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STATISTICAL REVIEW OF COUNTING ACCELEROMETER DATA
FOR NAVY AND MARINE FLEET AIRCRAFT
FROM 1 JAN 1962 TO 30 JUN 1974

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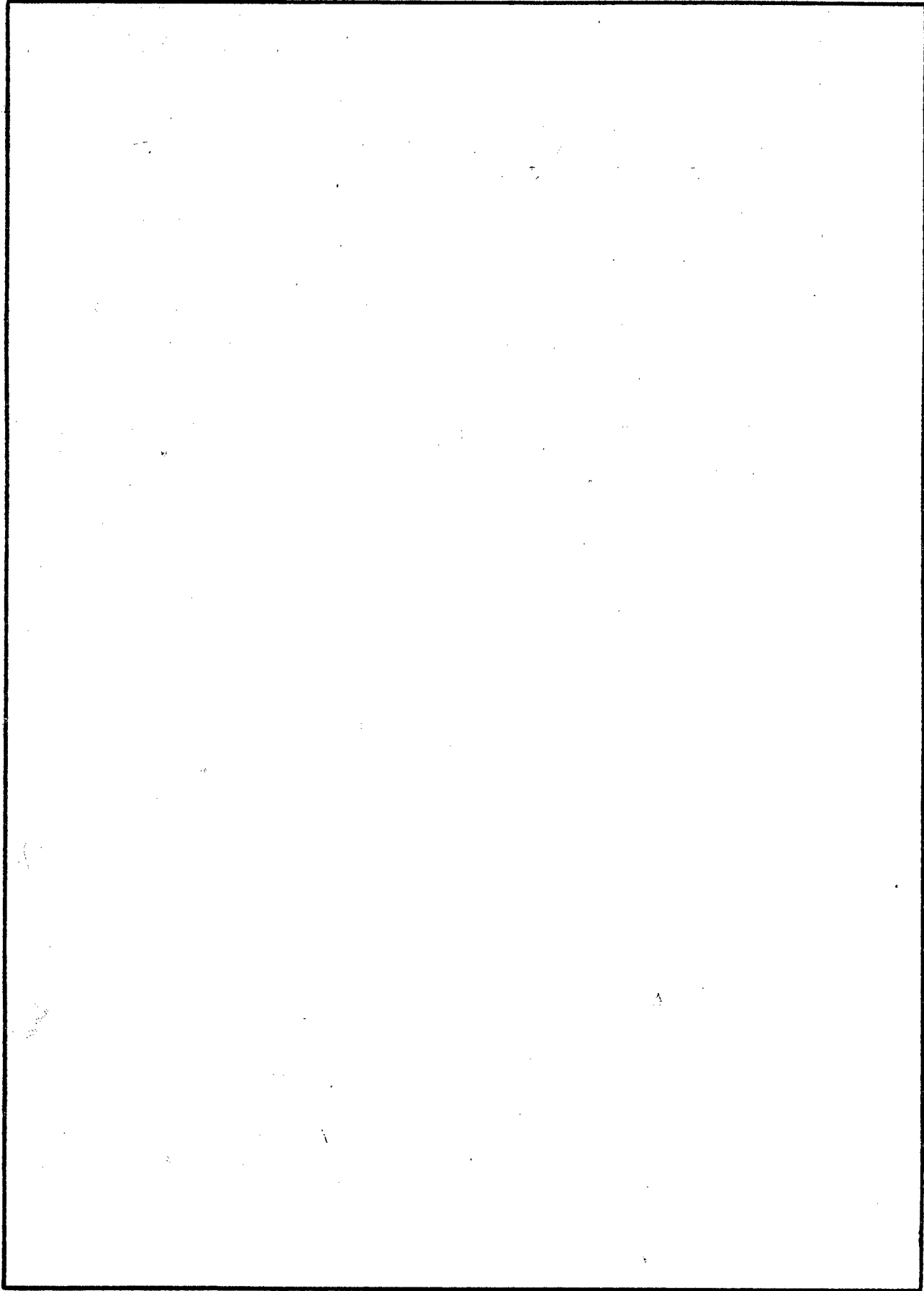
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report is a specialized summary of normal acceleration data recorded by counting accelerometers. Data are separated by calendar time and mission category. Only data reported in the counting accelerometer program are included.		

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SUMMARY

This is a semi-annual progress report, and it presents a specialized summary of the data in the counting accelerometer program. Statistics describing Navy and Marine aircraft cumulative g-count exceedances are calculated and tabulated. These tabulations are separated by calendar time and into four major categories of fleet experience: Navy Training, Navy Combat, Marine Training, and Marine Combat.

These data show that the load rate distributions (counts at 1000 hours) for most models and most g-levels have a non-normal distribution. Within a model (F-4B, F-8H, etc.) differences in the average load rates exist when data are separated by calendar time or mission category.

RCS NADC 13920-2

SPECIAL NOTES

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INDEX OF CURRENTLY OPERATIONAL MODELS

<u>Model</u>	<u>Previous 12 Months Data</u>	<u>All Data</u>
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F-4J (Blue Angels)	8	9
KA-3B	10	11
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A-4F	14	15
TA-4F	16	17
A-4G	18	19
TA-4J	20	21
A-4M	22	23
RA-5C	24	25
A-6A	26	27
EA-6A	28	29
A-6B	30	31
EA-6B	32	33
A-6C	34	35
KA-6D	36	37
A-6E	38	39
A-7A	40	41
A-7B	42	43
A-7C	44	45
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C-2A	48	49
F-4B	50	51
RF-4B	52	53
F-4J	54	55
F-4N	56	57
RF-8G	58	59
F-8H	60	61
F-8J	62	63
F-8K	64	65
F-8L	66	67
DF-8L	68	69
P-3A	70	71
P-3B	72	73
P-3C	74	75
ES-2D	76	77
S-2E	78	79
S-2G	80	81
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T-2C	86	87
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INDEX OF OUT-OF-SERVICE MODELS AND MODELS WHICH HAVE NOT REPORTED COUNTING
ACCELEROMETER DATA DURING THE PREVIOUS 12 MONTHS (APPENDIX A)

<u>Model</u>	<u>All Data</u>
F-11A(Blue Angels)*	A-2
F-11A (Blue Angels)**	A-3
AF-1E	A-4
A-1H	A-5
A-1J	A-6
A-3B	A-7
A-4B	A-8
TA-4B	A-9
A-5A	A-10
A-5B	A-11
KC-130F	A-12
F-4A	A-13
TF-4A	A-14
F-4G	A-15
F-6A	A-16
F-8A	A-17
RF-8A	A-18
TF-8A	A-19
F-8B	A-20
F-8C	A-21
F-8D	A-22
F-8E	A-23
DF-8F	A-24
EF-10B	A-25
F-11A	A-26
S-2D	A-27
T-2A	A-28

* TRANSDUCER LOAD-LEVEL RANGE (4-, 5-, 6-, 7-g)

** TRANSDUCER LOAD-LEVEL RANGE (6-, 7-, 8.5-, 10-g)

INTRODUCTION

The NAVAIRDEVCEN (Naval Air Development Center) is engaged in various flight maneuver-loads programs as assigned by the Naval Air Systems Command. One of these is the counting accelerometer program, and under this program data have been collected and reported since 1955.

The primary purpose of this program is to provide the flight load history of individual Navy and Marine aircraft. Other purposes include, but are not limited to, the comparison of operational loads environment with structural design requirements, the comparison of load histories of one model with another, and the determination of expected loads environment of future models. More recently, however, these data are used as the major input in the NAVAIRDEVCEN Aircraft Structural Fatigue Life Evaluation Program in estimating structural fatigue damage for those aircraft which do not have counting accelerometer data.

DISCUSSION

This is a semi-annual progress report. Included are statistical summaries of counting accelerometer data for all Navy and Marine aircraft. In service models appear in the main text. Out-of-service models or models which have not reported counting accelerometer data during the previous 12 months appear in Appendix A. The summary for each out-of-service model is its final summary. New models are added as their counting accelerometer data becomes available.

For each model, the following statistics are presented: (See Appendix B for the statistical procedures.)

$\bar{x}$ - the estimated mean load exceedances (counts at 1000 ft. hrs.) for each g-level recorded on the counting accelerometer.

S - estimated standard deviation (counts at 1000 ft. hrs.) of the load exceedances for each g-level.

A_3 - estimated skewness factor for the load exceedance distribution.

Two statistical summaries describing cumulative g-count exceedances and flight hours for each currently operational model are presented:

1. The first summary includes all quality-control accepted data reported in the time period comprising the terminal date of this report and the 12 months preceding that date.

2. The second includes all quality-control accepted data reported in the counting accelerometer program from the day each airplane was delivered for service to the terminal date of this report.

The first summary, which includes only the most recent 12 months, shows an indication of a model's current severity of usage. The second summary describes the severity of loads experienced by all airplanes of each model since acceptance. A comparison of the first summary with the second shows whether current usage for any model is more or less severe than usage over its full lifetime.

A further breakdown by mission category is provided for each airplane model in both of the aforementioned summaries. These categories are defined as follows:

1. Navy Training - an airplane in a Navy squadron assigned to a non-combat zone. (This includes all Navy airplanes not classified as being in a combat zone.)

2. Navy Combat - an airplane in a Navy squadron assigned to a combat zone.

3. Marine Training - an airplane in a Marine squadron assigned to a non-combat zone. (This includes all Marine airplanes not classified as being in a combat zone.)

4. Marine Combat - an airplane in a Marine squadron assigned to a combat zone.

The statistics for the A-4F Blue Angels are separated into solo aircraft and diamond formation aircraft. In the subsequent tables, the total flight hours shown for a given model are the sum of the hours reported for each category. However, summing the number of airplanes reporting in each category can result in a number exceeding the total aircraft, because the same airplane may have seen service in two or more categories. Its data were separated for calculation of statistics for each respective category.

