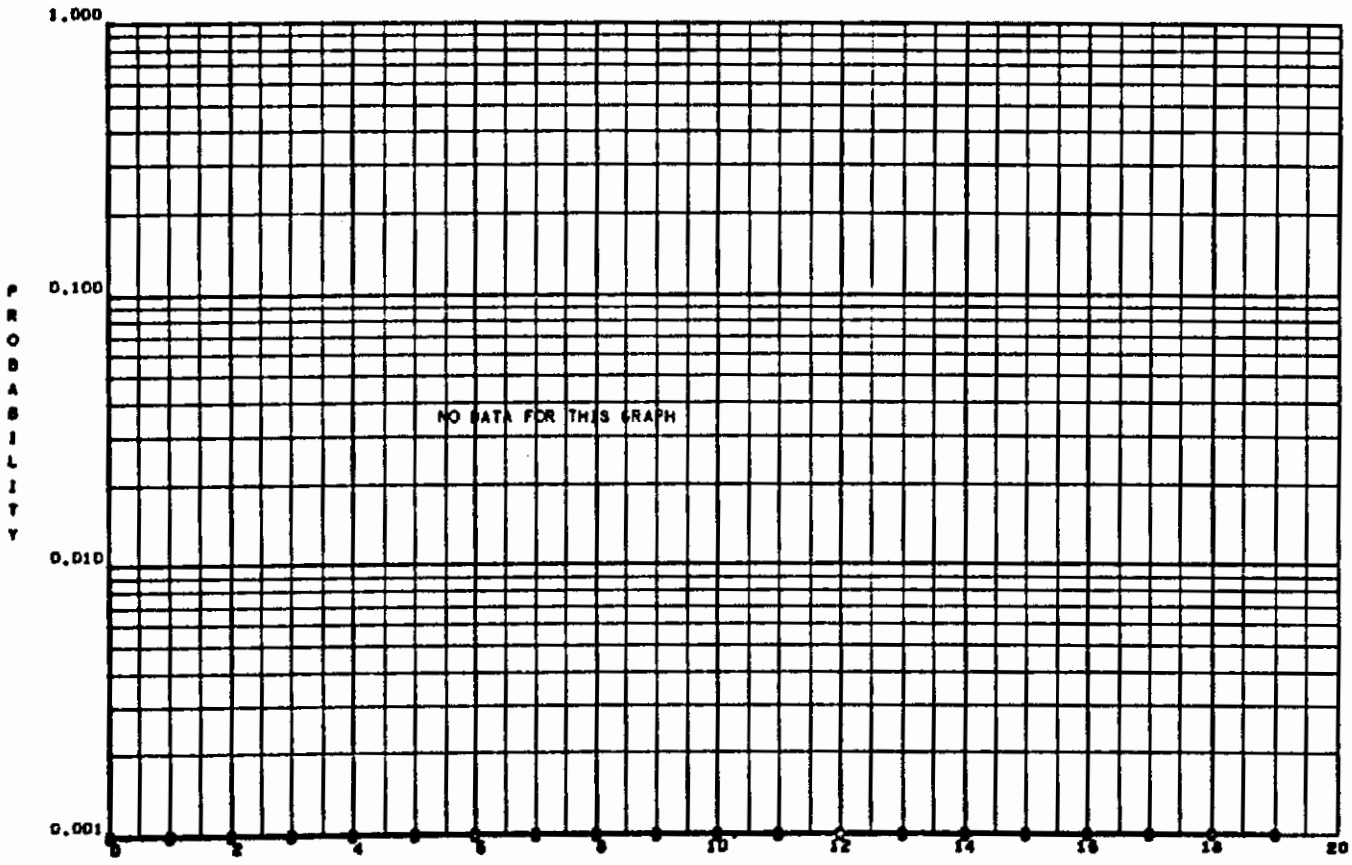


SYMBOL	LOAD FACTOR RANGE OF (NZ)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 21

PROBABILITY OF EXCEEDING A DWELL TIME, (TD),
WHEN (NZ) AND (M) ARE IN THE SPECIFIED INTERVALS

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS
MACH NO. (M) = 0.95 TO 2.00

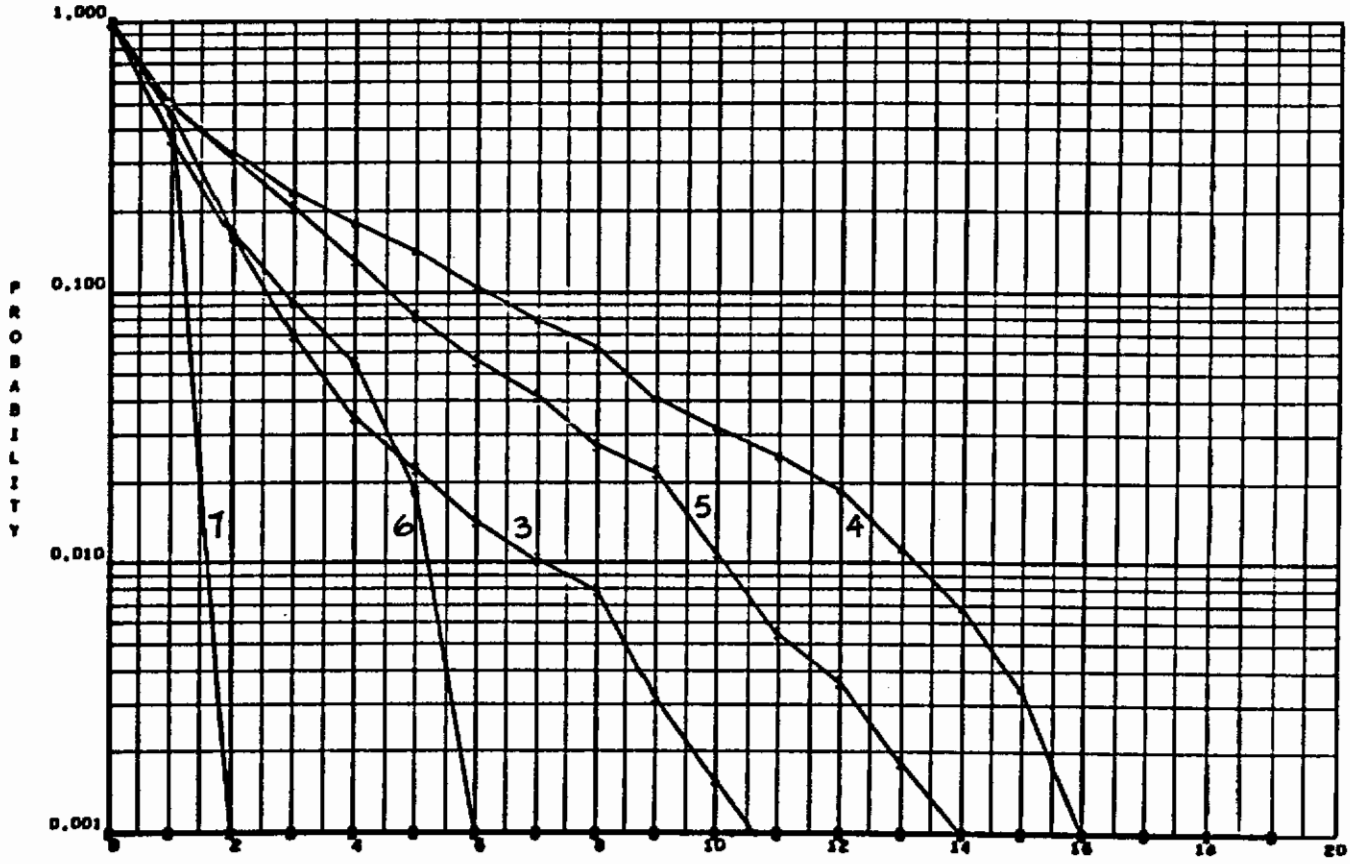


SYMBOL	LOAD FACTOR RANGE OF (NZ)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 22

PROBABILITY OF EXCEEDING A DWELL TIME, (TD),
WHEN (NZE) AND (M) ARE IN THE SPECIFIED INTERVALS

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS
MACH NO. (M) = 0.00 TO 0.60



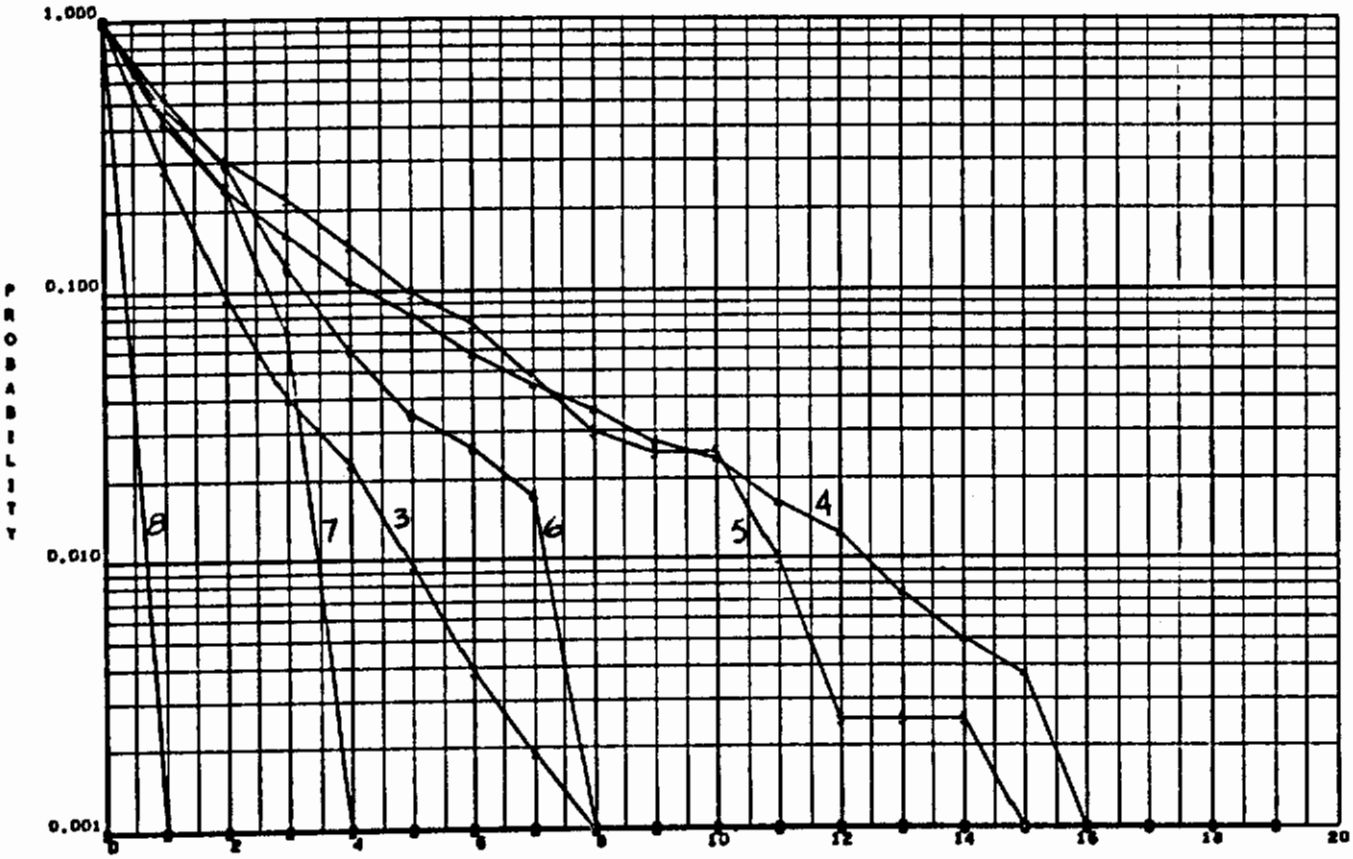
SYMBOL	LOAD FACTOR RANGE OF (NZE)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00.
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 23

PROBABILITY OF EXCEEDING A DWELL TIME, (TD),
WHEN (NZE) AND (M) ARE IN THE SPECIFIED INTERVALS

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS

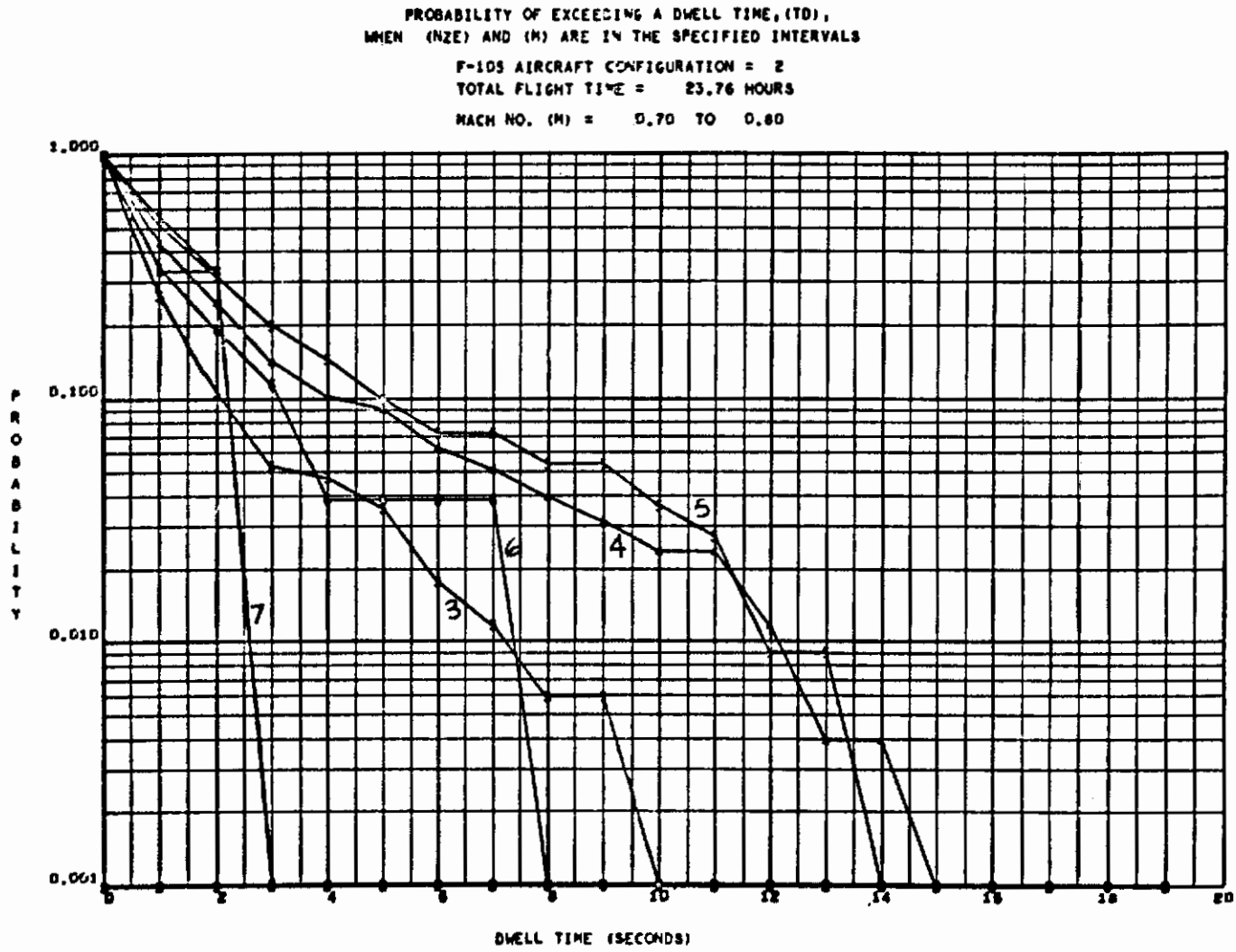
MACH NO. (M) = 0.60 TO 0.70



DWELL TIME (SECONDS)