Some general statistical observations for fleet-wide loads data are the following:

1. The load exceedance distribution for many of the aircraft models is non-normal (particularly asymmetrical) at all the g-levels recorded. In general, the degree of asymmetry increased with increasing g-level.

2. The scatter measure $\frac{S}{\bar{X}}$ (coefficient of variation) increases with higher g-levels.

3. For a given g-level, there is more scatter in loads received during training than during combat.

4. Differences exist in loads frequency among various configurations of the same model and various mission categories within the same configuration.

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ACKNOWLEDGEMENT

The author wishes to acknowledge Project Team Member, Mr. Joseph Caristo, of the Air Vehicle Technology Department of the Naval Air Development Center, for his assistance in the preparation of this report.

T A B L E S

Counting accelerometer data are subject to quality control criteria modifications. Thus, in succeeding reports, model-wide summary statistics are subject to change even though a model may no longer be in service.

ALL DATA

MODEL A-4F

7-73 to 06-74

8 AIRPLANES 398.4 HOURS

BLUE ANGELS

SOLO

4 AIRPLANES
98.8 HOURS

PRACTICE	5.00	6.00	7.00	8.00
$\bar{X}$	4666.0	587.0	60.73	0
S				
A ₃				

4 AIRPLANES
29.2 HOURS

SHOW	5.00	6.00	7.00	8.00
$\bar{X}$	9760.3	3116.4	171.2	34.85
S				
A ₃				

DIAMOND

6 AIRPLANES
215.4 HOURS

PRACTICE	5.00	6.00	7.00	8.00
$\bar{X}$	891.3	181.0	9.28	0
S				
A ₃				

5 AIRPLANES
55.0 HOURS

SHOW	5.00	6.00	7.00	8.00
$\bar{X}$	2109.0	545.5	145.5	18.18
S				
A ₃				

 $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A₃ SKEWNESS OF LOAD RATE DISTRIBUTION

N NO DATA IN THIS CATEGORY

NN INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-4F

8 AIRPLANES 398.4 HOURS

BLUE ANGELS

SOLO4 AIRPLANES
98.8 HOURS

PRACTICE	5.00	6.00	7.00	8.00
$\bar{X}$	4666.0	587.0	60.73	0
S				
A ₃				

4 AIRPLANES
29.2 HOURS

SHOW	5.00	6.00	7.00	8.00
$\bar{X}$	9760.3	3116.4	171.2	34.85
S				
A ₃				

DIAMOND6 AIRPLANES
215.4 HOURS

PRACTICE	5.00	6.00	7.00	8.00
$\bar{X}$	891.3	181.0	9.28	0
S				
A ₃				

5 AIRPLANES
55.0 HOURS

SHOW	5.00	6.00	7.00	8.00
$\bar{X}$	2109.0	545.5	145.5	18.18
S				
A ₃				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 N NO DATA IN THIS CATEGORY
 NN INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-4J

2 AIRPLANES 60 HOURS

BLUE ANGELS /

NAVY

		DIAMOND	5.00	7.00	8.50	10.00
1 7	AIRPLANES	$\bar{X}$	0.00	0.00	0.00	0.00
	HOURS	S	0.00			
		A ₃				

		SOLO	6.00	7.00	8.50	10.00
2 54	AIRPLANES	$\bar{X}$	1313.17	382.12	0.00	0.00
	HOURS	S	0.00			
		A ₃				

MARINE

			6.00	7.00	8.50	10.00
AIRPLANES		$\bar{X}$	0.00			
	HOURS	S				
		A ₃				

			6.00	7.00	8.50	10.00
AIRPLANES		$\bar{X}$	0.00			
	HOURS	S				
		A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 0 NO DATA IN THIS CATEGORY
 00 INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-4J

14 AIRPLANES 8102 HOURS

BLUE ANGELS

NAVY

14 AIRPLANES
5418 HOURS

DIAMOND	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	502.35	164.78	21.16	1.73
S	118.81	82.68	13.94	1.23
A ₃	0.22	0.78	0.49	0.53

10 AIRPLANES
2684 HOURS

SOLO	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	2220.24	797.59	143.85	12.38
S	22			
A ₃				

MARINE

AIRPLANES
HOURS

	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	*			
S				
A ₃				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL KA-3B

4 AIRPLANES 1250 HOURS

NAVY

		TRAINING	2.00	2.50	3.00	3.50
4 AIRPLANES 1250 HOURS	$\bar{X}$		203.71	57.21	30.53	18.06
	S		*			
	A ₃					

		COMBAT	2.00	2.50	3.00	3.50
AIRPLANES HOURS	$\bar{X}$		*			
	S					
	A ₃					

MARINE

		TRAINING	2.00	2.50	3.00	3.50
AIRPLANES HOURS	$\bar{X}$		*			
	S					
	A ₃					

		COMBAT	2.00	2.50	3.00	3.50
AIRPLANES HOURS	$\bar{X}$		*			
	S					
	A ₃					

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL KA-3B

41 AIRPLANES 32297 HOURS

NAVY

39 AIRPLANES
29270 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	117.42	16.99	4.80	0.83
S	146.06	20.18	8.55	2.27
A ₃	2.41	1.24	3.22	4.13

11 AIRPLANES
3028 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	172.44	30.93	5.69	0.19
S	47.42	17.09	5.41	0.59
A ₃	0.51	1.14	0.88	2.69

MARINE

AIRPLANES
HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL EKA-3B

11 AIRPLANES 2741 HOURS

NAVY

11 AIRPLANES
2741 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	3.35	0.56	0.56	0.28
S	30.00	1.21	1.21	0.61
A ₃	2.41	2.50	2.50	2.50

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$				
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$				
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$				
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL EKA-3B

20

AIRPLANES 9742

HOURS

NAVY

19 AIRPLANES
8334 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	354.19	65.33	21.52	3.53
S	289.18	60.88	23.25	4.26
A_3	0.85	1.77	1.98	1.96

5 AIRPLANES
1408 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	99.38	6.56	0.00	0.00
S	EE			
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-4F

27 AIRPLANES 5109 HOURS

NAVY

		TRAINING	5.00	6.00	7.00	8.00
22	AIRPLANES	$\bar{X}$	354.17	57.66	16.46	5.36
4481	HOURS	S	191.62	39.80	13.74	5.21
		A_3	0.81	0.94	1.28	2.31

		COMBAT	5.00	6.00	7.00	8.00
AIRPLANES		$\bar{X}$	#			
HOURS		S				
		A_3				

MARINE

		TRAINING	5.00	6.00	7.00	8.00
6	AIRPLANES	$\bar{X}$	479.30	56.43	4.76	2.27
628	HOURS	S	##			
		A_3				

		COMBAT	5.00	6.00	7.00	8.00
AIRPLANES		$\bar{X}$	#			
HOURS		S				
		A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 # NO DATA IN THIS CATEGORY
 ## INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-4F

50 AIRPLANES 34525 HOURS

NAVY

50 AIRPLANES
24385 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	664.37	109.36	12.30	1.83
S	333.61	64.33	11.00	4.26
A ₃	-0.32	0.54	1.74	3.56

24 AIRPLANES
6122 HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	517.35	153.25	22.32	3.87
S	115.06	40.21	7.81	2.11
A ₃	-0.34	0.31	0.19	0.87

MARINE

8 AIRPLANES
4018 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	752.88	141.18	16.04	3.43
S	■			
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	■			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 ■ NO DATA IN THIS CATEGORY
 ■■ INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL TH-4F

22 AIRPLANES 5738 HOURS

NAVY

19 AIRPLANES
5140 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	102.73	10.36	1.16	0.00
S	95.47	16.13	2.24	0.00
A_3	1.17	2.03	3.35	0.00

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A_3				

MARINE

3 AIRPLANES
505 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	372.13	22.19	0.00	0.00
S	"			
A_3				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL TA-4F

155 AIRPLANES 161939 HOURS

NAVY

134 AIRPLANES
124795 HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	163.26	18.99	1.68	0.15
S	170.29	26.56	2.76	0.58
A ₃	2.19	3.60	2.63	5.89

9 AIRPLANES
2151 HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	566.64	58.32	3.25	0.74
S	11			
A ₃				

MARINE

36 AIRPLANES
34994 HOURS

TRAINING	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	682.91	82.05	6.56	0.79
S	408.28	97.16	11.21	2.18
A ₃	1.44	4.17	4.42	4.69

AIRPLANES
HOURS

COMBAT	5.0G	6.0G	7.0G	8.0G
$\bar{X}$	*			
S				
A ₃				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-4G

14

AIRPLANES

2226

HOURS

NAVY

14 AIRPLANES
2226 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	1074.72	147.85	12.01	3.34
S	306.73	61.61	5.95	3.30
A_3	0.57	1.00	1.48	2.21

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-4G

16 AIRPLANES 11471 HOURS

NAVY

16 AIRPLANES 11471 HOURS	TRAINING	5.00	6.00	7.00	8.00
	$\bar{X}$	2158.26	373.91	43.73	4.87
	S	500.10	106.91	14.74	3.46
	A ₃	-0.19	-0.04	-0.15	0.37

AIRPLANES HOURS	COMBAT	5.00	6.00	7.00	8.00
	$\bar{X}$				
	S				
	A ₃				

MARINE

AIRPLANES HOURS	TRAINING	5.00	6.00	7.00	8.00
	$\bar{X}$				
	S				
	A ₃				

AIRPLANES HOURS	COMBAT	5.00	6.00	7.00	8.00
	$\bar{X}$				
	S				
	A ₃				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL 1A-4J

321 AIRPLANES 121658 HOURS

NAVY

304 AIRPLANES
116472 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	330.22	35.11	6.35	1.66
S	154.25	31.59	11.10	6.04
A_3	1.54	5.13	5.61	8.31

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A_3				

MARINE

17 AIRPLANES
5196 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	128.29	4.34	0.00	0.00
S	52.44	3.10	0.00	0.00
A_3	-0.23	1.13	0.00	0.00

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL TA-4J

359 AIRPLANES 271800 HOURS

NAVY

340 AIRPLANES
262371 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	339.05	44.74	15.07	11.25
S	294.49	263.04	261.03	260.91
A_3	9.24	17.94	18.28	18.31

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A_3				

MARINE

24 AIRPLANES
9429 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	412.63	10.66	0.56	0.13
S	397.98	10.66	0.94	0.31
A_3	3.16	2.17	3.11	3.74

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-4M

20 AIRPLANES 3074 HOURS

NAVY

2 AIRPLANES
197 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	484.43	48.40	13.20	13.20
S	1.2			
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

MARINE

19 AIRPLANES
2877 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	679.36	135.53	23.11	9.04
S	312.04	102.19	27.64	11.99
A ₃	0.69	1.55	1.87	1.98

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-4M

35 AIRPLANES 7628 HOURS

NAVY

10 AIRPLANES
952 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	1181.35	135.02	13.56	6.29
S	*			
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

MARINE

33 AIRPLANES
6676 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	979.90	188.56	28.91	8.63
S	332.01	132.78	27.89	8.90
A ₃	0.98	2.88	2.31	1.75

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL RA-5C

42 AIRPLANES 10540 HOURS

NAVY

		TRAINING	3.00	4.00	5.00	6.00
42	AIRPLANES	$\bar{X}$	169.85	6.00	0.16	0.00
10508	HOURS	S	71.67	3.51	0.43	0.00
		A ₃	1.78	0.86	4.15	0.00

		COMBAT	3.00	4.00	5.00	6.00
1	AIRPLANES	$\bar{X}$	0.00	0.00	0.00	0.00
32	HOURS	S	..			
		A ₃				

MARINE

		TRAINING	3.00	4.00	5.00	6.00
	AIRPLANES	$\bar{X}$	*			
	HOURS	S				
		A ₃				

		COMBAT	3.00	4.00	5.00	6.00
	AIRPLANES	$\bar{X}$	*			
	HOURS	S				
		A ₃				

 $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A₃ SKEWNESS OF LOAD RATE DISTRIBUTION

* NO DATA IN THIS CATEGORY

** INSUFFICIENT DATA IN THIS CATEGORY

MODEL RA-5C

129 AIRPLANES 129308 HOURS

NAVY

129 AIRPLANES
108443 HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	210.69	14.23	1.00	0.15
S	118.04	28.22	1.95	0.53
A ₃	2.84	8.55	3.26	3.33

94 AIRPLANES
20865 HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	931.07	99.95	13.46	0.66
S	435.85	70.01	18.99	1.29
A ₃	3.15	3.41	6.42	3.66

MARINE

AIRPLANES
HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$				
S				
A ₃				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$				
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 N NO DATA IN THIS CATEGORY
 N INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-5A

143 AIRPLANES 26727 HOURS

NAVY

118 AIRPLANES
16979 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1128.25	357.26	34.81	1.72
S	309.24	116.28	15.44	2.07
A ₃	2.22	1.22	1.02	3.99

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

46 AIRPLANES
9640 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	964.49	260.62	17.72	1.04
S	262.14	136.82	14.89	2.19
A ₃	0.79	2.14	1.75	2.67

3 AIRPLANES
108 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	45.90	22.90	11.45	0.00
S	*			
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-6A

415 AIRPLANES 364971 HOURS

NAVY

383 AIRPLANES
213970 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1325.54	424.20	70.75	6.49
S	449.07	212.26	55.82	8.77
A ₃	0.46	1.63	3.53	7.24

197 AIRPLANES
38646 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1069.84	446.93	108.93	12.84
S	268.88	153.49	56.49	7.63
A ₃	4.30	4.63	3.34	2.06

MARINE

186 AIRPLANES
85914 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	892.50	216.53	29.66	2.63
S	359.07	125.37	25.74	4.17
A ₃	0.79	1.01	2.15	3.40

77 AIRPLANES
26440 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	457.85	149.86	23.43	1.37
S	211.51	110.44	21.43	3.45
A ₃	1.11	2.92	3.29	7.09

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL EA-6H

12 AIRPLANES 1755 HOURS

NAVY

		TRAINING	4.00	5.00	6.00	7.00
2 AIRPLANES 41 HOURS	$\bar{X}$		0.00	0.00	0.00	0.00
	S		**			
	A_3					

		COMBAT	4.00	5.00	6.00	7.00
AIRPLANES HOURS	$\bar{X}$		*			
	S					
	A_3					

MARINE

		TRAINING	4.00	5.00	6.00	7.00
12 AIRPLANES 1714 HOURS	$\bar{X}$		82.35	5.44	0.00	0.00
	S		61.97	4.00	0.00	0.00
	A_3		1.48	0.99	0.03	0.00

		COMBAT	4.00	5.00	6.00	7.00
AIRPLANES HOURS	$\bar{X}$		*			
	S					
	A_3					

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL EA-6A

19 AIRPLANES 15546 HOURS

NAVY

2 41	AIRPLANES HOURS	TRAINING	4.00	5.00	6.00	7.00
		$\bar{X}$	0.00	0.00	0.00	0.00
		S	*			
		A_3				

AIRPLANES HOURS	COMBAT	4.00	5.00	6.00	7.00
	$\bar{X}$	*			
	S				
	A_3				

MARINE

19 15067	AIRPLANES HOURS	TRAINING	4.00	5.00	6.00	7.00
		$\bar{X}$	65.32	4.81	0.22	0.00
		S	55.65	4.75	0.53	0.26
		A_3	1.49	1.24	1.28	4.02

5 438	AIRPLANES HOURS	COMBAT	4.00	5.00	6.00	7.00
		$\bar{X}$	10.86	1.51	0.00	0.00
		S	*			
		A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-6B

11 AIRPLANES 1436 HOURS

NAVY

		TRAINING	4.00	5.00	6.00	7.00
11	AIRPLANES	$\bar{X}$	1084.58	323.82	34.36	7.51
1436	HOURS	S	149.00	65.40	16.42	11.00
		A_3	-0.63	0.60	1.53	2.62

		COMBAT	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$	#				
HOURS	S					
	A_3					

MARINE

		TRAINING	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$	#				
HOURS	S					
	A_3					

		COMBAT	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$	#				
HOURS	S					
	A_3					

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 # NO DATA IN THIS CATEGORY
 ## INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-6B

18 AIRPLANES 10606 HOURS

NAVY

17 AIRPLANES
8685 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	532.39	130.91	20.10	3.08
S	137.54	51.08	15.20	5.12
A ₃	-0.28	0.15	0.75	2.02

10 AIRPLANES
1921 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	301.71	91.54	9.41	1.92
S	xx			
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL EA-6B

35 AIRPLANES 7998 HOURS

NAVY

35 AIRPLANES
7998 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	54.53	5.64	1.04	0.28
S	32.26	5.29	2.49	0.70
A_3	1.33	2.09	5.04	5.34

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	"			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	"			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	"			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

MODEL EA-6B

37 AIRPLANES 15878 HOURS

NAVY

	TRAINING	4.00	5.00	6.00	7.00
37 AIRPLANES	$\bar{X}$	82.82	12.53	1.79	0.06
15878 HOURS	S	60.87	19.80	5.70	0.51
	A ₃	3.87	4.35	4.77	5.75

	COMBAT	4.00	5.00	6.00	7.00
1 AIRPLANES	$\bar{X}$	0.00	0.00	0.00	0.00
7 HOURS	S	..			
	A ₃				

MARINE

	TRAINING	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A ₃				

	COMBAT	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-5C

10 AIRPLANES 1275 HOURS

NAVY

10 AIRPLANES
1275 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	893.63	232.00	17.15	2.11
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 N NO DATA IN THIS CATEGORY
 NN INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-6C

12 AIRPLANES 4163 HOURS

NAVY

		TRAINING	4.00	5.00	6.00	7.00
12	AIRPLANES	$\bar{X}$	597.76	150.80	10.03	0.94
3258	HOURS	S	134.80	45.44	5.85	0.63
		A ₃	0.78	1.28	0.17	-0.05

		COMBAT	4.00	5.00	6.00	7.00
3	AIRPLANES	$\bar{X}$	593.18	316.07	65.16	9.74
304	HOURS	S	22			
		A ₃				

MARINE

		TRAINING	4.00	5.00	6.00	7.00
	AIRPLANES	$\bar{X}$				
	HOURS	S				
		A ₃				

		COMBAT	4.00	5.00	6.00	7.00
	AIRPLANES	$\bar{X}$				
	HOURS	S				
		A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL KA-50

53 AIRPLANES 12160 HOURS

NAVY

53 AIRPLANES
12160 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	27.28	2.75	0.15	0.00
S	35.41	2.77	0.40	0.00
A ₃	5.82	2.80	4.72	0.00

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL KA-6D

61 AIRPLANES 42473 HOURS

NAVY

61 AIRPLANES
33048 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	33.52	4.56	0.60	0.11
S	51.12	6.55	1.21	0.37
A ₃	4.43	4.65	3.86	5.61

32 AIRPLANES
8625 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	21.61	3.62	0.87	0.00
S	16.26	4.17	1.70	0.00
A ₃	1.12	2.40	3.48	0.00