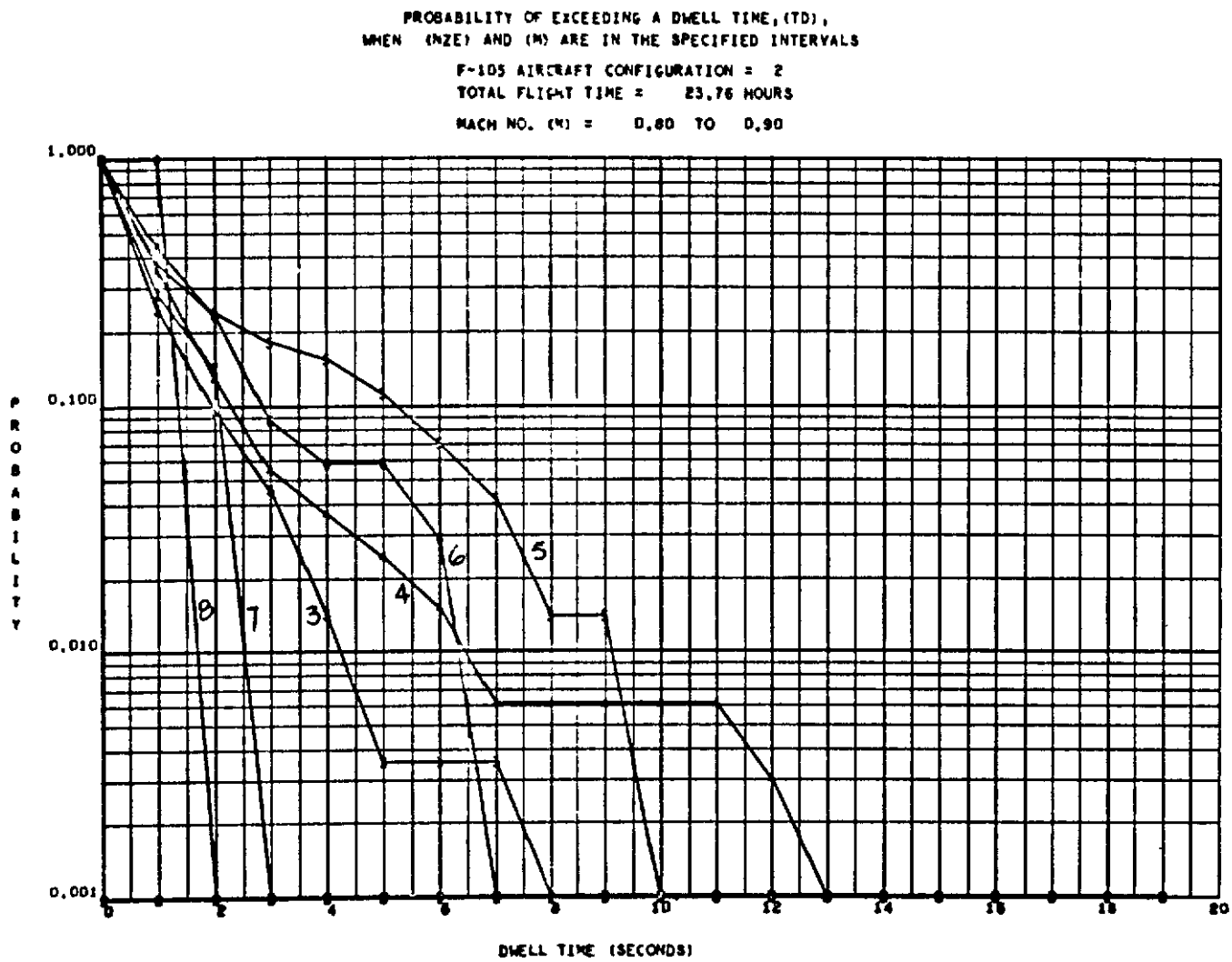
SYMBOL	LOAD FACTOR RANGE OF (NZE)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 24



SYMBOL	LOAD FACTOR RANGE OF (NZE)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 25



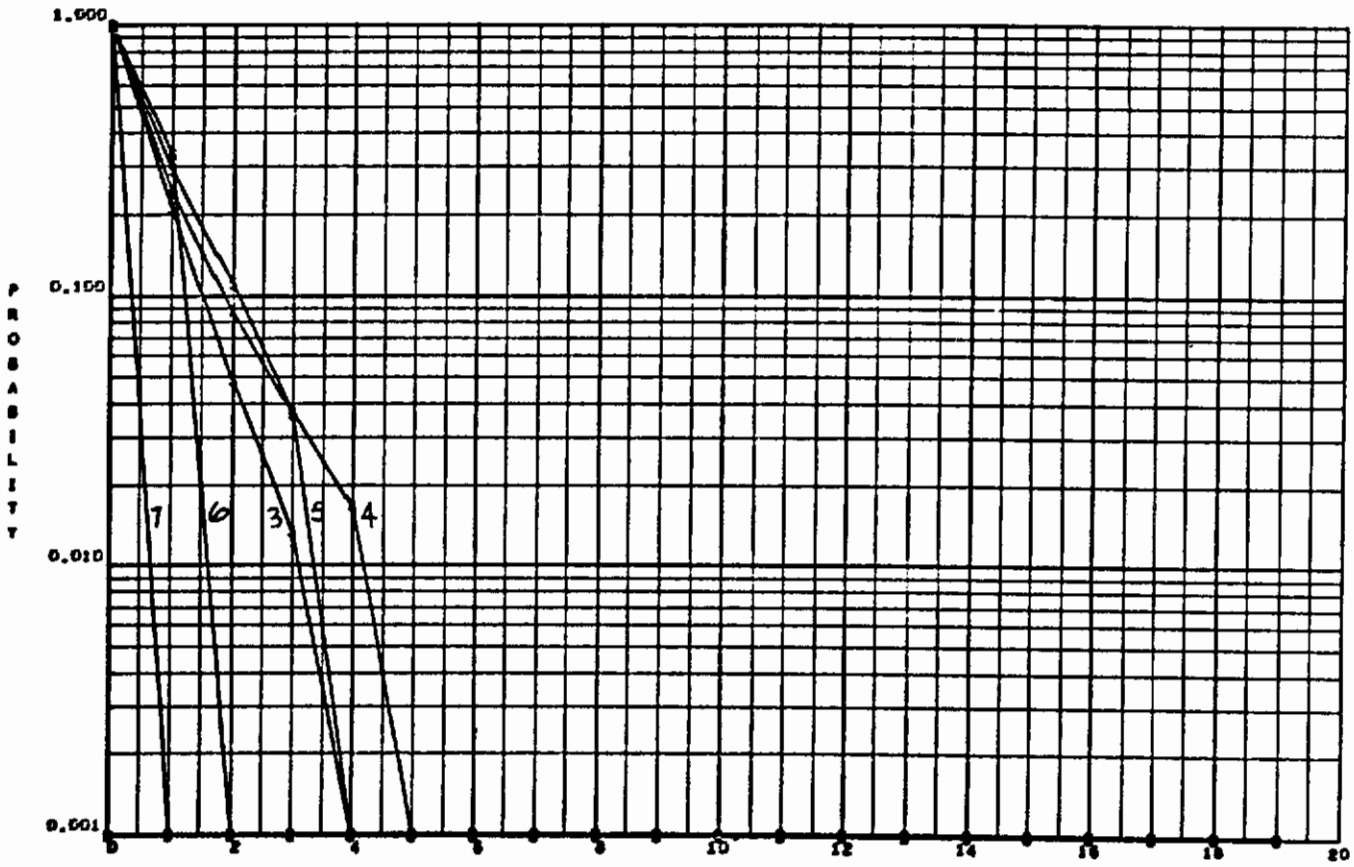
SYMBOL	LOAD FACTOR RANGE OF (NZE)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 26

PROBABILITY OF EXCEEDING A DWELL TIME, (TC),
WHEN (NZE) AND (M) ARE IN THE SPECIFIED INTERVALS

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS

MACH NO. (M) = 0.95 TO 0.95



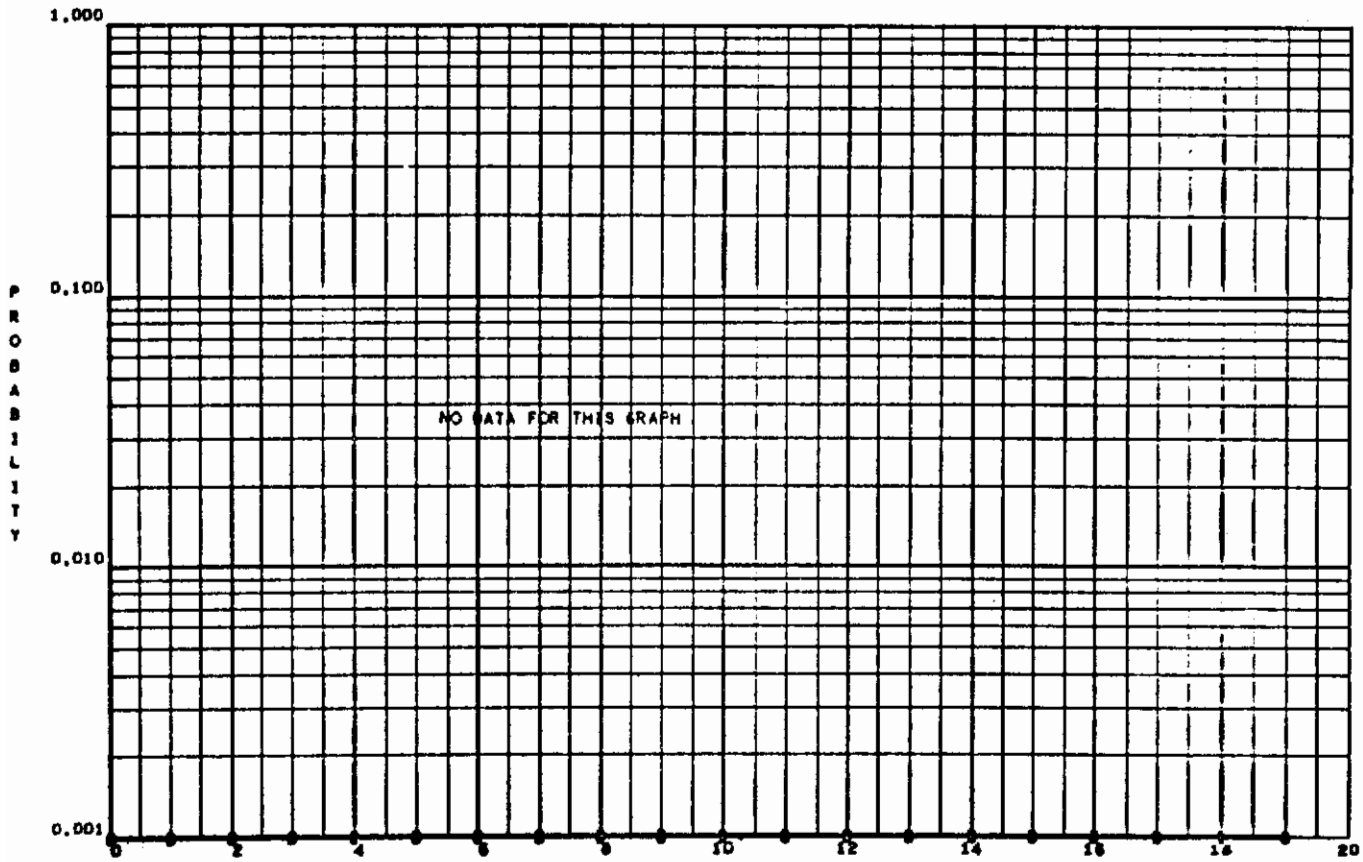
SYMBOL	LOAD FACTOR RANGE OF (NZE)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 27

PROBABILITY OF EXCEEDING A DWELL TIME, (TD),
WHEN (NZE) AND (M) ARE IN THE SPECIFIED INTERVALS

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS

MACH NO. (M) = 0.55 TO 2.00

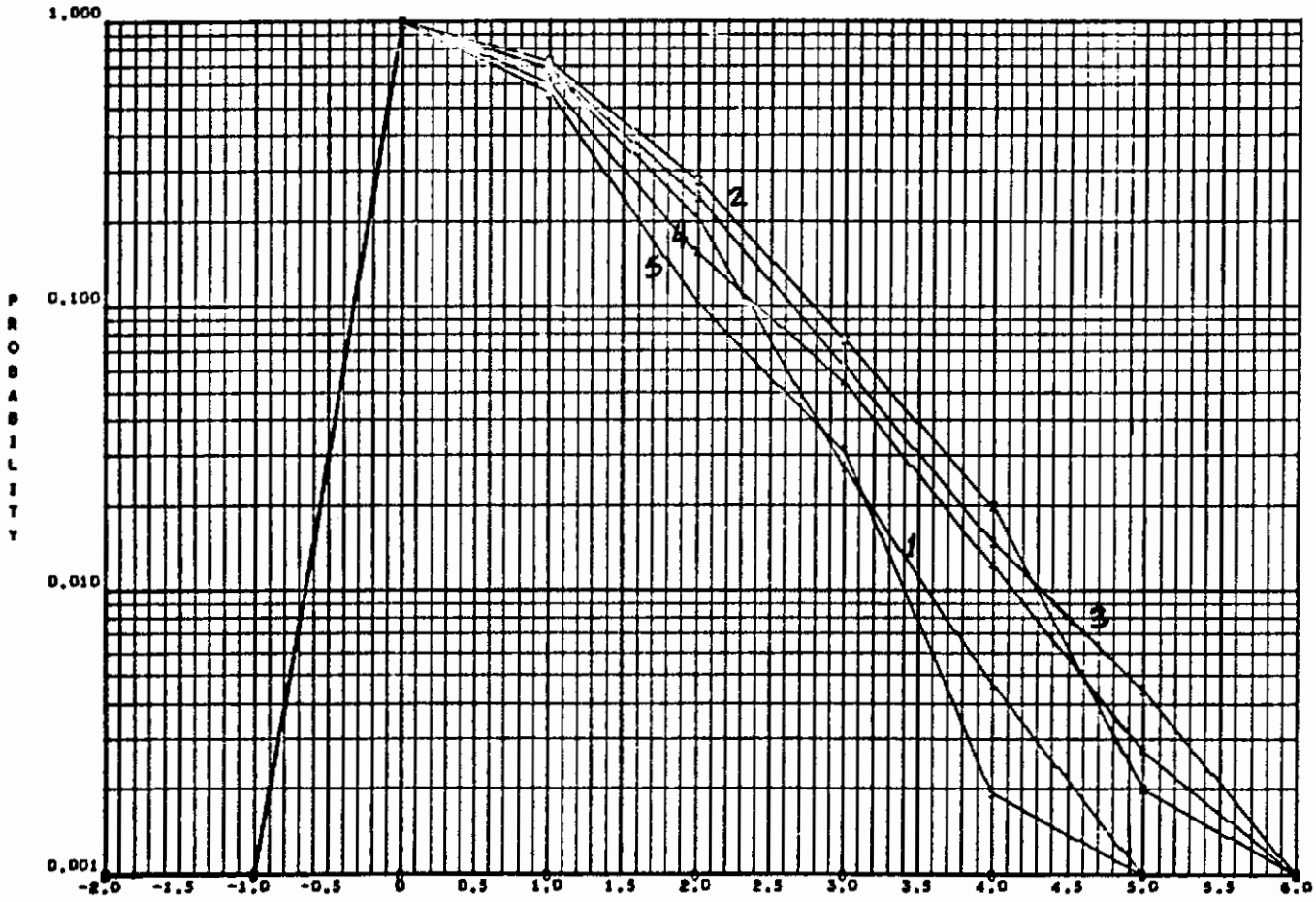


SYMBOL	LOAD FACTOR RANGE OF (NZE)
1	-2.00 TO -1.00
2	-1.00 TO 0.00
3	0.00 TO 1.00
4	1.00 TO 2.00
5	2.00 TO 3.00
6	3.00 TO 4.00
7	4.00 TO 5.00
8	5.00 TO 6.00
9	6.00 TO 7.00

Figure 28

PROBABILITY OF EXCEEDING A VALUE OF THE VARIABLE, (NZ)
WHEN (NZ) EXHIBITS A DWELL TIME IN THE SPECIFIED MACH NUMBER (M) INTERVAL

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS

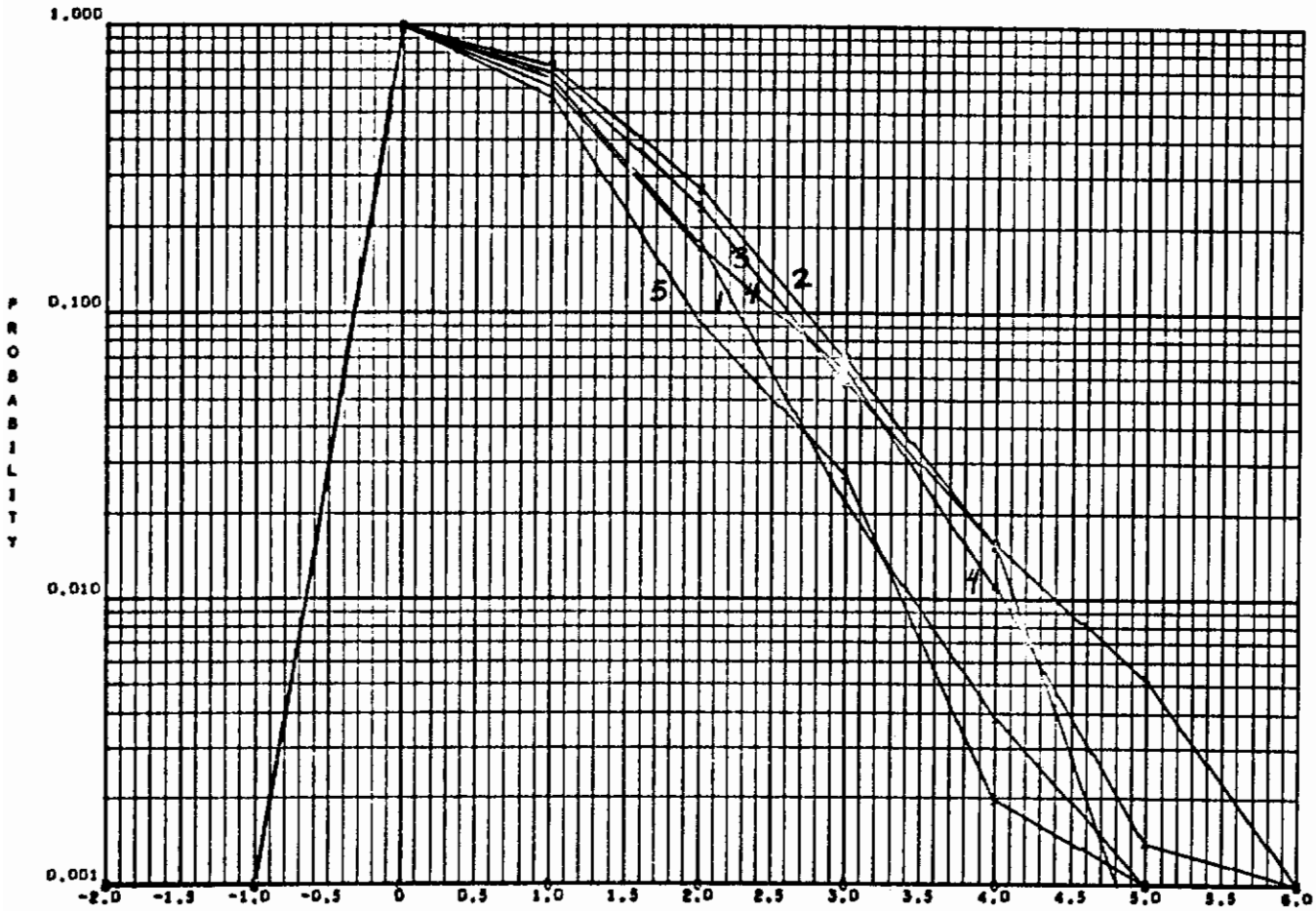


SYMBOL	MACH NUMBER (M) INTERVAL		
1	0.00	TO	0.60
2	0.60	TO	0.70
3	0.70	TO	0.80
4	0.80	TO	0.90
5	0.90	TO	0.95
6	0.95	TO	2.00

Figure 29

PROBABILITY OF EXCEEDING A VALUE OF THE VARIABLE, (NZE)
WHEN (NZE) EXHIBITS A DWELL TIME IN THE SPECIFIED MACH NUMBER (M) INTERVAL

F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS



SYMBOL	MACH NUMBER (M) INTERVAL		
1	0.00	TO	0.60
2	0.60	TO	0.70
3	0.70	TO	0.80
4	0.80	TO	0.90
5	0.90	TO	0.95
6	0.95	TO	2.00

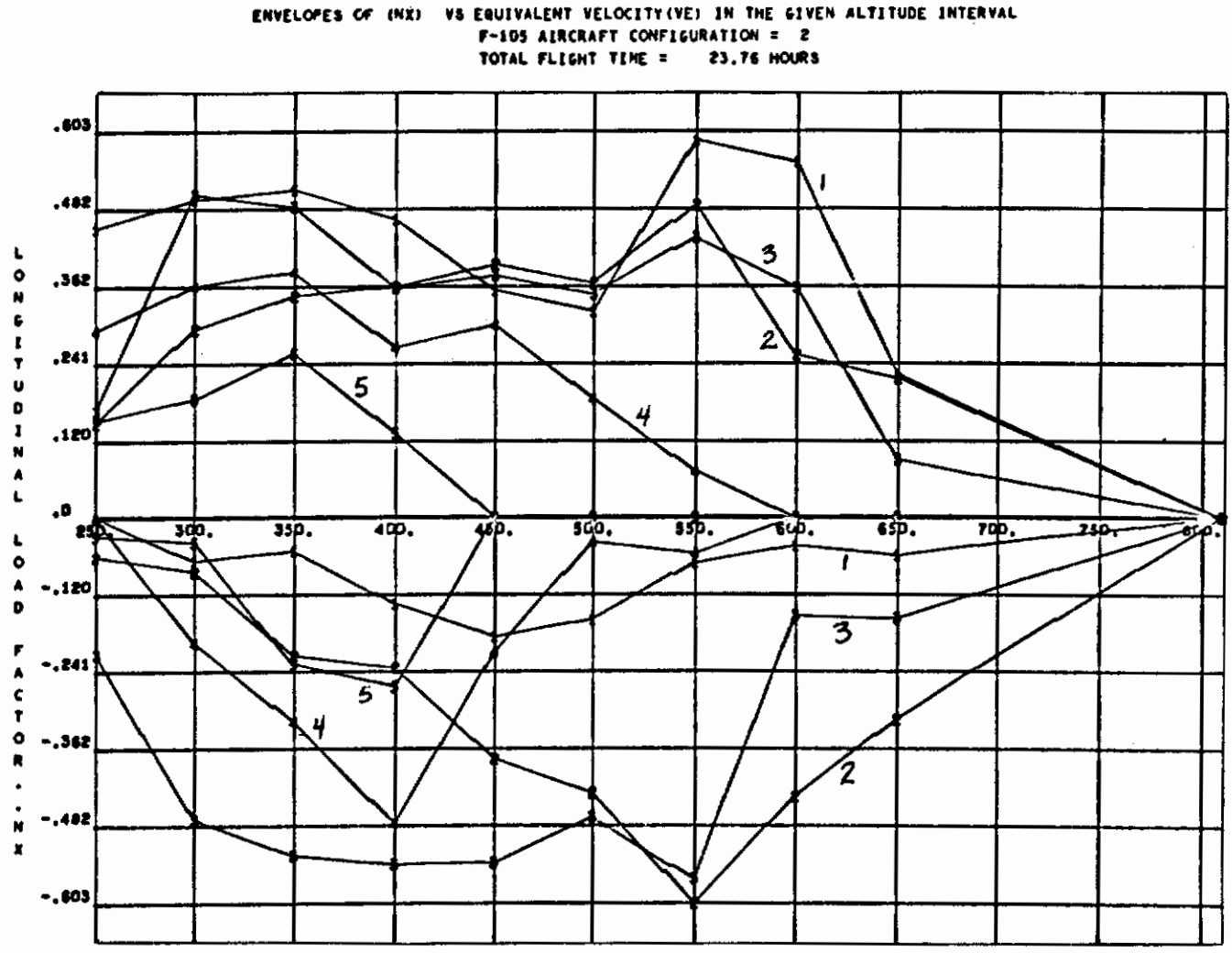
SECTION IV

ENVELOPES - FIGURES

Envelope curves show the maximum and minimum values of the variable when a correlated parameter (or parameters) is in certain specified ranges. Figures 30-34 show envelopes of n_x, He, pr, pq and qr respectively, correlated with intervals of velocity and altitude.

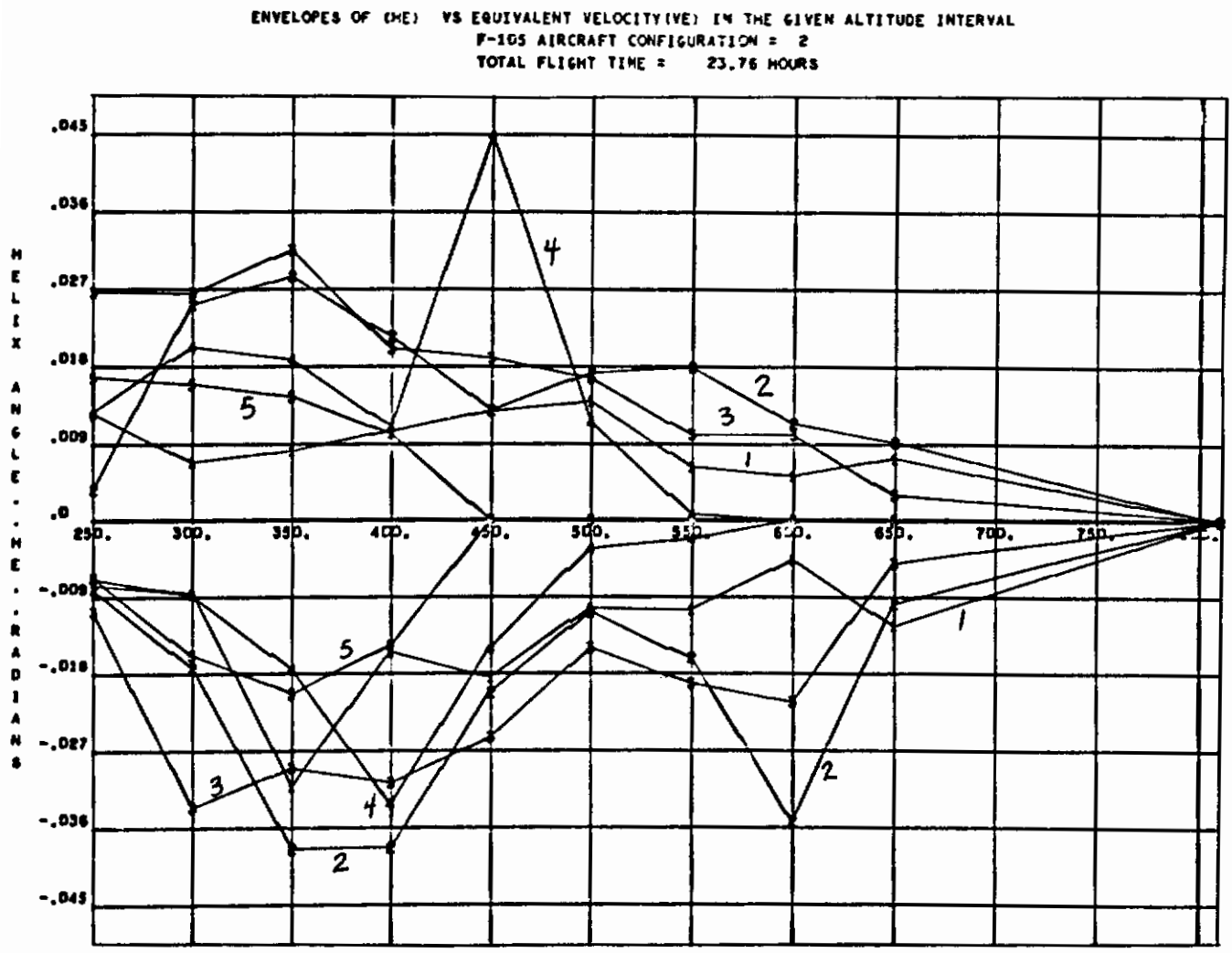
An envelope of rolling acceleration, $\dot{p}$, correlated with intervals of rolling velocity, p, is shown in Figure 35.