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-6E

73 AIRPLANES 16775 HOURS

NAVY

71 AIRPLANES
16459 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1344.91	424.49	59.03	5.53
S	463.01	172.90	38.24	5.69
A ₃	1.02	1.05	3.15	3.12

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	"			
S				
A ₃				

MARINE

3 AIRPLANES
317 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	734.73	178.02	69.29	0.00
S	6.2			
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	2			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-6E

79 AIRPLANES 25922 HOURS

NAVY

77 AIRPLANES
25605 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1172.07	324.60	43.05	3.75
S	452.68	150.41	33.03	5.01
A ₃	1.22	1.16	2.95	2.86

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

3 AIRPLANES
317 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	734.73	178.02	69.29	0.00
S	*			
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-7A

77 AIRPLANES 17267 HOURS

NAVY

77 AIRPLANES
17173 HOURS

TRAINING	5.00	5.00	7.00	8.00
$\bar{X}$	974.94	242.60	29.04	1.66
S	113.84	109.54	38.54	2.35
A ₃	5.62	2.83	7.13	5.75

2 AIRPLANES
85 HOURS

COMBAT	5.00	5.00	7.00	8.00
$\bar{X}$	1236.92	199.95	0.00	0.00
S	22			
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	5.00	5.00	7.00	8.00
$\bar{X}$				
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	5.00	7.00	8.00
$\bar{X}$				
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-7A

194 AIRPLANES 262544 HOURS

NAVY

194 AIRPLANES
197869 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	1097.57	219.20	23.43	2.25
S	431.42	110.47	21.31	2.84
A ₃	0.26	0.72	2.79	1.96

133 AIRPLANES
64675 HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	765.97	242.17	32.86	2.62
S	157.84	77.57	15.90	2.44
A ₃	0.21	1.61	0.86	1.77

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-7B

82 AIRPLANES 19775 HOURS

NAVY

		TRAINING	5.00	6.00	7.00	8.00
82 AIRPLANES 19775 HOURS	$\bar{X}$		981.54	239.12	20.66	4.20
	S		310.35	122.09	26.05	10.17
	A ₃		1.02	1.98	6.14	5.35

		COMBAT	5.00	6.00	7.00	8.00
AIRPLANES HOURS	$\bar{X}$					
	S					
	A ₃					

MARINE

		TRAINING	5.00	6.00	7.00	8.00
AIRPLANES HOURS	$\bar{X}$					
	S					
	A ₃					

		COMBAT	5.00	6.00	7.00	8.00
AIRPLANES HOURS	$\bar{X}$					
	S					
	A ₃					

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-7B

107 AIRPLANES 62295 HOURS

NAVY

106 AIRPLANES
62903 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	1037.13	281.29	32.25	4.55
S	383.68	154.25	41.95	12.29
A ₃	1.36	1.39	4.16	4.71

28 AIRPLANES
9392 HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	1321.19	428.20	66.77	4.01
S	346.73	118.41	33.00	4.54
A ₃	-0.00	0.86	3.00	3.59

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-7C

30 AIRPLANES 12471 HOURS

NAVY

30 AIRPLANES
12471 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	304.60	144.65	16.57	3.78
S	304.12	75.56	16.42	7.09
A ₃	1.47	3.20	2.71	2.87

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-7C

36 AIRPLANES 27714 HOURS

NAVY

35 AIRPLANES
20127 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	822.95	137.50	13.52	2.83
S	244.82	69.24	14.62	5.47
A ₃	0.76	2.86	3.18	2.97

22 AIRPLANES
7587 HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	660.69	151.23	17.98	2.11
S	175.62	43.50	18.49	12.62
A ₃	1.49	0.70	3.53	4.31

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 MN INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL A-7E

152 AIRPLANES 38071 HOURS

NAVY

152 AIRPLANES
38071 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	714.33	89.39	5.38	1.13
S	378.14	38.76	5.72	2.76
A ₃	7.07	1.75	4.60	9.45

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL A-7E

182 AIRPLANES 85495 HOURS

NAVY

182 AIRPLANES
77671 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	783.08	98.52	5.25	0.69
S	351.71	45.98	5.37	2.14
A ₃	4.02	1.36	3.34	8.43

34 AIRPLANES
7824 HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	315.36	62.65	4.36	0.67
S	61.50	20.35	2.97	1.09
A ₃	0.00	0.23	1.54	4.20

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL C-2A

7 AIRPLANES 2483 HOURS

NAVY

		TRAINING	2.00	2.50	3.00	3.50
7 AIRPLANES 2483 HOURS	$\bar{X}$		4.91	1.11	0.48	0.00
	S					
	A_3					

		COMBAT	2.00	2.50	3.00	3.50
AIRPLANES HOURS	$\bar{X}$					
	S					
	A_3					

MARINE

		TRAINING	2.00	2.50	3.00	3.50
AIRPLANES HOURS	$\bar{X}$					
	S					
	A_3					

		COMBAT	2.00	2.50	3.00	3.50
AIRPLANES HOURS	$\bar{X}$					
	S					
	A_3					

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL C-2A

15 AIRPLANES 42893 HOURS

NAVY

15 AIRPLANES
42893 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	53.59	16.12	6.83	1.66
S	61.84	27.33	13.09	3.94
A ₃	2.09	2.13	2.03	1.78

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-4B

124 AIRPLANES 18117 HOURS

NAVY

86 AIRPLANES
9885 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	2333.64	895.95	290.20	69.95
S	614.17	294.93	137.37	39.27
A_3	0.83	1.36	1.97	2.53

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	"			
S				
A_3				

MARINE

45 AIRPLANES
8031 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	4753.39	1802.38	468.65	104.48
S	1089.92	491.59	144.70	49.12
A_3	0.77	0.49	1.06	2.90

4 AIRPLANES
198 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	1327.20	528.46	143.22	55.07
S	"			
A_3				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-4B

611 AIRPLANES 854458 HOURS

NAVY

573 AIRPLANES
439683 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1578.45	645.13	180.93	43.36
S	1098.02	497.40	205.89	74.52
A ₃	2.06	2.42	3.73	5.87

291 AIRPLANES
108495 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	1137.73	495.31	129.20	31.32
S	372.90	132.70	67.31	31.02
A ₃	2.08	1.94	4.10	8.73

MARINE

334 AIRPLANES
139645 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	2289.66	740.20	181.58	49.16
S	1188.58	517.98	191.77	60.67
A ₃	1.27	1.69	2.19	3.46

226 AIRPLANES
106735 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	2221.18	864.33	225.90	47.53
S	695.10	341.03	155.68	51.23
A ₃	1.47	1.22	2.23	4.40

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL RF-4B

25 AIRPLANES 4174 HOURS

NAVY

TRAINING		4.00	5.00	6.00	7.00
AIRPLANES HOURS	$\bar{X}$				
	S				
	A ₃				

COMBAT		4.00	5.00	6.00	7.00
AIRPLANES HOURS	$\bar{X}$				
	S				
	A ₃				

MARINE

TRAINING		4.00	5.00	6.00	7.00
25 AIRPLANES 4174 HOURS	$\bar{X}$	644.30	225.92	100.85	55.42
	S	486.75	236.59	134.61	82.08
	A ₃	3.84	3.98	4.01	4.02

COMBAT		4.00	5.00	6.00	7.00
AIRPLANES HOURS	$\bar{X}$				
	S				
	A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL RF-4B

46 AIRPLANES 57009 HOURS

NAVY

TRAINING		4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$	*			
	S				
	A ₃				

COMBAT		4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$	*			
	S				
	A ₃				

MARINE

TRAINING		4.00	5.00	6.00	7.00
46 AIRPLANES	$\bar{X}$	378.29	94.87	22.39	6.54
	S	287.45	111.12	45.88	25.84
	A ₃	1.56	2.90	4.36	5.56

COMBAT		4.00	5.00	6.00	7.00
16 AIRPLANES	$\bar{X}$	1087.24	210.75	41.81	8.94
	S	405.94	78.46	26.06	5.37
	A ₃	1.58	1.80	2.15	1.10

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-4J

306 AIRPLANES 67804 HOURS

NAVY

233 AIRPLANES
51917 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1913.22	715.25	191.84	38.03
S	1245.40	501.34	157.12	44.27
A_3	-0.16	0.30	1.31	3.05

3 AIRPLANES
131 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	2553.96	1016.13	140.92	17.67
S	1.2			
A_3				

MARINE

84 AIRPLANES
14980 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	3782.95	1311.03	339.86	73.34
S	766.78	348.04	147.04	48.67
A_3	0.35	1.03	1.76	2.57

11 AIRPLANES
725 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	2673.33	379.06	315.24	74.34
S	320.93	112.01	86.21	29.25
A_3	0.90	0.70	1.40	1.38

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-4J

463 AIRPLANES 437687 HOURS

NAVY

430 AIRPLANES
253457 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	3143.41	1187.19	367.39	99.83
S	1702.81	815.29	327.51	104.55
A ₃	0.89	1.24	2.04	2.89

177 AIRPLANES
53694 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	1118.00	458.21	137.81	34.71
S	341.12	157.31	64.39	36.91
A ₃	1.82	2.85	2.67	4.36

MARINE

180 AIRPLANES
120650 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	4710.91	1806.56	581.89	164.61
S	1545.56	651.60	296.39	116.16
A ₃	1.07	1.09	1.08	1.55

49 AIRPLANES
9865 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	2809.31	1311.54	411.29	76.18
S	620.70	264.53	170.95	47.61
A ₃	2.54	2.24	1.87	1.61

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-4N

55 AIRPLANES 9934 HOURS

NAVY

		TRAINING	4.00	5.00	6.00	7.00
43	AIRPLANES	$\bar{X}$	2368.64	1160.26	448.69	110.46
5371	HOURS	S	514.14	233.60	134.26	41.08
		A ₃	1.37	0.84	1.63	1.39