Figure 30



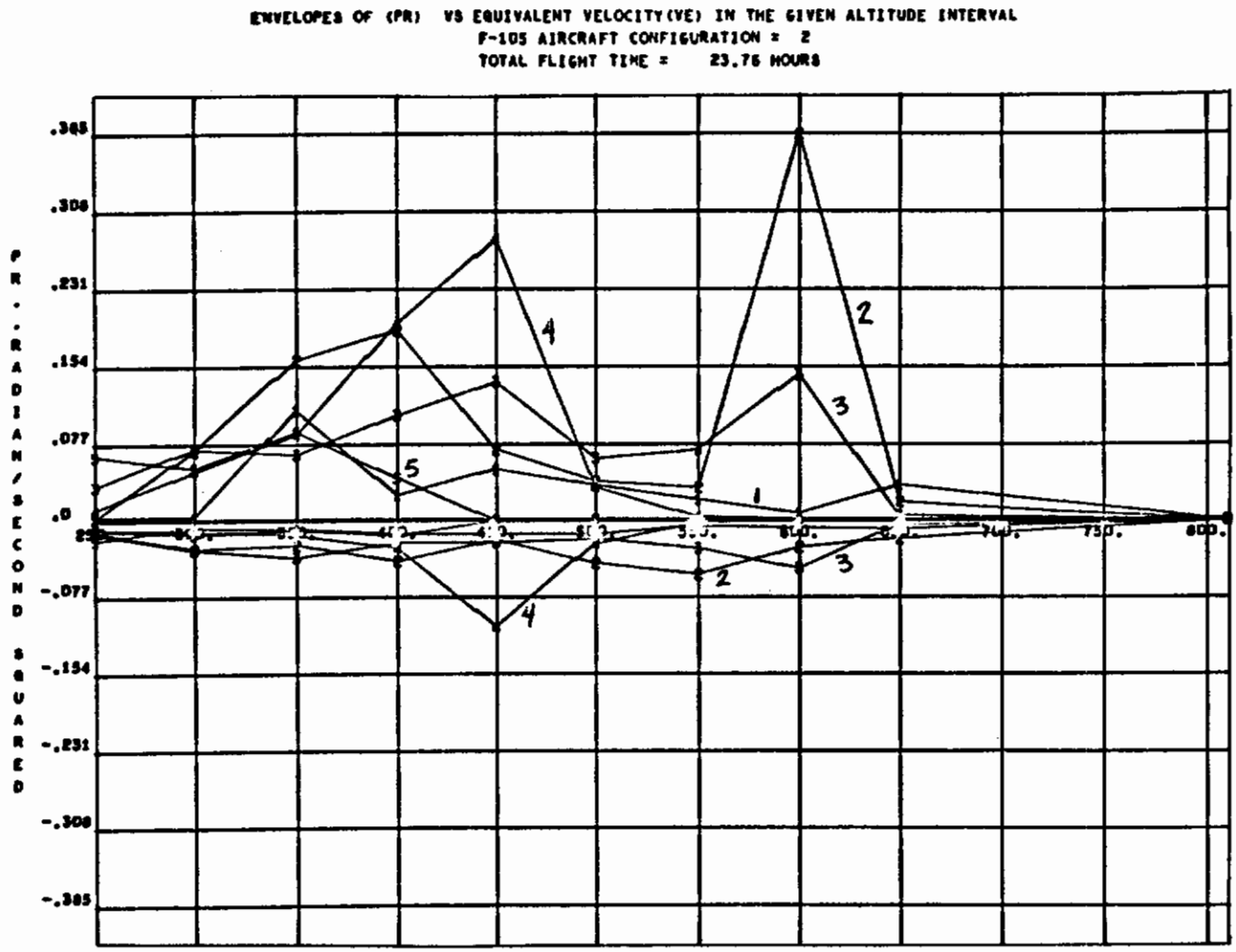
SYMBOL	ALTITUDE RANGE INTERVAL
1	0. TO 2000. (FEET) OR 0.0000 TO 0.6096 (KILOMETERS)
2	2000. TO 5000. (FEET) OR 0.6096 TO 1.5239 (KILOMETERS)
3	5000. TO 15000. (FEET) OR 1.5239 TO 4.5718 (KILOMETERS)
4	15000. TO 25000. (FEET) OR 4.5718 TO 7.6196 (KILOMETERS)
5	25000. TO 50000. (FEET) OR 7.6196 TO 15.2393 (KILOMETERS)

Figure 31



SYMBOL	ALTITUDE RANGE INTERVAL							
1	0.	TO	2000.	(FEET)	OR	0.0000	TO	0.6096 (KILOMETERS)
2	2000.	TO	5000.	(FEET)	OR	0.6096	TO	1.5239 (KILOMETERS)
3	5000.	TO	15000.	(FEET)	OR	1.5239	TO	4.5718 (KILOMETERS)
4	15000.	TO	25000.	(FEET)	OR	4.5718	TO	7.6196 (KILOMETERS)
5	25000.	TO	50000.	(FEET)	OR	7.6196	TO	15.2393 (KILOMETERS)

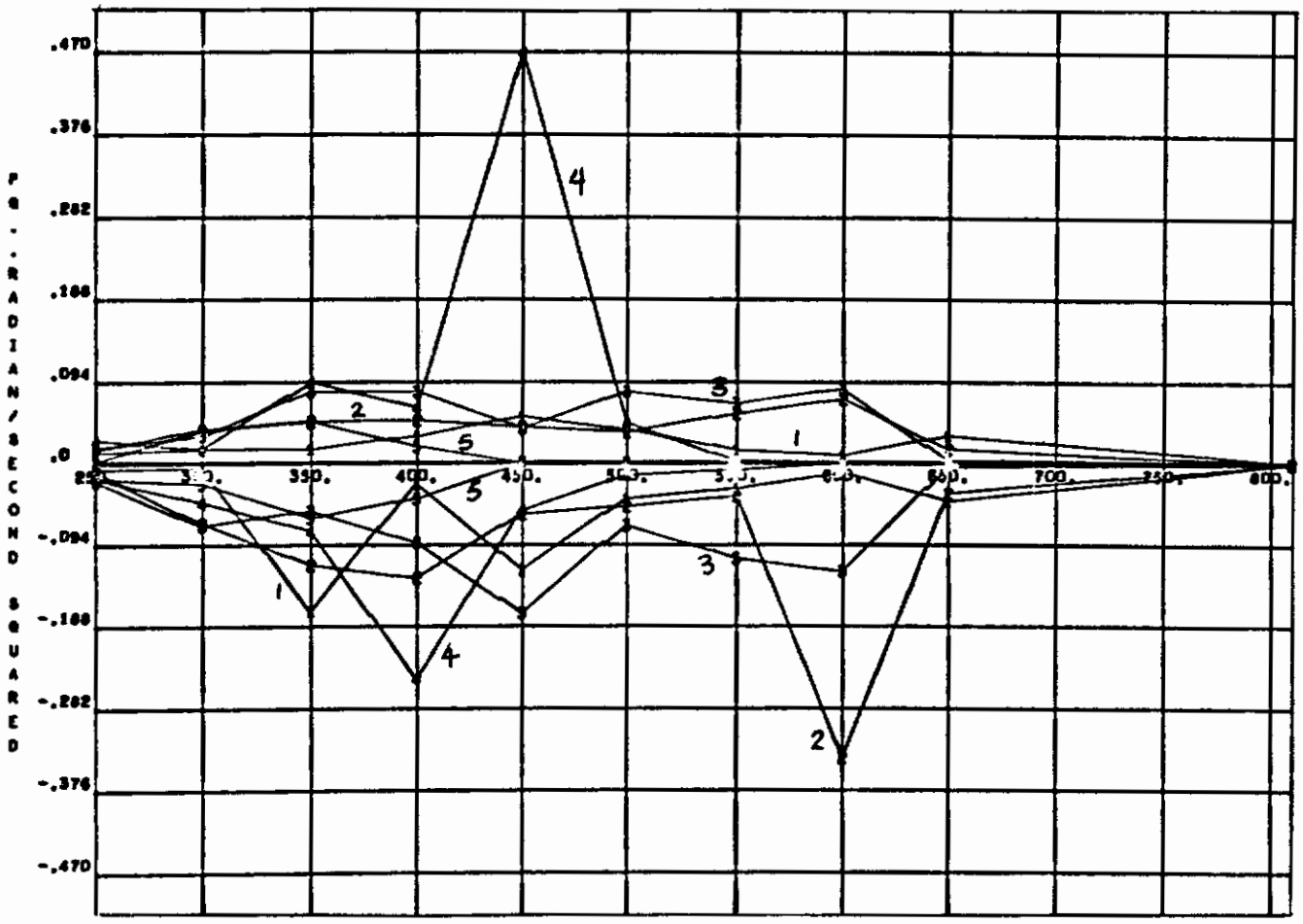
Figure 32



SYMBOL	ALTITUDE RANGE INTERVAL							
1	0.	TO	2000. (FEET)	OR	0.0000	TO	0.6096	(KILOMETERS)
2	2000.	TO	5000. (FEET)	OR	0.6096	TO	1.5239	(KILOMETERS)
3	5000.	TO	15000. (FEET)	OR	1.5239	TO	4.5718	(KILOMETERS)
4	15000.	TO	25000. (FEET)	OR	4.5718	TO	7.6196	(KILOMETERS)
5	25000.	TO	50000. (FEET)	OR	7.6196	TO	15.2393	(KILOMETERS)

Figure 33

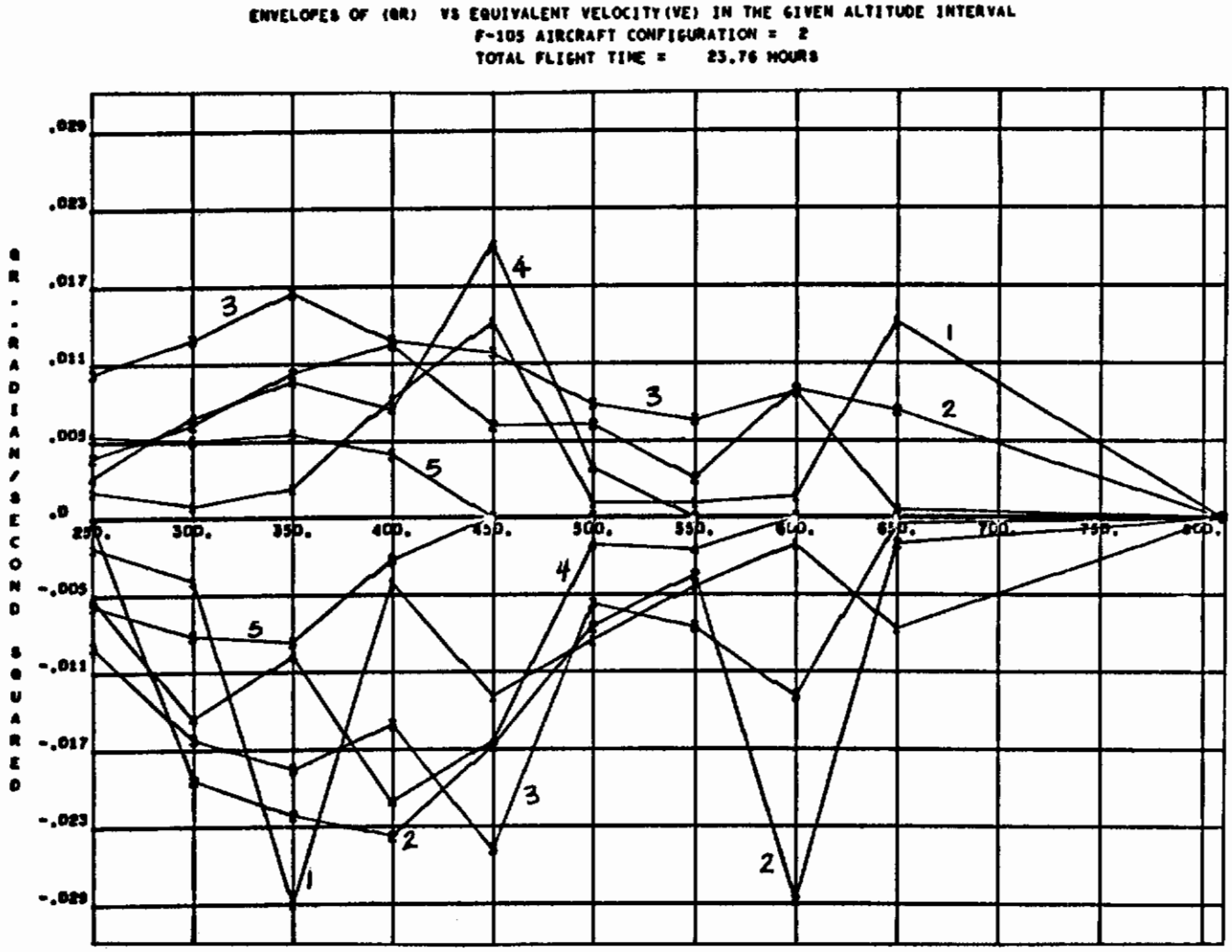
ENVELOPES OF (PQ) VS EQUIVALENT VELOCITY(VE) IN THE GIVEN ALTITUDE INTERVAL
F-105 AIRCRAFT CONFIGURATION = 2
TOTAL FLIGHT TIME = 23.76 HOURS



EQUIVALENT VELOCITY (FEET/SECOND)

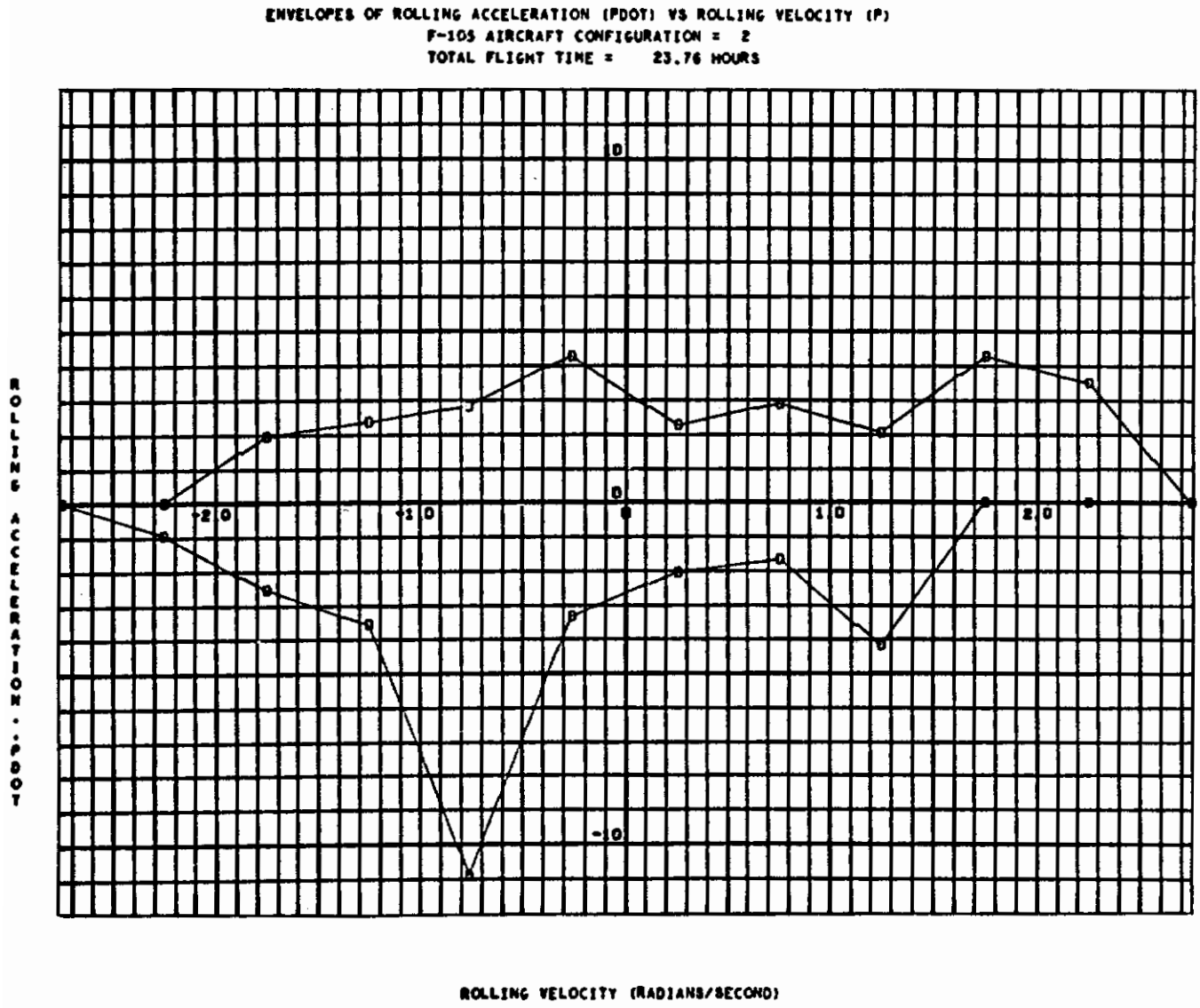
SYMBOL	ALTITUDE RANGE INTERVAL							
1	0.	TO	2000.	(FEET)	OR	0.0000	TO	0.6096 (KILOMETERS)
2	2000.	TO	5000.	(FEET)	OR	0.6096	TO	1.5239 (KILOMETERS)
3	5000.	TO	15000.	(FEET)	OR	1.5239	TO	4.5718 (KILOMETERS)
4	15000.	TO	25000.	(FEET)	OR	4.5718	TO	7.6196 (KILOMETERS)
5	25000.	TO	50000.	(FEET)	OR	7.6196	TO	15.2393 (KILOMETERS)

Figure 34



SYMBOL	ALTITUDE RANGE INTERVAL							
1	0.	TO	2000. (FEET)	OR	0.0000	TO	0.6096	(KILOMETERS)
2	2000.	TO	5000. (FEET)	OR	0.6096	TO	1.5239	(KILOMETERS)
3	5000.	TO	15000. (FEET)	OR	1.5239	TO	4.5718	(KILOMETERS)
4	15000.	TO	25000. (FEET)	OR	4.5718	TO	7.6196	(KILOMETERS)
5	25000.	TO	50000. (FEET)	OR	7.6196	TO	15.2393	(KILOMETERS)

Figure 35



SECTION V

TIME DISTRIBUTIONS - TABLES

This section presents in tabular form the time distribution data shown in Figures 1-13. While the graphs will be more convenient for most uses, these tables provide additional detail if desired, and may also be used to identify any curves whose coding symbols may have been obscured.

This section contains Tables I - XI.

TABLE I

AIRSPEED, ALTITUDE, AND MACH NUMBER DISTRIBUTION OF TOTAL FLIGHT TIME AND TOTAL MANEUVER TIME

AIRSPEED DISTRIBUTIONS

TOTAL FLIGHT TIME = 23.763 HOURS

VELOCITY (KNOTS)	TIME/INTERVAL (SEC.)	PERCENT OF TOTAL
0.- 250.	973.500	1.139
250.- 300.	7496.978	8.775
300.- 350.	18772.375	21.972
350.- 400.	25759.332	30.150
400.- 450.	21782.876	25.496
450.- 500.	6556.490	7.674
500.- 550.	2008.499	2.351
550.- 600.	1272.000	1.489
600.- 650.	816.000	0.955
650.- 810.	0.	0.

TOTAL MANEUVER TIME = 5.726 HOURS

VELOCITY (KNOTS)	TIME/INTERVAL (SEC.)	PERCENT OF TOTAL
0.- 250.	338.531	1.560
250.- 300.	2599.400	12.744
300.- 350.	5036.474	24.693
350.- 400.	5287.323	25.923
400.- 450.	3802.662	18.644
450.- 500.	1408.267	6.904
500.- 550.	750.726	3.681
550.- 600.	596.346	3.414
600.- 650.	476.844	2.338
650.- 810.	0.	0.

TABLE I (continued)

ALTITUDE DISTRIBUTIONS

TOTAL FLIGHT TIME = 23.763 HOURS

ALTITUDE (FT.)	TIME/INTERVAL (SEC.)	PERCENT OF TOTAL
0.- 2000.	4583.993	5.365
2000.- 5000.	30923.711	36.194
5000.- 15000.	34078.136	39.886
15000.- 25000.	9419.984	11.026
25000.- 50000.	6431.994	7.528

TOTAL MANEUVER TIME = 5.726 HOURS

ALTITUDE (FT.)	TIME/INTERVAL (SEC.)	PERCENT OF TOTAL
0.- 2000.	1180.265	5.787
2000.- 5000.	8705.639	42.682
5000.- 15000.	9205.442	45.132
15000.- 25000.	877.901	4.304
25000.- 50000.	427.309	2.095

TABLE I (concluded)

MACH NUMBER DISTRIBUTIONS

TOTAL FLIGHT TIME = 23.763 HOURS

MACH NUMBER	TIME/INTERVAL (SEC.)	PERCENT OF TOTAL
0. - 0.600	45926.259	53.754
0.600- 0.700	30947.814	36.223
0.700- 0.800	5996.991	7.019
0.800- 0.900	1850.999	2.166
0.900- 0.950	715.500	0.837
0.950- 2.000	0.	0.

TOTAL MANEUVER TIME = 5.726 HOURS

MACH NUMBER	TIME/INTERVAL (SEC.)	PERCENT OF TOTAL
0. - 0.600	12813.345	62.821
0.600- 0.700	4753.177	23.304
0.700- 0.800	1366.869	6.701
0.800- 0.900	1001.518	4.910
0.900- 0.950	461.642	2.263
0.950- 2.000	0.	0.

TABLE II

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF LONGITUDINAL LOAD FACTOR

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-1.40	-1.20	0.	0.	0.
-1.20	-1.00	0.	0.	0.
-1.00	-0.80	0.	0.	0.
-0.80	-0.60	0.175	0.175	0.004
-0.60	-0.40	127.879	128.054	2.786
-0.40	-0.20	374.720	502.774	10.939
-0.20	0.	4093.561	4596.335	100.000
0.	0.20	12515.309	16260.354	100.000
0.20	0.40	3619.783	3745.045	23.032
0.40	0.60	125.262	125.262	0.770
0.60	0.80	0.	0.	0.
0.80	1.00	0.	0.	0.
1.00	1.20	0.	0.	0.
1.20	1.40	0.	0.	0.

TABLE III

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF LATERAL LOAD FACTOR

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-1.00	-0.90	0.	0.	0.
-0.90	-0.80	0.	0.	0.
-0.80	-0.70	0.	0.	0.
-0.70	-0.60	0.	0.	0.
-0.60	-0.50	0.	0.	0.
-0.50	-0.40	0.	0.	0.
-0.40	-0.30	0.187	0.187	0.002
-0.30	-0.20	11.878	12.065	0.117
-0.20	-0.10	366.665	378.730	3.677
-0.10	0.	9922.264	10300.993	100.000
0.	0.10	10254.965	10555.657	100.000
0.10	0.20	286.157	300.692	2.849
0.20	0.30	13.201	14.535	0.138
0.30	0.40	0.950	1.334	0.013
0.40	0.50	0.384	0.384	0.004
0.50	0.60	0.	0.	0.
0.60	0.70	0.	0.	0.
0.70	0.80	0.	0.	0.
0.80	0.90	0.	0.	0.
0.90	1.00	0.	0.	0.

TABLE IV

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF NORMAL LOAD FACTOR

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-2.00	-1.00	0.	0.	0.
-1.00	0.	1.464	1.464	100.000
0.	1.00	3401.296	20854.887	100.000
1.00	2.00	13319.232	17453.591	83.691
2.00	3.00	3528.424	4134.359	19.824
3.00	4.00	509.030	605.935	2.905
4.00	5.00	92.020	96.906	0.465
5.00	6.00	4.886	4.886	0.023
6.00	7.00	0.	0.	0.

TABLE V

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF EFFECTIVE NORMAL LOAD FACTOR

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-2.00	-1.00	0.	0.	0.
-1.00	0.	1.464	1.464	100.000
0.	1.00	3703.458	20854.760	100.000
1.00	2.00	13602.806	17151.302	82.242
2.00	3.00	3020.618	3548.497	17.015
3.00	4.00	449.349	527.879	2.531
4.00	5.00	74.384	78.530	0.377
5.00	6.00	4.146	4.146	0.020
6.00	7.00	0.	0.	0.

TABLE VI

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF ROLL VELOCITY

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-3.00	-2.50	0.	0.	0.
-2.50	-2.00	0.192	0.192	0.002
-2.00	-1.50	1.152	1.344	0.012
-1.50	-1.00	11.101	12.445	0.109
-1.00	-0.52	114.706	127.151	1.111
-0.52	0.	11320.822	11447.973	100.000
0.	0.52	9315.994	9408.200	100.000
0.52	1.00	89.249	92.206	0.980
1.00	1.50	2.381	2.957	0.031
1.50	2.00	0.192	0.576	0.006
2.00	2.50	0.384	0.384	0.004
2.50	3.00	0.	0.	0.

TABLE VII

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF PITCH VELOCITY

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-0.50	-0.40	0.	0.	0.
-0.40	-0.30	0.	0.	0.
-0.30	-0.20	0.	0.	0.
-0.20	-0.09	1.324	1.324	0.043
-0.09	0.	3085.837	3087.161	100.000
0.	0.09	15383.763	17768.880	100.000
0.09	0.20	2362.438	2385.117	13.423
0.20	0.30	22.487	22.679	0.128
0.30	0.40	0.192	0.192	0.001
0.40	0.50	0.	0.	0.

TABLE VIII

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF YAW VELOCITY

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-0.50	-0.40	0.	0.	0.
-0.40	-0.30	0.	0.	0.
-0.30	-0.20	0.	0.	0.
-0.20	-0.09	88.356	88.356	0.826
-0.09	0.	10607.021	10695.377	100.000
0.	0.09	10108.541	10160.725	100.000
0.09	0.20	52.184	52.184	0.514
0.20	0.30	0.	0.	0.
0.30	0.40	0.	0.	0.
0.40	0.50	0.	0.	0.

TABLE IX

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF ROLL ACCELERATION

VARIABLE INTERVAL		TIME PER INTERVAL (SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-7.50	-6.00	0.	0.	0.
-6.00	-4.50	0.	0.	0.
-4.50	-3.00	0.972	0.972	0.012
-3.00	-1.50	13.107	14.079	0.169
-1.50	-0.70	183.894	197.973	2.381
-0.70	0.	8118.374	8316.347	100.000
0.	0.70	12382.558	12539.739	100.000
0.70	1.50	145.021	157.181	1.253
1.50	3.00	11.397	12.160	0.097
3.00	4.50	0.763	0.763	0.006
4.50	6.00	0.	0.	0.
6.00	7.50	0.	0.	0.

TABLE X

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF PITCH ACCELERATION

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-1.50	-1.25	0.	0.	0.
-1.25	-1.00	0.192	0.192	0.002
-1.00	-0.75	0.	0.192	0.002
-0.75	-0.50	1.305	1.497	0.017
-0.50	-0.26	16.000	17.497	0.200
-0.26	0.	8736.344	8753.841	100.000
0.	0.26	12069.589	12102.211	100.000
0.26	0.50	30.236	32.622	0.270
0.50	0.75	2.194	2.386	0.020
0.75	1.00	0.192	0.192	0.002
1.00	1.25	0.	0.	0.
1.25	1.50	0.	0.	0.

TABLE XI

PERCENT MANEUVER TIME SPENT ABOVE VALUE OF YAW ACCELERATION

VARIABLE INTERVAL		TIME PER INTERVAL(SEC)	CUMULATIVE TIME INTERVAL	CUMULATIVE PERCENT
-0.75	-0.63	0.187	0.187	0.002
-0.63	-0.50	0.741	0.928	0.012
-0.50	-0.38	1.524	2.452	0.031
-0.38	-0.25	6.342	8.794	0.112
-0.25	-0.17	28.632	37.426	0.477
-0.17	0.	7809.242	7846.668	100.000
0.	0.17	12982.732	13009.353	100.000
0.17	0.25	18.771	26.621	0.205
0.25	0.38	5.785	7.850	0.060
0.38	0.50	1.492	2.065	0.016
0.50	0.63	0.186	0.573	0.004
0.63	0.75	0.387	0.387	0.003

SECTION VI

DWELL TIME DISTRIBUTION - TABLES

This section includes Tables XII through XXV, which contain all the dwell time data shown in Figures 14 through 29.