		COMBAT	4.00	5.00	6.00	7.00
5	AIRPLANES	$\bar{X}$	1332.01	736.32	253.34	71.02
112	HOURS	S	62			
		A ₃				

MARINE

		TRAINING	4.00	5.00	6.00	7.00
18	AIRPLANES	$\bar{X}$	4602.03	2017.09	660.04	118.82
4451	HOURS	S	1131.85	653.08	253.42	63.95
		A ₃	0.67	1.34	0.98	1.37

		COMBAT	4.00	5.00	6.00	7.00
	AIRPLANES	$\bar{X}$	*			
	HOURS	S				
		A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-4N

56 AIRPLANES 10583 HOURS

NAVY

44 AIRPLANES
6020 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	2713.31	1389.53	584.26	141.15
S	476.89	262.92	166.95	56.66
A ₃	1.06	0.94	1.39	2.25

5 AIRPLANES
112 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	1332.01	736.32	259.34	71.02
S	51			
A ₃				

MARINE

18 AIRPLANES
4451 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	4602.03	2017.09	660.04	118.82
S	1181.85	658.08	258.42	63.95
A ₃	0.67	1.34	0.98	1.37

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 N NO DATA IN THIS CATEGORY
 N* INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL RF-8G

14 AIRPLANES 2853 HOURS

NAVY

14 AIRPLANES
2853 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	210.71	41.24	11.97	0.65
S	138.96	27.83	12.63	0.78
A ₃	1.59	1.41	2.35	1.65

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	"			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	"			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	"			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL RF-8G

35 AIRPLANES 28576 HOURS

NAVY

35 AIRPLANES
27384 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	441.90	128.65	30.52	4.28
S	219.91	74.21	26.41	7.73
A_3	0.24	0.54	1.54	4.70

11 AIRPLANES
1192 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	1481.32	391.60	63.37	8.37
S	387.16	90.25	26.29	5.38
A_3	1.13	1.89	1.75	1.30

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-8A

47 AIRPLANES 9071 HOURS

NAVY

		TRAINING	4.00	5.00	6.00	7.00
47	AIRPLANES	$\bar{X}$	2133.73	623.28	109.71	9.63
9071	HOURS	S	505.03	213.20	50.02	7.31
		A ₃	1.93	2.50	3.10	3.42

		COMBAT	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$					
HOURS	S					
	A ₃					

MARINE

		TRAINING	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$					
HOURS	S					
	A ₃					

		COMBAT	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$					
HOURS	S					
	A ₃					

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 N NO DATA IN THIS CATEGORY
 NN INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-8H

85 AIRPLANES 75748 HOURS

NAVY

86 AIRPLANES
62528 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1630.21	538.04	96.98	12.33
S	556.21	195.62	44.90	8.63
A ₃	0.43	0.95	1.01	1.73

45 AIRPLANES
13220 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	711.67	197.56	41.43	6.17
S	254.48	82.47	19.81	4.43
A ₃	2.35	2.77	2.28	1.32

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-8J

72 AIRPLANES 13082 HOURS

NAVY

72 AIRPLANES
12937 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	2239.14	709.30	123.28	17.49
S	716.52	343.11	89.70	43.05
A ₃	1.03	1.37	2.92	7.73

5 AIRPLANES
145 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	594.97	39.01	0.00	0.00
S	..			
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	.			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	.			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 . NO DATA IN THIS CATEGORY
 .. INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8J

134 AIRPLANES 114049 HOURS

NAVY

134 AIRPLANES
86942 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	2144.85	664.55	124.81	15.22
S	714.97	278.02	64.10	19.17
A ₃	0.76	0.69	1.16	7.42

93 AIRPLANES
27107 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	769.22	258.05	55.14	9.34
S	318.19	138.03	35.51	3.12
A ₃	2.48	2.94	2.90	3.75

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-8K

35 AIRPLANES 5071 HOURS

NAVY

35 AIRPLANES
4990 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	2299.70	730.46	166.75	19.12
S	366.87	128.28	42.43	9.06
A ₃	0.81	1.04	1.34	3.69

1 AIRPLANES
80 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	0.00	0.00	0.00	0.00
S	0.00			
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$				
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-8K

74 AIRPLANES 38812 HOURS

NAVY

74 AIRPLANES
38700 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1670.00	518.91	110.86	13.27
S	775.33	257.58	61.90	8.86
A_3	1.03	2.38	3.74	1.75

3 AIRPLANES
113 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	4194.50	1576.02	208.63	24.86
S	*			
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-8L

0 AIRPLANES 0 HOURS

NAVY

	TRAINING	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$				
HOURS	S				
	A ₃				

	COMBAT	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$				
HOURS	S				
	A ₃				

MARINE

	TRAINING	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$				
HOURS	S				
	A ₃				

	COMBAT	4.00	5.00	6.00	7.00
AIRPLANES	$\bar{X}$				
HOURS	S				
	A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-8L

36 AIRPLANES 9856 HOURS

NAVY

36 AIRPLANES
9856 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1711.41	498.06	122.95	19.19
S	427.64	204.07	66.52	13.14
A_3	0.81	0.84	1.31	1.17

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL DF-8L

5 AIRPLANES 508 HOURS

NAVY

5 AIRPLANES
508 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	452.19	107.08	11.33	0.00
S	*			
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL DF-8L

5 AIRPLANES 1099 HOURS

NAVY

5 AIRPLANES
1099 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	748.29	195.67	28.06	2.43
S	**			
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL P-3A

77 AIRPLANES 37836 HOURS

NAVY

		TRAINING	2.00	2.50	3.00	3.50
77	AIRPLANES	$\bar{X}$	11.31	0.17	0.01	0.01
37778	HOURS	S	44.35	1.34	0.16	0.16
		A_3	0.04	7.93	8.59	8.59

		COMBAT	2.00	2.50	3.00	3.50
1	AIRPLANES	$\bar{X}$	0.00	0.00	0.00	0.00
55	HOURS	S	0.00			
		A_3				

MARINE

		TRAINING	2.00	2.50	3.00	3.50
	AIRPLANES	$\bar{X}$	*			
	HOURS	S				
		A_3				

		COMBAT	2.00	2.50	3.00	3.50
	AIRPLANES	$\bar{X}$	*			
	HOURS	S				
		A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-3A

151 AIRPLANES 794821 HOURS

NAVY

150 AIRPLANES
703820 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	18.59	1.69	0.21	0.03
S	44.46	4.73	1.55	0.28
A ₃	4.53	6.10	9.38	6.06

101 AIRPLANES
91001 HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	12.38	1.10	0.09	0.01
S	14.94	2.36	0.41	0.11
A ₃	2.85	2.44	4.00	9.85

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL P-3B

105 AIRPLANES 69859 HOURS

NAVY

105 AIRPLANES
69859 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	2.46	0.14	0.02	0.01
S	3.47	0.42	0.17	0.12
A ₃	3.75	3.31	7.08	10.09

7 AIRPLANES
1057 HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	0.20	0.00	0.00	0.00
S	..			
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	..			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	..			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 .. NO DATA IN THIS CATEGORY
 .. INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-35

124 AIRPLANES 614882 HOURS

NAVT

124 AIRPLANES
527861 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	10.34	0.92	0.11	0.04
S	24.74	2.23	0.42	0.26
A_3	2.25	2.08	1.99	4.68

78 AIRPLANES
36929 HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	4.91	0.44	0.03	0.01
S	5.92	0.92	0.15	0.11
A_3	0.65	2.77	5.63	8.37

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL F-30

73 AIRPLANES 43063 HOURS

NAVY

73 AIRPLANES
43063 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	3.56	0.75	0.22	0.02
S	5.19	1.87	0.73	0.22
A ₃	3.51	5.19	4.45	5.06

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	"			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	"			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	"			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 "N INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL F-30

75 AIRPLANES 99553 HOURS

NAVY

75 AIRPLANES
99328 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	3.77	0.66	0.11	0.03
S	7.69	2.51	0.66	0.26
A ₃	3.27	4.55	3.35	4.91

2 AIRPLANES
335 HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL ES-20

5 AIRPLANES 1393 HOURS

NAVY

5 AIRPLANES
1393 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	9.70	1.87	0.00	0.00
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$				
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$				
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$				
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL ES-20

5 AIRPLANES 5657 HOURS

NAVY

6 AIRPLANES
5657 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	1.99	1.49	0.37	0.00
S	1.2			
A_3				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	1.2			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	1.2			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	1.2			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL S-2E

83 AIRPLANES 25869 HOURS

NAVY

TRAINING		2.00	2.50	3.00	3.50
83 AIRPLANES	$\bar{X}$	66.30	13.39	0.74	0.06
25869 HOURS	S	134.06	60.80	1.36	0.28
	A_3	4.20	8.57	4.83	6.16

COMBAT		2.00	2.50	3.00	3.50
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

MARINE

TRAINING		2.00	2.50	3.00	3.50
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

COMBAT		2.00	2.50	3.00	3.50
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL S-2E

229 AIRPLANES 579088 HOURS

NAVY

229 AIRPLANES
550207 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	70.97	12.22	2.94	1.03
S	258.04	29.86	7.11	3.47
A_3	5.42	4.29	2.39	2.64

65 AIRPLANES
28881 HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	40.67	7.47	1.14	0.42
S	67.96	7.95	1.70	1.33
A_3	5.07	2.05	2.66	5.90

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL S-2G

47 AIRPLANES 16598 HOURS

NAVY

TRAINING		2.00	2.50	3.00	3.50
47 AIRPLANES	$\bar{X}$	68.96	13.34	4.23	1.28
16598 HOURS	S	113.78	16.67	7.96	3.37
	A_3	5.30	2.93	4.24	1.69

COMBAT		2.00	2.50	3.00	3.50
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

MARINE

TRAINING		2.00	2.50	3.00	3.50
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

COMBAT		2.00	2.50	3.00	3.50
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL S-2G

48 AIRPLANES 36877 HOURS

NAVY

48 AIRPLANES
36877 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	56.00	10.52	3.27	1.49
S	99.32	16.92	7.30	3.95
A ₃	4.60	2.31	2.99	3.02

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL S-3A

15 AIRPLANES 1427 HOURS

NAVY

16 AIRPLANES
1427 HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	711.17	304.97	68.59	16.51
S	381.92	167.71	50.81	19.09
A ₃	0.77	0.96	2.46	2.30

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.00	2.50	3.00	3.50
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL S-3A

18 AIRPLANES 2651 HOURS

NAVY

18 AIRPLANES
2651 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	627.63	228.77	68.51	24.15
S	352.77	146.53	46.16	18.93
A ₃	0.36	0.88	1.52	1.33

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	"			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	"			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	"			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL 1-26

65 AIRPLANES 22039 HOURS

NAVY

65 AIRPLANES
22039 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	59.41	14.26	1.85	0.56
S	54.67	13.24	1.55	0.78
A ₃	2.03	3.37	1.43	2.35

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL T-2B

89 AIRPLANES 145331 HOURS

NAVY

89 AIRPLANES
145331 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	226.22	25.39	2.62	0.39
S	247.81	39.85	4.20	0.82
A ₃	3.07	3.70	3.39	1.57

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$				
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$				
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$				
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 N NO DATA IN THIS CATEGORY
 NN INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL T-20

29 AIRPLANES 8278 HOURS

NAVY

29 AIRPLANES
8278 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	90.24	10.50	3.30	0.25
S	52.34	7.82	5.00	0.59
A ₃	1.95	2.46	3.81	2.62

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL T-2C

31 AIRPLANES 12807 HOURS

NAVY

31 AIRPLANES
12807 HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	72.92	9.54	3.21	0.62
S	61.66	8.39	5.50	1.09
A_3	2.46	2.53	4.04	3.43

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A_3				

AIRPLANES
HOURS

COMBAT	5.00	6.00	7.00	8.00
$\bar{X}$	"			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL T-28B

41 AIRPLANES 16993 HOURS

NAVY

41 AIRPLANES
16993 HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	289.33	31.62	8.28	7.14
S	151.86	43.09	35.95	35.71
A ₃	0.55	3.59	5.31	5.26

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

MODEL 1-28B

102 AIRPLANES 423497 HOURS

NAVY

102 AIRPLANES
423497 HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	333.57	44.95	5.21	0.33
S	628.08	112.84	23.16	7.12
A_3	1.00	2.36	4.39	8.22

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A_3				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL T-28C

28 AIRPLANES 9586 HOURS

NAVY

28 AIRPLANES
9586 HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	612.66	50.13	3.40	0.83
S	289.58	34.98	7.83	1.72
A ₃	0.38	1.03	4.43	3.71

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL T-28C

44 AIRPLANES 166222 HOURS

NAVY

44 AIRPLANES
166222 HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	1058.05	135.72	7.77	0.44
S	1194.04	193.19	11.74	1.04
A_3	-0.07	0.42	1.24	1.45

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A_3				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

DATA FROM
07-73 TO 06-74

MODEL T-34B

33 AIRPLANES 16779 HOURS

NAVY

		TRAINING	3.00	4.00	5.00	6.00
33 AIRPLANES 16779 HOURS	$\bar{X}$		215.11	28.57	3.30	0.07
	S		320.32	43.09	3.93	0.24
	A_3		1.48	2.01	1.57	3.06

		COMBAT	3.00	4.00	5.00	6.00
AIRPLANES HOURS	$\bar{X}$		*			
	S					
	A_3					

MARINE

		TRAINING	3.00	4.00	5.00	6.00
AIRPLANES HOURS	$\bar{X}$		*			
	S					
	A_3					

		COMBAT	3.00	4.00	5.00	6.00
AIRPLANES HOURS	$\bar{X}$		*			
	S					
	A_3					

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

ALL DATA
01-62 TO 06-74

MODEL 1-34B

75 AIRPLANES 169265 HOURS

NAVY

75 AIRPLANES
169265 HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	1635.79	246.31	23.38	1.31
S	1426.02	243.42	24.63	4.79
A_3	-0.12	0.24	0.77	7.09

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A_3				

MARINE

AIRPLANES
HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A_3				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	"			
S				
A_3				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A_3 SKEWNESS OF LOAD RATE DISTRIBUTION
 " NO DATA IN THIS CATEGORY
 " INSUFFICIENT DATA IN THIS CATEGORY

APPENDIX A

**OUT-OF-SERVICE MODELS AND MODELS WHICH HAVE NOT REPORTED COUNTING
ACCELEROMETER DATA DURING THE PREVIOUS 12 MONTHS**

MODEL F-11A

12 AIRPLANES 3744 HOURS

NAVY

BLUE ANGELS

12 AIRPLANES
3744 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	5414.80	1826.99	520.71	199.94
S	2263.49	740.91	209.44	86.14
A ₃	-0.39	-0.65	-0.79	-0.37

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-11A

11 AIRPLANES 4400 HOURS

NAVY

BLUE ANGELS

11 AIRPLANES
4400 HOURS

TRAINING	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	740.74	192.71	12.43	3.89
S	217.97	62.76	7.33	7.05
A ₃	0.19	0.26	0.95	2.32

AIRPLANES
HOURS

COMBAT	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	6.0G	7.0G	8.5G	10.0G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL AF-1E

21 AIRPLANES 4527 HOURS

NAVY

21 AIRPLANES
4527 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	563.04	125.53	22.27	3.60
S	200.25	52.92	16.14	4.72
A ₃	0.29	0.61	1.63	2.00

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-1H

28 AIRPLANES 7290 HOURS

NAVY

22 AIRPLANES
374 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	263.05	94.29	6.31	0.00
S	42.25	16.64	2.73	0.00
A ₃	1.13	0.69	2.05	0.00

28 AIRPLANES
6916 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	322.42	89.29	14.84	0.00
S	77.52	27.19	6.46	0.00
A ₃	1.14	1.22	1.07	0.00

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-1J

4 AIRPLANES 917 HOURS

NAVY

1 AIRPLANES
32 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	0.00	0.00	0.00	0.00
S	**			
A ₃				

4 AIRPLANES
885 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	306.82	125.89	17.28	0.00
S	**			
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-3B

80 AIRPLANES 69204 HOURS

NAVY

90 AIRPLANES
60301 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	649.10	175.95	55.56	12.41
S	417.74	111.94	45.03	24.05
A ₃	1.40	1.19	1.99	6.35

24 AIRPLANES
9903 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	623.15	187.91	76.93	37.43
S	244.96	120.08	77.16	46.34
A ₃	0.61	1.43	2.55	2.96

MARINE

AIRPLANES
HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	x			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	x			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 x NO DATA IN THIS CATEGORY
 xx INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-4B

58 AIRPLANES 23177 HOURS

NAVY

55 AIRPLANES
20376 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	681.15	238.03	49.97	7.87
S	358.28	164.65	46.69	9.80
A ₃	0.67	1.04	2.09	2.14

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	x			
S				
A ₃				

MARINE

8 AIRPLANES
2800 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	268.45	64.34	10.94	0.99
S	**			
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	x			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 x NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL TA-4B

21 AIRPLANES 8198 HOURS

NAVY

21 AIRPLANES
8198 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	394.01	143.16	41.39	7.29
S	416.24	192.90	54.39	12.96
A ₃	1.32	1.56	1.97	2.53

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-5A

30 AIRPLANES 11790 HOURS

NAVY

30 AIRPLANES
11790 HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	579.58	128.26	9.04	0.89
S	487.22	42.19	4.68	1.00
A ₃	4.57	0.57	0.75	1.63

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL A-5B

5 AIRPLANES 985 HOURS

NAVY

5 AIRPLANES
985 HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	125.50	13.83	1.01	0.00
S	**			
A ₃				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	3.00	4.00	5.00	6.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL KC-130F

12 AIRPLANES 17648 HOURS

NAVY

	TRAINING	2.0G	2.5G	3.0G	3.5G
AIRPLANES	$\bar{X}$				
HOURS	S				
	A ₃				

	COMBAT	2.0G	2.5G	3.0G	3.5G
AIRPLANES	$\bar{X}$				
HOURS	S				
	A ₃				

MARINE

	TRAINING	2.0G	2.5G	3.0G	3.5G
12 AIRPLANES	$\bar{X}$	6.76	0.42	0.08	0.00
17648 HOURS	S	5.79	0.51	0.22	0.00
	A ₃	-0.38	0.30	1.82	0.00

	COMBAT	2.0G	2.5G	3.0G	3.5G
AIRPLANES	$\bar{X}$				
HOURS	S				
	A ₃				

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-4A

27 AIRPLANES 17193 HOURS

NAVY

27 AIRPLANES
17193 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	794.95	261.01	66.29	11.89
S	275.55	127.26	42.65	8.70
A ₃	0.09	0.33	0.71	1.19

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL TF-4A

4 AIRPLANES 433 HOURS

NAVY

4 AIRPLANES
433 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	135.48	23.72	3.32	0.00
S	XX			
A ₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	X			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	X			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	X			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 X NO DATA IN THIS CATEGORY
 XX INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-4G

AIRPLANES 1668 HOURS

NAVY

12 AIRPLANES
7848 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1026.48	290.88	80.22	17.65
S	146.46	78.80	33.48	11.25
A ₃	-0.36	-0.07	0.03	0.30