TABLE XII

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0. - 0.600
NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	881.000	1295.000	1.000
1.00 - 2.00	252.000	414.000	0.320
2.00 - 3.00	90.000	162.000	0.125
3.00 - 4.00	24.000	72.000	0.056
4.00 - 5.00	22.000	48.000	0.037
5.00 - 6.00	13.000	26.000	0.020
6.00 - 7.00	1.000	13.000	0.010
7.00 - 8.00	4.000	12.000	0.009
8.00 - 9.00	4.000	8.000	0.006
9.00 - 10.00	3.000	4.000	0.003
10.00 - 11.00	0.	1.000	0.001
11.00 - 12.00	1.000	1.000	0.001
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0. - 0.600
NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	1019.000	1931.000	1.000
1.00 - 2.00	326.000	912.000	0.472
2.00 - 3.00	176.000	586.000	0.303
3.00 - 4.00	109.000	410.000	0.212
4.00 - 5.00	67.000	301.000	0.156
5.00 - 6.00	65.000	234.000	0.121
6.00 - 7.00	39.000	169.000	0.088
7.00 - 8.00	26.000	130.000	0.067
8.00 - 9.00	31.000	104.000	0.054
9.00 - 10.00	19.000	73.000	0.038
10.00 - 11.00	9.000	54.000	0.028
11.00 - 12.00	12.000	45.000	0.023
12.00 - 13.00	16.000	33.000	0.017
13.00 - 14.00	4.000	17.000	0.009
14.00 - 15.00	8.000	13.000	0.007
15.00 - 16.00	5.000	5.000	0.003
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0. - 0.600
NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	364.000	701.000	1.000
1.00 - 2.00	127.000	337.000	0.481
2.00 - 3.00	75.000	210.000	0.300
3.00 - 4.00	46.000	135.000	0.193
4.00 - 5.00	32.000	89.000	0.127
5.00 - 6.00	17.000	57.000	0.081
6.00 - 7.00	8.000	40.000	0.057
7.00 - 8.00	9.000	32.000	0.046
8.00 - 9.00	8.000	23.000	0.033
9.00 - 10.00	9.000	15.000	0.021
10.00 - 11.00	1.000	6.000	0.009
11.00 - 12.00	2.000	5.000	0.007
12.00 - 13.00	2.000	3.000	0.004
13.00 - 14.00	1.000	1.000	0.001
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0. - 0.600
NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	44.000	79.000	1.000
1.00 - 2.00	21.000	35.000	0.443
2.00 - 3.00	10.000	14.000	0.177
3.00 - 4.00	2.000	4.000	0.051
4.00 - 5.00	2.000	2.000	0.025
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0. - 0.600
NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	9.000	13.000	1.000
1.00 - 2.00	3.000	4.000	0.308
2.00 - 3.00	1.000	1.000	0.077
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XII (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0. - 0.600
NORMAL LOAD FACTOR INTERVAL 5.0 - 6.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	0.	0.	0.
1.00 - 2.00	0.	0.	0.
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIII

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	392.000	548.000	1.000
1.00 - 2.00	101.000	156.000	0.285
2.00 - 3.00	29.000	55.000	0.100
3.00 - 4.00	11.000	26.000	0.047
4.00 - 5.00	9.000	15.000	0.027
5.00 - 6.00	5.000	6.000	0.011
6.00 - 7.00	0.	1.000	0.002
7.00 - 8.00	1.000	1.000	0.002
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	499.000	856.000	1.000
1.00 - 2.00	160.000	357.000	0.417
2.00 - 3.00	67.000	197.000	0.230
3.00 - 4.00	33.000	130.000	0.152
4.00 - 5.00	29.000	97.000	0.113
5.00 - 6.00	16.000	68.000	0.079
6.00 - 7.00	11.000	52.000	0.061
7.00 - 8.00	10.000	41.000	0.048
8.00 - 9.00	8.000	31.000	0.036
9.00 - 10.00	4.000	23.000	0.027
10.00 - 11.00	7.000	19.000	0.022
11.00 - 12.00	4.000	12.000	0.014
12.00 - 13.00	2.000	8.000	0.009
13.00 - 14.00	4.000	6.000	0.007
14.00 - 15.00	1.000	2.000	0.002
15.00 - 16.00	1.000	1.000	0.001
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	217.000	422.000	1.000
1.00 - 2.00	70.000	205.000	0.486
2.00 - 3.00	43.000	135.000	0.320
3.00 - 4.00	26.000	92.000	0.218
4.00 - 5.00	21.000	66.000	0.156
5.00 - 6.00	13.000	45.000	0.107
6.00 - 7.00	7.000	32.000	0.076
7.00 - 8.00	12.000	25.000	0.059
8.00 - 9.00	4.000	13.000	0.031
9.00 - 10.00	3.000	9.000	0.021
10.00 - 11.00	4.000	6.000	0.014
11.00 - 12.00	0.	2.000	0.005
12.00 - 13.00	1.000	2.000	0.005
13.00 - 14.00	0.	1.000	0.002
14.00 - 15.00	1.000	1.000	0.002
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	62.000	129.000	1.000
1.00 - 2.00	32.000	67.000	0.519
2.00 - 3.00	20.000	35.000	0.271
3.00 - 4.00	7.000	15.000	0.116
4.00 - 5.00	4.000	8.000	0.062
5.00 - 6.00	2.000	4.000	0.031
6.00 - 7.00	0.	2.000	0.016
7.00 - 8.00	1.000	2.000	0.016
8.00 - 9.00	1.000	1.000	0.008
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	19.000	40.000	1.000
1.00 - 2.00	11.000	21.000	0.525
2.00 - 3.00	7.000	10.000	0.250
3.00 - 4.00	2.000	3.000	0.075
4.00 - 5.00	1.000	1.000	0.025
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIII (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
NORMAL LOAD FACTOR INTERVAL 5.0 - 6.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	4.000	4.000	1.000
1.00 - 2.00	0.	0.	0.
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIV

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	152.000	200.000	1.000
1.00 - 2.00	31.000	48.000	0.240
2.00 - 3.00	9.000	17.000	0.085
3.00 - 4.00	1.000	8.000	0.040
4.00 - 5.00	1.000	7.000	0.035
5.00 - 6.00	4.000	6.000	0.030
6.00 - 7.00	1.000	2.000	0.010
7.00 - 8.00	1.000	1.000	0.005
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIV (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMJLATIVE PROBABILITY
0. - 1.00	187.000	301.000	1.000
1.00 - 2.00	54.000	114.000	0.379
2.00 - 3.00	23.000	60.000	0.199
3.00 - 4.00	14.000	37.000	0.123
4.00 - 5.00	6.000	23.000	0.076
5.00 - 6.00	3.000	17.000	0.056
6.00 - 7.00	4.000	14.000	0.047
7.00 - 8.00	2.000	10.000	0.033
8.00 - 9.00	3.000	8.000	0.027
9.00 - 10.00	1.000	5.000	0.017
10.00 - 11.00	0.	4.000	0.013
11.00 - 12.00	1.000	4.000	0.013
12.00 - 13.00	1.000	3.000	0.010
13.00 - 14.00	0.	2.000	0.007
14.00 - 15.00	1.000	2.000	0.007
15.00 - 16.00	1.000	1.000	0.003
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIV (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	69.000	126.000	1.000
1.00 - 2.00	23.000	57.000	0.452
2.00 - 3.00	13.000	34.000	0.270
3.00 - 4.00	11.000	21.000	0.167
4.00 - 5.00	2.000	10.000	0.079
5.00 - 6.00	2.000	8.000	0.063
6.00 - 7.00	1.000	6.000	0.048
7.00 - 8.00	1.000	5.000	0.040
8.00 - 9.00	1.000	4.000	0.032
9.00 - 10.00	0.	3.000	0.024
10.00 - 11.00	1.000	3.000	0.024
11.00 - 12.00	0.	2.000	0.016
12.00 - 13.00	0.	2.000	0.016
13.00 - 14.00	2.000	2.000	0.016
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIV (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	20.000	31.000	1.000
1.00 - 2.00	5.000	11.000	0.355
2.00 - 3.00	3.000	6.000	0.194
3.00 - 4.00	1.000	3.000	0.097
4.00 - 5.00	0.	2.000	0.065
5.00 - 6.00	2.000	2.000	0.065
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIV (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	6.000	11.000	1.000
1.00 - 2.00	2.000	5.000	0.455
2.00 - 3.00	3.000	3.000	0.273
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIV (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
NORMAL LOAD FACTOR INTERVAL 5.0 - 6.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	2.000	3.000	1.000
1.00 - 2.00	0.	1.000	0.333
2.00 - 3.00	1.000	1.000	0.333
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XV

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	216.000	290.000	1.000
1.00 - 2.00	46.000	74.000	0.255
2.00 - 3.00	15.000	28.000	0.097
3.00 - 4.00	9.000	13.000	0.045
4.00 - 5.00	2.000	4.000	0.014
5.00 - 6.00	2.000	2.000	0.007
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XV (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	224.000	335.000	1.000
1.00 - 2.00	66.000	111.000	0.331
2.00 - 3.00	32.000	45.000	0.134
3.00 - 4.00	3.000	13.000	0.039
4.00 - 5.00	3.000	10.000	0.030
5.00 - 6.00	2.000	7.000	0.021
6.00 - 7.00	4.000	5.000	0.015
7.00 - 8.00	0.	1.000	0.003
8.00 - 9.00	0.	1.000	0.003
9.00 - 10.00	0.	1.000	0.003
10.00 - 11.00	0.	1.000	0.003
11.00 - 12.00	1.000	1.000	0.003
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
15.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XV (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	32.000	67.000	1.000
1.00 - 2.00	16.000	35.000	0.522
2.00 - 3.00	5.000	19.000	0.284
3.00 - 4.00	3.000	14.000	0.209
4.00 - 5.00	1.000	11.000	0.164
5.00 - 6.00	3.000	10.000	0.149
6.00 - 7.00	4.000	7.000	0.104
7.00 - 8.00	1.000	3.000	0.045
8.00 - 9.00	0.	2.000	0.030
9.00 - 10.00	2.000	2.000	0.030
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XV (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	14.000	30.000	1.000
1.00 - 2.00	5.000	16.000	0.533
2.00 - 3.00	4.000	11.000	0.367
3.00 - 4.00	2.000	7.000	0.233
4.00 - 5.00	3.000	5.000	0.167
5.00 - 6.00	1.000	2.000	0.067
6.00 - 7.00	0.	1.000	0.033
7.00 - 8.00	1.000	1.000	0.033
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XV (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	6.000	7.000	1.000
1.00 - 2.00	0.	1.000	0.143
2.00 - 3.00	1.000	1.000	0.143
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XV (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
NORMAL LOAD FACTOR INTERVAL 5.0 - 6.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	2.000	2.000	1.000
1.00 - 2.00	0.	0.	0.
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVI

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	181.000	222.000	1.000
1.00 - 2.00	31.000	41.000	0.185
2.00 - 3.00	9.000	10.000	0.045
3.00 - 4.00	1.000	1.000	0.005
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVI (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	178.000	247.000	1.000
1.00 - 2.00	50.000	69.000	0.279
2.00 - 3.00	13.000	19.000	0.077
3.00 - 4.00	5.000	6.000	0.024
4.00 - 5.00	1.000	1.000	0.004
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVI (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	23.000	31.000	1.000
1.00 - 2.00	4.000	8.000	0.258
2.00 - 3.00	2.000	4.000	0.129
3.00 - 4.00	1.000	2.000	0.065
4.00 - 5.00	1.000	1.000	0.032
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVI (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	9.000	13.000	1.000
1.00 - 2.00	4.000	4.000	0.308
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVI (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZ AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	0.	1.000	1.000
1.00 - 2.00	1.000	1.000	1.000
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVII

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0. - 0.600
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	794.000	1260.000	1.000
1.00 - 2.00	263.000	466.000	0.370
2.00 - 3.00	115.000	203.000	0.161
3.00 - 4.00	44.000	88.000	0.070
4.00 - 5.00	16.000	44.000	0.035
5.00 - 6.00	10.000	28.000	0.022
6.00 - 7.00	5.000	18.000	0.014
7.00 - 8.00	3.000	13.000	0.010
8.00 - 9.00	6.000	10.000	0.008
9.00 - 10.00	2.000	4.000	0.003
10.00 - 11.00	1.000	2.000	0.002
11.00 - 12.00	1.000	1.000	0.001
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0. - 0.600
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	892.000	1757.000	1.000
1.00 - 2.00	287.000	865.000	0.492
2.00 - 3.00	167.000	578.000	0.329
3.00 - 4.00	93.000	411.000	0.234
4.00 - 5.00	68.000	318.000	0.181
5.00 - 6.00	67.000	250.000	0.142
6.00 - 7.00	43.000	183.000	0.104
7.00 - 8.00	29.000	140.000	0.080
8.00 - 9.00	39.000	111.000	0.063
9.00 - 10.00	16.000	72.000	0.041
10.00 - 11.00	12.000	56.000	0.032
11.00 - 12.00	11.000	44.000	0.025
12.00 - 13.00	13.000	33.000	0.019
13.00 - 14.00	8.000	20.000	0.011
14.00 - 15.00	6.000	12.000	0.007
15.00 - 16.00	6.000	6.000	0.003
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0. - 0.600
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	272.000	548.000	1.000
1.00 - 2.00	103.000	276.000	0.504
2.00 - 3.00	59.000	173.000	0.316
3.00 - 4.00	41.000	114.000	0.208
4.00 - 5.00	28.000	73.000	0.133
5.00 - 6.00	14.000	45.000	0.082
6.00 - 7.00	8.000	31.000	0.057
7.00 - 8.00	8.000	23.000	0.042
8.00 - 9.00	3.000	15.000	0.027
9.00 - 10.00	6.000	12.000	0.022
10.00 - 11.00	3.000	6.000	0.011
11.00 - 12.00	1.000	3.000	0.005
12.00 - 13.00	1.000	2.000	0.004
13.00 - 14.00	1.000	1.000	0.002
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0. - 0.600
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	29.000	54.000	1.000
1.00 - 2.00	16.000	25.000	0.463
2.00 - 3.00	4.000	9.000	0.167
3.00 - 4.00	2.000	5.000	0.093
4.00 - 5.00	2.000	3.000	0.056
5.00 - 6.00	1.000	1.000	0.019
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0. - 0.600
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	5.000	10.000	1.000
1.00 - 2.00	5.000	5.000	0.500
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVII (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0. - 0.600
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 5.0 - 6.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	0.	0.	0.
1.00 - 2.00	0.	0.	0.
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVIII

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	371.000	520.000	1.000
1.00 - 2.00	99.000	149.000	0.287
2.00 - 3.00	29.000	50.000	0.096
3.00 - 4.00	9.000	21.000	0.040
4.00 - 5.00	7.000	12.000	0.023
5.00 - 6.00	3.000	5.000	0.010
6.00 - 7.00	1.000	2.000	0.004
7.00 - 8.00	1.000	1.000	0.002
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVIII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	461.000	804.000	1.000
1.00 - 2.00	149.000	343.000	0.427
2.00 - 3.00	63.000	194.000	0.241
3.00 - 4.00	43.000	131.000	0.163
4.00 - 5.00	22.000	88.000	0.109
5.00 - 6.00	19.000	66.000	0.082
6.00 - 7.00	11.000	47.000	0.058
7.00 - 8.00	7.000	36.000	0.045
8.00 - 9.00	7.000	29.000	0.036
9.00 - 10.00	3.000	22.000	0.027
10.00 - 11.00	6.000	19.000	0.024
11.00 - 12.00	3.000	13.000	0.016
12.00 - 13.00	4.000	10.000	0.012
13.00 - 14.00	2.000	6.000	0.007
14.00 - 15.00	1.000	4.000	0.005
15.00 - 16.00	3.000	3.000	0.004
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVIII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	207.000	398.000	1.000
1.00 - 2.00	69.000	191.000	0.480
2.00 - 3.00	34.000	122.000	0.307
3.00 - 4.00	29.000	88.000	0.221
4.00 - 5.00	20.000	59.000	0.148
5.00 - 6.00	9.000	39.000	0.098
6.00 - 7.00	11.000	30.000	0.075
7.00 - 8.00	7.000	19.000	0.048
8.00 - 9.00	2.000	12.000	0.030
9.00 - 10.00	0.	10.000	0.025
10.00 - 11.00	6.000	10.000	0.025
11.00 - 12.00	3.000	4.000	0.010
12.00 - 13.00	0.	1.000	0.003
13.00 - 14.00	0.	1.000	0.003
14.00 - 15.00	1.000	1.000	0.003
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVIII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	55.000	115.000	1.000
1.00 - 2.00	26.000	60.000	0.522
2.00 - 3.00	20.000	34.000	0.296
3.00 - 4.00	7.000	14.000	0.122
4.00 - 5.00	3.000	7.000	0.061
5.00 - 6.00	1.000	4.000	0.035
6.00 - 7.00	1.000	3.000	0.026
7.00 - 8.00	2.000	2.000	0.017
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVIII (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	16.000	29.000	1.000
1.00 - 2.00	6.000	13.000	0.448
2.00 - 3.00	5.000	7.000	0.241
3.00 - 4.00	2.000	2.000	0.069
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XVIII (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.600 - 0.700
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 5.0 - 6.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	1.000	1.000	1.000
1.00 - 2.00	0.	0.	0.
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIX

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	124.000	169.000	1.000
1.00 - 2.00	27.000	45.000	0.266
2.00 - 3.00	9.000	18.000	0.107
3.00 - 4.00	1.000	9.000	0.053
4.00 - 5.00	2.000	8.000	0.047
5.00 - 6.00	3.000	6.000	0.036
6.00 - 7.00	1.000	3.000	0.018
7.00 - 8.00	1.000	2.000	0.012
8.00 - 9.00	0.	1.000	0.006
9.00 - 10.00	1.000	1.000	0.006
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIX (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	143.000	254.000	1.000
1.00 - 2.00	48.000	111.000	0.437
2.00 - 3.00	27.000	63.000	0.248
3.00 - 4.00	10.000	36.000	0.142
4.00 - 5.00	3.000	26.000	0.102
5.00 - 6.00	7.000	23.000	0.091
6.00 - 7.00	3.000	16.000	0.063
7.00 - 8.00	3.000	13.000	0.051
8.00 - 9.00	2.000	10.000	0.039
9.00 - 10.00	2.000	8.000	0.031
10.00 - 11.00	0.	6.000	0.024
11.00 - 12.00	3.000	6.000	0.024
12.00 - 13.00	2.000	3.000	0.012
13.00 - 14.00	0.	1.000	0.004
14.00 - 15.00	1.000	1.000	0.004
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIX (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	53.000	110.000	1.000
1.00 - 2.00	22.000	57.000	0.518
2.00 - 3.00	13.000	35.000	0.318
3.00 - 4.00	6.000	22.000	0.200
4.00 - 5.00	5.000	16.000	0.145
5.00 - 6.00	3.000	11.000	0.100
6.00 - 7.00	0.	8.000	0.073
7.00 - 8.00	2.000	8.000	0.073
8.00 - 9.00	0.	6.000	0.055
9.00 - 10.00	2.000	6.000	0.055
10.00 - 11.00	1.000	4.000	0.036
11.00 - 12.00	2.000	3.000	0.027
12.00 - 13.00	0.	1.000	0.009
13.00 - 14.00	1.000	1.000	0.009
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIX (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	17.000	26.000	1.000
1.00 - 2.00	4.000	9.000	0.346
2.00 - 3.00	2.000	5.000	0.192
3.00 - 4.00	2.000	3.000	0.115
4.00 - 5.00	0.	1.000	0.038
5.00 - 6.00	0.	1.000	0.038
6.00 - 7.00	0.	1.000	0.038
7.00 - 8.00	1.000	1.000	0.038
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIX (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	4.000	9.000	1.000
1.00 - 2.00	2.000	5.000	0.556
2.00 - 3.00	3.000	3.000	0.333
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XIX (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.700 - 0.800
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 5.0 - 6.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	2.000	3.000	1.000
1.00 - 2.00	0.	1.000	0.333
2.00 - 3.00	1.000	1.000	0.333
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XX

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	211.000	281.000	1.000
1.00 - 2.00	43.000	70.000	0.249
2.00 - 3.00	14.000	27.000	0.096
3.00 - 4.00	9.000	13.000	0.046
4.00 - 5.00	3.000	4.000	0.014
5.00 - 6.00	0.	1.000	0.004
6.00 - 7.00	0.	1.000	0.004
7.00 - 8.00	1.000	1.000	0.004
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XX (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE SIZE AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	209.000	325.000	1.000
1.00 - 2.00	74.000	116.000	0.357
2.00 - 3.00	24.000	42.000	0.129
3.00 - 4.00	6.000	18.000	0.055
4.00 - 5.00	4.000	12.000	0.037
5.00 - 6.00	3.000	8.000	0.025
6.00 - 7.00	3.000	5.000	0.015
7.00 - 8.00	0.	2.000	0.006
8.00 - 9.00	0.	2.000	0.006
9.00 - 10.00	0.	2.000	0.006
10.00 - 11.00	0.	2.000	0.006
11.00 - 12.00	1.000	2.000	0.006
12.00 - 13.00	1.000	1.000	0.003
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XX (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	44.000	71.000	1.000
1.00 - 2.00	10.000	27.000	0.380
2.00 - 3.00	4.000	17.000	0.239
3.00 - 4.00	2.000	13.000	0.183
4.00 - 5.00	3.000	11.000	0.155
5.00 - 6.00	3.000	8.000	0.113
6.00 - 7.00	2.000	5.000	0.070
7.00 - 8.00	2.000	3.000	0.042
8.00 - 9.00	0.	1.000	0.014
9.00 - 10.00	1.000	1.000	0.014
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XX (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	19.000	34.000	1.000
1.00 - 2.00	7.000	15.000	0.441
2.00 - 3.00	5.000	8.000	0.235
3.00 - 4.00	1.000	3.000	0.088
4.00 - 5.00	0.	2.000	0.059
5.00 - 6.00	1.000	2.000	0.059
6.00 - 7.00	1.000	1.000	0.029
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XX (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 4.0 - 5.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	5.000	7.000	1.000
1.00 - 2.00	1.000	2.000	0.286
2.00 - 3.00	1.000	1.000	0.143
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XX (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.800 - 0.900
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 5.0 - 6.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMJLATIVE PROBABILITY
0. - 1.00	0.	1.000	1.000
1.00 - 2.00	1.000	1.000	1.000
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XXI

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 0. - 1.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	176.000	223.000	1.000
1.00 - 2.00	36.000	47.000	0.211
2.00 - 3.00	8.000	11.000	0.049
3.00 - 4.00	3.000	3.000	0.013
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XXI (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 1.0 - 2.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	182.000	241.000	1.000
1.00 - 2.00	38.000	59.000	0.245
2.00 - 3.00	12.000	21.000	0.087
3.00 - 4.00	5.000	9.000	0.037
4.00 - 5.00	4.000	4.000	0.017
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XXI (continued)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 2.0 - 3.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMJLATIVE PROBABILITY
0. - 1.00	19.000	27.000	1.000
1.00 - 2.00	5.000	8.000	0.296
2.00 - 3.00	2.000	3.000	0.111
3.00 - 4.00	1.000	1.000	0.037
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XXI (concluded)

DWELL TIME PROBABILITY DISTRIBUTION
AS A FUNCTION OF VARIABLE NZE AND MACH NUMBER

MACH INTERVAL 0.900 - 0.950
EFFECTIVE NORMAL LOAD FACTOR INTERVAL 3.0 - 4.0

DWELL TIME INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
0. - 1.00	8.000	12.000	1.000
1.00 - 2.00	4.000	4.000	0.333
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.
7.00 - 8.00	0.	0.	0.
8.00 - 9.00	0.	0.	0.
9.00 - 10.00	0.	0.	0.
10.00 - 11.00	0.	0.	0.
11.00 - 12.00	0.	0.	0.
12.00 - 13.00	0.	0.	0.
13.00 - 14.00	0.	0.	0.
14.00 - 15.00	0.	0.	0.
15.00 - 16.00	0.	0.	0.
16.00 - 17.00	0.	0.	0.
17.00 - 18.00	0.	0.	0.
18.00 - 19.00	0.	0.	0.
19.00 - 20.00	0.	0.	0.

TABLE XXII

PROBABILITY DISTRIBUTION OF NZ INTERVAL
DWELL TIME FREQUENCY AS FUNCTION OF MACH NUMBER INTERVAL

MACH INTERVAL 0. - 0.600

NZ INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMJLATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	1277.000	4019.000	1.000
1.00 - 2.00	1918.000	2742.000	0.682
2.00 - 3.00	714.000	824.000	0.205
3.00 - 4.00	91.000	110.000	0.027
4.00 - 5.00	19.000	19.000	0.005
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.

MACH INTERVAL 0.600 - 0.700

NZ INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMJLATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	546.000	1999.000	1.000
1.00 - 2.00	894.000	1453.000	0.727
2.00 - 3.00	405.000	559.000	0.280
3.00 - 4.00	114.000	154.000	0.077
4.00 - 5.00	36.000	40.000	0.020
5.00 - 6.00	4.000	4.000	0.002
6.00 - 7.00	0.	0.	0.

TABLE XXII (continued)

PROBABILITY DISTRIBUTION OF NZ INTERVAL
DWELL TIME FREQUENCY AS FUNCTION OF MACH NUMBER INTERVAL

MACH INTERVAL 0.700 - 0.800

NZ INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	207.000	672.000	1.000
1.00 - 2.00	302.000	465.000	0.692
2.00 - 3.00	121.000	163.000	0.243
3.00 - 4.00	32.000	42.000	0.062
4.00 - 5.00	7.000	10.000	0.015
5.00 - 6.00	3.000	3.000	0.004
6.00 - 7.00	0.	0.	0.

MACH INTERVAL 0.800 - 0.900

NZ INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	287.000	731.000	1.000
1.00 - 2.00	331.000	444.000	0.607
2.00 - 3.00	73.000	113.000	0.155
3.00 - 4.00	31.000	40.000	0.055
4.00 - 5.00	7.000	9.000	0.012
5.00 - 6.00	2.000	2.000	0.003
6.00 - 7.00	0.	0.	0.

TABLE XXII (concluded)

PROBABILITY DISTRIBUTION OF NZ INTERVAL
DWELL TIME FREQUENCY AS FUNCTION OF MACH NUMBER INTERVAL

MACH INTERVAL 0.900 - 0.950

NZ INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	222.000	514.000	1.000
1.00 - 2.00	239.000	292.000	0.568
2.00 - 3.00	37.000	53.000	0.103
3.00 - 4.00	15.000	16.000	0.031
4.00 - 5.00	1.000	1.000	0.002
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.

MACH INTERVAL 0.950 - 2.000

NZ INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	0.	0.	0.
1.00 - 2.00	0.	0.	0.
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.

TABLE XXIII

PROBABILITY DISTRIBUTION OF NZE INTERVAL
DWELL TIME FREQUENCY AS FUNCTION OF MACH NUMBER INTERVAL

MACH INTERVAL 0. - 0.600

NZE INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	1240.000	3629.000	1.000
1.00 - 2.00	1752.000	2389.000	0.658
2.00 - 3.00	557.000	637.000	0.176
3.00 - 4.00	66.000	80.000	0.022
4.00 - 5.00	14.000	14.000	0.004
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.

MACH INTERVAL 0.600 - 0.700

NZE INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	512.000	1867.000	1.000
1.00 - 2.00	845.000	1355.000	0.726
2.00 - 3.00	379.000	510.000	0.273
3.00 - 4.00	102.000	131.000	0.070
4.00 - 5.00	28.000	29.000	0.016
5.00 - 6.00	1.000	1.000	0.001
6.00 - 7.00	0.	0.	0.

TABLE XXIII (continued)

PROBABILITY DISTRIBUTION OF NZE INTERVAL
DWELL TIME FREQUENCY AS FUNCTION OF MACH NUMBER INTERVAL

MACH INTERVAL 0.700 - 0.800

NZE INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	175.000	571.000	1.000
1.00 - 2.00	261.000	396.000	0.694
2.00 - 3.00	102.000	135.000	0.236
3.00 - 4.00	24.000	33.000	0.058
4.00 - 5.00	6.000	9.000	0.016
5.00 - 6.00	3.000	3.000	0.005
6.00 - 7.00	0.	0.	0.

MACH INTERVAL 0.800 - 0.900

NZE INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	277.000	719.000	1.000
1.00 - 2.00	320.000	442.000	0.615
2.00 - 3.00	76.000	122.000	0.170
3.00 - 4.00	38.000	46.000	0.064
4.00 - 5.00	7.000	8.000	0.011
5.00 - 6.00	1.000	1.000	0.001
6.00 - 7.00	0.	0.	0.

TABLE XXIII (concluded)

PROBABILITY DISTRIBUTION OF NZE INTERVAL
DWELL TIME FREQUENCY AS FUNCTION OF MACH NUMBER INTERVAL

MACH INTERVAL 0.900 - 0.950

NZE INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	219.000	504.000	1.000
1.00 - 2.00	238.000	285.000	0.565
2.00 - 3.00	33.000	47.000	0.093
3.00 - 4.00	13.000	14.000	0.028
4.00 - 5.00	1.000	1.000	0.002
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.

MACH INTERVAL 0.950 - 2.000

NZE INTERVAL	DWELL TIME OCCURRENCE	CUMULATIVE OCCURRENCE	CUMULATIVE PROBABILITY
-2.00 - -1.00	0.	0.	0.
-1.00 - 0.	0.	0.	0.
0. - 1.00	0.	0.	0.
1.00 - 2.00	0.	0.	0.
2.00 - 3.00	0.	0.	0.
3.00 - 4.00	0.	0.	0.
4.00 - 5.00	0.	0.	0.
5.00 - 6.00	0.	0.	0.
6.00 - 7.00	0.	0.	0.

TABLE XXIV

PROBABILITY OF BEING IN A MACH NUMBER INTERVAL
WHEN NZ EXHIBITS DWELL TIMES

TOTAL FREQUENCY = 15493.0 SECONDS

MACH NO. INTERVAL	DWELL TIME OCCURRENCE	PROBABILITY OF OCCURRENCE
0. - 0.60	7714.0	0.498
0.60 - 0.70	4209.0	0.272
0.70 - 0.80	1355.0	0.087
0.80 - 0.90	1339.0	0.086
0.90 - 0.95	876.0	0.057
0.95 - 2.00	0.	0.

TABLE XXV

PROBABILITY OF BEING IN A MACH NUMBER INTERVAL
WHEN NZE EXHIBITS DWELL TIMES

TOTAL FREQUENCY = 13978.0 SECONDS

MACH NO. INTERVAL	DWELL TIME OCCURRENCE	PROBABILITY OF OCCURRENCE
0. - 0.60	6749.0	0.483
0.60 - 0.70	3893.0	0.279
0.70 - 0.80	1147.0	0.082
0.80 - 0.90	1338.0	0.096
0.90 - 0.95	851.0	0.061
0.95 - 2.00	0.	0.

SECTION VII

ENVELOPES - TABLES

Tables XXVI - XXXI, in this section, contain the envelope data shown in Figures 30-35.

TABLE XXVI

ENVELOPE OF MAXIMA OF LONGITUDINAL LOAD FACTOR

AIRSPEED INTERVAL	ALTITUDE INTERVALS 0. - 2000.0 MAX.	0. - 2000.0 MIN.	2000.0 - 5000.0 MAX.	2000.0 - 5000.0 MIN.	5000.0 - 15000.0 MAX.	5000.0 - 15000.0 MIN.
0. - 250.0	0.4551	0.	0.1498	-0.0598	0.1679	-0.2145
250.0 - 300.0	0.4980	-0.0656	0.2975	-0.0842	0.5063	-0.4736
300.0 - 350.0	0.5136	-0.0510	0.3497	-0.2172	0.4881	-0.5300
350.0 - 400.0	0.4674	-0.1336	0.3626	-0.2351	0.3598	-0.5423
400.0 - 450.0	0.3570	-0.1863	0.3975	-0.3782	0.3791	-0.5411
450.0 - 500.0	0.3242	-0.1582	0.3681	-0.4318	0.3502	-0.4699
500.0 - 550.0	0.5901	-0.0692	0.4895	-0.6036	0.4391	-0.5668
550.0 - 600.0	0.5558	-0.0442	0.2553	-0.4366	0.3607	-0.1527
600.0 - 650.0	0.2245	-0.0589	0.2183	-0.3167	0.0912	-0.1575
650.0 - 810.0	0.	0.	0.	0.	0.	0.

AIRSPEED INTERVAL	ALTITUDE INTERVALS 15000.0 - 25000.0 MAX.	15000.0 - 25000.0 MIN.	25000.0 - 50000.0 MAX.	25000.0 - 50000.0 MIN.
0. - 250.0	0.2945	0.	0.1535	-0.0288
250.0 - 300.0	0.3644	-0.1951	0.1871	-0.0384
300.0 - 350.0	0.3861	-0.3199	0.2591	-0.2303
350.0 - 400.0	0.2687	-0.4798	0.1343	-0.2639
400.0 - 450.0	0.3023	-0.2111	0.	0.
450.0 - 500.0	0.1871	-0.0368	0.	0.
500.0 - 550.0	0.0736	-0.0552	0.	0.
550.0 - 600.0	0.	0.	0.	0.
600.0 - 650.0	0.	0.	0.	0.
650.0 - 810.0	0.	0.	0.	0.

TABLE XXVII

ENVELOPE OF MAXIMA OF HELIX ANGLE

AIRSPEED INTERVAL	ALTITUDE INTERVALS 0. - 2000.0 MAX.	0. - 2000.0 MIN.	2000.0 - 5000.0 MAX.	2000.0 - 5000.0 MIN.	5000.0 - 15000.0 MAX.	5000.0 - 15000.0 MIN.
0. - 250.0	0.0129	-0.0077	0.0039	-0.0081	0.0274	-0.0108
250.0 - 300.0	0.0071	-0.0085	0.0258	-0.0177	0.0271	-0.0343
300.0 - 350.0	0.0085	-0.0318	0.0291	-0.0394	0.0322	-0.0296
350.0 - 400.0	0.0107	-0.0157	0.0221	-0.0392	0.0205	-0.0313
400.0 - 450.0	0.0131	-0.0189	0.0133	-0.0206	0.0195	-0.0261
450.0 - 500.0	0.0142	-0.0105	0.0176	-0.0109	0.0170	-0.0153
500.0 - 550.0	0.0066	-0.0106	0.0184	-0.0165	0.0103	-0.0196
550.0 - 600.0	0.0055	-0.0046	0.0116	-0.0361	0.0103	-0.0217
600.0 - 650.0	0.0076	-0.0125	0.0095	-0.0098	0.0032	-0.0051
650.0 - 810.0	0.	0.	0.	0.	0.	0.

AIRSPEED INTERVAL	ALTITUDE INTERVALS 15000.0 - 25000.0 MAX.	15000.0 - 25000.0 MIN.	25000.0 - 50000.0 MAX.	25000.0 - 50000.0 MIN.
0. - 250.0	0.0130	-0.0070	0.0172	-0.0066
250.0 - 300.0	0.0207	-0.0088	0.0163	-0.0162
300.0 - 350.0	0.0193	-0.0178	0.0148	-0.0208
350.0 - 400.0	0.0114	-0.0339	0.0104	-0.0151
400.0 - 450.0	0.0460	-0.0153	0.	0.
450.0 - 500.0	0.0118	-0.0033	0.	0.
500.0 - 550.0	0.0008	-0.0021	0.	0.
550.0 - 600.0	0.	0.	0.	0.
600.0 - 650.0	0.	0.	0.	0.
650.0 - 810.0	0.	0.	0.	0.

TABLE XXVIII

ENVELOPE OF MAXIMA OF ROLL VELOCITY*YAW VELOCITY

AIRSPEED INTERVAL	ALTITUDE INTERVALS 0. - 2000.0 MAX.	0. - 2000.0 MIN.	2000.0 - 5000.0 MAX.	2000.0 - 5000.0 MIN.	5000.0 - 15000.0 MAX.	5000.0 - 15000.0 MIN.
0. - 250.0	0.0038	-0.0191	0.0024	-0.0127	0.0348	-0.0099
250.0 - 300.0	0.0044	-0.0063	0.0711	-0.0277	0.0718	-0.0289
300.0 - 350.0	0.1107	-0.0085	0.1618	-0.0238	0.0668	-0.0363
350.0 - 400.0	0.0269	-0.0128	0.1916	-0.0405	0.1066	-0.0210
400.0 - 450.0	0.0527	-0.0131	0.0716	-0.0193	0.1389	-0.0216
450.0 - 500.0	0.0365	-0.0128	0.0404	-0.0421	0.0633	-0.0176
500.0 - 550.0	0.0218	-0.0053	0.0334	-0.0538	0.0719	-0.0271
550.0 - 600.0	0.0075	-0.0073	0.3858	-0.0264	0.1474	-0.0469
600.0 - 650.0	0.0364	-0.0084	0.0191	-0.0184	0.0056	-0.0039
650.0 - 810.0	0.	0.	0.	0.	0.	0.

AIRSPEED INTERVAL	ALTITUDE INTERVALS 15000.0 - 25000.0 MAX.	15000.0 - 25000.0 MIN.	25000.0 - 50000.0 MAX.	25000.0 - 50000.0 MIN.
0. - 250.0	0.0118	-0.0076	0.0657	-0.0088
250.0 - 300.0	0.0494	-0.0100	0.0538	-0.0127
300.0 - 350.0	0.0867	-0.0140	0.0892	-0.0096
350.0 - 400.0	0.1969	-0.0268	0.0432	-0.0147
400.0 - 450.0	0.2813	-0.1059	0.	0.
450.0 - 500.0	0.0337	-0.0231	0.	0.
500.0 - 550.0	0.0046	-0.0019	0.	0.
550.0 - 600.0	0.	0.	0.	0.
600.0 - 650.0	0.	0.	0.	0.
650.0 - 810.0	0.	0.	0.	0.

TABLE XXIX

ENVELOPE OF MAXIMA OF ROLL VELOCITY*PITCH VELOCITY

AIRSPEED INTERVAL	ALTITUDE INTERVALS 0. - 2000.0 MAX.	0. - 2000.0 MIN.	2000.0 - 5000.0 MAX.	2000.0 - 5000.0 MIN.	5000.0 - 15000.0 MAX.	5000.0 - 15000.0 MIN.
0. - 250.0	0.0124	-0.0069	0.0022	-0.0079	0.0183	-0.0206
250.0 - 300.0	0.0165	-0.0054	0.0377	-0.0689	0.0328	-0.0708
300.0 - 350.0	0.0177	-0.1707	0.0487	-0.1154	0.0832	-0.0544
350.0 - 400.0	0.0318	-0.0239	0.0507	-0.1304	0.0826	-0.0903
400.0 - 450.0	0.0554	-0.1228	0.0434	-0.0581	0.0410	-0.1737
450.0 - 500.0	0.0394	-0.0405	0.0360	-0.0483	0.0826	-0.0706
500.0 - 550.0	0.0164	-0.0278	0.0576	-0.0370	0.0695	-0.1085
550.0 - 600.0	0.0104	-0.0102	0.0735	-0.3400	0.0856	-0.1243
600.0 - 650.0	0.0317	-0.0423	0.0167	-0.0336	0.0036	-0.0034
650.0 - 810.0	0.	0.	0.	0.	0.	0.

AIRSPEED INTERVAL	ALTITUDE INTERVALS 15000.0 - 25000.0 MAX.	15000.0 - 25000.0 MIN.	25000.0 - 50000.0 MAX.	25000.0 - 50000.0 MIN.
0. - 250.0	0.0272	-0.0176	0.0158	-0.0166
250.0 - 300.0	0.0173	-0.0447	0.0399	-0.0230
300.0 - 350.0	0.0940	-0.0770	0.0482	-0.0625
350.0 - 400.0	0.0653	-0.2480	0.0198	-0.0399
400.0 - 450.0	0.4707	-0.0538	0.	0.
450.0 - 500.0	0.0477	-0.0124	0.	0.
500.0 - 550.0	0.0034	-0.0071	0.	0.
550.0 - 600.0	0.	0.	0.	0.
600.0 - 650.0	0.	0.	0.	0.
650.0 - 810.0	0.	0.	0.	0.

TABLE XXX

ENVELOPE OF MAXIMA OF PITCH VELOCITY*YAW VELOCITY

AIRSPEED INTERVAL	ALTITUDE INTERVALS 0. - 2000.0 MAX.	0. - 2000.0 MIN.	2000.0 - 5000.0 MAX.	2000.0 - 5000.0 MIN.	5000.0 - 15000.0 MAX.	5000.0 - 15000.0 MIN.
0. - 250.0	0.0021	-0.0022	0.0048	-0.0002	0.0112	-0.0098
250.0 - 300.0	0.0010	-0.0047	0.0073	-0.0202	0.0138	-0.0170
300.0 - 350.0	0.0023	-0.0296	0.0112	-0.0228	0.0173	-0.0193
350.0 - 400.0	0.0091	-0.0049	0.0133	-0.0244	0.0136	-0.0159
400.0 - 450.0	0.0151	-0.0137	0.0071	-0.0175	0.0127	-0.0255
450.0 - 500.0	0.0012	-0.0094	0.0072	-0.0083	0.0087	-0.0065
500.0 - 550.0	0.0012	-0.0052	0.0031	-0.0044	0.0075	-0.0084
550.0 - 600.0	0.0016	-0.0020	0.0099	-0.0294	0.0097	-0.0137
600.0 - 650.0	0.0150	-0.0085	0.0082	-0.0019	0.0006	-0.0004
650.0 - 810.0	0.	0.	0.	0.	0.	0.

AIRSPEED INTERVAL	ALTITUDE INTERVALS 15000.0 - 25000.0 MAX.	15000.0 - 25000.0 MIN.	25000.0 - 50000.0 MAX.	25000.0 - 50000.0 MIN.
0. - 250.0	0.0032	-0.0060	0.0064	-0.0067
250.0 - 300.0	0.0078	-0.0154	0.0060	-0.0090
300.0 - 350.0	0.0105	-0.0106	0.0064	-0.0095
350.0 - 400.0	0.0084	-0.0218	0.0049	-0.0032
400.0 - 450.0	0.0210	-0.0172	0.	0.
450.0 - 500.0	0.0038	-0.0021	0.	0.
500.0 - 550.0	0.	-0.0024	0.	0.
550.0 - 600.0	0.	0.	0.	0.
600.0 - 650.0	0.	0.	0.	0.
650.0 - 810.0	0.	0.	0.	0.

TABLE XXXI

ENVELOPE OF MAXIMA OF ROLL ACCELERATION AS FUNCTION OF ROLL VELOCITY

P INTERVAL	PDOT MAX	PDOT MIN
-3.000 - -2.500	0.	0.
-2.500 - -2.000	0.	-0.9205
-2.000 - -1.500	1.9665	-2.5105
-1.500 - -1.000	2.3849	-3.5430
-1.000 - -0.520	2.8153	-10.8787
-0.520 - 0.	4.2678	-3.2969
0. - 0.520	2.2597	-2.0373
0.520 - 1.000	2.8927	-1.6537
1.000 - 1.500	2.0502	-4.1841
1.500 - 2.000	4.2678	0.
2.000 - 2.500	3.5146	0.
2.500 - 3.000	0.	0.

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13. ABSTRACT

Volume III of this report represents time distribution and peak envelope data from 22.8 flight hours of multiparameter flight loads data. These data were obtained during routine training operations with F-105D airplanes at three different Air Force bases. The graphical and tabulated data presented in Volume III are the output from a computer program described in Volume IV of this report. The graphs have been produced by cathode rate tube (CRT) equipment.

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