10 AIRPLANES
2448 HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1579.58	589.78	138.67	27.35
S	243.27	132.59	53.36	13.34
A ₃	0.80	1.14	1.24	0.97

MARINE

AIRPLANES
HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-6A

46 AIRPLANES 17986 HOURS

NAVY

29 AIRPLANES
12399 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	190.91	25.88	1.99	0.20
S	143.14	29.94	2.18	0.75
A ₃	2.41	2.60	1.96	2.92

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

26 AIRPLANES
5587 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	147.15	17.74	0.53	0.00
S	32.97	7.42	0.68	0.00
A ₃	1.24	0.80	2.11	0.00

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8A

48 AIRPLANES 33043 HOURS

NAVY

48 AIRPLANES
33043 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	078.04	171.70	32.28	5.44
S	330.20	100.28	22.83	4.33
A ₃	0.32	0.50	0.75	1.33

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL RF-8H

28 AIRPLANES 20290 HOURS

NAVY

23 AIRPLANES
15203 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	317.32	80.22	13.37	2.55
S	120.58	36.11	7.56	1.88
A ₃	0.56	0.52	0.61	1.90

4 AIRPLANES
355 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	221.00	34.00	5.73	5.73
S	XX			
A ₃				

MARINE

10 AIRPLANES
4726 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	151.04	28.24	4.41	0.56
S	XX			
A ₃				

1 AIRPLANES
6 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	0.00	0.00	0.00	0.00
S	XX			
A ₃				

 $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS

S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS

A₃ SKEWNESS OF LOAD RATE DISTRIBUTION

X NO DATA IN THIS CATEGORY

XX INSUFFICIENT DATA IN THIS CATEGORY

MODEL TF-8A

30 AIRPLANES 4924 HOURS

NAVY

30 AIRPLANES
4924 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	1274.72	393.67	82.63	14.88
S	354.70	139.02	33.41	6.09
A ₃	0.88	2.10	2.48	0.98

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8B

53 AIRPLANES 40015 HOURS

NAVY

46 AIRPLANES
29272 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	813.00	203.88	34.52	3.66
S	316.12	100.90	23.43	3.94
A ₃	0.99	1.13	1.73	2.98

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

MARINE

36 AIRPLANES
10743 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	778.09	148.63	19.24	2.49
S	188.70	53.00	9.18	2.34
A ₃	1.26	1.68	1.46	2.06

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8C

87 AIRPLANES 76054 HOURS

NAVY

78 AIRPLANES
53012 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	875.42	217.67	38.78	4.89
S	534.39	184.74	37.06	6.76
A ₃	1.20	1.14	1.60	2.57

11 AIRPLANES
1689 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	848.92	194.84	49.77	6.46
S	575.01	119.04	27.36	6.78
A ₃	0.22	0.30	0.17	1.45

MARINE

37 AIRPLANES
20851 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1217.83	346.89	67.32	10.17
S	370.14	107.60	22.36	4.73
A ₃	1.83	1.60	1.66	0.05

11 AIRPLANES
502 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	748.69	333.97	61.52	9.71
S	150.27	64.69	13.85	2.68
A ₃	0.24	0.03	0.32	0.47

$\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-80

101 AIRPLANES 70988 HOURS

NAVY

		TRAINING	4.00	5.00	6.00	7.00
93	AIRPLANES	$\bar{X}$	1176.54	326.40	69.29	11.47
49588	HOURS	S	490.92	154.19	37.61	7.70
		A ₃	0.55	0.48	0.72	1.25

		COMBAT	4.00	5.00	6.00	7.00
15	AIRPLANES	$\bar{X}$	1390.67	394.15	107.24	22.87
1060	HOURS	S	468.87	79.59	21.81	6.93
		A ₃	2.59	0.29	0.19	0.71

MARINE

		TRAINING	4.00	5.00	6.00	7.00
46	AIRPLANES	$\bar{X}$	826.64	216.72	45.39	8.03
19563	HOURS	S	398.11	119.51	30.75	5.85
		A ₃	0.83	0.90	1.13	1.50

		COMBAT	4.00	5.00	6.00	7.00
11	AIRPLANES	$\bar{X}$	546.18	89.42	9.42	4.32
758	HOURS	S	71.24	22.70	6.19	6.09
		A ₃	0.78	0.56	1.95	2.38

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 N NO DATA IN THIS CATEGORY
 N# INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-8E

248 AIRPLANES 198601 HOURS

NAVY

248 AIRPLANES
125946 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1994.36	610.43	131.38	19.56
S	717.23	205.58	53.99	11.45
A ₃	1.87	1.50	1.62	2.23

103 AIRPLANES
27936 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	1074.97	372.62	92.68	17.22
S	193.19	101.22	41.20	15.20
A ₃	0.06	0.37	3.20	5.50

MARINE

88 AIRPLANES
26217 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	1551.79	453.60	92.16	15.17
S	451.22	138.34	35.57	9.01
A ₃	0.48	0.04	0.50	1.61

52 AIRPLANES
18501 HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	1334.99	460.44	118.91	19.35
S	373.38	123.04	28.68	8.02
A ₃	3.39	0.45	0.60	1.56

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL DF-8F

13 AIRPLANES 9599 HOURS

NAVY

13 AIRPLANES
9599 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	405.48	91.31	11.23	0.82
S	271.17	85.23	15.41	1.65
A ₃	0.49	0.76	1.93	1.35

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL EF-10B

16 AIRPLANES 9853 HOURS

NAVY

	TRAINING	3.00	4.00	5.00	6.00
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A ₃				

	COMBAT	3.00	4.00	5.00	6.00
AIRPLANES	$\bar{X}$	*			
HOURS	S				
	A ₃				

MARINE

	TRAINING	3.00	4.00	5.00	6.00
14 AIRPLANES	$\bar{X}$	16.24	0.00	0.00	0.00
7526 HOURS	S	10.06	0.00	0.00	0.00
	A ₃	-0.59	0.00	0.00	0.00

	COMBAT	3.00	4.00	5.00	6.00
10 AIRPLANES	$\bar{X}$	45.06	2.22	0.00	0.00
2327 HOURS	S	**			
	A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL F-11A

36 AIRPLANES 22538 HOURS

NAVY

36 AIRPLANES
22538 HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	2796.39	593.37	80.02	10.30
S	316.87	259.16	60.36	10.36
A ₃	1.30	1.37	3.46	3.50

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.00	5.00	6.00	7.00
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL S-2D

67 AIRPLANES 59015 HOURS

NAVY

67 AIRPLANES
59445 HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	33.25	7.71	1.77	0.74
S	34.30	9.23	5.36	4.85
A ₃	1.72	1.98	6.51	7.25

8 AIRPLANES
570 HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	25.35	2.10	0.00	0.00
S	**			
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	2.0G	2.5G	3.0G	3.5G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

MODEL T-2A

147 AIRPLANES 584869 HOURS

NAVY

147 AIRPLANES
584869 HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	591.14	44.72	4.84	0.99
S	446.55	58.91	6.48	2.09
A ₃	0.74	1.99	1.83	2.81

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

MARINE

AIRPLANES
HOURS

TRAINING	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

AIRPLANES
HOURS

COMBAT	4.0G	5.0G	6.0G	7.0G
$\bar{X}$	*			
S				
A ₃				

- $\bar{X}$ MEAN CUMULATIVE COUNTS PER 1000 HOURS
 S STANDARD DEVIATION OF CUMULATIVE COUNTS PER 1000 HOURS
 A₃ SKEWNESS OF LOAD RATE DISTRIBUTION
 * NO DATA IN THIS CATEGORY
 ** INSUFFICIENT DATA IN THIS CATEGORY

APPENDIX B
THE DETERMINATION OF SAMPLE STATISTICS
FOR COUNTING ACCELEROMETER DATA

APPENDIX B

Subj: The Determination of Sample Statistics for Counting Accelerometer Data

Ref: (a) Browlee, K.A., "Statistical Theory and Methodology in Science and Engineering," Wiley 1965, pp. 358-359
 (b) Dixon & Massey, Introduction to Statistical Analysis, McGraw-Hill, Second Edition, 1957, pp. 194-195

1. The purpose of this appendix is to describe the methods used at NAVAIRDEVGEN in calculating statistics describing counting accelerometer data. The subsequent outlined sequence is repeated for each aircraft model, for each mission category, and for each g-level where there is sufficient data.

2. These are the methods used for determining sample statistics. Consider a scatter diagram of cumulative counts (at any g-level) vs. flight hours,

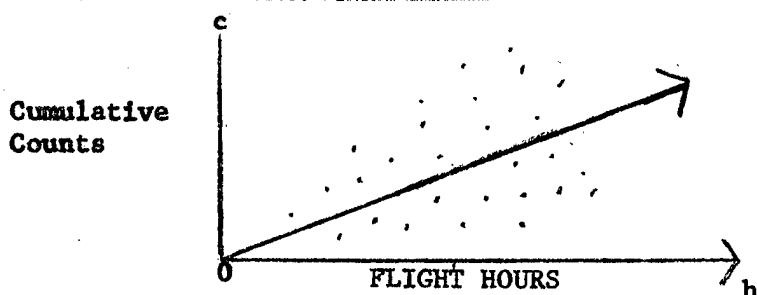


Figure 1

where each dot represents the cumulative counts and flight hours accrued by an individual serial number which is flying or has flown.

Let h_i be the total quality control accepted flight hours for the i^{th} plane ($i=1, 2, \dots, N$)

Let c_i be the cumulative counts during the h_i hours for the i^{th} plane ($i=1, 2, \dots, N$)

N is the total number of aircraft of this model and mission category for which there is recorded information.

Then

$$(1) \quad b = \frac{\sum_{i=1}^N c_i h_i}{\sum_{i=1}^N h_i^2} \quad \text{where } b \text{ is slope of line (Figure 1) through origin fitted by least squares}$$

$$(2) \quad \bar{x} = 1000b \quad \text{estimated mean load exceedances at 1000 hours}$$

$$(3) \quad \bar{h} = \frac{\sum_{i=1}^N h_i}{N} \quad \text{average flight hours}$$

$$(4) \quad \hat{\sigma}_{ch}^2 = \frac{\sum_{i=1}^N (c_i - b h_i)^2}{N-1} \quad \text{estimator of the population standard error squared of the regression}$$

$$\hat{\sigma}_{ch} = \sqrt{\hat{\sigma}_{ch}^2} \quad \text{estimator of the population standard error of the regression}$$

$$(5) \quad S = \sqrt{1000 \hat{\sigma}_{ch}^2 / h} \quad \text{estimated standard deviation (counts at 1000 hours) of the load exceedances for each g-level}$$

$$(6) \quad A_3 = \frac{\sum_{i=1}^N (c_i - b h_i)^3}{N \hat{\sigma}_{ch}^3} \quad \text{estimated skewness}$$

3. The following is the explanation and justification for these methods:

Aircraft which do not have any flight hours must have zero counts; therefore, the line in figure 2 must go through (0,0). Brownlee (reference (a)) describes the methods for fitting a least squares line through the origin (0,0). The slope of this line is the estimated mean exceedance rate (per hour). Multiplying this rate by 1000 will result in exceedances at 1000 hours (equation (2)). Multiplying b by any other h number of hours will result in mean exceedances at h hours.

If the data in figure 1 were separated into flight hour intervals (see figure 2) and the standard error in each interval were plotted against average flight hours (see figure 3) in that interval, the resultant curve is assumed to have the square root functional form.* Due to limitations in sample size, these individual $\hat{\sigma}$'s could not be determined accurately; thus, it was necessary to calculate a single $\hat{\sigma}_{ch}$ for all h combined and apply it at $\bar{h}$.** Equation (5) uses figure 3 to convert $\hat{\sigma}_{ch}$ at $\bar{h}$ to S at 1000 hours.

* This is partially justified by the fact that the variance of a sum of independent random variables is equal to the sum of the independent variances. Unreported statistical tests performed at NAVAIRDEVCON show that figure 3 is a reasonable fit to actual data. It should be noted that the $\hat{\sigma}$'s in figure 2 are estimated by equation (4), but each $\hat{\sigma}$ was calculated using the data points in the respective interval.

**The estimated standard error $\hat{\sigma}_{ch}$ is used as the standard error of estimate for a hypothetical distribution of planes all having $\bar{h}$ hours. This follows from work in reference (b).

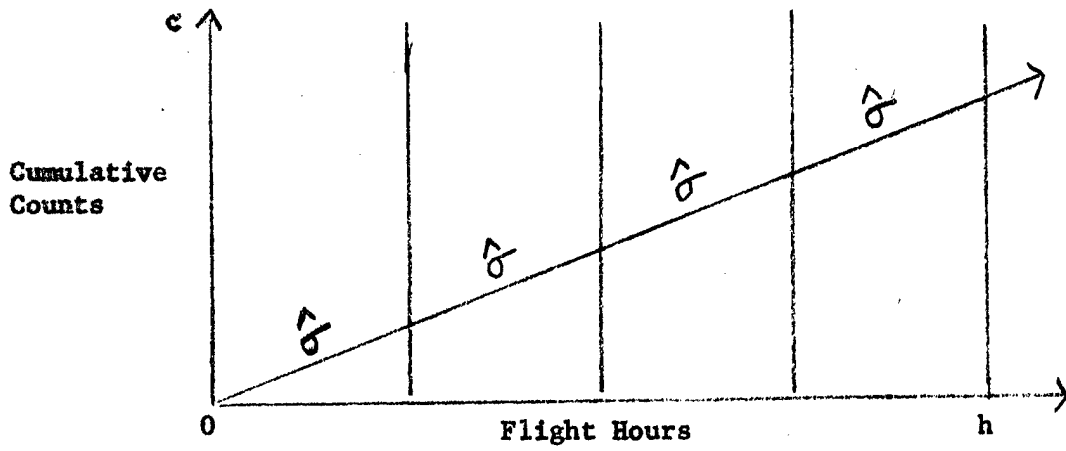


FIGURE 2

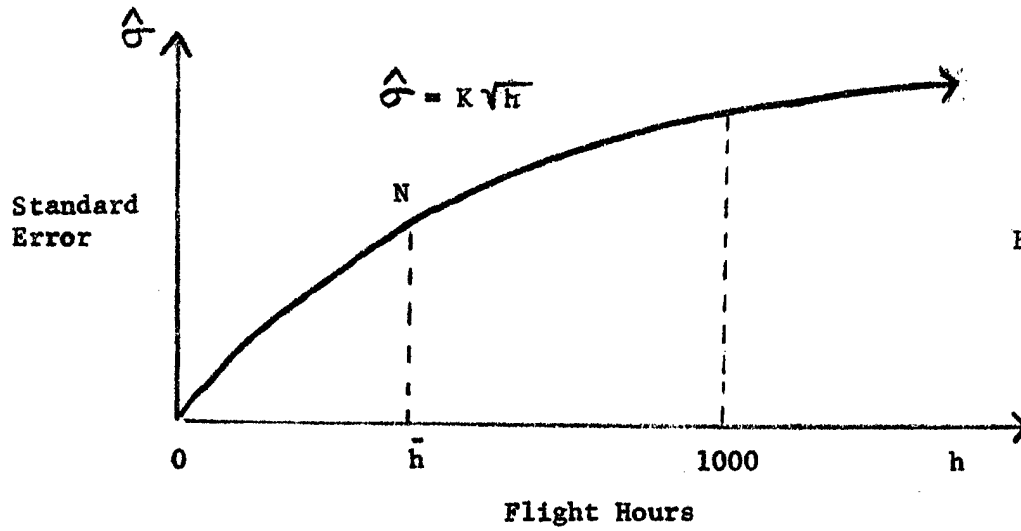


FIGURE 3

If one wanted the standard error at some other value of hours h , he would simply replace 1000 in equation (5) by that value of hours h , and the appropriate standard error would result.

Skewness A_3 is computed in equation (6). This measure indicates whether more airplane load exceedances are above the mean line or below the mean line. If:

- $A_3 < 0$ More load exceedances are above mean line than below
- $A_3 = 0$ Equal number of load exceedances above and below mean
- $A_3 > 0$ More load exceedances are below mean line than above

(Strictly speaking a distribution is symmetrical only if all its odd moments are zero; however, the above statement is approximately true.)

4. For ease of computation, equation (4) can be expanded as follows:

$$(N-1) \hat{\sigma}_{ch}^2 = \sum_{i=1}^N (c_i - bh_i)^2$$

$$(N-1) \hat{\sigma}_{ch}^2 = \sum_{i=1}^N (c_i^2 - 2bc_i h_i + b^2 h_i^2)$$

$$(7) (N-1) \hat{\sigma}_{ch}^2 = \sum_{i=1}^N c_i^2 - 2b \sum_{i=1}^N c_i h_i + b^2 \sum_{i=1}^N h_i^2$$

but

$$b = \frac{\sum_{i=1}^N c_i h_i}{\sum_{i=1}^N h_i^2}$$

and (7) can be reduced to

$$(N-1) \hat{\sigma}_{ch}^2 = \sum_{i=1}^N c_i^2 - 2b \sum_{i=1}^N c_i h_i + b^2 \frac{\sum_{i=1}^N c_i h_i \sum_{i=1}^N h_i^2}{\sum_{i=1}^N h_i^2}$$

then

$$(8) \hat{\sigma}_{ch}^2 = \left(\sum_{i=1}^N c_i^2 - b \sum_{i=1}^N c_i h_i \right) / (N-1)$$

Equation (8) will be used in lieu of equation (4) in determining $\hat{\sigma}_{ch}^2$.

5. An example using F-4G training Navy data, 12 airplanes 4.0G level:

<u>Serial No.</u>	<u>Counts (c_i)</u>	<u>Hours (h_i)</u>
150481	1567	1341.7
150484	649	618.2
150487	1114	1100.8
150489	5	27.3
150492	768	691.7
150625	23	139.6
150629	396	555.1
150633	718	831.3
150636	854	839.1
150639	536	695.4
150642	910	775.3
150645	160	233.0

The following are tabulated:

$$\sum_{i=1}^N h_i = 7848.5$$

$$\sum_{i=1}^N c_i = 7700$$

$$\sum_{i=1}^N c_i h_i = 6913341.6$$

$$\sum_{i=1}^N h_i^2 = 6735017.87$$

$$\sum_{i=1}^N c_i^2 = 7250716.00$$

$$\sum_{i=1}^N (c_i - b h_i)^3 = -7082690$$

and are used in the following equations:

$$(1) b = \frac{6913341.6}{6735017.87} = 1.02647 \text{ cts. per hr.}$$

$$(2) \bar{x} = 1000 (1.02647) = 1026.47 \text{ cts. at 1000 hrs.}$$

$$(3) \bar{h} = \frac{7848.5}{12} = 654.04 \text{ hours}$$

$$(8) \hat{\sigma}_{ch}^2 = \frac{7250716 - 1.02647 (6913341.6)}{11} = 14034 \quad \hat{\sigma}_{ch} = 118.5$$

$$(5) s = \sqrt{1000 (14034) / 654} = 146.46 \text{ cts. at 1000 hours.}$$

$$(6) A_3 = \frac{-7082690}{12 (118.5)^3} = -.36$$

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